№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y	R^7	R^8
XX-47-8	p-F-Ph	*	H	*	Bz	OCH_3	H	F	OH	H	H

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XX-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y	R^7	R^8
XX-48-1	p-Cl-Ph	H	H	H	Bz	OCH_3	H	F	OH	H	H
XX-48-2	p-Cl-Ph	H	H	CH_3	Bz	OCH_3	H	F	OH	H	H
XX-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	OCH_3	H	F	OH	H	H
XX-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	OCH_3	H	F	OH	H	H
XX-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	OCH_3	H	F	OH	H	H
XX-48-8	p-Cl-Ph	*	H	*	Bz	OCH_3	H	F	OH	H	H

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XX-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y	R^7	R^8
XX-49-1	p-Br-Ph	H	H	H	Bz	OCH_3	H	F	OH	H	H
XX-49-2	p-Br-Ph	H	H	CH_3	Bz	OCH_3	H	F	OH	H	H
XX-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	OCH_3	H	F	OH	H	H
XX-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	OCH_3	H	F	OH	H	H
XX-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	OCH_3	H	F	OH	H	H
XX-49-8	p-Br-Ph	*	H	*	Bz	OCH_3	H	F	OH	H	H

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

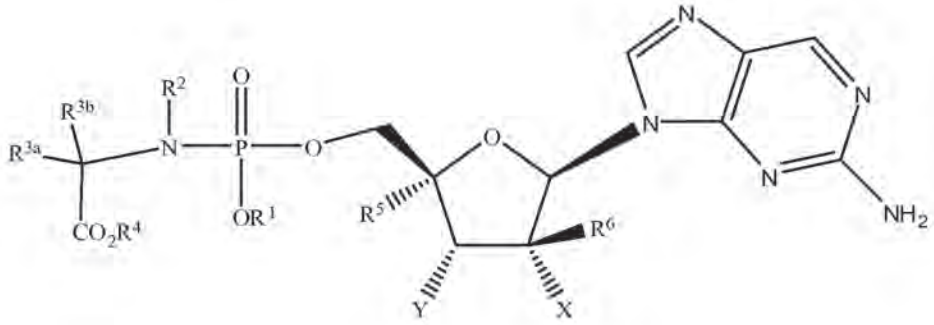
Table XX-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y	R^7	R^8
XX-50-1	p-I-Ph	H	H	H	Bz	OCH_3	H	F	OH	H	H
XX-50-2	p-I-Ph	H	H	CH_3	Bz	OCH_3	H	F	OH	H	H
XX-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	OCH_3	H	F	OH	H	H
XX-50-5	p-I-Ph	H	H	CH_2Ph	Bz	OCH_3	H	F	OH	H	H

Gilead Exhibit 2016
PGR2023-00046 - Page 00435

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y	R^7	R^8
XX-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	OCH_3	H	F	OH	H	H
XX-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	OCH_3	H	F	OH	H	H
XX-50-8	p-I-Ph	*	H	*	Bz	OCH_3	H	F	OH	H	H

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.



XXI

Table XXI-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-1-1	CH_3	H	H	H	CH_3	H	CH_3	F	OH
XXI-1-2	CH_3	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-1-5	CH_3	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-1-8	CH_3	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-2-1	Et	H	H	H	CH_3	H	CH_3	F	OH
XXI-2-2	Et	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00436

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-2-5	Et	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-2-8	Et	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-3-1	^{i}Pr	H	H	H	CH_3	H	CH_3	F	OH
XXI-3-2	^{i}Pr	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-3-8	^{i}Pr	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-4-1	^{t}Bu	H	H	H	CH_3	H	CH_3	F	OH
XXI-4-2	^{t}Bu	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-4-8	^{t}Bu	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-5-1	Ph	H	H	H	CH_3	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00437

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-5-2	Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-5-5	Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-5-8	Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-6-1	p-Me-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXI-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-6-8	p-Me-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-7-1	p-F-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXI-7-2	p-F-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-7-20	p-F-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-8.

Gilead Exhibit 2016
PGR2023-00046 - Page 00438

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-8-1	p-Cl-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXI-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-8-8	p-Cl-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-9-1	p-Br-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXI-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-9-20	p-Br-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-10-1	p-I-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXI-10-2	p-I-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXI-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXI-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXI-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXI-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXI-10-8	p-I-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00439

Table XXI-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-11-1	CH_3	H	H	H	Et	H	CH_3	F	OH
XXI-11-2	CH_3	H	H	CH_3	Et	H	CH_3	F	OH
XXI-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-11-5	CH_3	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-11-8	CH_3	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-12-1	Et	H	H	H	Et	H	CH_3	F	OH
XXI-12-2	Et	H	H	CH_3	Et	H	CH_3	F	OH
XXI-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-12-5	Et	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-12-8	Et	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-13-1	^{i}Pr	H	H	H	Et	H	CH_3	F	OH
XXI-13-2	^{i}Pr	H	H	CH_3	Et	H	CH_3	F	OH
XXI-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-13-8	^{i}Pr	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00440

Table XXI-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-14-1	^{t}Bu	H	H	H	Et	H	CH_3	F	OH
XXI-14-2	^{t}Bu	H	H	CH_3	Et	H	CH_3	F	OH
XXI-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-14-8	^{t}Bu	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-15-1	Ph	H	H	H	Et	H	CH_3	F	OH
XXI-15-2	Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-15-5	Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-15-8	Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-16-1	p-Me-Ph	H	H	H	Et	H	CH_3	F	OH
XXI-16-2	p-Me-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-16-8	p-Me-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00441

Table XXI-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-17-1	p-F-Ph	H	H	H	Et	H	CH_3	F	OH
XXI-17-2	p-F-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-17-8	p-F-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-18-1	p-Cl-Ph	H	H	H	Et	H	CH_3	F	OH
XXI-18-2	p-Cl-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-18-8	p-Cl-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-19-1	p-Br-Ph	H	H	H	Et	H	CH_3	F	OH
XXI-19-2	p-Br-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-19-8	p-Br-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00442

Table XXI-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-20-1	p-I-Ph	H	H	H	Et	H	CH_3	F	OH
XXI-20-2	p-I-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXI-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXI-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXI-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXI-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXI-20-8	p-I-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-21-1	CH_3	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-21-2	CH_3	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-21-8	CH_3	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-22-1	Et	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-22-2	Et	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-22-8	Et	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00443

Table XXI-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-23-1	^{i}Pr	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-23-8	^{i}Pr	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-24-1	^{t}Bu	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-24-8	^{t}Bu	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-25-1	Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-25-2	Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-25-8	Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00444

Table XXI-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-27-1	p-F-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-27-8	p-F-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00445

Table XXI-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-30-1	p-I-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXI-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXI-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXI-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXI-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXI-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXI-30-8	p-I-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-31-1	CH_3	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-31-2	CH_3	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-31-8	CH_3	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00446

Table XXI-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-32-1	Et	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-32-2	Et	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-32-8	Et	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-33-1	^{i}Pr	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-33-8	^{i}Pr	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-34-1	^{t}Bu	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-34-8	^{t}Bu	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00447

Table XXI-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-35-1	Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-35-2	Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-35-8	Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-37-1	p-F-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-37-8	p-F-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00448

Table XXI-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-40-1	p-I-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXI-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXI-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXI-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXI-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXI-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXI-40-8	p-I-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00449

Table XXI-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-41-1	CH_3	H	H	H	Bz	H	CH_3	F	OH
XXI-41-2	CH_3	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-41-5	CH_3	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-41-8	CH_3	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-42-1	Et	H	H	H	Bz	H	CH_3	F	OH
XXI-42-2	Et	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-42-5	Et	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-42-8	Et	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-43-1	^{i}Pr	H	H	H	Bz	H	CH_3	F	OH
XXI-43-2	^{i}Pr	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-43-8	^{i}Pr	*	H	*	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00450

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-44-1	^{t}Bu	H	H	H	Bz	H	CH_3	F	OH
XXI-44-2	^{t}Bu	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-44-8	^{t}Bu	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-45-1	Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-45-2	Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-45-5	Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-45-8	Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-46-1	p-Me-Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-46-2	p-Me-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00451

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-46-8	p-Me-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-47-1	p-F-Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-47-2	p-F-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-47-8	p-F-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-48-1	p-Cl-Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-48-8	p-Cl-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-49-1	p-Br-Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-49-2	p-Br-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00452

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-49-8	p-Br-Ph	*	H	*	Bz	H	CH_3	F	OH

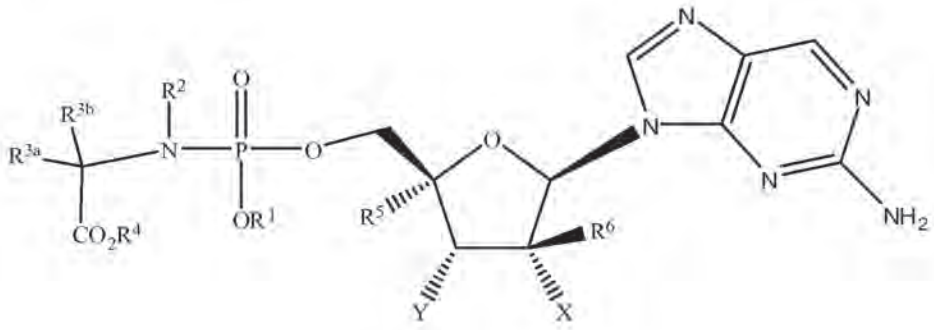
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXI-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXI-50-1	p-I-Ph	H	H	H	Bz	H	CH_3	F	OH
XXI-50-2	p-I-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXI-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXI-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXI-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXI-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXI-50-8	p-I-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

5



XXII

Table XXII-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-1-1	CH_3	H	H	H	CH_3	H	F	H	OH
XXII-1-2	CH_3	H	H	CH_3	CH_3	H	F	H	OH
XXII-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00453

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-1-8	CH_3	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-2-1	Et	H	H	H	CH_3	H	F	H	OH
XXII-2-2	Et	H	H	CH_3	CH_3	H	F	H	OH
XXII-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-2-5	Et	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-2-8	Et	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-3-1	^{i}Pr	H	H	H	CH_3	H	F	H	OH
XXII-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	H	OH
XXII-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-3-8	^{i}Pr	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-4-1	^{t}Bu	H	H	H	CH_3	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00454

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	H	OH
XXII-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-4-8	^{t}Bu	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-5-1	Ph	H	H	H	CH_3	H	F	H	OH
XXII-5-2	Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-5-8	Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-6-1	p-Me-Ph	H	H	H	CH_3	H	F	H	OH
XXII-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-6-8	p-Me-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-7.

Gilead Exhibit 2016
PGR2023-00046 - Page 00455

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-7-1	p-F-Ph	H	H	H	CH_3	H	F	H	OH
XXII-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-7-20	p-F-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	H	OH
XXII-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-9-1	p-Br-Ph	H	H	H	CH_3	H	F	H	OH
XXII-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-9-20	p-Br-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00456

Table XXII-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-10-1	p-I-Ph	H	H	H	CH_3	H	F	H	OH
XXII-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXII-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXII-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXII-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXII-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXII-10-8	p-I-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-11-1	CH_3	H	H	H	Et	H	F	H	OH
XXII-11-2	CH_3	H	H	CH_3	Et	H	F	H	OH
XXII-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-11-5	CH_3	H	H	CH_2Ph	Et	H	F	H	OH
XXII-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-11-8	CH_3	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-12-1	Et	H	H	H	Et	H	F	H	OH
XXII-12-2	Et	H	H	CH_3	Et	H	F	H	OH
XXII-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-12-5	Et	H	H	CH_2Ph	Et	H	F	H	OH
XXII-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-12-8	Et	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00457

Table XXII-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-13-1	^{i}Pr	H	H	H	Et	H	F	H	OH
XXII-13-2	^{i}Pr	H	H	CH_3	Et	H	F	H	OH
XXII-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	H	OH
XXII-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-13-8	^{i}Pr	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-14-1	^{t}Bu	H	H	H	Et	H	F	H	OH
XXII-14-2	^{t}Bu	H	H	CH_3	Et	H	F	H	OH
XXII-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	H	OH
XXII-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-14-8	^{t}Bu	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-15-1	Ph	H	H	H	Et	H	F	H	OH
XXII-15-2	Ph	H	H	CH_3	Et	H	F	H	OH
XXII-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-15-5	Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-15-8	Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00458

Table XXII-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-16-1	p-Me-Ph	H	H	H	Et	H	F	H	OH
XXII-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	H	OH
XXII-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-16-8	p-Me-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-17-1	p-F-Ph	H	H	H	Et	H	F	H	OH
XXII-17-2	p-F-Ph	H	H	CH_3	Et	H	F	H	OH
XXII-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-17-8	p-F-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-18-1	p-Cl-Ph	H	H	H	Et	H	F	H	OH
XXII-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	H	OH
XXII-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-18-8	p-Cl-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00459

Table XXII-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-19-1	p-Br-Ph	H	H	H	Et	H	F	H	OH
XXII-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	H	OH
XXII-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-19-8	p-Br-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-20-1	p-I-Ph	H	H	H	Et	H	F	H	OH
XXII-20-2	p-I-Ph	H	H	CH_3	Et	H	F	H	OH
XXII-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXII-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXII-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXII-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXII-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXII-20-8	p-I-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-21-1	CH_3	H	H	H	^{i}Pr	H	F	H	OH
XXII-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-21-8	CH_3	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00460

Table XXII-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-22-1	Et	H	H	H	^{i}Pr	H	F	H	OH
XXII-22-2	Et	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-22-8	Et	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	H	OH
XXII-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	H	OH
XXII-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00461

Table XXII-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-25-1	Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-25-8	Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00462

Table XXII-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXII-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXII-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXII-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXII-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXII-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXII-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00463

Table XXII-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-31-1	CH_3	H	H	H	^{n}Bu	H	F	H	OH
XXII-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-31-8	CH_3	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-32-1	Et	H	H	H	^{n}Bu	H	F	H	OH
XXII-32-2	Et	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-32-8	Et	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	H	OH
XXII-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00464

Table XXII-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	H	OH
XXII-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-35-1	Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-35-8	Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00465

Table XXII-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00466

Table XXII-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXII-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXII-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXII-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXII-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXII-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXII-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-41-1	CH_3	H	H	H	Bz	H	F	H	OH
XXII-41-2	CH_3	H	H	CH_3	Bz	H	F	H	OH
XXII-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-41-8	CH_3	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-42-1	Et	H	H	H	Bz	H	F	H	OH
XXII-42-2	Et	H	H	CH_3	Bz	H	F	H	OH
XXII-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-42-5	Et	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-42-8	Et	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00467

Table XXII-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-43-1	^{i}Pr	H	H	H	Bz	H	F	H	OH
XXII-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	H	OH
XXII-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-43-8	^{i}Pr	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-44-1	^{t}Bu	H	H	H	Bz	H	F	H	OH
XXII-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	H	OH
XXII-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-44-8	^{t}Bu	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-45-1	Ph	H	H	H	Bz	H	F	H	OH
XXII-45-2	Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-45-5	Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-45-8	Ph	*	H	*	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00468

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-46-1	p-Me-Ph	H	H	H	Bz	H	F	H	OH
XXII-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-46-8	p-Me-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-47-1	p-F-Ph	H	H	H	Bz	H	F	H	OH
XXII-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-47-8	p-F-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-48-1	p-Cl-Ph	H	H	H	Bz	H	F	H	OH
XXII-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00469

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-48-8	p-Cl-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-49-1	p-Br-Ph	H	H	H	Bz	H	F	H	OH
XXII-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-49-8	p-Br-Ph	*	H	*	Bz	H	F	H	OH

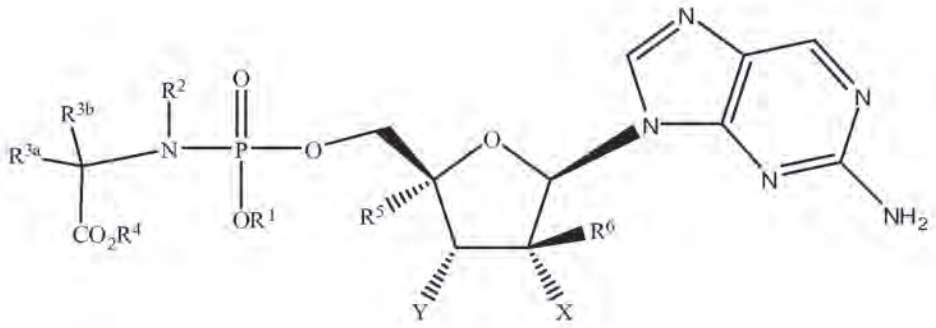
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXII-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXII-50-1	p-I-Ph	H	H	H	Bz	H	F	H	OH
XXII-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	H	OH
XXII-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXII-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXII-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXII-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXII-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXII-50-8	p-I-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00470



XXIII

Table XXIII-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-1-1	CH_3	H	H	H	CH_3	H	F	F	OH
XXIII-1-2	CH_3	H	H	CH_3	CH_3	H	F	F	OH
XXIII-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-1-8	CH_3	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-2-1	Et	H	H	H	CH_3	H	F	F	OH
XXIII-2-2	Et	H	H	CH_3	CH_3	H	F	F	OH
XXIII-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-2-5	Et	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-2-8	Et	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-3.

Gilead Exhibit 2016
PGR2023-00046 - Page 00471

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-3-1	^{i}Pr	H	H	H	CH_3	H	F	F	OH
XXIII-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	F	OH
XXIII-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-3-8	^{i}Pr	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-4-1	^{t}Bu	H	H	H	CH_3	H	F	F	OH
XXIII-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	F	OH
XXIII-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-4-8	^{t}Bu	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-5-1	Ph	H	H	H	CH_3	H	F	F	OH
XXIII-5-2	Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-5-8	Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00472

Table XXIII-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-6-1	p-Me-Ph	H	H	H	CH_3	H	F	F	OH
XXIII-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-6-8	p-Me-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-7-1	p-F-Ph	H	H	H	CH_3	H	F	F	OH
XXIII-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-7-20	p-F-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	F	OH
XXIII-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00473

Table XXIII-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-9-1	p-Br-Ph	H	H	H	CH_3	H	F	F	OH
XXIII-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-9-20	p-Br-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-10-1	p-I-Ph	H	H	H	CH_3	H	F	F	OH
XXIII-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXIII-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXIII-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXIII-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXIII-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXIII-10-8	p-I-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-11-1	CH_3	H	H	H	Et	H	F	F	OH
XXIII-11-2	CH_3	H	H	CH_3	Et	H	F	F	OH
XXIII-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-11-5	CH_3	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-11-8	CH_3	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00474

Table XXIII-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-12-1	Et	H	H	H	Et	H	F	F	OH
XXIII-12-2	Et	H	H	CH_3	Et	H	F	F	OH
XXIII-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-12-5	Et	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-12-8	Et	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-13-1	^{i}Pr	H	H	H	Et	H	F	F	OH
XXIII-13-2	^{i}Pr	H	H	CH_3	Et	H	F	F	OH
XXIII-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-13-8	^{i}Pr	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-14-1	^{t}Bu	H	H	H	Et	H	F	F	OH
XXIII-14-2	^{t}Bu	H	H	CH_3	Et	H	F	F	OH
XXIII-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-14-8	^{t}Bu	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00475

Table XXIII-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-15-1	Ph	H	H	H	Et	H	F	F	OH
XXIII-15-2	Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-15-5	Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-15-8	Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-16-1	p-Me-Ph	H	H	H	Et	H	F	F	OH
XXIII-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-16-8	p-Me-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-17-1	p-F-Ph	H	H	H	Et	H	F	F	OH
XXIII-17-2	p-F-Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-17-8	p-F-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00476

Table XXIII-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-18-1	p-Cl-Ph	H	H	H	Et	H	F	F	OH
XXIII-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-18-8	p-Cl-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-19-1	p-Br-Ph	H	H	H	Et	H	F	F	OH
XXIII-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-19-8	p-Br-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-20-1	p-I-Ph	H	H	H	Et	H	F	F	OH
XXIII-20-2	p-I-Ph	H	H	CH_3	Et	H	F	F	OH
XXIII-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXIII-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXIII-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXIII-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXIII-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXIII-20-8	p-I-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00477

Table XXIII-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-21-1	CH_3	H	H	H	^{i}Pr	H	F	F	OH
XXIII-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-21-8	CH_3	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-22-1	Et	H	H	H	^{i}Pr	H	F	F	OH
XXIII-22-2	Et	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-22-8	Et	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	F	OH
XXIII-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00478

Table XXIII-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	F	OH
XXIII-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-25-1	Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-25-8	Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00479

Table XXIII-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00480

Table XXIII-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXIII-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXIII-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXIII-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXIII-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXIII-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXIII-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-31-1	CH_3	H	H	H	^{n}Bu	H	F	F	OH
XXIII-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-31-8	CH_3	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-32-1	Et	H	H	H	^{n}Bu	H	F	F	OH
XXIII-32-2	Et	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-32-8	Et	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00481

Table XXIII-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	F	OH
XXIII-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	F	OH
XXIII-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-35-1	Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-35-8	Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00482

Table XXIII-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00483

Table XXIII-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXIII-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXIII-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXIII-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXIII-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXIII-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXIII-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-41-1	CH_3	H	H	H	Bz	H	F	F	OH
XXIII-41-2	CH_3	H	H	CH_3	Bz	H	F	F	OH
XXIII-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-41-8	CH_3	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00484

Table XXIII-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-42-1	Et	H	H	H	Bz	H	F	F	OH
XXIII-42-2	Et	H	H	CH_3	Bz	H	F	F	OH
XXIII-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-42-5	Et	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-42-8	Et	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-43-1	^{i}Pr	H	H	H	Bz	H	F	F	OH
XXIII-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	F	OH
XXIII-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-43-8	^{i}Pr	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-44-1	^{t}Bu	H	H	H	Bz	H	F	F	OH
XXIII-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	F	OH
XXIII-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-44-8	^{t}Bu	*	H	*	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00485

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-45-1	Ph	H	H	H	Bz	H	F	F	OH
XXIII-45-2	Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-45-5	Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-45-8	Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-46-1	p-Me-Ph	H	H	H	Bz	H	F	F	OH
XXIII-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-46-8	p-Me-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-47-1	p-F-Ph	H	H	H	Bz	H	F	F	OH
XXIII-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00486

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-47-8	p-F-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-48-1	p-Cl-Ph	H	H	H	Bz	H	F	F	OH
XXIII-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-48-8	p-Cl-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIII-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-49-1	p-Br-Ph	H	H	H	Bz	H	F	F	OH
XXIII-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXIII-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-49-8	p-Br-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

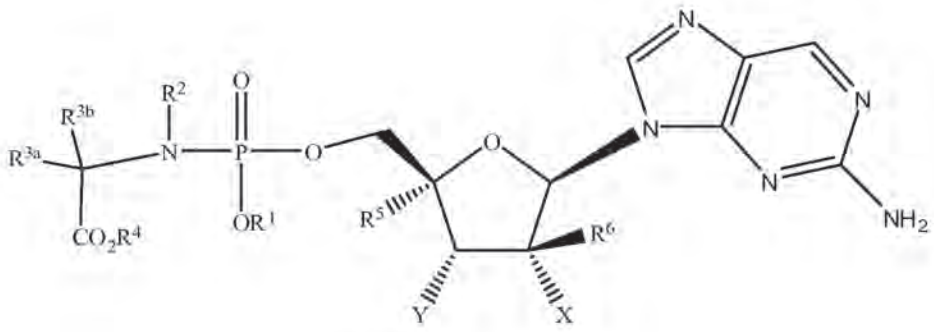
Table XXIII-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-50-1	p-I-Ph	H	H	H	Bz	H	F	F	OH
XXIII-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	F	OH
XXIII-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXIII-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00487

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIII-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXIII-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXIII-50-8	p-I-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.



XXIV

Table XXIV-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-1-1	CH_3	H	H	H	CH_3	H	H	F	OH
XXIV-1-2	CH_3	H	H	CH_3	CH_3	H	H	F	OH
XXIV-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-1-5	CH_3	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-1-8	CH_3	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-2-1	Et	H	H	H	CH_3	H	H	F	OH
XXIV-2-2	Et	H	H	CH_3	CH_3	H	H	F	OH
XXIV-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00488

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-2-5	Et	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-2-8	Et	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-3-1	^{i}Pr	H	H	H	CH_3	H	H	F	OH
XXIV-3-2	^{i}Pr	H	H	CH_3	CH_3	H	H	F	OH
XXIV-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-3-8	^{i}Pr	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-4-1	^{t}Bu	H	H	H	CH_3	H	H	F	OH
XXIV-4-2	^{t}Bu	H	H	CH_3	CH_3	H	H	F	OH
XXIV-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-4-8	^{t}Bu	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-5-1	Ph	H	H	H	CH_3	H	H	F	OH
XXIV-5-2	Ph	H	H	CH_3	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00489

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-5-5	Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-5-8	Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-6-1	p-Me-Ph	H	H	H	CH_3	H	H	F	OH
XXIV-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXIV-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-6-8	p-Me-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-7-1	p-F-Ph	H	H	H	CH_3	H	H	F	OH
XXIV-7-2	p-F-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXIV-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-7-20	p-F-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y

Gilead Exhibit 2016
PGR2023-00046 - Page 00490

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-8-1	p-Cl-Ph	H	H	H	CH_3	H	H	F	OH
XXIV-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXIV-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-8-8	p-Cl-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-9-1	p-Br-Ph	H	H	H	CH_3	H	H	F	OH
XXIV-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXIV-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-9-20	p-Br-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-10-1	p-I-Ph	H	H	H	CH_3	H	H	F	OH
XXIV-10-2	p-I-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXIV-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXIV-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXIV-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXIV-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXIV-10-8	p-I-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00491

Table XXIV-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-11-1	CH_3	H	H	H	Et	H	H	F	OH
XXIV-11-2	CH_3	H	H	CH_3	Et	H	H	F	OH
XXIV-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-11-5	CH_3	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-11-8	CH_3	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-12-1	Et	H	H	H	Et	H	H	F	OH
XXIV-12-2	Et	H	H	CH_3	Et	H	H	F	OH
XXIV-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-12-5	Et	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-12-8	Et	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-13-1	^{i}Pr	H	H	H	Et	H	H	F	OH
XXIV-13-2	^{i}Pr	H	H	CH_3	Et	H	H	F	OH
XXIV-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-13-8	^{i}Pr	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00492

Table XXIV-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-14-1	^{t}Bu	H	H	H	Et	H	H	F	OH
XXIV-14-2	^{t}Bu	H	H	CH_3	Et	H	H	F	OH
XXIV-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-14-8	^{t}Bu	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-15-1	Ph	H	H	H	Et	H	H	F	OH
XXIV-15-2	Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-15-5	Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-15-8	Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-16-1	p-Me-Ph	H	H	H	Et	H	H	F	OH
XXIV-16-2	p-Me-Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-16-8	p-Me-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00493

Table XXIV-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-17-1	p-F-Ph	H	H	H	Et	H	H	F	OH
XXIV-17-2	p-F-Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-17-8	p-F-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-18-1	p-Cl-Ph	H	H	H	Et	H	H	F	OH
XXIV-18-2	p-Cl-Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-18-8	p-Cl-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-19-1	p-Br-Ph	H	H	H	Et	H	H	F	OH
XXIV-19-2	p-Br-Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-19-8	p-Br-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00494

Table XXIV-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-20-1	p-I-Ph	H	H	H	Et	H	H	F	OH
XXIV-20-2	p-I-Ph	H	H	CH_3	Et	H	H	F	OH
XXIV-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXIV-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXIV-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXIV-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXIV-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXIV-20-8	p-I-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-21-1	CH_3	H	H	H	^{i}Pr	H	H	F	OH
XXIV-21-2	CH_3	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-21-8	CH_3	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-22-1	Et	H	H	H	^{i}Pr	H	H	F	OH
XXIV-22-2	Et	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-22-8	Et	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00495

Table XXIV-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-23-1	^{i}Pr	H	H	H	^{i}Pr	H	H	F	OH
XXIV-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-23-8	^{i}Pr	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-24-1	^{t}Bu	H	H	H	^{i}Pr	H	H	F	OH
XXIV-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-24-8	^{t}Bu	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-25-1	Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-25-2	Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-25-8	Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00496

Table XXIV-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-27-1	p-F-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-27-8	p-F-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00497

Table XXIV-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-30-1	p-I-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXIV-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXIV-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXIV-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXIV-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXIV-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXIV-30-8	p-I-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-31-1	CH_3	H	H	H	^{n}Bu	H	H	F	OH
XXIV-31-2	CH_3	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-31-8	CH_3	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00498

Table XXIV-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-32-1	Et	H	H	H	^{n}Bu	H	H	F	OH
XXIV-32-2	Et	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-32-8	Et	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-33-1	^{i}Pr	H	H	H	^{n}Bu	H	H	F	OH
XXIV-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-33-8	^{i}Pr	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-34-1	^{t}Bu	H	H	H	^{n}Bu	H	H	F	OH
XXIV-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-34-8	^{t}Bu	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00499

Table XXIV-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-35-1	Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-35-2	Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-35-8	Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-37-1	p-F-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-37-8	p-F-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00500

Table XXIV-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-40-1	p-I-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXIV-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXIV-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXIV-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXIV-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXIV-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXIV-40-8	p-I-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00501

Table XXIV-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-41-1	CH_3	H	H	H	Bz	H	H	F	OH
XXIV-41-2	CH_3	H	H	CH_3	Bz	H	H	F	OH
XXIV-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-41-5	CH_3	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-41-8	CH_3	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-42-1	Et	H	H	H	Bz	H	H	F	OH
XXIV-42-2	Et	H	H	CH_3	Bz	H	H	F	OH
XXIV-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-42-5	Et	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-42-8	Et	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-43-1	^{i}Pr	H	H	H	Bz	H	H	F	OH
XXIV-43-2	^{i}Pr	H	H	CH_3	Bz	H	H	F	OH
XXIV-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-43-8	^{i}Pr	*	H	*	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00502

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-44-1	^{t}Bu	H	H	H	Bz	H	H	F	OH
XXIV-44-2	^{t}Bu	H	H	CH_3	Bz	H	H	F	OH
XXIV-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-44-8	^{t}Bu	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-45-1	Ph	H	H	H	Bz	H	H	F	OH
XXIV-45-2	Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-45-5	Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-45-8	Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-46-1	p-Me-Ph	H	H	H	Bz	H	H	F	OH
XXIV-46-2	p-Me-Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00503

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-46-8	p-Me-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-47-1	p-F-Ph	H	H	H	Bz	H	H	F	OH
XXIV-47-2	p-F-Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-47-8	p-F-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-48-1	p-Cl-Ph	H	H	H	Bz	H	H	F	OH
XXIV-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-48-8	p-Cl-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-49-1	p-Br-Ph	H	H	H	Bz	H	H	F	OH
XXIV-49-2	p-Br-Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00504

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-49-8	p-Br-Ph	*	H	*	Bz	H	H	F	OH

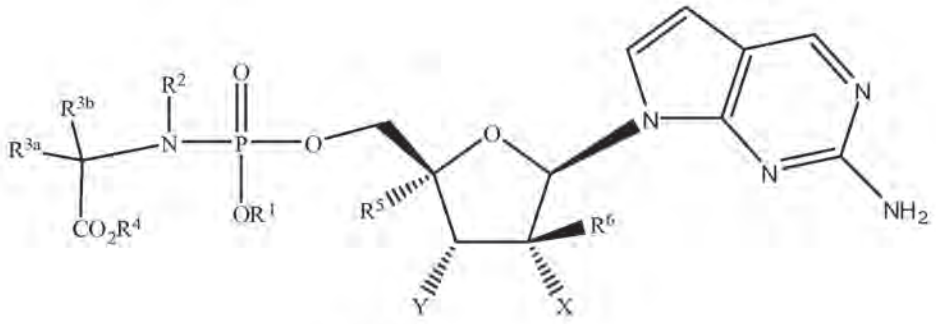
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIV-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIV-50-1	p-I-Ph	H	H	H	Bz	H	H	F	OH
XXIV-50-2	p-I-Ph	H	H	CH_3	Bz	H	H	F	OH
XXIV-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXIV-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXIV-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXIV-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXIV-50-8	p-I-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

5



XXV

Table XXV-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-1-1	CH_3	H	H	H	CH_3	H	CH_3	F	OH
XXV-1-2	CH_3	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00505

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-1-5	CH_3	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-1-8	CH_3	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-2-1	Et	H	H	H	CH_3	H	CH_3	F	OH
XXV-2-2	Et	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-2-5	Et	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-2-8	Et	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-3-1	^{i}Pr	H	H	H	CH_3	H	CH_3	F	OH
XXV-3-2	^{i}Pr	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-3-8	^{i}Pr	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-4-1	^{t}Bu	H	H	H	CH_3	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00506

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-4-2	^{t}Bu	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-4-8	^{t}Bu	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-5-1	Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-5-2	Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-5-5	Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-5-8	Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-6-1	p-Me-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-6-8	p-Me-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-7.

Gilead Exhibit 2016
PGR2023-00046 - Page 00507

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-7-1	p-F-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-7-2	p-F-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-7-20	p-F-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-8-1	p-Cl-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-8-8	p-Cl-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-9-1	p-Br-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-9-20	p-Br-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00508

Table XXV-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-10-1	p-I-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXV-10-2	p-I-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXV-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXV-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXV-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXV-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXV-10-8	p-I-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-11-1	CH_3	H	H	H	Et	H	CH_3	F	OH
XXV-11-2	CH_3	H	H	CH_3	Et	H	CH_3	F	OH
XXV-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-11-5	CH_3	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-11-8	CH_3	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-12-1	Et	H	H	H	Et	H	CH_3	F	OH
XXV-12-2	Et	H	H	CH_3	Et	H	CH_3	F	OH
XXV-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-12-5	Et	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-12-8	Et	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00509

Table XXV-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-13-1	^{i}Pr	H	H	H	Et	H	CH_3	F	OH
XXV-13-2	^{i}Pr	H	H	CH_3	Et	H	CH_3	F	OH
XXV-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-13-8	^{i}Pr	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-14-1	^{t}Bu	H	H	H	Et	H	CH_3	F	OH
XXV-14-2	^{t}Bu	H	H	CH_3	Et	H	CH_3	F	OH
XXV-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-14-8	^{t}Bu	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-15-1	Ph	H	H	H	Et	H	CH_3	F	OH
XXV-15-2	Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-15-5	Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-15-8	Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00510

Table XXV-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-16-1	p-Me-Ph	H	H	H	Et	H	CH_3	F	OH
XXV-16-2	p-Me-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-16-8	p-Me-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-17-1	p-F-Ph	H	H	H	Et	H	CH_3	F	OH
XXV-17-2	p-F-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-17-8	p-F-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-18-1	p-Cl-Ph	H	H	H	Et	H	CH_3	F	OH
XXV-18-2	p-Cl-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-18-8	p-Cl-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00511

Table XXV-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-19-1	p-Br-Ph	H	H	H	Et	H	CH_3	F	OH
XXV-19-2	p-Br-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-19-8	p-Br-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-20-1	p-I-Ph	H	H	H	Et	H	CH_3	F	OH
XXV-20-2	p-I-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXV-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXV-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXV-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXV-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXV-20-8	p-I-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-21-1	CH_3	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-21-2	CH_3	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-21-8	CH_3	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00512

Table XXV-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-22-1	Et	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-22-2	Et	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-22-8	Et	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-23-1	^{i}Pr	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-23-8	^{i}Pr	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-24-1	^{t}Bu	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-24-8	^{t}Bu	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00513

Table XXV-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-25-1	Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-25-2	Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-25-8	Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-27-1	p-F-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-27-8	p-F-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00514

Table XXV-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-30-1	p-I-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXV-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXV-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXV-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXV-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXV-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXV-30-8	p-I-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00515

Table XXV-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-31-1	CH_3	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-31-2	CH_3	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-31-8	CH_3	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-32-1	Et	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-32-2	Et	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-32-8	Et	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-33-1	^{i}Pr	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-33-8	^{i}Pr	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00516

Table XXV-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-34-1	^{t}Bu	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-34-8	^{t}Bu	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-35-1	Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-35-2	Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-35-8	Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00517

Table XXV-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-37-1	p-F-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-37-8	p-F-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00518

Table XXV-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-40-1	p-I-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXV-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXV-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXV-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXV-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXV-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXV-40-8	p-I-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-41-1	CH_3	H	H	H	Bz	H	CH_3	F	OH
XXV-41-2	CH_3	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-41-5	CH_3	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-41-8	CH_3	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-42-1	Et	H	H	H	Bz	H	CH_3	F	OH
XXV-42-2	Et	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-42-5	Et	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-42-8	Et	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00519

Table XXV-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-43-1	^{i}Pr	H	H	H	Bz	H	CH_3	F	OH
XXV-43-2	^{i}Pr	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-43-8	^{i}Pr	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-44-1	^{t}Bu	H	H	H	Bz	H	CH_3	F	OH
XXV-44-2	^{t}Bu	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-44-8	^{t}Bu	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-45-1	Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-45-2	Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-45-5	Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-45-8	Ph	*	H	*	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00520

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-46-1	p-Me-Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-46-2	p-Me-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-46-8	p-Me-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-47-1	p-F-Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-47-2	p-F-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-47-8	p-F-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-48-1	p-Cl-Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00521

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-48-8	p-Cl-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-49-1	p-Br-Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-49-2	p-Br-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-49-8	p-Br-Ph	*	H	*	Bz	H	CH_3	F	OH

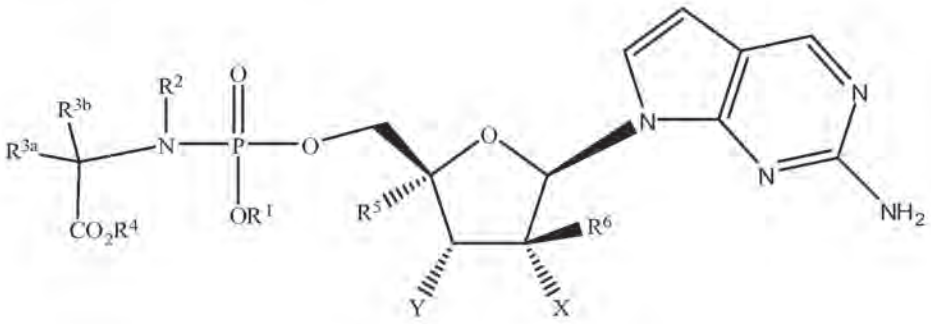
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXV-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXV-50-1	p-I-Ph	H	H	H	Bz	H	CH_3	F	OH
XXV-50-2	p-I-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXV-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXV-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXV-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXV-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXV-50-8	p-I-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00522



XXVI

Table XXVI-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-1-1	CH_3	H	H	H	CH_3	H	F	H	OH
XXVI-1-2	CH_3	H	H	CH_3	CH_3	H	F	H	OH
XXVI-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-1-8	CH_3	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-2-1	Et	H	H	H	CH_3	H	F	H	OH
XXVI-2-2	Et	H	H	CH_3	CH_3	H	F	H	OH
XXVI-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-2-5	Et	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-2-8	Et	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-3.

Gilead Exhibit 2016
PGR2023-00046 - Page 00523

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-3-1	^{i}Pr	H	H	H	CH_3	H	F	H	OH
XXVI-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	H	OH
XXVI-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-3-8	^{i}Pr	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-4-1	^{t}Bu	H	H	H	CH_3	H	F	H	OH
XXVI-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	H	OH
XXVI-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-4-8	^{t}Bu	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-5-1	Ph	H	H	H	CH_3	H	F	H	OH
XXVI-5-2	Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-5-8	Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00524

Table XXVI-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-6-1	p-Me-Ph	H	H	H	CH_3	H	F	H	OH
XXVI-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-6-8	p-Me-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-7-1	p-F-Ph	H	H	H	CH_3	H	F	H	OH
XXVI-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-7-20	p-F-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	H	OH
XXVI-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00525

Table XXVI-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-9-1	p-Br-Ph	H	H	H	CH_3	H	F	H	OH
XXVI-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-9-20	p-Br-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-10-1	p-I-Ph	H	H	H	CH_3	H	F	H	OH
XXVI-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXVI-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXVI-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXVI-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXVI-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXVI-10-8	p-I-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-11-1	CH_3	H	H	H	Et	H	F	H	OH
XXVI-11-2	CH_3	H	H	CH_3	Et	H	F	H	OH
XXVI-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-11-5	CH_3	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-11-8	CH_3	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00526

Table XXVI-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-12-1	Et	H	H	H	Et	H	F	H	OH
XXVI-12-2	Et	H	H	CH_3	Et	H	F	H	OH
XXVI-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-12-5	Et	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-12-8	Et	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-13-1	^{i}Pr	H	H	H	Et	H	F	H	OH
XXVI-13-2	^{i}Pr	H	H	CH_3	Et	H	F	H	OH
XXVI-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-13-8	^{i}Pr	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-14-1	^{t}Bu	H	H	H	Et	H	F	H	OH
XXVI-14-2	^{t}Bu	H	H	CH_3	Et	H	F	H	OH
XXVI-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-14-8	^{t}Bu	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00527

Table XXVI-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-15-1	Ph	H	H	H	Et	H	F	H	OH
XXVI-15-2	Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-15-5	Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-15-8	Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-16-1	p-Me-Ph	H	H	H	Et	H	F	H	OH
XXVI-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-16-8	p-Me-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-17-1	p-F-Ph	H	H	H	Et	H	F	H	OH
XXVI-17-2	p-F-Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-17-8	p-F-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00528

Table XXVI-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-18-1	p-Cl-Ph	H	H	H	Et	H	F	H	OH
XXVI-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-18-8	p-Cl-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-19-1	p-Br-Ph	H	H	H	Et	H	F	H	OH
XXVI-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-19-8	p-Br-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-20-1	p-I-Ph	H	H	H	Et	H	F	H	OH
XXVI-20-2	p-I-Ph	H	H	CH_3	Et	H	F	H	OH
XXVI-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXVI-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXVI-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXVI-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXVI-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXVI-20-8	p-I-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00529

Table XXVI-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-21-1	CH_3	H	H	H	^{i}Pr	H	F	H	OH
XXVI-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-21-8	CH_3	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-22-1	Et	H	H	H	^{i}Pr	H	F	H	OH
XXVI-22-2	Et	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-22-8	Et	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	H	OH
XXVI-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00530

Table XXVI-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	H	OH
XXVI-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-25-1	Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-25-8	Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00531

Table XXVI-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00532

Table XXVI-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXVI-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXVI-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXVI-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXVI-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXVI-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXVI-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-31-1	CH_3	H	H	H	^{n}Bu	H	F	H	OH
XXVI-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-31-8	CH_3	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-32-1	Et	H	H	H	^{n}Bu	H	F	H	OH
XXVI-32-2	Et	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-32-8	Et	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00533

Table XXVI-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	H	OH
XXVI-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	H	OH
XXVI-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-35-1	Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-35-8	Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00534

Table XXVI-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00535

Table XXVI-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXVI-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXVI-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXVI-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXVI-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXVI-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXVI-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-41-1	CH_3	H	H	H	Bz	H	F	H	OH
XXVI-41-2	CH_3	H	H	CH_3	Bz	H	F	H	OH
XXVI-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-41-8	CH_3	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00536

Table XXVI-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-42-1	Et	H	H	H	Bz	H	F	H	OH
XXVI-42-2	Et	H	H	CH_3	Bz	H	F	H	OH
XXVI-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-42-5	Et	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-42-8	Et	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-43-1	^{i}Pr	H	H	H	Bz	H	F	H	OH
XXVI-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	H	OH
XXVI-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-43-8	^{i}Pr	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-44-1	^{t}Bu	H	H	H	Bz	H	F	H	OH
XXVI-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	H	OH
XXVI-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-44-8	^{t}Bu	*	H	*	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00537

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-45-1	Ph	H	H	H	Bz	H	F	H	OH
XXVI-45-2	Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-45-5	Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-45-8	Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-46-1	p-Me-Ph	H	H	H	Bz	H	F	H	OH
XXVI-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-46-8	p-Me-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-47-1	p-F-Ph	H	H	H	Bz	H	F	H	OH
XXVI-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00538

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-47-8	p-F-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-48-1	p-Cl-Ph	H	H	H	Bz	H	F	H	OH
XXVI-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-48-8	p-Cl-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVI-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-49-1	p-Br-Ph	H	H	H	Bz	H	F	H	OH
XXVI-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXVI-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-49-8	p-Br-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

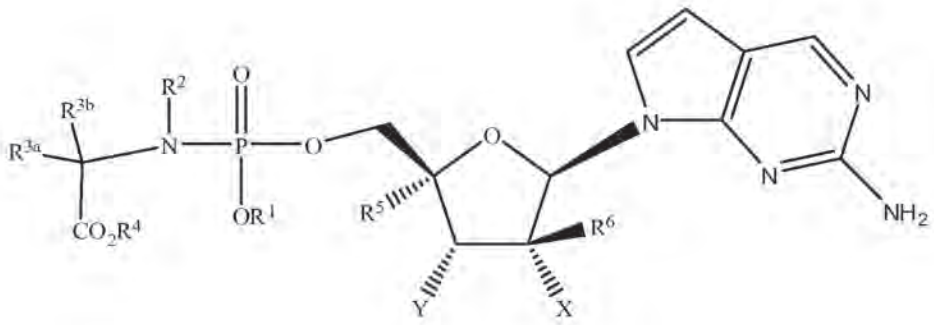
Table XXVI-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-50-1	p-I-Ph	H	H	H	Bz	H	F	H	OH
XXVI-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	H	OH
XXVI-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXVI-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00539

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVI-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXVI-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXVI-50-8	p-I-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.



XXVII

Table XXVII-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-1-1	CH_3	H	H	H	CH_3	H	F	F	OH
XXVII-1-2	CH_3	H	H	CH_3	CH_3	H	F	F	OH
XXVII-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-1-8	CH_3	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-2-1	Et	H	H	H	CH_3	H	F	F	OH
XXVII-2-2	Et	H	H	CH_3	CH_3	H	F	F	OH
XXVII-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00540

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-2-5	Et	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-2-8	Et	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-3-1	^{i}Pr	H	H	H	CH_3	H	F	F	OH
XXVII-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	F	OH
XXVII-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-3-8	^{i}Pr	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-4-1	^{t}Bu	H	H	H	CH_3	H	F	F	OH
XXVII-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	F	OH
XXVII-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-4-8	^{t}Bu	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-5-1	Ph	H	H	H	CH_3	H	F	F	OH
XXVII-5-2	Ph	H	H	CH_3	CH_3	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00541

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-5-8	Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-6-1	p-Me-Ph	H	H	H	CH_3	H	F	F	OH
XXVII-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXVII-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-6-8	p-Me-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-7-1	p-F-Ph	H	H	H	CH_3	H	F	F	OH
XXVII-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXVII-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-7-20	p-F-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y

Gilead Exhibit 2016
PGR2023-00046 - Page 00542

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	F	OH
XXVII-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXVII-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-9-1	p-Br-Ph	H	H	H	CH_3	H	F	F	OH
XXVII-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXVII-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-9-20	p-Br-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-10-1	p-I-Ph	H	H	H	CH_3	H	F	F	OH
XXVII-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXVII-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXVII-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXVII-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXVII-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXVII-10-8	p-I-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00543

Table XXVII-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-11-1	CH_3	H	H	H	Et	H	F	F	OH
XXVII-11-2	CH_3	H	H	CH_3	Et	H	F	F	OH
XXVII-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-11-5	CH_3	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-11-8	CH_3	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-12-1	Et	H	H	H	Et	H	F	F	OH
XXVII-12-2	Et	H	H	CH_3	Et	H	F	F	OH
XXVII-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-12-5	Et	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-12-8	Et	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-13-1	^{i}Pr	H	H	H	Et	H	F	F	OH
XXVII-13-2	^{i}Pr	H	H	CH_3	Et	H	F	F	OH
XXVII-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-13-8	^{i}Pr	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00544

Table XXVII-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-14-1	^{t}Bu	H	H	H	Et	H	F	F	OH
XXVII-14-2	^{t}Bu	H	H	CH_3	Et	H	F	F	OH
XXVII-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-14-8	^{t}Bu	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-15-1	Ph	H	H	H	Et	H	F	F	OH
XXVII-15-2	Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-15-5	Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-15-8	Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-16-1	p-Me-Ph	H	H	H	Et	H	F	F	OH
XXVII-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-16-8	p-Me-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00545

Table XXVII-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-17-1	p-F-Ph	H	H	H	Et	H	F	F	OH
XXVII-17-2	p-F-Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-17-8	p-F-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-18-1	p-Cl-Ph	H	H	H	Et	H	F	F	OH
XXVII-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-18-8	p-Cl-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-19-1	p-Br-Ph	H	H	H	Et	H	F	F	OH
XXVII-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-19-8	p-Br-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00546

Table XXVII-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-20-1	p-I-Ph	H	H	H	Et	H	F	F	OH
XXVII-20-2	p-I-Ph	H	H	CH_3	Et	H	F	F	OH
XXVII-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXVII-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXVII-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXVII-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXVII-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXVII-20-8	p-I-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-21-1	CH_3	H	H	H	^{i}Pr	H	F	F	OH
XXVII-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-21-8	CH_3	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-22-1	Et	H	H	H	^{i}Pr	H	F	F	OH
XXVII-22-2	Et	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-22-8	Et	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00547

Table XXVII-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	F	OH
XXVII-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	F	OH
XXVII-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-25-1	Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-25-8	Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00548

Table XXVII-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00549

Table XXVII-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXVII-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXVII-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXVII-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXVII-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXVII-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXVII-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-31-1	CH_3	H	H	H	^{n}Bu	H	F	F	OH
XXVII-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-31-8	CH_3	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00550

Table XXVII-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-32-1	Et	H	H	H	^{n}Bu	H	F	F	OH
XXVII-32-2	Et	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-32-8	Et	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	F	OH
XXVII-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	F	OH
XXVII-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00551

Table XXVII-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-35-1	Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-35-8	Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00552

Table XXVII-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXVII-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXVII-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXVII-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXVII-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXVII-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXVII-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00553

Table XXVII-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-41-1	CH_3	H	H	H	Bz	H	F	F	OH
XXVII-41-2	CH_3	H	H	CH_3	Bz	H	F	F	OH
XXVII-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-41-8	CH_3	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-42-1	Et	H	H	H	Bz	H	F	F	OH
XXVII-42-2	Et	H	H	CH_3	Bz	H	F	F	OH
XXVII-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-42-5	Et	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-42-8	Et	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-43-1	^{i}Pr	H	H	H	Bz	H	F	F	OH
XXVII-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	F	OH
XXVII-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-43-8	^{i}Pr	*	H	*	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00554

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-44-1	^{t}Bu	H	H	H	Bz	H	F	F	OH
XXVII-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	F	OH
XXVII-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-44-8	^{t}Bu	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-45-1	Ph	H	H	H	Bz	H	F	F	OH
XXVII-45-2	Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-45-5	Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-45-8	Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-46-1	p-Me-Ph	H	H	H	Bz	H	F	F	OH
XXVII-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00555

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-46-8	p-Me-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-47-1	p-F-Ph	H	H	H	Bz	H	F	F	OH
XXVII-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-47-8	p-F-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-48-1	p-Cl-Ph	H	H	H	Bz	H	F	F	OH
XXVII-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-48-8	p-Cl-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-49-1	p-Br-Ph	H	H	H	Bz	H	F	F	OH
XXVII-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00556

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-49-8	p-Br-Ph	*	H	*	Bz	H	F	F	OH

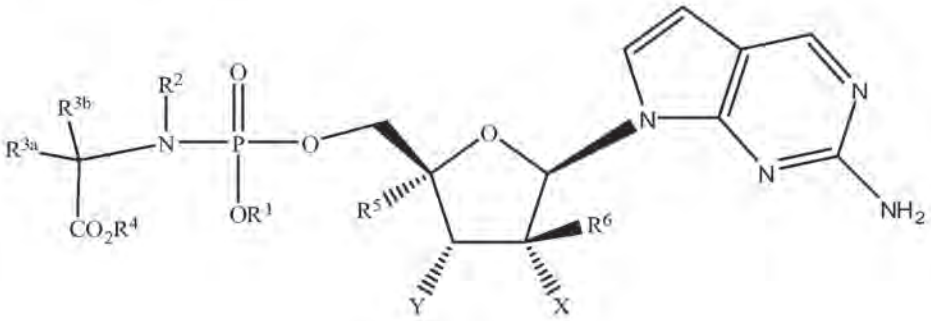
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVII-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVII-50-1	p-I-Ph	H	H	H	Bz	H	F	F	OH
XXVII-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	F	OH
XXVII-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXVII-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXVII-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXVII-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXVII-50-8	p-I-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

5



XXVIII

Table XXVIII-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-1-1	CH_3	H	H	H	CH_3	H	H	F	OH
XXVIII-1-2	CH_3	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00557

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-1-5	CH_3	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-1-8	CH_3	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-2-1	Et	H	H	H	CH_3	H	H	F	OH
XXVIII-2-2	Et	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-2-5	Et	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-2-8	Et	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-3-1	^{t}Pr	H	H	H	CH_3	H	H	F	OH
XXVIII-3-2	^{t}Pr	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-3-8	^{i}Pr	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-4-1	^{t}Bu	H	H	H	CH_3	H	H	F	OH
XXVIII-4-2	^{t}Bu	H	H	CH_3	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00558

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-4-8	^{t}Bu	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-5-1	Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-5-2	Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-5-5	Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-5-8	Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-6-1	p-Me-Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-6-8	p-Me-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y

Gilead Exhibit 2016
PGR2023-00046 - Page 00559

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-7-1	p-F-Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-7-2	p-F-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-7-20	p-F-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-8-1	p-Cl-Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-8-8	p-Cl-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-9-1	p-Br-Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-9-20	p-Br-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00560

Table XXVIII-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-10-1	p-I-Ph	H	H	H	CH_3	H	H	F	OH
XXVIII-10-2	p-I-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXVIII-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXVIII-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXVIII-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXVIII-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXVIII-10-8	p-I-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-11-1	CH_3	H	H	H	Et	H	H	F	OH
XXVIII-11-2	CH_3	H	H	CH_3	Et	H	H	F	OH
XXVIII-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-11-5	CH_3	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-11-8	CH_3	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-12-1	Et	H	H	H	Et	H	H	F	OH
XXVIII-12-2	Et	H	H	CH_3	Et	H	H	F	OH
XXVIII-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-12-5	Et	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-12-8	Et	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00561

Table XXVIII-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-13-1	^{i}Pr	H	H	H	Et	H	H	F	OH
XXVIII-13-2	^{i}Pr	H	H	CH_3	Et	H	H	F	OH
XXVIII-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-13-8	^{i}Pr	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-14-1	^{t}Bu	H	H	H	Et	H	H	F	OH
XXVIII-14-2	^{t}Bu	H	H	CH_3	Et	H	H	F	OH
XXVIII-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-14-8	^{t}Bu	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-15-1	Ph	H	H	H	Et	H	H	F	OH
XXVIII-15-2	Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-15-5	Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-15-8	Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00562

Table XXVIII-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-16-1	p-Me-Ph	H	H	H	Et	H	H	F	OH
XXVIII-16-2	p-Me-Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-16-8	p-Me-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-17-1	p-F-Ph	H	H	H	Et	H	H	F	OH
XXVIII-17-2	p-F-Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-17-8	p-F-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-18-1	p-Cl-Ph	H	H	H	Et	H	H	F	OH
XXVIII-18-2	p-Cl-Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-18-8	p-Cl-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00563

Table XXVIII-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-19-1	p-Br-Ph	H	H	H	Et	H	H	F	OH
XXVIII-19-2	p-Br-Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-19-8	p-Br-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-20-1	p-I-Ph	H	H	H	Et	H	H	F	OH
XXVIII-20-2	p-I-Ph	H	H	CH_3	Et	H	H	F	OH
XXVIII-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXVIII-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXVIII-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXVIII-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXVIII-20-8	p-I-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-21-1	CH_3	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-21-2	CH_3	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-21-8	CH_3	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00564

Table XXVIII-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-22-1	Et	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-22-2	Et	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-22-8	Et	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-23-1	^{i}Pr	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-23-8	^{i}Pr	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-24-1	^{t}Bu	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-24-8	^{t}Bu	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00565

Table XXVIII-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-25-1	Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-25-2	Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-25-8	Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-27-1	p-F-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-27-8	p-F-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00566

Table XXVIII-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-30-1	p-I-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXVIII-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXVIII-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXVIII-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXVIII-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXVIII-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXVIII-30-8	p-I-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00567

Table XXVIII-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-31-1	CH_3	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-31-2	CH_3	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-31-8	CH_3	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-32-1	Et	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-32-2	Et	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-32-8	Et	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-33-1	^{i}Pr	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-33-8	^{i}Pr	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00568

Table XXVIII-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-34-1	^{t}Bu	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-34-8	^{t}Bu	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-35-1	Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-35-2	Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-35-8	Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00569

Table XXVIII-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-37-1	p-F-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-37-8	p-F-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00570

Table XXVIII-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-40-1	p-I-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXVIII-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXVIII-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXVIII-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXVIII-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXVIII-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXVIII-40-8	p-I-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-41-1	CH_3	H	H	H	Bz	H	H	F	OH
XXVIII-41-2	CH_3	H	H	CH_3	Bz	H	H	F	OH
XXVIII-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-41-5	CH_3	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-41-8	CH_3	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-42-1	Et	H	H	H	Bz	H	H	F	OH
XXVIII-42-2	Et	H	H	CH_3	Bz	H	H	F	OH
XXVIII-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-42-5	Et	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-42-8	Et	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00571

Table XXVIII-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-43-1	^{i}Pr	H	H	H	Bz	H	H	F	OH
XXVIII-43-2	^{i}Pr	H	H	CH_3	Bz	H	H	F	OH
XXVIII-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-43-8	^{i}Pr	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-44-1	^{t}Bu	H	H	H	Bz	H	H	F	OH
XXVIII-44-2	^{t}Bu	H	H	CH_3	Bz	H	H	F	OH
XXVIII-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-44-8	^{t}Bu	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-45-1	Ph	H	H	H	Bz	H	H	F	OH
XXVIII-45-2	Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-45-5	Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-45-8	Ph	*	H	*	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00572

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-46-1	p-Me-Ph	H	H	H	Bz	H	H	F	OH
XXVIII-46-2	p-Me-Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-46-8	p-Me-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-47-1	p-F-Ph	H	H	H	Bz	H	H	F	OH
XXVIII-47-2	p-F-Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-47-8	p-F-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-48-1	p-Cl-Ph	H	H	H	Bz	H	H	F	OH
XXVIII-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00573

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-48-8	p-Cl-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-49-1	p-Br-Ph	H	H	H	Bz	H	H	F	OH
XXVIII-49-2	p-Br-Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-49-8	p-Br-Ph	*	H	*	Bz	H	H	F	OH

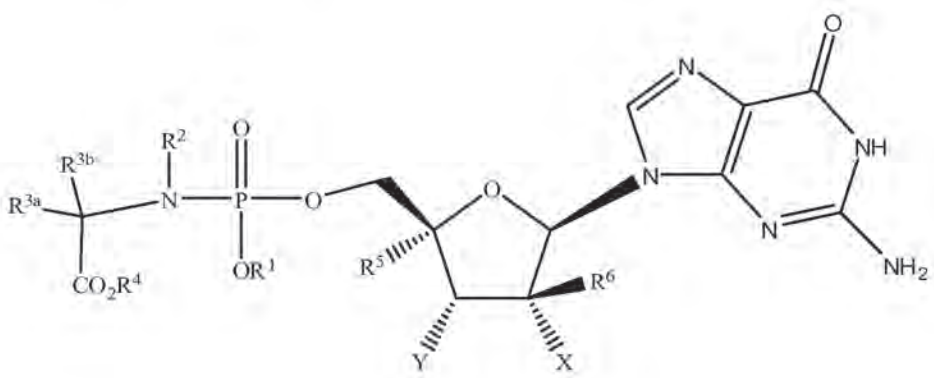
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXVIII-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXVIII-50-1	p-I-Ph	H	H	H	Bz	H	H	F	OH
XXVIII-50-2	p-I-Ph	H	H	CH_3	Bz	H	H	F	OH
XXVIII-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXVIII-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXVIII-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXVIII-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXVIII-50-8	p-I-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00574



XXIX

Table XXIX-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-1-1	CH_3	H	H	H	CH_3	H	CH_3	F	OH
XXIX-1-2	CH_3	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-1-5	CH_3	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-1-8	CH_3	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-2-1	Et	H	H	H	CH_3	H	CH_3	F	OH
XXIX-2-2	Et	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-2-5	Et	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-2-8	Et	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-3.

