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.

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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.

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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.

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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

*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

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№	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

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№	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

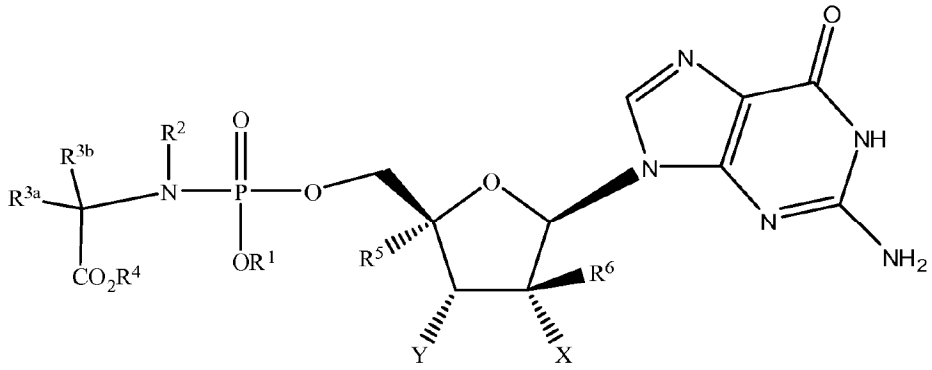
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

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.

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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

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№	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

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№	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.

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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.

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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.

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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.

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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.

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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.

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.

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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.

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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.

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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.

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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.

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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.

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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.

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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

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*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

№	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

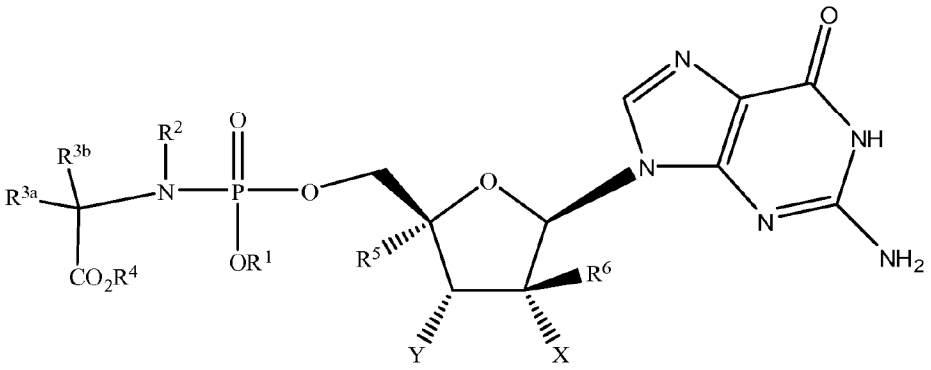
*R^2 and R^{3b} joined together by $(CH_2)_3$ to form five-membered ring.

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.

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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.

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№	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.

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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.

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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.

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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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

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*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

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№	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.

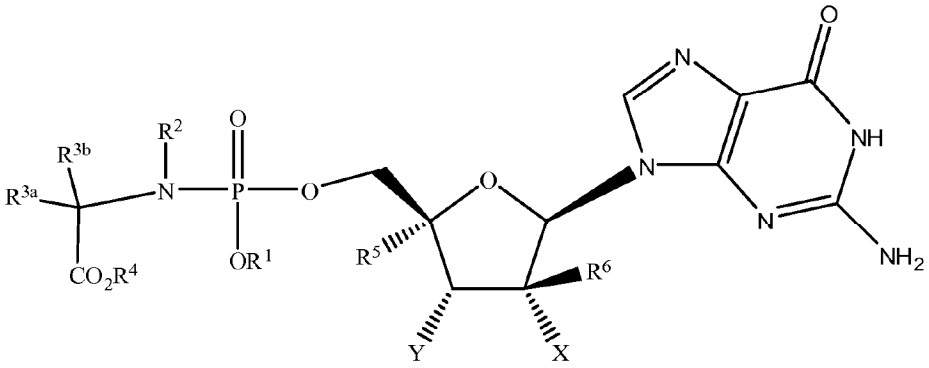
Table XXXI-50.

№	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

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№	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

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№	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

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№	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.

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№	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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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

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*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

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№	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

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№	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

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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,

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.

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

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,

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

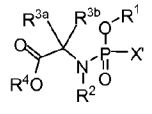
including, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, and 23 hours.

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.

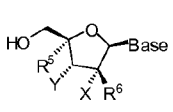
It will be understood that references herein to treatment extend to prophylaxis as well as to the treatment of existing conditions. Furthermore, the term "treatment" of a HCV infection, as used herein, also includes treatment or prophylaxis of a disease or a condition associated with or mediated by HCV 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



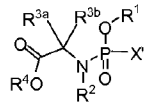
5

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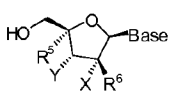
wherein the substituents R^1, R^2, R^{3a}, R^{3b}, R^4, R^5, X, Y, R^6, and base have their meanings as disclosed in the Detailed Description of the Invention and X' is a leaving group, such as Cl, Br, I, tosylate, mesylate, trifluoroacetate, trifluorosulfonate, pentafluorophenoxide, p-NO_2-phenoxide, 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

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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.

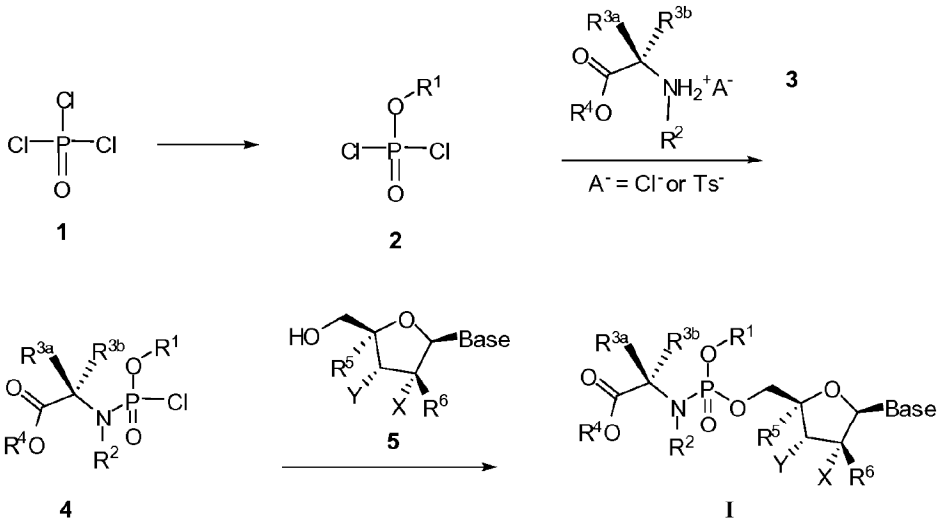
Compounds and Preparation

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.

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

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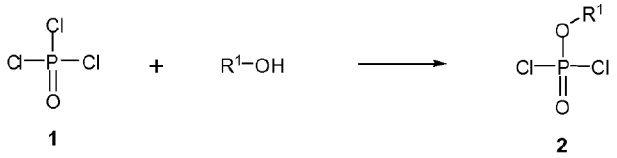
the desired nucleoside. In cases where the nucleoside contains more than one free hydroxyl group, preparation of the appropriately protected nucleoside might be required. Silyl, acetonide or other alcohol protecting groups known in the art might be warranted for protection of the sugar moiety. For protection 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



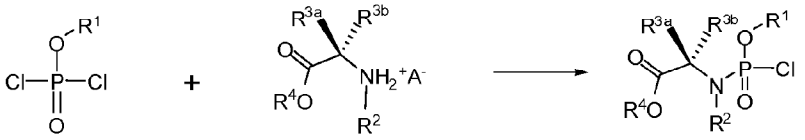
1 **2**

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

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

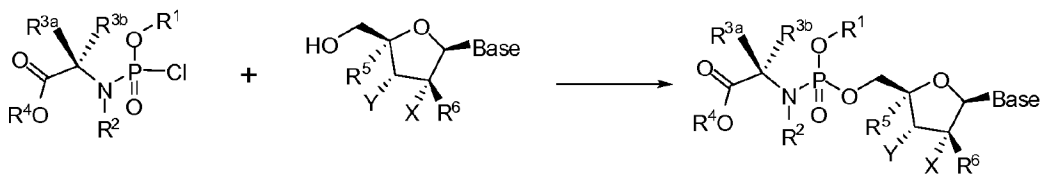


2 **3** **4**

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



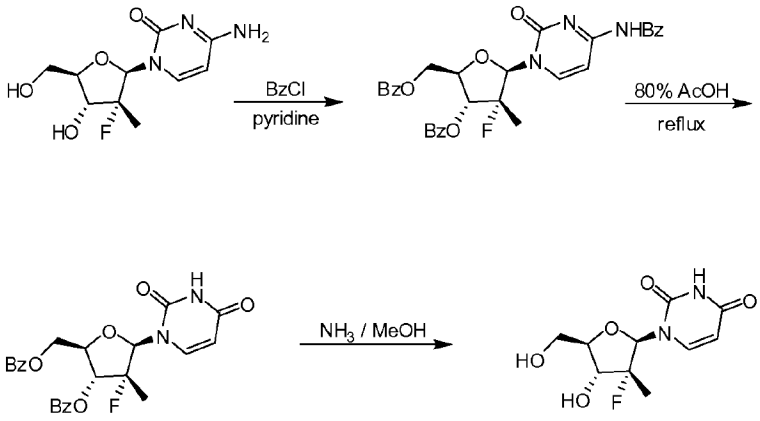
4 **5** **I**

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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

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(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%).

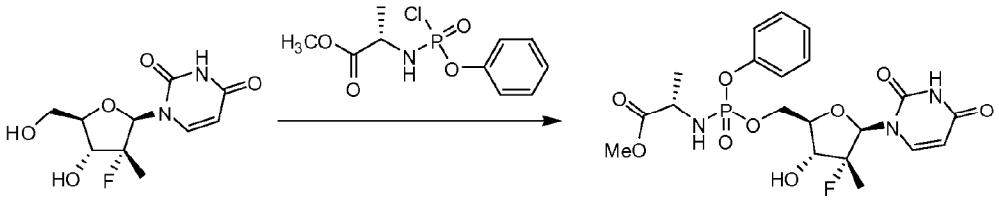
N^4,3',5'-tribenzoyl-2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (2.0g, 1 eq) was refluxed in 80% aqueous AcOH overnight. After cooling and standing at room temperature (15 °C), most of the product precipitated and then was filtered through a sintered funnel. White precipitate was washed with water and 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)

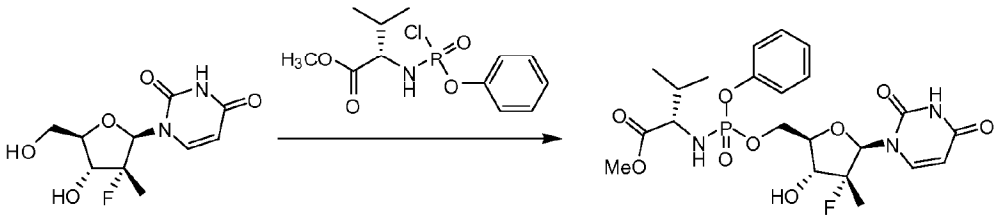
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Phenyl methoxyalaninyl phosphorochloridate (1 g, 6.5 eq) dissolved in 3 mL of THF was added to a mixture of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq) and N-methylimidazole (0.3 g, 8 eq) in 3 mL THF with vigorous stirring at room temperature, 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)



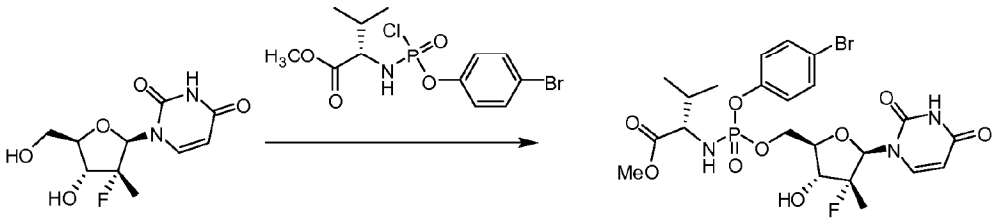
Phenyl methoxy-valyl phosphorochloridate (0.6 g, 3.6 eq) dissolved in 3 mL of THF was added to a mixture of 2'-Deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq) and N-methylimidazole (0.44 g, 9 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent was removed by reduced

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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)



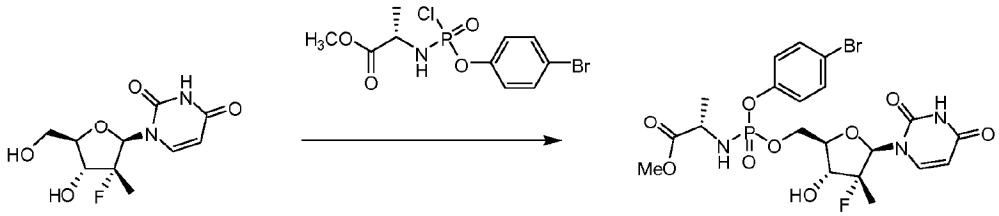
4-Bromophenyl methoxy-valyl phosphorochloridate (1 g, 3.4 eq) dissolved in 3 mL of THF was added to a mixture of 2'-deoxy-2'-fluoro-2'-*C*-methyluridine (0.2 g,1 eq) and N-methylimidazole (0.35 g, 6 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. Solvent 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),

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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)

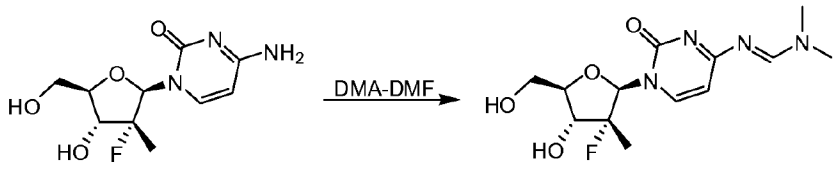


4-Bromophenyl methoxy-alanyl phosphorochloridate (0.6 g, 5 eq) dissolved in 3 mL of THF was added to a mixture of 2'-deoxy-2'-fluoro-2'-*C*-methyluridine (0.15 g,1 eq)and N-methylimidazole (0.3 g, 7.8 eq) in 3 mL THF with vigorous stirring at room temperature, then the reaction was stirred overnight. 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

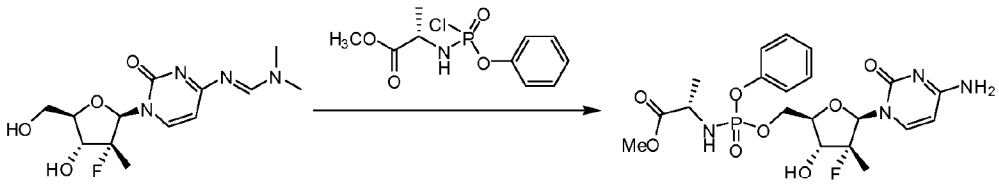
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2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine (500 mg, 1.9 mmol) was stirred with dimethylformamide dimethyl acetal in DMF (10 mL). The resulting mixture was stirred at room temperature overnight. After solvent removal the crude product was used for next step without further purification.

EXAMPLE 10

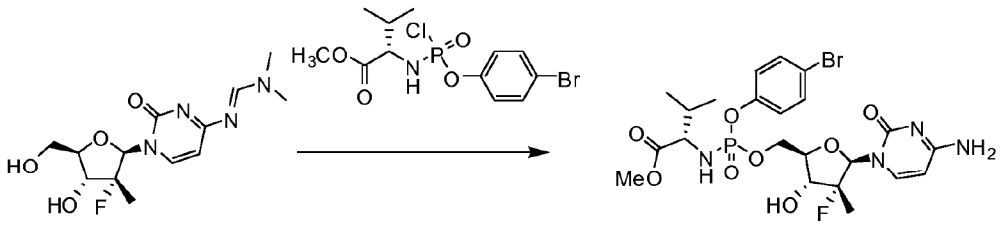
Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(phenyl methoxy-alanyl phosphate)



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

Preparation of 2'-Deoxy-2'-fluoro-2'-*C*-methylcytidine 5'-(4-bromophenyl methoxy-valyl phosphate)

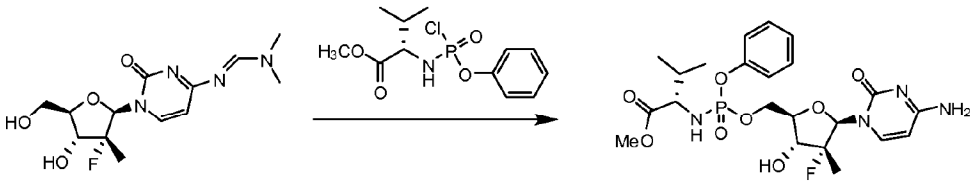


4-Bromophenyl methoxy-valyl phosphorochloridate (1.0 g, 3.4 eq.) dissolved in 3 mL of THF was added to a mixture of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine (0.2 g,1 eq.) and N-methylimidazole (0.35 g, 6 eq.) in 3 mL THF with vigorous stirring at room temperature, then 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)

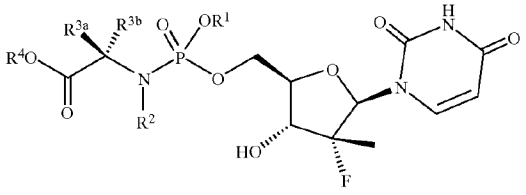
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Phenyl methoxy-valyl phosphorochloridate (0.6 g, 6 eq) dissolved in 3 mL of THF was added to a mixture of N^4-(*N,N*-dimethylformamidinyl)-2'-deoxy-2'-fluoro-2'-*C*-methylcytidine (0.15 g,1 eq) and N-methylimidazole (0.3 g, 7.8 eq) in 3 mL THF with 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

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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),

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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,

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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)+

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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,

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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

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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

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water (A), and HPLC grade acetonitrile (B). Fractions were collected into 100*15mm glass tubes.

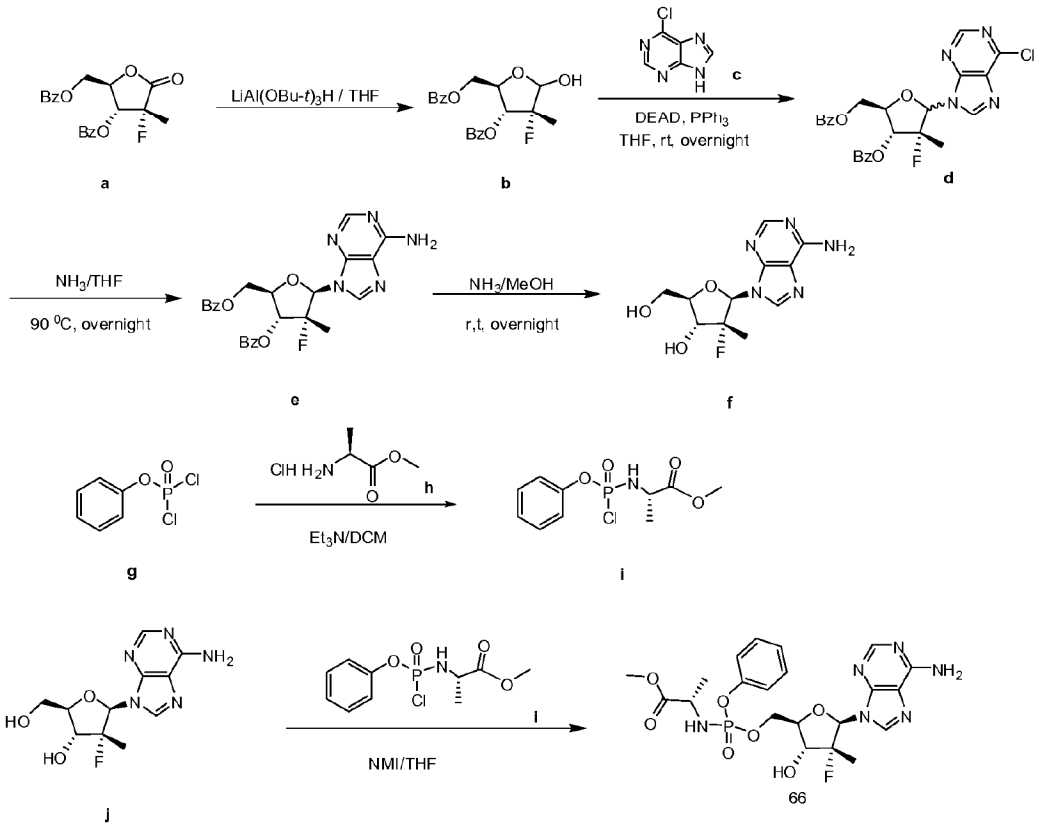
HPLC gradient is shown in Table 1. Once the gradient was selected, acetonitrile solution was injected into HPLC system, and then fractions collected according to UV peaks. After the separation, each glass tubes were run MS test to collect the desired compounds. The fractions with target MS were combined 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



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).

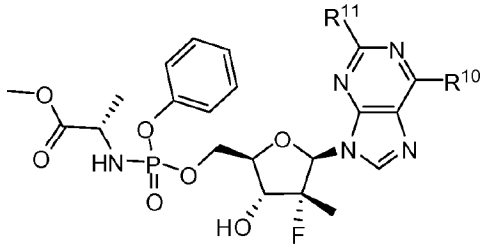
Preparation of Compound 66

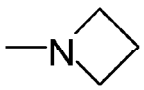
To a solution of compound **j** (0.1 g, 0.35 mmol) dissolved in 10 mL of anhydrous THF, stirred and added 0.4g NMI till the solution became clear, added compound **i** (0.8 g, 2.89 mmol) in 10 mL THF dropwise, stirred at r.t. overnight. Compound purity and identification was confirmed by LCMS. The solvent 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,

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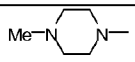
1H), 4.24-4.44 (m, 2H), 5.85-5.92 (m, 1H), 6.01-6.11 (m,1H), 6.2.-6.27 (m, 1H), 7.08-7.19 (m, 4H), 7.31-7.38 (m, 3H), 8.15 (s, 1H), 8.26 (s, 1H); MS, *m/e* 525 $(M+1)^+$.

Example numbers **67-74**, identified below, were prepared using similar procedures disclosed for Example **66**, above.

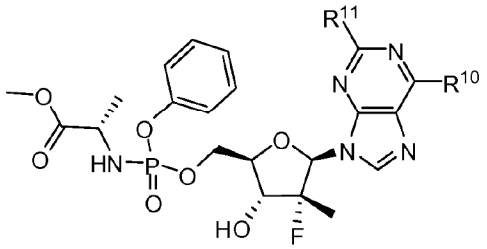


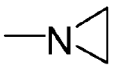
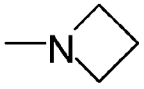
Example	R^{11}	R^{10}	NMR/MS
67	OH	NH_2	^{1}H NMR (DMSO-d_6) δ 1.06-1.13 (m, 3H), 1.20-1.24 (m, 3H), 3.27-3.33(m, 3H), 3.56 (s, 1H), 3.82-3.88 (m, 1H), 4.07-4.13 (m, 1H), 4.25-4.40 (m, 2H), 5.85-5.87 (m, 1H), 5.98-6.09 (m, 2H), 6.59 (s, 32H), 7.14-7.37 (m, 3H), 7.35-7.37 (m, 2H), 7.79 (d, *J*=7.2 Hz, 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,

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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.



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

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

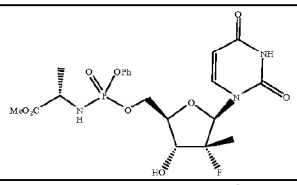
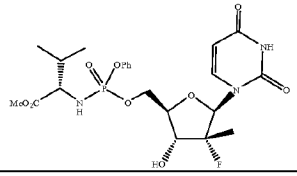
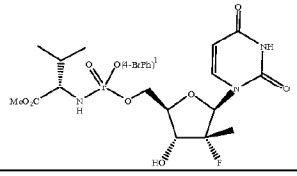
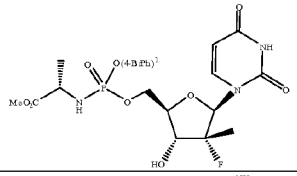
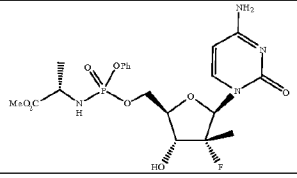
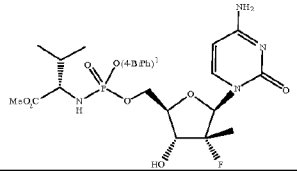
EXAMPLE 82

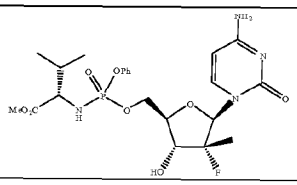
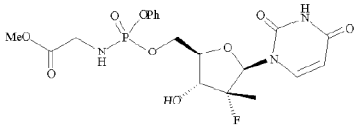
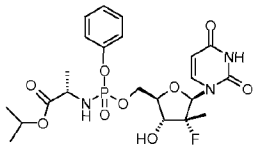
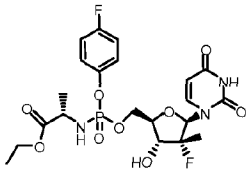
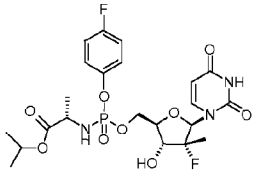
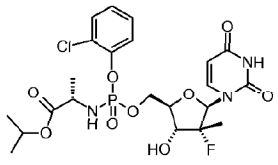
HCV replicon assay. HCV replicon RNA-containing Huh7 cells (clone A cells; Apath, LLC, St. Louis, Mo.) were kept at exponential growth in Dulbecco's modified Eagle's medium (high glucose) containing 10% fetal bovine serum, 4 mM L-glutamine and 1 mM sodium pyruvate, 1× nonessential amino acids, and G418 (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′).

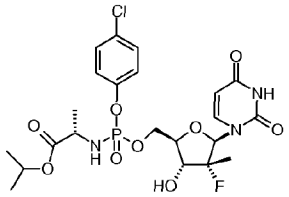
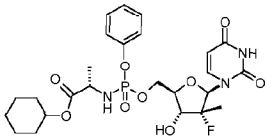
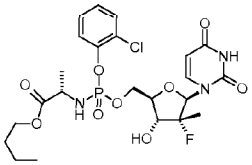
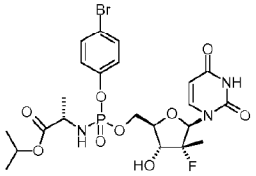
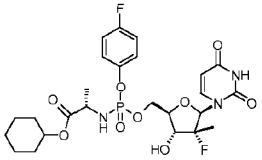
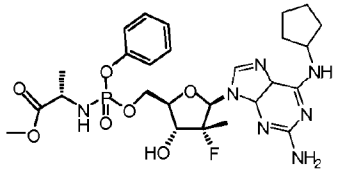
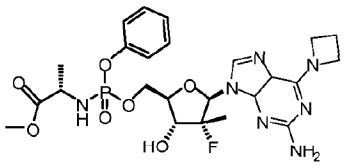
To express the antiviral effectiveness of a compound, the threshold RT-PCR cycle of the test compound was subtracted from the average threshold RT-PCR cycle of the no-drug control (ΔCt_{HCV}). A ΔCt of 3.3 equals a 1-log 10 reduction (equal to the 90%

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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

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

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

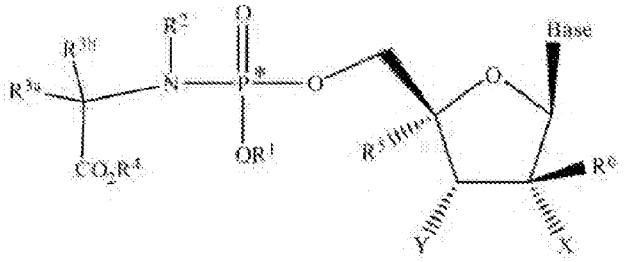
[1](4-BrPh): 4-bromo-phenyl.

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.

We claim:

1. 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, $-(CH_2)_s(NR^{3'})_2$, C_{1-6} hydroxyalkyl, $-CH_2SH$, $-(CH_2)_2S(O)_tMe$, $-(CH_2)_3NHC(=NH)NH_2$, (1H-indol-3-yl)methyl, (1H-imidazol-4-yl)methyl, $-(CH_2)_sCOR^{3''}$, aryl and aryl C_{1-3} alkyl, said aryl

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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 e 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;

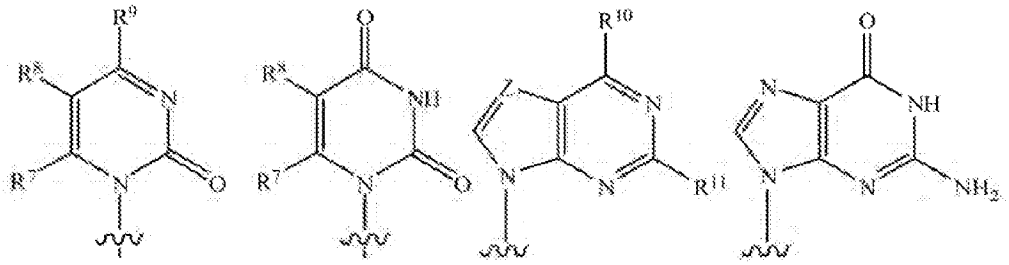
(f) R^6 is H, CH_3, CH_2F, CHF_2, CF_3, F, or CN;

(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

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(b) 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};

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-

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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

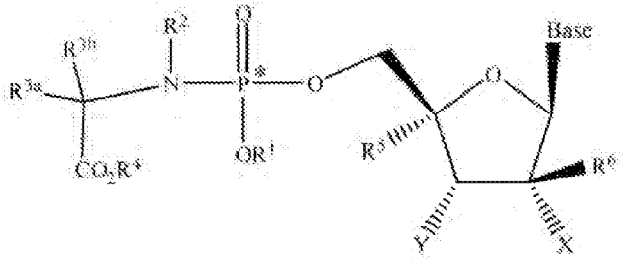
R^{12} is an H, halogen (including F, Cl, Br, I), OH, OR', SH, SR', NH_2, NHR', NR'_2, NO_2, lower alkyl of C_1-C_6, halogenated (F, Cl, Br, I) lower alkyl of C_1-C_6, lower alkenyl of C_2-C_6, halogenated (F, Cl, Br, I) lower alkenyl of C_2-C_6 , lower alkynyl of C_2-C_6, halogenated (F, Cl, Br, I) 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.

2. 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:

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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, $-(CH_2)_2(NR^{3'})_2$, 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, $CH_2CH_2C(O)NH_2$, $CH_2CH_2CH_2CH_2NH_2$, -

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$CH_2CH_2CH_2NHC(NH)NH_2$, 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;

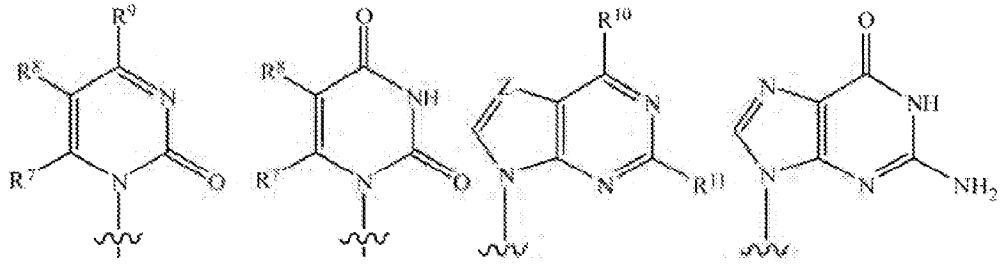
(g) X is H, OH, F, OMe, halogen, NH_2, or N_3;

(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, 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), $SO(C_{1-4}$

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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 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

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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) $-NO_2$.

3. 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;

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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;

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;

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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;

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;

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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;

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;

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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;

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;

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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;

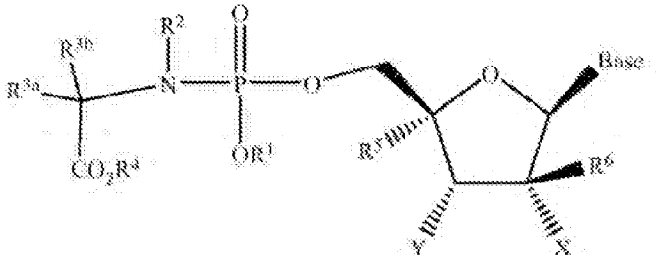
79 (2S)-methyl 2-((((2R,3R,4R,5R)-4-fluoro-3-hydroxy-4-methyl-5-(6-(piperidin-1-yl)-9H-purin-9-yl)tetrahydrofuran-2-yl)methoxy)(phenoxy)phosphorylamino)propanoate; and

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.

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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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

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For further information see 37 CFR 1.33(a).