Gilead Exhibit 2016
PGR2023-00046 - Page 00575

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-3-1	^{i}Pr	H	H	H	CH_3	H	CH_3	F	OH
XXIX-3-2	^{i}Pr	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-3-8	^{i}Pr	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-4-1	^{t}Bu	H	H	H	CH_3	H	CH_3	F	OH
XXIX-4-2	^{t}Bu	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-4-8	^{t}Bu	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-5-1	Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-5-2	Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-5-5	Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-5-8	Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00576

Table XXIX-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-6-1	p-Me-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-6-8	p-Me-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-7-1	p-F-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-7-2	p-F-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-7-20	p-F-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-8-1	p-Cl-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-8-8	p-Cl-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00577

Table XXIX-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-9-1	p-Br-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-9-20	p-Br-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-10-1	p-I-Ph	H	H	H	CH_3	H	CH_3	F	OH
XXIX-10-2	p-I-Ph	H	H	CH_3	CH_3	H	CH_3	F	OH
XXIX-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	CH_3	F	OH
XXIX-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	CH_3	F	OH
XXIX-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	CH_3	F	OH
XXIX-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	CH_3	F	OH
XXIX-10-8	p-I-Ph	*	H	*	CH_3	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-11-1	CH_3	H	H	H	Et	H	CH_3	F	OH
XXIX-11-2	CH_3	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-11-5	CH_3	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-11-8	CH_3	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00578

Table XXIX-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-12-1	Et	H	H	H	Et	H	CH_3	F	OH
XXIX-12-2	Et	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-12-5	Et	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-12-8	Et	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-13-1	^{i}Pr	H	H	H	Et	H	CH_3	F	OH
XXIX-13-2	^{i}Pr	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-13-8	^{i}Pr	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-14-1	^{t}Bu	H	H	H	Et	H	CH_3	F	OH
XXIX-14-2	^{t}Bu	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)$ 2	Et	H	CH_3	F	OH
XXIX-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-14-7	^{t}Bu	H	H	CH_2CH_2SCH	Et	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00579

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-14-8	^{t}Bu	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-15-1	Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-15-2	Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-15-5	Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-15-8	Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-16-1	p-Me-Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-16-2	p-Me-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-16-8	p-Me-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-17-1	p-F-Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-17-2	p-F-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00580

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-17-8	p-F-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-18-1	p-Cl-Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-18-2	p-Cl-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-18-8	p-Cl-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-19-1	p-Br-Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-19-2	p-Br-Ph	H	H	CH_3	Et	H	CH_3	F	OH
XXIX-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-19-8	p-Br-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-20-1	p-I-Ph	H	H	H	Et	H	CH_3	F	OH
XXIX-20-2	p-I-Ph	H	H	CH_3	Et	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00581

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	CH_3	F	OH
XXIX-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	CH_3	F	OH
XXIX-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	CH_3	F	OH
XXIX-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	CH_3	F	OH
XXIX-20-8	p-I-Ph	*	H	*	Et	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-21-1	CH_3	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-21-2	CH_3	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-21-8	CH_3	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-22-1	Et	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-22-2	Et	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-22-8	Et	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y

Gilead Exhibit 2016
PGR2023-00046 - Page 00582

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-23-1	^{i}Pr	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-23-8	^{i}Pr	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-24-1	^{t}Bu	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-24-8	^{t}Bu	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-25-1	Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-25-2	Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-25-8	Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00583

Table XXIX-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-27-1	p-F-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-27-8	p-F-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00584

Table XXIX-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-30-1	p-I-Ph	H	H	H	^{i}Pr	H	CH_3	F	OH
XXIX-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	CH_3	F	OH
XXIX-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	CH_3	F	OH
XXIX-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	CH_3	F	OH
XXIX-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	CH_3	F	OH
XXIX-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	CH_3	F	OH
XXIX-30-8	p-I-Ph	*	H	*	^{i}Pr	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-31-1	CH_3	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-31-2	CH_3	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-31-8	CH_3	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00585

Table XXIX-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-32-1	Et	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-32-2	Et	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-32-8	Et	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-33-1	^{i}Pr	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-33-8	^{i}Pr	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-34-1	^{t}Bu	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-34-8	^{t}Bu	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00586

Table XXIX-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-35-1	Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-35-2	Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-35-8	Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-37-1	p-F-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-37-8	p-F-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00587

Table XXIX-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-40-1	p-I-Ph	H	H	H	^{n}Bu	H	CH_3	F	OH
XXIX-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	CH_3	F	OH
XXIX-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	CH_3	F	OH
XXIX-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	CH_3	F	OH
XXIX-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	CH_3	F	OH
XXIX-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	CH_3	F	OH
XXIX-40-8	p-I-Ph	*	H	*	^{n}Bu	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00588

Table XXIX-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-41-1	CH_3	H	H	H	Bz	H	CH_3	F	OH
XXIX-41-2	CH_3	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-41-5	CH_3	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-41-8	CH_3	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-42-1	Et	H	H	H	Bz	H	CH_3	F	OH
XXIX-42-2	Et	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-42-5	Et	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-42-8	Et	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-43-1	^{i}Pr	H	H	H	Bz	H	CH_3	F	OH
XXIX-43-2	^{i}Pr	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-43-8	^{i}Pr	*	H	*	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00589

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-44-1	^{t}Bu	H	H	H	Bz	H	CH_3	F	OH
XXIX-44-2	^{t}Bu	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-44-8	^{t}Bu	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-45-1	Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-45-2	Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-45-5	Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-45-8	Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-46-1	p-Me-Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-46-2	p-Me-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00590

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-46-8	p-Me-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-47-1	p-F-Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-47-2	p-F-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-47-8	p-F-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-48-1	p-Cl-Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-48-8	p-Cl-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-49-1	p-Br-Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-49-2	p-Br-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00591

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-49-8	p-Br-Ph	*	H	*	Bz	H	CH_3	F	OH

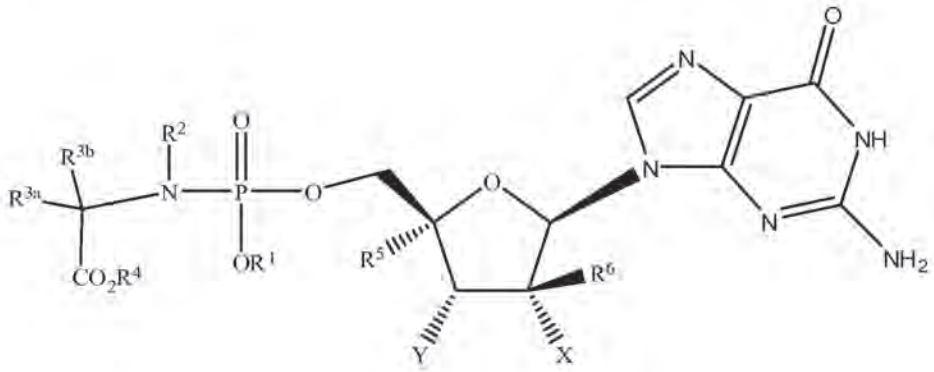
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXIX-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXIX-50-1	p-I-Ph	H	H	H	Bz	H	CH_3	F	OH
XXIX-50-2	p-I-Ph	H	H	CH_3	Bz	H	CH_3	F	OH
XXIX-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	CH_3	F	OH
XXIX-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	CH_3	F	OH
XXIX-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	CH_3	F	OH
XXIX-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	CH_3	F	OH
XXIX-50-8	p-I-Ph	*	H	*	Bz	H	CH_3	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

5



XXX

Table XXX-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-1-1	CH_3	H	H	H	CH_3	H	F	H	OH
XXX-1-2	CH_3	H	H	CH_3	CH_3	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00592

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-1-8	CH_3	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-2-1	Et	H	H	H	CH_3	H	F	H	OH
XXX-2-2	Et	H	H	CH_3	CH_3	H	F	H	OH
XXX-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-2-5	Et	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-2-8	Et	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-3-1	^{i}Pr	H	H	H	CH_3	H	F	H	OH
XXX-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	H	OH
XXX-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-3-8	^{i}Pr	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y

Gilead Exhibit 2016
PGR2023-00046 - Page 00593

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-4-1	^{t}Bu	H	H	H	CH_3	H	F	H	OH
XXX-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	H	OH
XXX-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-4-8	^{t}Bu	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-5-1	Ph	H	H	H	CH_3	H	F	H	OH
XXX-5-2	Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-5-8	Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-6-1	p-Me-Ph	H	H	H	CH_3	H	F	H	OH
XXX-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-6-8	p-Me-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00594

Table XXX-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-7-1	p-F-Ph	H	H	H	CH_3	H	F	H	OH
XXX-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-7-20	p-F-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	H	OH
XXX-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-9-1	p-Br-Ph	H	H	H	CH_3	H	F	H	OH
XXX-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-9-20	p-Br-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00595

Table XXX-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-10-1	p-I-Ph	H	H	H	CH_3	H	F	H	OH
XXX-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	H	OH
XXX-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	H	OH
XXX-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	H	OH
XXX-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	H	OH
XXX-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	H	OH
XXX-10-8	p-I-Ph	*	H	*	CH_3	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-11-1	CH_3	H	H	H	Et	H	F	H	OH
XXX-11-2	CH_3	H	H	CH_3	Et	H	F	H	OH
XXX-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-11-5	CH_3	H	H	CH_2Ph	Et	H	F	H	OH
XXX-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-11-8	CH_3	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-12-1	Et	H	H	H	Et	H	F	H	OH
XXX-12-2	Et	H	H	CH_3	Et	H	F	H	OH
XXX-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-12-5	Et	H	H	CH_2Ph	Et	H	F	H	OH
XXX-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-12-8	Et	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00596

Table XXX-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-13-1	^{i}Pr	H	H	H	Et	H	F	H	OH
XXX-13-2	^{i}Pr	H	H	CH_3	Et	H	F	H	OH
XXX-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	H	OH
XXX-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-13-8	^{i}Pr	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-14-1	^{t}Bu	H	H	H	Et	H	F	H	OH
XXX-14-2	^{t}Bu	H	H	CH_3	Et	H	F	H	OH
XXX-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	H	OH
XXX-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-14-8	^{t}Bu	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-15-1	Ph	H	H	H	Et	H	F	H	OH
XXX-15-2	Ph	H	H	CH_3	Et	H	F	H	OH
XXX-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-15-5	Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-15-8	Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00597

Table XXX-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-16-1	p-Me-Ph	H	H	H	Et	H	F	H	OH
XXX-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	H	OH
XXX-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-16-8	p-Me-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-17-1	p-F-Ph	H	H	H	Et	H	F	H	OH
XXX-17-2	p-F-Ph	H	H	CH_3	Et	H	F	H	OH
XXX-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-17-8	p-F-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-18-1	p-Cl-Ph	H	H	H	Et	H	F	H	OH
XXX-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	H	OH
XXX-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-18-8	p-Cl-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00598

Table XXX-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-19-1	p-Br-Ph	H	H	H	Et	H	F	H	OH
XXX-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	H	OH
XXX-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-19-8	p-Br-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-20-1	p-I-Ph	H	H	H	Et	H	F	H	OH
XXX-20-2	p-I-Ph	H	H	CH_3	Et	H	F	H	OH
XXX-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	H	OH
XXX-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	H	OH
XXX-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	H	OH
XXX-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	H	OH
XXX-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	H	OH
XXX-20-8	p-I-Ph	*	H	*	Et	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-21-1	CH_3	H	H	H	^{i}Pr	H	F	H	OH
XXX-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-21-8	CH_3	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00599

Table XXX-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-22-1	Et	H	H	H	^{i}Pr	H	F	H	OH
XXX-22-2	Et	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-22-8	Et	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	H	OH
XXX-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	H	OH
XXX-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00600

Table XXX-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-25-1	Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-25-8	Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00601

Table XXX-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	H	OH
XXX-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	H	OH
XXX-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	H	OH
XXX-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	H	OH
XXX-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	H	OH
XXX-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	H	OH
XXX-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00602

Table XXX-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-31-1	CH_3	H	H	H	^{n}Bu	H	F	H	OH
XXX-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-31-8	CH_3	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-32-1	Et	H	H	H	^{n}Bu	H	F	H	OH
XXX-32-2	Et	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-32-8	Et	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	H	OH
XXX-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00603

Table XXX-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	H	OH
XXX-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-35-1	Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-35-8	Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00604

Table XXX-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00605

Table XXX-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	H	OH
XXX-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	H	OH
XXX-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	H	OH
XXX-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	H	OH
XXX-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	H	OH
XXX-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	H	OH
XXX-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-41-1	CH_3	H	H	H	Bz	H	F	H	OH
XXX-41-2	CH_3	H	H	CH_3	Bz	H	F	H	OH
XXX-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-41-8	CH_3	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-42-1	Et	H	H	H	Bz	H	F	H	OH
XXX-42-2	Et	H	H	CH_3	Bz	H	F	H	OH
XXX-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-42-5	Et	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-42-8	Et	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00606

Table XXX-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-43-1	^{i}Pr	H	H	H	Bz	H	F	H	OH
XXX-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	H	OH
XXX-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-43-8	^{i}Pr	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-44-1	^{t}Bu	H	H	H	Bz	H	F	H	OH
XXX-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	H	OH
XXX-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-44-8	^{t}Bu	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-45-1	Ph	H	H	H	Bz	H	F	H	OH
XXX-45-2	Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-45-5	Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-45-8	Ph	*	H	*	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00607

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-46-1	p-Me-Ph	H	H	H	Bz	H	F	H	OH
XXX-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-46-8	p-Me-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-47-1	p-F-Ph	H	H	H	Bz	H	F	H	OH
XXX-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-47-8	p-F-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-48-1	p-Cl-Ph	H	H	H	Bz	H	F	H	OH
XXX-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00608

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-48-8	p-Cl-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-49-1	p-Br-Ph	H	H	H	Bz	H	F	H	OH
XXX-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-49-8	p-Br-Ph	*	H	*	Bz	H	F	H	OH

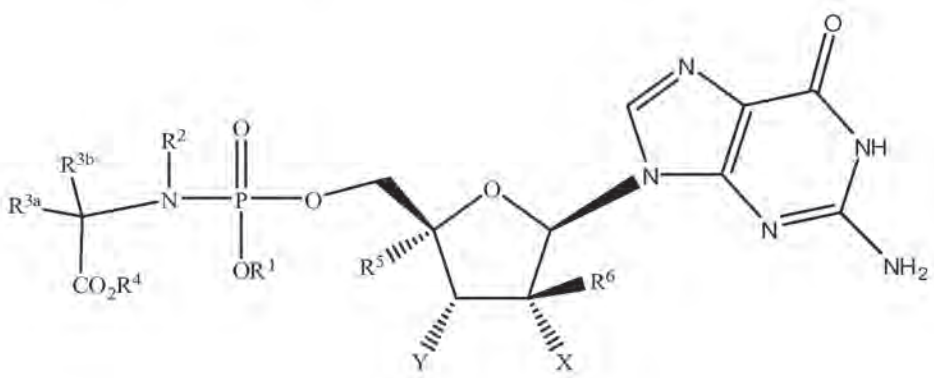
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXX-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXX-50-1	p-I-Ph	H	H	H	Bz	H	F	H	OH
XXX-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	H	OH
XXX-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	H	OH
XXX-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	H	OH
XXX-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	H	OH
XXX-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	H	OH
XXX-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	H	OH
XXX-50-8	p-I-Ph	*	H	*	Bz	H	F	H	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00609



XXXI

Table XXXI-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-1-1	CH_3	H	H	H	CH_3	H	F	F	OH
XXXI-1-2	CH_3	H	H	CH_3	CH_3	H	F	F	OH
XXXI-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-1-5	CH_3	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-1-8	CH_3	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-2-1	Et	H	H	H	CH_3	H	F	F	OH
XXXI-2-2	Et	H	H	CH_3	CH_3	H	F	F	OH
XXXI-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-2-5	Et	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-2-8	Et	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-3.

Gilead Exhibit 2016
PGR2023-00046 - Page 00610

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-3-1	^{i}Pr	H	H	H	CH_3	H	F	F	OH
XXXI-3-2	^{i}Pr	H	H	CH_3	CH_3	H	F	F	OH
XXXI-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-3-8	^{i}Pr	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-4-1	^{t}Bu	H	H	H	CH_3	H	F	F	OH
XXXI-4-2	^{t}Bu	H	H	CH_3	CH_3	H	F	F	OH
XXXI-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-4-8	^{t}Bu	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-5-1	Ph	H	H	H	CH_3	H	F	F	OH
XXXI-5-2	Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-5-5	Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-5-8	Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00611

Table XXXI-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-6-1	p-Me-Ph	H	H	H	CH_3	H	F	F	OH
XXXI-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-6-8	p-Me-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-7-1	p-F-Ph	H	H	H	CH_3	H	F	F	OH
XXXI-7-2	p-F-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-7-20	p-F-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-8.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-8-1	p-Cl-Ph	H	H	H	CH_3	H	F	F	OH
XXXI-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-8-8	p-Cl-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00612

Table XXXI-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-9-1	p-Br-Ph	H	H	H	CH_3	H	F	F	OH
XXXI-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-9-20	p-Br-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-10-1	p-I-Ph	H	H	H	CH_3	H	F	F	OH
XXXI-10-2	p-I-Ph	H	H	CH_3	CH_3	H	F	F	OH
XXXI-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	F	F	OH
XXXI-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	F	F	OH
XXXI-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	F	F	OH
XXXI-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	F	F	OH
XXXI-10-8	p-I-Ph	*	H	*	CH_3	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-11-1	CH_3	H	H	H	Et	H	F	F	OH
XXXI-11-2	CH_3	H	H	CH_3	Et	H	F	F	OH
XXXI-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-11-5	CH_3	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-11-8	CH_3	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00613

Table XXXI-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-12-1	Et	H	H	H	Et	H	F	F	OH
XXXI-12-2	Et	H	H	CH_3	Et	H	F	F	OH
XXXI-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-12-5	Et	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-12-8	Et	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-13-1	^{i}Pr	H	H	H	Et	H	F	F	OH
XXXI-13-2	^{i}Pr	H	H	CH_3	Et	H	F	F	OH
XXXI-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-13-8	^{i}Pr	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-14-1	^{t}Bu	H	H	H	Et	H	F	F	OH
XXXI-14-2	^{t}Bu	H	H	CH_3	Et	H	F	F	OH
XXXI-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-14-8	^{t}Bu	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00614

Table XXXI-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-15-1	Ph	H	H	H	Et	H	F	F	OH
XXXI-15-2	Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-15-5	Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-15-8	Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-16-1	p-Me-Ph	H	H	H	Et	H	F	F	OH
XXXI-16-2	p-Me-Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-16-8	p-Me-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-17-1	p-F-Ph	H	H	H	Et	H	F	F	OH
XXXI-17-2	p-F-Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-17-8	p-F-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00615

Table XXXI-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-18-1	p-Cl-Ph	H	H	H	Et	H	F	F	OH
XXXI-18-2	p-Cl-Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-18-8	p-Cl-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-19-1	p-Br-Ph	H	H	H	Et	H	F	F	OH
XXXI-19-2	p-Br-Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-19-8	p-Br-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-20-1	p-I-Ph	H	H	H	Et	H	F	F	OH
XXXI-20-2	p-I-Ph	H	H	CH_3	Et	H	F	F	OH
XXXI-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	F	F	OH
XXXI-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	F	F	OH
XXXI-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	F	F	OH
XXXI-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	F	F	OH
XXXI-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	F	F	OH
XXXI-20-8	p-I-Ph	*	H	*	Et	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00616

Table XXXI-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-21-1	CH_3	H	H	H	^{i}Pr	H	F	F	OH
XXXI-21-2	CH_3	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-21-8	CH_3	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-22-1	Et	H	H	H	^{i}Pr	H	F	F	OH
XXXI-22-2	Et	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-22-8	Et	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-23-1	^{i}Pr	H	H	H	^{i}Pr	H	F	F	OH
XXXI-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-23-8	^{i}Pr	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00617

Table XXXI-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-24-1	^{t}Bu	H	H	H	^{i}Pr	H	F	F	OH
XXXI-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-24-8	^{t}Bu	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-25-1	Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-25-2	Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-25-8	Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00618

Table XXXI-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-27-1	p-F-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-27-8	p-F-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00619

Table XXXI-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-30-1	p-I-Ph	H	H	H	^{i}Pr	H	F	F	OH
XXXI-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	F	F	OH
XXXI-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	F	F	OH
XXXI-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	F	F	OH
XXXI-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	F	F	OH
XXXI-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	F	F	OH
XXXI-30-8	p-I-Ph	*	H	*	^{i}Pr	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-31-1	CH_3	H	H	H	^{n}Bu	H	F	F	OH
XXXI-31-2	CH_3	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-31-8	CH_3	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-32-1	Et	H	H	H	^{n}Bu	H	F	F	OH
XXXI-32-2	Et	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-32-8	Et	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00620

Table XXXI-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-33-1	^{i}Pr	H	H	H	^{n}Bu	H	F	F	OH
XXXI-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-33-8	^{i}Pr	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-34-1	^{t}Bu	H	H	H	^{n}Bu	H	F	F	OH
XXXI-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-34-8	^{t}Bu	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-35-1	Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-35-2	Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-35-8	Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00621

Table XXXI-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-37-1	p-F-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-37-8	p-F-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00622

Table XXXI-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-40-1	p-I-Ph	H	H	H	^{n}Bu	H	F	F	OH
XXXI-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	F	F	OH
XXXI-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	F	F	OH
XXXI-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	F	F	OH
XXXI-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	F	F	OH
XXXI-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	F	F	OH
XXXI-40-8	p-I-Ph	*	H	*	^{n}Bu	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-41-1	CH_3	H	H	H	Bz	H	F	F	OH
XXXI-41-2	CH_3	H	H	CH_3	Bz	H	F	F	OH
XXXI-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-41-5	CH_3	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-41-8	CH_3	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00623

Table XXXI-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-42-1	Et	H	H	H	Bz	H	F	F	OH
XXXI-42-2	Et	H	H	CH_3	Bz	H	F	F	OH
XXXI-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-42-5	Et	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-42-8	Et	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-43-1	^{i}Pr	H	H	H	Bz	H	F	F	OH
XXXI-43-2	^{i}Pr	H	H	CH_3	Bz	H	F	F	OH
XXXI-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-43-8	^{i}Pr	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-44-1	^{t}Bu	H	H	H	Bz	H	F	F	OH
XXXI-44-2	^{t}Bu	H	H	CH_3	Bz	H	F	F	OH
XXXI-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-44-8	^{t}Bu	*	H	*	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00624

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-45-1	Ph	H	H	H	Bz	H	F	F	OH
XXXI-45-2	Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-45-5	Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-45-8	Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-46-1	p-Me-Ph	H	H	H	Bz	H	F	F	OH
XXXI-46-2	p-Me-Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-46-8	p-Me-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-47-1	p-F-Ph	H	H	H	Bz	H	F	F	OH
XXXI-47-2	p-F-Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00625

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-47-8	p-F-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-48-1	p-Cl-Ph	H	H	H	Bz	H	F	F	OH
XXXI-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-48-8	p-Cl-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXI-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-49-1	p-Br-Ph	H	H	H	Bz	H	F	F	OH
XXXI-49-2	p-Br-Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	F	F	OH
XXXI-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-49-8	p-Br-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

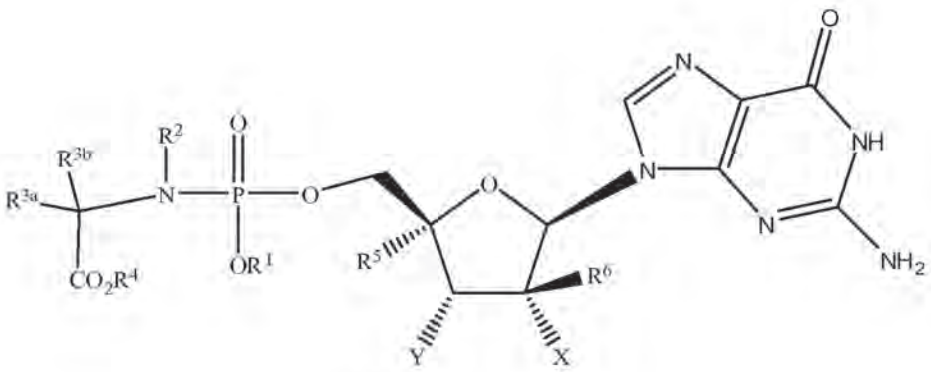
Table XXXI-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-50-1	p-I-Ph	H	H	H	Bz	H	F	F	OH
XXXI-50-2	p-I-Ph	H	H	CH_3	Bz	H	F	F	OH
XXXI-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	F	F	OH
XXXI-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	F	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00626

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXI-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	F	F	OH
XXXI-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	F	F	OH
XXXI-50-8	p-I-Ph	*	H	*	Bz	H	F	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.



XXXII

Table XXXII-1.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-1-1	CH_3	H	H	H	CH_3	H	H	F	OH
XXXII-1-2	CH_3	H	H	CH_3	CH_3	H	H	F	OH
XXXII-1-3	CH_3	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-1-4	CH_3	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-1-5	CH_3	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-1-6	CH_3	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-1-7	CH_3	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-1-8	CH_3	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-2.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-2-1	Et	H	H	H	CH_3	H	H	F	OH
XXXII-2-2	Et	H	H	CH_3	CH_3	H	H	F	OH
XXXII-2-3	Et	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00627

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-2-4	Et	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-2-5	Et	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-2-6	Et	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-2-7	Et	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-2-8	Et	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-3.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-3-1	^{i}Pr	H	H	H	CH_3	H	H	F	OH
XXXII-3-2	^{i}Pr	H	H	CH_3	CH_3	H	H	F	OH
XXXII-3-3	^{i}Pr	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-3-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-3-5	^{i}Pr	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-3-6	^{i}Pr	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-3-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-3-8	^{i}Pr	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-4.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-4-1	^{t}Bu	H	H	H	CH_3	H	H	F	OH
XXXII-4-2	^{t}Bu	H	H	CH_3	CH_3	H	H	F	OH
XXXII-4-3	^{t}Bu	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-4-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-4-5	^{t}Bu	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-4-6	^{t}Bu	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-4-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-4-8	^{t}Bu	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-5.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-5-1	Ph	H	H	H	CH_3	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00628

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-5-2	Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-5-3	Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-5-4	Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-5-5	Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-5-6	Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-5-7	Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-5-8	Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-6.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-6-1	p-Me-Ph	H	H	H	CH_3	H	H	F	OH
XXXII-6-2	p-Me-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-6-3	p-Me-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-6-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-6-5	p-Me-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-6-6	p-Me-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-6-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-6-8	p-Me-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-7.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-7-1	p-F-Ph	H	H	H	CH_3	H	H	F	OH
XXXII-7-2	p-F-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-7-3	p-F-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-7-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-7-6	p-F-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-7-7	p-F-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-7-8	p-F-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-7-20	p-F-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-8.

Gilead Exhibit 2016
PGR2023-00046 - Page 00629

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-8-1	p-Cl-Ph	H	H	H	CH_3	H	H	F	OH
XXXII-8-2	p-Cl-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-8-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-8-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-8-5	p-Cl-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-8-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-8-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-8-8	p-Cl-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-9.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-9-1	p-Br-Ph	H	H	H	CH_3	H	H	F	OH
XXXII-9-2	p-Br-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-9-3	p-Br-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-9-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-9-6	p-Br-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-9-7	p-Br-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-9-8	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-9-20	p-Br-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-10.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-10-1	p-I-Ph	H	H	H	CH_3	H	H	F	OH
XXXII-10-2	p-I-Ph	H	H	CH_3	CH_3	H	H	F	OH
XXXII-10-3	p-I-Ph	H	H	$CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-10-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	CH_3	H	H	F	OH
XXXII-10-5	p-I-Ph	H	H	CH_2Ph	CH_3	H	H	F	OH
XXXII-10-6	p-I-Ph	H	H	CH_2-indol-3-yl	CH_3	H	H	F	OH
XXXII-10-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	CH_3	H	H	F	OH
XXXII-10-8	p-I-Ph	*	H	*	CH_3	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00630

Table XXXII-11.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-11-1	CH_3	H	H	H	Et	H	H	F	OH
XXXII-11-2	CH_3	H	H	CH_3	Et	H	H	F	OH
XXXII-11-3	CH_3	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-11-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-11-5	CH_3	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-11-6	CH_3	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-11-7	CH_3	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-11-8	CH_3	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-12.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-12-1	Et	H	H	H	Et	H	H	F	OH
XXXII-12-2	Et	H	H	CH_3	Et	H	H	F	OH
XXXII-12-3	Et	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-12-4	Et	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-12-5	Et	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-12-6	Et	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-12-7	Et	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-12-8	Et	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-13.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-13-1	^{i}Pr	H	H	H	Et	H	H	F	OH
XXXII-13-2	^{i}Pr	H	H	CH_3	Et	H	H	F	OH
XXXII-13-3	^{i}Pr	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-13-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-13-5	^{i}Pr	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-13-6	^{i}Pr	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-13-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-13-8	^{i}Pr	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00631

Table XXXII-14.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-14-1	^{t}Bu	H	H	H	Et	H	H	F	OH
XXXII-14-2	^{t}Bu	H	H	CH_3	Et	H	H	F	OH
XXXII-14-3	^{t}Bu	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-14-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-14-5	^{t}Bu	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-14-6	^{t}Bu	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-14-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-14-8	^{t}Bu	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-15.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-15-1	Ph	H	H	H	Et	H	H	F	OH
XXXII-15-2	Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-15-3	Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-15-4	Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-15-5	Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-15-6	Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-15-7	Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-15-8	Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-16.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-16-1	p-Me-Ph	H	H	H	Et	H	H	F	OH
XXXII-16-2	p-Me-Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-16-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-16-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-16-5	p-Me-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-16-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-16-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-16-8	p-Me-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00632

Table XXXII-17.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-17-1	p-F-Ph	H	H	H	Et	H	H	F	OH
XXXII-17-2	p-F-Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-17-3	p-F-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-17-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-17-5	p-F-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-17-6	p-F-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-17-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-17-8	p-F-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-18.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-18-1	p-Cl-Ph	H	H	H	Et	H	H	F	OH
XXXII-18-2	p-Cl-Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-18-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-18-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-18-5	p-Cl-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-18-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-18-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-18-8	p-Cl-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-19.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-19-1	p-Br-Ph	H	H	H	Et	H	H	F	OH
XXXII-19-2	p-Br-Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-19-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-19-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-19-5	p-Br-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-19-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-19-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-19-8	p-Br-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00633

Table XXXII-20.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-20-1	p-I-Ph	H	H	H	Et	H	H	F	OH
XXXII-20-2	p-I-Ph	H	H	CH_3	Et	H	H	F	OH
XXXII-20-3	p-I-Ph	H	H	$CH(CH_3)_2$	Et	H	H	F	OH
XXXII-20-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Et	H	H	F	OH
XXXII-20-5	p-I-Ph	H	H	CH_2Ph	Et	H	H	F	OH
XXXII-20-6	p-I-Ph	H	H	CH_2-indol-3-yl	Et	H	H	F	OH
XXXII-20-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Et	H	H	F	OH
XXXII-20-8	p-I-Ph	*	H	*	Et	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-21.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-21-1	CH_3	H	H	H	^{i}Pr	H	H	F	OH
XXXII-21-2	CH_3	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-21-3	CH_3	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-21-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-21-5	CH_3	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-21-6	CH_3	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-21-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-21-8	CH_3	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-22.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-22-1	Et	H	H	H	^{i}Pr	H	H	F	OH
XXXII-22-2	Et	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-22-3	Et	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-22-4	Et	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-22-5	Et	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-22-6	Et	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-22-7	Et	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-22-8	Et	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00634

Table XXXII-23.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-23-1	^{i}Pr	H	H	H	^{i}Pr	H	H	F	OH
XXXII-23-2	^{i}Pr	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-23-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-23-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-23-5	^{i}Pr	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-23-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-23-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-23-8	^{i}Pr	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-24.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-24-1	^{t}Bu	H	H	H	^{i}Pr	H	H	F	OH
XXXII-24-2	^{t}Bu	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-24-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-24-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-24-5	^{t}Bu	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-24-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-24-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-24-8	^{t}Bu	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-25.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-25-1	Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-25-2	Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-25-3	Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-25-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-25-5	Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-25-6	Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-25-7	Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-25-8	Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00635

Table XXXII-26.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-26-1	p-Me-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-26-2	p-Me-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-26-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-26-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-26-5	p-Me-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-26-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-26-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-26-8	p-Me-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-27.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-27-1	p-F-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-27-2	p-F-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-27-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-27-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-27-5	p-F-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-27-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-27-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-27-8	p-F-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-28.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-28-1	p-Cl-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-28-2	p-Cl-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-28-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-28-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-28-5	p-Cl-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-28-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-28-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-28-8	p-Cl-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00636

Table XXXII-29.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-29-1	p-Br-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-29-2	p-Br-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-29-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-29-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-29-5	p-Br-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-29-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-29-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-29-8	p-Br-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-30.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-30-1	p-I-Ph	H	H	H	^{i}Pr	H	H	F	OH
XXXII-30-2	p-I-Ph	H	H	CH_3	^{i}Pr	H	H	F	OH
XXXII-30-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-30-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{i}Pr	H	H	F	OH
XXXII-30-5	p-I-Ph	H	H	CH_2Ph	^{i}Pr	H	H	F	OH
XXXII-30-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{i}Pr	H	H	F	OH
XXXII-30-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{i}Pr	H	H	F	OH
XXXII-30-8	p-I-Ph	*	H	*	^{i}Pr	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-31.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-31-1	CH_3	H	H	H	^{n}Bu	H	H	F	OH
XXXII-31-2	CH_3	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-31-3	CH_3	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-31-4	CH_3	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-31-5	CH_3	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-31-6	CH_3	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-31-7	CH_3	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-31-8	CH_3	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00637

Table XXXII-32.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-32-1	Et	H	H	H	^{n}Bu	H	H	F	OH
XXXII-32-2	Et	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-32-3	Et	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-32-4	Et	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-32-5	Et	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-32-6	Et	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-32-7	Et	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-32-8	Et	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-33.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-33-1	^{i}Pr	H	H	H	^{n}Bu	H	H	F	OH
XXXII-33-2	^{i}Pr	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-33-3	^{i}Pr	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-33-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-33-5	^{i}Pr	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-33-6	^{i}Pr	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-33-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-33-8	^{i}Pr	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-34.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-34-1	^{t}Bu	H	H	H	^{n}Bu	H	H	F	OH
XXXII-34-2	^{t}Bu	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-34-3	^{t}Bu	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-34-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-34-5	^{t}Bu	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-34-6	^{t}Bu	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-34-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-34-8	^{t}Bu	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00638

Table XXXII-35.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-35-1	Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-35-2	Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-35-3	Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-35-4	Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-35-5	Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-35-6	Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-35-7	Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-35-8	Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-36.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-36-1	p-Me-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-36-2	p-Me-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-36-3	p-Me-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-36-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-36-5	p-Me-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-36-6	p-Me-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-36-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-36-8	p-Me-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-37.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-37-1	p-F-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-37-2	p-F-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-37-3	p-F-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-37-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-37-5	p-F-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-37-6	p-F-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-37-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-37-8	p-F-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00639

Table XXXII-38.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-38-1	p-Cl-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-38-2	p-Cl-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-38-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-38-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-38-5	p-Cl-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-38-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-38-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-38-8	p-Cl-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-39.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-39-1	p-Br-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-39-2	p-Br-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-39-3	p-Br-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-39-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-39-5	p-Br-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-39-6	p-Br-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-39-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-39-8	p-Br-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-40.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-40-1	p-I-Ph	H	H	H	^{n}Bu	H	H	F	OH
XXXII-40-2	p-I-Ph	H	H	CH_3	^{n}Bu	H	H	F	OH
XXXII-40-3	p-I-Ph	H	H	$CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-40-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	^{n}Bu	H	H	F	OH
XXXII-40-5	p-I-Ph	H	H	CH_2Ph	^{n}Bu	H	H	F	OH
XXXII-40-6	p-I-Ph	H	H	CH_2-indol-3-yl	^{n}Bu	H	H	F	OH
XXXII-40-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	^{n}Bu	H	H	F	OH
XXXII-40-8	p-I-Ph	*	H	*	^{n}Bu	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Gilead Exhibit 2016
PGR2023-00046 - Page 00640

Table XXXII-41.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-41-1	CH_3	H	H	H	Bz	H	H	F	OH
XXXII-41-2	CH_3	H	H	CH_3	Bz	H	H	F	OH
XXXII-41-3	CH_3	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-41-4	CH_3	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-41-5	CH_3	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-41-6	CH_3	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-41-7	CH_3	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-41-8	CH_3	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-42.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-42-1	Et	H	H	H	Bz	H	H	F	OH
XXXII-42-2	Et	H	H	CH_3	Bz	H	H	F	OH
XXXII-42-3	Et	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-42-4	Et	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-42-5	Et	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-42-6	Et	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-42-7	Et	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-42-8	Et	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-43.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-43-1	^{i}Pr	H	H	H	Bz	H	H	F	OH
XXXII-43-2	^{i}Pr	H	H	CH_3	Bz	H	H	F	OH
XXXII-43-3	^{i}Pr	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-43-4	^{i}Pr	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-43-5	^{i}Pr	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-43-6	^{i}Pr	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-43-7	^{i}Pr	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-43-8	^{i}Pr	*	H	*	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00641

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-44.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-44-1	^{t}Bu	H	H	H	Bz	H	H	F	OH
XXXII-44-2	^{t}Bu	H	H	CH_3	Bz	H	H	F	OH
XXXII-44-3	^{t}Bu	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-44-4	^{t}Bu	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-44-5	^{t}Bu	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-44-6	^{t}Bu	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-44-7	^{t}Bu	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-44-8	^{t}Bu	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-45.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-45-1	Ph	H	H	H	Bz	H	H	F	OH
XXXII-45-2	Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-45-3	Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-45-4	Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-45-5	Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-45-6	Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-45-7	Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-45-8	Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-46.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-46-1	p-Me-Ph	H	H	H	Bz	H	H	F	OH
XXXII-46-2	p-Me-Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-46-3	p-Me-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-46-4	p-Me-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-46-5	p-Me-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-46-6	p-Me-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-46-7	p-Me-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00642

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-46-8	p-Me-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-47.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-47-1	p-F-Ph	H	H	H	Bz	H	H	F	OH
XXXII-47-2	p-F-Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-47-3	p-F-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-47-4	p-F-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-47-5	p-F-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-47-6	p-F-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-47-7	p-F-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-47-8	p-F-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-48.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-48-1	p-Cl-Ph	H	H	H	Bz	H	H	F	OH
XXXII-48-2	p-Cl-Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-48-3	p-Cl-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-48-4	p-Cl-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-48-5	p-Cl-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-48-6	p-Cl-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-48-7	p-Cl-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-48-8	p-Cl-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-49.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-49-1	p-Br-Ph	H	H	H	Bz	H	H	F	OH
XXXII-49-2	p-Br-Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-49-3	p-Br-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-49-4	p-Br-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-49-5	p-Br-Ph	H	H	CH_2Ph	Bz	H	H	F	OH

Gilead Exhibit 2016
PGR2023-00046 - Page 00643

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-49-6	p-Br-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-49-7	p-Br-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-49-8	p-Br-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

Table XXXII-50.

№	R^1	R^2	R^{3a}	R^{3b}	R^4	R^5	R^6	X	Y
XXXII-50-1	p-I-Ph	H	H	H	Bz	H	H	F	OH
XXXII-50-2	p-I-Ph	H	H	CH_3	Bz	H	H	F	OH
XXXII-50-3	p-I-Ph	H	H	$CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-50-4	p-I-Ph	H	H	$CH_2CH(CH_3)_2$	Bz	H	H	F	OH
XXXII-50-5	p-I-Ph	H	H	CH_2Ph	Bz	H	H	F	OH
XXXII-50-6	p-I-Ph	H	H	CH_2-indol-3-yl	Bz	H	H	F	OH
XXXII-50-7	p-I-Ph	H	H	$CH_2CH_2SCH_3$	Bz	H	H	F	OH
XXXII-50-8	p-I-Ph	*	H	*	Bz	H	H	F	OH

*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

DOSAGE, ADMINISTRATION, AND USE

A sixth embodiment of the present invention is directed to a composition for the treatment of any of the viral agents disclosed herein said composition comprising a pharmaceutically acceptable medium selected from among an excipient, carrier, diluent, and equivalent medium and a compound, that is intended to include its salts (acid or basic addition salts), hydrates, solvates, and crystalline forms can be obtained, represented by formula **I**.

It is contemplated that the formulation of the sixth embodiment can contain any of the compounds contemplated in any of the aspects of the first, second, third, fourth, and fifth embodiments or those specifically recited in the tables above or exemplified herein, either alone or in combination with another compound of the present invention.

The compounds of the present invention may be formulated in a wide variety of oral administration dosage forms and carriers. Oral administration can be in the form of tablets, coated tablets, hard and soft gelatin capsules, solutions, emulsions, syrups, or

Gilead Exhibit 2016
PGR2023-00046 - Page 00644

suspensions. Compounds of the present invention are efficacious when administered by suppository administration, among other routes of administration. The most convenient manner of administration is generally oral using a convenient daily dosing regimen which can be adjusted according to the severity of the disease and the patient's response to the antiviral medication.

A compound or compounds of the present invention, as well as their pharmaceutically acceptable salts, together with one or more conventional excipients, carriers, or diluents, may be placed into the form of pharmaceutical compositions and unit dosages. The pharmaceutical compositions and unit dosage forms may be comprised of conventional ingredients in conventional proportions, with or without additional active compounds and the unit dosage forms may contain any suitable effective amount of the active ingredient commensurate with the intended daily dosage range to be employed. The pharmaceutical compositions may be employed as solids, such as tablets or filled capsules, semisolids, powders, sustained release formulations, or liquids such as suspensions, emulsions, or filled capsules for oral use; or in the form of suppositories for rectal or vaginal administration. A typical preparation will contain from about 5% to about 95% active compound or compounds (w/w). The term "preparation" or "dosage form" is intended to include both solid and liquid formulations of the active compound and one skilled in the art will appreciate that an active ingredient can exist in different preparations depending on the desired dose and pharmacokinetic parameters.

The term "excipient" as used herein refers to a compound that is used to prepare a pharmaceutical composition, and is generally safe, non-toxic and neither biologically nor otherwise undesirable, and includes excipients that are acceptable for veterinary use as well as human pharmaceutical use. The compounds of this invention can be administered alone but will generally be administered in admixture with one or more suitable pharmaceutical excipients, diluents or carriers selected with regard to the intended route of administration and standard pharmaceutical practice.

A "pharmaceutically acceptable salt" form of an active ingredient may also initially confer a desirable pharmacokinetic property on the active ingredient which were

absent in the non-salt form, and may even positively affect the pharmacodynamics of the active ingredient with respect to its therapeutic activity in the body. The phrase "pharmaceutically acceptable salt" of a compound as used herein means a salt that is pharmaceutically acceptable and that possesses the desired pharmacological activity of the parent compound. Such salts include: (1) acid addition salts, formed with inorganic acids such as hydrochloric acid, hydrobromic acid, sulfuric acid, nitric acid, phosphoric acid, and the like; or formed with organic acids such as glycolic acid, pyruvic acid, lactic acid, malonic acid, malic acid, maleic acid, fumaric acid, tartaric acid, citric acid, 3-(4-hydroxybenzoyl)benzoic acid, cinnamic acid, mandelic acid, methanesulfonic acid, ethanesulfonic acid, 1,2-ethane-disulfonic acid, 2-hydroxyethanesulfonic acid, benzenesulfonic acid, 4-chlorobenzenesulfonic acid, 2-naphthalenesulfonic acid, 4-toluenesulfonic acid, camphorsulfonic acid, lauryl sulfuric acid, gluconic acid, glutamic acid, salicylic acid, muconic acid, and the like or (2) basic addition salts formed with the conjugate bases of any of the inorganic acids listed above, wherein the conjugate bases comprise a cationic component selected from among Na^+, K^+, Mg^{2+}, Ca^{2+}, and $NH_gR'''_{4-g}{}^+$, in which R''' is a C_{1-3} alkyl and g is a number selected from among 0, 1, 2, 3, or 4. It should be understood that all references to pharmaceutically acceptable salts include solvent addition forms (solvates) or crystal forms (polymorphs) as defined herein, of the same acid addition salt.

Solid form preparations include powders, tablets, pills, capsules, suppositories, and dispersible granules. A solid carrier may be one or more substances which may also act as diluents, flavoring agents, solubilizers, lubricants, suspending agents, binders, preservatives, tablet disintegrating agents, or an encapsulating material. In powders, the carrier generally is a finely divided solid which is a mixture with the finely divided active component. In tablets, the active component generally is mixed with the carrier having the necessary binding capacity in suitable proportions and compacted in the shape and size desired. Suitable carriers include but are not limited to magnesium carbonate, magnesium stearate, talc, sugar, lactose, pectin, dextrin, starch, gelatin, tragacanth, methylcellulose, sodium carboxymethylcellulose, a low melting wax, cocoa butter, and the like. Solid form preparations may contain, in addition to the active component, colorants, flavors, stabilizers, buffers, artificial and natural sweeteners, dispersants,

Gilead Exhibit 2016
PGR2023-00046 - Page 00646

thickeners, solubilizing agents, and the like.

Liquid formulations also are suitable for oral administration include liquid formulation including emulsions, syrups, elixirs and aqueous suspensions. These include solid form preparations which are intended to be converted to liquid form preparations shortly before use. Emulsions may be prepared in solutions, for example, in aqueous propylene glycol solutions or may contain emulsifying agents such as lecithin, sorbitan monooleate, or acacia. Aqueous suspensions can be prepared by dispersing the finely divided active component in water with viscous material, such as natural or synthetic gums, resins, methylcellulose, sodium carboxymethylcellulose, and other well known suspending agents.

The compounds of the present invention may be formulated for administration as suppositories. A low melting wax, such as a mixture of fatty acid glycerides or cocoa butter is first melted and the active component is dispersed homogeneously, for example, by stirring. The molten homogeneous mixture is then poured into convenient sized molds, allowed to cool, and to solidify.

The compounds of the present invention may be formulated for vaginal administration. Pessaries, tampons, creams, gels, pastes, foams or sprays containing in addition to the active ingredient such carriers as are known in the art to be appropriate.

Suitable formulations along with pharmaceutical carriers, diluents and expcipients are described in *Remington: The Science and Practice of Pharmacy* **1995,** edited by E. W. Martin, Mack Publishing Company, 19th edition, Easton, Pennsylvania, which is hereby incorporated by reference. The compounds of the present invention can also be encapsulated in liposomes, such as those disclosed in U.S. Patent Nos. 6,180,134, 5,192,549, 5,376,380, 6,060,080, 6,132,763, each of which is incorporated by reference. A skilled formulation scientist may modify the formulations within the teachings of the specification to provide numerous formulations for a particular route of administration without rendering the compositions of the present invention unstable or compromising their therapeutic activity.

The modification of the present compounds to render them more soluble in water or other vehicle, for example, may be easily accomplished by minor modifications (e.g., salt formulation), which are well within the ordinary skill in the art. It is also well within the ordinary skill of the art to modify the route of administration and dosage regimen of a particular compound in order to manage the pharmacokinetics of the present compounds for maximum beneficial effect in patients.

A seventh embodiment of the present invention is directed to a use of the compound represented by formula **I** in the manufacture of a medicament for the treatment of any condition the result of an infection by any one of the following viral agents: hepatitis C virus, West Nile virus, yellow fever virus, dengue virus, rhinovirus, polio virus, hepatitis A virus, bovine viral diarrhea virus and Japanese encephalitis virus.

The term "medicament" means a substance used in a method of treatment and/or prophylaxis of a subject in need thereof, wherein the substance includes, but is not limited to, a composition, a formulation, a dosage form, and the like, comprising the compound of formula **I**. It is contemplated that the compound of the use of the compound represented by formula **I** in the manufacture of a medicament for the treatment of any of the antiviral conditions disclosed herein of the seventh embodiment can be any of the compounds contemplated in any of the aspects of the first, second, third, fourth, fifth embodiments or those specifically recited in the tables above or exemplified herein, either alone or in combination with another compound of the present invention. A medicament includes, but is not limited to, any one of the compositions contemplated by the sixth embodiment of the present invention.

A eighth embodiment of the present invention is directed to a method of treatment and/or prophylaxis in a subject in need thereof said method comprises administering a therapeutically effective amount of the compound represented by formula I to the subject.

A first aspect of the eighth embodiment is directed to a method of treatment and/or prophylaxis in a subject in need thereof said method comprises administering a therapeutically effective of at least two or more different compounds falling within the scope of the compound represented by formula I to the subject.

Gilead Exhibit 2016
PGR2023-00046 - Page 00648

A second aspect of the eighth embodiment is directed to a method of treatment and/or prophylaxis in a subject in need thereof said method comprises alternatively or concurrently administering a therapeutically effective of at least two compounds falling within the scope of the compound represented by formula I to the subject.

It is intended that a subject in need thereof is one that has any condition the result of an infection by any of the viral agents disclosed herein, which includes, but is not limited to, hepatitis C virus, West Nile virus, yellow fever virus, dengue virus, rhinovirus, polio virus, hepatitis A virus, bovine viral diarrhea virus or Japanese encephalitis virus, flaviviridae viruses or pestiviruses or hepaciviruses or a viral agent causing symptoms equivalent or comparable to any of the above-listed viruses.

The term "subject" means a mammal, which includes, but is not limited to, cattle, pigs, sheep, chicken, turkey, buffalo, llama, ostrich, dogs, cats, and humans, preferably the subject is a human. It is contemplated that in the method of treating a subject thereof of the sixth embodiment can be any of the compounds contemplated in any of the aspects of the first, second, and third embodiments or those specifically recited in the tables above, either alone or in combination with another compound of the present invention.

The term "therapeutically effective amount" as used herein means an amount required to reduce symptoms of the disease in an individual. The dose will be adjusted to the individual requirements in each particular case. That dosage can vary within wide limits depending upon numerous factors such as the severity of the disease to be treated, the age and general health condition of the patient, other medicaments with which the patient is being treated, the route and form of administration and the preferences and experience of the medical practitioner involved. For oral administration, a daily dosage of between about 0.1 and about 10 g, including all values in between, such as 0.25, 0.5, 0.75, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, and 9.5, per day should be appropriate in monotherapy and/or in combination therapy. A preferred daily dosage is between about 0.5 and about 7.5 g per day, more preferred 1.5 and about 6.0 g per day. Generally, treatment is initiated with a large initial "loading dose" to rapidly reduce or eliminate the virus following by a decreasing the dose to a level sufficient to prevent

Gilead Exhibit 2016
PGR2023-00046 - Page 00649

resurgence of the infection. One of ordinary skill in treating diseases described herein will be able, without undue experimentation and in reliance on personal knowledge, experience and the disclosures of this application, to ascertain a therapeutically effective amount of the compounds of the present invention for a given disease and patient.

Therapeutic efficacy can be ascertained from tests of liver function including, but not limited to protein levels such as serum proteins (e.g., albumin, clotting factors, alkaline phosphatase, aminotransferases (e.g., alanine transaminase, aspartate transaminase), 5'-nucleosidase, γ-glutaminyltranspeptidase, etc.), synthesis of bilirubin, synthesis of cholesterol, and synthesis of bile acids; a liver metabolic function, including, but not limited to, carbohydrate metabolism, amino acid and ammonia metabolism. Alternatively the therapeutic effectiveness may be monitored by measuring HCV-RNA. The results of these tests will allow the dose to be optimized.

A third aspect of the eighth embodiment, is directed to a method of treatment and/or prophylaxis in a subject in need thereof said method comprises administering to the subject a therapeutically effective of a compound represented by formula **I** and a therapeutically effective amount of another antiviral agent; wherein the administration is concurrent or alternative. It is understood that the time between alternative administration can range between 1-24 hours, which includes any sub-range in between including, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 hours. Examples of "another antiviral agents" include, but are not limited to: HCV NS3 protease inhibitors (see WO 2008010921, WO 2008010921, EP 1881001, WO 2007015824, WO 2007014925, WO 2007014926, WO 2007014921, WO 2007014920, WO 2007014922, US 2005267018, WO 2005095403, WO 2005037214, WO 2004094452, US 2003187018, WO 200364456, WO 2005028502, and WO 2003006490); HCV NS5B Inhibitors (see US 2007275947, US20072759300, WO2007095269, WO 2007092000, WO 2007076034, WO 200702602, US 2005-98125, WO 2006093801, US 2006166964, WO 2006065590, WO 2006065335, US 2006040927, US 2006040890, WO 2006020082, WO 2006012078, WO 2005123087, US 2005154056, US 2004229840, WO 2004065367, WO 2004003138, WO 2004002977, WO 2004002944, WO 2004002940, WO 2004000858, WO 2003105770,

Gilead Exhibit 2016
PGR2023-00046 - Page 00650

WO 2003010141, WO 2002057425, WO 2002057287, WO 2005021568, WO 2004041201, US 20060293306, US 20060194749, US 20060241064, US 6784166, WO 2007088148, WO 2007039142, WO 2005103045, WO 2007039145, WO 2004096210, and WO 2003037895); HCV NS4 Inhibitors (see WO 2007070556 and WO 2005067900); HCV NS5a Inhibitors (see US 2006276511, WO 2006120252, WO 2006120251, WO 2006100310, WO 2006035061); Toll-like receptor agonists (seeWO 2007093901); and other inhibitors (see WO 2004035571, WO 2004014852, WO 2004014313, WO 2004009020, WO 2003101993, WO 2000006529).

A fourth aspect of the eighth embodiment, is directed to a method of treatment in a subject in need thereof said method comprises alternatively or concurrently administering a therapeutically effective of a compound represented by formula **I** and another antiviral agent to the subject. It is understood that the time between alternative administration can range between 1-24 hours, which includes any sub-range in between including, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 hours.

A fifth aspect of the eighth embodiment, is directed to a method of treatment and/or prophylaxis in a subject in need thereof said method comprises administering to the subject a therapeutically effective of at least one compound represented by formula **I** and a therapeutically effective amount of another antiviral agent; wherein the administration is concurrent or alternative. It is understood that the time between alternative administration can range between 1-24 hours, which includes any sub-range in between including, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 hours.

A sixth aspect of the eighth embodiment, is directed to a method of treatment in a subject in need thereof said method comprises alternatively or concurrently administering a therapeutically effective of at least one compound represented by formula **I** and another antiviral agent to the subject. It is understood that the time between alternative administration can range between 1-24 hours, which includes any sub-range in between

Gilead Exhibit 2016
PGR2023-00046 - Page 00651

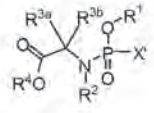
including, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 hours.

It is contemplated that the another antiviral agent includes, but is not limited to interferon -α , interferon-β, pegylated interferon-α, ribavirin, levovirin, viramidine, another nucleoside HCV polymerase inhibitor, a HCV non-nucleoside polymerase inhibitor, a HCV protease inhibitor, a HCV helicase inhibitor or a HCV fusion inhibitor. When the active compound or its derivative or salt are administered in combination with another antiviral agent the activity may be increased over the parent compound. When the treatment is combination therapy, such administration may be concurrent or sequential with respect to that of the nucleoside derivatives. "Concurrent administration" as used herein thus includes administration of the agents at the same time or at different times. Administration of two or more agents at the same time can be achieved by a single formulation containing two or more active ingredients or by substantially simultaneous administration of two or more dosage forms with a single active agent.

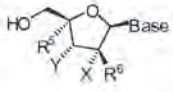
It will be understood that references herein to treatment extend to prophylaxis as well as to the treatment of existing conditions. Furthermore, the term "treatment" of a HCV infection, as used herein, also includes treatment or prophylaxis of a disease or a condition associated with or mediated by HCV infection, or the clinical symptoms thereof.