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Application Information:

Title of the Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS		
Attorney Docket Number	03956.053800.4	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

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Prior Application Status	Pending			Remove
Application Number	Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of		13609614	2012-09-11
Prior Application Status	Patented			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13609614	Continuation of	13099671	2011-05-03	8334270	2012-12-18
Prior Application Status	Patented			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13099671	Continuation of	12053015	2008-03-21	7964580	2011-06-21
Prior Application Status	Expired			Remove
Application Number	Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
12053015	non provisional of		60982309	2007-10-24
Prior Application Status	Expired			Remove
Application Number	Continuity Type		Prior Application Number	Filing Date (YYYY-MM-DD)
12053015	non provisional of		60909315	2007-03-30

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) [i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Access Code [i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	Gilead Pharmasset LLC		
Mailing Address Information:			
Address 1	c/o Gilead Sciences, Inc.		
Address 2	333 Lakeside Drive		
City	Foster City	**State/Province**	CA
Country [i]	US	Postal Code	94404
Phone Number		Fax Number	

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

Remove

If the Assignee is an Organization check here. ☒

Organization Name	Gilead Pharmasset LLC

Mailing Address Information:

Address 1	c/o Gilead Sciences, Inc.
Address 2	333 Lakeside Drive

City	Foster City	**State/Province**	CA
Country i	US	Postal Code	94404
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Leila Marcovici/			Date (YYYY-MM-DD)	2013-10-17
First Name	Leila	Last Name	Marcovici	Registration Number	66066

Additional Signature may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (03-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	03956.053800.4
	Application Number	
Title of Invention	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Gilead Exhibit 2024
PGR2023-00046 - Page 00709

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Filer:	Leila Kaplus Marcovici/Maria Miglio
Attorney Docket Number:	03956.053800.4
Filed as Large Entity	

Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Request for Prioritized Examination	1817	1	4000	4000
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Publ. Fee- Early, Voluntary, or Normal	1504	1	300	300
OTHER PUBLICATION PROCESSING FEE	1808	1	130	130
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**6030**

Electronic Acknowledgement Receipt

EFS ID:	17156192
Application Number:	14057675
International Application Number:	
Confirmation Number:	4233
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Customer Number:	104538
Filer:	Leila Kaplus Marcovici/DAVID NGUY
Filer Authorized By:	Leila Kaplus Marcovici
Attorney Docket Number:	03956.053800.4
Receipt Date:	18-OCT-2013
Filing Date:	
Time Stamp:	16:24:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$6030
RAM confirmation Number	3515
Deposit Account	503939
Authorized User	NGUY, DAVID

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 1.16 (National application filing, search, and examination fees)

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 1.20 (Post Issuance 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	TrackOne Request	03956053800-4Track1Request.PDF	153187 25b848c9b719e33c1c8e03f54f83146c289096ac	no	2
Warnings:					
Information:					
2	Oath or Declaration filed	03956053800-4-Declaration.pdf	1697971 c1fc5e1448d905ec5ce2ae74534ef1c0e218650f	no	6
Warnings:					
Information:					
3		039560538004-Specification_REVISED2.pdf	5202114 7e04dda bb15d6f2c3bd677aa699bcdb832824c0c	yes	693

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	679
Claims	680	692
Abstract	693	693

Warnings:					
Information:					
4	Application Data Sheet	03956053800-4ADS.pdf	1504334 c5a89cac2772cdb9e0011ff5efe7d3501ad0e174	no	8
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	40247 cf34a774b3221a9f351815b791bf5d7e803e9b47	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	8597853		

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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.

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 11/04/2013

VVAN11 SALE #00000008 Mailroom Dt: 10/18/2013 503939 14057675

01	FC : 1830	130.00	OP
01	FC : 1830	10.00	DA
02	FC : 1081	3,600.00	DA

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 11/04/2013

VVAN11 ADJ #00000002 Mailroom Dt: 10/18/2013
Seq No: 3515 Sales Acctg Dt: 10/21/2013 14057675
06 FC : 1808 -130.00 OP

03956.053800.4 PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No.: 14/057,675	)	
	:	Examiner: Not yet assigned
First Named Inventor:	)	
	:	Group Art Unit: Not yet assigned
JINFA DU	)	
	:	Confirmation No.: 4233
Filed: October 18, 2013	)	
	:	
For: NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	)	October 22, 2013

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Sir:

A. Introduction

Prior to examination on the merits of the above-identified application, please amend the application as follows and consider the following remarks.

B. Amendments to the Specification

At page 1, line 1, immediately after the title of invention and before the section titled "Field of Invention," please add the following section heading and paragraph:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation application of U.S. Patent Application No. 13/609,614, filed September 11, 2012, which is a continuation of U.S. Patent Application No. 13/099,671, filed May 3, 2011, which issued as U.S. Patent No. 8,334,270 on December 18, 2012, which is a continuation of U.S. Patent Application No. 12/053,015, filed March 21, 2008, which issued as U.S. Patent No. 7,964,580 on June 21, 2011, which claims the benefit of U.S. Provisional Application No. 60/982,309, filed October 24, 2007, and U.S. Provisional Application No. 60/909,315, filed March 30, 2007. The entire contents of the aforementioned applications are incorporated herein by reference in their entirety.

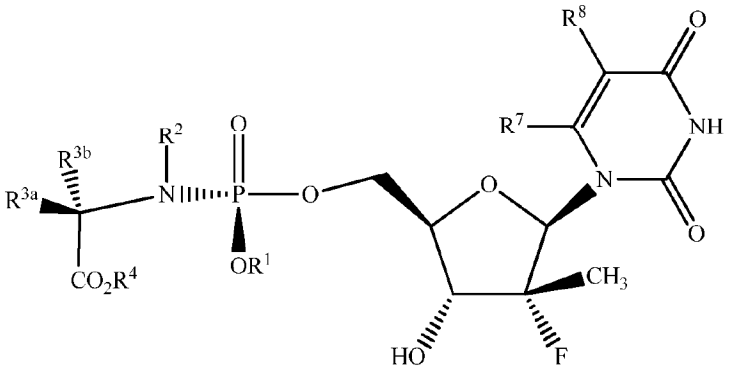
Gilead Exhibit 2024
PGR2023-00046 - Page 00718

C. Amendments to the Claims:

The following listing of the claims replaces all prior versions and listings.

1.-3. (Cancelled).

4. (New) A method of treating a human infected by hepatitis C virus, comprising administering to the subject an effective amount of an NS5a inhibitor and an effective amount of a compound represented by the following formula:



wherein

R^1 is hydrogen, methyl, ethyl, *n*-propyl, *i*-propyl, or a substituted or unsubstituted phenyl, where the substitutent of the substituted phenyl is at least one of a CH_3, OCH_3, F, Cl, Br, I, nitro, cyano, and a $CH_{3-q}X_q$, where X is F, Cl, Br, or I, and q is 1-3;

R^2 is hydrogen or CH_3;

R^{3a} is H and R^{3b} is H, CH_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

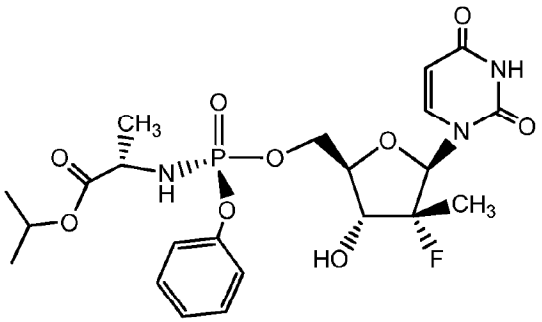
Gilead Exhibit 2024
PGR2023-00046 - Page 00719

R^{3a} is CH_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, $CH(OH)CH_3$, $CH_2((4'\text{-}OH)\text{-}Ph)$, CH_2SH, or lower cycloalkyl and R^{3b} is H;

R^4 is hydrogen, CH_3, Et, ^{i}Pr, ^{n}Pr, ^{n}Bu, 2-butyl, ^{t}Bu, benzyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, N-methyl-aziridin-2-yl, N-methyl-azetidin-3-yl, N-methyl-pyrrolidin-3-yl, N-methyl-pyrrolidin-4-yl, N-methyl-piperidin-4-yl, lower haloalkyl, or di(lower alkyl)amino-lower alkyl; and

R^7 and R^8 are independently H, F, Cl, Br, I, OH, OCH_3, SH, SCH_3, NH_2, $NHCH_3$, $N(CH_3)_2$, CH_3, $CH_{3-q}X_q$, where X is F, Cl, Br, or I and q is 1 to 3, vinyl, CO_2H, CO_2CH_3, $CONH_2$, $CONHCH_3$, or $CON(CH_3)_2$, wherein R' is a $C_{1\text{-}20}$ alkyl; a $C_{1\text{-}20}$ cycloalkyl; a C_2-C_6 alkenyl, a C_2-C_6 alkynyl.

5. (New) The method of claim 4, wherein the compound is



Gilead Exhibit 2024
PGR2023-00046 - Page 00720

D. Remarks

Claims 1-3 have been cancelled without prejudice or disclaimer of subject matter. Claims 4 and 5 have been added, with claim 4 being in independent form. Support for the new claims may be found in the subject specification as filed. The specification has been amended to provide a cross-reference to related applications. Applicant submits that no new matter has been added.

Early and favorable action on the merits is respectfully requested.

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

/Leila K. Marcovici/
Leila K. Marcovici
Attorney for Applicant
Registration No.: 66,066

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

Gilead Exhibit 2024
PGR2023-00046 - Page 00721

Electronic Acknowledgement Receipt

EFS ID:	17192017
Application Number:	14057675
International Application Number:	
Confirmation Number:	4233
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Customer Number:	104538
Filer:	Leila Kaplus Marcovici/DAVID NGUY
Filer Authorized By:	Leila Kaplus Marcovici
Attorney Docket Number:	03956.053800.4
Receipt Date:	22-OCT-2013
Filing Date:	
Time Stamp:	14:16:09
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		PreAme03956053800_4.pdf	117982 27662705099d46fcde20971bdb789197cdafbc63	yes	5

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Specification	2	2
	Claims	3	4
	Applicant Arguments/Remarks Made in an Amendment	5	5
Warnings:			
Information:			
	Total Files Size (in bytes):	117982	

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.

PTO/SB/06 (09-11)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/057,675	Filing Date 10/18/2013	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 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).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	10/22/2013	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 2	Minus	** 20	=	X $ =	
	Independent (37 CFR 1.16(h))	* 1	Minus	***3	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

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	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

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	1	RE29835	A	1978-11-14	Witkowski et al.	
	2	3798209	A	1974-03-19	Witkowski et al.	
	3	3852267	A	1974-12-03	Meyer, Jr. et al.	
	4	4814477	A	1989-03-21	Wijnberg et al.	
	5	4957924	A	1990-09-18	Beauchamp	
	6	5026687	A	1991-06-25	Yarchoan et al.	
	7	5118820	A	1992-06-02	Hertel	
	8	5149794	A	1992-09-22	Yatvin et al.	

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	Attorney Docket Number	03956.053800.4

	9	5157027	A	1992-10-20	Biller et al.	
	10	5192549	A	1993-03-09	Barenolz et al.	
	11	5194654	A	1993-03-16	Hostetler et al.	
	12	5223263	A	1993-06-29	Hostetler et al.	
	13	5256641	A	1993-10-26	Yatvin et al.	
	14	5256798	A	1993-10-26	Chou et al.	
	15	5372808	A	1994-12-13	Blatt et al.	
	16	5376380	A	1994-12-27	Kikuchi et al.	
	17	5405598	A	1995-04-11	Schinazi et al.	
	18	5411947	A	1995-05-02	Hostetler et al.	
	19	5420266	A	1995-05-30	Britton et al.	

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	20	5426183	A	1995-06-20	Kjell	
	21	5453499	A	1995-09-26	Chou et al.	
	22	5462724	A	1995-10-31	Schinazi et al.	
	23	5463092	A	1995-10-31	Hostetler et al.	
	24	5496546	A	1996-03-05	Wang et al.	
	25	5538865	A	1996-07-23	Reyes et al.	
	26	5543389	A	1996-08-06	Yatvin et al.	
	27	5543390	A	1996-08-06	Yatvin et al.	
	28	5543391	A	1996-08-06	Yatvin et al.	
	29	5554728	A	1996-09-10	Basava et al.	
	30	5610054	A	1997-03-11	Draper	

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	Attorney Docket Number	03956.053800.4

	31	5633358	A	1997-05-27	Gruetzke et al.	
	32	5633388	A	1997-05-27	Diana et al.	
	33	5676942	A	1997-10-14	Testa et al.	
	34	5703058	A	1997-12-30	Schinazi et al.	
	35	5711944	A	1998-01-27	Gilbert et al.	
	36	5725859	A	1998-03-10	Omer	
	37	5738845	A	1998-04-14	Imakawa	
	38	5738846	A	1998-04-14	Greenwald et al.	
	39	5747646	A	1998-05-05	Hakimi et al.	
	40	5767097	A	1998-06-16	Tam	
	41	5792834	A	1998-08-11	Hakimi et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	42	5830455	A	1998-11-03	Valtuena et al.	
	43	5830905	A	1998-11-03	Diana et al.	
	44	5834594	A	1998-11-10	Hakimi et al.	
	45	5837257	A	1998-11-17	Tsai et al.	
	46	5846964	A	1998-12-08	Ozeki	
	47	5849696	A	1998-12-15	Chretien et al.	
	48	5869253	A	1999-02-09	Draper	
	49	5891874	A	1999-04-06	Colacino et al.	
	50	5905070	A	1999-05-18	Schinazi et al.	

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	1	101108870	CN	A	2008-01-23	Yixin Leng		☐
	2	199 14 474	DE	A1	1999-10-07	Hoffmann La-Roche AG		☐
	3	0 180 276	EP	A1	1986-05-07	OCE ANDENO BV		☐
	4	0 350 287	EP	A2	1990-01-10	VICAL, INC.		☐
	5	1 828 217	EP	A2	2007-09-05	FEBIT BIOTECH GMBH		☐
	6	1 881 001	EP	A1	2008-01-23	TIBOTEC PHARM, LTD.		☐
	7	2 097 430	EP	A1	2009-09-09	CT BADAN MOLEKULAR I MAKRO		☐
	8	2 124 555	EP	A2	2009-12-02	MERCK & CO, INC.		☐

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	Attorney Docket Number	03956.053800.4

	9	2 207 786	EP	B1	2012-03-07	EISAI, INC.		☐
	10	5-238939	JP	A	1993-09-17	NODA SANGYO KAGAKU KENKYUSHO KIKKOMAN CORP		☐
	11	89/02733	WO	A1	1989-04-06	UNIV CALIFORNIA		☐
	12	90/00555	WO	A1	1990-01-25	VICAL, INC.		☐
	13	91/16920	WO	A1	1991-11-14	VICAL, INC.		☐
	14	91/19721	WO	A1	1991-12-26	GLAZIER ARNOLD		☐
	15	91/18914	WO	A1	1991-12-12	VICAL, INC.		☐
	16	93/00910	WO	A1	1993-01-21	VICAL, INC.		☐
	17	94/26273	WO	A1	1994-11-24	HOSTETLER KARL Y		☐
	18	95/13090	WO	A1	1995-05-18	ENZON, INC.		☐
	19	95/24185	WO	A1	1995-09-14	ISIS PHARMACEUTICALS, INC.		☐

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	20	96/15132	WO	A1	1996-05-23	UNIV CALIFORNIA		☐
	21	96/32403	WO	A2	1996-10-17	SCHERING AG		☐
	22	97/12033	WO	A1	1997-04-03	UNIV EMORY		☐
	23	97/36554	WO	A1	1997-10-09	VIROPHARMA, INC.		☐
	24	98/16184	WO	A2	1998-04-23	ICN PHARMACEUTICALS		☐
	25	98/17679	WO	A1	1998-04-30	VERTEX PHARMA		☐
	26	98/22496	WO	A2	1998-05-28	HOFFMANN LA-ROCHE AG		☐
	27	99/07734	WO	A2	1999-02-18	BOEHRINGER INGELHEIM, LTD.		☐
	28	99/15194	WO	A1	1999-04-01	SCHERING CORP.		☐
	29	99/32139	WO	A1	1999-07-01	ENZON, INC.		☐
	30	99/32140	WO	A1	1999-07-01	ENZON, INC.		☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	31	99/43691	WO	A1	1999-09-02	UNIV EMORY UNIV GEORGIA RES FOUND		☐
	32	99/59621	WO	A1	1999-11-25	SCHERING CORP.		☐
	33	99/64016	WO	A1	1999-12-16	HOFFMANN LA-ROCHE AG		☐
	34	00/09531	WO	A2	2000-02-24	NOVIRIO PHARMACEUTICALS, LTD.		☐
	35	00/06529	WO	A1	2000-02-10	ANGELETTI P IST RICHERCHE BIO		☐
	36	00/37110	WO	A2	2000-06-29	SCHERING CORP		☐
	37	01/09121	WO	A2	2001-02-08	BASF AG		☐
	38	01/32153	WO	A2	2001-05-10	BIOCHEM PHARMA, INC.		☐
	39	01/60315	WO	A2	2001-08-23	IAF BIOCHEM INT		☐
	40	01/79246	WO	A2	2001-10-25	PHARMASSET, LTD.		☐
	41	01/90121	WO	A2	2001-11-29	NOVIRIO PHARMACEUTICALS, LTD.		☐