PROCESS FOR PREPARATION

An ninth embodiment of the present invention is directed to a process for preparing the compound of formula I, which comprises reacting a suitably substituted phosphochloridate compound **4** with a nucleoside analog **5**



4



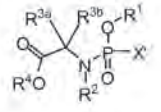
5

Gilead Exhibit 2016
PGR2023-00046 - Page 00652

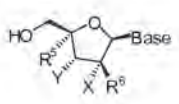
wherein the substituents R^1, R^2, R^{3a}, R^{3b}, R^4, R^5, X, Y, R^6, and base have their meanings as disclosed in the Detailed Description of the Invention and X' is a leaving group, such as Cl, Br, I, tosylate, mesylate, trifluoroacetate, trifluorosulfonate, pentafluorophenoxide, p-NO_2-phenoxide, or other commonly used leaving groups as disclosed in *Advanced Organic Chemistry* by March, Fourth Edition. Leaving groups and methods that can be used to effect the formation of a phosphoramidate nucleoside conjugate are found in US 20060142238 and WO 2007095269. Preferably, the leaving group is Cl.

This reaction is performed in an anhydrous aprotic solvent such tetrahydrofuran, dioxane, or both tetrahydrofuran and dioxane, or any functional equivalent thereof, with tetrahydrofuran being the preferred solvent. The reaction is typically initiated at a temperature range from -78°C to 40°C with the preferred reaction temperature being between 0°C and room temperature. The nucleoside is first stirred with a base (5 to 12 equivalents) such as N-methylimidazole, collidine, pyridine, 2,6-lutidine, 2, 6-^{t}Bu-pyridine, etc. a tertiary amine base, such as triethylamine, diisopropylethylamine, etc., or an alkyl Grignard reagent, such as tBuMgCl, tBuMgBr, MeMgCl, MeMgBr, etc. The phosphorochloridate (3-10 equivalents) is dissolved in the reaction solvent and added to the mixture of the nucleoside and base. The reaction is then allowed to stir over a period of time at a temperature between room temperature and 40°C for a period of 30 min to 24 hr. with the preferred reaction temperature being room temperature and time being 24 hr. The solvent is removed from the reaction mixture and the product is purified by chromatography on silica gel.

A tenth embodiment of the present invention is directed to a product obtained by a process which comprises reacting a suitably substituted phosphochloridate compound **4** with a nucleoside analog **5**



4



5

Gilead Exhibit 2016
PGR2023-00046 - Page 00653

wherein the substituents R^1, R^2, R^{3a}, R^{3b}, R^4, R^5, X, Y, R^6, X', and base have their meanings as disclosed in the Detailed Description of the Invention.

This reaction can be performed in an anhydrous aprotic solvent or other suitable solvent, such as tetrahydrofuran, dioxane, or a mixture of tetrahydrofuran and dioxane, with tetrahydrofuran being the preferred solvent. The reaction is typically initiated at a temperature range from -78°C to 40°C with the preferred reaction temperature being between 0°C and room temperature. The nucleoside is first stirred with a base (5 to 12 equivalents) such as N-methylimidazole, a tertiary amine base or tButyl Magnesium Chloride. A phosphorochloridate (3-10 equivalents (or suitable "phosphoro-(leaving group)-date")) is dissolved in the reaction solvent and added to the mixture of the nucleoside and base. The reaction is then allowed to stir over a period of time at a temperature between room temperature and 40°C for a period of 30 min to 24 hr. with the preferred reaction temperature being room temperature and time being 24 hr. The solvent is removed from the reaction mixture and the product is purified by chromatography on silica gel.

Compounds and Preparation

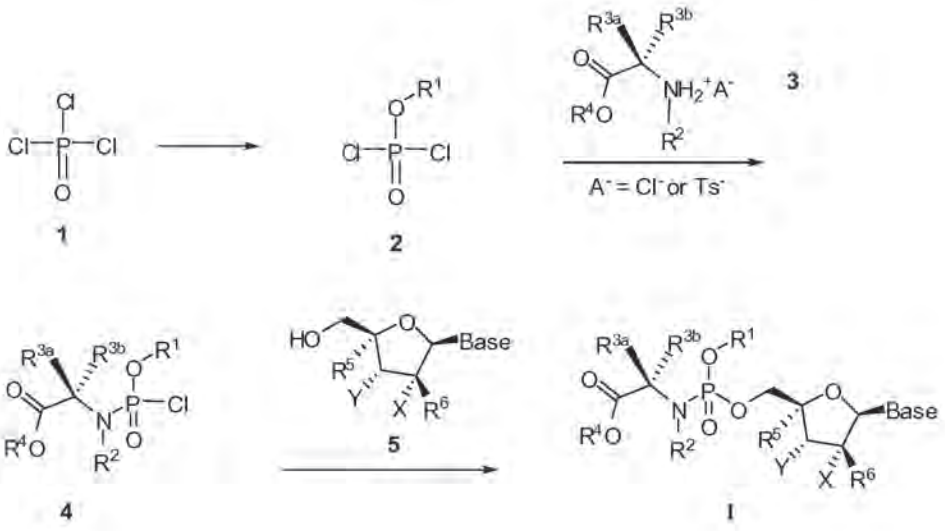
Phosphoramidate compounds of the present invention can be prepared by condensation of a nucleoside analog **5** with a suitably substituted phosphochloridate compound **4** (Scheme 1). The nucleoside analog is made by conventional procedures disclosed in any one of U.S. Published Application Nos. 2005/0009737, 2006/0199783, 2006/0122146, and 2007/0197463, each of which is incorporated by reference in its entirety.

Disclosed 1H-NMR values were recorded on a Varian AS-400 instrument. Mass spectral data were obtain using either a Micromass-Quattromicro API or a Waters Acquity.

Gilead Exhibit 2016
PGR2023-00046 - Page 00654

Thus, by way of example only, a suitably substituted phenol can be reacted with phosphorus oxychloride (**1**) to afford an aryloxy phosphorodichloridate **2** (see Example 1) which is subsequently treated with a acid addition salt of an α-amino acid ester in the presence of TEA to afford an aryloxy phosphorochloridate **4**. This arylalkoxy-amino acid phosphoramidate is reacted with the nucleoside analog to provide the product **I** (for procedure see, e.g., C. McGuigan et al. Antiviral Res. 1992 17:311-321; D. Curley et al. Antiviral Res. 1990 14:345-356; McGuigan et al. Antiviral Chem. Chemother 1990 1(2):107-113).

Scheme 1



The preparation of nucleoside phosphoramidates requires reacting an appropriately substituted phosphochloridate with a nucleoside containing a free 5'-hydroxyl moiety. In cases where only one hydroxyl group is present, preparation of the phosphoramidate usually proceeds smoothly when the phosphochloridate is reacted with

Gilead Exhibit 2016
PGR2023-00046 - Page 00655

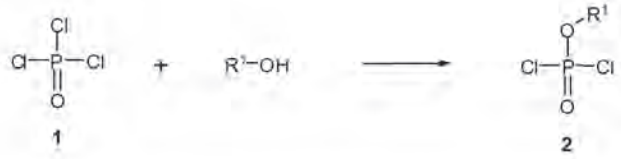
the desired nucleoside. In cases where the nucleoside contains more than one free hydroxyl group, preparation of the appropriately protected nucleoside might be required. Silyl, acetonide or other alcohol protecting groups known in the art might be warranted for protection of the sugar moiety. For protection of the nucleoside base, protecting a free amino group may require amidine protection strategy.

Condensation of the phosphochloridate can be carried out on the unprotected nucleoside. Since the 5'-OH group of a nucleoside is much less hindered than the 3'-OH group, selective phosphoramidation is possible under carefully controlled conditions. After condensation to form a protected phosphoramidate nucleoside, deprotection to obtain the free phosphoramidate nucleoside can be carried out using standard protocols for nucleic acid chemistry. In many cases, the desired product is readily separated from the starting material using column chromatography on silica gel. The synthetic scheme is summarized in Scheme 1.

A further understanding of the disclosed embodiments will be appreciated by consideration of the following examples, which are only meant to be illustrative, and not limit the disclosed invention.

EXAMPLE 1

General Procedure for Preparation of phosphorodichloridates



1 2

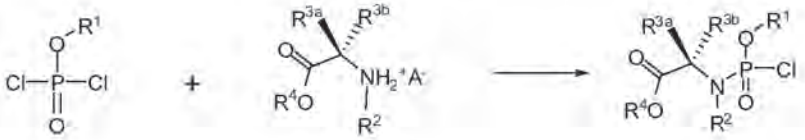
A solution of the appropriate phenol **R^1-OH** (1eq) and triethylamine (1 eq.) in anhydrous ether was added dropwise to a stirred solution of phosphoryl trichloride **1** (1eq) at 0 °C over a period of 3 hours under nitrogen. Then the temperature was warmed to room temperature, and the reaction was stirred overnight. The triethylamine salt was

Gilead Exhibit 2016
PGR2023-00046 - Page 00656

quickly removed with suction filtration and the filtrate concentrated *in vacuo* to dryness to afford **2** as an oil which was used without further purification.

EXAMPLE 2

General Procedure for Preparation of phosphorochloridates



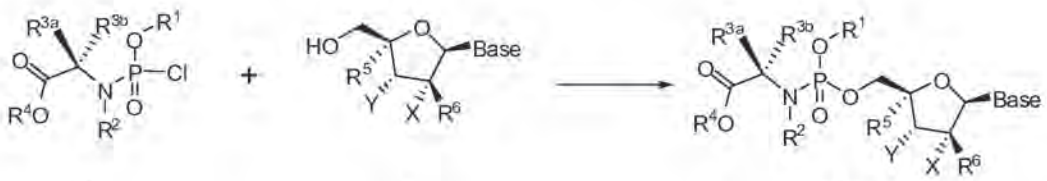
A = Cl⁻ or Ts⁻

2 3 4

A solution of triethylamine (2eq) in anhydrous dichloromethane was added dropwise to a solution of aryloxy-phosphodichloridate **2** (1 eq) and the appropriate amino ester **3** (1 eq) in anhydrous dichloromethane with vigorous stirring at -78 °C over a period of 30 to 120 minutes. Then the reaction temperature was allowed to warm to room temperature and stirred over night. Solvent was removed. The residue was washed with ethyl ether and filtered, the filtrate was dried over reduced pressure to give **4**.

EXAMPLE 3

General Procedures for nucleoside phosphoramidate derivatives



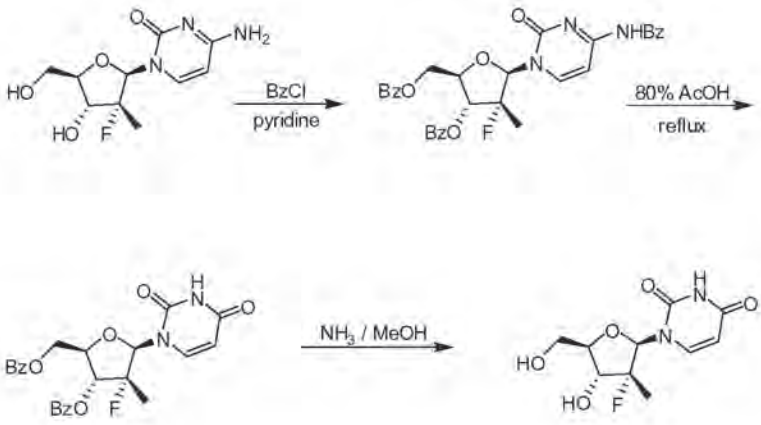
4 5 I

Gilead Exhibit 2016
PGR2023-00046 - Page 00657

A solution of the appropriate phosphorochloridate **4** (6.5 equivalents) in anhydrous tetrahydrofuran (THF) was added to a mixture of nucleoside **5** (1 equivalent) and N-methylimidazole (8 equivalents) in anhydrous THF with vigorous stirring at room temperature and the reaction mixture was stirred overnight. The solvent was removed *in vacuo* and the crude was purified by column chromatography and/or preparative thin layer chromatography to give **I**.

EXAMPLE 4

Preparation of 2'-deoxy-2'-fluoro-2'-*C*-methyluridine



2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (1.0g, 1 eq) (Clark, J., et al., J. Med. Chem., 2005, 48, 5504-5508) was dissolved in 10 ml of anhydrous pyridine and concentrated to dryness in vacuo. The resulting syrup was dissolved in 20 ml of anhydrous pyridine under nitrogen and cooled to 0°C with stirring. The brown solution was treated with benzoyl chloride (1.63g, 3eq) dropwise over 10 min. The ice bath was removed and stirring continued for 1.5h whereby thin-layer chromatography (TLC) showed no remaining starting material. The mixture was quenched by addition of water

Gilead Exhibit 2016
PGR2023-00046 - Page 00658

(0.5 ml) and concentrated to dryness. The residue was dissolved in 50 mL of dichloromethane (DCM) and washed with saturated $NaHCO_3$ aqueous solution and H_2O. The organic phase was dried over $NaSO_4$ and filtered, concentrated to dryness to give N^4,3',5'-tribenzoyl-2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (2.0 g, Yield: 91%).

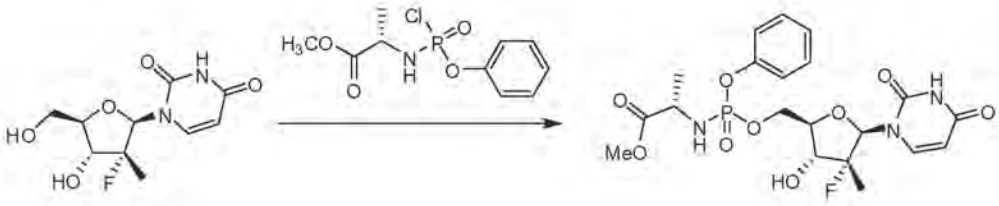
N^4,3',5'-tribenzoyl-2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (2.0g, 1 eq) was refluxed in 80% aqueous AcOH overnight. After cooling and standing at room temperature (15 °C), most of the product precipitated and then was filtered through a sintered funnel. White precipitate was washed with water and co-evaporated with toluene to give a white solid. The filtrate was concentrated and co-evaporated with toluene to give additional product which was washed with water to give a white solid. Combining the two batches of white solid gave 1.50g of 3',5'-dibenzoyl-2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (Yield: 91%).

To a solution of 3',5'-dibenzoyl-2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (1.5 g, 1eq) in MeOH (10 mL) was added a solution of saturated ammonia in MeOH (20mL). The reaction mixture was stirred at 0 °C for 30 min, and then warmed to room temperature slowly. After the reaction mixture was stirred for another 18 hours, the reaction mixture was evaporated under reduced pressure to give the residue, which was purified by column chromatography to afford pure compound 2'-deoxy-2'-fluoro-2'-*C*-methyluridine (500 mg, Yield: 60 %).

EXAMPLE 5

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate)

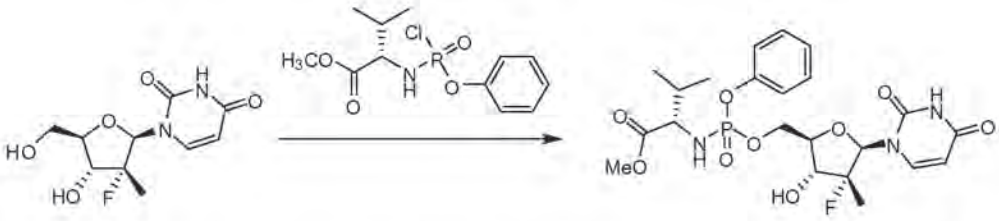
Gilead Exhibit 2016
PGR2023-00046 - Page 00659



Phenyl methoxyalaninyl phosphorochloridate (1 g, 6.5 eq) dissolved in 3 mL of THF was added to a mixture of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq) and N-methylimidazole (0.3 g, 8 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product (50.1 mg, 15.6%). ^{1}H NMR (DMSO-d_6) δ 1.20-1.27 (m, 6H), 3.58 (d, J = 16.0 Hz, 3H), 3.75-3.92 (m, 2H), 4.015-4.379 (m, 2H), 5.54 (t, J = 10.2 Hz, 1H), 5.83-5.91 (m, 1H), 6.00-6.16 (m, 1H), 7.18 (d, J = 8.0 Hz, 2H), 7.22 (s, 1H), 7.35 (t, J = 4.4 Hz, 2H), 7.55 (s, 1H), 11.52 (s, 1H); MS, *m/e* 502 (M+1)$^+$.

EXAMPLE 6

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate)



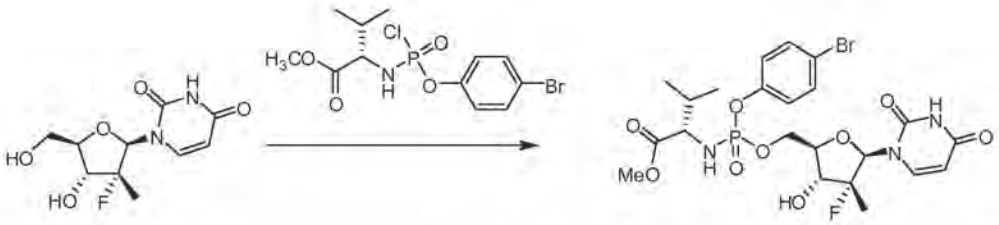
Phenyl methoxy-valyl phosphorochloridate (0.6 g, 3.6 eq) dissolved in 3 mL of THF was added to a mixture of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq) and N-methylimidazole (0.44 g, 9 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced

Gilead Exhibit 2016
PGR2023-00046 - Page 00660

pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product (60 mg, 20%). ^{1}H NMR (DMSO-d_6) δ 0.74-0.847 (m, 6H), 1.20-1.28 (m, 3H), 1.89-1.92 (m, 1H), 3.50-3.54 (m, 1H), 3.58 (d, J = 10.4Hz, 3H), 3.72-3.95 (m, 1H), 4.03-4.05 (m, 1H), 4.23-4.43 (m, 2H), 5.56 (t, J = 16.0 Hz, 1H), 5.85-5.92 (m, 1H), 6.01-6.07 (m, 1H), 7.16-7.21 (m, 3H), 7.37 (t, J = 8 Hz, 2H), 7.55-7.60 (m, 1H), 11.52 (s, 1H); MS, *m/e* 530 $(M+1)^+$.

EXAMPLE 7

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate)



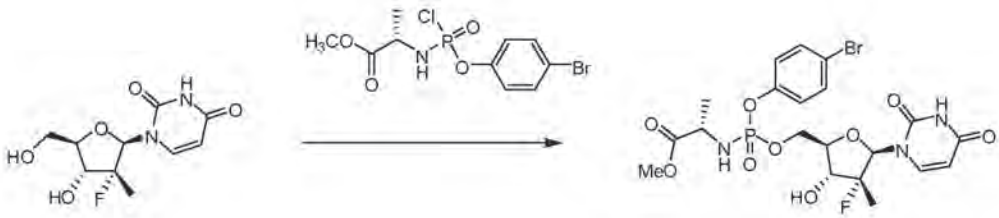
4-Bromophenyl methoxy-valyl phosphorochloridate (1 g, 3.4 eq) dissolved in 3 mL of THF was added to a mixture of 2'-deoxy-2'-fluoro-2'-*C*-methyluridine (0.2 g,1 eq) and N-methylimidazole (0.35 g, 6 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed reduced pressure to give the desired product (120 mg, 26%). ^{1}H NMR (DMSO-d_6) δ 0.72-0.82 (m, 6H), 1.19-1.26 (m, 3H),

Gilead Exhibit 2016
PGR2023-00046 - Page 00661

1.86-1.92 (m, 1H), 3.48-3.50 (m, 1H), 3.56 (d, J = 12.0 Hz, 3H), 3.72-3.89 (m, 1H), 3.96-4.03 (m, 1H), 4.22-4.37 (m, 2H), 5.54-5.60 (m, 1H), 5.85-5.91 (m, 1H), 5.98-6.13 (m, 1H), 7.15 (d, J = 8.0 Hz, 2H), 7.49-7.56 (m, 3H), 11.53 (s, 1H); MS, *m/e* 608 $(M+1)^+$.

EXAMPLE 8

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate)

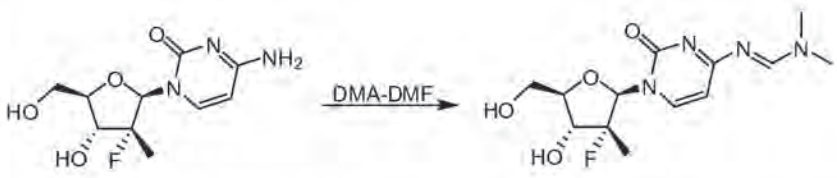


4-Bromophenyl methoxy-alanyl phosphorochloridate (0.6 g, 5 eq) dissolved in 3 mL of THF was added to a mixture of 2'-deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq)and N-methylimidazole (0.3 g, 7.8 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product (40 mg, 12 %); ^{1}H NMR (DMSO-d_6) δ 1.20-1.26 (m, 6H), 3.57 (d, J = 2.8 Hz, 3H), 3.84 (s, 1H), 3.97-4.03 (m, 1H), 4.21-4.25 (m, 1H), 4.33-4.37 (m, 2H), 5.54-5.60 (m, 1H), 5.83-5.89 (m, 1H), 5.98-6.19 (m, 1H), 7.16 (t, J = 10.2 Hz, 2H), 7.52-7.57 (m, 3H), 11.52 (s, 1 H); MS, *m/e* 580$(M+1)^+$.

EXAMPLE 9

Preparation of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine

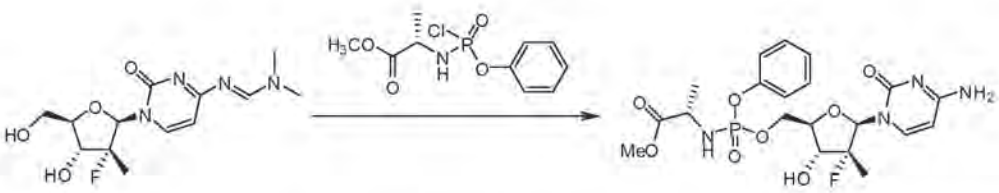
Gilead Exhibit 2016
PGR2023-00046 - Page 00662



2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (500 mg, 1.9 mmol) was stirred with dimethylformamide dimethyl acetal in DMF (10 mL). The resulting mixture was stirred at room temperature overnight. After solvent removal the crude product was used for next step without further purification.

EXAMPLE 10

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-alanyl phosphate)

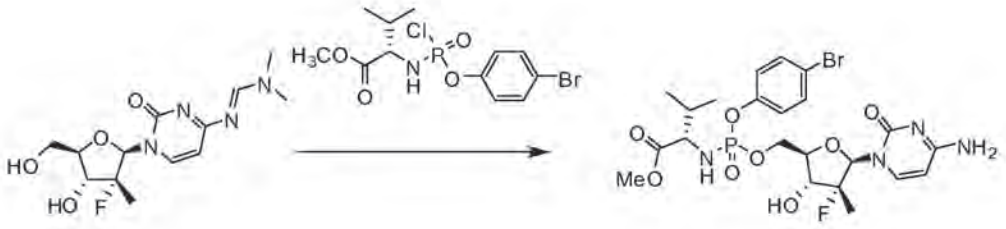


Phenyl methoxyalaninyl phosphorochloridate (0.6 g, 6 eq) dissolved in 3 mL of THF was added to a mixture of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine (0.15 g,1 eq) and N-methylimidazole (0.3 g, 7.8 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product (62 mg, 20.6%). ^{1}H NMR (DMSO-d_6) δ 1.16 (d, J = 23.2 Hz, 3H), 1.22 (d, J = 7.2 Hz, 3H), 3.56 (S, 3H), 3.69-3.75 (d, J = 25.6 Hz, 1H), 3.82-3.86 (m, 1H), 3.96-3.98 (m, 1H), 4.21-4.34 (m, 2H), 5.68 (d, J = 7.2 Hz, 1H), 5.75-5.77 (m, 1H), 6.07-6.16 (m, 1H), 7.15-7.19 (m, 3H), 7.2 (d, J = 9.2 Hz, 2H), 7.39 (t, J = 7.8 Hz, 2H), 7.48 (d, J = 9.2 Hz, 1H); MS, *m/e* 501(M+1)$^+$.

EXAMPLE 11

Gilead Exhibit 2016
PGR2023-00046 - Page 00663

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate)

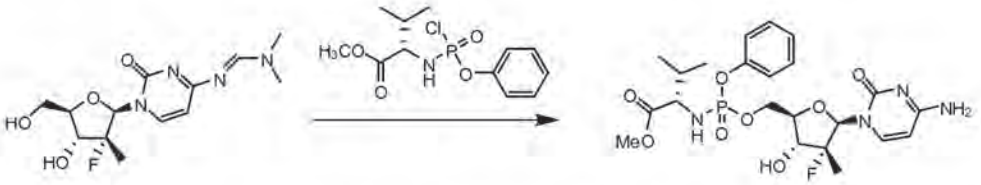


4-Bromophenyl methoxy-valyl phosphorochloridate (1.0 g, 3.4 eq.) dissolved in 3 mL of THF was added to a mixture of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine (0.2 g,1 eq.) and N-methylimidazole (0.35 g, 6 eq.) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure. The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product as a white solid (59 mg, 13%); ^{1}H NMR (DMSO-d_6) δ 0.74-0.83 (m, 6H), 1.12-1.20 (m, 3H), 1.89-1.92 (m, 1H), 3.49-3.51 (m, 1H), 3.55 (s, 3H), 3.59-3.68 (m, 1H), 3.72-.383 (m, 1H), 4.21-4.39 (m, 2H), 5.70-5.72 (m, 1H), 5.76-5.83 (m, 1H), 6.04-6.16 (m, 1H), 7.15 (d, J = 13.0 Hz, 2H), 7.26 (s, 1H), 7.33 (s, 1H), 7.46-7.55 (m, 1H), 7.56 (d, J = 4.4 Hz, 2H) ; MS, *m/e* 607 $(M+1)^+$.

EXAMPLE 12

Preparation of 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate)

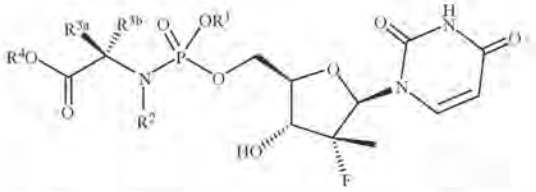
Gilead Exhibit 2016
PGR2023-00046 - Page 00664



Phenyl methoxy-valyl phosphorochloridate (0.6 g, 6 eq) dissolved in 3 mL of THF was added to a mixture of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine (0.15 g,1 eq) and N-methylimidazole (0.3 g, 7.8 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced pressure The resulting crude product was dissolved in methanol purified by prep-HPLC on a YMC 25x30X2 mm column using a water / acetonitrile gradient elution mobile phase. The acetonitrile and water were removed under reduced pressure to give the desired product as a white solid (86 mg, 42.9 %). ^{1}H NMR (DMSO-d_6) δ 0.72-0.80 (m, 6H), 1.09-1.18 (m, 3H), 1.87-1.92 (m, 1H), 3.47-3.51 (m, 1H), 3.58 (s, 3H), 3.71-3.75 (m, 1H), 3.97 (t, J = 11.2 Hz,1H), 4.22-4.37 (m, 2H), 5.70 (d, J = 8.0 Hz,1H), 5.76-5.84 (m, 1H), 6.01-6.15 (m, 1H), 7.13-7.18 (m, 3H), 7.27 (s, 2H), 7.34 (d, J = 4.0 Hz, 2H), 7.46-7.50 (m, 1H); MS, *m/e* 529 $(M+1)^+$.

EXAMPLES

Example numbers **13-54** and **56-66** are prepared using similar procedures described for examples **5-8.** The example number, compound identification, and NMR/MS details are shown below:



Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS

Gilead Exhibit 2016
PGR2023-00046 - Page 00665

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
13	Ph	H	H	Me	Et	1H NMR (DMSO-d_6) δ 1.12-1.16 (m, 3H), 1.20-1.28(m,6H), 3.70-3.90 (m, 2H), 4.00-4.08 (m, 3H), 4.18-4.45 (m, 2H), 5.52-5.58 (m, 1H), 5.85-5.98 (m, 1H), 6.00-6.20 (m, 2H), 7.16-7.23 (m, 3H), 7.37-7.40 (m, 2H) , 7.54-7.60 (m, 1H), 11.54 (s.1H) ; MS, m/e 516.1 (M+1)+
14	1-Napth	H	H	Me	Bn	1H NMR (DMSO-d_6) δ 1.18-1.30 (m, 6H), 3.78-4.10 (m, 3H), 4.38-4.49 (m, 2H), 4.99-5.11 (m, 2H), 5.28-5.40 (m, 1H), 5.85-6.10 (m, 2H), 6.30-6.41 (m, 1H), 7.28-7.32 (m, 5H), 7.41-7.60 (m, 5H), 7.73-7.76(m, 1H) , 7.94-8.11(m, 1H) , 8.13-8.15(m, 1H) , 11.50 (s.1H) ; MS, m/e 628.4 (M+1)+
15	Ph	H	H	H	Me	1H NMR (DMSO-d_6) δ 1.22 (d, J=22.4 Hz, 3H), 3.59(s, 3H), 3.63-3.69 (m, 2H), 3.74-3.8(m, 1H), 4.02(d, J=11.2 Hz, 1H), 4.23-4.28(m, 1H), 4.40-4.43 (m, 1H), 5.57-5.60 (m, 1H), 5.89(d, J=6.8 Hz, 1H), 6.00-6.06(m, 2H), 7.15-7.23 (m, 3H), 7.35-7.39 (m, 2H),7.52(d, J=8 Hz, 1H), 11.52(s, 1H) ; MS, m/e 487.97 (M+1)+
16	2,4-Cl-Ph	H	H	Me	Me	1H NMR (DMSO-d_6) δ 1.22-1.28 (m, 6H), 3.57-3.60 (m, 3H), 3.84-3.92 (m, 2H), 4.00-4.04 (m, 1H), 4.31-4.44 (m, 2H), 5.54-5.61 (m, 1H), 5.85-6.10 (m, 2H), 6.32-6.43 (m, 1H), 7.44-7.54 (m, 3H), 7.72-7.75 (m, 1H), 11.54 (s.1H) ; MS, m/e 570.2 (M+1)+
17	1-Napth	H	H	Me	Me	1H NMR (DMSO-d_6) δ 1.15-1.27 (m, 6H), 3.51-3.55 (d, 3H), 3.85-3.96 (m, 2H), 4.00-4.10(m, 1H), 4.30-4.46 (m, 2H), 5.31-5.39 (m, 1H), 5.89-6.05 (m, 2H), 6.22-6.34 (m, 1H), 7.44-7.60 (m, 5H), 7.73-7.77 (m, 1H), 7.93-7.96 (m, 1H), 8.12-8.14 (m, 1H),11.50(s.1H) ; MS, m/e 552.1 (M+1)+
18	Ph	*	H	*	Me	1H NMR (DMSO-d_6) δ 1.19 (d, J=22.8 Hz, 3H), 1.69-1.84 (m, 3H), 1.99-2.04 (m, 1H), 3.16-3.21 (m, 2H), 3.58 (s, 3H), 3.68-3.8 (m, 1H), 4.00 (m, 1H), 4.01-4.13 (m, 1H), 4.22-4.25 (m, 1 H), 4.5 (d, J = 11.2 Hz, 1H), 5.54 (d, J = 8.0 Hz, 1H), 5.86 (s, 1H), 5.6 (d, J = 19.6 Hz, 1H), 7.15-7.2 (m, 3H), 7.34 (t, J = 8.0 Hz, 2H), 7.51 (d, J = 8.0 Hz, 1H), 11.38 (s, 1H) ; MS, m/e 527.93(M+1)+
19	Ph	H	H	Me	n-Bu	1H NMR (DMSO-d_6) δ 0.80-0.90 (m, 3H), 1.20-1.35 (m, 8H), 1.48-1.55 (m, 2H), 3.78-3.88 (m, 2H), 3.95-4.08 (m, 3H), 4.22-4.45 (m, 2H), 5.55-5.57(t, 1H), 5.85-6.18 (m, 3H), 7.14-7.23 (m, 3H), 7.35-7.40 (m, 2H), 7.51-7.60 (d, 1H), 11.50 (s.1H) ; MS, m/e 544.2 (M+1)+
20	Ph	H	H	Me	Bn	1H NMR (DMSO-d_6) δ 1.20-1.30 (m, 6H), 3.72-4.05 (m, 3H), 4.23-4.27 (m, 1H), 4.32-4.45 (m, 1H), 5.07-5.10(t, 2H), 5.52-5.56(t , 1H), 5.86-6.10 (m, 2H), 6.13-6.21(m,1H), 7.15-7.21 (m, 3H), 7.29-7.40 (m, 7H), 7.51-7.56 (d, 1H), 11.50 (s.1H) ; MS, m/e 578.2 (M+1)+
21	4-F-Ph	H	H	Me	Me	1H NMR (DMSO-d_6) δ 1.28-1.34 (m, 6H), 3.65(d, J= 4 Hz, 3H), 3.85-3.96 (m, 2H), 4.06-4.12 (m, 1H), 4.30-4.34 (m,1H), 4.40-4.47 (m, 1H), 5.62-5.67 (m, 1H), 5.94-6.01(m, 1H), 6.09 (d, J=18.8 Hz, 1H), 6.17-6.26 (m, 1H), 7.27-7.33(m, 4H), 7.62 (d, J = 7.6 Hz, 1H), 11.61 (s, 1H) ; MS, m/e 519.94(M+1)+
22	4-Cl-Ph	H	H	Me	Me	1H NMR (DMSO-d_6) δ 1.22-1.28 (m, 6H), 3.58 (d, 2H), 3.70-3.95(m,2H), 3.95-4.08 (m,1H), 4.23-4.45 (m, 2H), 5.55-5.61(t , 1H),

Gilead Exhibit 2016
PGR2023-00046 - Page 00666

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
						5.85-6.10 (m, 2H), 6.15-6.23(m,1H), 7.20-7.26 (m, 2H), 7.43-7.46 (m, 2H), 7.54-7.57 (d, 1H), 11.50 (s.1H) ; MS, m/e 536.1 (M+1)+
23	3,4-Cl-Ph	H	H	Me	Me	1H NMR (DMSO-d_6) δ 1.13 (m, 6H), 3.49 (s, 3H), 3.61-3.85 (m, 2H), 3.90-3.93 (m, 1H), 4.16-4.22 (m, 1H), 4.27-4.31 (m, 1H), 5.47-5.52 (m, 1H), 5.82 (d, J = 11.6 Hz, 1H), 5.93(d, J = 19.2 Hz, 1H), 6.15-6.25 (m, 1H), 7.13 (t, J = 9.6 Hz, 1H), 7.43 (d, J = 12Hz, 2H), 7.57 (d, J = 6.0 Hz, 1H), 11.43(s, 1H) ; MS, m/e 569.85 (M+1)+
24	Ph	H	H	Me	2-Bu	1H NMR (DMSO-d_6) δ 0.83 (d, J = 6.8 Hz, 6H), 1.20-1.26 (m, 6H), 1.79-1.86 (m, 1H), 3.73-3.90 (m, 4H), 4.01 (t, J = 11.2 Hz, 1H), 4.21-4.28 (m, 1H), 4.33-4.42 (m, 1H), 5.54 (t, J = 7.6 Hz, 1H), 5.85-5.92 (m, 1H), 5.99-6.13 (m, 2H), 7.19 (t, J = 8 Hz, 3H), 7.36 (t, J = 7.6 Hz, 2H), 7.53 (d, J = 7.6 Hz, 1H), 11.52 (s, 1H) ; MS, m/e 544.00 (M+1)+
25	Ph	H	H	Me	i-Pr	1H NMR (DMSO-d_6) δ 1.13-1.28 (m, 12H), 3.74-3.81 (m, 2H), 3.95-4.08 (m,1H), 4.20-4.45 (m, 2H), 4.83-4.87 (m, 1H), 5.52-5.58 (m, 1H), 5.84-6.15 (m, 3H), 7.17-7.23 (m, 3H), 7.35-7.39 (m, 2H), 7.54-7.57 (m, 1H), 11.50 (s.1H) ; MS, m/e 530.2 (M+1)+
26	4-MeO-Ph	H	H	Me	n-Bu	1HNMR (400MHz, DMSO-d_6): δ =0.78-0.82 (m, 3H), 1.29-1.47 (m, 8H), 1.49-1.54 (m, 2H), 3.66-3.87 (m, 5H), 3.96-4.02 (m, 3H), 4.21-4.39 (m, 2H), 5.57 (t, J= 12.0Hz, 1H), 5.84-6.05 (m, 3H), 6.90 (dd, J1 =8.0Hz, J2=4.0Hz, 2H), 7.09-7.14 (dd, J1=16.0Hz, J2=4.0Hz, 2H), 7.55 (d, J =8.0Hz, 1H), 11.48-11.62 (s, 1H)
27	4-F-Ph	H	H	Me	Et	1H NMR (DMSO-d_6) δ 1.12-1.28 (m, 9H), 3.72-3.94(m,2H) ,3.98-4.10 (m,3H), 4.21-4.42(m,2H), 5.55-5.61 (t, 1H), 5.85-6.20 (m, 3H), 7.18-7.25 (m,4H), 7.55-7.58 (d, 1H), 11.50 (s.1H) ; MS, m/e 533.90 (M+1)+
28	4-F-Ph	H	H	Me	i-Pr	1H NMR (DMSO-d_6) δ 1.13-1.30 (m, 12H), 3.74-3.85(m,2H) ,3.98-4.06 (m,1H), 4.23-4.41(m,2H), 4.83-4.87 (m, 1H), 5.55-5.61 (t, 1H), 5.85-6.12 (m, 3H), 7.18-7.24 (m,4H), 7.55-7.58 (d, 1H), 11.50 (s.1H) ; MS, m/e 547.91 (M+1)+
29	4-F-Ph	H	H	Me	Bn	1H NMR (DMSO-d_6) δ 1.10-1.23 (m, 6H), 3.65-3.89(m,3H) ,4.10-4.30 (m,2H), 4.96-5.00(m,2H), 5.46-5.50 (t, 1H), 5.75-5.96 (m, 2H), 6.04-6.12(m,1H), 7.05-7.11 (m,4H), 7.20-7.24 (d, 5H), 7.42-7.45(d,1H), 11.50 (s.1H) ; MS, m/e 595.94 (M+1)+
30	4-MeO-Ph	H	H	Me	i-Pr	1HNMR (400MHz, DMSO-d_6): δ=1.15-1.27 (m, 12H), 3.71-3.89 (m, 5H), 3.98-4.02 (m, 1H), 4.22-4.25 (m, 1H), 4.33-4.39 (m, 1H), 4.84-4.87 (m, 1H), 5.57 (t, J= 12.0Hz, 1H), 5.91-6.03 (m, 3H), 6.90 (d, J= 8.0Hz, 2H), 7.09-7.14 (m, 2H), 7.55 (d, J= 8.0Hz, 1H), 11.51 (s, 1H)
31	2-Cl-Ph	H	H	Me	Bn	1H NMR (DMSO-d_6) δ 1.23 (m, 6 H), 3.93-4.00 (m, 3 H), 4.27-4.40 (m, 2H), 5.0(t, J= 7.2 Hz, 2 H), 5.53 (m ,1 H), 5.80-6.0(m , 2 H), 6.30(m, 1H), 7.15 (d, J= 2.4 Hz, 1 H), 7.27 (m, 6 H), 7.51 (m, 3 H), 11.5 (s, 1 H) ; MS, m/e 579.87(M+1)+ / 596.78 (M+18)+
32	2,4-Cl-Ph	H	H	Me	n-Bu	1H NMR (DMSO-d_6) δ=0.82 (m, 3 H),1.23 (m, 8 H) , 1.47 (m, 2 H), 3.86 (m, 2 H), 3.84 (m, 3 H),4.27-4.43 (m, 2H), 5.5 (m , 1 H), 6.02 (m ,2 H), 6.35(m, 1H), 7.44 (m, 3 H), 7.77 (m, 1 H), 11.5 (s, 1 H) ; MS, m/e 611.87(M+1)+
33	4-Me-Ph	H	H	Me	i-Pr	1H NMR (DMSO-d_6) δ 1.14-1.27 (m, 12H), 2.17-2.26 (m, 3H), 3.73-3.82 (m, 1H), 3.99-4.02 (m, 1H), 4.23-4.26 (m, 1H), 4.37-4.40 (m,

Gilead Exhibit 2016
PGR2023-00046 - Page 00667

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
						1H), 4.82-4.88 (m, 1H), 5.52-5.58 (m, 1H), 5.85-6.07 (m, 3H), 7.01-7.20 (m, 4H), 7.55 (d, J = 16Hz, 1H), 11.51 (s, 1H) ; MS, m/e 543.98 (M+1)+; 1108.86 (2M+23)+
34	4-F-Ph	H	H	Me	n-Bu	1H NMR (DMSO-d_6) δ 0.82-0.89 (m,3H), 1.20-1.31 (m, 8H), 1.48-1.53 (m,2H), 3.77-3.90 (m,2H) ,3.95-4.10 (m,3H), 4.21-4.45(m,2H), 5.56-5.61 (t, 1H), 5.83-6.20 (m, 3H), 7.18-7.25 (m,4H), 7.55-7.58 (d, 1H), 11.50 (s.1H) ; MS, m/e 584.1 (M+23)+
35	3,4-diCl-Ph	H	H	Me	Et	1H NMR (DMSO-d_6) δ1.12-1.31 (m, 9H), 3.77-3.92 (m,2H), 3.95-4.08 (m,3H), 4.21-4.45(m,2H), 5.56-5.62 (t, 1H), 5.80-6.11 (m, 2H), 6.18-6.33(m.1H), 7.18-7.25 (m,1H), 7.49-7.56 (d, 2H), 7.62-7.67(m.1H), 11.50 (s.1H) ; MS, m/e 606.1 (M+23)+
36	2-Cl-Ph	H	H	Me	i-Pr	1HNMR (400MHz, DMSO-d_6): δ =1.12-1.16 (m, 6H), 1.21-1.27 (m, 6H), 3.79-3.85 (m, 2H), 4.00-4.07 (m, 1H), 4.28-4.32 (m, 1H), 4.38-4.43 (m, 1H), 4.83-4.87 (m, 1H), 5.56 (dd, J1=16.0Hz, J2=8.0Hz, 1H), 5.85-6.12 (m, 2H), 6.20-6.33 (m, 1H), 7.19-7.22 (m, 1H), 7.33 (t, J= 16.0Hz, 1H), 7.48-7.55 (m, 3H), 11.55 (s, 1H)
37	4-MeO-Ph	H	H	Me	Bn	1HNMR(400MHz, DMSO-d_6): δ=1.19-1.26 (m, 6H), 3.69-3.70 (s, 3H), 3.87 (m, 2H), 3.99 (m, 1H), 4.20-4.21 (m, 1H), 4.35 (m, 1H), 5.07-5.09 (m, 2H), 5.54 (t, J = 16.0Hz, 1H), 5.85-5.92 (m, 1H), 6.04-6.10 (m, 2H), 6.86 (d, J= 8.0Hz, 2H), 7.09 (dd, J1=16.0Hz, J2=4.0Hz, 2H), 7.30-7.34 (m, 5H), 7.53 (s, 1H), 11.52 (s, 1H)
38	Ph	H	H	Me	n-Pen	1H NMR (DMSO-d_6) δ 0.79-0.81 (m, 3H), 1.17-1.23 (m, 10H), 3.74-3.81 (m, 2H), 3.94-3.96 (m, 3H), 4.19-4.36 (m, 2H), 5.49-5.54 (m, 1H), 5.87-6.08 (m,3H), 7.14-7.33 (m, 3H), 7.31-7.35 (m, 2H), 7.51 (d, J = 8Hz, 1H), 11.51 (s, 1H) ; MS, m/e 557.9 (M+1)+; 1136.88 (2M+23)+
39	4-Cl-Ph	H	H	Me	i-Pr	1H NMR (DMSO-d_6) δ 1.04-1.19 (m, 12H), 3.76-3.80 (m , 2H), 3.98-4.08 (m, 1H), 4.42-4.42 (m, 2H), 4.82-4.85 (m, 1H), 5.55-5.60 (m, 1H), 5.80-6.20 (m,3H),7.20-7.2 5(m, 2H), 7.43 (d, J = 8.8Hz, 1H), 7.54 (d, J = 8Hz, 1H), 11.51 (s, 1H) ; MS, m/e 563.88 (M+1)+; 1148.73 (2M+23)+
40	4-Cl-Ph	H	H	Me	n-Bu	1H NMR (DMSO-d_6) δ 0.85 (t, J = 7.2 Hz, 3H), 1.22-1.33 (m, 8H),1.45-1.53 (m, 2H), 3.80-3.87 (m, 2H), 3.96-4.04 (m, 3H), 4.24-4.27 (m, 1H), 4.35-4.39 (m, 1H), 5.56-5.61 (m, 1H), 5.82-6.11 (m, 2H), 6.15-6.18 (m, 1H), 7.20-7.56 (m, 4H), 7.51-7.57 (m.1H) , 11.54 (s, 1H); MS, m/e577.95(M+1)+
41	4-Cl-Ph	H	H	Me	Et	1H NMR (DMSO-d_6) δ 1.14 (t, J = 7.0Hz, 3H), 1.20-1.28 (m, 6H),3.77-3.88 (m, 2H), 3.99-4.07 (m, 3H), 4.24-4.28 (m, 1H), 4.34-4.43 (m, 1H), 5.56-5.61 (m, 1H), 5.86-6.13 (m, 2H), 6.15-6.24 (m, 1H), 7.20-7.26 (m, 2H), 7.44 (d, J = 7.6Hz, 2H) , 7.55 (d, J = 7.6Hz, 1H), 11.55 (s, 1H); MS, m/e549.11(M+1)+
42	4-Me-Ph	H	H	Me	n-Bu	1H NMR (DMSO-d_6) δ 0.79-0.83 (m, 3H), 1.17-1.28 (m, 8H), 1.45-1.47 (m, 2H), 2.22 (d, J = 2.8Hz, 1H), 3.70-3.90 (m, 2H), 3.95-3.98 (m, 3H), 4.10-4.40 (m, 2H), 5.51 (t, 1H), 5.80-5.90 (m, 1H), 5.95-6.05 (m, 2H), 7.02-7.06 (m, 2H), 7.51 (t, J = 4.2Hz , 4H), 7.51 (d, 1H), 11.51 (s, 1H) ; MS, m/e 557.99(M+1)+; 1136.84(2M+23)+

Gilead Exhibit 2016
PGR2023-00046 - Page 00668

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
43	4-Me-Phe	H	H	Me	Bn	1H NMR (DMSO-d_6) δ 1.16-1.24 (m, 6H), 2.22 (s , 3H), 3.65-4.03 (m,3H), 4.11-4.38 (m, 2H), 5.04-5.05 (m, 2H), 5.48-5.50 (m, 1H), 5.77-5.87 (m,1H),5.90-6.11 (m, 2H), 6.98-7.10 (m, 4H), 7.28-7.32 (m, 5H), 7.50 (t ,1H), 11.48 (s, 1H) ; MS, m/e 592.00 (M+1)+.
44	Ph	H	H	Et	Me	1H NMR (DMSO-d_6) δ 0.70-0.80 (m, 3H), 1.11-1.26 (m, 3H), 1.42-1.61 (m, 2H), 3.50-3.54 (m, 3H), 3.58-3.80 (m, 2H), 3.91-4.02 (m, 1H), 4.12-4.38 (m, 2H), 5.47-5.52 (m,1H),5.90-6.03 (m, 2H), 7.08-7.16 (m, 3H), 7.26-7.35 (m, 2H),7.48 (t,1H),11.45 (s, 1H) ; MS, m/e 515.95 (M+1)+; 1052.82 (2M+23)+
45	Ph	H	H	Me	4-F-Bn	^{1}HNMR (400MHz, DMSO-d_6): δ 1.20-1.26 (m, 6H), 3.80-3.93 (m, 2H), 3.98 (s, 1H), 4.25-4.26 (m, 1H), 4.36-4.37 (m, 1H), 5.07 (s, 2H), 5.52-5.55 (m, 1H), 5.86-5.87(m, 1H), 5.98-6.04 (m, 1H), 6.14-6.17 (m, 1H), 7.15-7.20 (m, 5H), 7.36 (dd, J = 20.0, 8.0 Hz, 4H), 7.54 (s, 1H), 11.55 (s, 1H)
46	4-Cl-Ph	H	H	Me	n-Bu	^{1}HNMR (400MHz, DMSO-d_6): δ 1.21-1.28 (m, 6H), 3.71-3.88 (m, 1H), 3.91-3.98 (m, 1H), 4.00-4.01 (m, 1H), 4.23-4.27 (m, 1H), 4.35-4.38 (m, 1H), 5.08 (d, J = 4.0Hz, 2H), 5.57 (dd, J = 12.0, 8.0 Hz, 1H), 5.91 (d, J = 8.0 Hz, 1H), 6.01 (d, J = 8.0 Hz, 1H), 6.22-6.24 (m, 1H), 7.17-7.23 (m, 2H), 7.31-7.40 (m, 7H), 7.53 (s, 1H), 11.50 (s, 1H)
47	Ph	H	H	Me	3-Me-1-Bu	^{1}H NMR (DMSO-d_6) δ 0.80-0.82 (m, 6H), 1.18-1.40 (m, 8H), 1.50-1.58 (m, 1H), 3.71-3.82 (m, 3H), 3.97-3.4.01 (m, 3H), 4.21-4.40 (m, 2H), 5.30(t, J = 8.6 Hz, 1H), 5.81-6.10 (m, 3H), 7.15-7.20 (m, 3H), 7.32-7.36 (m, 2H), 7.48 (d, J = 8.4 Hz, 1H), 11.38 (s, 1H) ; MS, *m/e* 557.98 $(M+1)^+$; 1136.88 $(2M+23)^+$
48	3,4-diCl-Ph	H	H	Me	Bn	^{1}H NMR (DMSO-d_6) δ 1.05-1.37 (m, 6H), 3.71-3.82 (m, 1H), 3.87-4.02 (m, 2H), 4.28-4.29 (m, 1H),4.36-4.38 (m, 1H),5.04 (d, J = 5.2Hz, 2H), 5.55-5.64 (m, 1H), 5.85-5.94 (m, 1H), 6.00-6.05 (m, 1H), 6.29-6.40 (m, 1H),7.17-7.24 (m, 1H), 7.30-7.41 (m, 5H), 7.45-7.58 (m, 2H), 7.61 (d, J = 4.0Hz, 1H), 11.53 (s, 1H): MS, *m/e*545.80$(M+1)^+$;
49	Ph	H	H	Me	c-Hex	^{1}H NMR (DMSO-d_6) δ 1.18-1.41 (m, 12H), 1.59-1.67 (m, 4H), 3.74-13.80 (m, 1H), 3.96-4.02 (m, 1H), 4.19-4.26 (m, 1H), 4.31-4.39 (m, 1H), 4.60 (s, 1H), 5.52 (t, J = 7.8 Hz, 1H), 5.80-6.09 (m, 3H), 7.15-7.20 (m, 3H), 7.32-7.36 (m, 2H), 7.52 (d, J = 8 Hz, 1H), 11.50 (s, 1H) ; MS, *m/e* 569.98 $(M+1)^+$; 592.14 $(M+23)^+$
50	Ph	H	Me	H	n-Bu	1H NMR (DMSO-d_6) δ 0.76 (t, J = 7.2Hz, 3H), 1.10-1.22 (m, 8H), 1.38-1.43 (m, 2H), 3.72-3.75 (m, 2H), 3.87-3.93 (m, 3H), 4.14-4.21 (m, 1H), 4.23-4.33 (m, 1H), 5.46-5.54 (m, 1H), 5.84-6.11 (m, 3H), 7.09-7.14 (m, 2H), 7.27-7.32 (m, 2H), 7.34-7.51 (m, 1H), 11.47 (s, 1H); MS, m/e543.98(M+1)+
51	Ph	H	Me	H	i-Pr	1H NMR (DMSO-d_6) δ 1.39 (d, J = 7.2Hz, 6H), 1.19-1.29 (m, 6H), 3.65-3.75 (m, 2H), 3.95-4.05 (m, 1H), 4.20-4.22 (m, 1H), 4.31-4.33 (m, 1H), 4.79-4.82 (m, 1H), 5.48-5.57 (m, 1H), 5.84-5.91 (m, 1H), 5.96-6.07 (m, 2H), 7.12-7.35 (m, 5H), 7.44-7.54 (m,1H), 11.49(s, 1H); MS, m/e529.96 (M+1)+
52	Ph	H	Me	H	Bn	^{1}H NMR (DMSO-d_6) δ 1.18-1.28 (m, 6H), 3.70-3.83 (m, 1H), 3.87-3.94 (m, 1H), 3.99-4.01 (m, 1H), 4.23-4.26 (m, 1H), 4.33-4.37 (m,

Gilead Exhibit 2016
PGR2023-00046 - Page 00669

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
						1H), 5.03-5.12 (m, 2H), 5.51-5.59 (m, 1H), 5.87-5.90 (m, 1H), 5.95-6.07 (m, 1H), 6.10-6.27 (m, 1H), 7.15-7.23 (m, 3H), 7.31-7.38 (m, 7H), 7.47-7.56 (m, 1H), 11.50 (s, 1H); MS, m/e577.99 (M+1)+
53	2-Cl-Ph	H	H	Me	n-Bu	^{1}HNMR (400MHz, DMSO-d_6): δ 0.81-0.86 (m, 3H), 1.21-1.31 (m, 8H), 1.46-1.52 (m, 2H), 3.84-3.90 (m, 2H), 3.97-4.04 (m, 3H), 4.27-4.41 (m, 2H), 5.53-5.58 (m, 1H), 5.82-5.95 (m, 1H), 5.96-6.10 (m, 1H), 6.27-6.31 (m, 1H), 7.19-7.22 (m, 1H), 7.34 (dd, *J* = 8.0, 4.0 Hz, 1H), 7.47-7.55 (m, 3H), 11.55 (s, 1H)
54	4-Br-Ph	H	H	Me	i-Pr	^{1}HNMR (400MHz, DMSO-d_6): δ 1.10-1.14 (m, 6H), 1.20-1.27 (m, 6H), 3.74-3.81 (m, 2H), 3.99-4.01 (m, 1H), 4.21-4.25 (m, 1H), 4.37-4.38 (m, 1H), 4.81-4.85 (m, 1H), 5.58 (dd, *J* = 8.0, 4.0 Hz, 1H), 5.82-5.95 (m, 1H), 5.96-6.09 (m, 1H), 6.10-6.13 (m, 1H), 7.18 (dd, *J* = 12.0, 8.0 Hz, 2H), 7.53-7.57 (m, 3H), 11.52 (s, 1H)
55	4-F-Ph	H	H	Me	c-Hex	^{1}H NMR (DMSO-d_6) δ 1.20-1.44 (m, 12H), 1.60-1.71 (m, 4H), 3.75-4.02 (m, 2H), 3.94-4.02 (m, 1H), 4.19-4.26 (m, 2H), 4.59-4.61 (m, 1H), 5.57 (t, *J* = 8.4 Hz, 1H), 5.85-6.06 (m, 3H), 7.17-7.23 (m, 4H), 7.54 (d, *J* = 8.4 Hz, 1H), 11.50 (s, 1H) ; MS, *m/e* 587.92 $(M+1)^+$
56	4-Br-Ph	H	H	Me	c-Hex	^{1}HNMR (400MHz, DMSO-d_6): δ =1.18-1.46 (m, 12H), 1.61-1.69 (m, 4H), 3.75-3.82 (m, 2H), 3.95-4.08 (m, 1H), 4.25-4.28 (m, 1H), 4.38 (s, 1H), 4.60-4.62 (m, 1H), 5.56-5.60 (m, 1H), 5.82-5.95 (m, 1H), 6.02-6.20 (m, 2H), 7.09-7.20 (m, 2H), 7.53-7.57 (m, 3H), 11.52 (s, 1H) MS, *m/e* 650.0 $(M+3)^+$
57	Ph	H	H	Et	i-Pr	^{1}HNMR (400MHz, DMSO-d_6): δ =0.75-0.82 (m, 3H), 1.12-1.26 (m, 9H), 1.52-1.59 (m, 2H), 3.55-3.68 (m, 1H), 3.72-3.85 (m, 1H), 3.95-4.08 (m, 1H), 4.18-4.28 (m, 1H), 4.32-4.41 (m, 1H), 4.83-4.86 (m, 1H), 5.55 (m, *J*= 7.6Hz, 1H), 5.99-6.04 (m, 2H), 6.05-6.10 (m, 1H), 7.14-7.21 (m, 3H), 7.33-7.37 (m, 2H), 7.52-7.54 (m, 1H), 11.53 (s, 1H) ; MS, *m/e*566.07$(M+23)^+$
58	Ph	H	H	Et	c-Hex	^{1}HNMR (400MHz, DMSO-d_6): δ 0.75-0.88 (m, 3H), 1.26-1.46 (m, 9H), 1.52-1.69 (m, 6H), 3.60-3.63 (m, 1H), 3.72-3.90 (m, 1H), 4.02-4.03 (m, 1H), 4.24-4.27 (m, 1H), 4.37-4.38 (m, 1H), 4.63-4.65 (m, 1H), 5.55 (dd, *J* =8.0Hz, 4.4Hz, 1H), 5.80-5.95 (m, 1H), 6.00-6.07 (m, 2H), 7.15-7.22 (m, 3H), 7.34-7.38 (m, 2H), 7.54 (d, *J* =8.0Hz, 1H), 11.55 (s, 1H); MS, *m/e* 584.01 $(M+1)^+$, 606.17 $(M+23)^+$
59	4-F-Ph	H	H	Et	c-Hex	^{1}H NMR (DMSO-d_6) δ 0.75-0.84 (m, 3H), 1.24 (d, *J* = 22.8Hz, 3H), 1.29-1.47 (m, 6H), 1.51-1.70 (m, 6H), 3.59-3.66 (m, 1H), 3.77-3.84 (m, 1H), 3.98-4.04 (m, 1H), 4.21-4.27 (m, 1H), 4.34-4.41 (m, 1H), 4.60-4.65 (m, 1H), 5.56-5.60 (m, 1H), 5.84-5.90 (m, 1H), 6.00-6.08 (m, 2H), 7.20-7.24 (m, 4H), 7.56(d, *J* = 8.0Hz, 1H), 11.49 (s, 1H); MS, *m/e* 602.00$(M+1)^+$
60	Ph	H	H	Me	F-CH_2-CH_2-	^{1}H NMR (DMSO-d_6) δ 1.18-1.25(m, 6H), 3.71-3.89 (m, 2H), 3.92-3.99 (m, 1H), 4.19-4.27 (m, 4H), 4.48-4.61 (m, 2H) , 3.94-3.98 (m, 2H), 4.11-4.23 (m, 4H), 5.47-5.52 (m, 1H), 6.01-6.11 (m, 1H), 5.90-6.14

Gilead Exhibit 2016
PGR2023-00046 - Page 00670

Ex.	R^1	R^2	R^{3a}	R^{3b}	R^4	NMR/MS
						(m, 2H), 7.15-7.21 (m, 3H), 7.32-7.36 (m, 2H), 7.46-7.57 (m, 1H), 11.49 (s,1H) ; MS, *m/e* 533.86 (M+1)$^+$
61	Ph	H	H	Me	F_2CH-CH_2-	^{1}H NMR (DMSO-d_6) δ 1.17-1.24 (m, 6H), 3.67-3.81 (m, 1H), 3.89-3.98 (m, 2H),4.21-4.36 (m, 4H), 5.48-5.53 (m, 1H) , 5.82-6.05 (m, 2H), 6.18-6.22 (m, 2H), 7.15-7.20 (m, 3H), 7.32-7.36 (m , 2H), 7.51 (s, 1H),11.50 (s, 1H) ; MS, *m/e* 551.92 (M+1)$^+$;
62	Ph	H	H	Me	$(CF_3)_2$-CH-	^{1}H NMR (DMSO-d_6) δ 1.13-1.29 (m, 6H), 3.67-3.81 (m, 1H), 3.94-4.32 (m, 4H), 5.47 (t, *J* = 8 Hz 1H) , 5.82-6.01 (m, 2H), 6.33-6.36 (m, 1H), 6.70-6.78 (m, 1H), 7.09-7.15 (m, 3H), 7.28-7.32 (m , 2H), 7.43-7.46 (m, 1H),11.44 (s, 1H) ; MS, *m/e* 637.90 (M+1)$^+$
63	Ph	H	H	Me	$(CH_2F)_2$ -CH-	^{1}H NMR (DMSO-d_6) δ 1.20-1.29 (m, 6H), 3.70-3.90 (m, 1H), 3.91-4.12 (m, 2H), 4.20-4.33 (m, 1H), 4.35-4.48 (m, 1H), 4.52-4.55 (m, 2H) , 4.63-4.67 (m, 2H), 5.20-5.35 (m, 1H), 5.56 (t, *J* = 8.4 Hz, 1H), 5.80-5.95 (m, 1H), 5.95-6.10 (m, 1H), 6.18-6.21 (m, 1H), 7.18-7.23 (m, 3H), 7.35-7.39 (m , 2H), 7.54 (s, 1H),11.55 (s, 1H) ; MS, *m/e* 565.98 (M+1)$^+$
64	Ph	H	H	Me	c-Pr-CH_2-	^{1}H NMR (DMSO-d_6) δ 0.20-0.24(m, 2H), 0.47-0.48(m, 2H), 0.76-0.84(m, 3H), 1.03-1.05(m, 1H), 1.23(dd, *J= 22.4 6.8 Hz* 3H), 1.55-1.60(m, 2H), 3. 61-3.68(m, 1H), 3. 81-3.89 (m, 3H), 3.98-4.03(m, 1H), 4.23-4.29(m, 1H), 4.35-4.41(m, 1H), 5.56-6.00(m, 1H) , 5.88-5.91(m, 1H), 6.04-6.10(m, 2H), 7.20-7.24(m, 4H), 7.55 (d, *J= 7.6 Hz* 1H),11.53 (s, 1H) ; MS, *m/e* 573.17 (M+1)$^+$
65	Ph	H	H	Et	c-Pen	^{1}H NMR (DMSO-d_6) δ 0.75-0.83 (m, 3H), 1.20-1.28 (m, 3H), 1.49-1.63 (m, 8H), 1.76-1.80 (m, 2H), 3.58-3.60 (m, 1H), 3.70-3.82 (m, 1H), 3.98-4.05 (m, 1H), 4.24-4.26 (m, 1H) , 4.37-4.42 (m, 1H), 5.03 (s, 1H), 5.54-5.57 (m, 1H), 5.90-6.00 (m,1H), 6.02-6.07 (m, 2H), 7.15-7.22 (m, 3H), 7.35-7.39 (m, 2H) 7.55 (d, *J* = 8.0 Hz, 1H), 11.55 (s, 1H) ; MS, *m/e* 570.03 (M+1)$^+$

*R^2 and R^{3b} together are $-(CH_2)_3-$ as derived from L-proline

The purification procedure by Prep-HPLC:

Crude products were dissolved in methanol. Injection volumes of these solutions were 5 mL.

The preparative HPLC system including 2 sets of Gilson 306 pumps, a Gilson 156 UV/Vis detector, a Gilson 215 injector & fraction collector, with Unipoint control software. A Ymc 25×30×2 mm column was used. The mobile phase was HPLC grade

Gilead Exhibit 2016
PGR2023-00046 - Page 00671

water (A), and HPLC grade acetonitrile (B). Fractions were collected into 100*15mm glass tubes.

HPLC gradient is shown in Table 1. Once the gradient was selected, acetonitrile solution was injected into HPLC system, and then fractions collected according to UV peaks. After the separation, each glass tubes were run MS test to collect the desired compounds. The fractions with target MS were combined in a well-weighted flask. Most of acetonitrile was removed under reduce pressure and the remaining solution was freeze-dried to give desired compound.

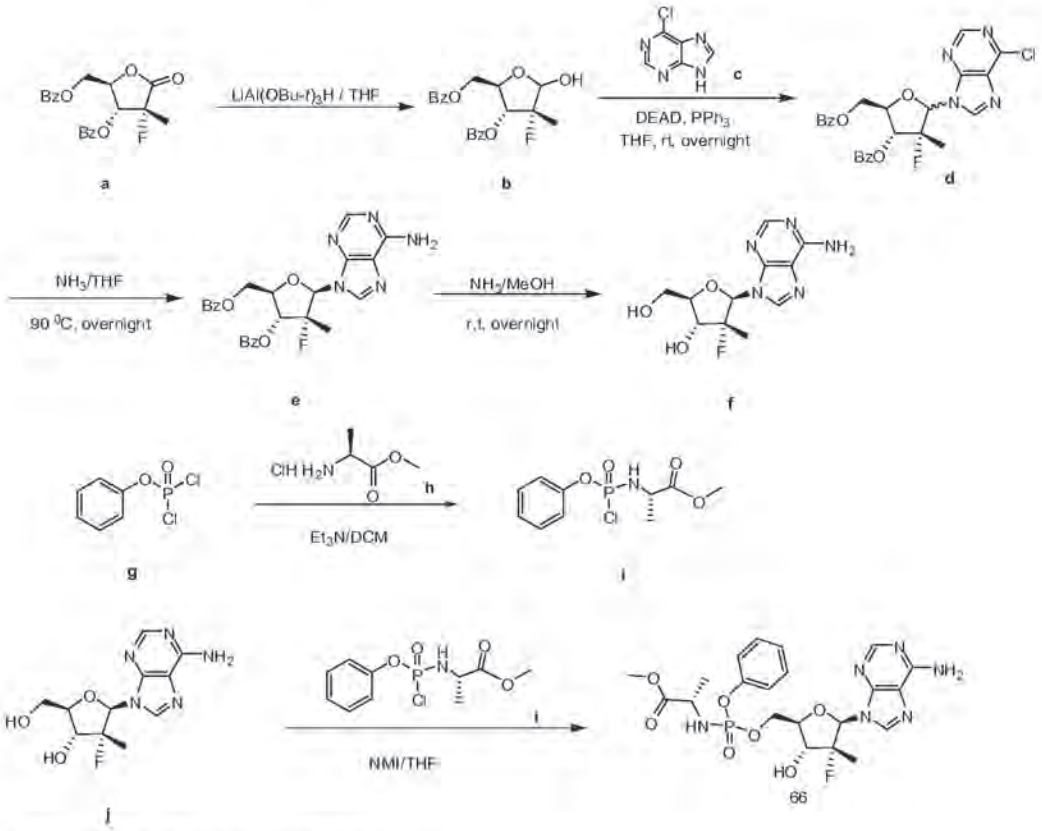
Table 1:

Preparative HPLC gradient			
Time (min)	Flow rate (mL/min)	% A	% B
0	15	90	10
30	15	60	40

Preparation of Example 66

Scheme

Gilead Exhibit 2016
PGR2023-00046 - Page 00672



Preparation of compound (b)

To a solution of compound **a** (1 g, 2.69 mmol) in anhydrous THF (30 mL) was added dropwise 1 M solution of LiAl(OBu-*t*)$_3$H in THF (2.69 mL, 2.69 mmol) at -20 °C. The reaction mixture was stirred for 2-3 h at the same temperature. EtOAc (100 mL) was added followed by saturated NH_4Cl solution (10 mL) and reaction mixture was slowly brought to room temperature. Reaction mixture was extracted with EtOAc and washed with 1N HCl and water. Combined organic phase was evaporated to give 0.8 g of crude compound **b** as transparent oil, which was used directly for next reaction.

Preparation of compound (d)

To a solution of compound **b** (0.8 g, 2.1mmol), compound **c** (0.45 g, 2.5 mmol) and Ph_3P (0.56 g, 2.1 mmol) in anhydrous THF (20 mL) under nitrogen atmosphere was added DEAD (1.8 mL). The reaction mixture was stirred at room temperature overnight. The reaction solution was concentrated under reduce pressure. The residue was separated

by preparative layer chromatography (hexanes:EtOAc = 3:1) to give crude compound **d** (0.8 g). The crude compound **d** was used to the next step without further purification.

Preparation of compound (e)

Compound **d** (0.8 g, 1.57 mmol) was dissolved in THF (2 mL) and THF saturated with ammonia (5 mL) was then added to this solution. The reaction mixture was heated to 90 °C overnight. After 18 hours, the solution was cooled to room temperature by ice water, then the solvent was removed under reduced pressure and the residue was purified by column to give compound **e** (0.75 g) for the next step.

Preparation of compound (f)

Compound **e** (0.5 g, 1.01 mmol) was dissolved in methanol (2 mL) and methanol was saturated with ammonia (5 mL) was then added to this solution. The reaction mixture was stirred at room temperature overnight. After 18 hours, the solvent was removed under reduced pressure and the residue was purified by column to give crude compound **f** (0.15 g) for the next step.

Preparation of compound (i)

A solution of triethylamine (1.07 g, 10.6 mmol) in anhydrous dichloromethane (15 mL) was added dropwise to a solution of compound **g** (1.16 g, 5.3 mmol) and compound **h** (1.31 g, 5.3 mmol) in dichloromethane (10 mL) with vigorous stirring at -78 °C over a period of 2 hours. After completion of addition, the reaction temperature was allowed to warm to room temperature gradually and stirred over night. Then the solvent was removed under vacuum and anhydrous ether 20 mL was added and the precipitated salt was filtered and the precipitate was washed with ether. The combined organic phase was concentrated to give the colorless oil of compound **i** (1.0 g).

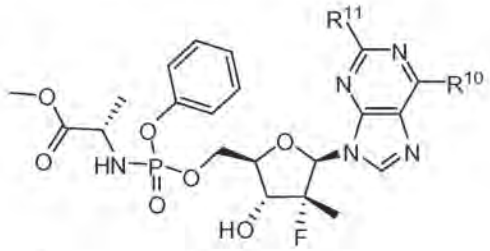
Preparation of Compound 66

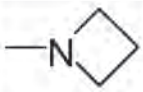
To a solution of compound **j** (0.1 g, 0.35 mmol) dissolved in 10 mL of anhydrous THF, stirred and added 0.4g NMI till the solution became clear, added compound **i** (0.8 g, 2.89 mmol) in 10 mL THF dropwise, stirred at r.t. overnight. Compound purity and identification was confirmed by LCMS. The solvent was evaporated and purified by Prep-HPLC to afford **66**. (25 mg, Yield: 13.6%). ^{1}H NMR (DMSO-d_6) δ 1.08 (d, J = 22.8 Hz, 3H), 1.17-1.24 (m, 3H), 3.50-3.52 (m, 3H), 3.78-3.83 (m, 1H), 4.10-4.13 (m,

Gilead Exhibit 2016
PGR2023-00046 - Page 00674

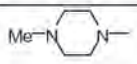
1H), 4.24-4.44 (m, 2H), 5.85-5.92 (m, 1H), 6.01-6.11 (m,1H), 6.2.-6.27 (m, 1H), 7.08-7.19 (m, 4H), 7.31-7.38 (m, 3H), 8.15 (s, 1H), 8.26 (s, 1H); MS, *m/e* 525 $(M+1)^+$.

Example numbers **67-74**, identified below, were prepared using similar procedures disclosed for Example **66**, above.



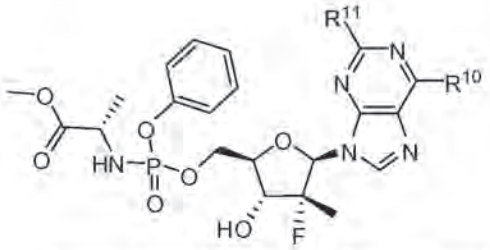
Example	R^{11}	R^{10}	NMR/MS
67	OH	NH_2	^{1}H NMR (DMSO-d_6) δ 1.06-1.13 (m, 3H), 1.20-1.24 (m, 3H), 3.27-3.33(m, 3H), 3.56 (s, 1H), 3.82-3.88 (m, 1H), 4.07-4.13 (m, 1H), 4.25-4.40 (m, 2H), 5.85-5.87 (m, 1H), 5.98-6.09 (m, 2H), 6.59 (s, 32H), 7.14-7.37 (m, 3H), 7.35-7.37 (m, 2H), 7.79 (d, *J*=7.2 Hz, 1H), 10.69 (s, 1H); MS, *m/e* 541 $(M+1)^+$;
68	NH_2	NH_2	^{1}H NMR (DMSO-d_6) δ 1.07 (d, *J*=22.8 Hz, 3H), 1.19 (d, *J*=7.2 Hz, 3H), 3.51 (s, 3H), 3.62 (s, 1H), 3.75-3.81 (m, 1H), 4.05-4.11 (m, 1H), 4.27-4.42 (m, 2H), 5.79-5.83 (m, 1H), 5.92 (s, 2H), 6.00-6.09 (m, 2H), 6.75 (s, 2H), 7.08-7.17 (m, 3H), 7.31-7.35 (m, 2H), 7.78 (s, 1H); MS, *m/e* 540 $(M+1)^+$;
69	NH_2	c-Pentyl-NH-	^{1}H NMR (DMSO-d_6) δ 1.05 (d, *J*=22.8 Hz, 3H), 1.09-1.19 (m, 3H), 1.48 (s, 4H), 1.66 (s, 1H), 1.86 (s, 1H), 3.54 (d, *J*=14 Hz, 3H), 3.65 (s, 1H), 4.25-4.43 (m, 4H), 5.71-5.82 (m, 1H), 5.94-6.04 (m, 4H), 7.11-7.24 (m, 3H), 7.26-7.34 (m, 2H), 7.77(d, *J*=3.6 Hz, 1H); MS, *m/e* 608$(M+1)^+$
70	NH_2		^{1}H NMR (DMSO-d_6) δ 1.07 (d, *J*=22.4 Hz, 3H), 2.35-2.38 (m, 2H), 3.54 (d, *J*=9.2 Hz, 3H), 3.59-3.62 (m, 2H), 3.65 (s, 1H), 3.75-3.82 (m, 1H), 4.01-4.13 (m, 2H), 4.22-4.40 (m, 6H), 5.75-5.85 (m, 1H), 6.00-6.07 (m, 4H), 7.15-7.21 (m, 3H), 7.32-7.35 (m, 2H), 7.79 (d, *J*=4.0 Hz, 1H); MS, *m/e* 580 $(M+1)^+$
71	NH_2	Et_2N-	^{1}H NMR (DMSO-d_6) δ 1.06-1.28 (m, 12H), 3.55 (d, *J*=4.8 Hz, 3H), 3.79-3.87 (m, 4H), 4.07-4.12 (m, 2H), 4.29-4.42 (m,

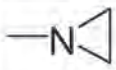
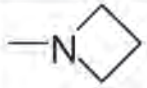
Gilead Exhibit 2016
PGR2023-00046 - Page 00675

Example	R^{11}	R^{10}	NMR/MS
			3H), 5.75-5.82 (m, 1H), 5.94 (s, 2H), 6.04-6.10 (m, 2H), 7.14-7.22 (m, 3H), 7.31-7.37 (m, 2H), 7.82 (d, *J*=4.4 Hz, 1H); MS, *m/e* 596 $(M+1)^+$
72	NH_2	n-Propyl-NH-	^{1}H NMR (DMSO-d_6) δ 0.84 (t, *J*=7.2 Hz, 3H), 1.01-1.01 (m, 3H), 1.09-1.12 (m, 3H), 1.51-1.56 (m, 2H), 3.48 (d, *J*=15.2 Hz, 3H), 3.79-3.82 (m, 1H), 4.04-4.05 (m, 1H), 4.27-4.38 (m, 3H), 5.72-5.79 (m, 1H), 5.98-6.04 (m, 4H), 7.13-7.20 (m, 3H), 7.26-7.32 (m, 2H), 7.76 (d, *J*=5.2 Hz, 1H); MS, *m/e* 582 $(M+1)^+$
73	NH_2	c-Butyl-NH-	^{1}H NMR (DMSO-d_6) δ 1.02-1.08 (m, 3H), 1.18 (d, *J*=4.8 Hz, 3H), 1.44-1.61 (m, 2H) , 2.02-2.17 (m, 4H), 3.51 (d, *J*=10.8 Hz, 3H), 3.78-3.83 (m, 1H), 4.03-4.06 (m, 1H), 4.27-4.38 (m, 2H), 4.53-4.62 (m, 1H), 5.68-5.79 (m, 1H), 5.95-6.04 (m, 4H), 7.11-7.18 (m, 3H), 7.29-7.35 (m, 2H), 7.51-7.58 (m, 1H), 7.78 (d, *J*=5.2 Hz, 1H); MS, *m/e* 594 $(M+1)^+$
74	NH_2		^{1}H NMR (DMSO-d_6) δ 0.97-1.20 (m, 6H), 2.18 (s, 3H), 2.19 (s, 4H), 3.43-3.47(m, 3H), 3.75 (s, 1H), 4.01-4.06 (m, 4 H), 4.22-4.35 (m, 3H), 5.69-5.75 (m, 1H), 5.98-6.05 (m, 3H), 7.09-7.15 (m, 3H), 7.25-7.29 (m, 2H), 7.77 (d, *J*=3.6 Hz, 1H); MS, *m/e* 623 $(M+1)^+$

Example numbers 75-80 are prepared using similar procedures disclosed for Example **66**, above.

Gilead Exhibit 2016
PGR2023-00046 - Page 00676



Example	R^{11}	R^{10}
75	H	n-propyl-NH-
76	H	c-Butyl-NH-
77	H	c-Pentyl-NH-
78	H	
79	H	
80	H	

EXAMPLE 81

Certain exemplified compounds were obtained as mixture of diastereomers because of the chirality at phosphorous. The diastereomers were separated on a Chiralpak-AS-H (2 X 25 cm) column under Supercritical Fluid Chromatography (SFC) conditions using 20% methanol in carbon dioxide as solvent. The absolute stereochemistry of the P-chiral center of the diastereromers were not determined. However, chromatographic resolution of these two diastereomers provides for isomers that are characterized as fast eluting and slow eluting isomers. Some examples are shown below.

Compound	EC90 (uM)
Example 15 (Diastereomeric mixture)	0.86
Fast Moving isomer of **Example 15**	1.35
Slow Moving isomer of **Example 15**	0.26

Gilead Exhibit 2016
PGR2023-00046 - Page 00677

Compound	EC90 (uM)
Example 39 (Diastereomeric mixture)	0.47
Fast Moving isomer of **Example 39**	0.78
Slow Moving isomer of **Example 39**	0.02
Example 49 (Diastereomeric mixture)	0.126
Fast Moving isomer of **Example 49**	0.03
Slow Moving isomer of **Example 49**	5.78

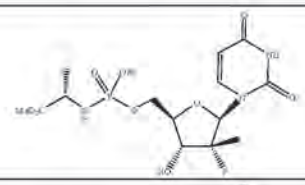
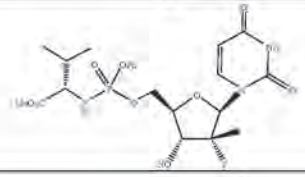
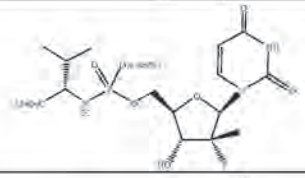
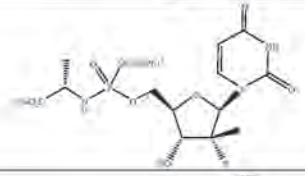
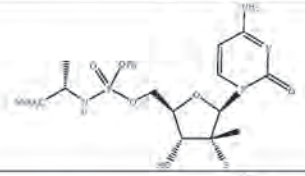
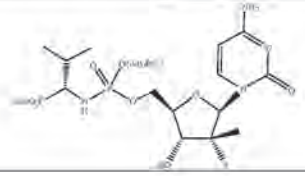
EXAMPLE 82

HCV replicon assay. HCV replicon RNA-containing Huh7 cells (clone A cells; Apath, LLC, St. Louis, Mo.) were kept at exponential growth in Dulbecco's modified Eagle's medium (high glucose) containing 10% fetal bovine serum, 4 mM L-glutamine and 1 mM sodium pyruvate, 1× nonessential amino acids, and G418 (1,000 μg/ml). Antiviral assays were performed in the same medium without G418. Cells were seeded in a 96-well plate at 1,500 cells per well, and test compounds were added immediately after seeding. Incubation time 4 days. At the end of the incubation step, total cellular RNA was isolated (RNeasy 96 kit; Qiagen). Replicon RNA and an internal control (TaqMan rRNA control reagents; Applied Biosystems) were amplified in a single-step multiplex RT-PCR protocol as recommended by the manufacturer. The HCV primers and probe were designed with Primer Express software (Applied Biosystems) and covered highly conserved 5′-untranslated region (UTR) sequences (sense, 5′-AGCCATGGCGTTAGTA(T)GAGTGT-3′, and antisense, 5′-TTCCGCAGACCACTATGG-3′; probe, 5′-FAM-CCTCCAGGACCCCCCCTCCC-TAMRA-3′).

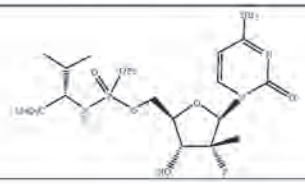
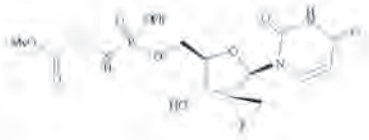
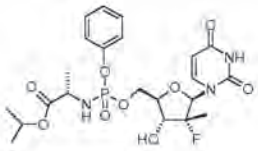
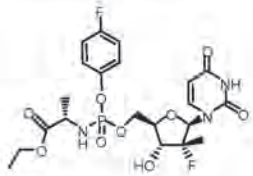
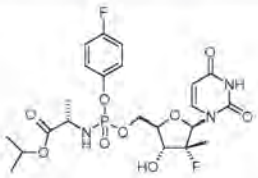
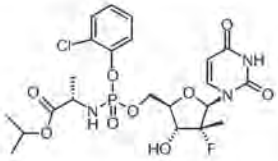
To express the antiviral effectiveness of a compound, the threshold RT-PCR cycle of the test compound was subtracted from the average threshold RT-PCR cycle of the no-drug control (ΔCt_{HCV}). A ΔCt of 3.3 equals a 1-log 10 reduction (equal to the 90%

Gilead Exhibit 2016
PGR2023-00046 - Page 00678

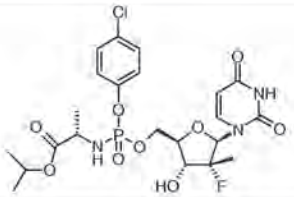
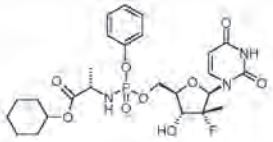
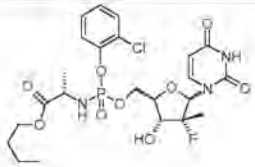
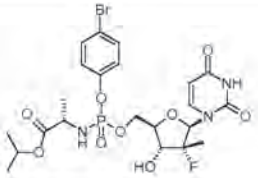
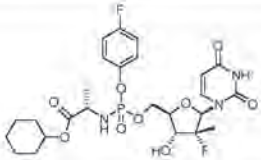
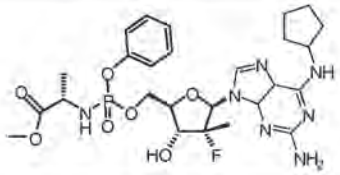
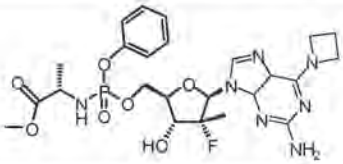
effective concentration [EC_{90}]) in replicon RNA levels. The cytotoxicity of the test compound could also be expressed by calculating the ΔCt_{rRNA} values. The $\Delta\Delta Ct$ specificity parameter could then be introduced ($\Delta Ct_{HCV} - \Delta Ct_{rRNA}$), in which the levels of HCV RNA are normalized for the rRNA levels and calibrated against the no-drug control.

Ex #	Compound	Log10 Reduction at 50μM	EC90 (μM)
5		-1.21	3.0
6		-0.45	ND
7		0.31	ND
8		-1.48	2.11
10		-1.25	19.15
11		-0.55	ND

Gilead Exhibit 2016
PGR2023-00046 - Page 00679

Ex #	Compound	Log10 Reduction at 50μM	EC90 (μM)
12		0.31	ND
15		ND	0.86
25		-2.22	0.39
27		-2.25	0.66
28		-2.16	0.75
36		-1.64	21.9

Gilead Exhibit 2016
PGR2023-00046 - Page 00680

Ex #	Compound	Log10 Reduction at 50μM	EC90 (μM)
39		-1.78	0.47
49		-2.69	0.126
53		-1.33	<0.3
54		-1.55	0.57
55		-2.38	<0.3
69		-2.25	< 0.3
70		-2.25	<0.3

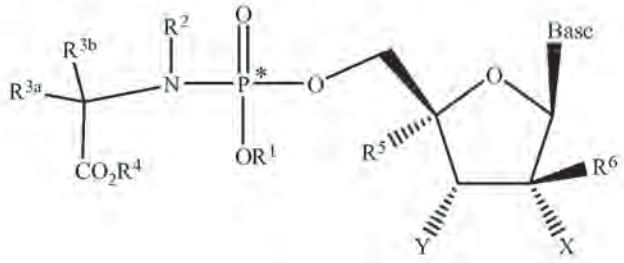
[1](4-BrPh): 4-bromo-phenyl.

The entire contents of U.S. Provisional Application Nos. 60/909,315, filed March 30, 2007, and 60/982,309, filed October 24, 2007, are hereby incorporated by reference in the present application so far as needed to supplement the present disclosure and/or rectify any errors. Moreover, the patent and non-patent references disclosed herein are incorporated by reference. In the event that the incorporated patent and non-patent reference contains a term that conflicts with a term disclosed in either one of the two Provisional Applications or the present application text, the meaning of the term contained in the present application text and the two Provisional Applications controls provided that the overall meaning of the incorporated subject matter is not lost.

Gilead Exhibit 2016
PGR2023-00046 - Page 00682

We claim:

1. A compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, represented by formula I:



I

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1''}$ is –OR' or $-N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_e(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_eCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that

Gilead Exhibit 2016
PGR2023-00046 - Page 00683

includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1 to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3''}$ is -OR' or $-N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3''}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl, cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl,substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., $-(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

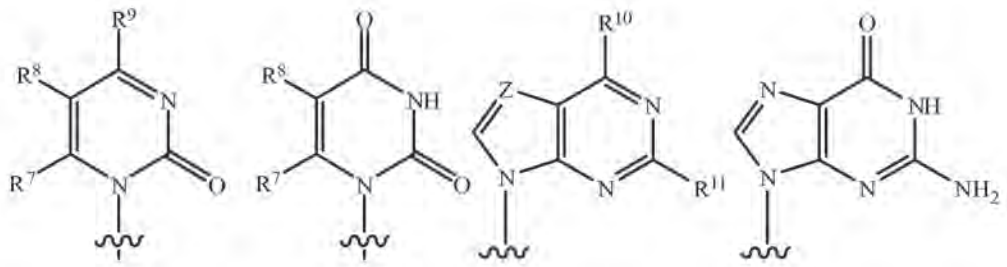
(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$

Gilead Exhibit 2016
PGR2023-00046 - Page 00684

alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:



a **b** **c** **d**

wherein

Z is N or CR^{12};

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-

Gilead Exhibit 2016
PGR2023-00046 - Page 00685

C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'_2, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) –C≡C–H, (ii) $–C=CH_2$, or (iii) $–NO_2$.

2. A compound its stereoisomer, salt, hydrate, solvate, or crystalline form thereof selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-

Gilead Exhibit 2016
PGR2023-00046 - Page 00686

pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00687

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00688

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00689

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00690

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-yl]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

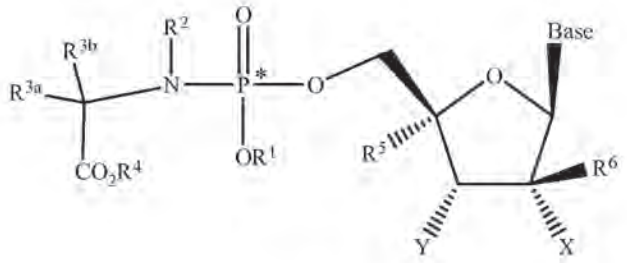
79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate.

3. A composition for the treatment and/or prophylaxis of any of the viral agents disclosed herein said composition comprising a pharmaceutically acceptable medium selected from among an excipient, carrier, diluent, and equivalent medium and a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, represented

Gilead Exhibit 2016
PGR2023-00046 - Page 00691

by formula I:



I

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1''}$ is –OR' or $-N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_c(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_eCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1

Gilead Exhibit 2016
PGR2023-00046 - Page 00692

to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3''}$ is -OR' or $-N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3''}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl, cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl, substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., $-(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$ alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl),

Gilead Exhibit 2016
PGR2023-00046 - Page 00693

$SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:



a **b** **c** **d**

wherein

Z is N or CR^{12};

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-

Gilead Exhibit 2016
PGR2023-00046 - Page 00694

C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'_2, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, $CONHR'$, $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) $-C\equiv C-H$, (ii) $-C=CH_2$, or (iii) $-NO_2$.

4. A composition for the treatment and/or prophylaxis of any of the viral agents disclosed herein said composition comprising a pharmaceutically acceptable medium selected from among an excipient, carrier, diluent, and equivalent medium and a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00695

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-C-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00696

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00697

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00698

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00699

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-y l]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

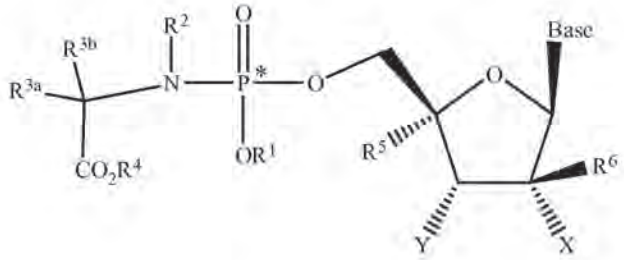
79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate.

Gilead Exhibit 2016
PGR2023-00046 - Page 00700

5. A use of the compound represented by formula I in the manufacture of a medicament for the treatment of any condition the result of an infection by hepatitis C virus, West Nile virus, yellow fever virus, dengue virus, rhinovirus, polio virus, hepatitis A virus, bovine viral diarrhea virus or Japanese encephalitis virus.

wherein the compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, are represented by formula I:



I

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1''}$ is –OR' or $-N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_c(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_cCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a

Gilead Exhibit 2016
PGR2023-00046 - Page 00701

group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1 to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3''}$ is -OR' or $-N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3''}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl, cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl, substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., $-(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

Gilead Exhibit 2016
PGR2023-00046 - Page 00702

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$ alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:



a **b** **c** **d**

wherein

Z is N or CR^{12};

Gilead Exhibit 2016
PGR2023-00046 - Page 00703

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'_2, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) –C≡C–H, (ii) $–C=CH_2$, or (iii) $–NO_2$.

6. A use of

a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-

Gilead Exhibit 2016
PGR2023-00046 - Page 00704

hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-C-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00705

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00706

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00707

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00708

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-yl]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

Gilead Exhibit 2016
PGR2023-00046 - Page 00709

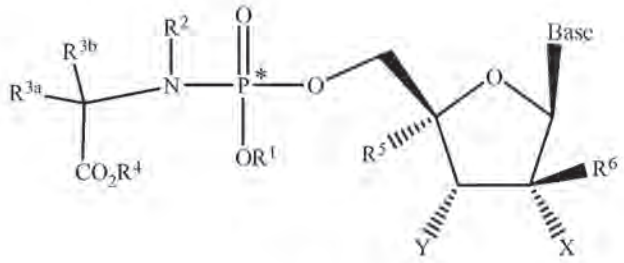
80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate

in the manufacture of a medicament for the treatment of any condition the result of an infection by hepatitis C virus, West Nile virus, yellow fever virus, dengue virus, rhinovirus, polio virus, hepatitis A virus, bovine viral diarrhea virus or Japanese encephalitis virus.

7. A method of treatment in a subject in need thereof, which comprises:

administering a therapeutically effective amount of the compound represented by formula I to the subject;

wherein the compound or its stereoisomer, salt, hydrate, solvate, or crystalline form thereof represented by formula I:



I

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl,

Gilead Exhibit 2016
PGR2023-00046 - Page 00710

which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1''}$ is –OR' or -$N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_c(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_eCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1 to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3''}$ is -OR' or $–N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3''}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl,

Gilead Exhibit 2016
PGR2023-00046 - Page 00711

cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl, substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., -$(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

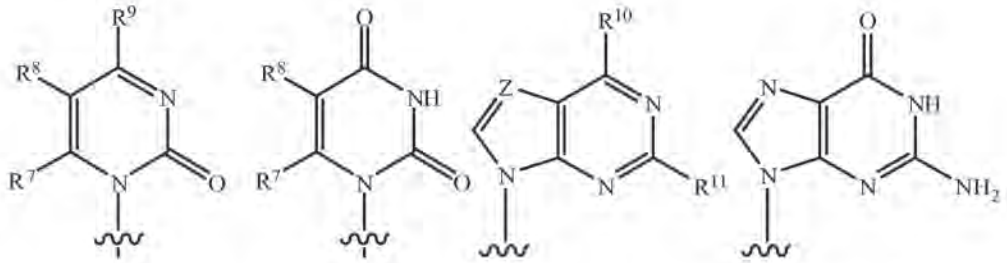
(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$ alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:

Gilead Exhibit 2016
PGR2023-00046 - Page 00712



a b c d

wherein

Z is N or CR^{12};

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, CH=$CHCO_2H$, or CH=$CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'_2, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$,

Gilead Exhibit 2016
PGR2023-00046 - Page 00713

$CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) $-C\equiv C-H$, (ii) $-C=CH_2$, or (iii) $-NO_2$.

8. A method of treatment in a subject in need thereof, which comprises:

administering a therapeutically effective amount of a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-C-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00714

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00715

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00716

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00717

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-yl]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00718

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

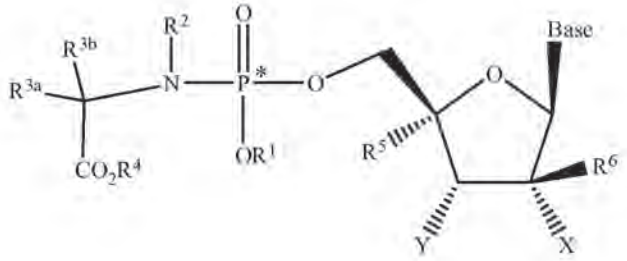
77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate.

9. A process for preparing a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, represented by formula I:



I

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl,

Gilead Exhibit 2016
PGR2023-00046 - Page 00719

which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1"}$ is –OR' or -$N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_c(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_eCOR^{3"}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1 to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3"}$ is -OR' or $–N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3"}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl,

Gilead Exhibit 2016
PGR2023-00046 - Page 00720

cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl, substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., -$(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

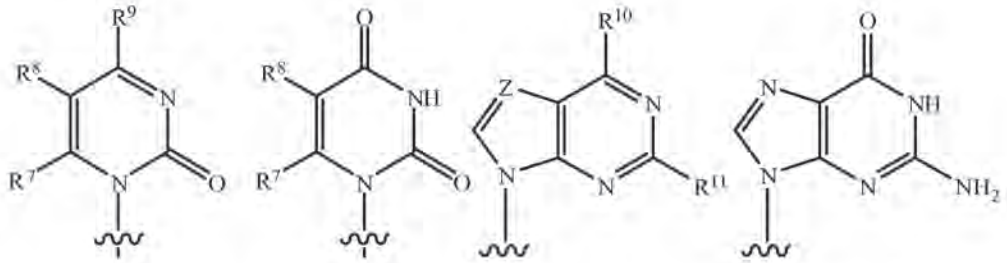
(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$ alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN, one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-4}$ acyl)$_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:

Gilead Exhibit 2016
PGR2023-00046 - Page 00721



a b c d

wherein

Z is N or CR^{12};

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, CH=$CHCO_2H$, or CH=$CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'$_2$, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

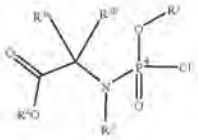
R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'$_2$, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$,

Gilead Exhibit 2016
PGR2023-00046 - Page 00722

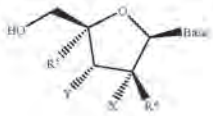
$CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) $-C\equiv C-H$, (ii) $-C=CH_2$, or (iii) $-NO_2$;

said process comprising:

reacting a substituted phosphochloridate compound **4** with a nucleoside analog **5**



4



5

10. A process for preparing a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-C-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

Gilead Exhibit 2016
PGR2023-00046 - Page 00723

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00724

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00725

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00726

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00727

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-y l]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-p hosphorylamino)-propionic acid methyl ester;

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

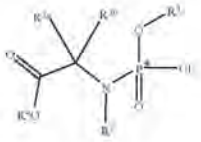
78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

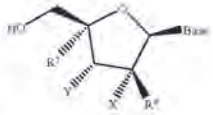
80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate

said process comprising:

reacting a substituted phosphochloridate compound **4** with a nucleoside analog **5**



4

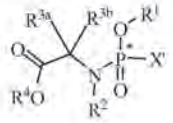


5

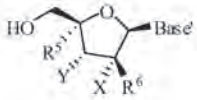
11. A product its stereoisomer, salt, hydrate, solvate or crystalline form thereof, prepared a process comprising:

Gilead Exhibit 2016
PGR2023-00046 - Page 00728

reacting a substituted phosphochloridate compound **4** with a nucleoside analog **5**



4



5

wherein

(a) R^1 is hydrogen, n-alkyl; branched alkyl; cycloalkyl; or aryl, which includes, but is not limited to, phenyl or naphthyl, where phenyl or naphthyl are optionally substituted with at least one of C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{1-6} alkoxy, F, Cl, Br, I, nitro, cyano, C_{1-6} haloalkyl, $-N(R^{1'})_2$, C_{1-6} acylamino, $-NHSO_2C_{1-6}$ alkyl, $-SO_2N(R^{1'})_2$, $COR^{1''}$, and $-SO_2C_{1-6}$ alkyl; ($R^{1'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{1''}$ is –OR' or $-N(R^{1'})_2$);

(b) R^2 is hydrogen, C_{1-10} alkyl, R^{3a} or R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, $C(O)CR^{3a}R^{3b}NHR^1$, where n is 2 to 4 and R^1, R^{3a}, and R^{3b};

(c) R^{3a} and R^{3b} are (i) independently selected from hydrogen, C_{1-10} alkyl, cycloalkyl, $-(CH_2)_c(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_dMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_eCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl groups optionally substituted with a group selected from hydroxyl, C_{1-10} alkyl, C_{1-6} alkoxy, halogen, nitro and cyano; (ii) R^{3a} and R^{3b} both are C_{1-6} alkyl; (iii) R^{3a} and R^{3b} together are$(CH_2)_f$ so as to form a spiro ring; (iv) R^{3a} is hydrogen and R^{3b} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms (v) R^{3b} is hydrogen and R^{3a} and R^2 together are $(CH_2)_n$ so as to form a cyclic ring that includes the adjoining N and C atoms, where c is 1 to 6, d is 0 to 2, e is 0 to 3, f is 2 to 5, n is 2 to 4, and where $R^{3'}$ is independently hydrogen or C_{1-6} alkyl and $R^{3''}$ is -OR' or $–N(R^{3'})_2$); (vi) R^{3a} is H and R^{3b} is H, CH_3, CH_2CH_3, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, -

Gilead Exhibit 2016
PGR2023-00046 - Page 00729

$CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl; or (viii) R^{3a} is CH_3, $-CH_2CH_3$, $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, $CH(CH_3)CH_2CH_3$, CH_2Ph, CH_2-indol-3-yl, $-CH_2CH_2SCH_3$, CH_2CO_2H, $CH_2C(O)NH_2$, CH_2CH_2COOH, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, $-CH_2CH_2CH_2NHC(NH)NH_2$, CH_2-imidazol-4-yl, CH_2OH, $CH(OH)CH_3$, CH_2((4'-OH)-Ph), CH_2SH, or lower cycloalkyl and R^{3b} is H, where $R^{3'}$ is independently hydrogen or alkyl, which includes, but is not limited to, C_{1-20} alkyl, C_{1-10} alkyl, or C_{1-6} alkyl, $R^{3''}$ is –OR' or $-N(R^{3'})_2$);

(d) R^4 is hydrogen, C_{1-10} alkyl, C_{1-10} alkyl optionally substituted with a lower alkyl, alkoxy, di(lower alkyl)-amino, or halogen, C_{1-10} haloalkyl, C_{3-10} cycloalkyl, cycloalkyl alkyl, cycloheteroalkyl, aminoacyl, aryl, such as phenyl, heteroaryl, such as, pyridinyl, substituted aryl, or substituted heteroaryl;

(e) R^5 is H, a lower alkyl, CN, vinyl, O-(lower alkyl), hydroxyl lower alkyl, i.e., $-(CH_2)_pOH$, where p is 1 -6, including hydroxyl methyl (CH_2OH), CH_2F, N_3, CH_2CN, CH_2NH_2, CH_2NHCH_3, $CH_2N(CH_3)_2$, alkyne (optionally substituted), or halogen, including F, Cl, Br, or I, with the provisos that when X is OH, base is cytosine and R^6 is H, R^5 cannot be N_3 and when X is OH, R^6 is CH_3 or CH_2F and B is a purine base, R^5 cannot be H;

(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

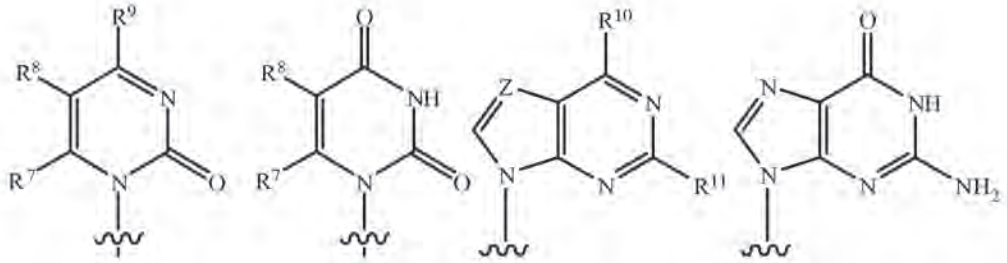
(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(h) Y is OH, H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, vinyl, N_3, CN, Cl, Br, F, I, NO_2, $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{1-4}$ alkyl), $OC(O)O(C_{2-4}$ alkynyl), $OC(O)O(C_{2-4}$ alkenyl), OC_{1-10} haloalkyl, O(aminoacyl), $O(C_{1-10}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl)$_2$, $N(C_{1-18}$ acyl)$_2$, wherein alkyl, alkynyl, alkenyl and vinyl are optionally substituted by N_3, CN,

Gilead Exhibit 2016
PGR2023-00046 - Page 00730

one to three halogen (Cl, Br, F, I), NO_2, $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{1-4}$ alkyl), $C(O)O(C_{2-4}$ alkynyl), $C(O)O(C_{2-4}$ alkenyl), $O(C_{1-4}$ acyl), $O(C_{1-4}$ alkyl), $O(C_{2-4}$ alkenyl), $S(C_{1-4}$ acyl), $S(C_{1-4}$ alkyl), $S(C_{2-4}$ alkynyl), $S(C_{2-4}$ alkenyl), $SO(C_{1-4}$ acyl), $SO(C_{1-4}$ alkyl), $SO(C_{2-4}$ alkynyl), $SO(C_{2-4}$ alkenyl), $SO_2(C_{1-4}$ acyl), $SO_2(C_{1-4}$ alkyl), $SO_2(C_{2-4}$ alkynyl), $SO_2(C_{2-4}$ alkenyl), $OS(O)_2(C_{1-4}$ acyl), $OS(O)_2(C_{1-4}$ alkyl), $OS(O)_2(C_{2-4}$ alkenyl), NH_2, $NH(C_{1-4}$ alkyl), $NH(C_{2-4}$ alkenyl), $NH(C_{2-4}$ alkynyl), $NH(C_{1-4}$ acyl), $N(C_{1-4}$ alkyl$)_2$, $N(C_{1-4}$ acyl$)_2$;

the base is a naturally occurring or modified purine or pyrimidine base represented by the following structures:



a **b** **c** **d**

wherein

Z is N or CR^{12};

R^7, R^8,R^9, R^{10}, and $R^{11}$are independently H, F, Cl, Br, I, OH, OR', SH, SR', NH_2, NHR', NR'$_2$, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6, lower alkynyl of C_2-C_6 such as C≡CH, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', CONR'$_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$,

wherein R' is an optionally substituted alkyl , which includes, but is not limited to, an optionally substituted C_{1-20} alkyl, an optionally substituted C_{1-10} alkyl, an optionally substituted lower alkyl; an optionally substituted cycloalkyl; an optionally substituted

Gilead Exhibit 2016
PGR2023-00046 - Page 00731

alkynyl of C_2-C_6, an optionally substituted lower alkenyl of C_2-C_6, or optionally substituted acyl, which includes but is not limited to C(O) alkyl, C(O)(C_{1-20} alkyl), C(O)(C_{1-10} alkyl), or C(O)(lower alkyl) or alternatively, in the instance of NR'_2, each R' comprise at least one C atom that are joined to form a heterocycle comprising at least two carbon atoms; and

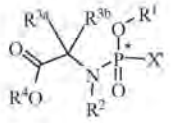
R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2 lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkynyl of C_2-C_6, lower alkoxy of C_1-C_6, halogenated (F, Cl, Br, I) lower alkoxy of C_1-C_6, CO_2H, CO_2R', $CONH_2$, CONHR', $CONR'_2$, $CH=CHCO_2H$, or $CH=CHCO_2R'$; with the proviso that when base is represented by the structure c with R^{11} being hydrogen, R^{12} is not a: (i) $-C\equiv C-H$, (ii) $-C=CH_2$, or (iii) $-NO_2$

and

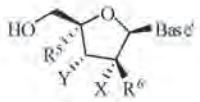
wherein X' is a leaving group, such as, Cl.

12. A product its stereoisomer, salt, hydrate, solvate or crystalline form thereof, prepared a process comprising:

reacting a substituted phosphochloridate compound **4** with a nucleoside analog **5**



4



5 ;

wherein the product comprises a compound, its stereoisomer, salt, hydrate, solvate, or crystalline form thereof, selected from among

5 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester);

Gilead Exhibit 2016
PGR2023-00046 - Page 00732

6 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

7 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

8 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate (((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester);

9 N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;

10 2'-Deoxy-2'-fluoro-2'-C-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);

11 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);

12 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

13 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

14 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

15 {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

16 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

17 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

18 (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00733

19 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

20 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

21 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

22 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

23 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

24 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

25 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

26 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

27 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

28 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

29 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

30 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

31 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

32 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

33 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00734

34 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

35 (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

36 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

37 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

38 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

39 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

40 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

41 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

42 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

43 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

44 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

45 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

46 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

47 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

48 (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00735

49 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

50 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

51 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

52 (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

53 (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

54 (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

55 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

56 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

57 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

58 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

59 (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

60 (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

61 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

62 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

63 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00736

64 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester;

65 (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester;

66 (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

67 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

68 (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

69 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

70 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

71 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

72 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

73 (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

74 (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-yl]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;

75 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

76 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

77 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

78 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;

Gilead Exhibit 2016
PGR2023-00046 - Page 00737

79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

80 (2S)-methyl 2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate

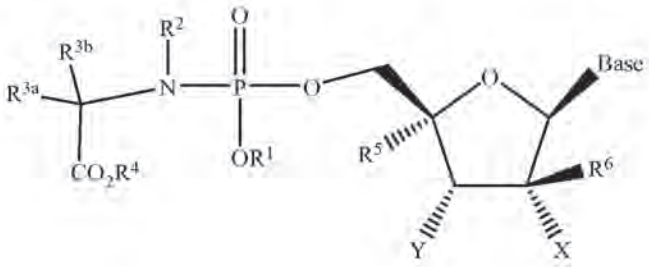
wherein Base' is as recited in each of compounds 5-74; and

wherein X' is a leaving group, such as, Cl.

Gilead Exhibit 2016
PGR2023-00046 - Page 00738

ABSTRACT

Disclosed herein are phosphoramidate prodrugs of nucleoside derivatives for the treatment of viral infections in mammals, which is a compound, its stereoisomer, salt (acid or basic addition salt), hydrate, solvate, or crystalline form thereof, represented by the following structure:



I

Also disclosed are methods of treatment, uses, and processes for preparing each of which utilize the compound represented by formula **I**.

Gilead Exhibit 2016
PGR2023-00046 - Page 00739

Electronic Acknowledgement Receipt

EFS ID:	10009513
Application Number:	13099671
International Application Number:	
Confirmation Number:	1344
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	MICHAEL JOSEPH SOFIA
Customer Number:	23552
Filer:	Daniel R. Evans/AMY ALBA
Filer Authorized By:	Daniel R. Evans
Attorney Docket Number:	60137.0034USC1
Receipt Date:	03-MAY-2011
Filing Date:	
Time Stamp:	14:51:47
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	ApplicationDataSheet_CON_60137_0034usc1_v2.pdf	37138 7d6a723ce404a3842f45af11fee40692d0bd 8f88	no	4

Warnings:	
Information:	

This is not an USPTO supplied ADS fillable form					
2	Oath or Declaration filed	12053015_oathfiled_34usu1.pdf	226593	no	4
Warnings:					
Information:					
3	Authorization for Extension of Time all replies	AUTH_CON_60137_0034usc1_v2.pdf	61789	no	1
Warnings:					
Information:					
4		PreliminaryAmendment_CON_60137_0034usc1.pdf	67135	yes	3

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Specification	2	2
	Applicant Arguments/Remarks Made in an Amendment	3	3

Warnings:					
Information:					
5		60137_0034USU1_nonprov_apln_FINAL_032108.pdf	2707797	yes	736

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	679
	Claims	680	735
	Abstract	736	736

Warnings:	
Information:	
Total Files Size (in bytes):	3100452

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Application Data Sheet

Application Information

Application Type::	Continuation
Subject Matter::	Utility
Suggested Classification::	
Suggested Group Art Unit::	
CD-ROM or CD_R?::	None
Number of CD disks::	
Number of copies of CDs::	
Sequence Submission::	
Computer Readable Form (CRF)?::	
Title::	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
Attorney Docket Number::	60137.0034USC1
Request For Early Publication::	No
Request For Non-Publication::	No
Suggested Drawing Figure::	
Total Drawing Sheets::	
Small Entity::	Yes
Latin Name::	
Variety Denomination Name::	
Petition Included::	No
Petition Type::	
Licensed US Govt. Agency::	
Contract or Grant Numbers::	
Secrecy Order in Parent Appl.?::	No

Gilead Exhibit 2016
PGR2023-00046 - Page 00743

Applicant Information

Applicant Authority Type::	Inventor
Primary Citizenship Country::	United States
Status::	Full Capacity
Given Name::	MICHAEL
Middle Name::	JOSEPH
Family Name::	SOFIA
Name Suffix::	
City of Residence::	DOYLESTOWN
State or Province of Residence::	PA
Country of Residence::	USA
Street of mailing address::	3066 ANTLER DRIVE
City of mailing address::	DOYLESTOWN
State or Province of mailing address::	PA
Country of mailing address::	USA
Postal or Zip Code of mailing address::	18901

Applicant Information

Applicant Authority Type::	Inventor
Primary Citizenship Country::	United States
Status::	Full Capacity
Given Name::	JINFA
Middle Name::	
Family Name::	DU
Name Suffix::	
City of Residence::	NEW HOPE
State or Province of Residence::	PA
Country of Residence::	USA
Street of mailing address::	1206 REINS CIRCLE
City of mailing address::	NEW HOPE
State or Province of mailing address::	PA
Country of mailing address::	USA
Postal or Zip Code of mailing address::	18938

Applicant Information

Applicant Authority Type::	Inventor
Primary Citizenship Country::	China
Status::	Full Capacity
Given Name::	PEIYUAN
Middle Name::	
Family Name::	WANG
Name Suffix::	
City of Residence::	GLEN ROCK
State or Province of Residence::	NJ
Country of Residence::	USA
Street of mailing address::	20 RADBURN ROAD
City of mailing address::	GLEN ROCK
State or Province of mailing address::	NJ
Country of mailing address::	USA
Postal or Zip Code of mailing address::	07452

Applicant Information

Applicant Authority Type::	Inventor
Primary Citizenship Country::	United States
Status::	Full Capacity
Given Name::	DHANAPALAN
Middle Name::	
Family Name::	NAGARATHNAM
Name Suffix::	
City of Residence::	BETHANY
State or Province of Residence::	CT
Country of Residence::	USA
Street of mailing address::	52 VIRGINIA RAIL DRIVE
City of mailing address::	BETHANY
State or Province of mailing address::	CT
Country of mailing address::	USA
Postal or Zip Code of mailing address::	06524

Correspondence Information

Correspondence Customer Number:: 23552

Representative Information

Representative Customer Number::	23552

Domestic Priority Information

Application::	Continuation Type::	Parent Application::	Parent Filing Date::
This application is a	Continuation of	12/053,015	2008-03-21
	Which claims priority to	60/909,315 60/982,309	2007-03-30 2007-10-24
This application	is claiming benefit under 35 USC 120	12/053,015	2008-03-21

Assignee Information

Assignee Name::	Pharmasset, Inc.
Street of mailing address::	303-A College Road East
City of mailing address::	Princeton
State or Province of mailing address::	NJ
Country of mailing address::	USA
Postal or Zip Code of mailing address::	08540

Gilead Exhibit 2016
PGR2023-00046 - Page 00746

Attorney Docket No. 60137.0034USU1

MERCHANT & GOULD P.C.

United States Patent Application

COMBINED DECLARATION AND POWER OF ATTORNEY

As a below named inventor I hereby declare that: my residence, post office address and citizenship are as stated below next to my name; that

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the subject matter which is claimed and for which a patent is sought on the invention entitled: NUCLEOSIDE PHOSPHARAMIDATE PRODRUGS

The specification of which
a. ☐ is attached hereto
b. ☒ was filed on MARCH 21, 2008 as application serial no. 12/053,015 and was amended on
(if applicable) (in the case of a PCT-filed application) described and claimed in international no. filed
and as amended on (if any), which I have reviewed and for which I solicit a United States patent.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

a. ☒ no such applications have been filed.
b. ☐ such applications have been filed as follows:

FOREIGN APPLICATION(S), IF ANY, CLAIMING PRIORITY UNDER 35 USC § 119			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)
ALL FOREIGN APPLICATION(S), IF ANY, FILED BEFORE THE PRIORITY APPLICATION(S)			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (day, month, year)	DATE OF ISSUE (day, month, year)

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. APPLICATION NUMBER	DATE OF FILING (day, month, year)	STATUS (patented, pending, abandoned)

I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

U.S. PROVISIONAL APPLICATION NUMBER	DATE OF FILING (Day, Month, Year)
60/909,315	30 MARCH 2007
60/982,309	24 OCTOBER 2007

I acknowledge the duty to disclose information that is material to patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (reprinted below):

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

(1) prior art cited in search reports of a foreign patent office in a counterpart application, and

(2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim;

or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

(1) Each inventor named in the application:

(2) Each attorney or agent who prepares or prosecutes the application; and

(3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby appoint the attorney(s) and/or patent agent(s) associated with the following customer number to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

23552

PATENT TRADEMARK OFFICE

I hereby authorize them to act and rely on instructions from and communicate directly with the person/assignee/attorney/firm/ organization who/which first sends/sent this case to them and by whom/which I hereby declare that I have consented after full disclosure to be represented unless/until I instruct Merchant & Gould P.C. to the contrary.

I understand that the execution of this document, and the grant of a power of attorney, does not in itself establish an attorney-client relationship between the undersigned and the law firm Merchant & Gould P.C., or any of its attorneys.