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	42	01/81359	WO	A1	2001-11-01	SCHERING CORP.		☐
	43	01/91737	WO	A2	2001-12-06	NOVIRIO PHARMACEUTICALS, LTD.		☐
	44	01/92282	WO	A2	2001-12-06	NOVIRIO PHARMACEUTICALS, LTD.		☐
	45	01/96353	WO	A2	2001-12-20	NOVIRIO PHARMACEUTICALS, LTD.		☐
	46	02/08187	WO	A1	2002-01-31	SCHERING CORP. CORVAS INT. INC.		☐
	47	02/08198	WO	A2	2002-01-31	SCHERING CORP.		☐
	48	02/08251	WO	A2	2002-01-31	CORVAS INT., INC. [US]		☐
	49	02/08256	WO	A2	2002-01-31	SCHERING CORP [US] CORVAS INT., INC.		☐
	50	02/18404	WO	A2	2002-03-07	HOFFMANN LA-ROCHE AG		☐

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	1	Abraham et al., "Synthesis and Biological Activity of Aromatic Amino Acid Phosphoramidates of 5-fluoro-2'-deoxyuridine and 1-beta-Arabinofuranosylcytosine: Evidence of Phosphoramidase Activity," J. Med. Chem., Vol. 39, No. 23, pages 4569 - 4575, (1996)	☐
	2	Pogam et al., "No Evidence of R7128 Drug Resistance After Up to 4 Weeks Treatment of GT1, 2 and 3 Hepatitis C Virus Infected Individuals", 44th Annual Meeting of European Association for the Study of the Liver (EASL), Copenhagen, Denmark (April 22 - 26, 2009)	☐
	3	Sofia et al., "beta-D-2'-Deoxy-2'-C-methyluridine Phosphoramidates: Potent and Selective Inhibitors of HCV RNA Replication", Poster #P-259, 14th International Symposium on Hepatitis C Virus and Related Viruses, Glasgow, Scotland, UK (September 9 to 13, 2007)	☐
	4	Sofia, M.J., "beta-D-2'-Deoxy-2'-fluoro-2'-C-methyluridine Phosphoramidates: Potent and Selective Inhibitors of HCV RNA Replication", 2nd International Workshop on HCV--Resistance and New Compounds (October 31, 2007)	☐
	5	Sofia et al., "beta-D-2'-Deoxy-2'-fluoro-2'-C-methyluridine Phosphoramidates: Potent and Selective Inhibitors of HCV RNA Replication", 2nd International Workshop on HCV, Poster #7 (October 31, 2007)	☐
	6	Sofia, M.J., "R7128, A Potent and Selective Nucleoside Inhibitor of HCV NS5B Polymerase: An Overview of Clinical Efficacy and Progress Toward Second Generation Inhibitors", HCV Drug Discovery 2008, Chicago, IL (April 28, 2008)	☐
	7	Response filed October 25, 2010 at the EPO for European patent application No. EP08732818.3	☐
	8	Abraham et al., "Synthesis, Biological Activity and Decomposition Studies of Amino Acid Phosphomonoester Amidates of Acyclovir," Nucleosides, Nucleotides and Nucleic Acids, Vol. 16, No. 10, pages 2079 - 2092 (1997)	☐
	9	Balzarini et al., "Mechanism of anti-HIV action of masked alaninyl d4t-MP derivatives," Proc. Natl. Acad. Sci., Vol. 93, pages 7295 - 7299 (1996)	☐
	10	Chang et al., "Amino Acid Phosphoramidate Monoesters of 3'-Azido-3'-deoxythymidine: Relationship between Antiviral Potency and Intracellular Metabolism," J. Med. Chem., Vol. 44, No. 2, pages 223 - 231 (2001)	☐
	11	Chen et al., "In Vivo Pharmacokinetics and Metabolism of Anti-Human Immunodeficiency Virus Agent D4t-5'-[P-Bromophenyl Methoxyalaninyl Phosphate] (Sampidine) in Mice," Drug Metabolism and Disposition, Vol. 29, No. 7, pages 1035 - 1041 (2001)	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	12	Chen et al., "Metabolism of Stavudine-5'-[P-Bromophenyl Methoxyalaninyl Phosphate], Stampidine, in Mice, Dogs, and Cats," Drug Metabolism and Disposition, Vol. 30, No. 12, pages 1523 - 1531 (2002)	☐
	13	Chou et al., "Evidence that Human Histidine Triad Nucleotide Binding Protein 3 (Hint3) is a Distinct Branch of the Histidine Triad (HIT) Superfamily," J. Mol. Biol., Vol. 373, pages 978 - 989 (2007)	☐
	14	Chou et al., "Phosphoramidate Pronucleotides: A Comparison of the Phosphoramidase Substrate Specificity of Human and Escherichia coli Histidine Triad Nucleotide Binding Proteins," Molecular Pharmaceutics, Vol. 4, No. 2, pages 208 - 217 (2006)	☐
	15	Cihlar et al. "Design and Profiling of GS-9148, a Novel Nucleotide Analog Active against Nucleoside-Resistant Variants of Human Immunodeficiency Virus Type 1, and Its Orally Bioavailable Phosphonoamidate Prodrug, GS-9131," Antimicrobial Agents and Chemotherapy, Vol. 52, No. 2, pages 655 - 665 (2008)	☐
	16	Congiatu et al. "Molecular Modeling Studies on the Binding of Some Protides to the Putative Human Phosphoramidase Hint1," Nucleosides, Nucleotides and Nucleic Acids, Vol. 26, pages 1121 - 1124 (2007)	☐
	17	Congiatu et al., "Naphthyl Phosphoramidate Derivatives of BVdU as Potential Anticancer Agents: Design, Synthesis and Biological Evaluation," Nucleosides, Nucleotides, and Nucleic Acids, Vol. 24, No. 5 - 7, pages 485 - 489 (2005)	☐
	18	Curley et al., "Synthesis and anti-HIV evaluation of some phosphoramidate derivatives of AZT: studies on the effect of chain elongation on biological activity," Antiviral Research, Vol. 14, pages 345 - 356 (1990)	☐
	19	D'Cruz et al., "Stampidine: a selective oculo-genital microbicide," Journal of Antimicrobial Chemotherapy, Vol. 56, pages 10 - 19 (2005)	☐
	20	Drontle et al., "Designing a Pronucleotide Stratagem: Lessons from Amino Acid Phosphoramidates of Anticancer and Antiviral Pyrimidines," MiniReviews in Medicinal Chemistry, Vol. 4, No. 4, pages 409 - 419 (2004)	☐
	21	Egron et al., "S-Acyl-2-thioethyl Phosphoramidate Diester Derivatives as Mononucleotide Prodrugs" J. Med. Chem., Vol. 46, No. 21, pages 4564 - 4571 (2003)	☐
	22	Howes et al., "The Regiospecific One-Pot Phosphorylation of Either the 5'- or 2'-Hydroxyl in 3'-Deoxycytidines Without Protection: Critical Role of the Base," Nucleosides, Nucleotides, and Nucleic Acids, Vol. 22, No. 5 - 8, pages 687 - 689 (2003)	☐

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	First Named Inventor	Jinfa Du
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	Attorney Docket Number	03956.053800.4

	23	Iyer et al., "Synthesis, in Vitro Anti-Breast Cancer Activity, and Intracellular Decomposition of Amino Acid Methyl Ester and Alkyl Amide Phosphoramidate Monoesters of 3'-Azido-3'-deoxythymidine (AZT)," J. Med. Chem., Vol. 43, No. 11, pages 2266 - 2274 (2000)	☐
	24	Kim et al., "Monitoring the Intracellular Metabolism of Nucleoside Phosphoramidate Pronucleotides by 31P NMR," Nucleosides, Nucleotides and Nucleic Acid, Vol. 23, No. 1 & 2, pages 483 - 493 (2004)	☐
	25	Lehsten et al., "An Improved Procedure for the Synthesis of Nucleoside Phosphoramidates," Organic Process Research and Development, Vol. 6, pages 819 - 822 (2002)	☐
	26	McGuigan et al., "Aryl phosphate derivatives of AZT retain activity against HIV1 in cell lines which are resistant to the action of AZT," Antiviral Research, Vol. 17, pages 311 - 321 (1992)	☐
	27	McGuigan et al., "Application of Phosphoramidate ProTide Technology Significantly Improves Antiviral Potency of Carbocyclic Adenosine Derivatives," J. Med. Chem., Vol. 49, No. 24, pages 7215 - 7226 (2006)	☐
	28	McGuigan et al., "Application of Phosphoramidate Pronucleotides Technology to Abacavir Leads to a Significant Enhancement of Antiviral Potency," J. Med. Chem., Vol. 48, No. 10, pages 3504 - 3515 (2005)	☐
	29	McGuigan et al., "Aryl Phosphoramidate Derivatives of d4T Have Improved Anti-HIV Efficacy in Tissue Culture and May Act by the Generation of a Novel Intracellular Metabolite," J. Med. Chem., Vol. 39, No. 8, pages 1748 - 1753 (1996)	☐
	30	McGuigan et al., "Synthesis and anti-HIV activity of some novel chain-extended phosphoramidate derivatives of d4T (stavudine): esterase hydrolysis as a rapid predictive test for antiviral potency," Antiviral Chemistry and Chemotherapy, Vol 9, pages 109 - 115 (1998)	☐
	31	McGuigan et al., "Synthesis and evaluation of some novel phosphoramidate derivatives of 3'-azido-3'-deoxythymidine (AZT) as anti-HIV compounds," Antiviral Chemistry and Chemotherapy, Vol. 1, No. 2, pages 107 - 113 (1990)	☐
	32	McIntee et al., "Probing the Mechanism of Action and Decomposition of Amino Acid Phosphomonoester Amidates of Antiviral Nucleoside Prodrugs," J. Med. Chem., Vol. 40, No. 21, pages 3323 - 3331 (1997)	☐
	33	Perrone et al., "First Example of Phosphoramidate Approach Applied to a 4'-Substituted Purine Nucleoside (4'-Azidoadenosine): Conversion of an Inactive Nucleoside to a Submicromolar Compound versus Hepatitis C Virus," J. Med. Chem., Vol. 50, No. 22, pages 5463 - 5470 (2007)	☐

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	Attorney Docket Number	03956.053800.4

	34	Perrone et al. "Application of the Phosphoramidate ProTide Approach to 4'-Azidouridine Confers Sub-micromolar Potency versus Hepatitis C Virus on an Inactive Nucleoside," J. Med. Chem., Vol. 50, No. 8, 1840 - 1849 (2007)	☐
	35	Saboulard et al., "Characterization of the Activation Pathway of Phosphoramidate Triester Prodrugs of Stavudine and Zidovudine," Mol. Pharmacol., Vol. 56, pages 693 - 704 (1999)	☐
	36	Schultz, C., "Prodrugs of Biologically Active Phosphate Esters" Bioorg. and Med. Chem., Vol. 11, pages 885 - 898 (2003)	☐
	37	Siccardi et al., "Stereoselective and Concentration-Dependent Polarized Epithelial Permeability of a Series of Phosphoramidate Triester Prodrugs of d4T: An in Vitro Study in Caco-2 and Madin-Darby Canine Kidney Cell Monolayers," J. Pharmacol. and Exp. Ther., Vol. 307, No. 3, pages 1112 - 1119 (2003)	☐
	38	Siccardi et al., "Stereospecific chemical and enzymatic stability of phosphoramidate triester prodrugs of d4T in vitro," European Journal of Pharmaceutical Sciences, Vol. 22, pages 25 - 31 (2004)	☐
	39	Siddiqui et al., "Design and Synthesis of Lipophilic Phosphoramidate d4T-MP Prodrugs Expressing High Potency Against HIV in Cell Culture: Structural Determinants for in Vitro Activity and QSAR," J. Med. Chem., Vol. 42, No. 20, pages 4122 - 4128 (1999)	☐
	40	Siddiqui et al., "Enhancing the Aqueous Solubility of d4T-based Phosphoramidate Prodrugs," Bioorg. and Med. Chem. Lett., Vol. 10, pages 381 - 384 (2000)	☐
	41	Song et al., "Pharmacokinetics of Amino Acid Phosphoramidate Monoesters of Zidovudine in Rats," Antimicrobial Agents and Chemotherapy, Vol. 46, No. 5, pages 1357 - 1363 (2002)	☐
	42	Uckun et al., "In Vivo Pharmacokinetics and Toxicity Profile of the Anti-HIV Agent Stampidine in Dogs and Feline Immunodeficiency Virus-infected Cats," Arzneim.-Forsch./Drug Res., Vol. 56, No. 2a, pages 176 - 192 (2006)	☐
	43	Valette et al., "Decomposition Pathways and in Vitro HIV Inhibitory Effects of IsoddA Pronucleotides: Toward a Rational Approach for Intracellular Delivery of Nucleoside 5'-Monophosphates," J. Med. Chem., Vol. 39, No. 10, pages 1981 - 1990 (1996)	☐
	44	Venkatachalam et al., "Synthesis and metabolism of naphthyl substituted phosphoramidate derivatives of stavudine," Bioorg. and Med. Chem., Vol. 14, pages 5161 - 5177 (2006)	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	45	Venkatachalam et al., "Rational Drug Design of Multifunctional Phosphoramidate Substituted Nucleoside Analogs," Current Pharmaceutical Design, Vol. 10, No. 15, pages 1713 - 1726 (2004)	☐
	46	Wagner et al., "Antiviral Nucleoside Drug Delivery via Amino Acid Phosphoramidates," Nucleosides, Nucleotides and Nucleic Acids, Vol. 18, No. 4 & 5, pages 913 - 919 (1999)	☐
	47	Wu et al., "Synthesis and Biological Activity of a Gemcitabine Phosphoramidate Prodrug," J. Med. Chem., Vol. 50, No. 15, pages 3743 - 3746 (2007)	☐
	48	Gunic et al., "6-Hydrazinopurine 2'-methyl ribonucleosides and their 5'-monophosphate prodrugs as potent hepatitis C virus inhibitors," Bioorg. & Med. Chem. Lett., Vol. 17, pages 2456 - 2458 (2007)	☐
	49	International Search Report issued in International PCT application No. PCT/US2008/058183 mailed March 31, 2010 (7 pages)	☐
	50	International Preliminary Examination Report along with Written Opinion of the International Searching Authority issued in International PCT application No. PCT/US2008/058183 issued April 7, 2010 (17 pages)	☐

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☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Leila Marcovici/	Date (YYYY-MM-DD)	2013-10-23
Name/Print	Leila Marcovici	Registration Number	66066

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	1	7601820	B2	2009-10-13	Wang et al.	
	2	7429572	B2	2008-09-30	Clark	
	3	7365057	B2	2008-04-29	LaColla et al.	
	4	7307065	B2	2007-12-11	Schinazi et al.	
	5	7268119	B2	2007-09-11	Cook et al.	
	6	7217523	B2	2007-05-15	Wagner	
	7	7163929	B2	2007-01-16	Sommadossi et al.	
	8	7148206	B2	2006-12-12	Sommadossi et al.	

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	9	7105499	B2	2006-09-12	Carroll et al.	
	10	7081449	B2	2006-07-25	Pietrzkowski et al.	
	11	7018989	B2	2006-03-28	McGuigan et al.	
	12	7018985	B1	2006-03-28	Boyer et al.	
	13	6962991	B2	2005-11-08	Dempcy et al.	
	14	6914054	B2	2005-07-05	Sommadossi et al.	
	15	6911424	B2	2005-06-28	Schinazi et al.	
	16	6908924	B2	2005-06-21	Watanabe et al.	
	17	6897201	B2	2005-05-24	Boyer et al.	
	18	6846810	B2	2005-01-25	Martin et al.	
	19	6815542	B2	2004-11-09	Hong et al.	

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	20	6787526	B1	2004-09-07	Bryant et al.	
	21	6787305	B1	2004-09-07	Li et al.	
	22	6784166	B2	2004-08-31	Devos et al.	
	23	6777395	B2	2004-08-17	Bhat et al.	
	24	6753309	B2	2004-06-22	Klecker et al.	
	25	6703374	B1	2004-03-09	Klecker et al.	
	26	6683045	B2	2004-01-27	Klecker et al.	
	27	6682715	B2	2004-01-27	Klecker et al.	
	28	6680303	B2	2004-01-20	Schinazi et al.	
	29	6677315	B2	2004-01-13	Klecker et al.	
	30	6677314	B2	2004-01-13	Klecker et al.	

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	31	6660721	B2	2003-12-09	Devos et al.	
	32	6642206	B2	2003-11-04	Ramasamy et al.	
	33	6573248	B2	2003-06-03	Ramasamy et al.	
	34	6555677	B2	2003-04-29	Petrillo et al.	
	35	6552183	B1	2003-04-22	Ramasamy et al.	
	36	6534523	B1	2003-03-18	Llinas-Brunet et al.	
	37	6509320	B1	2003-01-21	Wang et al.	
	38	6495677	B1	2002-12-17	Ramasamy et al.	
	39	6479463	B1	2002-11-12	Wang et al.	
	40	6475985	B1	2002-11-05	Wagner et al.	
	41	6455690	B1	2002-09-24	Tam et al.	

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	42	6455513	B1	2002-09-24	McGuigan et al.	
	43	6420380	B2	2002-07-16	Llinas-Brunet et al.	
	44	6410531	B1	2002-06-25	Llinas-Brunet et al.	
	45	6391859	B1	2002-05-21	Schinazi et al.	
	46	6372883	B1	2002-04-16	Attwood et al.	
	47	6348587	B1	2002-02-19	Schinazi et al.	
	48	6239159	B1	2001-05-29	Brown et al.	
	49	6232300	B1	2001-05-15	Schinazi et al.	
	50	6180134	B1	2001-01-30	Zalipsky et al.	

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	1	02/32920	WO	A2	2002-04-25	PHARMASSET LTD.		☐
	2	02/32414	WO	A2	2002-04-25	SCHERING CORP.		☐
	3	02/48165	WO	A2	2002-06-20	PHARMASSET LTD.		☐
	4	02/48116	WO	A2	2002-06-20	BRISTOL-MYERS SQUIBB PHARMA CO		☐
	5	02/48157	WO	A2	2002-06-20	BRISTOL-MYERS SQUIBB PHARMA CO		☐
	6	02/48172	WO	A2	2002-06-20	SCHERING CORP.		☐
	7	02/057287	WO	A2	2002-07-25	MERCK & CO., INC.		☐
	8	02/057425	WO	A2	2002-07-25	MERCK & CO., INC.		☐

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	9	02/060926	WO	A2	2002-08-08	SQUIBB BRISTOL MYERS CO.		☐
	10	02/100415	WO	A2	2002-12-19	F. HOFFMANN-LA ROCHE AG		☐
	11	03/000713	WO	A1	2003-01-03	GLAXO GROUP LTD.		☐
	12	03/006490	WO	A1	2003-01-23	VERTEX PHARMA., INC.		☐
	13	03/010141	WO	A2	2003-02-06	BOEHRINGER INGELHEIM CA LTD.		☐
	14	03/024461	WO	A1	2003-03-27	SCHERING CORP.		☐
	15	03/026589	WO	A2	2003-04-03	IDENIX CAYMAN LTD CENTRE NAT DE LA RECH SCIENT		☐
	16	03/037895	WO	A1	2003-05-08	GLAXO GROUP LTD.		☐
	17	03/051899	WO	A1	2003-06-26	RIBAPHARM INC.		☐
	18	03/053989	WO	A1	2003-07-03	MRC TECHNOLOGY LTD.		☐
	19	03/061576	WO	A2	2003-07-31	RIBAPHARM INC.		☐

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	20	03/062256	WO	A1	2003-07-31	RIBAPHARM INC.		☐
	21	03/068244	WO	A1	2003-08-21	MERCK & CO., INC.		☐
	22	03/064456	WO	A1	2003-08-07	BOEHRINGER INGELHEIM INT		☐
	23	03/105770	WO	A2	2003-12-24	MERCK & CO., INC.		☐
	24	03/106477	WO	A1	2003-12-24	ISIS PHARMACEUTICALS INC.		☐
	25	04/000858	WO	A2	2003-12-31	MERCK & CO,. INC.		☐
	26	03/101993	WO	A1	2003-12-11	NEOGENESIS PHARMACEUTICALS INC.		☐
	27	03/104250	WO	A1	2003-12-18	KYLIX B V		☐
	28	2004/003000	WO	A2	2004-01-08	IDENIX CAYMAN LTD CENTRE NAT RECH SCIENT		☐
	29	2004/003138	WO	A2	2004-01-08	MERCK & CO., INC.		☐
	30	2004/007512	WO	A2	2004-01-22	MERCK & CO., INC.		☐

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	31	2004/009020	WO	A2	2004-01-29	MERCK & CO., INC.		☐
	32	2004/002422	WO	A2	2004-01-08	IDENIX CAYMAN LTD UNIV DEGLI STUDI DI CAGLIARI		☐
	33	2004/002940	WO	A1	2004-01-08	PHARMACIA & UPJOHN CO.		☐
	34	2004/002944	WO	A1	2004-01-08	PHARMACIA & UPJOHN CO.		☐
	35	2004/002977	WO	A1	2004-01-08	PHARMACIA & UPJOHN CO.		☐
	36	2004/002999	WO	A2	2004-01-08	IDENIX CAYMAN LTD.		☐
	37	2004/009610	WO	A2	2004-01-29	PTC THERAPEUTICS INC.		☐
	38	2004/011478	WO	A2	2004-02-05	MICROLOGIX BIOTECH INC.		☐
	39	2004/014313	WO	A2	2004-02-19	SQUIBB BRISTOL MYERS CO.		☐
	40	2004/014852	WO	A2	2004-02-19	SQUIBB BRISTOL MYERS CO.		☐
	41	2004/035571	WO	A1	2004-04-29	RIGEL PHARMACEUTICALS INC.		☐

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	42	2004/041201	WO	A2	2004-05-21	VIROPHARMA INC [US] WYETH CORP.			☐
	43	2004/046331	WO	A2	2004-06-03	IDENIX CAYMAN LTD.			☐
	44	2004/065367	WO	A1	2004-08-05	BOEHRINGER INGELHEIM INT			☐
	45	2004/080466	WO	A1	2004-09-23	RIBAPHARM INC.			☐
	46	2004/096286	WO	A2	2004-11-11	GILEAD SCIENCES INC.			☐
	47	2004/094452	WO	A2	2004-11-04	SQUIBB BRISTOL MYERS CO.			☐
	48	2004/096210	WO	A1	2004-11-11	GLAXO GROUP LTD.			☐
	49	2004/096234	WO	A2	2004-11-11	GILEAD SCIENCES INC.			☐
	50	2004/096235	WO	A2	2004-11-11	GILEAD SCIENCES INC.			☐

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	1	Baschang et al., "Neue Derivate von Thymidin-3',5'-cyclophosphat," Angew. Chem., Vol. 85, No. 1, pages 44 - 45 (1973)	☐
	2	Broeders et al., "A 400- and 600-Mhz 'H NMR Confromational Study on Nucleoside Cyclic 3', 5' PV-TBP Systems. Conformational Transmission Induces Diequatorial Orientation of the 3', 5'-Dioxaphosphorinane Ring in a Nonchair Confirmation," J. Am. Chem. Soc., Vol. 112, No. 21, pages 7475 - 7482 (1990)	☐
	3	Engels et al., "Ctclophosphate, III. Synthese und Eignschaften von Uridin-3',5'-cyclophosphat-estern," Chemische Berichte, Vol. 110, No. 6, pages 2019 - 2027 (1977)	☐
	4	Lopez Aparicio et al., "Synthesis of Saccharinic Acid Derivatives," Carbohydrate Research, Vol. 129, pages 99 - 109 (1984)	☐
	5	Nelson et al., "The Question of Chair-twist Equilibria for the Phosphate Rings of Nucleoside Cyclic 3',5'-Monophosphates. 1H NMR and X-ray Crystallographic Study of Diastereomers of Thymidine Phenyl Cyclic 3',5'-Monophosphate," J. Am. Chem. Soc., Vol. 109, No. 13, pages 4058 - 4064 (1987)	☐
	6	Written Opinion of the International Searching Authority issued in International Application No. PCT/US2004/012472 (7 pages)	☐
	7	International Preliminary Report on Patentability and Written Opinion of the International Searching Authority issued in International Application No. PCT/US2004/012472 (8 pages)	☐
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	11	International Preliminary Report on Patentability and Written Opinion of the International Searching Authority issued in International Application No. PCT/EP2006/069060 (13 pages)	☐

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	14	Partial International Search Report issued in International Application No. PCT/US2009/069475 (7 pages)	☐
	15	International Search Report and Written Opinion of the International Searching Authority issued in International Application No. PCT/US2009/069475 (21 pages)	☐
	16	Invitation to Pay Additional Fees & Partial International Search Report issued in International Application No. PCT/US2010/035641 (10 pages)	☐
	17	International Search Report and Written Opinion of the International Searching Authority issued in PCT/US2010/035641 (23 pages)	☐
	18	Gromova et al., "Optical Rotatory Dispersion and Circular Dichroism of Mono- and Oligonucleotide-Amino Acids (Amidates)," Biochim. Biophys. Acta., Vol. 240, No. 1, pages 1 - 11 (1971)	☐
	19	Harris et al., "Synthesis and antiviral evaluation of phosphoramidate derivatives of (E)-5-(2-bromovinyl)-2'-deoxyuridine," Antiviral Chemistry & Chemotherapy, Vol 12, No. 5, pages 293 - 300 (2001)	☐
	20	Juodka et al., "Oligonucleotides and Nucleotide-Peptides. XXXIV. Synthesis and Some Properties of Complex Nucleotidyl (Oligonucleotidyl)-(P-N)-Amino Acids (Peptides) and Their Ethyl Esters," J. Carbohydrates Nucleosides Nucleotides, Vol. 6, No. 4, pages 333 - 357 (1979)	☐
	21	Juodka et al., "Oligonucleotides and Nucleotide-Peptides. XXXV. Some Properties of Nucleotidyl-(5'-N)-Amino Acid Esters Differing In Amino Acid and Nucleotide Components," J. Carbohydrates Nucleosides Nucleotides, Vol. 8, No. 1, pages 19 - 39 (1981)	☐
	22	Juodka et al., "Oligonucleotides and Nucleotide-Peptides. XXXVII. On the Mechanism of Hydrolysis of Uridylyl-(5'-N)-Amino Acids. IntramolecuLar Catalysis by the alpha-Carboxyl Group of Amino Acids," J. Carbohydrates Nucleosides Nucleotides, Vol. 8, No. 6, pages 519 - 535 (1981)	☐

Gilead Exhibit 2024
PGR2023-00046 - Page 00753

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Attorney Docket Number	03956.053800.4

	23	Lackey et al., "Enzyme-catalyzed therapeutic agent (ECTA) design: activation of the antitumor ECTA compound NB1011 by thymidylate synthase," Biochemical Pharmacology, Vol. 61, No. 2, pages 179 - 189 (2001)	☐
	24	McIntee et al., "Amino Acid Phosphoramidate Nucleosides: Potential ADEPT/GDEPT Substrates," Bioorganic & Medicinal Chemistry Letters, Vol. 11, No. 21, pages 2803 - 2805 (2001)	☐
	25	Remy et al., "Studies on Flourinated Pyrimidines. XIV. The Synthesis of Derivatives of 5-Fluoro-2'-deoxyuridine 5'-Phosphate and Related Compounds," J. Org. Chem., Vol. 27, No. 7, pages 2491 - 2500 (1962)	☐
	26	Smirrnov et al., "A Fluorescent Study of Tryptophan Derivatives of Oligonucleotides and Their Helical Complexes with Polyuridylic," FEBS Letters, Vol. 51. No. 1, pages 211 - 214 (1975)	☐
	27	Yuodka et al., "Oligonucleotides and Polynucleotides. XXVI. Synthesis of Esters of Nucleotidyl- and Oligonucleotidyl-(5' -N)-(Amino Acid)S and -Peptides," Soviet Journal of Bioorganic Chemistry, Vol. 2, No. 11 pages 1089 - 1094(1976) Translated from Russian	☐
	28	U.S. Provisional Patent Application No. 60/392,350, filed on June 28, 2002	☐
	29	U.S. Provisional Patent Application No. 60/392,351, filed on June 28, 2002	☐
	30	Asif et al., "Pharmacokinetics of the Antiviral Agent B-D-2'-Deoxy-2'-Fluoro-2'-C-Methylcytidine in Rhesus Monkeys," Antimicrobial Agents and Chemotherapy, Vol. 51, No. 8, pages 2877 - 2882 (2007)	☐
	31	Banker et al., "Prodrugs," Modern Pharmaceutics, Third Edition, Revised and Expanded," pages 451 and 596 (1996)	☐
	32	Battaglia et al., "Combination Therapy with Interferon and Ribavirin in the Treatment of Chronic Hepatitis C Infection," The Annals of Pharmacotherapy, Vol. 34, No. 4, pages 487 - 494 (2000)	☐
	33	Berenguer, M., "Hepatitis C virus in the transplant setting," Antiviral Therapy, Vol. 3, Supplement 3, pages 125 - 136 (1998)	☐

Gilead Exhibit 2024
PGR2023-00046 - Page 00754

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14057675
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	First Named Inventor	Jinfa Du
	Art Unit	1623
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	Attorney Docket Number	03956.053800.4

	34	Clark et al., "Design, Synthesis, and Antiviral Activity of 2'-Deoxy-2'-fluoro-2'-C-methylcytidine, a Potent Inhibitor of Hepatitis C Virus Replication," J. Med. Chem., Vol. 48, No. 17, pages 5504 - 5508 (2005)	☐
	35	Davis, G. L., "Current Therapy for Chronic Hepatitis C," Gastroenterology, Vol. 118, No. 2, pages S104 - S114 (2000)	☐
	36	Eldrup et al., "Oral Session V: Hepatitis C Virus, Flaviviruses," Program and Abstracts, The Sixteenth International Conference on Antiviral Research, page A75, Abstract 119 (April 27 to May 1, 2003)	☐
	37	Eldrup et al., "Structure-Activity Relationship of Purine Ribonucleosides for Inhibition of Hepatitis C Virus RNA-Dependent RNA Polymerase," J. Med. Chem., Vol. 47, No. 9, pages 2283 - 2295 (2004)	☐
	38	Farquhar et al., "Synthesis and Biological Evaluation of Neutral Derivatives of 5-Fluoro-2'-deoxyuridine 5'-Phosphate," J. Med. Chem., Vol. 26, No. 8, pages 1153 - 1158 (1983)	☐
	39	Farquhar et al., "Synthesis of Biological Evaluation of 9-[5'-(2-Oxo-1,3,2-oxazaphosphorinan-2-yl)-beta-D-arabinosyl] adenine and 9-[5'-(2-Oxo-1,3,2-dioxaphosphorinan-2-yl)-beta-D-arabinosyl]adenine: Potential Neutral Precursors of 9-[beta-D-Arabinofuranosyl]adenine 5'-Monophosphate," J. Med. Chem., Vol. 28, No. 9, pages 1358 - 1361 (1985)	☐
	40	Freed et al., "Evidence for acyloxymethyl esters of pyrimidine 5'-deoxyribonucleotides as extracellular sources of active 5'-deoxyribonucleotides in cultured cells," Biochemical Pharmacology, Vol. 38, No. 19, pages 3193 - 3198 (1989)	☐
	41	Hertel et al., "Synthesis of 2-Deoxy-2,2-difluoro-D-ribose and 2-Deoxy-2,2-difluoro-D-ribofuranosyl Nucleosides," J. Org. Chem., Vol. 53, No. 11, pages 2406 - 2409 (1988)	☐
	42	Hostetler et al., "Synthesis and Antiretroviral Activity of Phospholipid Analogs of Azidothymidine and Other Antiviral Nucleosides," J. Biol. Chem., Vol. 265, No. 11, pages 6112 - 6117 (1990)	☐
	43	Hunston et al., "Synthesis and Biological Properties of Some Cyclic Phosphotriesters Derived from 2'-Deoxy-5-fluorouridine," J. Med. Chem., Vol. 27, No. 4, pages 440 - 444 (1984)	☐
	44	International Search Report issued in International Application No. PCT/US2005/025916 mailed June 15, 2006	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	45	Jones et al., "Minireview: Nucleotide Prodrugs," Antiviral Research, Vol. 27, No. 1 - 2pages 1 - 17 (1995)	☐
	46	Khamnei et al., "Neighboring Group Catalysis in the Design of Nucleotide Prodrugs," J. Med. Chem., Vol. 39, No. 20, pages 4109 - 4115 (1996)	☐
	47	Kotra et al., "Structure-Activity Relationships of 2'-Deoxy-2',2'-difluoro-L-erythro-pentofuranosyl Nucleosides," J. Med. Chem., Vol. 40, No. 22, pages 3635 - 3644 (1997)	☐
	48	Kryuchkov et al., "Influence of Solvent on the Strength of Cyclic Oxygen-Containing Phosphorus Acids," Bulletin of the Academy of Sciences of the USSR. Division of Chemical Science, Vol. 36, No. 6, Part 1, pages 1145 - 1148 (1987) Translated from Russian	☐
	49	Li et al., "Synthesis of the Phosphoramidite Derivative of 2'-Deoxy-2'-C-beta-methylcytidine", J. Org. Chem., Vol. 68, No. 17, pages 6799 - 6802 (2003)	☐
	50	Ma et al., "Characterization of the Metabolic Activation of Hepatitis C Virus Nucleoside Inhibitor B-D-2'-Deoxy-2-Fluoro-2'-C-Methylcytidine (PSI-6130) and Identification of a Novel Active 5'-Triphosphate Species," J. Biol. Chem., Vol. 282, No. 41, pages 29812 - 29820 (October 12, 2007)	☐

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	1	20060040890	A1	2006-02-23	Martin et al.	
	2	20060035866	A1	2006-02-16	Cannizzaro et al.	
	3	20060014943	A1	2006-01-19	Dempcy et al.	
	4	20060003951	A1	2006-01-05	Mekouar et al.	
	5	20050267018	A1	2005-12-01	Blatt et al.	