Please direct all correspondence in this case to customer number 23552.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2	Full Name Of Inventor	Family Name SOFIA	First Given Name MICHAEL	Second Given Name JOSEPH
*0	Residence & Citizenship	City DOYLESTOWN	State or Foreign Country PA	Country of Citizenship US
1	Mailing Address	Address 3066 ANTLER DRIVE	City PA	State & Zip Code/Country 18902
Signature of Inventor 201: Michael J. Sofia				Date: 3/26/08

2	Full Name Of Inventor	Family Name DU	First Given Name JUNFA	Second Given Name
0	Residence & Citizenship	City NEW HOPE	State or Foreign Country PA	Country of Citizenship US
2	Mailing Address	Address 1206 REINS CIRCLE	City PA	State & Zip Code/Country 18938
Signature of Inventor 202:				Date: 3/26/08

2	Full Name Of Inventor	Family Name WANG	First Given Name PEIYUAN	Second Given Name
0	Residence & Citizenship	City GLEN ROCK	State or Foreign Country NJ	Country of Citizenship ~~CN~~ US
3	Mailing Address	Address 20 RADBURN ROAD	City GLEN ROCK	State & Zip Code/Country 07452
Signature of Inventor 203: Peiyuan Wang				Date: 3/26/08

2	Full Name Of Inventor	Family Name NAGARATHNAM	First Given Name DHANAPALAN	Second Given Name
0	Residence & Citizenship	City BETHANY	State or Foreign Country CT	Country of Citizenship US
4	Mailing Address	Address 52 VIRGINIA RAIL DRIVE	City BETHANY	State & Zip Code/Country 06524
Signature of Inventor 204:				Date: 3/31/08

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael J. Sofia et al.	Examiner:	LEWIS, PATRICK T.
Application No.:	Unassigned	Group Art Unit:	1623
Filed:	Herewith	Docket No.:	60137.0034USC1
Title:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		

AUTHORIZATION FOR EXTENSION OF TIME ALL REPLIES

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Please consider this a petition for extension of time for a sufficient number of months to enter these papers or any future papers, if appropriate. Please consider this automatic authorization to charge fees to address fees required by requests for extensions of time under 37 CFR 1.136

Please further charge any additional fees required to enter these papers or any future papers, or credit any overpayment of fees, to Deposit Account No. 13-2725.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

23552
PATENT TRADEMARK OFFICE

Dated: May 3, 2011

By /Daniel R. Evans/
Daniel R. Evans
Reg. No. 55,868

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE RECD	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/099,671	05/03/2011	1629	0.00	60137.0034USC1	12	12

CONFIRMATION NO. 1344

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

FILING RECEIPT

"OC00000004767827"

Date Mailed: 05/17/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Michael Joseph Sofia, Doylestown, PA;
Jinfa Du, New Hope, PA;
Peiyuan Wang, Glen Rock, NJ;
Dhanapalan Nagarathnam, Bethany, CT;

Assignment For Published Patent Application

Pharmasset, Inc., Princeton, NJ

Power of Attorney: The patent practitioners associated with Customer Number 23552

Domestic Priority data as claimed by applicant

This application is a CON of 12/053,015 03/21/2008
which claims benefit of 60/909,315 03/30/2007
and claims benefit of 60/982,309 10/24/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 05/13/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/099,671**

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****

Gilead Exhibit 2016
PGR2023-00046 - Page 00752

Title

NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS

Preliminary Class

514

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

Gilead Exhibit 2016
PGR2023-00046 - Page 00753

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

Gilead Exhibit 2016
PGR2023-00046 - Page 00754

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/099,671	05/03/2011	Michael Joseph Sofia	60137.0034USC1

CONFIRMATION NO. 1344

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

FORMALITIES LETTER

OC000000047678272

Date Mailed: 05/17/2011

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
  *Applicant must submit $**82** to complete the basic filing fee for a small entity.*

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of $**990** as a small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.
- A surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.16(f) of $**65** for a small entity in compliance with 37 CFR 1.27, must be submitted.

SUMMARY OF FEES DUE:

Total fee(s) required within **TWO MONTHS** from the date of this Notice is $**2867** for a small entity

- $**82** Statutory basic filing fee.
- $**65** Surcharge.
- The application search fee has not been paid. Applicant must submit $**270** to complete the search fee.
- The application examination fee has not been paid. Applicant must submit $**110** to complete the examination fee for a small entity in compliance with 37 CFR 1.27.
- The specification and drawings submitted electronically contain the equivalent of more than 100 pages. Applicant owes $**1350** for **452** pages in excess of **100** pages for a small entity in compliance with 37 CFR 1.27.
- Total additional claim fee(s) for this application is $**990**
  - $**990** for **9** independent claims over 3.

Gilead Exhibit 2016
PGR2023-00046 - Page 00755

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.
https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/smunpanthovong/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/099,671

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	82		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	270		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	110		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	12 minus 20 =	*	x 26 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	12 minus 3 =	* 9	x 110 =	990			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			1350			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	2802		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael Joseph Sofia et al.	Examiner:	Lewis, Patrick T.
Application No.:	13/099,671	Group Art Unit:	1623
Filing or 371 (c) Date:	May 3, 2011	Docket No.:	60137.0034USC1
Title:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		

RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

MAIL STOP MISSING PARTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice to File Missing Parts of Nonprovisional Application mailed May 17, 2011, Applicants submits the required fees through payment by credit card. Applicants also submit fees based on claims in the Preliminary Amendment filed herewith.

Please grant any extensions of time required to enter this response and charge any additional required fees or credit any overpayment to our deposit account 13-2725.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

23552
PATENT TRADEMARK OFFICE

Dated: June 17, 2011

By /Daniel R. Evans/
Daniel R. Evans
Reg. No. 55,868

5504296v1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael J. Sofia et al.	Examiner:	Lewis, Patrick T.
Serial No.:	13/099,671	Group Art Unit:	1623
Filed:	May 3, 2011	Docket No.:	60137.0034USC1
Title:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		

SECOND PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

In response to the Notice to File Missing Parts dated May 17, 2011, the filing fees are concurrently filed with the present amendment. Please enter the following preliminary amendment:

Amendments to the Claims begin on page **2** of this paper.

Remarks begin on page **17** of this paper.

Exhibit A – Allowed Claims of US 12/053,015

Exhibit B – Pending Independent Claims of US 12/783,680

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Canceled).

Claim 2 (Currently Amended). A compound or its stereoisomer~~, salt, hydrate, solvate, or crystalline form~~ thereof selected from among

[[**5**]] ~~2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-alanyl phosphate ((~~S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester[[)]];

[[**6**]] ~~2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(phenyl methoxy-valyl phosphate ((~~S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

[[**7**]] ~~2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((~~S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester[[)]];

[[**8**]] ~~2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-alanyl phosphate ((~~(S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester[[)]];

~~**9** N^4-(*N,N*-dimethylformamidinyl) 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine;~~

~~**10** 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-alanyl phosphate (((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenyoxy-phosphorylamino}-propionic acid methyl ester);~~

~~**11** 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate (2'-Deoxy-2'-fluoro-2'-*C*-methyluridine 5'-(4-bromophenyl methoxy-valyl phosphate ((S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester);~~

~~**12** 2'-deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-valyl phosphate ((S)-2-{[(2R,3R,4R,5R)-5-(2-oxo-3-amino-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-~~

Gilead Exhibit 2016
PGR2023-00046 - Page 00760

~~methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;~~

[[**13**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

[[**14**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid benzyl ester;

[[**15**]] {[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

[[**16**]] (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

[[**17**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(naphthalen-1-yloxy)-phosphorylamino]-propionic acid methyl ester;

[[**18**]] (S)-1-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphoryl}-pyrrolidine-2-carboxylic acid methyl ester;

[[**19**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

[[**20**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

[[**21**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

[[**22**]] (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

[[**23**]] (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

[[**24**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

[[**25**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

[[**26**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00761

[[**27**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

[[**28**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

[[**29**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

[[**30**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

[[**31**]] (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

[[**32**]] (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

[[**33**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

[[**34**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

[[**35**]] (S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

[[**36**]] (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

[[**37**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

[[**38**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

[[**39**]] (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

[[**40**]] (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

[[**41**]] (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00762

[[**42**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

[[**43**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

[[**44**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

[[**45**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

[[**46**]] (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

[[**47**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

[[**48**]] (S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

[[**49**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

~~**50** (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;~~

~~**51** (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;~~

~~**52** (R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;~~

[[**53**]] (S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

[[**54**]] (S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

[[**55**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

[[**56**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00763

[[**57**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

[[**58**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

[[**59**]] (S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

[[**60**]] (S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

[[**61**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2-difluoro-ethyl ester;

[[**62**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2,2,2-trifluoro-1-trifluoromethyl-ethyl ester;

[[**63**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 2-fluoro-1-fluoromethyl-ethyl ester;

[[**64**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester; and

[[**65**]] (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester[[;]].

~~**66** (S)-2-{[(2R,3R,4R,5R)-5-(6-Amino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**67** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-hydroxy-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**68** (S)-2-{(R)-[(2R,3R,4R,5R)-5-(2,6-Diamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**69** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclopentylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**70** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-azetidin-1-yl-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**71** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-diethylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

Gilead Exhibit 2016
PGR2023-00046 - Page 00764

~~**72** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-propylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**73** (S)-2-{[(2R,3R,4R,5R)-5-(2-Amino-6-cyclobutylamino-purin-9-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;~~

~~**74** (S)-2-({(2R,3R,4R,5R)-5-[2-Amino-6-(4-methyl-piperazin-1-yl)-purin-9-yl]-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy}-phenoxy-phosphorylamino)-propionic acid methyl ester;~~

~~**75** (2S)-methyl-2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(propylamino)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;~~

~~**76** (2S)-methyl-2-((((2R,3R,4R,5R)-5-(6-(cyclobutylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;~~

~~**77** (2S)-methyl-2-((((2R,3R,4R,5R)-5-(6-(cyclopentylamino)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;~~

~~**78** (2S)-methyl-2-((((2R,3R,4R,5R)-5-(6-(aziridin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate;~~

~~**79** (2S)-methyl-2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and~~

~~**80** (2S)-methyl-2-((((2R,3R,4R,5R)-5-(6-(azetidin-1-yl)-9H-purin-9-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate.~~

Claims 3-12 (Canceled).

Claim 13 (New): The compound of claim 2 or its stereoisomer thereof selected from among

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

(S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester;

(S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00765

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

(S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid methyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid butyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid ethyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid isopropyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00766

(S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid butyl ester;

(S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

(S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 4-fluoro-benzyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00767

(S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

(S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid butyl ester;

(S)-2-{(4-Bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-bromo-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4 R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-butyric acid isopropyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00768

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester; and

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester.

Claim 14 (New): The compound of claim 13 or stereoisomer selected from among

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-3-methyl-butyric acid methyl ester;

(S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-3-methyl-butyric acid methyl ester;

(S)-2-{(4-bromo-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid ethyl ester;

{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-acetic acid methyl ester;

(S)-2-{(2,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{(4-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid sec-butyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00769

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-{(3,4-Dichloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid ethyl ester;

(S)-2-{(2-Chloro-phenoxy)-[(2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phosphorylamino}-propionic acid isopropyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-methoxy-phenoxy)-phosphorylamino]-propionic acid benzyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid pentyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-p-tolyloxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid methyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid 3-methyl-butyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclohexyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid butyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester;

(R)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid benzyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid isopropyl ester;

Gilead Exhibit 2016
PGR2023-00046 - Page 00770

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclohexyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-butyric acid cyclohexyl ester;

(S)-2-[[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-(4-fluoro-phenoxy)-phosphorylamino]-propionic acid cyclohexyl ester;

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo- 3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid cyclopropyl methyl ester; and

(S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-butyric acid cyclopentyl ester.

Claim 15 (New): A compound selected from among

(S)-methyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-methyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

methyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)acetate;

methyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)acetate;

(S)-isopropyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-isopropyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-isopropyl 2-(((S)-(4-chlorophenoxy)(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)phosphoryl)amino)propanoate;

(S)-isopropyl 2-(((R)-(4-chlorophenoxy)(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)phosphoryl)amino)propanoate;

(S)-cyclohexyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

Gilead Exhibit 2016
PGR2023-00046 - Page 00771

(S)-cyclohexyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-cyclohexyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate; and

(S)-cyclohexyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate.

Claim 16 (New): The compound of claim 15 selected from among

(S)-methyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-methyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-isopropyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-isopropyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate;

(S)-cyclohexyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate; and

(S)-cyclohexyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate.

Claim 17 (New): The compound of claim 15 selected from among

(S)-isopropyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate.

Claim 18 (New): The compound of claim 15 selected from among

(S)-methyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate and

(S)-methyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate.

Claim 19 (New): The compound of claim 18 selected from among

Gilead Exhibit 2016
PGR2023-00046 - Page 00772

(S)-methyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate.

Claim 20 (New): The compound of claim 18 selected from among

(S)-methyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate.

Claim 21 (New): The compound of claim 15 selected from among

(S)-cyclohexyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate; and

(S)-cyclohexyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate.

Claim 22 (New): The compound of claim 21 selected from among

(S)-cyclohexyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate.

Claim 23 (New): The compound of claim 22 selected from among

(S)-cyclohexyl 2-(((R)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(4-fluorophenoxy)phosphoryl)amino)propanoate.

Claim 24 (New): A composition comprising the compound or a stereoisomer thereof as claimed in any one of claims 2 and 13-23.

Claim 25 (New): A composition comprising the compound or a stereoisomer thereof as claimed in any one of claims 2 and 13-23 and a pharmaceutically acceptable medium.

Claim 26 (New): A composition for treating a hepatitis C virus infection, which comprises an effective amount of the compound or a stereoisomer thereof as claimed in any one of claims 2 and 13-23 and a pharmaceutically acceptable medium.

Claim 27 (New): A method of treating a subject infected by a virus, which comprises:

Gilead Exhibit 2016
PGR2023-00046 - Page 00773

administering to the subject an effective amount of the compound or a stereoisomer thereof as claimed in any one of claims 2 and 13-23;

wherein the virus is selected from among hepatitis C virus, West Nile virus, a yellow fever virus, a dengue virus, a rhinovirus, a polio virus, a hepatitis A virus, a bovine viral diarrhea virus, and a Japanese encephalitis virus.

Claim 28 (New): A method of treating a hepatitis C virus infection in a subject in need thereof, which comprises:

administering to the subject an effective amount of the compound as claimed in any one of claims 2 and 15-23.

Claim 29 (New): A method of treating a hepatitis C virus infection in a subject in need thereof, which comprises:

administering to the subject an effective amount of the compound as claimed in any one of claims 15-23.

Claim 30 (New): The method of claim 29, which further comprises administering to the subject an effective amount of another antiviral agent.

Gilead Exhibit 2016
PGR2023-00046 - Page 00774

REMARKS

Claims 1 and 3-12 are canceled without prejudice or disclaimer. Claim 2 is amended to cover specific compound containing a uridine base and to remove the redundant trivial names for compounds 5-8. Claims 13-30 are added. Support for claims 13-15 is found in original claim 2. Support for new claims 16-23 is found in original claim 2, p. 9, ll. 7-10, pp. 656-657 (Example 5), p. 663 (Example 15), p. 664 (Example 25), p. 665 (Example 39), p. 666 (Example 49), p. 667 (Example 55), and pp. 674-675. Support for new claims 24-29 is found in original claims 4 and 8 and p. 646, ll. 5-10. Support for new claim 30 is found at p. 647, ll. 13ff. No new matter is believed to be added.

Applicants concurrently file a Rule 48(b) – Request for Correction of Inventorship deleting Dhanapalan Nagarathnam as a named inventor. Applicants request that the Examiner grant this Petition.

This application is a continuation application of allowed U.S. patent application 12/053,015. The allowed claims of US 12/053,015 are found at **Exhibit A**.

Certain pending claims are related to certain claims presented in US 12/783,680, filed on May 20, 2010, which published as US 2010/0298257 on November 25, 2010. The subject matter of US 12/783,680 has not yet been examined. The independent claims of US 12/783,680 are found at **Exhibit B**.

The Applicants believe that amended claims of the present application are in a condition for allowance.

If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' undersigned representative.

Respectfully submitted,
MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(404) 954-5061

23552
PATENT TRADEMARK OFFICE

/Daniel R. Evans/
Daniel R. Evans, Ph.D.
Registration No. 55,868

Date: June 17, 2011

Gilead Exhibit 2016
PGR2023-00046 - Page 00775

EXHIBIT A – Allowed Claims of US 12/053,015

Claim 13 (Previously Presented): (S)-2-{[(2R,3R,4R,5R)-5-(2,4-Dioxo-3,4-dihydro-2H-pyrimidin-1-yl)-4-fluoro-3-hydroxy-4-methyl-tetrahydro-furan-2-ylmethoxy]-phenoxy-phosphorylamino}-propionic acid isopropyl ester or a stereoisomer thereof.

Claim 14 (Previously Presented): A composition comprising the compound or a stereoisomer thereof as claimed in claim 13 and a pharmaceutically acceptable medium.

Claim 15 (Previously Presented): A composition for treating a hepatitis C virus, which comprises an effective amount of the compound or a stereoisomer thereof as claimed in claim 13 and a pharmaceutically acceptable medium.

Claim 16 (Previously Presented): A method of treating a subject infected by a virus, which comprises:

administering to the subject an effective amount of the compound or a stereoisomer thereof as claimed in claim 13;

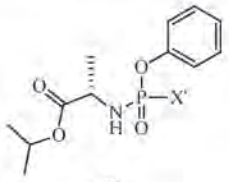
wherein the virus is selected from among hepatitis C virus, West Nile virus, a yellow fever virus, a dengue virus, a rhinovirus, a polio virus, a hepatitis A virus, a bovine viral diarrhea virus, and a Japanese encephalitis virus.

Claim 17 (Previously Presented): A method of treating a hepatitis C virus infection in a subject in need thereof, which comprises:

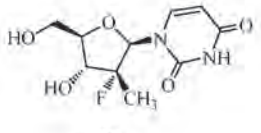
administering to the subject an effective amount of the compound or a stereoisomer thereof as claimed in claim 13.

Claim 18 (Previously Presented): A process for preparing the compound or a stereoisomer thereof as claimed in claim 13, said process comprising:

reacting a compound **4''** with a nucleoside analog **5'**



4''



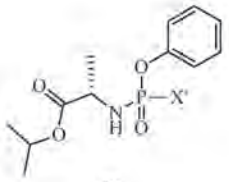
5'

wherein X' is a leaving group.

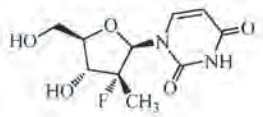
Gilead Exhibit 2016
PGR2023-00046 - Page 00776

Claim 19 (Previously Presented): A product comprising the compound or a stereoisomer thereof as claimed in claim 13 obtained by a process comprising:

reacting a compound **4''** with a nucleoside analog **5'**



4''



5'

wherein X' is a leaving group.

Claim 20 (Previously Presented): (S)-isopropyl 2-(((S)-(((2R,3R,4R,5R)-5-(2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-4-fluoro-3-hydroxy-4-methyltetrahydrofuran-2-yl)methoxy)(phenoxy)phosphoryl)amino)propanoate.

Claim 21 (Previously Presented): A composition comprising the compound as claimed in claim 20 and a pharmaceutically acceptable medium.

Claim 22 (Previously Presented): A composition for treating a hepatitis C virus, which comprises an effective amount of the compound as claimed in claim 20 and a pharmaceutically acceptable medium.

Claim 23 (Previously Presented): A method of treating a subject infected by a virus, which comprises:

administering to the subject an effective amount of the compound as claimed in claim 20;

wherein the virus is selected from among hepatitis C virus, West Nile virus, a yellow fever virus, a dengue virus, a rhinovirus, a polio virus, a hepatitis A virus, a bovine viral diarrhea virus, and a Japanese encephalitis virus.

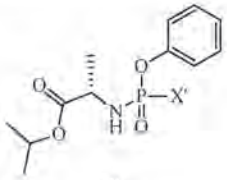
Claim 24 (Previously Presented): A method of treating a hepatitis C virus infection in a subject in need thereof, which comprises:

administering to the subject an effective amount of the compound as claimed in claim 20.

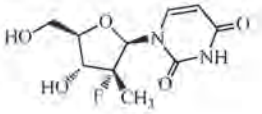
Claim 25 (Previously Presented): A process for preparing the compound as claimed in claim 20, said process comprising:

reacting a compound **4''** with a nucleoside analog **5'**

Gilead Exhibit 2016
PGR2023-00046 - Page 00777



4''

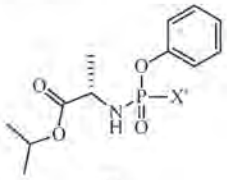


5'

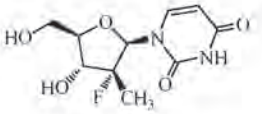
wherein X' is a leaving group.

Claim 26 (Previously Presented): A product comprising the compound as claimed in claim 20 obtained by a process comprising:

reacting a compound **4''** with a nucleoside analog **5'**



4''



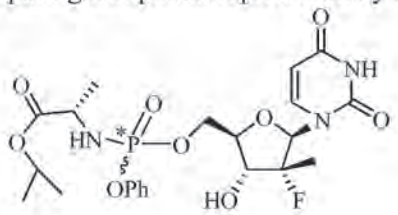
5'

wherein X' is a leaving group.

Gilead Exhibit 2016
PGR2023-00046 - Page 00778

EXHIBIT B – Pending Independent Claims of US 12/783,680

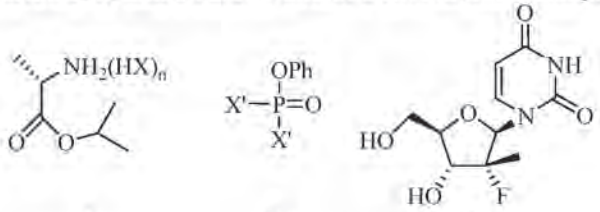
1. A process for preparing compound represented by formula 4:



4

wherein P* represents a chiral phosphorus atom, which comprises:

a) reacting an isopropyl-alanate, **A**, a di-X'-phenylphosphate, **B**, 2'-deoxy-2'-fluoro-2'-C-methyluridine, **3**, and a base to obtain a first mixture comprising **4**;



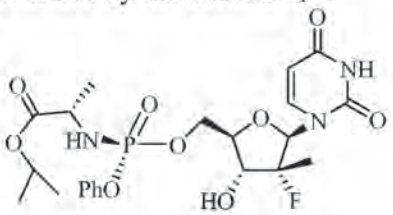
A **B** **3**

wherein X is a conjugate base of an acid, n is 0 or 1, and X' is a halogen

b) reacting the first mixture with a protecting compound to obtain a second mixture comprising **4**; and

c) optionally subjecting the second mixture to crystallization, chromatography, or extraction in order to obtain **4**.

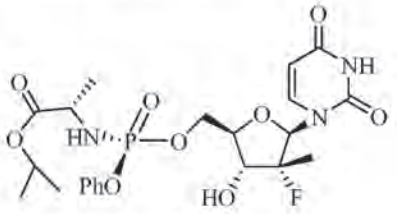
13. A compound represented by the formula R_P-4



R_P-**4**

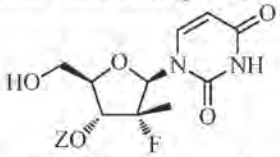
35. A compound represented by the formula S_P-4

Gilead Exhibit 2016
PGR2023-00046 - Page 00779



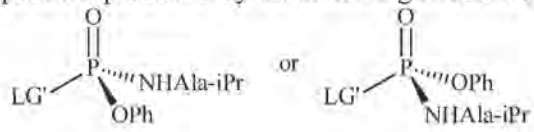
S_P-**4**

70. A compound selected from among **3a**, **3b**, **3c**, and **3d**



3a: Z = -C(O)$CH_2CH_2C(O)CH_3$
3b: Z = -C(O)OCH_2Ph
3c: Z = -Si(Me)$_2$^{t}Bu
3d: Z = -Si(^{i}Pr)$_2$OSi(^{i}Pr)$_2$OH

71. A compound represented by the following structures



C C'

where LG' is a leaving group.

76. [(S)-2-[(S)-(4-nitro-phenoxy)-phenoxy-phosphorylamino] propionic acid isopropyl ester (**8**, S_P-isomer).

77. Crystalline [(S)-2-[(S)-(4-nitro-phenoxy)-phenoxy-phosphorylamino] propionic acid isopropyl ester (**8**, S_P-isomer).

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael J. Sofia et al.	Examiner:	LEWIS, PATRICK T.
Serial No.:	13/099,671	Group Art Unit:	1623
Filed:	May 3, 2011	Docket No.:	60137.0034USC1
Title:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		

RULE 48(b) – REQUEST FOR CORRECTION OF INVENTORSHIP

Mail Stop Amendment
COMMISSIONER FOR PATENTS
P.O. BOX 1450
ALEXANDRIA, VIRGINIA 22313-1450

Dear Examiner Lewis:

Applicants request that Dhanapalan Nagarathnam be deleted as an inventor from the above-identified application.

Michael Joseph Sofia, Jinfa Du, Peiyuan Wang, and Dhanapalan Nagarathnam are the named inventors of the present application. The present application contains disclosed subject matter which is attributable to Messrs. Sofia, Du, Wang, and Nagarathnam; but it is noted that Messrs. Sofia, Wang, and Du are the inventors of the claims 2 and 13-30.

Applicants' representative kindly requests that the Office GRANT Applicants' request to delete Dhanapalan Nagarathnam as an inventor.

Applicants have submitted the necessary Rule 17(i) processing fee of $130. No additional fee is believed to be due; however, the Director is hereby authorized to charge any fees that may be required or credit any overpayment to Deposit Account 13-2725.

Respectfully submitted,
MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(404) 954-5061

/Daniel R. Evans/
Daniel R. Evans, Ph.D.
Registration No. 55,868

Date: June 17, 2011

23552
PATENT TRADEMARK OFFICE

Electronic Patent Application Fee Transmittal

Application Number:	13099671
Filing Date:	03-May-2011
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Michael Joseph Sofia
Filer:	Daniel R. Evans/AMY ALBA
Attorney Docket Number:	60137.0034USC1

Filed as Small Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	82	82
Utility Search Fee	2111	1	270	270
Utility Examination Fee	2311	1	110	110
Pages:				
Utility Appl Size fee per 50 sheets >100	2081	10	135	1350
Claims:				
Multiple dependent claims	2203	1	195	195
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Late filing fee for oath or declaration	2051	1	65	65
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Processing Fee, except for Provis. apps	1808	1	130	130
		Total in USD ($)		**2202**

Electronic Acknowledgement Receipt	
EFS ID:	10326467
Application Number:	13099671
International Application Number:	
Confirmation Number:	1344
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Michael Joseph Sofia
Customer Number:	23552
Filer:	Daniel R. Evans/AMY ALBA
Filer Authorized By:	Daniel R. Evans
Attorney Docket Number:	60137.0034USC1
Receipt Date:	17-JUN-2011
Filing Date:	03-MAY-2011
Time Stamp:	09:34:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$2202
RAM confirmation Number	7621
Deposit Account	132725
Authorized User	EVANS,DANIEL R.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	**Document Description**	**File Name**	**File Size(Bytes)/ Message Digest**	**Multi Part /.zip**	**Pages (if appl.)**
1	Applicant Response to Pre-Exam Formalities Notice	13099671_ResponseNTMP_60137_0034usc1.pdf	71407	no	1
Warnings:					
Information:					
2		13099671_SecondPrelimAmendment_60137_0034usc1.pdf	167406	yes	22
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Preliminary Amendment		1	1	
	Claims		2	16	
	Applicant Arguments/Remarks Made in an Amendment		17	22	
Warnings:					
Information:					
3	Request under Rule 48 correcting inventorship	13099671_Rule48b_RequestCorrectionInventorship_60137_0034usc1.pdf	59591	no	1
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	41916	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	340320		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Michael Joseph Sofia et al.	Examiner:	Lewis, Patrick T.
Application No.:	13/099,671	Group Art Unit:	1623
Filing or 371 (c) Date:	May 3, 2011	Docket No.:	60137.0034USC1
Title:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		

RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

MAIL STOP MISSING PARTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Notice to File Missing Parts of Nonprovisional Application mailed May 17, 2011, Applicants submits the required fees through payment by credit card. Applicants also submit fees based on claims in the Preliminary Amendment filed herewith.

Please grant any extensions of time required to enter this response and charge any additional required fees or credit any overpayment to our deposit account 13-2725.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, Minnesota 55402-0903
(612) 332-5300

23552
PATENT TRADEMARK OFFICE

Dated: June 17, 2011

By /Daniel R. Evans/
Daniel R. Evans
Reg. No. 55,868

06/24/2011 VVAN11 00000009 132725 13099671
01 FC:2202 1768.00 DA

5504296v1

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/099,671

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	82		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	270		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	110		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	88 minus 20 =	* 68	x 26 =	1768	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*	x 110 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $270 ($135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			1350			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				195			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	3775		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

MULTIPLE DEPENDENT CLAIM FEE CALCULATION SHEET

Substitute for Form PTO-1360
(For use with Form PTO/SB/06)

Application Number	Filing Date
13099671	

Applicant(s): Michael Sofia

* May be used for additional claims or amendments

CLAIMS	AS FILED		AFTER FIRST AMENDMENT		AFTER SECOND AMENDMENT	
	Indep	Depend	Indep	Depend	Indep	Depend
1			—	—		
2			1	—		
3			—	—		
4			—	—		
5			—	—		
6			—	—		
7			—	—		
8			—	—		
9			—	—		
10			—	—		
11			—	—		
12			—	—		
13				1		
14				1		
15			1			
16				1		
17				1		
18				1		
19				1		
20				1		
21				1		
22				1		
23				1		
24				12		
25				12		
26				12		
27				12		
28				10		
29				9		
30				9		
31						
32						
33						
34						
35						
36						
37						
38						
39						
40						
41						
42						
43						
44						
45						
46						
47						
48						
49						
50						
Total Indep	0		2		0	
Total Depend	0	↵	88	↵	0	↵
Total Claims	0		88		0	

	*		*		*	
	Indep	Depend	Indep	Depend	Indep	Depend
51						
52						
53						
54						
55						
56						
57						
58						
59						
60						
61						
62						
63						
64						
65						
66						
67						
68						
69						
70						
71						
72						
73						
74						
75						
76						
77						
78						
79						
80						
81						
82						
83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/099,671	05/03/2011	1629	3840	60137.0034USC1	19	2

CONFIRMATION NO. 1344

UPDATED FILING RECEIPT

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903



Date Mailed: 07/12/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Michael Joseph Sofia, Doylestown, PA;
Jinfa Du, New Hope, PA;
Peiyuan Wang, Glen Rock, NJ;

Assignment For Published Patent Application

Pharmasset, Inc., Princeton, NJ

Power of Attorney: The patent practitioners associated with Customer Number 23552

Domestic Priority data as claimed by applicant

This application is a CON of 12/053,015 03/21/2008 PAT 7,964,580
which claims benefit of 60/909,315 03/30/2007
and claims benefit of 60/982,309 10/24/2007

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.)

If Required, Foreign Filing License Granted: 05/13/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/099,671**

Projected Publication Date: 10/20/2011

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****

Gilead Exhibit 2016
PGR2023-00046 - Page 00790

Title

NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS

Preliminary Class

514

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as

Gilead Exhibit 2016
PGR2023-00046 - Page 00791

set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

Gilead Exhibit 2016
PGR2023-00046 - Page 00792

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/099,671	05/03/2011	Michael Joseph Sofia	60137.0034USC1

CONFIRMATION NO. 1344

23552
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

PUBLICATION NOTICE

OC000000050494998

Title:NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS

Publication No.US-2011-0257122-A1
Publication Date:10/20/2011

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Gilead Exhibit 2016
PGR2023-00046 - Page 00793

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number: 60137.0034USC1	Application Number: 13/099,671
	Applicant: Sofia et al	
	Filing Date: May 3, 2011	Group Art Unit: 1629

U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6777395	08-17-2004	Bhat			
	6348587	02-19-2002	Schinazi			
	6455513	09-24-2002	McGuigan			
	6812219	11-02-2004	LaColla			
	6911424	06-28-2005	Schinazi			
	6914054	07-05-2005	Sommadossi			
	7018989	03-28-2006	McGuigan			
	7105493	09-12-2006	Sommadossi			
	7105499	09-12-2006	Carroll			
	7125855	10-24-2006	Bhat			
	7307065	12-11-2007	Schinazi			
	7202224	04-10-2007	Eldrup			
	7307065	12-11-2007	Schinazi			
	7323453	01-29-2008	Olsen			
	7390791	06-24-2008	Becker			
	7429572	09-30-2008	Clark			
	7608597	10-27-2009	Sommadossi			
	7608600	10-27-2009	Storer			
	7635689	12-22-2009	LaColla			
	7879815	02-01-2011	MacCoss			
	20060142238	06-29-2006	McGuigan			
	20070042988	02-22-2007	Klumpp			
	20070197463	08-23-2007	Chun			
	20070265222	11-15-2007	MacCoss			

23552
PATENT TRADEMARK OFFICE

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Gilead Exhibit 2016
PGR2023-00046 - Page 00794

FORM 1449* INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION (Use several sheets if necessary)	Docket Number: 60137.0034USC1	Application Number: 13/099,671
	Applicant: Sofia et al	
	Filing Date: May 3, 2011	Group Art Unit: 1629

	20070275912	11-29-2007	Bhat				
	20100173863	07-08-2010	Schinazi				
	20090306007	12-10-2009	Wagner				
	20100022468	01-08-2010	Meppen				
	20100316594	12-16-2010	Sommadossi				
	20100035835	02-11-2010	Narjes				
	20100152128	06-17-2010	Attenni				
	20110124592	05-26-2011	McGuigan				
			FOREIGN PATENT DOCUMENTS				
	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
	WO2006121820	11-16-2006	PCT				

OTHER DOCUMENTS		
		Aquaro et al., Antimicrobial Agents and Chemotherapy (2000) 1: 173-177.
		Chapman et al., Nucleotides, Nucleosides and Nucleic Acids (2001) 20(4-7): 621-628.
		Chapman et al., Nucleotides, Nucleosides and Nucleic Acids (2001) 20(4-7): 1085-1090.
		Clark et al., J. Med. Chem. (2005) 48(17): 5504-5508.
		Eisenberg et al., Nucleosides, Nucleotides & Nucleic Acids (2001) 20(4-7): 1091-1098.
		Lee et al., Antimicrobial Agents and Chemotherapy (2005) 49(5): 1898-1906.
		Ma et al., J. Biol. Chem. (2007) 282(41): 29812-29820.
		McGuigan et al., Antiviral Chemistry and Chemotherapy (1998) 9: 473-479.
		Murakami et al., Antiviral Chemistry & Chemotherapy (2007) 51(2): 503-509.
		Murakami et al., Antimicrobial Agents and Chemotherapy (2008) 52(2): 458-464.
		Perrone et al., J. Med. Chem. (2007) 50(8): 1840-1849.
		Ray et al., Antimicrobial Agents and Chemotherapy (2008) 52(2): 648-654.
		Stuyver et al., Antiviral Chemistry & Chemotherapy (2004) 48(2): 651-654.

23552
PATENT TRADEMARK OFFICE

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form for next communication to the Applicant.

Gilead Exhibit 2016
PGR2023-00046 - Page 00795

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 November 2006 (16.11.2006)

PCT

(10) International Publication Number
WO 2006/121820 A1

(51) International Patent Classification:
C07H 19/04 (2006.01) *A61K 31/70* (2006.01)
A01N 43/04 (2006.01)

(21) International Application Number:
PCT/US2006/017314

(22) International Filing Date: 5 May 2006 (05.05.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/678,636 5 May 2005 (05.05.2005) US
60/748,034 6 December 2005 (06.12.2005) US

(71) Applicant *(for all designated States except US)*: **VALEANT RESEARCH & DEVELOPMENT** [US/US]; 3300 Hyland Avenue, Costa Mesa, CA 92626 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **GUNIC, Esmir** [US/US]; 577 Springbrook North, Irvine, CA 92614 (US). **CHOW, Suetying** [US/US]; 2201 Dublin Ln. Unit#1, Diamond Bar, CA 91765 (US). **RONG, Frank** [US/US]; 82 Canopy, Irvine, CA 92603 (US).

(74) Agent: **REESE, Heidi, L.**; BROWN RAYSMAN MILLSTEIN FELDER & STEINER LLP, 900 Third Avenue, New York, NY 10022 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:
— *of inventorship (Rule 4.17(iv))*

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PHOSPHORAMIDATE PRODRUGS FOR TREATMENT OF VIRAL INFECTION

(57) Abstract: The invention concerns 2'-methyl ribonucleotide phosphoramidates which are neutral prodrugs which are converted *in vivo* to 2'- methyl ribonucleotide triphosphates. These compounds are useful in the treatment of viral infection. Of particular interest are prodrugs of a methylsulfonylhydrazinyl purine 2'-methyl nucleotide triphosphate: 2'methyl- N^6-alkyl-N^6- (N-methylsulfonamide) adenosine triphosphate and its 2-amino derivative.

WO 2006/121820 A1

Gilead Exhibit 2016
PGR2023-00046 - Page 00796

PHOSPHORAMIDATE PRODRUGS FOR TREATMENT OF VIRAL INFECTION

Cross Reference to Related Applications

This application claims priority to U. S. Provisional Application Ser. No. 60/678,636, filed May 5, 2005, and to U. S. Provisional Application Ser. No. 60/748,034, filed December 6, 2005, both of which are incorporated by reference herein in their entirety.

Field of the Invention

The invention relates to nucleotide drugs, which are generally useful for the treatment of viral and neoplastic diseases. The invention more specifically relates to the preparation of lipohilic nucleotide prodrugs of modified ribofuranoses, and their use for the intracellular generation of nucleotide triphosphates.

Background of the Invention

The use of nucleoside and nucleotide analogues for the treatment of HCV is accepted clinical practice. In particular, the combination of the pyrimidine nucleoside analogue ribavirin (1-β-D-ribofuranosyl-1H-1,2,4-triazole-3-carboxamide) and α-interferon constitutes the current standard therapy for HCV infection. The search for more potent nucleoside and nucleotide analogues having fewer side effects has involved not only modification of the base as in ribavirin, but also modification of the ribofuranose moiety.

A group of purine and pyrimidine nucleosides and nucleotides derived from 2'methylribofuranose are described by Sommoadossi and LaColla in WO 01/90121 and WO 01/92282 (now U.S. Patent No. 6,812,219 to Idenix). Among the compounds disclosed are those with 6-alkylamino, 6-alkylamino-8-amino, and 6-alkylamino-2-amino substitution patterns.

A further group of purine nucleotides and nucleosides for the treatment of HCV can be found in WO 02/18404 by Devos *et al.* (to F.Hoffmann-LaRoche). The nucleotides disclosed by Davos include purines having 2-amino-6-substituted amino bases and having 2',2'-difluoro or 2'-deoxy, but not 2' methyl, ribofuranose. WO 02/32920 by Stuyver and

Gilead Exhibit 2016
PGR2023-00046 - Page 00797

Watanabe (to Pharmasset) makes a generic disclosure that includes but does not specifically describe 2'-methyl ribofuranose-containing nucleosides. A number of 2'-methylribonucleotides having 7-deazapurine and 7-substituted-purines is disclosed by Bhat *et al.* in U.S. Patent No. 6,777,395 (to Merck and Issis). Bhat also discloses the use of two neutral phosphate ester derivatives of nucleotides: acetyl-SATE (S-acyl-2-thioethyl) and pivaloyl-SATE, as prodrugs of the ribonucleotide analogs. SATE prodrugs are disclosed generically in U.S. Patent No. 5,770,725.

A group of 2' methylribofuranosyl purine nucleoside derivatives were disclosed by An *et al.* in WO 03/062256, which is commonly owned with the present application. The purine derivatives described by An *et al.* bears substituents at the 6-position, including hydrazino, methylhydrazino and methylsulfonylhydrazino.

Modified nucleotides and nucleosides have been widely used to treat not only HCV and other viral infections. In each case, the active drug is the nucleotide triphosphate. The compound administered to the patient is a prodrug; the active drug results from intracellular phosphorylation to yield the triphosphate. The native nucleotide is never administered to the patient because it is unstable in plasma and, being charged, does not penetrate the cell membrane. The effectiveness of modified nucleotides as anti-virals thus depends not only on the selectivity and affinity of the active drug for the viral polymerase, but also on the efficiency of the *in vivo* phosphorylation of the form that is administered.

It would be desirable to administer a monophosphorylated form of the active drug, because the phosphorylation of nucleoside analogs is usually inefficient, thereby limiting the effectivness of the drug. However, mononucleotides are unsuitable as drugs: they are unstable in plasma and, being charged at neutral pH, they are poorly transported across cell membranes. To overcome these problems, lipophilic prodrugs of known antiviral compounds have been made. (Reviewed by Zimlicka, J., *Biochem Biophy Acta* **1587**:276-86 (2002).)

Three types of nucleotide prodrugs have been prominently employed: (1) the above-noted SATE derivatives, Perigad, C., Gosselin, G., & Imbach, J-L., *Curr. Topics. Med. Chem.* **2:**15-29 (1997); (2) cyclosaligenyl derivatives, Meirer, C., *Synlett* 233-242 (1998); Balzarini, J. *et al.*, *Mol. Pharm* **58**:928-935 (2000); Balzarini, J. *et al.*, *Mol. Pharm.* **56:**1354-61 (1999); and (3) so-called "protides," (for nucleotide prodrugs) of which

Gilead Exhibit 2016
PGR2023-00046 - Page 00798

phenylphosphoralaninate (PPA) derivatives are the most common. McGuigan, C., *et al.*, *J. Med. Chem.* **39**:1748-53 (1996); Franchetti, P. *et al.*, *J. Med. Chem.* **37**:3534-41 (1994); McGuigan, C. *et al.*, *Antiviral Res.* **17**:311-321 (1992).

The PPA derivatives have been employed with several different deoxy-ribofuranosyl and dideoxy-ribofuranosyl derivatives. However, not all of the attempts have been successful. The PPA prodrug of AZT (3' azido-3'-deoxythymidine) was not successful as a prodrug for HIV treatment because the monophosphate was unstable after penetration of the cell membrane. Siddiqui A.Q., *et al.*, *Bioorg. Med. Chem. Let.* **9**:2555-2560 (1999); Balzarini, J. *et al.*, *Mol. Pharm.* **56**:1354-61 (1999). Likewise, the PPA derivative of 3TC (L-3' thia-2',3' dideoxycytidine) was not effective against HIV. Balzarini, J. *et al.*, *Biochem. Biophys. Res. Comun.* **225**:363-69 (1996).

In contrast, the PPA derivatives of d4T (2',3' didehydro-3' deoxythymidine), d4A (2',3'-didehydro-2'3' dideoxyadenosine), and 3'-FddA (2',3'-dideoxy-3'-fluoroadenosine), were found to be superior to the parent nucleosides. Siddiqui, A.Q. *et al.*, *Bioorg.Med. Chem. Let.* **9**:2555-60 (1999); McGuigan, C. *et al.*, *Bioorg. Med. Chem. Lett.* **6**:2359-62 (1996); Gudmundssson, K. *et al.*, *Nucleosides, Nucleotides & Nucleic Acids* 22:1953-1961 (2001). The PPA derivative of an isodideoxyadenine was found to have *in vivo* activity whereas the related nucleoside lacks *in vivo* activity. Franchetti, P. *et al.*, *J. Med. Chem.* **37**:3534-41 (1994).

While no examples of PPA-derivatized ribonucleotides are presently listed in the CAS registry file, the PPA derivative of araA (vidarabine, the 2'-β-OH isomer of adenosine), has been reported in a conference publication by Ballatore, C. *et al.*, Poster # 92, Antiviral Research 46, Absrt. # A63 (2000) (presented at the 13th International Conference on Antiviral Research, held in Baltimore, MD; reviewed by Zimlicka, J., *Biochem Biophy Acta* **1587**:276-86 (2002).) This PPA derivative was reported to be inactive.

Saboulard has proposed that the activation of PPA-derivatized nucleotides takes place via a multi-step process, which is unique to protides. First, the action of a carboxyl esterase results in a free carboxylic acid, which cyclizes to displace the phenylphosphoester. The resulting cyclic anhydride is unstable, and the phosphoramidate is regenerated by hydrolysis. Finally, a phosphoramidase releases the amino acid and generates the nucleotide

Gilead Exhibit 2016
PGR2023-00046 - Page 00799

monophosphate. (Saboulard, D. *et al., Mol. Pharm.* **66**:693-704 (1999); see also WO 00/00501.)

The PPA prodrug chemistry is described by McGuigan in U. S. Patent Nos. 6,638,919; 6,455,513; and 6,573,247; and in PCT International Publication No. WO 05/012327. Further developments are described by Uckun and Vig in WO 00/00501.

None of the McGuigan, Franchetti, and Uckun publications describes the specificity of the phosphoramidase beyond what was reported by Saboulard *et al.* Brenner *et al.* have reported studies on a ribofuranosyl phosphoramidase from yeast. They have shown activity with 5'-phosphoramidates not having an O-aryl group, *i.e.*, HOP(=O)(5'-O-adenosine)NHR. Specifically, Brenner *et al.* have shown that HOP(=O)(5'-O-adenosine)NH_2, the 5'-O-adenosine phosphoramidates of alanine methyl ester, *p*-nitroaniline, and morpholine, and the 5'-O-adenosine N^{ε} phosphoramidates of N^{α}-t-boc-lysinamide and N^{α}-acetyl-lysine methyl ester, are substrates. Bieganowski, P. *et al., J. Biol. Chem.* 277:10852-10860 (2002); Krakowiak, A. *et al., J. Biol. Chem.* 279:18711-716 (2004). The authors suggest that this phosphoramidase may be involved in the activation of PPA prodrugs.

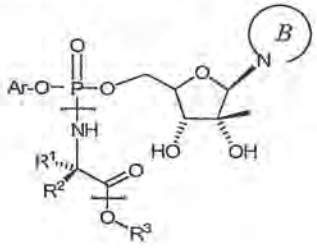
However, none of the substrates demonstrated by Brenner *et al.* has a carboxylic acid group, as would be present in the phosphoramidase substrate in the reaction mechanism proposed by Saboulard. This, and the mixed results obtained to date with PPA prodrug forms of other nucleoside analogs, means that one cannot predict which classes of nucleosides can be successfully converted to effective prodrugs *via* the protide or PPA approach. It is presently necessary to make this determination on a case-by-case basis, which the present inventors have now done for 2'-β-methyl nucleotides.

Gilead Exhibit 2016
PGR2023-00046 - Page 00800

Brief Description of the Invention

The invention is based on the unexpected result that, following entry into a cell, 2'-methyl-5'-[(O-aryl-N-alkoxycarbonylmethyl)]-phosphoramidate-ribonucleosides are rapidly and efficiently converted to the corresponding 2' methyl-nucleotide triphosphates. The invention can be practiced with any purine base, pyrimidine base, or other heteroaryl base.

Compounds of the invention have the general structure shown below:



I

The nucleoside base (or base analogue) is indicated by *B*. The bracketed moiety is an amino acid residue. For example, when R^1 is methyl and R^2 is H, the amino acid is L-alanine. The naturally-occurring amino acids, such as L-alanine and glycine, are suitable for use in this invention. Also suitable are the synthetic amino acid dimethylglycine and synthetic amino acids where R^1 and R^2 are, independently, H or C_1 - C_5 alkyl, or where R^1 and R^2, together with the α carbon, form a ring containing 3 to 6 carbons. R^3 is any group that can be readily removed by intracellular esterases; examples of R^3 are benzyl, trifluoromethyl benzyl, methyl, or C_1-C_6 alkyl, such as methyl or isopropyl. Ar is phenyl, pyridyl, or pyrimidyl and may be unsubstituted or substituted with electron withdrawing groups. Substituents at the *para* and *ortho* positions are more effective. Suitable substituents include, but are not limited to, H, F, Cl, Br, CF_3, SO_2Me, CN and NO_2.

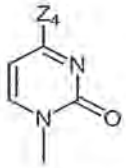
Compounds of the invention are useful as antiviral agents. Accordingly, the invention provides pharmaceutical compositions comprising one of more of the compounds of the invention, in combination with pharmaceutically acceptable carriers, excipients, and other additives, as are well known in the art. The pharmaceutical compositions may be adapted for oral or parenteral administration.

Gilead Exhibit 2016
PGR2023-00046 - Page 00801

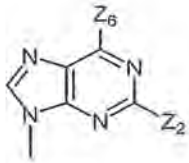
The invention also provides a method of treating a viral infection by administering to a patient in need of such treatment a pharmaceutically effective amount of one or more of the compounds or pharmaceutical compositions of the invention. The viral disease to be treated will differ, depending on which particular nucleotide the compound releases upon metabolic activation. effective amount of a compound of formula I and a pharmaceutically acceptable carrier.

Detailed Description of the Invention

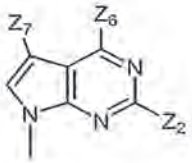
In one embodiment, this invention provides a compound of formula I, in which B is selected from the following bases B-1, B-2, and B-3,



B-1



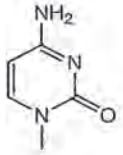
B-2



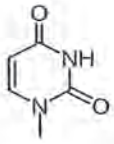
B-3

where Z_2 is H, -NH_2, -NHMe, or -NMe_2; Z_4 is -NH_2 or -OH; Z_6 is H, OH, OMe, OEt, SCH_3, thienyl, furyl, or -NR_2R_3, where R_2 is H, C_1-C_3 alkyl, or cyclopropyl, and R_3 is H or NHR_4, R_4 is H, C_1-C_4 alkyl, or SO_2R_5, and R_5 is C_1-C_4 alkyl; and Z_7 is H, halogen, or CN. All tautomeric forms are included in these definitions.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-1 and is selected from the following bases:



B-1-a



B-1-b

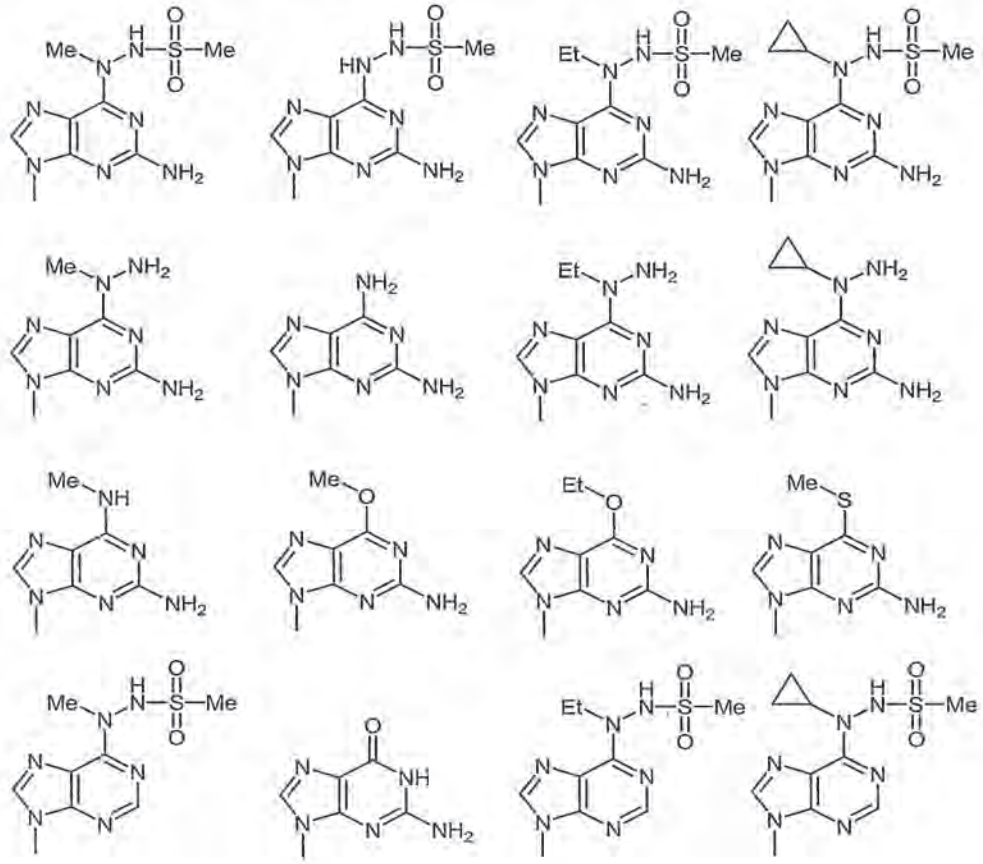
In another subgeneric embodiment, this invention provides a compound of formula I, in which B is B-2.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-2, where Z_2 is -NHMe, or -NMe_2.

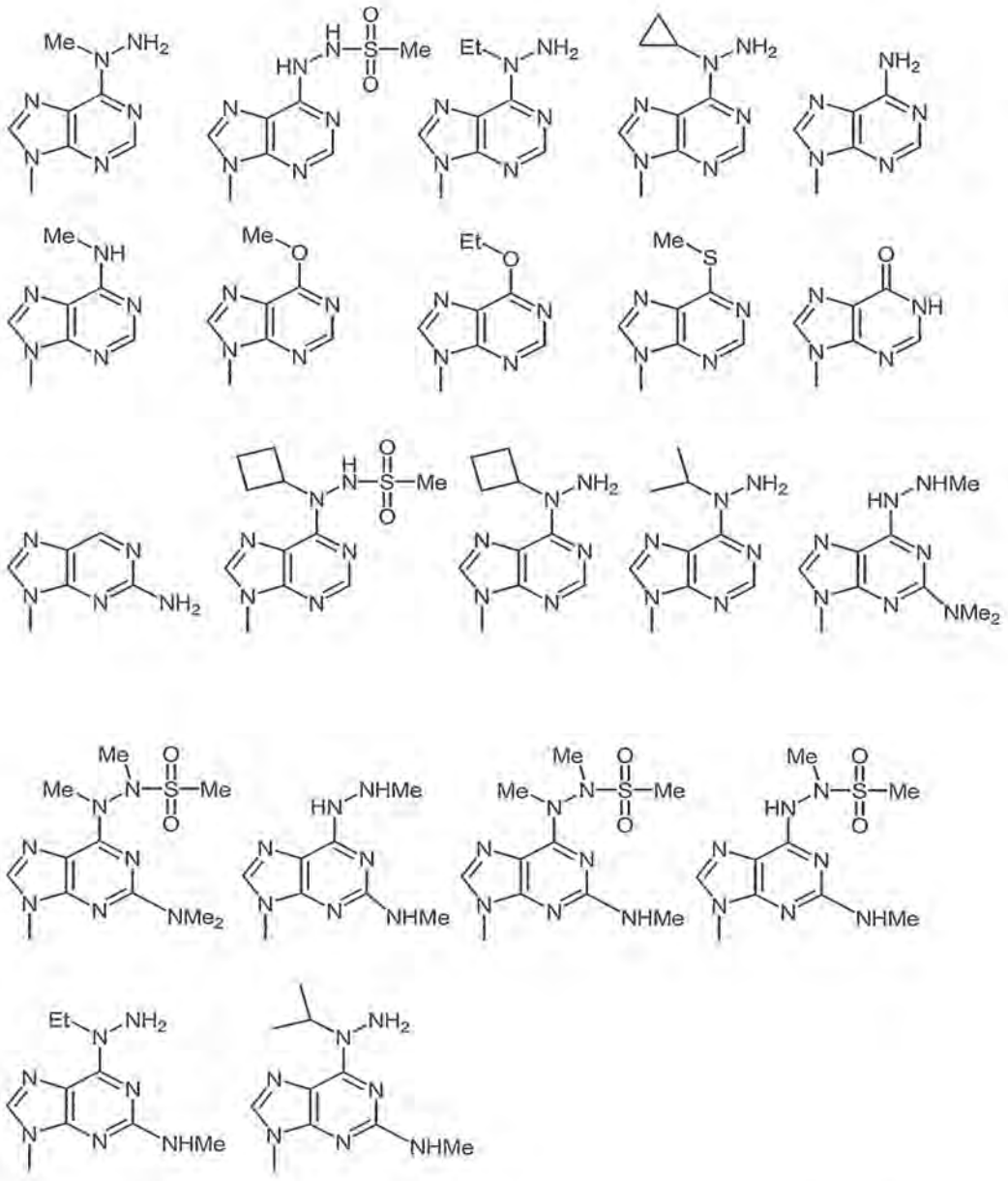
Gilead Exhibit 2016
PGR2023-00046 - Page 00802

In another more specific embodiment, this invention provides a compound of formula I, in which B is B-2, where Z_2 is H or $-NH_2$.

In another more specific embodiment, this invention provides a compound of formula I, in which B is selected from the following bases:



Gilead Exhibit 2016
PGR2023-00046 - Page 00803



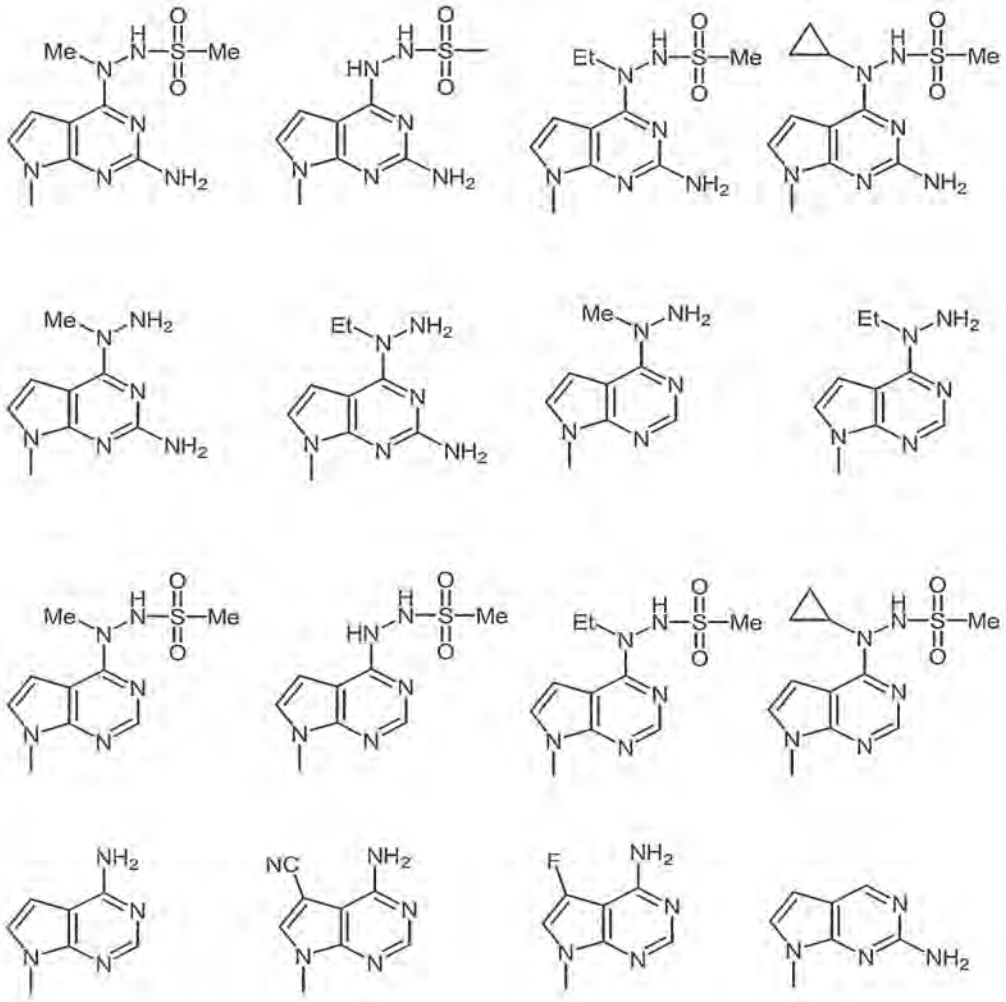
In another subgeneric embodiment, this invention provides a compound of formula I, in which B is B-3.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where Z_2 is -NHMe, or -NMe_2.