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	6	20050261237	A1	2005-11-24	Boojamra et al.	
	7	20050227947	A1	2005-10-13	Chen et al.	
	8	20050215513	A1	2005-09-29	Boojamra et al.	
	9	20050164960	A1	2005-07-28	Olsen et al.	
	10	20050154056	A1	2005-07-14	Yang et al.	
	11	20050148534	A1	2005-07-07	Castellino et al.	
	12	20050137161	A1	2005-06-23	Sommadossi et al.	
	13	20050130931	A1	2005-06-16	Boyer et al.	
	14	20050124532	A1	2005-06-09	Sommadossi et al.	
	15	20050090660	A1	2005-04-28	Watanabe et al.	
	16	20050080034	A1	2005-04-14	Standring et al.	

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	17	20050075309	A1	2005-04-07	Storer et al.	
	18	20050031588	A1	2005-02-10	Sommadossi et al.	
	19	20050026853	A1	2005-02-03	Mekouar et al.	
	20	20050020825	A1	2005-01-27	Storer et al.	
	21	20050009737	A1	2005-01-13	Clark	
	22	20040266996	A1	2004-12-30	Rabi	
	23	20040265969	A1	2004-12-30	Li et al.	
	24	20040259934	A1	2004-12-23	Olsen et al.	
	25	20040254141	A1	2004-12-16	Schinazi et al.	
	26	20040248892	A1	2004-12-09	Wang	
	27	20040229840	A1	2004-11-18	Bhat et al.	

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	28	20040229839	A1	2004-11-18	Babu et al.	
	29	20040214844	A1	2004-10-28	Otto et al.	
	30	20040191824	A1	2004-09-30	Dempcy et al.	
	31	20040167140	A1	2004-08-26	Schinazi et al.	
	32	20040110717	A1	2004-06-10	Carroll et al.	
	33	20040102414	A1	2004-05-27	Sommadossi et al.	
	34	20040101535	A1	2004-05-27	Sommadossi et al.	
	35	20040097462	A1	2004-05-20	Sommadossi et al.	
	36	20040097461	A1	2004-05-20	Sommadossi et al.	
	37	20040072788	A1	2004-04-15	Bhat et al.	
	38	20040067901	A1	2004-04-08	Bhat et al.	

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	39	20040063622	A1	2004-04-01	Sommadossi et al.	
	40	20040059104	A1	2004-03-25	Cook et al.	
	41	20040023901	A1	2004-02-05	Cook et al.	
	42	20040023240	A1	2004-02-05	Marliere et al.	
	43	20040014108	A1	2004-01-22	Eldrup et al.	
	44	20040006007	A1	2004-01-08	Gosselin et al.	
	45	20030187018	A1	2003-10-02	Llinas -Brunet et al.	
	46	20030153744	A1	2003-08-14	Mekouar et al.	
	47	20030144502	A1	2003-07-31	Pietrzkowski et al.	
	48	20030120071	A1	2003-06-26	McGuigan et al.	
	49	20030060400	A1	2003-03-27	LaColla et al.	

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	50	20030050229	A1	2003-03-13	Sommadossi et al.	

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	1	2007/088148	WO	A1	2007-08-09	SMITHKLINE BEECHAM CORP.		☐
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	4	2007/095269	WO	A2	2007-08-23	MERCK & CO., INC.		☐
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	7	2008/048128	WO	A1	2008-04-24	CT BADAN MOLEKULAR I MAKRO		☐
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	9	2008/082601	WO	A2	2008-07-10	IDENIX PHARMACEUTICALS INC.		☐
	10	2008/079206	WO	A1	2008-07-03	MERCK & CO., INC.		☐
	11	2008/085508	WO	A2	2008-07-17	MERCK & CO., INC.		☐
	12	2008/142055	WO	A2	2008-11-27	ANGELETTI P IST RICHERCHE BIO		☐
	13	2009/052287	WO	A1	2009-04-23	EISAL CORP OF NORTH AMERICA		☐
	14	2009/115893	WO	A2	2009-09-24	HETERO RESEARCH FOUNDATION		☐
	15	2009/120878	WO	A2	2009-10-01	ALNYLAM PHARMACEUTICALS INC.		☐
	16	2009/129120	WO	A2	2009-10-22	RFS PHARMA LLC		☐
	17	2009/152095	WO	A2	2009-12-17	PHARMASSET INC.		☐
	18	2010/042834	WO	A1	2010-04-15	ANADYS PHARMACEUTICALS INC.		☐
	19	2010/075554	WO	A1	2010-07-01	PHARMASSET INC.		☐

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	20	2010/080878	WO	A1	2010-07-15	SCYNEXIS INC.		☐

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	1	Halstead, S. B., "Pathogenesis of Dengue: Challenges to Molecular Biology," Science, Vol. 239, pages 476 - 481 (1988)	☐
	2	Hijikata et al., "Two Distinct Proteinase Activities required for the Processing of a Putative Nonstructural Precursor Protein of Hepatitis C Virus," J. Virol., Vol. 67, No. 8, pages 4665 - 4675 (1993)	☐
	3	Jin et al., "Expression, Isolation, and characterization of the Hepatitis C Virus ATPase/RNA Helicase," Archives of Biochemistry and Biophysics, Vol. 323, No. 1, pages 47 - 53 (1995)	☐
	4	Kim et al., "C-Terminal Domain of the Hepatitis C Virus NS3 Protein Contains an RNA Helicase Activity," Biochemical and Biophysical Research Communications, Vol. 215, No. 1, pages 160 - 166 (1995)	☐
	5	Koonin et al., "Evolution and Taxonomy of Positive-Strand RNA Viruses: Implications of Comparatives Analysis of Amino Acid Sequences," Critical Reviews in Biochemistry and Molecular Biology, Vol. 28, No. 5, pages 375 - 430 (1993)	☐
	6	Lohmann et al., "Biochemical Properties of Hepatitis C Virus NS5B RNA-Dependent RNA Polymerase and Identification of Amino Acid Sequence Motifs Essential for Enzymatic Activity," J. Virol., Vol. 71, No. 11, pages 8416 - 8428 (1997)	☐
	7	Meyers et al., "Molecular Characterization of Pestiviruses," Advance in Virus Research, Vol. 47, pages 53 - 119 (1996)	☐
	8	Moennig et al., "The Pestiviruses," Advances in Virus Research, Vol. 41, pages 53 - 99 (1992)	☐

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	9	Monath, T. P., M.D., "Japanese Encephalitis - A Plague of the Orient," N. Engl. J. Med., Vol. 319, No. 10, pages 641 - 643 (September 8, 1988)	☐
	10	Ni et al., "Progress and development of small molecule HCV antivirals," Current Opinion in Drug Discovery & Development, Vol. 7, No. 4, pages 446 - 459 (2004)	☐
	11	Tan et al., "Hepatitis C Therapeutics: current Status and Emerging Strategies," Nature Reviews, Vol. 1, pages 867 - 881 (2002)	☐
	12	Tomei et al., "NS3 Is a Serine Protease Required for Processing of Hepatitis C Virus Polyprotein," J. Virol., Vol. 67, No. 7, pages 4017 - 4026 (1993)	☐
	13	Walker et al., "Promising candidates for the treatment of chronic hepatitis C," Expert Opin. Investig. Drugs, Vol. 12, No. 8, pages 1269 - 1280 (2003)	☐
	14	Warrener et al., "Pestivirus NS3 (p80) Protein Possesses RNA Helicase Activity," J. Virol., Vol. 69, No. 3, pages 1720 - 1726 (1995)	☐
	15	Wiskerchen et al., "Pestivirus Gene Expression: Protein p80 of Bovine Viral Diarrhea Virus Is a Proteinase Involved in Polyprotein Processing, Virology, Vol. 184, pages 341 - 350 (1991)	☐
	16	Wu et al., "Targeting NS5B RNA-Dependent RNA Polymerase For Anti-HCV Chemotherapy," Current Drug Targets - Infectious Disorders, Vol. 3, No. 3, pages 207 - 219 (2003)	☐
	17	Xu et al., "Bovine Viral Diarrhea Virus NS3 Serine Proteinase: Polyprotein Cleavage Sites, Cofactor Requirements, and Molecular Model of an Enzyme Essential for Pestivirus Replication," J. Virol., Vol. 71, No. 7, pages 5312 - 5322 (1997)	☐
	18	Yuan et al., "Expression, Purification, and Partial Characterization of HCV RNA Polymerase," Biochemical and Biophysical Research Communications, Vol. 232, No. 1, pages 231 - 235 (1997)	☐
	19	Zhong et al., "Identification and characterization of an RNA-Dependent RNA Polymerase Activity within the Nonstructural Protein 5B Region of Bovine Viral Diarrhea Virus," J. Virol., Vol. 72, No. 11, pages 9365 - 9369 (1998)	☐

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	20	Aquaro et al., "Activities of Masked 2',3'-Dideoxynucleoside Monophosphate Derivaties Against Human Immunodeficiency Virus in Resting Macrophages," Antimicrobial Agents and Chemotherapy, Vol. 44, No. 1, pages 173 - 177 (2000)	☐
	21	Chapman et al., "Purification of PMPA Amidate Prodrugs by SMB Chromatography and X-Ray Crystallography of the Diastereomerically Pure GS-7340," Nucleosides, Nucleotides & Nucleic Acids, Vol. 20, No. 4 - 7, pages 1085 - 1090 (2001)	☐
	22	Chapman et al., "Practical Synthesis, Separation, and Stereochemical Assignment of the PMPA Pro-Drug GS-7340," Nucleosides, Nucleotides & Nucleic Acids, Vol. 20, No. 4 - 7, pages 621 - 628 (2001)	☐
	23	Eisenberg et al., "Metabolism of GS-7340, A Novel Phenyl Monophosphoramidate Intracellular Prodrug of PMPA, In Blood," Nucleosides, Nucleotides & Nucleic Acids, Vol. 20, No. 4 - 7, pages 1091 - 1098 (2001)	☐
	24	Lee et al., "Selective Intracellular Activation of a Novel Prodrug of the Human Immunodeficiency Virus reverse Transcriptase Inhibitor Tenofovir Leads to Preferential Distribution and Accumulation in Lymphatic Tissue," Antimicrobial Agents and Chemotherapy, Vol. 49, No. 5, pages 1898 - 1906 (2005)	☐
	25	McGuigan et al., "Synthesis, anti-human immunodeficiency virus activity and esterase lability of some novel carboxylic ester-modified phosphoramidate derivatives of stavudine (d4T)," Antiviral Chemistry & Chemotherapy, Vol. 9, pages 473 - 479 (1998)	☐
	26	Murakami et al., "The Mechanism of Action of beta-D-2'-Deoxy-2'-Fluoro-2'-C-Methylcytidine Involves a Second Metabolic Pathway Leading to beta-D-2'-Deoxy-2'-Fluoro-2'-C-Methyluridine 5'-Triphosphate, a Potent Inhibitor of the Hepatitis C Virus RNA-Dependent RNA Polymerase," Antimicrobial Agents and Chemotherapy, Vol. 52, No. 2, pages 458 - 464 (2008)	☐
	27	Murakami et al., "Mechanism of Activation of beta-D-2' -Deoxy-2'-Fluoro-2'-C-Methylcytidine and Inhibition of hepatitis C Virus NS5B RNA Polymerase," Antimicrobial Agents and Chemotherapy, Vol. 51, No. 2, pages 503 - 509 (February 2007)	☐
	28	Ray et al., "Intracellular Metabolism of the Nucleotide Prodrugs GS-9131, a Potent Anti-Human Immunodeficiency Virus Agent," Antimicrobial Agents and Chemotherapy, Vol. 52, No. 2, pages 648 - 654 (2008)	☐
	29	Stuyver et al., "Inhibition of the Subgenomic Hepatitis C Virus Replicon in Huh-7 Cells by 2'-Deoxy-2'-Fluorocytidine," Antimicrobial Agents and Chemotherapy, Vol. 48, No. 2, pages 651 - 654 (2004)	☐
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	3	20110015146	A1	2011-01-20	Sofia et al.	
	4	20100298257	A1	2010-11-25	Ross et al.	
	5	20110251152	A1	2011-10-13	Ross et al.	
	6	20100286083	A1	2010-11-11	Bao et al.	
	7	20120107278	A1	2012-05-03	Berrey et al.	
	8	20110245484	A1	2011-10-10	Ross et al.	
	9	20130029929	A1	2013-01-31	Sofia et al.	
	10	20130137654	A1	2013-05-30	Ross et al.	
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	1	GUDMUNDSSON, Kristjan S., et al., "Phosphoramidate Protides of Carbocyclic 2',3'-Dideoxy-2',3'-Didehydro-7-Deazaadenosine with Potent Activity Against HIV and HBV," Nucleosides, Nucleotides & Nucleic Acids (2004) 23(12): 1929-1937.	☐
	2	SIDDIQUI, Adam Q., et al., "The Presence of Substituents on the Aryl Moiety of the Aryl Phosphoramidate Derivatives of d4T Enhances Anti-HIV Efficacy in Cell Culture: A Structure-Activity Relationship," J. Med. Chem. (1999) 42:393-399.	☐
	3	DUMEZ, Darin, et al., "Large-Scale Synthesis and Formulation of GMP-Grade Stampidine, a New Anti-HIV Agent," Arzneim.-Forsch./Drug Res. (2006) 56(2a):136–151.	☐
	4	GUDMUNDSSON, Kristjan S., et al., "Phosphoramidate Protides of 2',3'-Dideoxy-3'-fluoroadenosine and Related Nucleosides with Potent Activity Against HIV and HBV," Nucleosides, Nucleotides & Nucleic Acids (2003) 22 (10):1953-1961.	☐
	5	NAKAYAMA, Kensaku, et al., "A Highly Enantioselective Synthesis of Phosphate Triesters," J. Am. Chem. Soc. (1990) 112:6936-6942.	☐

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	6	WOZNIAK, Lucyna A., et al., "The stereospecific synthesis of P-chiral biophosphates and their analogues by the Stec reaction," Chem. Soc. Rev. (2003) 32:158-169.	☐
	7	UCHIYAMA, Mamoru, et al., "O-Selective Phosphorylation of Nucleosides without N-Protection," J. Org. Chem. (1993) 58:373-379.	☐
	8	Written Opinion of the International Searching Authority issued in International Application No. PCT/US2004/012472 (7 pages) (Nov. 30, 2005)	☐
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	20	GILLESPIE, S., et al., "Stereoselective Inhibition of Cholesterol Esterase by Enantiomeric Phosphonates," Phosphorous, Sulfur and Silicon, 1997, 122: 205-208	☐
	21	U.S. Application No. 12/553,483, Non-Final Office Action Rejection, mailed 12/17/2009	☐
	22	U.S. Application No. 12/240,342, Non-Final Office Action Rejection, mailed 10/01/2009	☐
	23	U.S Application No. 12/142,554, Non-Final Office Action Rejection, mailed 10/01/2009	☐
	24	U.S. Application No. 12/142,536, Non-Final Office Action Rejection, mailed 10/02/2009	☐
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	28	U.S Application No. 11/353,597, Non-Final Office Action Rejection, mailed 07/17/2008	☐
	29	U.S Application No. 11/353,597, Non-Final Office Action Rejection, mailed 10/02/2007	☐
	30	U.S. Application No. 11/225,425, Final Office Action Rejection, mailed 02/18/2010	☐
	31	Response to non-final Office Action dated October 1, 2009 for U.S. Application No. 12/142,554	☐
	32	U.S. Application No. 11/225,425, Non-Final Office Action Rejection, mailed 07/07/2009	☐
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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	17207673
Application Number:	14057675
International Application Number:	
Confirmation Number:	4233
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Customer Number:	104538
Filer:	Leila Kaplus Marcovici/DAVID NGUY
Filer Authorized By:	Leila Kaplus Marcovici
Attorney Docket Number:	03956.053800.4
Receipt Date:	23-OCT-2013
Filing Date:	
Time Stamp:	15:45:50
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	Transmittal Letter	03956053800-4IDSTransmittal.pdf	56236 1a9d968999d57ef7eaae848fd308d628f2e2fe1b	no	3
Warnings:					
Information:					

2	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part1.pdf	619915 154288a6c61dad5f31ad30259d034303d4429bcd	no	17
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part2.pdf	618879 84736d4411a2af364bbde8e58b59989d6b2450d4	no	17
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part3.pdf	619581 aac1c2645ee6638f49f33baf097ec2998b62a105	no	17
Warnings:					
Information:					
5	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part4.pdf	616948 2db4a4cb30c05157a84ea9285fe9396d77746892	no	13
Warnings:					
Information:					
6	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part5.pdf	613427 1c23700c7daea8a73b7179cf483a816a3410bc6f	no	6
Warnings:					
Information:					
7	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4-SB08-Part6.pdf	614929 f54d5531b5ea48121916d7e444a4dcb01c4a8041	no	8
Warnings:					
Information:					
		Total Files Size (in bytes):	3759915		

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.