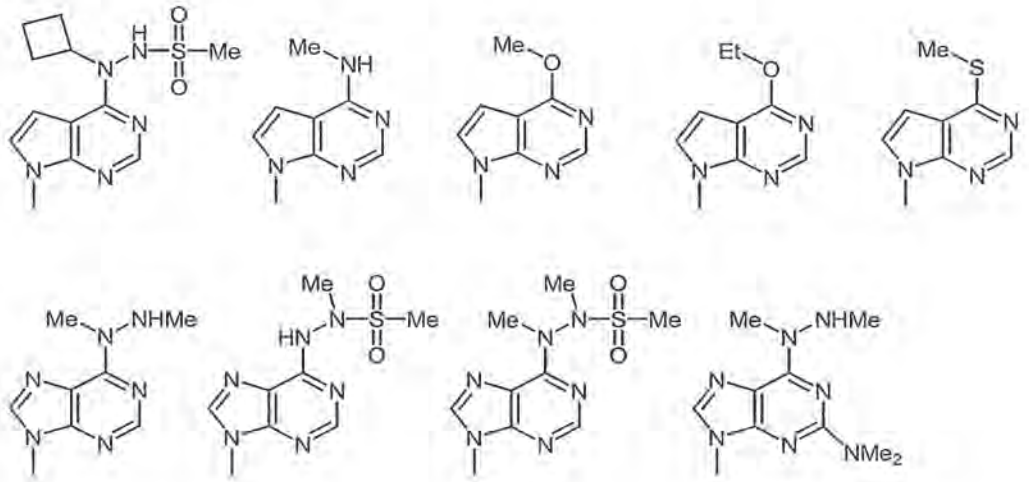
Gilead Exhibit 2016
PGR2023-00046 - Page 00804

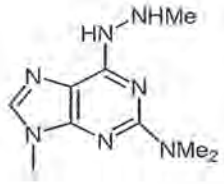
In another more specific embodiment, this invention provides a compound of formula I, in which B is B-3, where Z_2 is H or $-NH_2$.

In a more specific embodiment, this invention provides a compound of formula I, in which B is B-3, selected from the following bases:

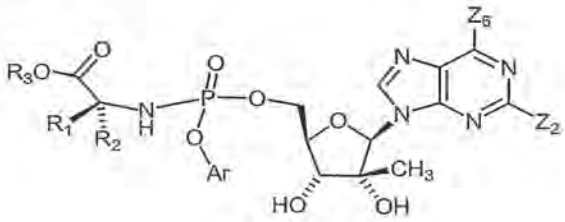


Gilead Exhibit 2016
PGR2023-00046 - Page 00805





In a more specific embodiment, this invention provides or contemplates a compound of formula I-B2



I-B2

where Ar is phenyl, pyridyl, or pyrimidyl, optionally substituted with one or two groups selected independently from halo, nitro, cyano, C_1-C_3 alkyl, or C_1-C_3 alkoxy, wherein said C_1-C_3 alkyl group, and the C_1-C_3 alkyl moiety of said C_1-C_3 alkoxy group are optionally substituted with one, two, or three chlorine or fluorine atoms;

R_1 and R_2 are, independently, H, C_1-C_5 alkyl, or C_2-C_5 alkenyl, or R_1 and R_2, together with the α-carbon, form a 3- to 6- membered saturated ring;

Gilead Exhibit 2016
PGR2023-00046 - Page 00806

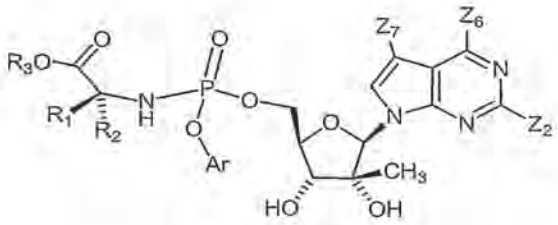
R_3 is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, C_3-C_6 cycloalkyl methyl, benzyl, or phenethyl, in which the phenyl group within said benzyl or phenethyl group is optionally substituted with one or more groups selected independently from halogen, C_1-C_6 alkyl, and C_1-C_6 alkoxy, wherein said C_1-C_3 alkyl group, and the C_1-C_3 alkyl moiety of said C_1-C_3 alkoxy group are optionally substituted with one, two, or three chlorine or fluorine atoms;

Z^2 = H, NH_2, NHMe, or NMe_2; and

Z^6 = OH or NR_4R_5, where R_4 is H, C_1-C_4 alkyl, or cyclopropyl; R_5 is H or NHR_6; R_6 is H, C_1-C_4 alkyl, or SO_2R_7; and R_7 is C_1-C_4 alkyl. All tautomeric forms are included in the embodiment.

In a still more specific embodiment, the invention provides a compound of formula I-B2, where Ar is phenyl, optionally substituted as indicated above.

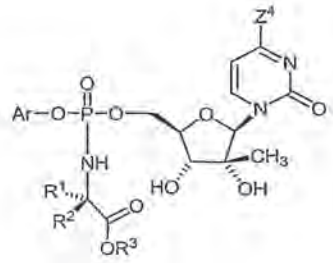
In another embodiment the invention provides a compound according to Formula I-B3



I-B3

wherein all variables are defined as above, and Z^7 is H, halogen, or CN.

In another embodiment, the invention also provides compounds of Formula I-B1



I-B1

Gilead Exhibit 2016
PGR2023-00046 - Page 00807

where Ar, R_1, R_2, and R_3 are as described above and $Z^4 = NH_2$ or OH. When Z_4 is OH, this embodiment includes both the enol and keto tautomers. The enol form is depicted above.

In a more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B-2, and I-B3, where R_1 and R_2 are, independently, H, C_1-C_5 alkyl, or C_2-C_5 alkenyl.

In a more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B-2, and I-B3, where R_1 and R_2 are, independently, H, C_1-C_3 alkyl, or C_2-C_3 alkenyl.

In a more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B-2, and I-B3, where R_1 and R_2 are, independently, H or methyl, or where R_1 and R_2 are $-CH_2-CH_2-$ and, together with the α carbon, form a cyclopropyl group.

In another more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B-2, and I-B3, where R_1 and R_2 are, independently, H or methyl, or where R_1 and R_2 are $-CH_2-CH_2-CH_2-$ or $-CH_2-CH_2-CH_2--CH_2-$ and, together with the α carbon, form a cyclobutyl or cyclopentyl group.

In another more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B2, or I-B3, where Ar is phenyl, optionally substituted with alkyl groups or with nitro, halo, or cyano groups.

In a still more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B2, or I-B3, where Ar is phenyl, *p*-chlorophenyl or *p*-bromophenyl and R_3 is isopropyl, benzyl, *o*-methylbenzyl, or *o*-(trifluoromethyl)benzyl.

In another more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B2, or I-B3, where R_3 is C_1-C_6 alkyl, C_3-C_6 cycloalkyl, or C_3-C_6 cycloalkyl methyl.

In another more specific embodiment the invention provides or contemplates compounds of Formula I-B1, I-B2, or I-B3, where R_3 is benzyl or phenethyl, where the phenyl group thereof is optionally substituted as described above.

In another more specific embodiment the invention provides or contemplates compounds of formula I-B2 or I-B3, where Z^6 is NR_4R_5.

In another more specific embodiment the invention provides or contemplates compounds of formula I-B2 or I-B3, where Z^6 is NR_4R_5, where R_4 is H, C_1-C_2 alkyl, or cyclopropyl; R_5 is H or NHR_6; R_6 is H, C_1-C_2 alkyl, or SO_2R_7; and R_7 is C_1-C_3 alkyl.

Gilead Exhibit 2016
PGR2023-00046 - Page 00808

In another more specific embodiment the invention provides or contemplates compounds of formula I-B2 or I-B3, where Z^6 is –N(cyclopropyl)NH_2 or –N(cyclopropyl)$NHSO_2CH_3$; and Z^2 is H or NH_2.

In another more specific embodiment the invention provides or contemplates compounds of formula I-B2 or I-B3, where Z^6 is –$NMeNH_2$ or -$NMeNHSO_2CH_3$; and Z^2 is H or NH_2.

In another more specific embodiment the invention provides or contemplates compounds of formula I-B2, or I-B3, where Z^6 is NH_2 and Z^2 is H or NH_2.

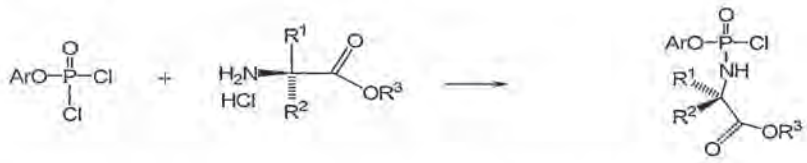
In a still more specific embodiment the invention provides or contemplates compounds of formula I-B3, where Z^6 is NH_2, Z^2 is H or NH_2, and Z^7 is F, Cl, Br, or CN.

In another still more specific embodiment the invention provides or contemplates compounds of formula I-B3, where Z^6 is NH_2, Z^2 is H or NH_2, and Z^7 is H or F.

EXAMPLES

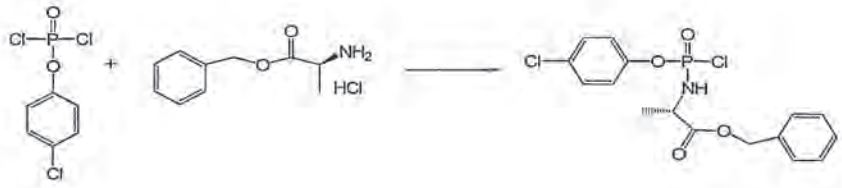
The synthesis of certain bases of the invention is described in a commonly owned application Serial No. 60/679,780, filed May 11, 2005, which is hereby incorporated by reference in its entirety. The following representative examples are provided by way of example only, and the presence or absence of specific examples does not indicate limitations on the scope of the invention.

1. General Procedure for the synthesis of phosphorochloridates



The general procedure involves reaction of an amino acid ester hydrochloride with an aryl dichlorophosphate in the presence of at least two equivalents of a suitable base. Suitable bases include, but are not limited to, imidazoles, pyridines like lutidine and DMAP, tertiary amines like triethylamine and DABCO, and substituted amidines such as DBN and DBU. Tertiary amines are particularly effective. Typically the product of each step is is preferably used directly in subsequent steps, without recrystallization or chromatography. Specific examples are provided below.

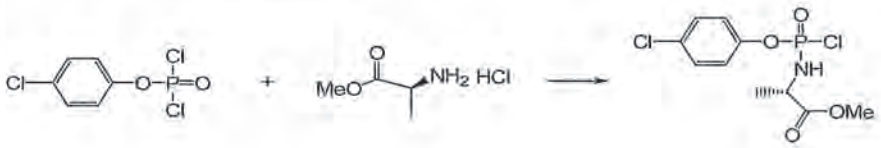
Gilead Exhibit 2016
PGR2023-00046 - Page 00809



1

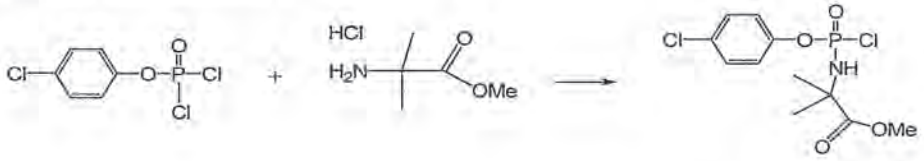
4-chlorophenyl [[(1S)-1-benzyloxycarbonylethyl]amino]phosphorochloridate (1):

Glassware and molecular sieves were dried in a 90 °C oven for 24 hours before use. To a solution of L-alanine benzyl ester hydrochloride (1g, 0.0046 mol) in anhydrous dichloromethane (3 ml) in a flask containing molecular sieves was added 4-chlorophenyldichlorophosphate (0.54 ml, 0.0033 mol). The mixture was stirred at -10 °C under argon for 10 minutes, then a solution of anhydrous triethylamine (0.92 ml, 0.0066 mol) in anhydrous dichloromethane (2 ml) was added slowly. The reaction mixture was stirred at -10 °C for 2 hours, the solid precipitated in the reaction was filtered and the filtrate was evaporated under reduced pressure. The residue was washed with ether and the filtrate collected was evaporated under reduced pressure to give **1**, which was made up as a stock solution in anhydrous tetrahydrofuran for further reaction.



2

4-chlorophenyl [[(1S)-1-(methoxycarbonyl)ethyl]amino]phosphorochloridate (2): This compound was synthesized from L-alanine methyl ester according to the general procedure used for phosphorochloridate **1**.



3

Gilead Exhibit 2016
PGR2023-00046 - Page 00810

4-chlorophenyl [(1-methoxycarbonyl-1-methylethyl)amino]phosphorochloridate (3): This compound was synthesized from dimethylglycine methyl ester according to the general procedure used for phosphorochloridate **1**.



4

2-tert-Butoxycarbonylamino-2-methylpropionic acid benzyl ester (4): A solution of 2-*tert*-butoxycarbonylamino-2-methylpropionic acid (3 g, 0.0148 mol) in methanol (40 ml) and water (6 ml) was titrated with sat. $NaHCO_3$ to pH 9 and evaporated to dryness under reduced pressure. The salt was then stirred with benzyl chloride (2 ml, 0.0177 mol) in N,N-dimethylformamide (25 ml) at room temperature for 16 hours. The reaction mixture was evaporated under reduced pressure and the residue was partitioned between water (60 ml) and ethyl acetate (120 ml). The organic layer was dried over Na_2SO_4 and concentrated to give **4** as a clear oil (3 g, 0.01 mol, 69%); R_f= 0.5 (silica, 17% ethyl acetate in hexane).



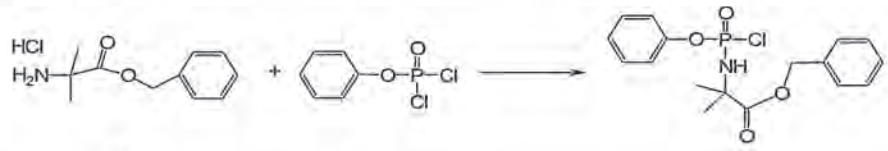
4 5

2-Amino-2-methylpropionic acid benzyl ester (5): To a solution of **4** (3 g, 0.01 mol) in anhydrous dichloromethane (15 ml) at 0 °C was added slowly trifluoroacetic acid (15 ml, 0.19 mol) with stirring at 0 °C. The mixture was stirred at 0 °C for 30 minutes and the allowed to gradually warm to room temperature over 4 hours. The reaction mixture was evaporated under reduced pressure and was extracted with ethyl acetate and washed with 3x15 ml water. The organic layer was dried over Na_2SO_4 and concentrated to give **5** (1.9 g, 100%) as a yellow oil; R_f= 0.8 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, d6-DMSO) δ 8.48 (s, 2H), 7.40- 7.34 (m, 5H), 5.23 (s, 2H), 1.46 (s, 6H).

2-Amino-2-methylpropionic acid benzyl ester hydrochloride (6): A 1M solution of hydrochloric acid in diethyl ether (25 ml, 0.025 mol) was added to 2-amino-2-methylpropionic acid benzyl ester **(5)** (1.9 g, 0.01 mol) at 0 °C, and the mixture was stirred for 16 hours. The precipitate was collected and washed with diethyl ether to give pure **(6)** (1.46 g, 0.006 mol,

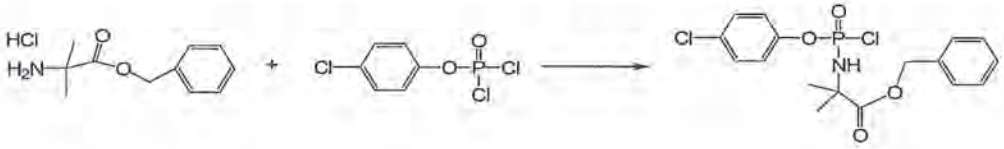
Gilead Exhibit 2016
PGR2023-00046 - Page 00811

60%) as a white solid; ^{1}H NMR (300MHz, d6-DMSO) δ 8.62 (s, 3H), 7.40- 7.35 (m, 5H), 5.23 (s, 2H), 1.48 (s, 6H).



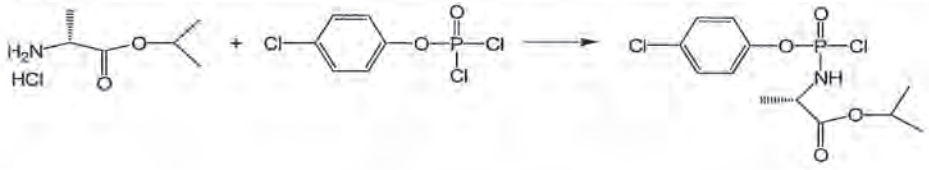
6 7

Phenyl [(1-benzyloxycarbonyl-1-methylethyl)amino]phosphorochloridate (7): This was synthesized from the amino acid ester hydrochloride **6** according to the general procedure (1).



6 8

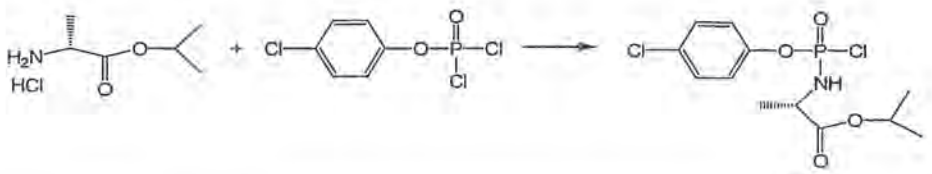
4-chlorophenyl [(1-benzyloxycarbonyl-1-methylethyl)amino]phosphorochloridate (8): This was also synthesized from the amino acid ester hydrochloride **6** according to the general procedure (1).



9

4-Chlorophenyl [[(1S)-1-(1-methylethoxycarbonyl)ethyl]amino]phosphorochloridate (9): To a solution of L-alanine isopropyl ester hydrochloride (1 g, 0.006 mol) in anhydrous dichloro-methane (5 ml) was added 4-chlorophenyl dichlorophosphate (0.7 ml, 0.004 mol) at -20 °C. A solution of anhydrous triethylamine (1.12 ml, 0.008 mol) in anhydrous dichloromethane (1 ml) was added, and the mixture was stirred at -20 °C for 30 minutes. The precipitated was filtered off and the solution was evaporated under reduced pressure. The residue was washed with ether and the filtrate was collected evaporated under reduced pressure to give the phosphorochloridate **9** which was made up as a stock of solution in anhydrous tetrahydrofuran for further reaction.

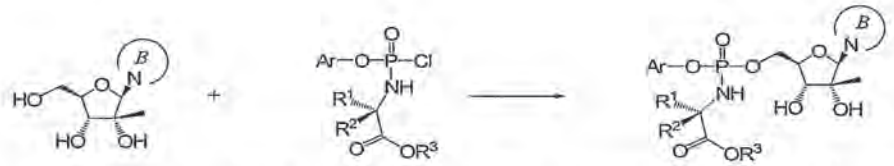
Gilead Exhibit 2016
PGR2023-00046 - Page 00812



10

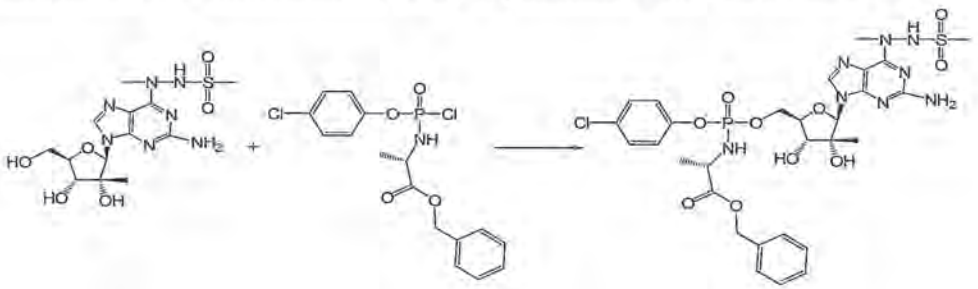
Phenyl [[(1S)-1-(1-methylethoxycarbonyl)ethyl]amino]phosphorochloridate (10): This compound was prepared according to the general procedure (1) in the same manner as compound 9.

2. General Procedure for the synthesis of nucleoside 5'-O-phosphoramidates



The general procedure involves reaction of a nucleoside or a 7-deazanucleoside with a free 5' OH with an amino acid derivative of a phosphorochloridate, in the presence of a suitable base. Suitable bases include, but are not limited to, imidazoles, pyridines such as lutidine and DMAP, tertiary amines such as triethylamine and DABCO, and substituted amidines such as DBN and DBU. The product may be isolated by recrystallization and/or chromatography. Specific examples are provided below.

Due to the chirality of the phosphorous atom, all nucleoside phosphoramidates described herein are obtained and tested as mixtures of enantiomers and diastereomers. The present invention also encompasses the individual pure stereoisomers, which may be obtained by high-performance liquid chromatography of the final products, or by the use of enantiomerically or diastereomerically pure phosphorochloridates, as is known in the art.

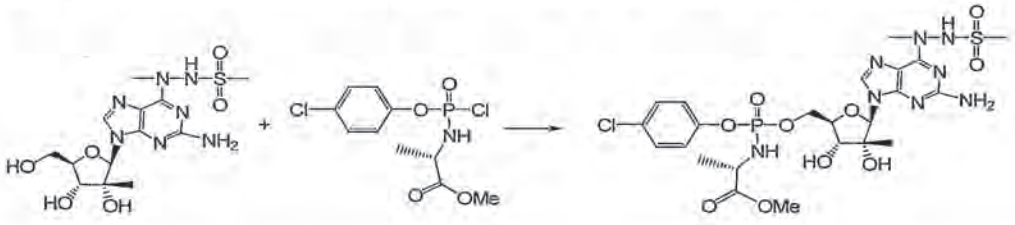


1 IV

Gilead Exhibit 2016
PGR2023-00046 - Page 00813

9-[5'-*O*-[[[(1S)-1-(benzyloxycarbonyl)ethylamino]-4-chlorophenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (IV): A solution of 2-amino-N^6-methyl-N^6-methylsulfonamido-9-(2'β-methyl-β-D-ribofuranosyl)adenine (0.1 g, 0.248 mmol) in anhydrous dichloromethane (2 ml) at -10°C under argon was added slowly a solution of 4-chlorophenyl [[[(1S)-1-benzyloxycarbonyl]ethyl]amino]phosphorochloridate (**1**) (1.85 ml, 0.744 mmol) and 1-methylimidazole (0.08 ml, 0.992 mmol) in anhydrous dichloromethane (1 ml). The reaction mixture was stirred at -10 °C to -20 °C for 2 hours then gradually stirred at room temperature for 20 hours.

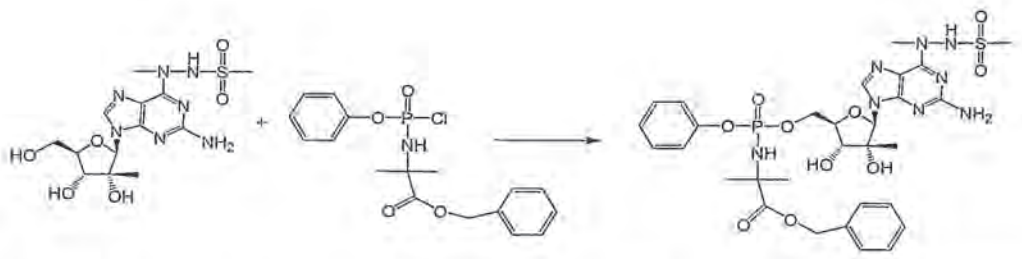
The mixture was diluted with dichloromethane and washed with 2 x 1 ml 1N HCl, 2 x 1 ml sat. $NaHCO_3$, and 2 x 5 ml brine, then back-extracted with dichloromethane. The combined organic layers were dried over Na_2SO_4 and evaporated under reduced pressure, and the residue was purified by silica gel chromatography with a gradient of 8% methanol in chloroform to afford the product as a yellow paste (68.4 mg, 0.062 mmol, 25%); R_f= 0.7 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, d6-DMSO) δ 7.91 (s, 1H), 7.37- 7.16 (m, 9H), 6.35 (s, 2H), 5.86 (s, 1H), 5.49 (s, 1H), 5.27 (s, 1H), 5.06 (s, 2H), 4.35- 3.86 (m, 4H), 3.67 (s, 3H), 3.15 (d, 1H, *J*= 3.6Hz), 3.00 (s, 3H), 1.22 (d, 3H, *J*= 7.2Hz), 0.81 (s, 3H).



2 V

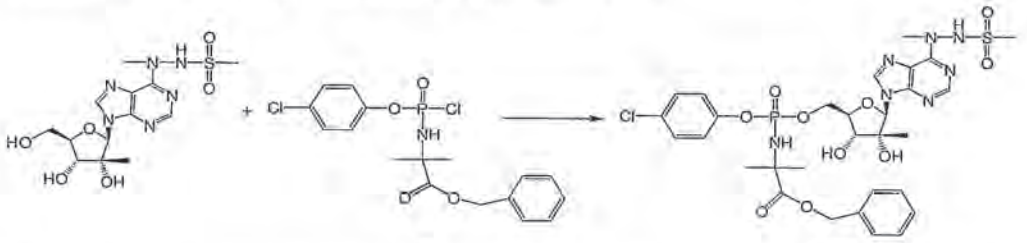
9-[5'-*O*-[[(1S)-1-(methoxycarbonyl)ethylamino]-4-chlorophenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (V): This compound was synthesized according to the general procedure (2), using the same process as for the preparation of **IV** above but with the phosphorochloridate **2**. It was isolated as a yellow paste (17.5 mg, 0.026 mmol, 10%); R_f= 0.7 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, d6-DMSO) δ 7.92 (s, 1H), 7.53 (s, 1H), 7.42- 7.39 (m, 1H), 7.24- 7.19 (m, 1H), 7.08 (s, 1H), 6.85 (s, 1H), 6.35 (s, 2H), 5.85 (s, 1H), 5.47- 5.25 (m, 2H), 4.38- 4.03 (m, 4H), 3.67 (s, 3H), 3.62 (s, 1H), 3.53 (d, 3H, *J*= 1.8Hz), 3.00 (s, 3H), 1.22- 1.18 (m, 3H), 0.82 (s, 3H).

Gilead Exhibit 2016
PGR2023-00046 - Page 00814



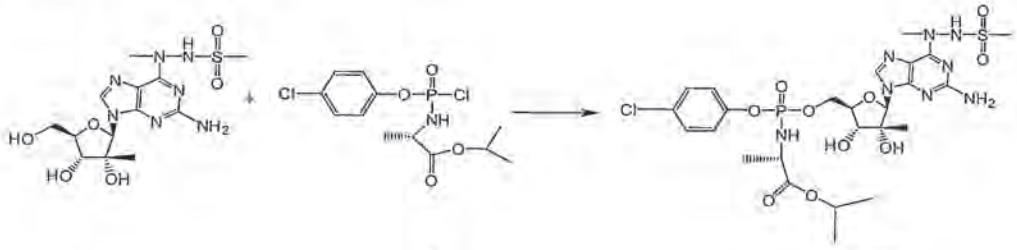
7 VI

9-[5'-*O*-[[(1-methoxycarbonyl-1-methylethyl]amino] phenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (VI): This compound was synthesized according to the general procedure (2). The product was obtained as a yellow paste (6.4 mg, 0.009 mmol, 4%); R_f= 0.6 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, d6-DMSO) δ 8.75 (s, 2H), 7.98-7.30 (m, 10H), 6.35 (s, 2H), 5.87 (s, 1H), 5.46- 5.23 (m, 2H), 5.02 (s, 2H), 4.72- 4.03 (m, 4H), 3.80 (s, 3H), 2.99 (s, 3H), 1.46- 1.13 (m, 6H), 0.87 (s, 3H).



8 VII

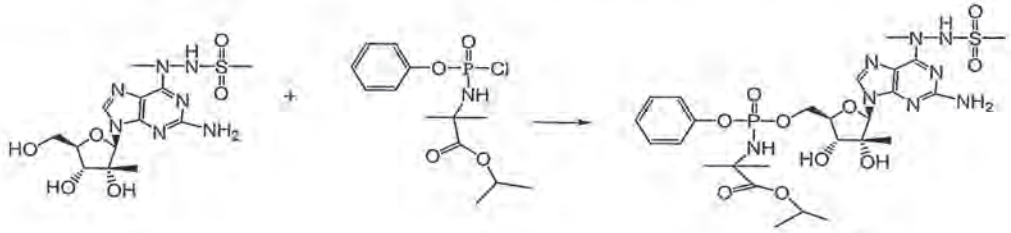
9-[5'-*O*-[[(1-methoxycarbonyl-1-methylethyl)amino]-4-chlorophenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (VII): This was synthesized according to the general procedure (2). The product was isolated as a brown paste (9.9 mg, 0.01 mmol, 4%); R_f= 0.6 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, CD_3OD) δ 8.42 (s, 1H), 8.36 (s, 1H), 7.41- 7.21 (m, 9H), 6.23 (s, 1H), 5.11 (s, 2H), 4.62- 3.99 (m, 4H), 3.86 (s, 3H), 2.98 (s, 3H), 1.29 (s, 6H), 1.05 (s, 3H).



9 VIII

Gilead Exhibit 2016
PGR2023-00046 - Page 00815

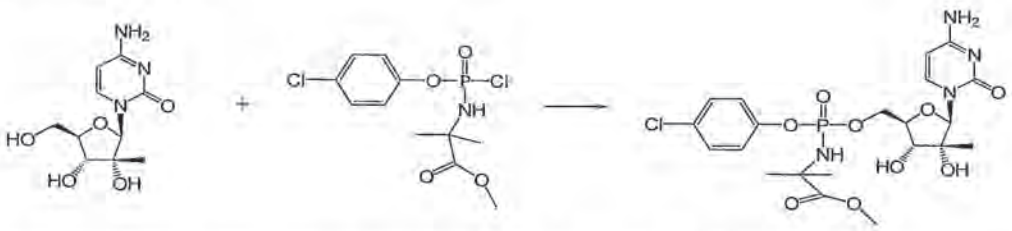
9-[5'-*O*-[[[1-(1-methylethoxycarbonyl)-1-methylethyl]amino]-4-chlorophenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (VIII): This was synthesized according to the general procedure (2). The product was obtained as a yellow paste (12.3 mg, 0.017 mmol, 7%); R_f= 0.7 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, d6-DMSO) δ 7.92 (s, 1H), 7.40 (d, 2H, *J*= 8.7Hz), 7.23 (d, 2H, 5.4Hz), 6.34 (s, 2H), 5.85 (s, 1H), 5.45- 5.24 (m, 2H), 4.82- 4.76 (m, 1H), 4.34- 4.03 (m, 5H), 3.67 (s, 3H), 3.00 (s, 3H), 1.21- 1.06 (m, (H), 0.82 (s, 3H).



10 **IX**

9-[5'-*O*-[[[1-(1-methylethoxycarbonyl)-1-methylethyl]amino]-4-chlorophenoxyphosphinyl]-2'β-methyl-β-D-arabinofuranosyl]adenine (IX): This compound was synthesized according to the general procedure (2) by the same method as compound **VII**. It was isolated as a yellow paste (16.6 mg, 0.024 mmol, 12%); R_f= 0.7 (silica, 17% methanol in chloroform); ^{1}H NMR (300MHz, CD_3OD) δ 7.96 (s, 1H), 7.33- 7.17 (m, 5H), 5.97 (s, 1H), 4.54- 4.15 (m, 5H), 3.77 (s, 3H), 2.95 (s, 3H), 1.43 (d, 6H, *J*= 10.5Hz), 1.22- 1.19 (m, 6H), 0.97 (s, 3H).

Derivatives of B-1:



[5-*O*-(4-chlorophenyl methoxydimethylglycinylphosphate)-(2-C-methyl-β-D-ribofuranosyl)cytosine] A solution of (2-C-methyl-β-D-ribofuranosyl)cytosine (0.066g, 0.257mmol) in anhydrous dichloromethane (1.5ml) at -10°C under argon was added slowly a solution of 4-Chlorophenyl methoxydimethylglycinylphosphorochloridate (1.2ml, 0.769mmol) and 1-methylimidazole (0.12ml, 1.54mmol) in anhydrous dichloromethane (0.5ml). The

Gilead Exhibit 2016
PGR2023-00046 - Page 00816

reaction mixture was stirred at -10°C/-20°C for 2 hours then gradually stirred at room temperature for 8 hours. The mixture was evaporated under reduced pressure, and the crude was purified by silica gel chromatography in a gradient of 8% methanol in chloroform to afford the product as a yellow paste (28mg, 0.05mmol, 19%)

5

Gilead Exhibit 2016
PGR2023-00046 - Page 00817

BIOLOGICAL ACTIVITY

The anti-HCV activities of the exemplary compounds were tested in two biological assays: a cell-based HCV replicon assay and a cytotoxicity assay.

1. HCV Replicon Assay

A human hepatoma cell line (Huh-7) containing replicating HCV Con1 subgenomic replicon with a luciferase reporter gene (luc-ubi-neo) was used to evaluate anti-HCV activity of the compounds. In this assay, the level of luciferase signal correlates directly with the viral RNA replication. The HCV replicon-reporter cell line (NK/luc-ubi-neo) was cultured in DMEM medium supplemented with 10 % fetal bovine serum and 0.5 mg/ml Geneticin (G418). Cells were maintained in a subconfluent state to ensure high levels of HCV replicon RNA synthesis.

To evaluate the antiviral activity of compounds, serial dilutions were prepared with concentrations ranging from 0.14 to 300 μM. Diluted compounds were transferred to a 96-well plate followed by the addition of replicon cells (6000 cells per well). Cells were incubated with the compounds for 48 hours after which luciferase activity was measured. Reduction of luciferase signal reflected the decrease of HCV replicon RNA in the treated cells and used to determine the EC_{50} value (concentration which yielded a 50 % reduction in luciferase activity).

2. Cytotoxicity Assay

A Huh-7 cell line carrying a luciferase reporter gene (driven by a HIV LTR promoter) stably integrated into the chromosome was used to analyze the cytotoxic effect of the selected compounds. This cell line (LTR-luc) was maintained in DMEM medium with 10 % FBS. Design of the cytotoxicity assay was similar to that of the HCV replicon assay. Reduction of luciferase activity in the treated cells correlated with the cytotoxic effect of the test compound and was used to calculate the CC_{50} value (concentration that inhibited cell growth by 50%).

The biological activities and cytotoxicity of the selected compounds are summarized in Tables 1 and 2.

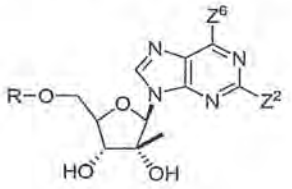
Gilead Exhibit 2016
PGR2023-00046 - Page 00818

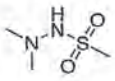
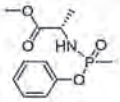
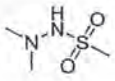
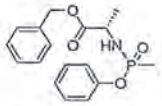
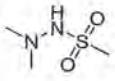
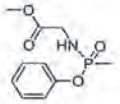
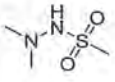
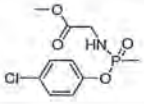
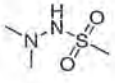
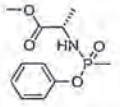
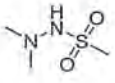
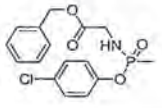
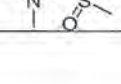
BIOLOGICAL ACTIVITIES OF SELECTED COMPOUNDS

Legend: EC_{50}: A (<0.25 μM), B (0.25 to 1.0 μM) and C (1.0 to 50 μM)

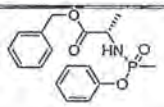
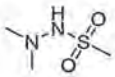
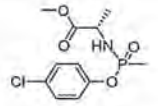
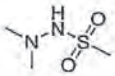
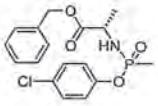
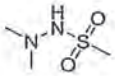
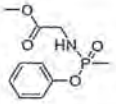
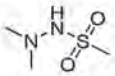
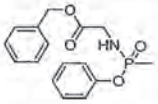
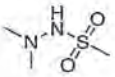
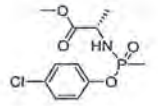
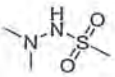
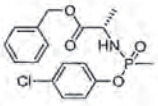
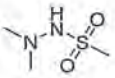
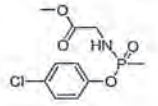
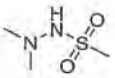
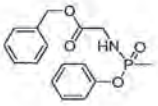
CC_{50}: A (>300 μM), B (50 to 300 μM) and C (<50 μM)

TABLE 1-ACTIVITY OF COMPOUNDS OF FORMULA I-B2

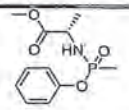
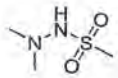
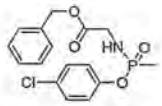
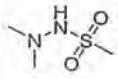
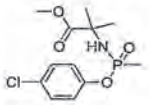
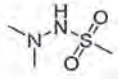
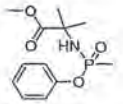
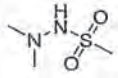
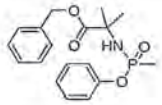
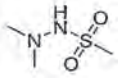
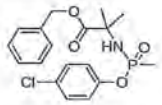
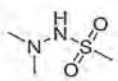
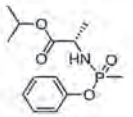
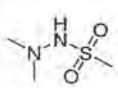
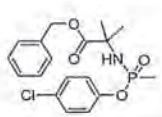
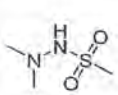
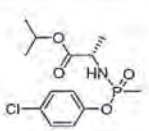


Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
1	H			C	A
2	H			C	A
3	H			D	A
4	H			C	A
5	NH_2			C	A
6	H			C	A
7	NH_2			C	A

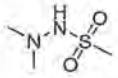
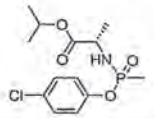
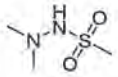
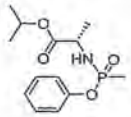
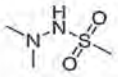
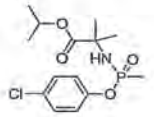
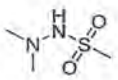
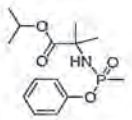
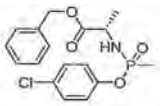
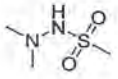
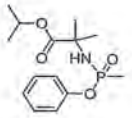
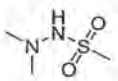
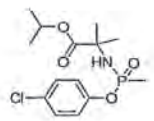
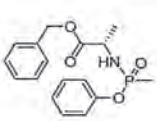
Gilead Exhibit 2016
PGR2023-00046 - Page 00819

Cpd ID	Z^2	Z^5	R	EC_{50} (μM)	CC_{50} (μM)
					
8	H			C	A
9	H			B	B
10	NH_2			C	A
11	NH_2			C	B
12	NH_2			B	A
13	NH_2			A	B
14	NH_2			C	A
15	H			C	A
16	NH_2			B	A

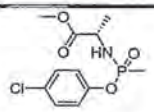
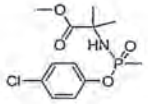
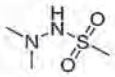
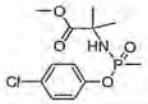
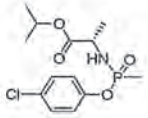
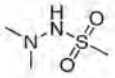
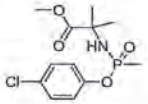
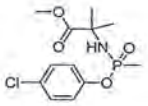
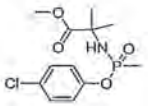
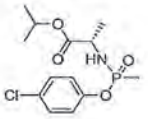
Gilead Exhibit 2016
PGR2023-00046 - Page 00820

Cpd ID	Z^2	Z^5	R	EC_{50} (μM)	CC_{50} (μM)
					
17	NH_2			B	B
18	NH_2			A	B
19	NH_2			B	B
20	NH_2			C	B
21	H			C	A
22	H			C	B
23	NH_2			B	B
24	H			C	B

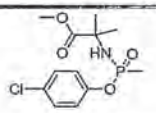
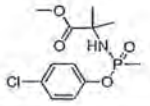
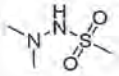
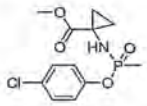
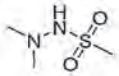
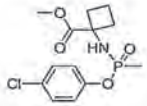
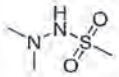
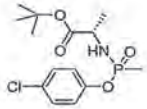
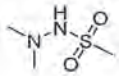
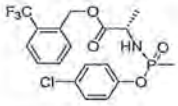
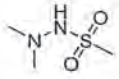
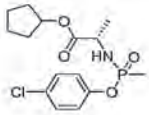
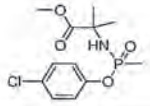
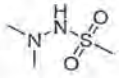
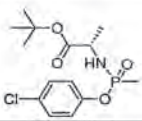
Gilead Exhibit 2016
PGR2023-00046 - Page 00821

Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
25	NH_2			B	B
26	NH_2			B	A
27	NH_2			B	B
28	NH_2			B	B
29	NH_2			A	C
30	H			B	>300
31	H			C	B
32	NH_2			A	A
33	H			A	A

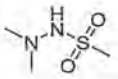
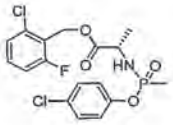
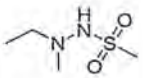
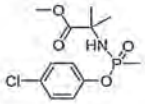
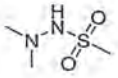
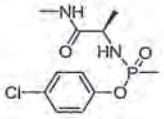
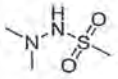
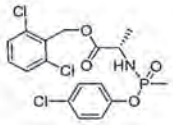
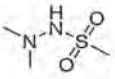
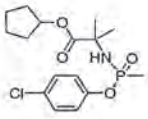
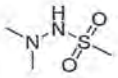
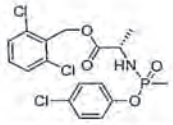
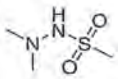
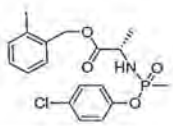
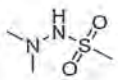
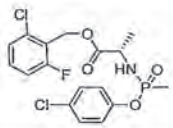
Gilead Exhibit 2016
PGR2023-00046 - Page 00822

Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
					
34	NH_2			A	B
35	H			B	B
35	H			A	B
37	H			A	A
38	NH_2	OMe		A	B
39	H	NHMe		A	B
40	NH_2			A	C
41	H	NH_2		B	B

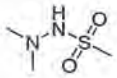
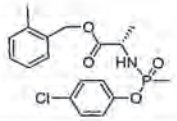
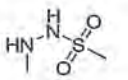
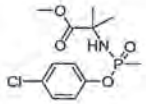
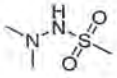
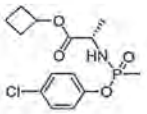
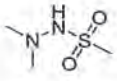
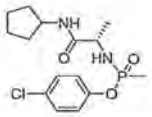
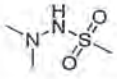
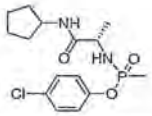
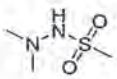
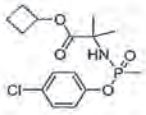
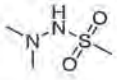
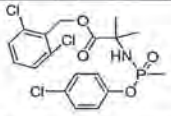
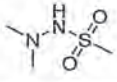
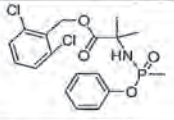
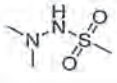
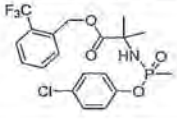
Gilead Exhibit 2016
PGR2023-00046 - Page 00823

Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
					
42	NH_2	NH_2		C	B
43	NH_2			C	B
44	NH_2			B	B
45	NH_2			B	B
46	NH_2			A	B
47	NH_2			A	B
48	NHMe	O		A	B
49	NH_2			C	C

Gilead Exhibit 2016
PGR2023-00046 - Page 00824

Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
50	H			A	B
51	NH_2			C	C
52	H			C	B
53	NH_2			A	C
54	NH_2			A	B
55	H			B	C
56	NH_2			A	B
57	NH_2			A	B

Gilead Exhibit 2016
PGR2023-00046 - Page 00825

Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
58	H			B	B
59	NH_2			C	B
60	NH_2			B	B
61	H			C	B
62	NH_2			C	B
63	NH_2			B	B
64	NH_2			B	B
65	H			C	B
66	NH_2			A	B

Gilead Exhibit 2016
PGR2023-00046 - Page 00826

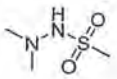
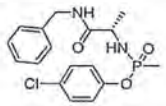
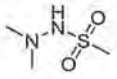
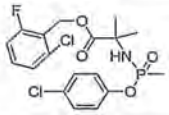
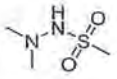
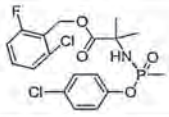
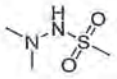
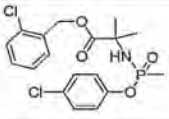
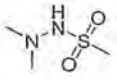
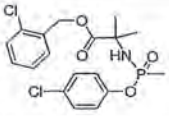
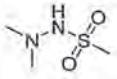
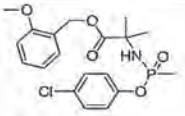
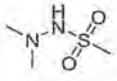
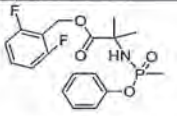
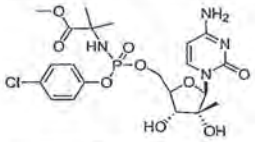
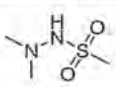
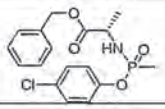
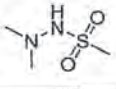
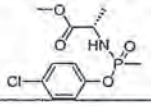
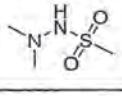
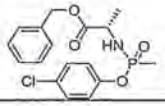
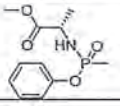
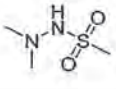
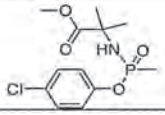
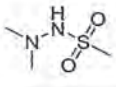
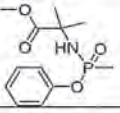
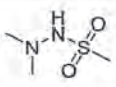
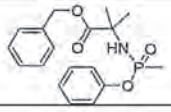
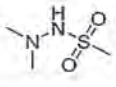
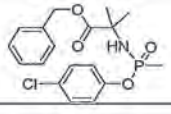
Cpd ID	Z^2	Z^6	R	EC_{50} (μM)	CC_{50} (μM)
67	NH_2			C	B
68	NH_2			A	C
69	NH_2			A	B
70	NH_2			A	B
71	NH_2			A	B
72	NH_2			A	B
73	H			A	B

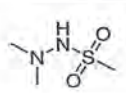
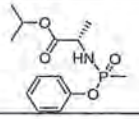
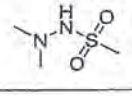
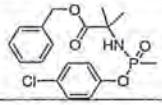
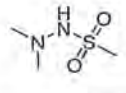
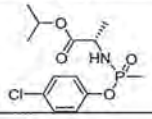
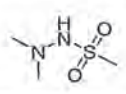
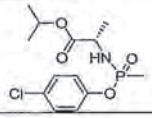
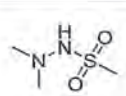
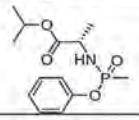
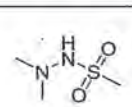
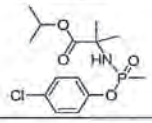
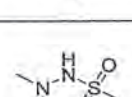
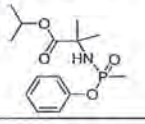
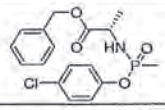
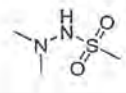
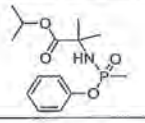
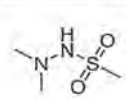
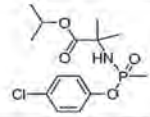
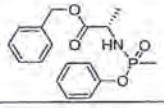
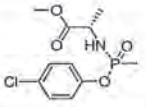
Table 2 ACTIVITY OF COMPOUNDS OF FORMULA I-B1

COMPOUND	EC_{50} (μM)	CC_{50} (μM)
	C	B

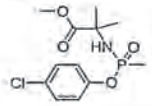
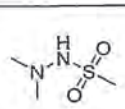
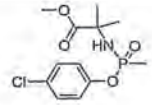
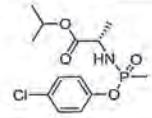
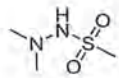
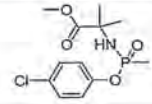
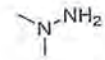
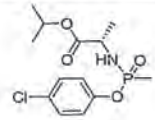
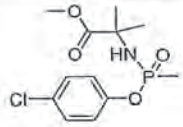
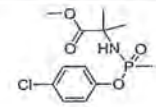
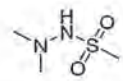
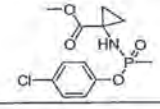
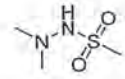
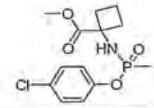
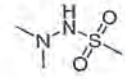
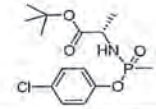
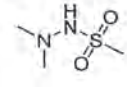
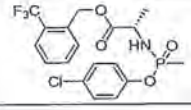
Gilead Exhibit 2016
PGR2023-00046 - Page 00827

Cpd ID	R_1	R_2	R_3	EC_{50} (μM)	CC_{50} (μM)
1	H			B	C
2	NH_2			B	A
3	NH_2			A	B
4	NH_2			B	A
5	NH_2			B	A
6	NH_2			B	B
7	NH_2			C	B
8	H			D	B

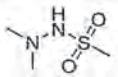
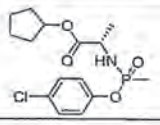
Gilead Exhibit 2016
PGR2023-00046 - Page 00828

9	H			D	B
10	NH_2			C	B
11	H			C	B
12	NH_2			B	B
13	NH_2			B	B
14	NH_2			B	B
15	NH_2			A	C
16	NH_2			C	D
17	H			A	B
18	H			B	B
19	NH_2			B	B
20	H			B	B

Gilead Exhibit 2016
PGR2023-00046 - Page 00829

21	NH_2			A	B
22	H			A	B
23	H			A	B
24	H			A	B
25	NH_2			A	D
26	H	NH_2		B	C
27	NH_2	NH_2		C	C
28	NH_2			C	C
29	NH_2			A	C
30	NH_2			A	C
31	NH_2			A	B

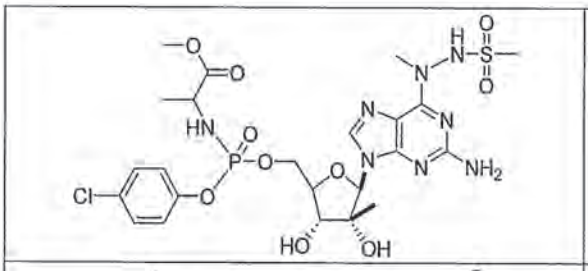
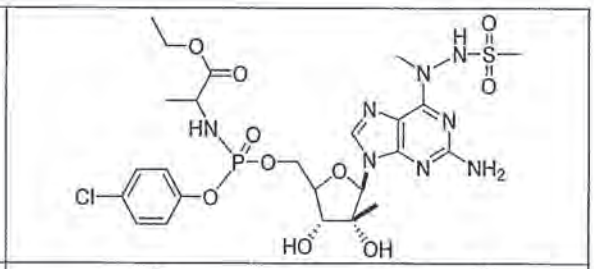
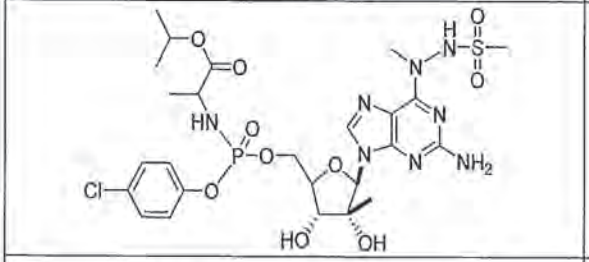
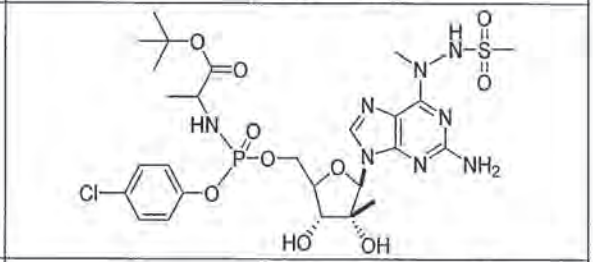
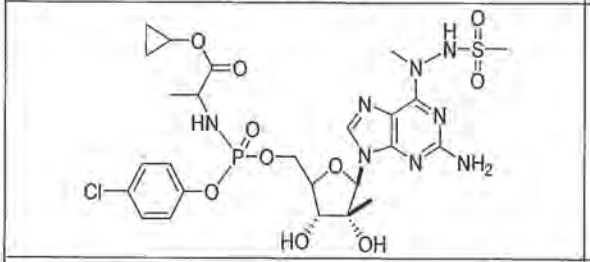
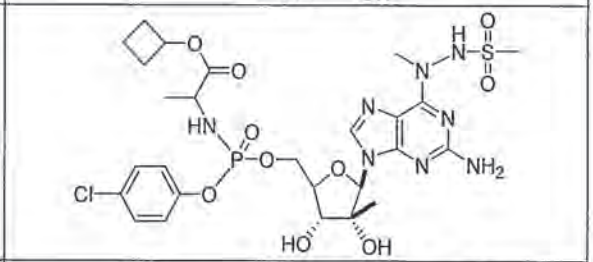
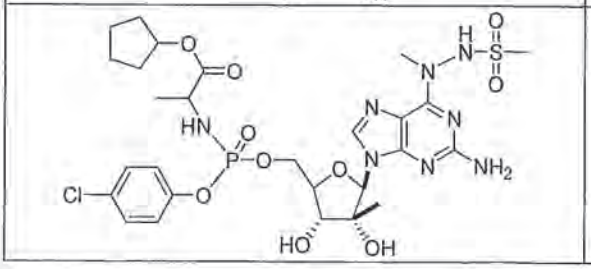
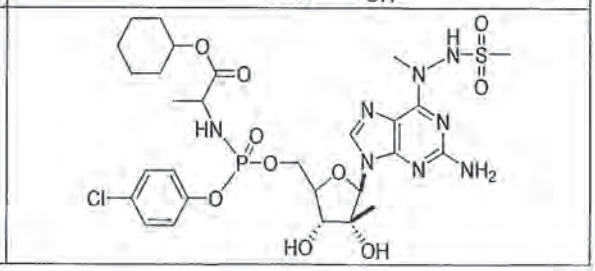
Gilead Exhibit 2016
PGR2023-00046 - Page 00830

32	NH_2			A	C

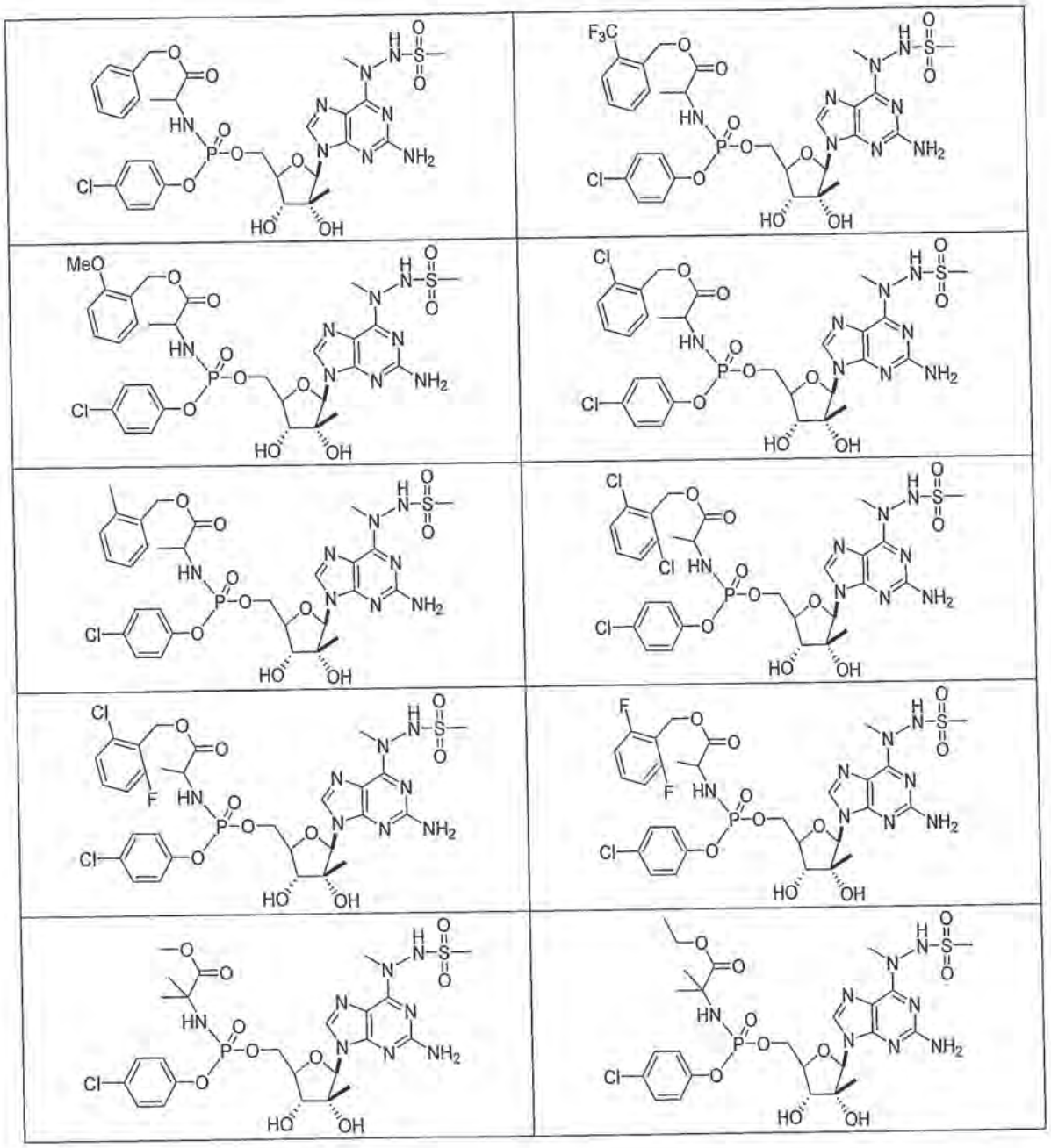
The following table shows contemplated compounds of this invention.