03956.053800.4 PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No.: 14/057,675	)	
	:	Examiner: Not yet assigned
First Named Inventor:	)	
	:	Group Art Unit: Not yet assigned
JINFA DU	)	
	:	Confirmation No.: 4233
Filed: October 18, 2013	)	
	:	
For: NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	)	October 23, 2013

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the attached PTO/SB/08a Form.

Copies of the listed non-U.S. patent documents can be found in the filewrappers of parent and grandparent applications, U.S. Patent Application No. 13/609,614, filed September 11, 2012, U.S. Patent Application No. 13/099,671, filed May 3, 2011, and U.S. Patent Application No. 12/053,015, filed March 21, 2008, from which the present application claims priority under 35 U.S.C. §120. The Examiner is respectfully directed to the file of these applications in the U.S. Patent and Trademark Office for review of those documents. (See 37

C.F.R. § 1.98(d) and MPEP § 609.) However, if requested by the Examiner, copies of those documents will be supplied.

The Examiner's attention is also directed to the following U.S. Applications, which are electronically viewable:

Appln. No.	Filing Date	Group Art Unit	Examiner's Initials
14/013,237	2013-08-29	1623	
13/936,448	2013-07-08	1621	
13/925,078	2013-06-24	1623	

It is respectfully requested that the above information be considered by the Examiner and that a copy of the attached PTO/SB/08a form be returned indicating that such information has been considered.

It is believed that no fees are due in connection with this submission. However, should the U.S. Patent and Trademark Office determine that fees are due, the Commissioner is hereby authorized to charge any deficiency to Deposit Account No. 50-3939.

Gilead Exhibit 2024
PGR2023-00046 - Page 00784

Applicant's undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

/Leila Marcovici/
Leila Marcovici
Attorney for Applicant
Registration No.: 66,066

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7202224	B2	2007-04-10	Eldrup et al.	
	2	7390791	B2	2008-06-24	Becker et al.	
	3	7879815	B2	2011-02-01	MacCoss et al.	
	4	7964580	B2	2011-06-21	Sofia et al.	
	5	8148349	B2	2012-04-03	Meppen et al.	

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U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20020198173	A1	2002-12-26	Schinazi et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Filing Date	2013-10-18
	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	2	20020058635	A1	2002-05-16	Averett	
	3	20010034440	A1	2001-10-25	Shepard et al.	
	4	20100137576	A1	2010-06-03	Stec et al.	
	5	20100152128	A1	2010-06-17	Attenni et al.	
	6	20100173863	A1	2010-07-08	Schinazi et al.	
	7	20100227801	A1	2010-09-09	Hopkins et al.	
	8	20100316594	A1	2010-12-16	Sommadossi et al.	
	9	20110124592	A1	2011-05-26	McGuigan et al.	
	10	20060122146	A1	2006-06-08	Chun et al.	
	11	20060199738	A1	2006-09-07	Otsubo et al.	
	12	20070197463	A1	2007-08-23	Chun et al.	

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	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	13	20080070861	A1	2008-03-20	Clark	
	14	20080253995	A1	2008-10-16	Clark	
	15	20090004135	A1	2009-01-01	Clark	
	16	20090036666	A1	2009-02-05	Clark	
	17	20100081628	A1	2010-04-01	Du et al.	
	18	20100048917	A1	2010-02-25	Wang et al.	
	19	20100286083	A1	2010-11-11	Bao et al.	
	20	20110015146	A1	2011-01-20	Sofia et al.	
	21	20100279973	A1	2010-11-04	Chun et al.	
	22	20110257122	A1	2011-10-20	Sofia et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Jinfa Du
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	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	02/32414	WO	A2	2002-04-25	SCHERRING CORPORATION		☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1		☐

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Leila Marcovici/	Date (YYYY-MM-DD)	2013-10-23
Name/Print	Leila Marcovici	Registration Number	66066

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6156501	A	2000-12-05	McGall et al.	
	2	6132763	A	2000-10-17	Fisher	
	3	6130326	A	2000-10-10	Ramasamy et al.	
	4	6090932	A	2000-07-18	McGee et al.	
	5	6060080	A	2000-05-09	Kikuchi et al.	
	6	6056961	A	2000-05-02	Lavie et al.	
	7	6043077	A	2000-03-28	Barber et al.	
	8	6034134	A	2000-03-07	Gold et al.	

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	Attorney Docket Number	03956.053800.4

	9	6004933	A	1999-12-21	Spruce et al.	
	10	5990276	A	1999-11-23	Zhang et al.	
	11	5980884	A	1999-11-09	Blatt et al.	
	12	5942223	A	1999-08-24	Bazer et al.	
	13	5928636	A	1999-07-27	Alber et al.	
	14	5922757	A	1999-07-13	Chojkier	
	15	5908621	A	1999-06-01	Glue et al.	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20100035835	A1	2010-02-11	Narjes et al.	
	2	20100029008	A1	2010-02-04	Rojas Stutz et al.	

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	Attorney Docket Number	03956.053800.4

	3	20090306007	A1	2009-12-10	Wagner	
	4	20090280084	A1	2009-11-12	Schinazi et al.	
	5	20090233879	A1	2009-09-17	Reddy et al.	
	6	20090176732	A1	2009-07-09	Beigelman et al.	
	7	20090137521	A1	2009-05-28	Hamilton et al.	
	8	20070275947	A1	2007-11-29	Bergstrom	
	9	20070275912	A1	2007-11-29	Bhat et al.	
	10	20070265222	A1	2007-11-15	MacCoss et al.	
	11	20070225249	A1	2007-09-27	Shi	
	12	20070197463	A1	2007-08-23	Chun et al.	
	13	20070087960	A1	2007-04-19	Storer et al.	

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	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	14	20070060541	A1	2007-03-15	Gosselin et al.	
	15	20070060498	A1	2007-03-15	Gosselin et al.	
	16	20070049754	A1	2007-03-01	Boojamra et al.	
	17	20070042990	A1	2007-02-22	Gosselin et al.	
	18	20070042988	A1	2007-02-22	Klumpp et al.	
	19	20070042939	A1	2007-02-22	LaColla et al.	
	20	20070037773	A1	2007-02-15	Sommadossi et al.	
	21	20070037735	A1	2007-02-15	Gosselin et al.	
	22	20070015905	A1	2007-01-18	LaColla et al.	
	23	20060293306	A1	2006-12-28	Beaulieu et al.	
	24	20060276511	A1	2006-12-07	Serrano-Wu et al.	

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	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	25	20060241064	A1	2006-10-26	Roberts et al.	
	26	20060199783	A1	2006-09-07	Wang et al.	
	27	20060194749	A1	2006-08-31	Keicher et al.	
	28	20060166964	A1	2006-07-27	Hudyma et al.	
	29	20060142238	A1	2006-06-29	McGuigan	
	30	20060122154	A1	2006-06-08	Olsen et al.	
	31	20060122146	A1	2006-06-08	Chun et al.	
	32	20060110727	A9	2006-05-25	McGall et al.	
	33	20060079478	A1	2006-04-13	Boojamra et al.	
	34	20060040944	A1	2006-02-23	Gosselin et al.	
	35	20060040927	A1	2006-02-23	Blake et al.	

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	Attorney Docket Number	03956.053800.4

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2004/106356	WO	A1	2004-12-09	UNIV. SYDDANSK		☐
	2	2005/002626	WO	A2	2005-01-13	GILEAD SCIENCES INC.		☐
	3	2005/003147	WO	A2	2005-01-13	PHARMASSET LTD.		☐
	4	2005/007810	WO	A2	2005-01-27	GRINSTAFF MARK W		☐
	5	2005/009418	WO	A2	2005-02-03	IDENIX CAYMAN LTD CENTRE NAT DE LA RECH SCIENT		☐
	6	2005/012327	WO	A2	2005-02-10	UNIV. COLLEGE CARDIFF CONSULTANTS LTD.		☐
	7	2005/020884	WO	A2	2005-03-10	IDENIX CAYMAN LTD CENTRE NAT DE LA RECH SCIENT		☐
	8	2005/021568	WO	A2	2005-03-10	BIOTA INC.		☐
	9	2005/028502	WO	A1	2005-03-31	VERTEX PHARMA INC.		☐

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	First Named Inventor	Jinfa Du
	Art Unit	1623
	Examiner Name	Unassigned
	Attorney Docket Number	03956.053800.4

	10	2005/037214	WO	A2	2005-04-28	INTERMUNE INC.		☐
	11	2005/067900	WO	A2	2005-07-28	ACHILLION PHARMACEUTICALS INC.		☐
	12	2005/072361	WO	A2	2005-08-11	MERCK & CO., INC.		☐
	13	2005/082144	WO	A1	2005-09-09	US GOV HEALTH & HUMAN SERV		☐
	14	2005/087788	WO	A2	2005-09-22	UNIV. CALIFORNIA		☐
	15	2005/095403	WO	A2	2005-10-13	INTERMUNE INC.		☐
	16	2005/103045	WO	A1	2005-11-03	GLAXO GROUP LTD.		☐
	17	2005/123087	WO	A2	2005-12-29	MERCK & CO., INC.		☐
	18	2006/000922	WO	A2	2006-01-05	IDENIX CAYMAN LTD CENTRE NAT DE LA RECH SCIENT		☐
	19	2006/012078	WO	A2	2006-02-02	MERCK & CO., INC.		☐
	20	2006/012440	WO	A2	2006-02-02	PHARMASSET INC.		☐

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	21	2006/020082	WO	A1	2006-02-23	SQUIBB BRISTOL MYERS CO.		☐
	22	2006/029081	WO	A2	2006-03-16	NEOPHARM INC.		☐
	23	2006/031725	WO	A2	2006-03-23	PHARMASSET INC.		☐
	24	2006/037028	WO	A2	2006-04-06	IDENIX CAYMAN LTD CENTRE NAT DE LA RECH SCIENT		☐
	25	2006/035061	WO	A1	2006-04-06	TIBOTEC PHARM LTD.		☐
	26	2006/063149	WO	A1	2006-06-15	UNIV. MINNESOTA		☐
	27	2006/065335	WO	A2	2006-06-22	MERCK & CO., INC.		☐
	28	2006/063149	WO	A1	2006-06-15	UNIV. MINNESOTA		☐
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	30	2006/065590	WO	A2	2006-06-22	XTL BIOPHARMACEUTICALS INC.		☐
	31	2006/093801	WO	A1	2006-09-08	ABBOTT LAB		☐

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	32	2006/100310	WO	A1	2006-09-28	TIBOTEC PHARM LTD.		☐
	33	2006/120251	WO	A1	2006-11-16	TIBOTEC PHARM LTD [IE]		☐
	34	2006/120252	WO	A2	2006-11-16	TIBOTEC PHARM LTD.		☐
	35	2006/121820	WO	A1	2006-11-16	VALEANT RES & DEV		☐
	36	2007/002602	WO	A2	2007-01-04	DEPUY SPINE INC.		☐
	37	2007/020193	WO	A2	2007-02-22	F. HOFFMANN-LA ROCHE AG		☐
	38	2007/014920	WO	A1	2007-02-08	TIBOTEC PHARM., LTD.		☐
	39	2007/014921	WO	A1	2007-02-08	TIBOTEC PHARM., LTD.		☐
	40	2007/014922	WO	A1	2007-02-08	TIBOTEC PHARM., LTD.		☐
	41	2007/014925	WO	A1	2007-02-08	TIBOTEC PHARM., LTD.		☐
	42	2007/014926	WO	A1	2007-02-08	TIBOTEC PHARM., LTD.		☐

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	43	2007/015824	WO	A2	2007-02-08	INTERMUNE INC.		☐
	44	2007/027248	WO	A2	2007-03-08	VALEANT RES & DEV		☐
	45	2007/039142	WO	A1	2007-04-12	GLAXO GROUP LTD.		☐
	46	2007/039145	WO	A1	2007-04-12	GLAXO GROUP LTD.		☐
	47	2007/065829	WO	A1	2007-06-14	F. HOFFMANN-LA ROCHE AG		☐
	48	2007/070556	WO	A2	2007-06-21	GENELABS TECH INC.		☐
	49	2007/076034	WO	A2	2007-07-05	ABBOTT LA		☐
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	1	Mitchell et al., "Bioreversible Protection for the Phospho Group: Bioactivation of the Di(4-acyloxybenzyl) and Mono(4-acyloxybenzyl) Phosphoesters of Methylphosphonate and Phosphonoacetate," J. Chem. Soc. Perkin. Trans. 1, pages 2345 - 2353 (1992)	☐

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	2	Olsen et al., "2'-Modified Nucleoside Analogs as Inhibitors of Hepatitis C RNA Replication," Program and Abstracts, 16th International Conference on Antiviral Research, Abstract No. 121, p. A76 (April 27 - May 1, 2003)	☐
	3	Otto, M., "Evaluation of Nucleoside Analogs in the Hepatitis C Virus Replicon System," Framing the Knowledge of Therapeutics for Viral Hepatitis, IHL Press, First Edition, pages 247 - 261 (2006)	☐
	4	Piantadosi et al., "Synthesis and Evaluation of Novel Ether Lipid Nucleoside Conjugates for Anti-HIV-1 Activity," J Med. Chem., Vol. 34, No. 4, pages 1408 - 1414 (1991)	☐
	5	Pierra et al., "Synthesis and Pharmacokinetics of Valopicitabine (NM283), an Efficient Prodrug of the Potent Anti-HCV Agent 2'-C-Methylcytidine," J. Med. Chem., Vol. 49, No. 22, pages 6614 - 6620 (2006)	☐
	6	Starrett, Jr. et al., "Synthesis, Oral Bioavailability Determination, and in Vitro Evaluation of Prodrugs of the Antiviral Agent 9-[2-(Phosphonomethoxy)ethyl]adenine (PMEA)," J. Med. Chem., Vol. 37, No. 12, pages 1857 - 1864 (1994)	☐
	7	Stuyver et al., "Inhibition of hepatitis C replicon RNA synthesis by B-D-2'-deoxy-2'-fluoro-2'-C-methlcytidine: a specific inhibitor of hepatitis C virus replication," Antiviral Chemistry & Chemotherapy, Vol. 17, No. 2, pages 79 - 87 (2006)	☐
	8	Stuyver et al., "Dynamics of Subgenomic Hepatitis C Virus Replicon RNA Levels in Huh-7 Cells after Exposure to Nucleoside Antimetabolites," J. Virol., Vol. 77, No. 19, pages 10689 - 10694 (2003)	☐
	9	Stuyver et al., "Ribonucleoside Analogue that Blocks Replication of Bovine Viral Diarrhea and Hepatitis C Viruses in Culture," Antimicrobial Agents and Chemotherapy, Vol. 47, No. 1, pages 244 - 254 (2003)	☐
	10	Wolff, M.E., "Burger's Medicinal Chemistry and Drug Discovery," Fifth Edition, Vol. 1, pages 975 - 977 (1995)	☐
	11	Zon, G., "4 Cyclophosphoamide Analogues," Progress in Medicinal Chemistry, vol. 19, pp. 205-246 (1982)	☐
	12	Bhat et al., "Synthesis and Pharmacokinetic Properties of Nucleoside Analogues as Possible Inhibitors of HCV RNA Replication," (Oral Session V: Hepatitis C Virus, Flaviviruses), 16th International Conference on Antiviral Research, Abstract No. 120, p. A75 (April 27 - May 1, 2003)	☐