Table 3

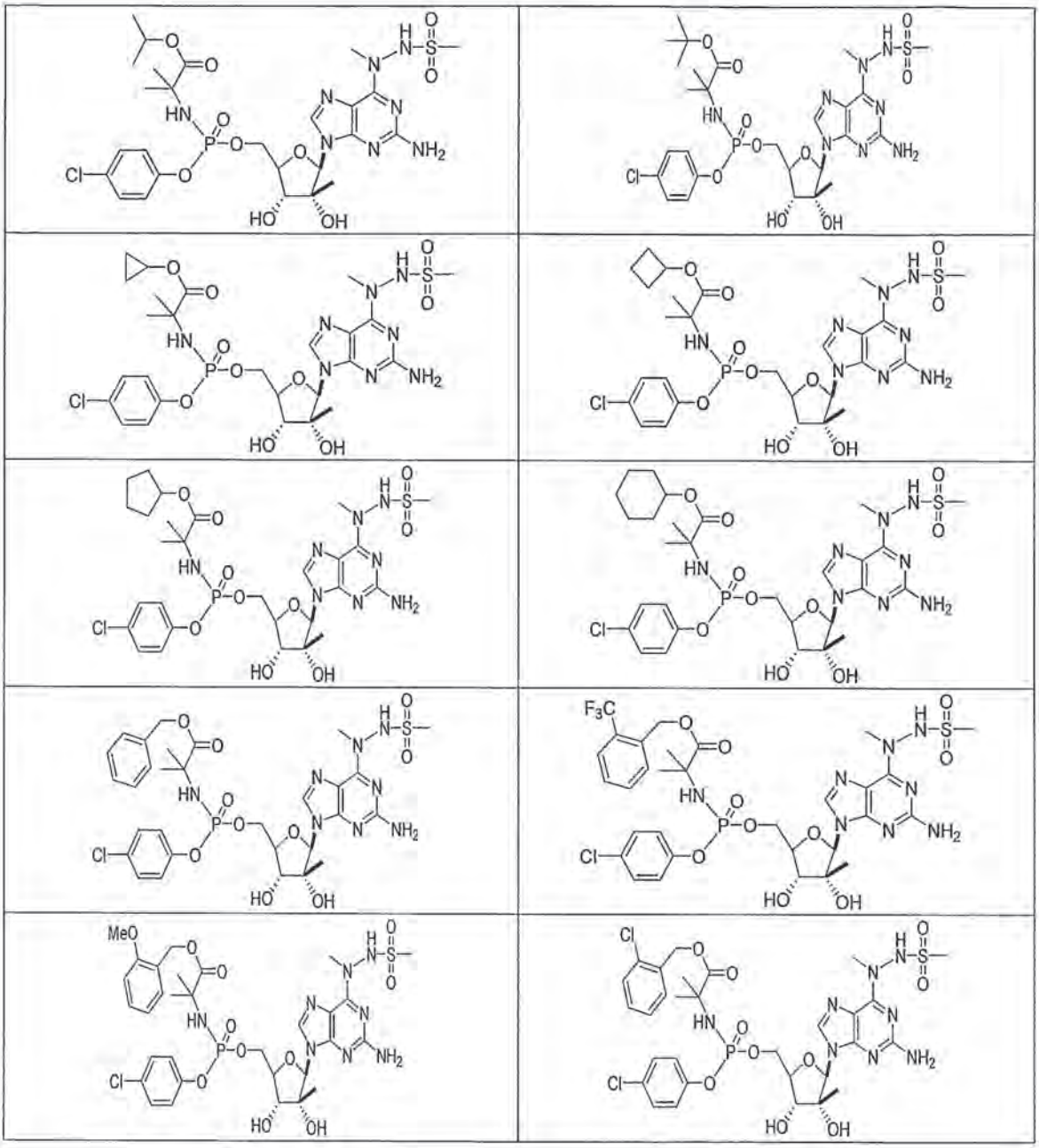
Contemplated Compounds

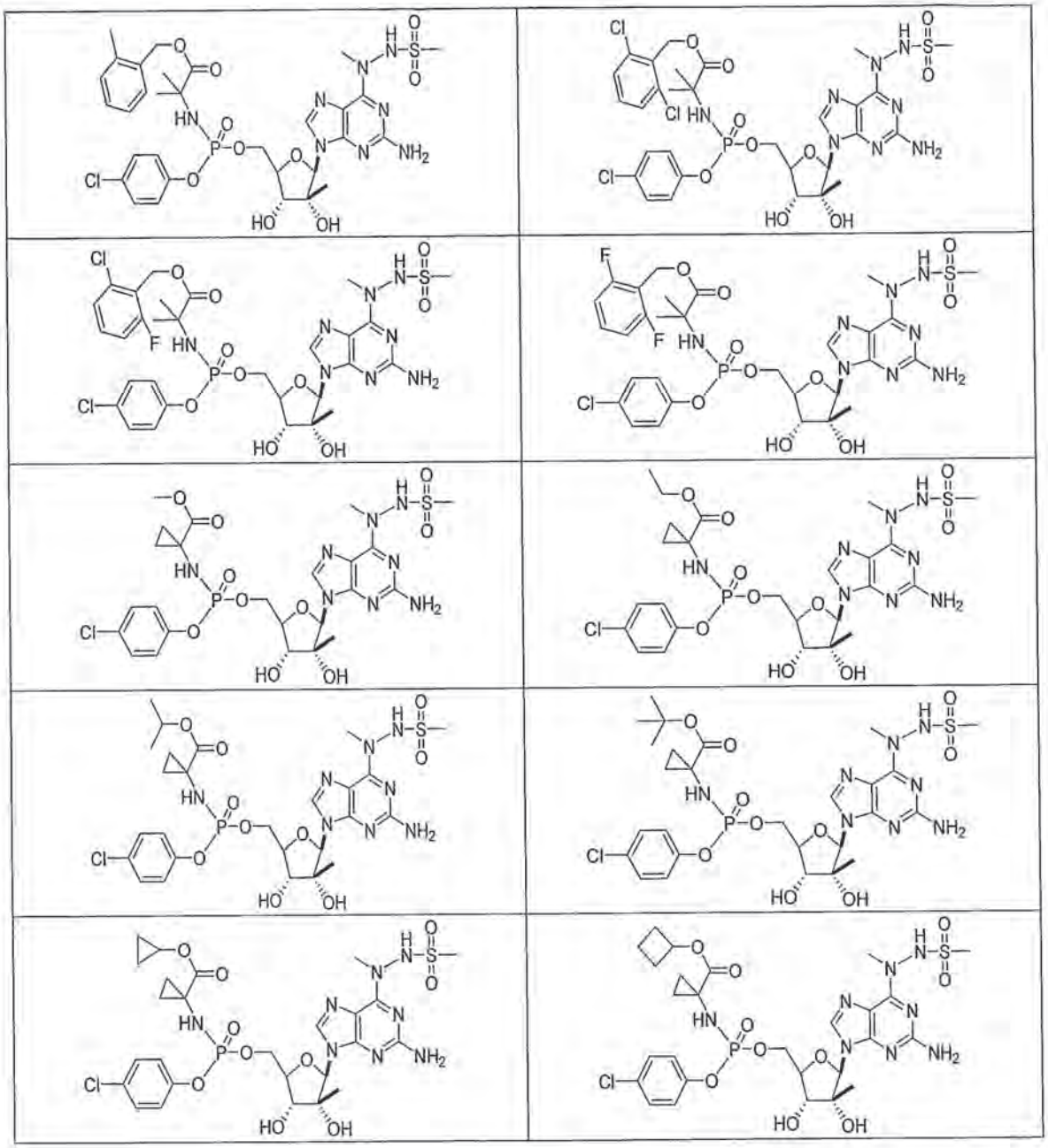
Gilead Exhibit 2016
PGR2023-00046 - Page 00831



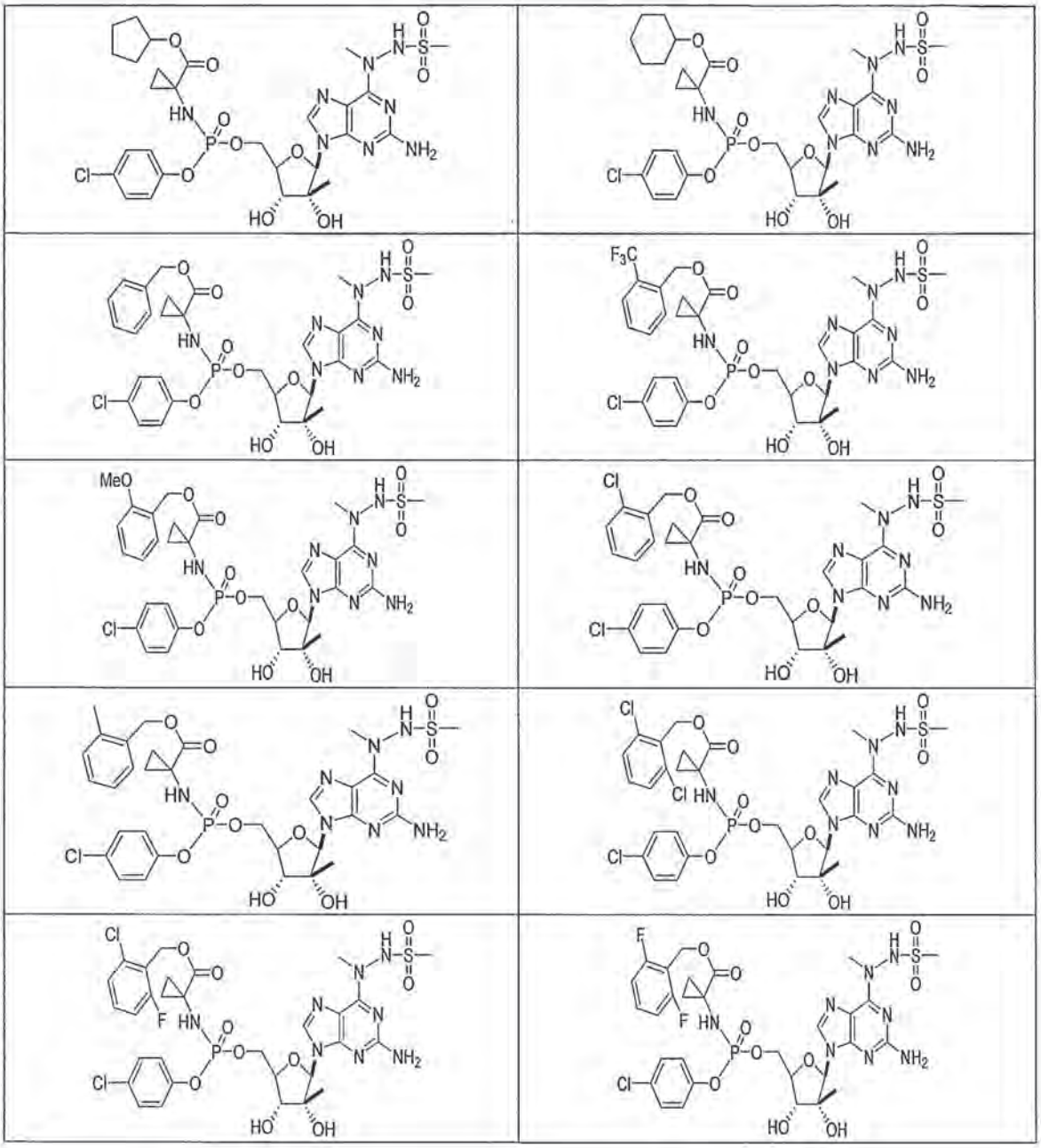
Gilead Exhibit 2016
PGR2023-00046 - Page 00832



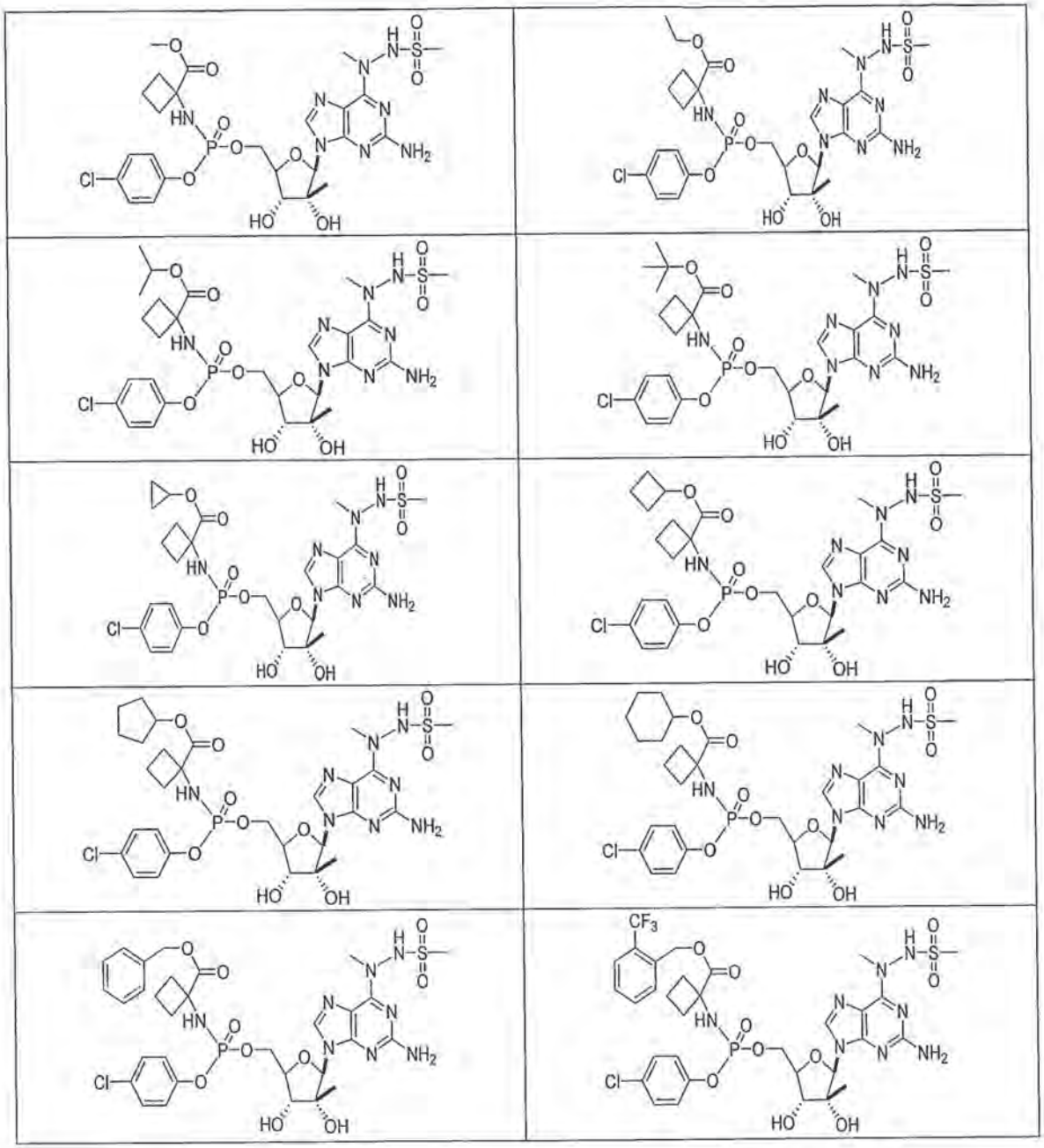
Gilead Exhibit 2016
PGR2023-00046 - Page 00833



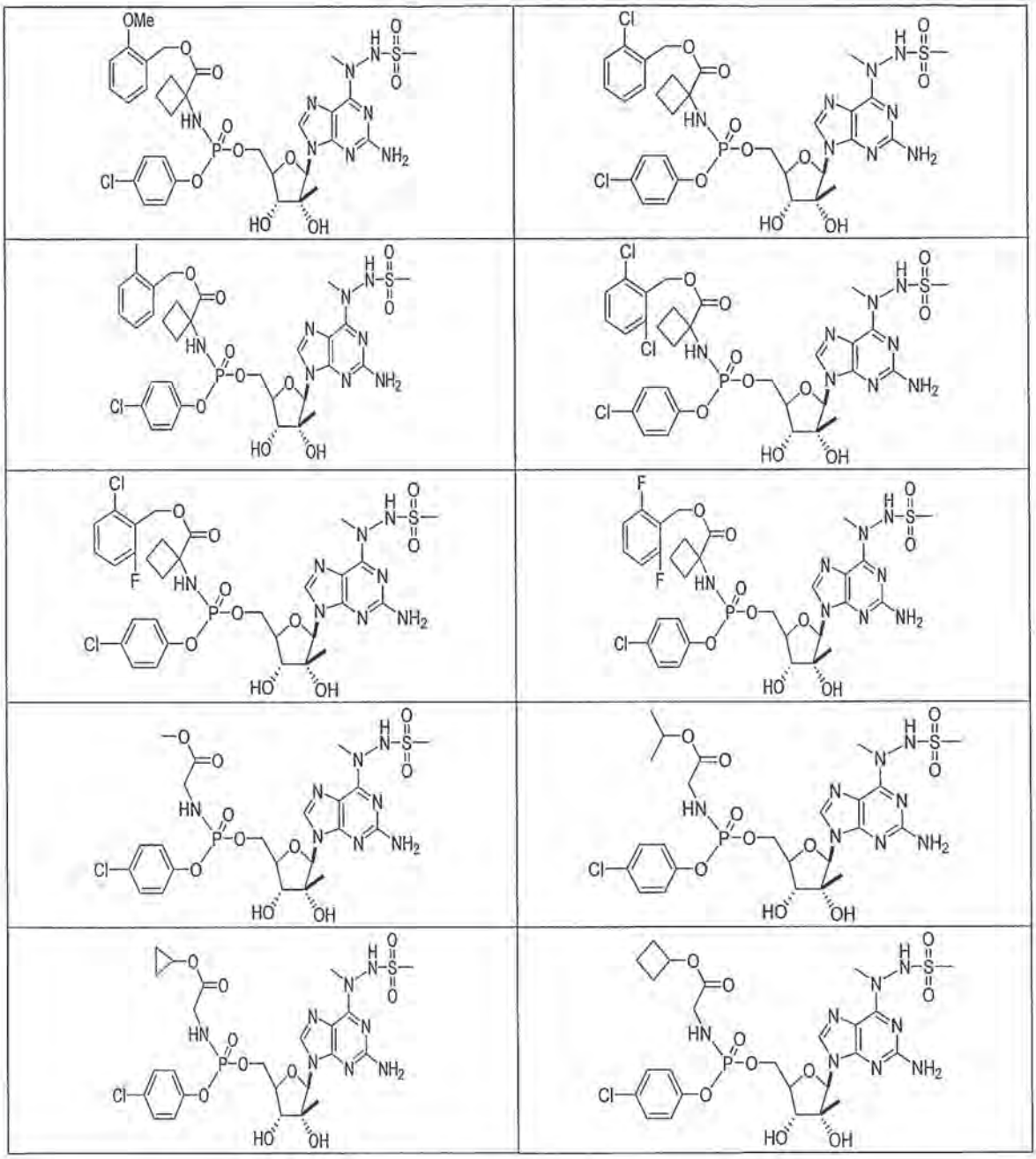
Gilead Exhibit 2016
PGR2023-00046 - Page 00834



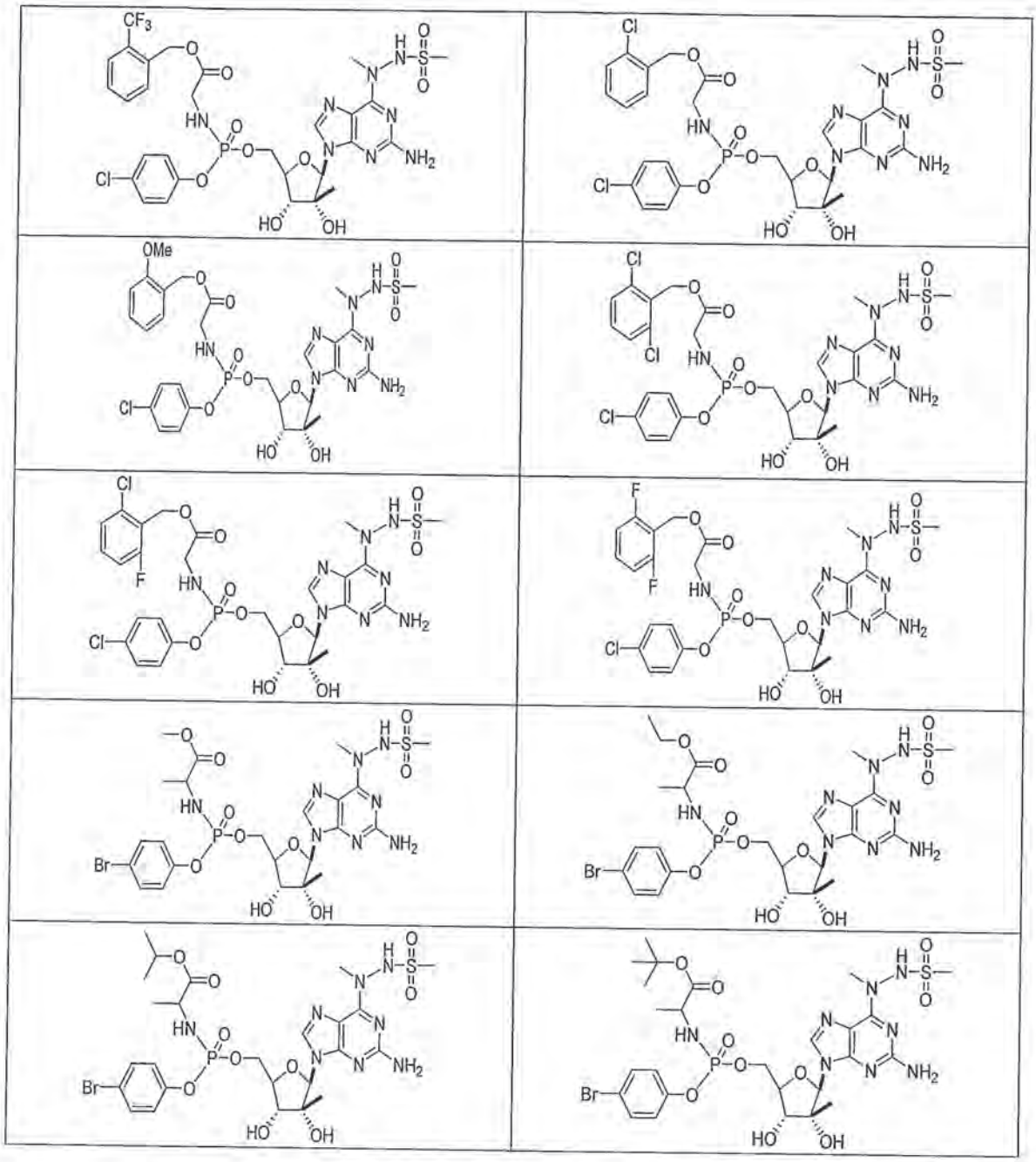
Gilead Exhibit 2016
PGR2023-00046 - Page 00835



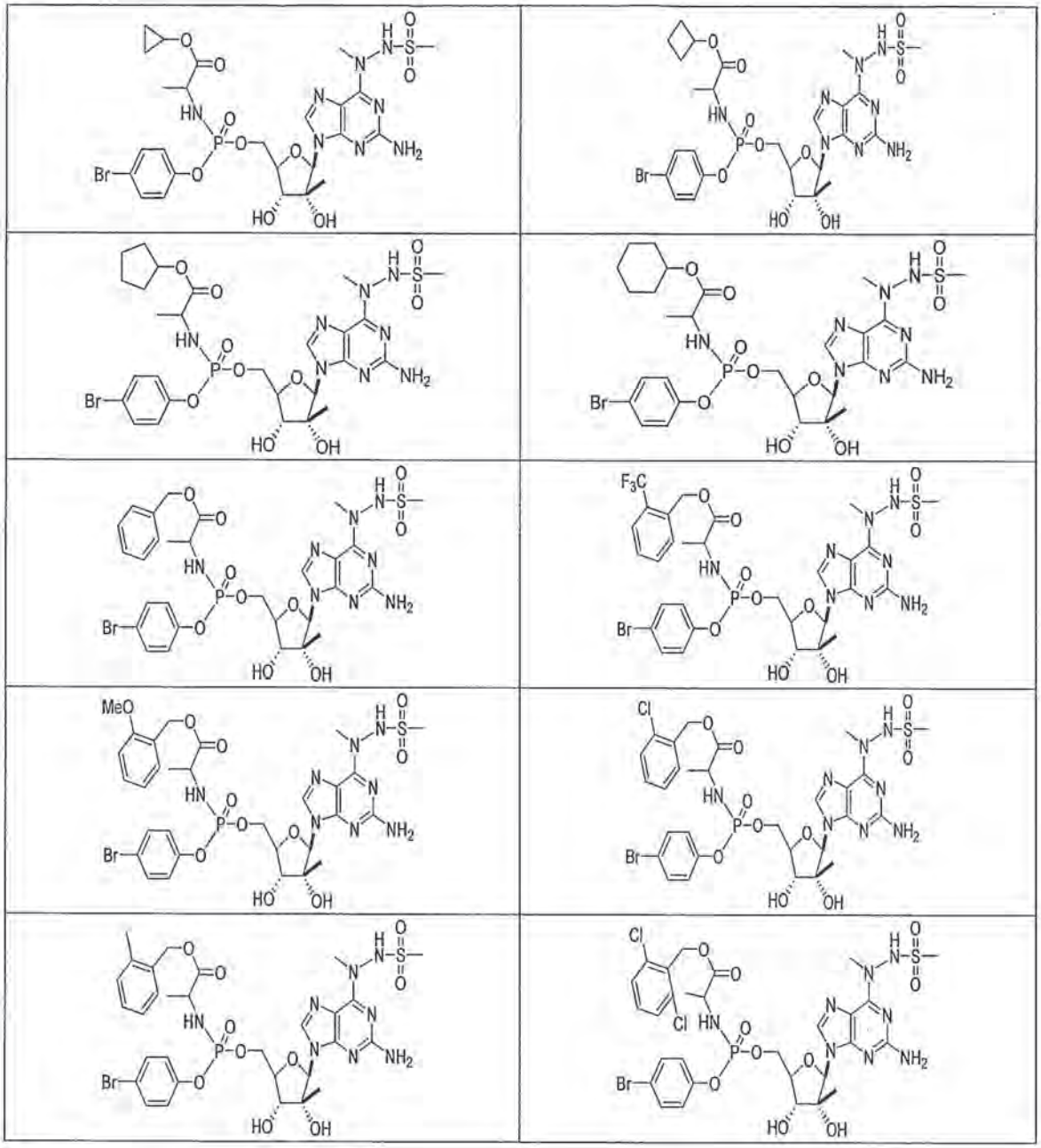
Gilead Exhibit 2016
PGR2023-00046 - Page 00836



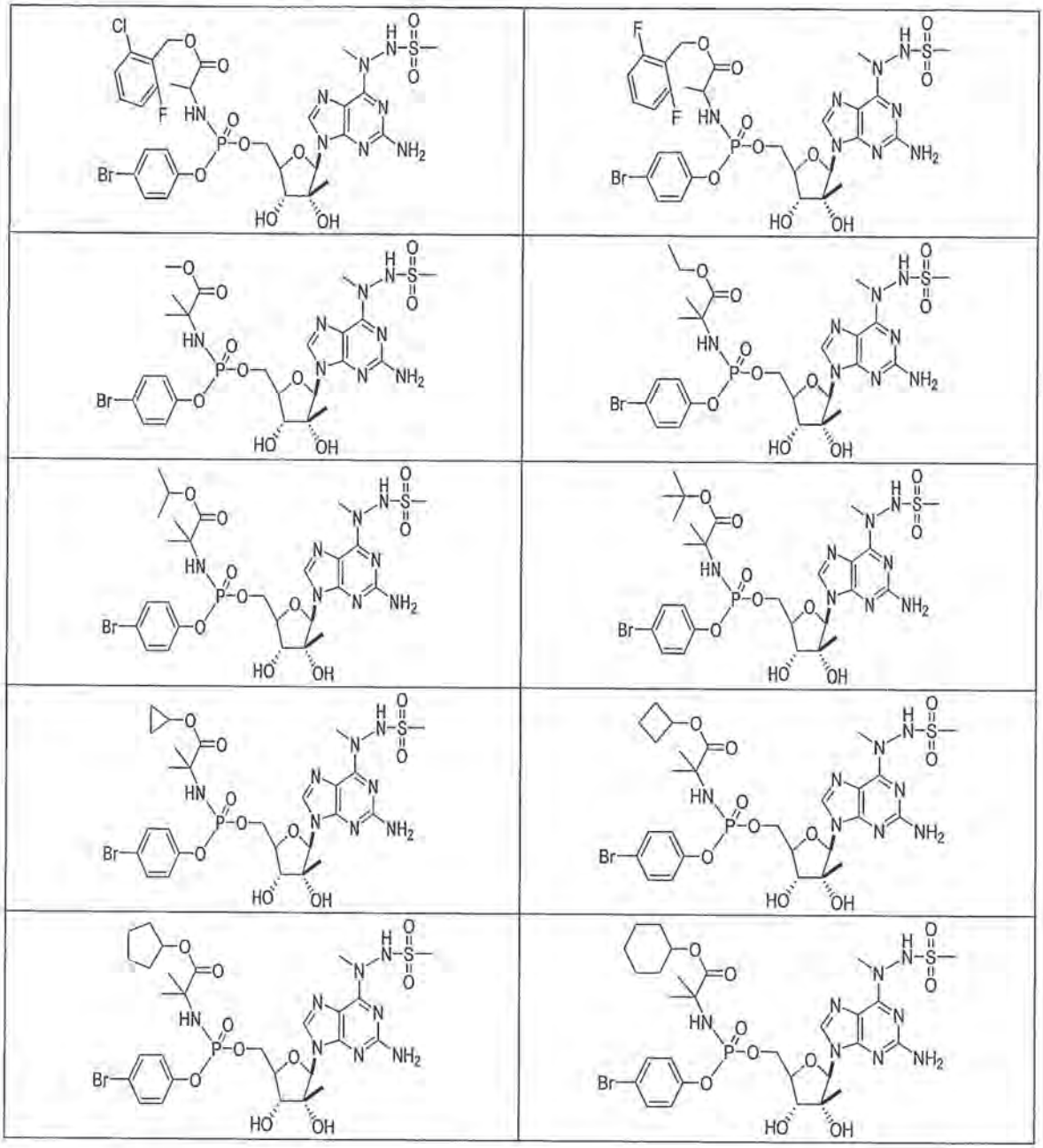
Gilead Exhibit 2016
PGR2023-00046 - Page 00837



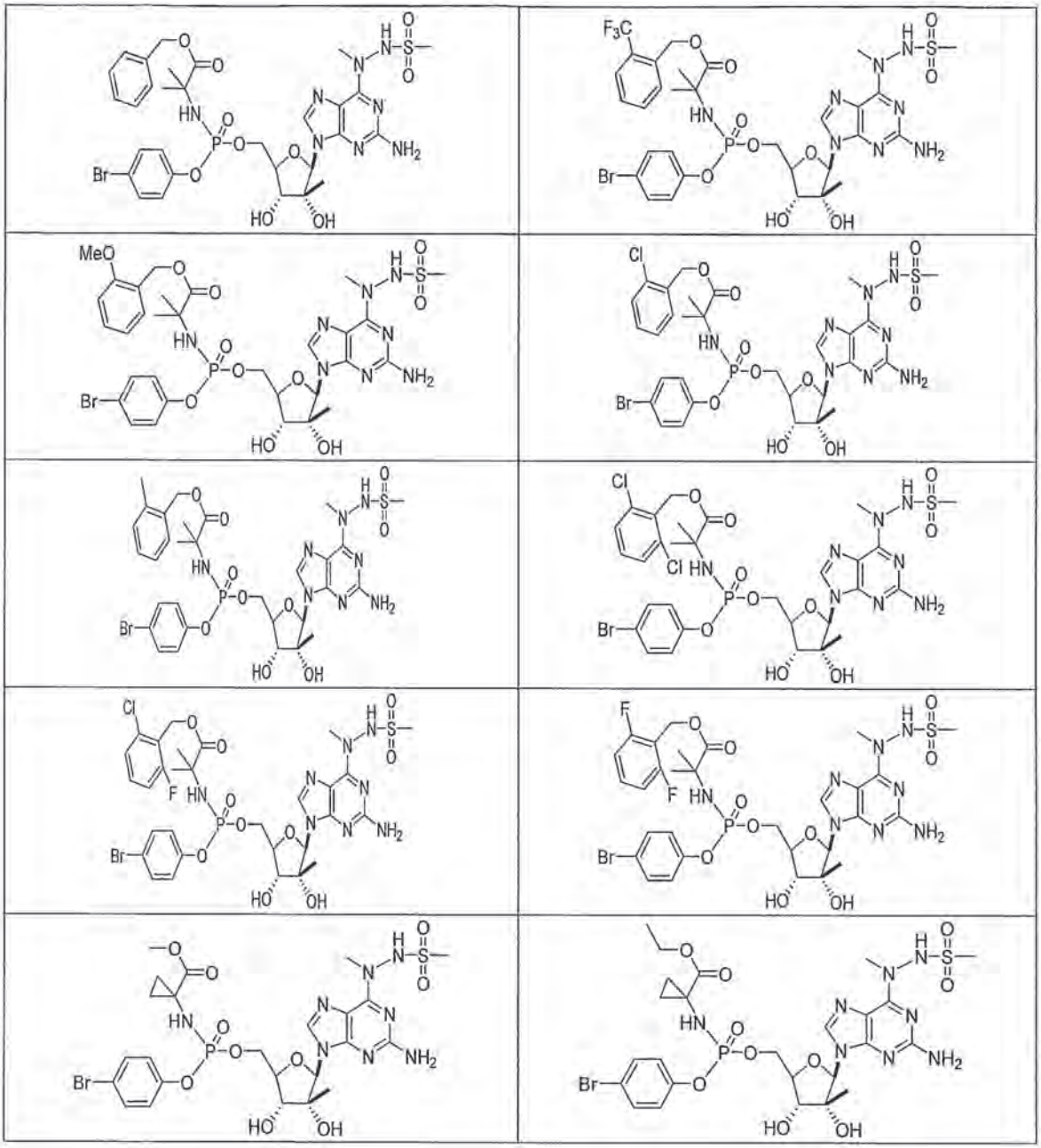
Gilead Exhibit 2016
PGR2023-00046 - Page 00838



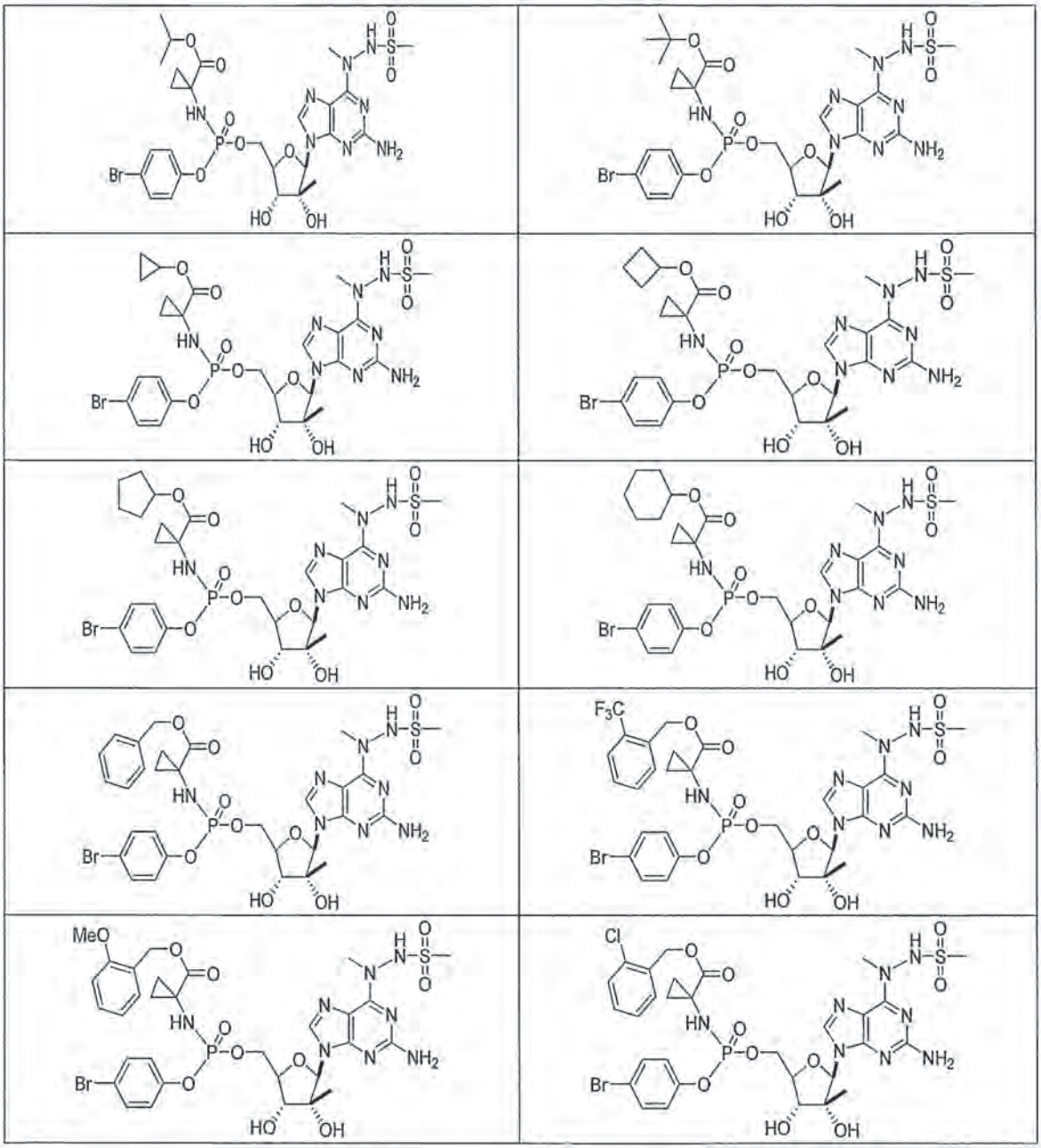
Gilead Exhibit 2016
PGR2023-00046 - Page 00839



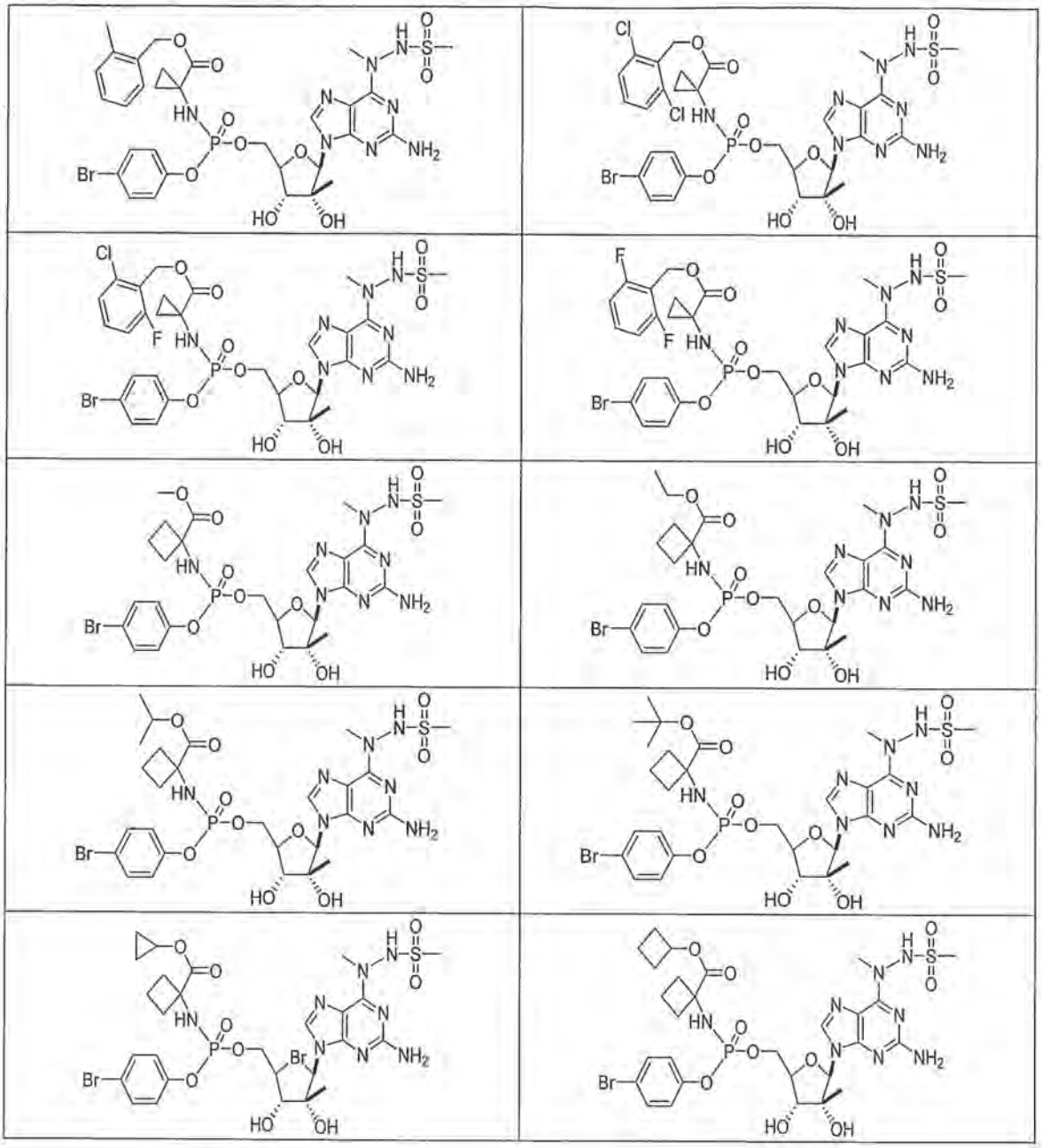
Gilead Exhibit 2016
PGR2023-00046 - Page 00840



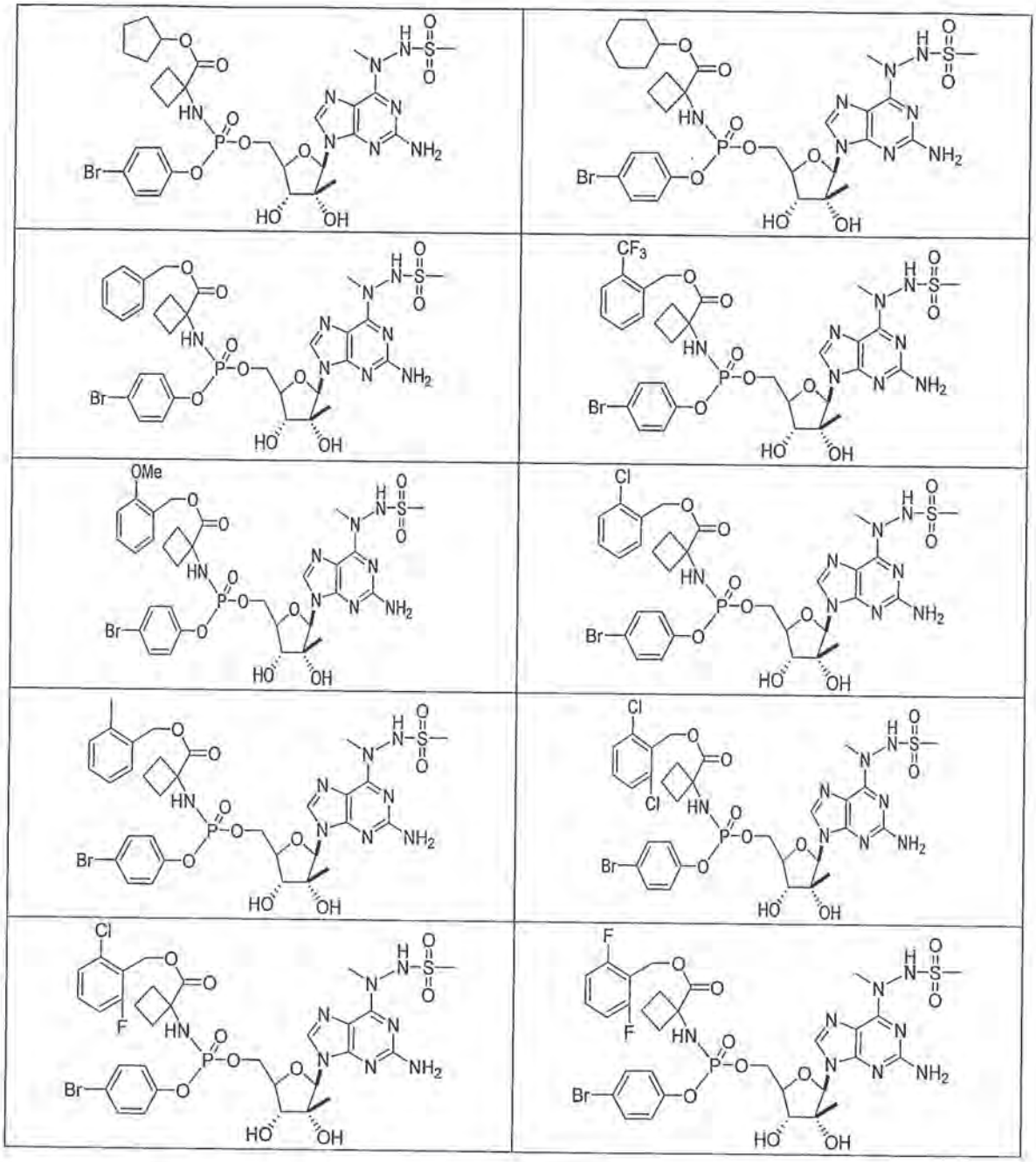
Gilead Exhibit 2016
PGR2023-00046 - Page 00841



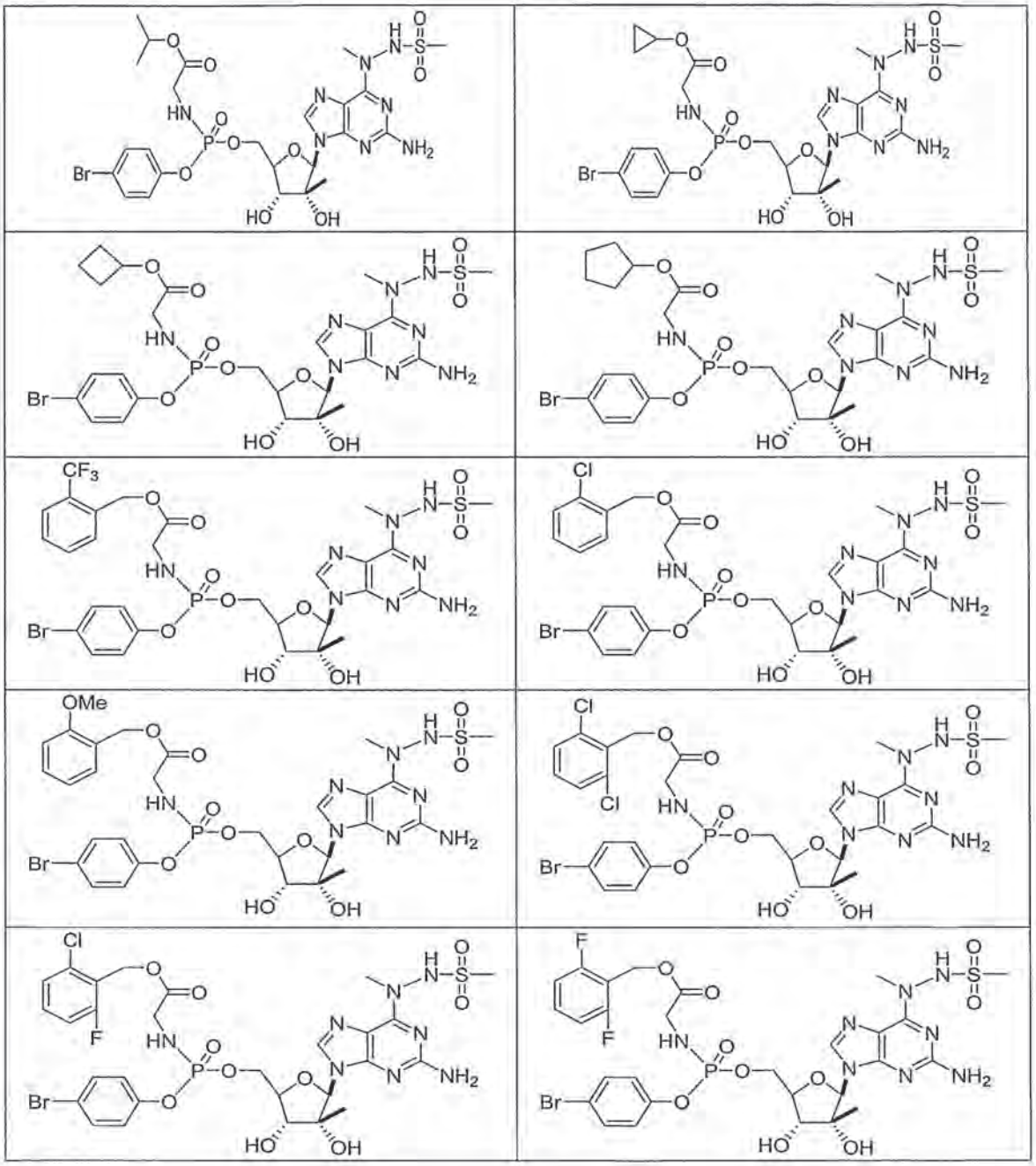
Gilead Exhibit 2016
PGR2023-00046 - Page 00842



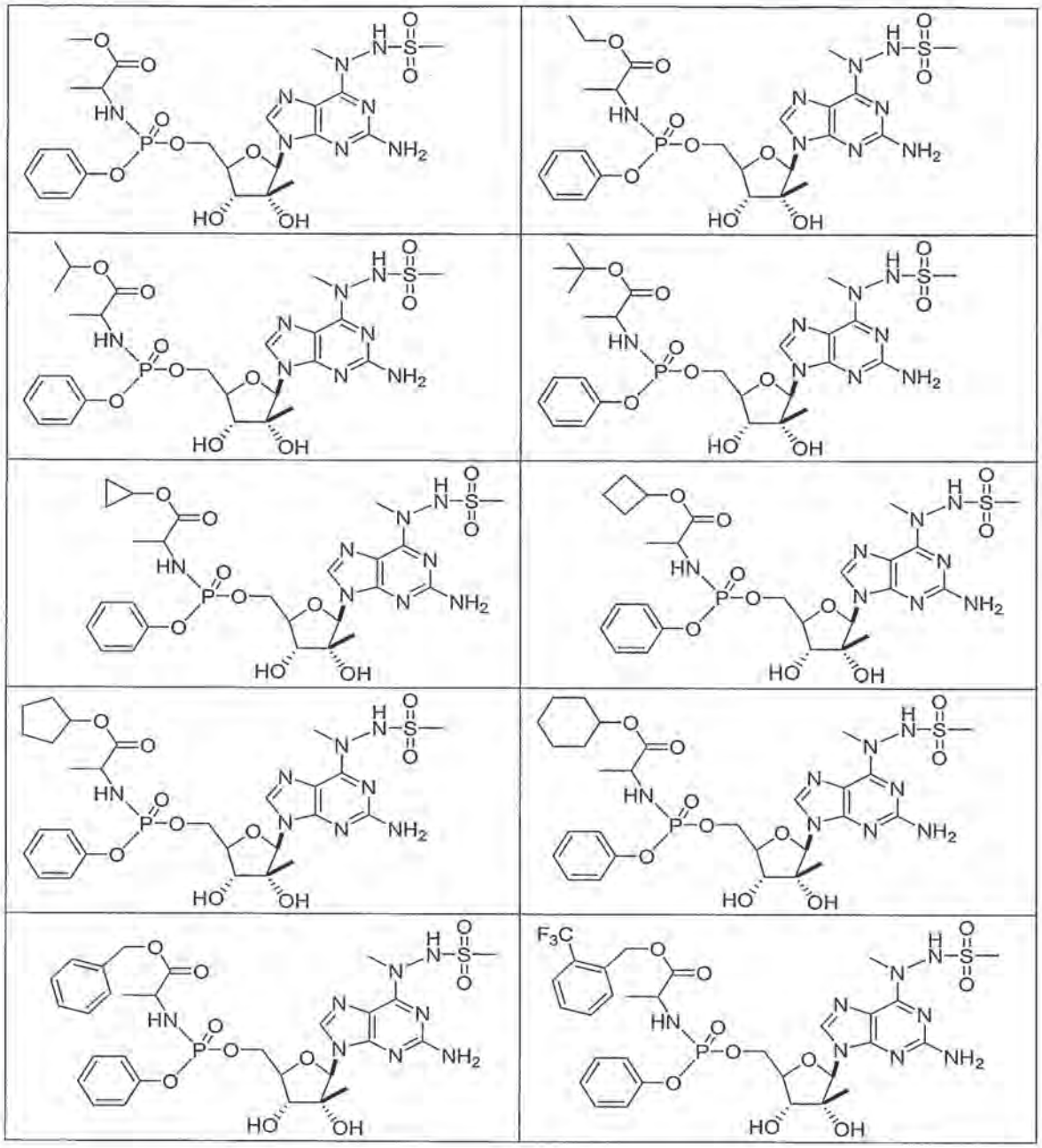
Gilead Exhibit 2016
PGR2023-00046 - Page 00843



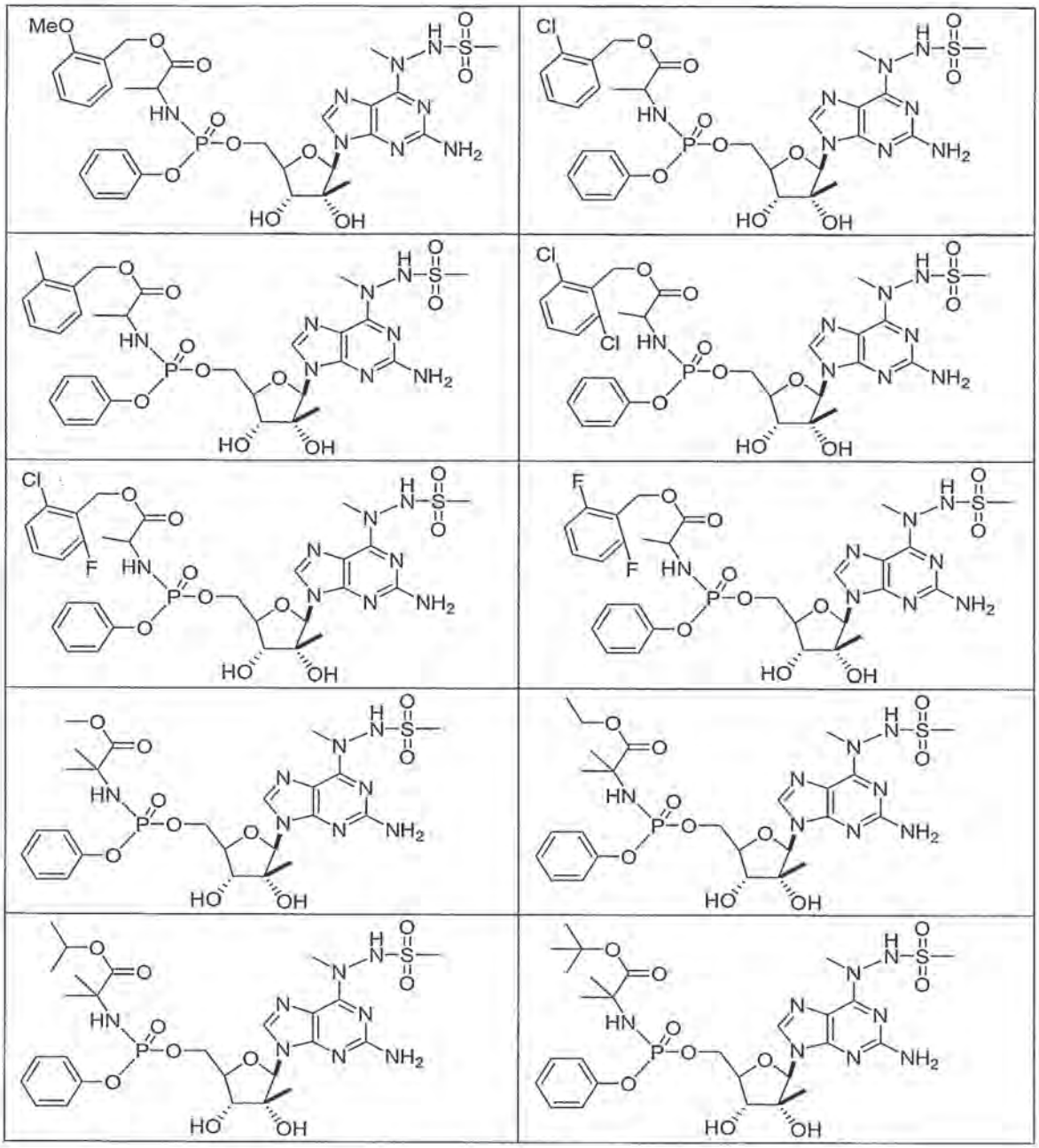
Gilead Exhibit 2016
PGR2023-00046 - Page 00844



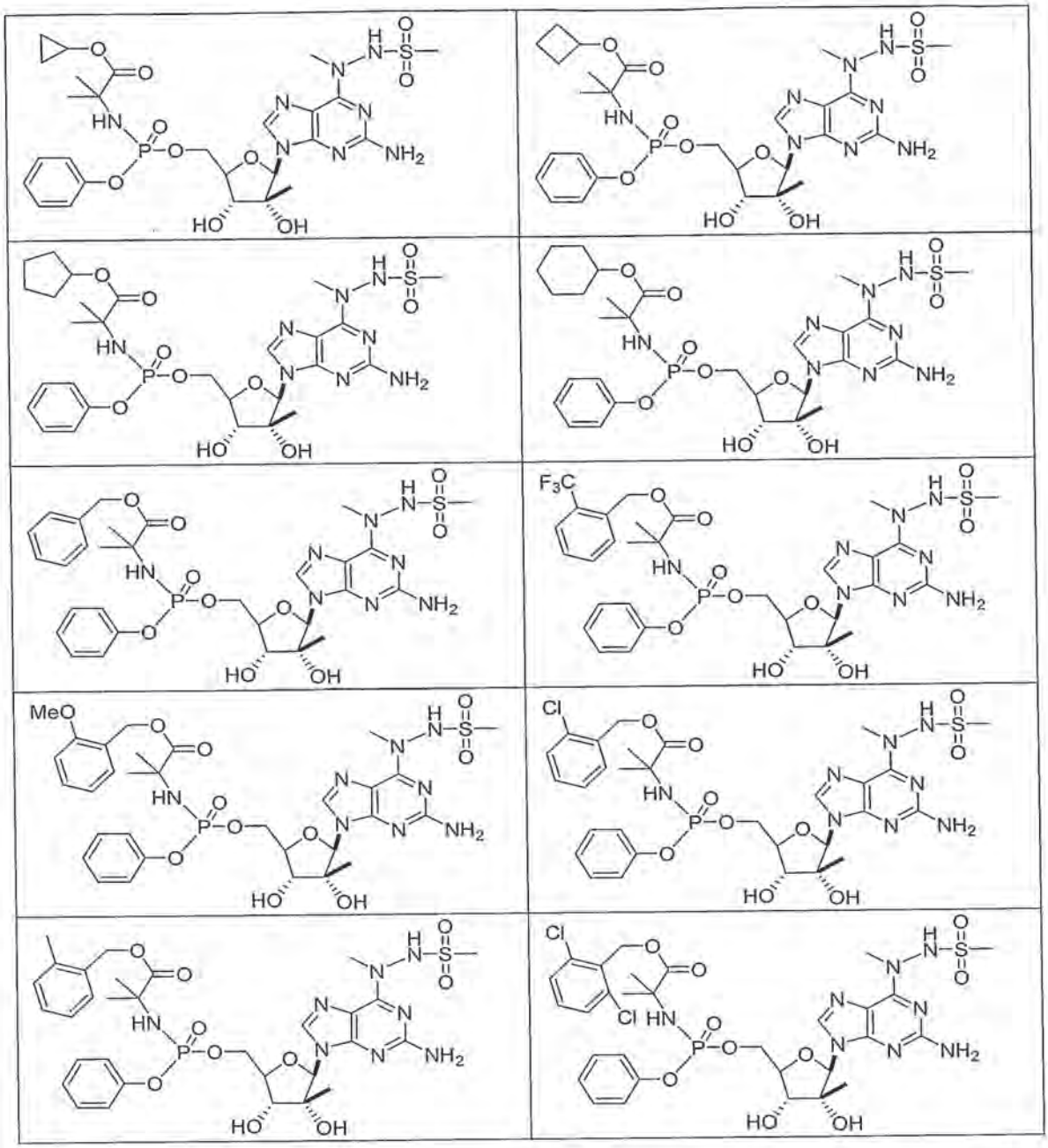
Gilead Exhibit 2016
PGR2023-00046 - Page 00845



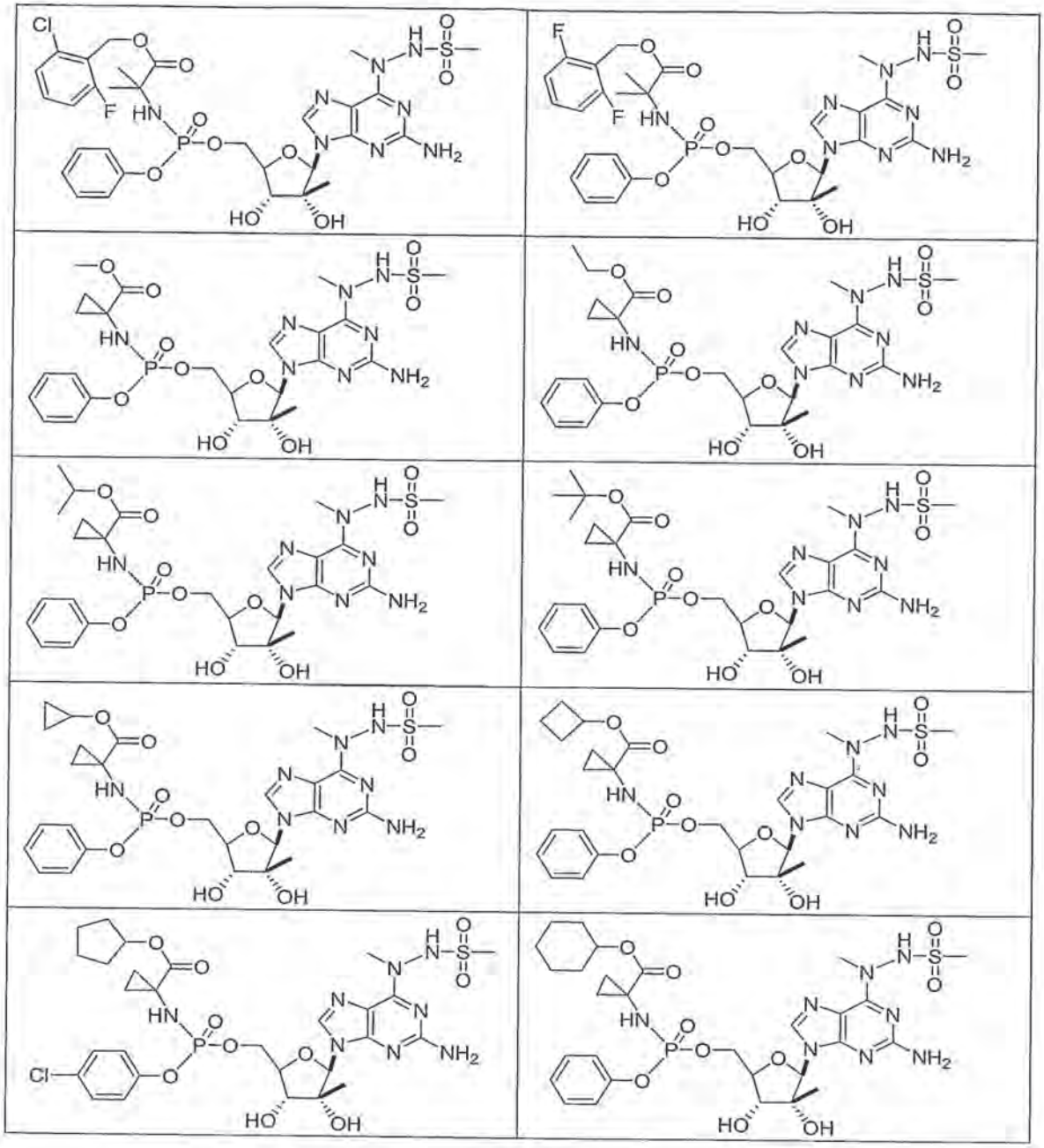
Gilead Exhibit 2016
PGR2023-00046 - Page 00846



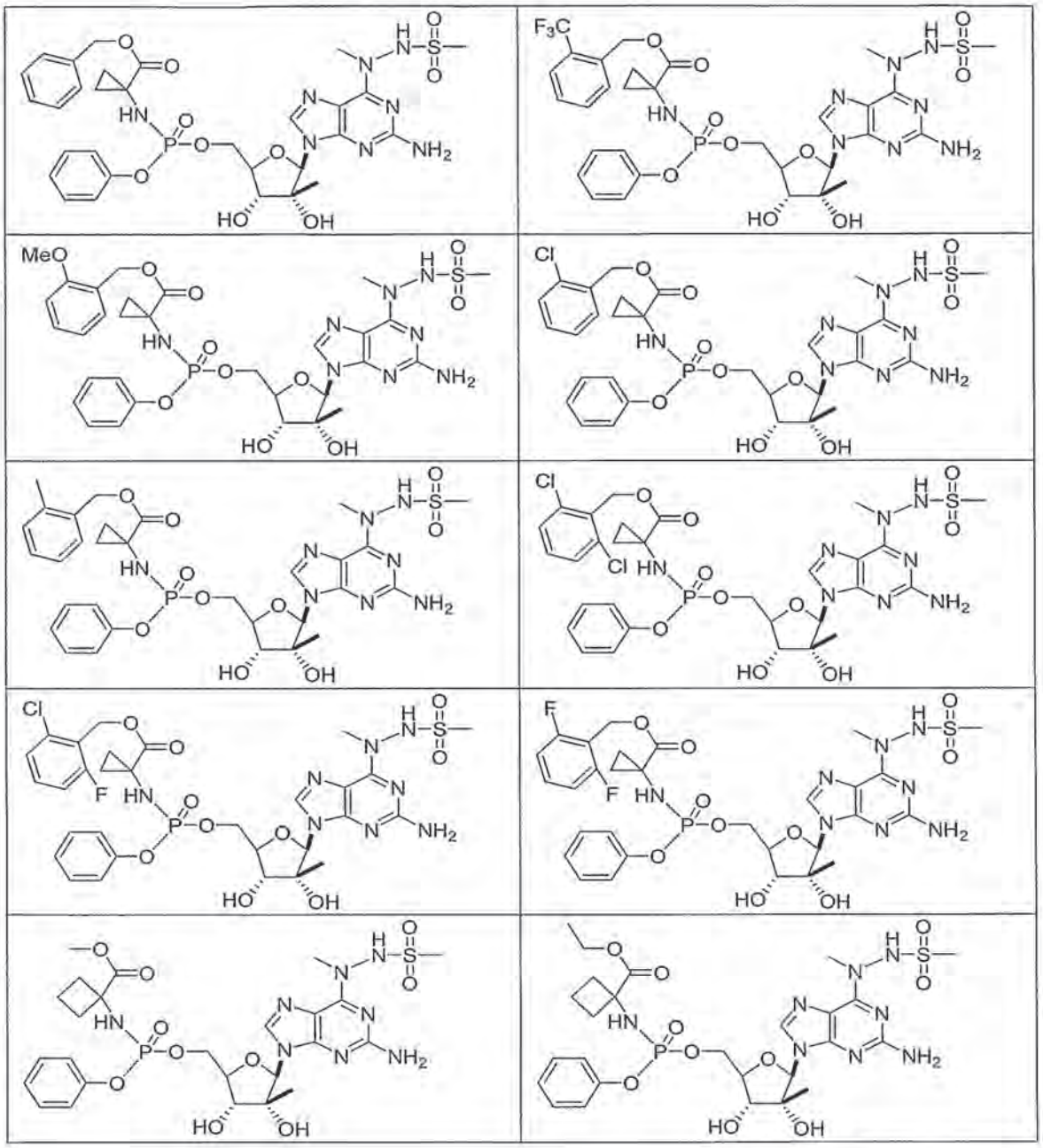
Gilead Exhibit 2016
PGR2023-00046 - Page 00847



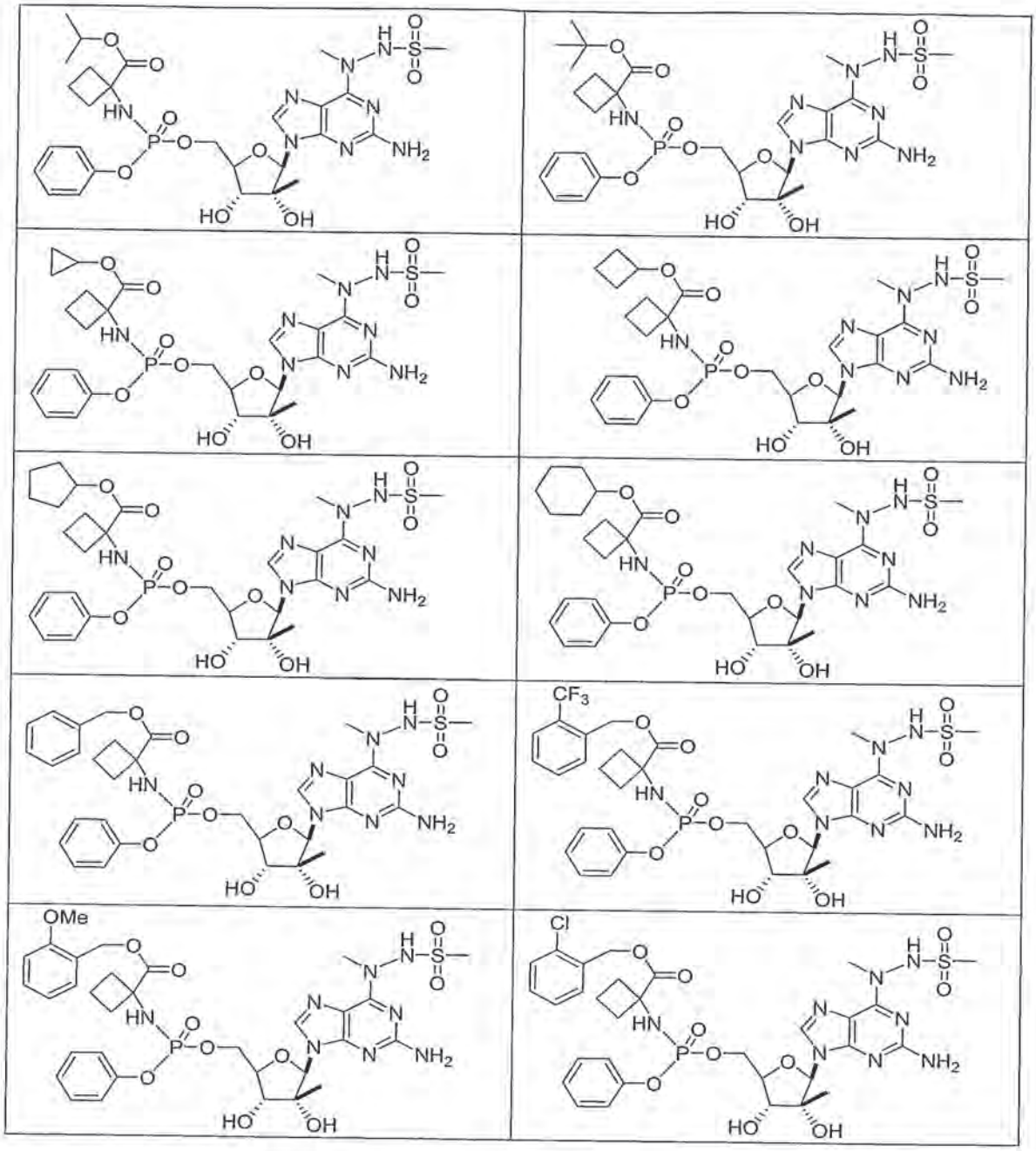
Gilead Exhibit 2016
PGR2023-00046 - Page 00848



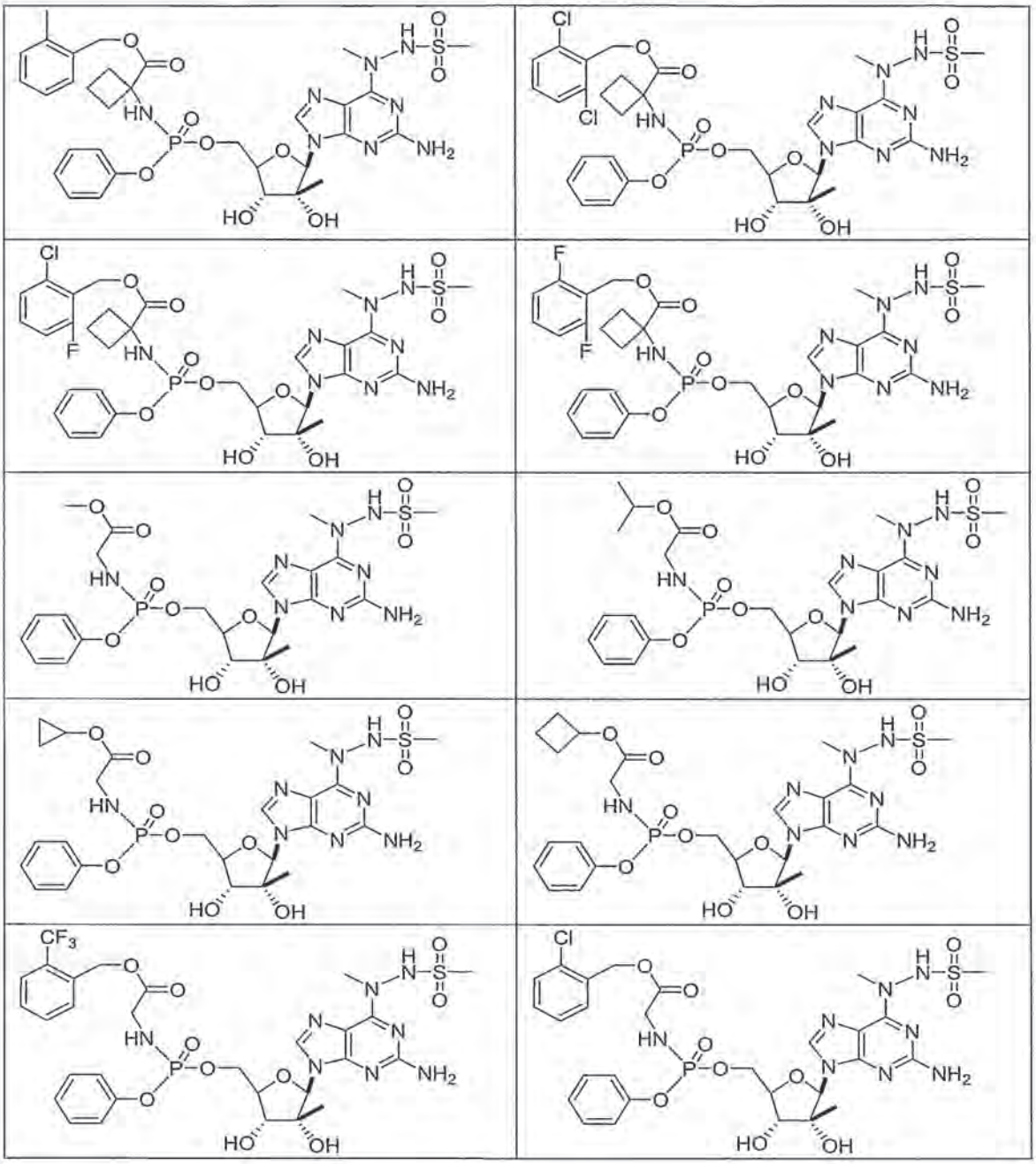
Gilead Exhibit 2016
PGR2023-00046 - Page 00849



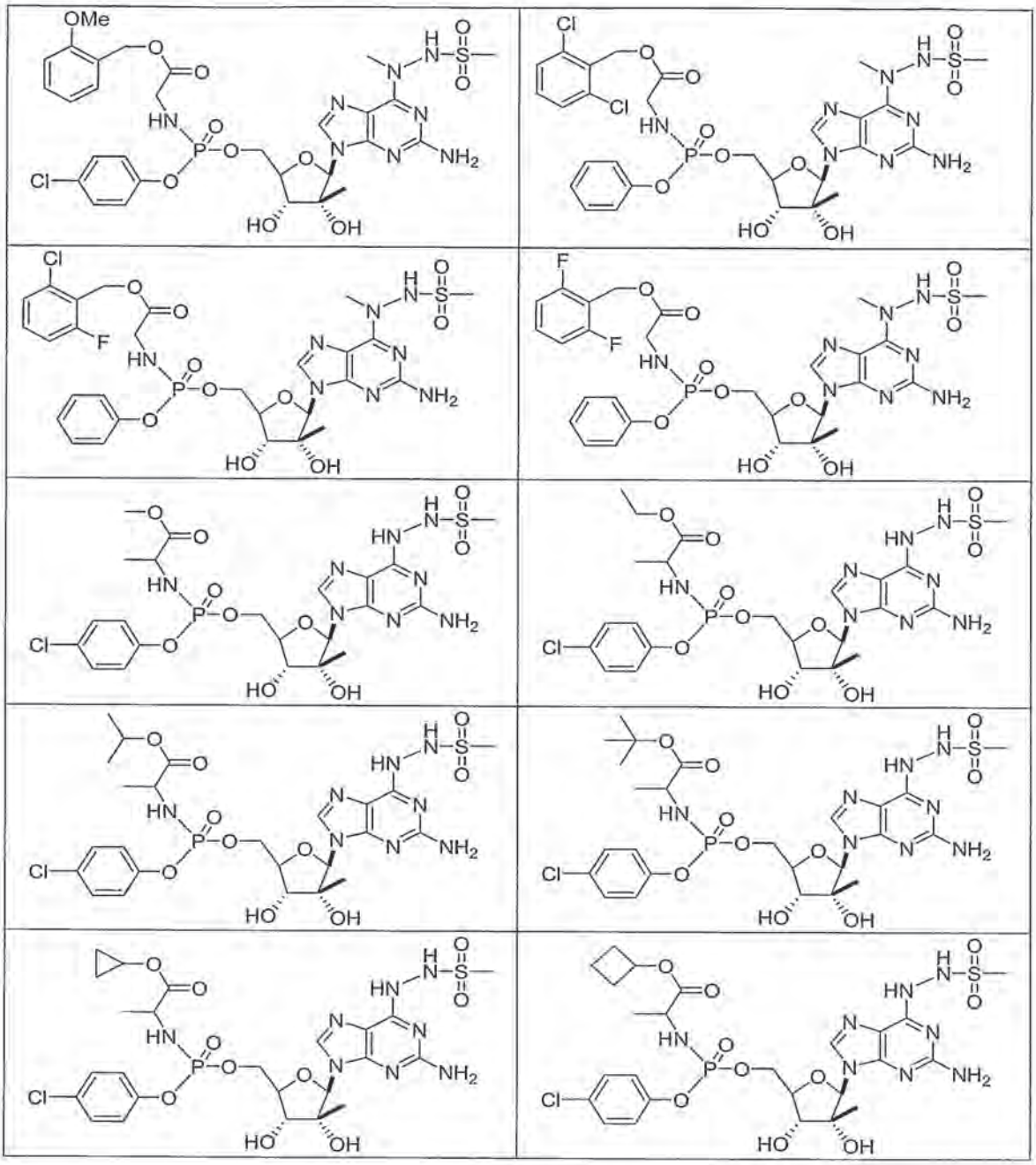
Gilead Exhibit 2016
PGR2023-00046 - Page 00850



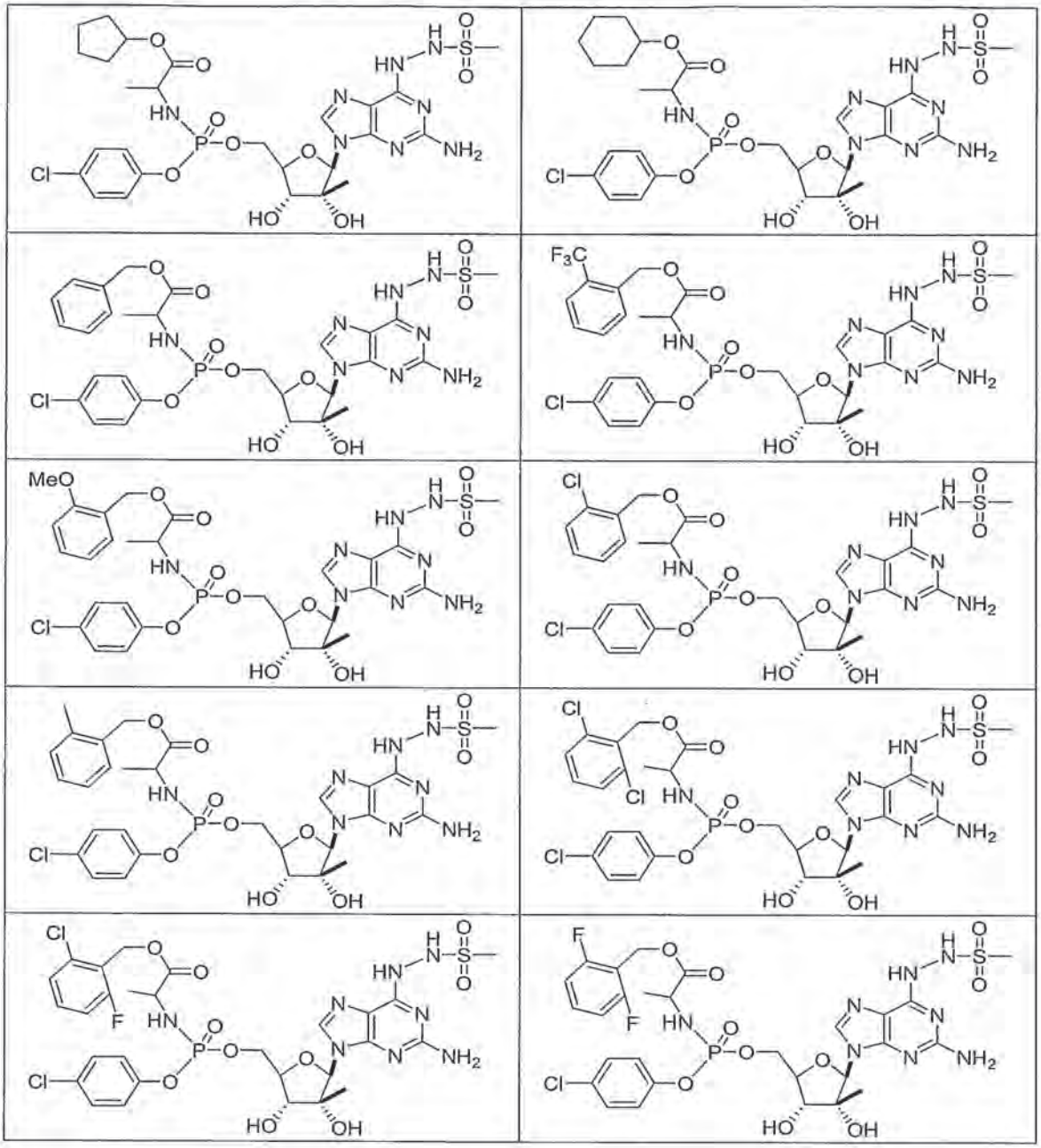
Gilead Exhibit 2016
PGR2023-00046 - Page 00851



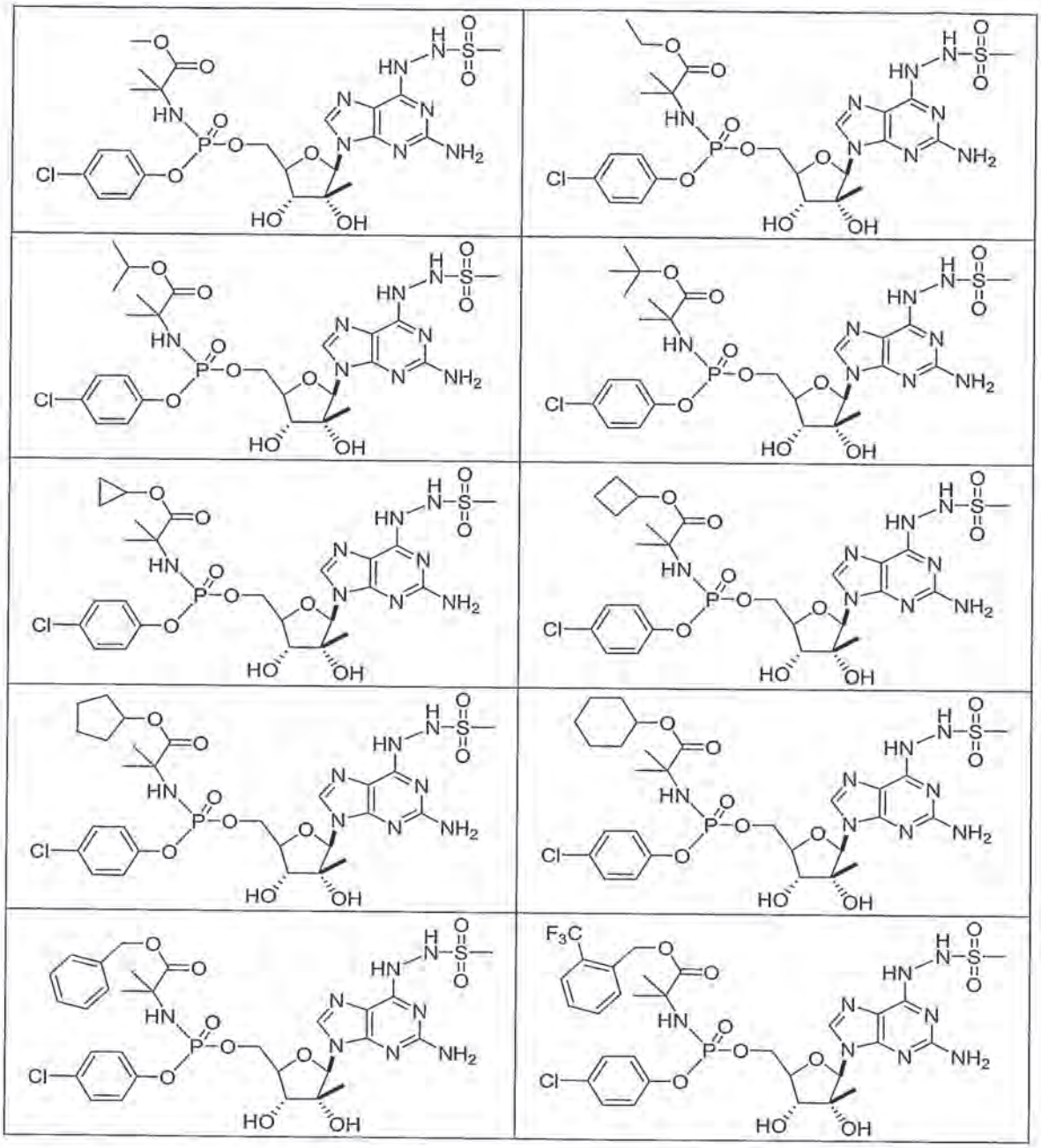
Gilead Exhibit 2016
PGR2023-00046 - Page 00852



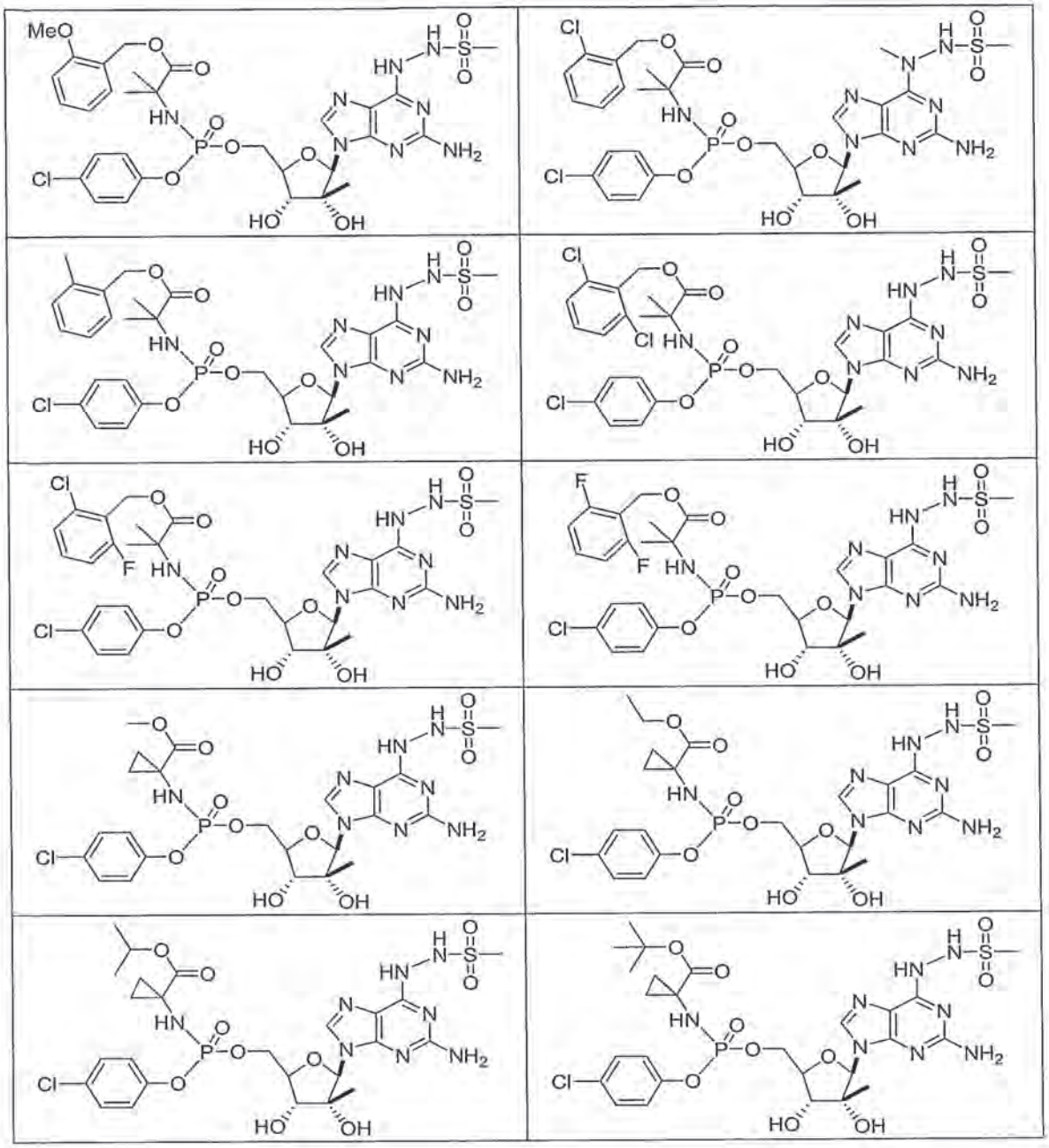
Gilead Exhibit 2016
PGR2023-00046 - Page 00853



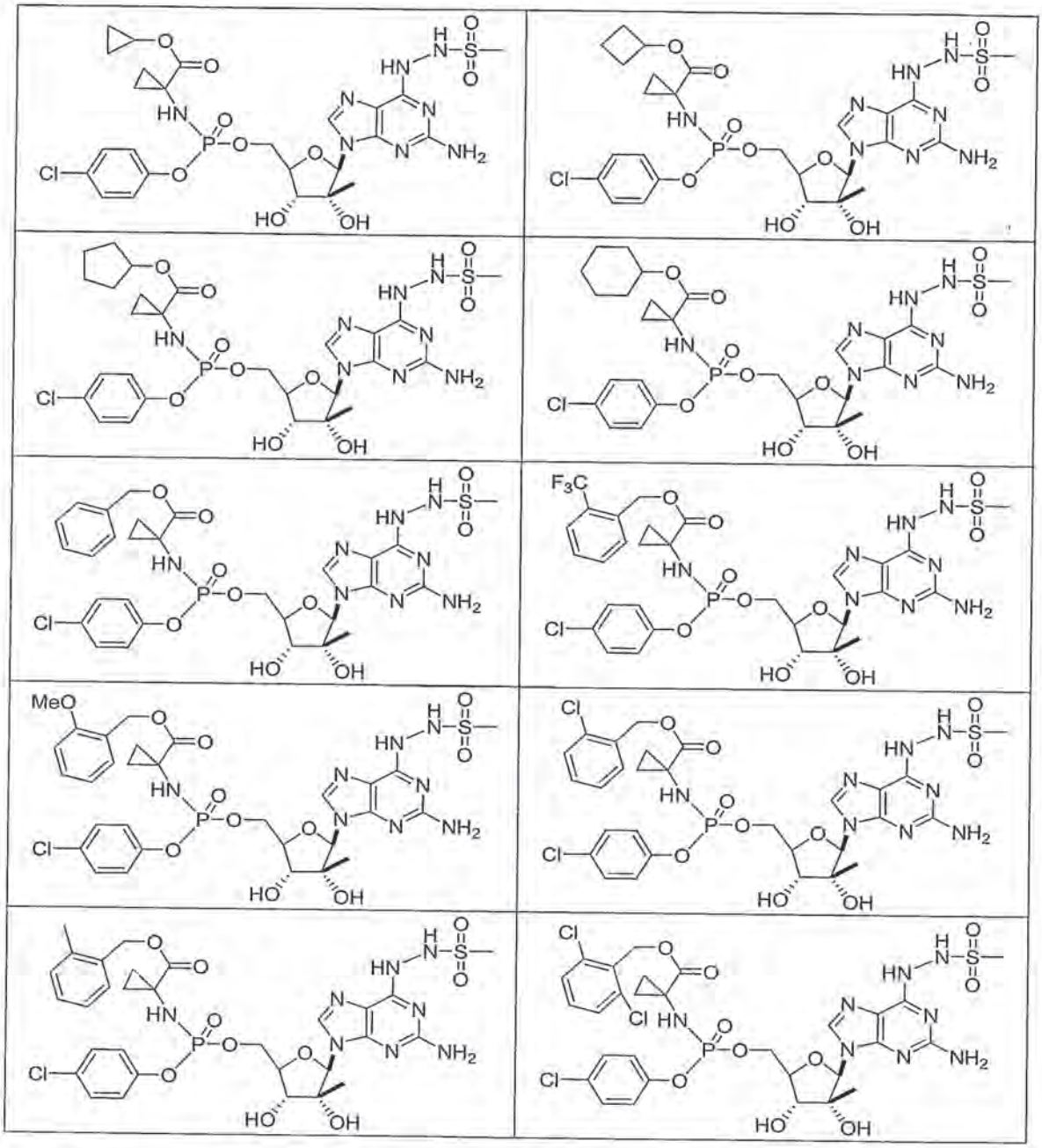
Gilead Exhibit 2016
PGR2023-00046 - Page 00854



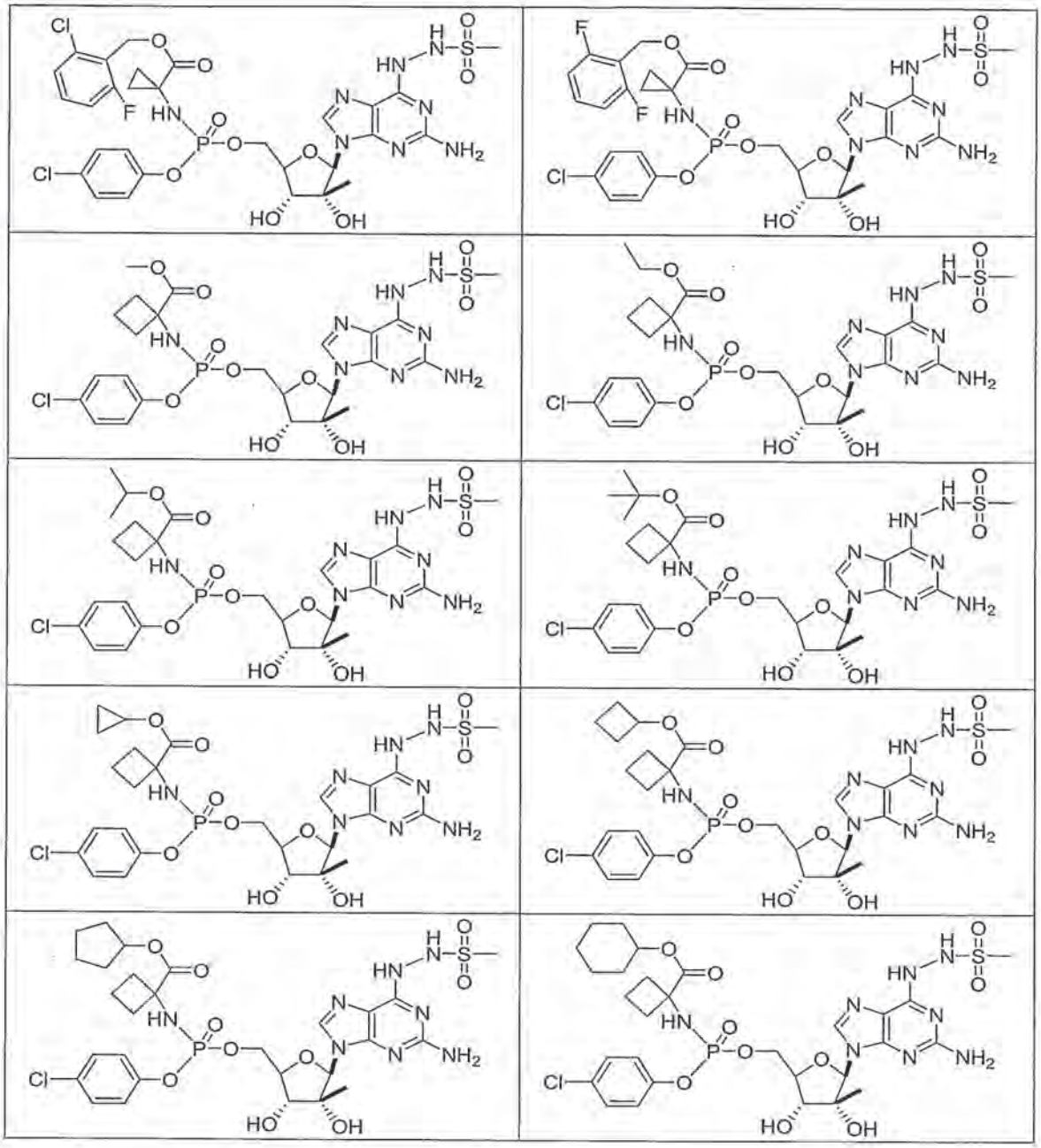
Gilead Exhibit 2016
PGR2023-00046 - Page 00855



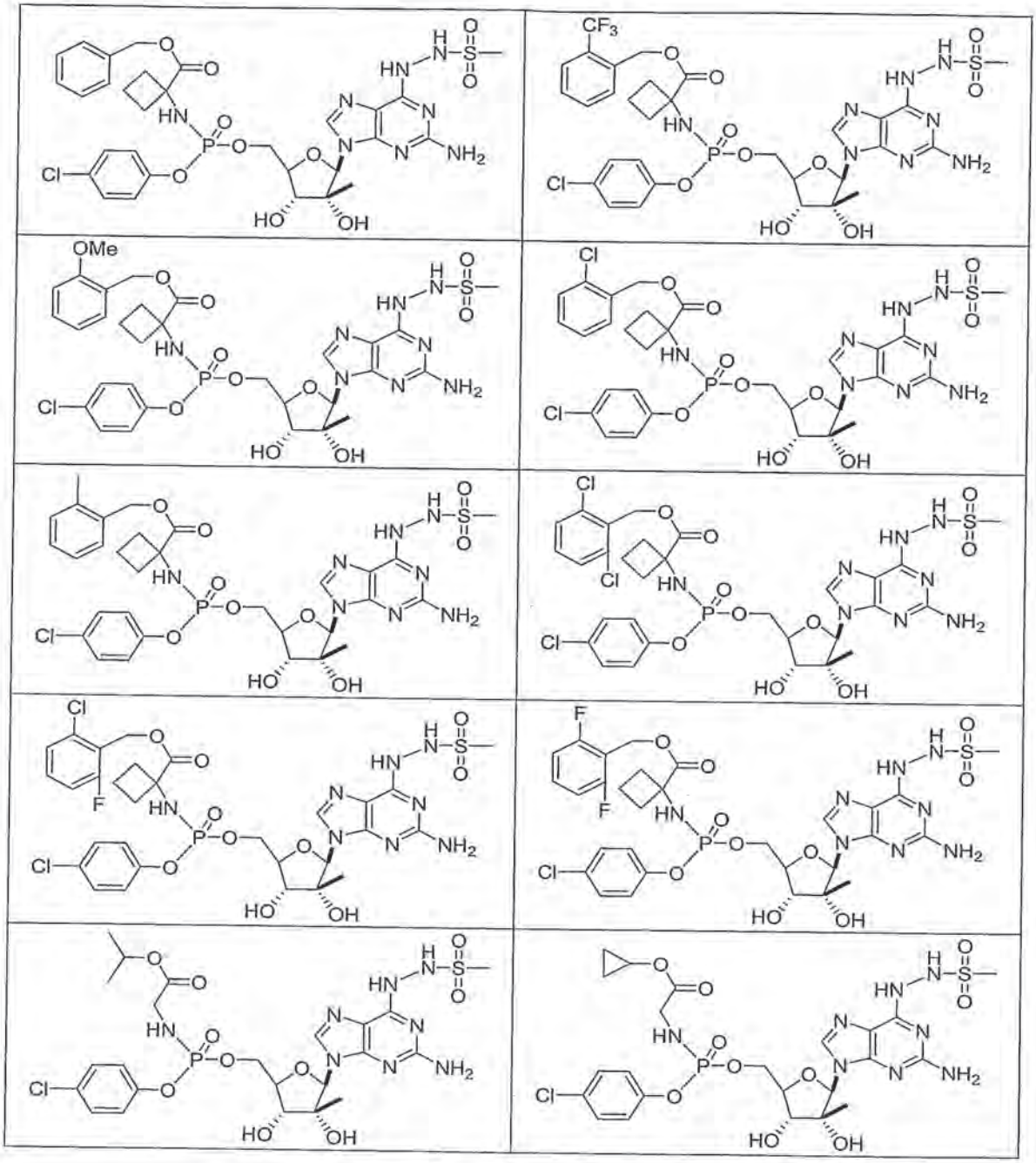
Gilead Exhibit 2016
PGR2023-00046 - Page 00856



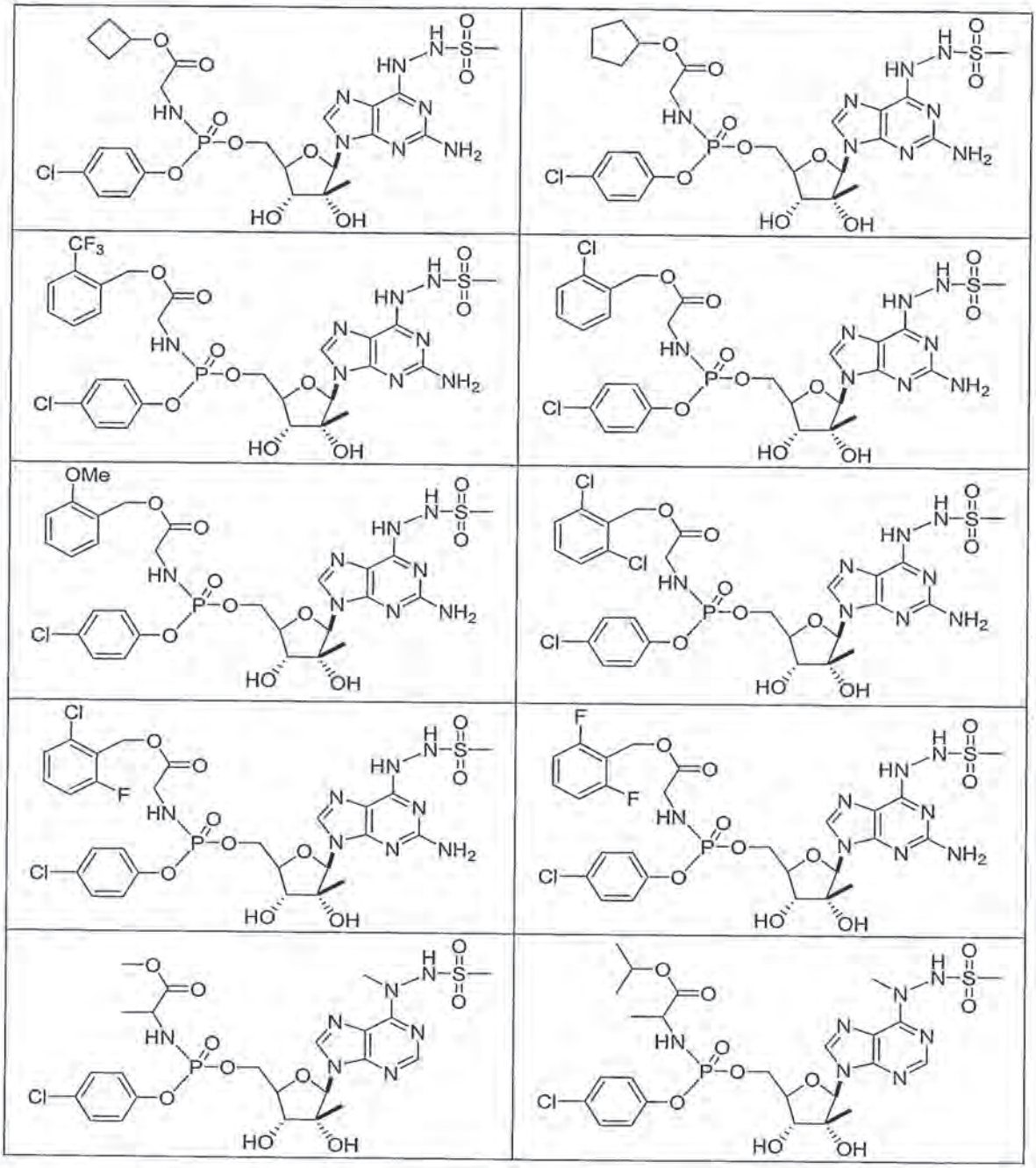
Gilead Exhibit 2016
PGR2023-00046 - Page 00857



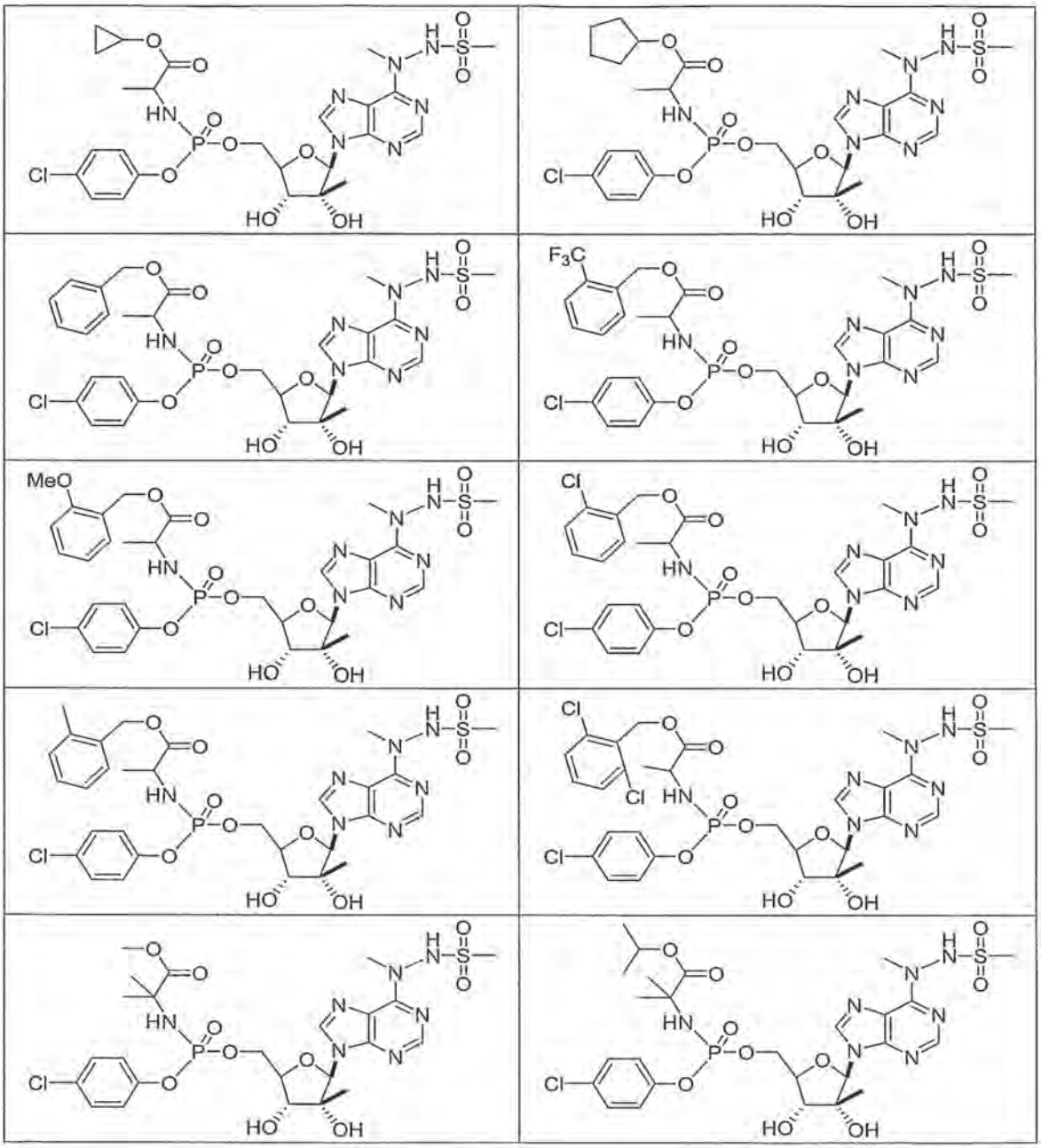
Gilead Exhibit 2016
PGR2023-00046 - Page 00858



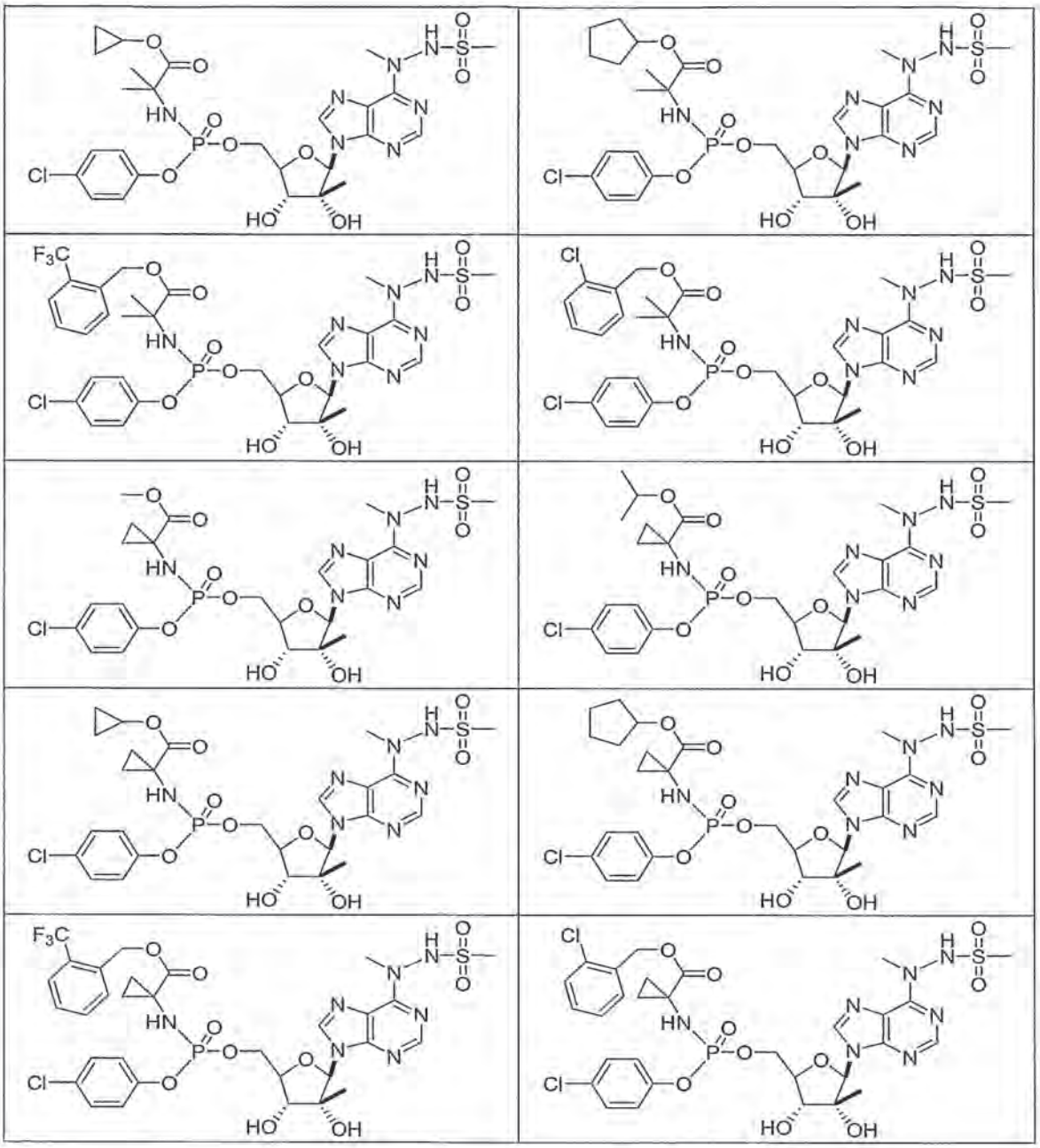
Gilead Exhibit 2016
PGR2023-00046 - Page 00859



Gilead Exhibit 2016
PGR2023-00046 - Page 00860



Gilead Exhibit 2016
PGR2023-00046 - Page 00861



Gilead Exhibit 2016
PGR2023-00046 - Page 00862