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	13	Chu et al., "Isolation and Structure of SCH 351633: A Novel Hepatitis C Virus (HCV) NS3 Protease Inhibitor from the Fungus Penicillium Griseofulvum," Bioorg. & Med. Chem. Lett., Vol. 9, pages 1949 - 1952 (1999)	☐
	14	Chu et al., "Structure of Sch 68631: A New Hepatitis C Virue Proteinase Inhibitor from Streptomyces sp." Tet. Lett., Vol. 37, No. 40, pages 7229 - 7232 (1996)	☐
	15	De Lombaert et al., "N-Phosphonomethyl Dipeptides and Their Phosphonate Prodrugs, a New Generation of Neutral Endopeptidase (NEP, EC 3.4.24.11) Inhibitors," J. Med. Chem., Vol. 37, No. 4, pages 498 - 511 (1994)	☐
	16	Edmundson et al., "Cyclic Organophosphorus Compounds. Part 23. Configurational Assignments in the 4-Phenyl-1,3,2-dioxaphosphorinane Series. X-Ray Molecular Structure of cis-2-Benzylamino-4-phenyl-1,3,2-dioxaphosphorinane 2-oxide," J. Chem. Research (S), pages 122 - 123 (1989)	☐
	17	Goekjian et al., "Synthesis of Fluorinated Marcocyclic Bis(indolyl)maleimides as Potential 19F NMR Probes for Protein Kinase C," J. Org. Chem. Vol., 64., No. 12, pages 4238 - 4246 (1999)	☐
	18	Hernandez et al., "Synthesis of Highly Functionalized Chiral Nitriles by Radical Fragmentation of beta-Hydroxy Azides. Convenient Transformation of Aldononitriles into 1,4- and 1,5-Iminoalditols," J. Org. Chem., Vol. 69. No. 24, pages 8437 - 8444 (2004)	☐
	19	Hostetler et al., "Greatly Enhanced Inhibition of Human Immunodeficiency Virus Type 1 Replication in CEM and HT4-6C Cells by 3' -Deoxythymidine Diphosphate Dimyristoylglycerol, a Lipid Prodrug of 3' -Deoxythymidine," Antimicrobial Agents and Chemotherapy," Vol. 36, No. 9, pages 2025 - 2029 (1992)	☐
	20	Kucera et al., "Novel Membrane-Interactive Ether Lipid Analogs That Inhibit Infectious HIV-1 Production and Induce Defective Virus Formation," Aids Research and Human Retroviruses, Vol. 6, No. 4, pages 491 - 501 (1990)	☐
	21	Meier et al., "Cyclic Saligenyl Phosphotriesters of 2',3' -Dideoxy-2',3'-didehydrothymidine (d4T) - A New Pro-Nucleotide Approach," Bioorg. & Med. Chem. Lett., Vol. 7, No. 2, pages 99 - 104, (1997)	☐
	22	Neidlein et al., "Mild Preparation of 1-Benzyloxyiminoalkylphosphonic Dichlorides: Application to the Synthesis of Cyclic Phosphonic Diesters and Cyclic Monoester Amides," Heterocycles, Vol. 35, No. 2, pages 1185 - 1203 (1993)	☐
	23	Nifantyev et al., "Synthesis and Structure of Some Stable Phospholane-Phospholanes," Phosphorus, Sulfur, and Silicon, Vol. 113, pages 1 - 13 (1996)	☐

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	24	Novak, J. J. K., "Chiroptical Properties of 2-Methyl-1,4-Lactones; Revised Absolute Configuration of 2-Deoxy-2-C-Methyl-erythro-D-Pentono-1,4-Lactones," Collection Czechoslov. Chem. Commun., Vol. 39, pages 869 - 882 (1974)	☐
	25	Novak, J. J. K., "Nucleic Acid Components and Their Analogues CXLIII. Nucleosides Derived from 2-Deoxy-2(R)-C-Methyl-erythro-D-Pentose," Collection Czechoslov. Chem. Commun., Vol. 36, pages 3670 - 3677 (1971)	☐
	26	Oishi et al., "Asymmetric Dihydroxylation of Chiral Olefins. High Control of Diastereofacial Selection," Tet. Lett., Vol. 34, No. 22, pages 3573 - 3576 (1993)	☐
	27	Shih et al., "Preparation and Structures of 2-Dimethylamino-4-phenyl-1,3,2-dioxaphosphorinane-2-oxides," Bull. Inst. Chem., Acad. Sin., Vol. 41, pages 9 -16, (March 1994)	☐
	28	Stella, V. J., "Prodrugs as Therapeutics," Expert opinion on therapeutic patents, Vol. 14, No. 3, pages 277 - 280 (March 2004)	☐
	29	Xiao-Ling et al., "Study on the Chirality of Sulfur in Ethyl (2S, 3R,4R)-4,5-O-Isopropylidene-2,3-sulfinyl-2,3,4,5-tetrahydroxy-pentanoate", Acta Chimica Sinica, Vol. 55, pages 600 - 604 (1997)	☐
	30	Xiao-Ling et al., "The Synthesis of (2S,3R)-Sphingosine from D-Mannitol", Acta Chimica Sinica, Vol. 54, pages 826 - 832 (1996)	☐
	31	International Search Report issued in International Application No. PCT/US2004/012472 mailed December 30, 2004 (4 pages)	☐
	32	International Search Report issued in International Application No. PCT/US2005/025916 mailed June 15, 2006 (2 pages)	☐
	33	International Search Report issued in International Application No. PCT/EP2006/069060 mailed January 30, 2007 (4 pages)	☐
	34	International Search Report issued in International Application No. PCT/US2005/032406 mailed May 8, 2008 (3 pages)	☐

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	35	Bartenschlager et al., "Nonstructural Protein 3 of the Hepatitis C Virus Encodes a Serine-Type Proteinase Required for Cleavage at the NS3/4 and NS4/5 Junctions," J. Virol., Vol. 67, No. 7, pages 3835 - 3844 (1993)	☐
	36	Bartenschlager et al., "Kinetic and Structural Analyses of Hepatitis C Virus Polyprotein Processing," J. Virol., Vol. 68, No. 8, pages 5045 - 5055 (1994)	☐
	37	Bazan et al., "Detection of a Trypsin-like Serine Protease Domain in Flaviviruses and Pestiviruses," Virology, Vol. 171, pages 637 - 639 (1989)	☐
	38	Beaulieu et al., "Inhibitors of the HCV NS5B polymerase: New hope for the treatment of hepatitis C infections," Current Opinion in Investigational Drugs, Vol. 5, No. 8, pages 838 - 850 (2004)	☐
	39	Behrens et al., "Identification and properties of the RNA-dependent RNA polymerase of hepatitis C virus," The EMBO Journal, Vol. 15, No. 1, pages 12 - 22 (1996)	☐
	40	Calisher et al., "Antigenic Relationships between Flaviviruses as Determined by Cross-neutralization Tests with Polyclonal Antisera," J. Gen. Virol., Vol. 70, pages 37 - 43 (1989)	☐
	41	Carroll et al., "Nucleoside Analog Inhibitors of Hepatitis C Virus Replication," Infectious Disorders - Drug Targets, Vol. 6, No. 1, pages 17 - 29 (2006)	☐
	42	Eckart et al., "The Hepatitis C Virus Encodes a Serine Protease Involved in Processing of the Putative Nonstructural Proteins from the Viral Polyprotein Precursor," Biochemical and Biophysical Research Communications, Vol. 192, No. 2, pages 399 - 406 (1993)	☐
	43	Failla et al., "Both NS3 and NS4A are Required for Proteolytic Processing of Hepatitis C Virus Nonstructural Proteins," J. Virol., Vol. 68, No. 6, pages 3753 - 3760 (1994)	☐
	44	Rice, C. M., "Flaviviridae: The Viruses and Their Replication," Fields Virology, 3rd Edition, Vol. 1, pages 931 - 959 (1996)	☐
	45	Gorbalenya et al., "A conserved NTP-motif in putative helicases," Nature, Vol. 333, page 22 (1988)	☐

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	46	Gorbalenya et al., "N-terminal domains of putative helicases of flavi-and pestiviruses may be serine proteases," Nucleic Acids Research, Vol. 17, No. 10, pages 3889 - 3897 (1989)	☐
	47	Grakoui et al., "Characterization of the Hepatitis C Virus-Encoded Serine Proteinase: Determination of Proteinase-Dependent Polyprotein Clevage Sites," J. Virol., Vol. 67, No. 5, pages 2832 - 2843 (1993)	☐
	48	Grakoui et al., "A second hepatitis C virus-encoded proteinase," Proc. Natl. Acad. Sci., Vol. 90, pages 10583 - 10587 (1993)	☐
	49	Griffith et al., "HCV Anti-viral Agents," Annual Reports in Medicinal Chemistry, Vol. 39, pages 223 - 237 (2004)	☐
	50	Halstead, S. B., "Selective Primary Health Care: Strategies for Control of Disease in the Developing World. XI. Dengue," Review of Infectious Diseases, Vol. 6, No. 2, pages 251 - 263 (1984)	☐

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CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Leila Marcovici/	Date (YYYY-MM-DD)	2013-10-23
Name/Print	Leila Marcovici	Registration Number	66066

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CONFIRMATION NO. 4233

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Inventor(s)

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Peiyuan Wang, Totowa, NJ;

Applicant(s)

Gilead Pharmasset LLC, Foster City, CA

Assignment For Published Patent Application

GILEAD PHARMASSET LLC, Foster City, CA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/609,614 09/11/2012 PAT 8580765
which is a CON of 13/099,671 05/03/2011 PAT 8334270
which is a CON of 12/053,015 03/21/2008 PAT 7964580
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If Required, Foreign Filing License Granted: 11/04/2013

Gilead Exhibit 2024
PGR2023-00046 - Page 00809

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/057,675**

Projected Publication Date: 02/13/2014

Non-Publication Request: No

Early Publication Request: No
Title

NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS

Preliminary Class

514

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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 (1-866-999-4258).

Gilead Exhibit 2024
PGR2023-00046 - Page 00810

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 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).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/057,675

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			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	2 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1 minus 3 =	*				x 420 =	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 $310 ($155 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).						3600
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			TOTAL	5200

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	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
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.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

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NOV 25 2013
OFFICE OF PETITIONS

Fitzpatrick Cella Harper & Scinto (Gilead)
1290 Avenue of the Americas
New York NY 10104

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.:14/057,675

1. THE REQUEST FILED October 18, 2013 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination
- A. ☒ for an original nonprovisional application (Track I).
- B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

- A. filing a **petition for extension of time** to extend the time period for filing a reply;
- B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
- C. filing a **request for continued examination**;
- D. filing a notice of appeal;
- E. filing a request for suspension of action;
- F. mailing of a notice of allowance;
- G. mailing of a final Office action;
- H. completion of examination as defined in 37 CFR 41.102; or
- I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Kimberly Inabinet at 571-272-4618.

/ Kimberly Inabinet/ Paralegal Specialist, Office of Petitions

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	14057675
Filing Date	2013-10-18
First Named Inventor	DU, Jinfa
Art Unit	1621
Examiner Name	LEWIS, Patrick T.
Attorney Docket Number	03956.053800.4

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8580765	B2	2013-11-12	SOFIA,Michael Joseph	
	2	8415322	B2	2013-04-29	CLARK, Jeremy	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20120245335	A1	2012-09-27	CLARK, Jeremy	
	2	20130109647	A1	2013-05-02	BERREY, Miriam Michelle	
	3	20130136776	A1	2013-05-30	CLEARY, Darryl G.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]

EFS Web 2.1.17

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	DU, Jinfa
	Art Unit	1621
	Examiner Name	LEWIS, Patrick T.
	Attorney Docket Number	03956.053800.4

	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Yuodka et al., Bioorganicheskaya Khimiya, 2(11), 1513-1519 (1976) (translated from Russian).	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	DU, Jinfa
	Art Unit	1621
	Examiner Name	LEWIS, Patrick T.
	Attorney Docket Number	03956.053800.4

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Alicia A. Russo/	Date (YYYY-MM-DD)	2013-12-06
Name/Print	Alicia A. Russo	Registration Number	46,192

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Gilead Exhibit 2024
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Electronic Acknowledgement Receipt

EFS ID:	17584575
Application Number:	14057675
International Application Number:	
Confirmation Number:	4233
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Customer Number:	104538
Filer:	Alicia Russo/Yuvindra Mankaran
Filer Authorized By:	Alicia Russo
Attorney Docket Number:	03956.053800.4
Receipt Date:	06-DEC-2013
Filing Date:	18-OCT-2013
Time Stamp:	10:38:19
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	Transmittal Letter	03956053800-4IDSTransmittal.pdf	75896 d5124c6097c4d184b5a45ea13b4112be72067e21	no	2

Warnings:	
Information:	

2	Information Disclosure Statement (IDS) Form (SB08)	03956053800-4SB08.pdf	1368055 88d2b28b63cfc05de66df9be79aa044ce3548c8e	no	4

Warnings:	
Information:	
This is not an USPTO supplied IDS fillable form	
Total Files Size (in bytes):	1443951

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.

03956.053800.4 PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No.: 14/057,675	)	
	:	Examiner: PATRICK T. LEWIS
First Named Inventor:	)	
	:	Group Art Unit: 1621
JINFA DU	)	
	:	Confirmation No.: 4233
Filed: October 18, 2013	)	
	:	
For: NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	)	December 6, 2013

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the attached PTO/SB/08a Form.

A copy of the listed non-U.S. patent document can be found in the file wrapper of grandparent application U.S. Patent Application No. 12/053,015, filed March 21, 2008, from which the present application claims priority under 35 U.S.C. §120. The Examiner is respectfully directed to the file of this application in the U.S. Patent and Trademark Office for review of this document. (*See* 37 C.F.R. § 1.98(d) and MPEP § 609.)

In accordance with 37 C.F.R. §1.97(h) and MPEP § 2129, the Applicant makes no admission regarding whether these references are, or are considered to be, material to patentability.

It is respectfully requested that the above information be considered by the Examiner and that a copy of the attached PTO/SB/08a form be returned indicating that such information has been considered.

Pursuant to 37 C.F.R. § 1.97(b), it is believed that no fees are due in connection with this submission. However, should the U.S. Patent and Trademark Office determine that fees are due, the Commissioner is hereby authorized to charge any deficiency to Deposit Account No. 50-3939.

Applicant's undersigned attorneys may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

/Alicia A. Russo/
Alicia A. Russo
Registration No. 46,192

Erin J.D. Austin
Registration No. 66,532

Attorneys for Applicant

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

03956.053800.4 PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application No. 14/057,675	)	Examiner: Patrick T. Lewis
First Named Inventor: Jinfa DU	)	Group Art Unit: 1621
	)	Confirmation No. 4233
Filed: October 18, 2013	:	
For: NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS	)	December 10, 2013

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SECOND PRELIMINARY AMENDMENT AND REQUEST TO TRANSFER SEQUENCE INFORMATION UNDER 37 C.F.R. § 1.821(e)

Commissioner:

Preliminary to examination on the merits, please amend the above-identified application as follows.

- Amendments to the Specification begin on page 2;
- Request to Transfer Sequence Information under 37 C.F.R. § 1.821(e) is on page 4; and
- Remarks are on page 5.

AMENDMENTS TO THE SPECIFICATION

Please add, after the paragraph reciting the cross-references to related applications (as added by the Preliminary Amendment filed October 22, 2013) and before the subheading "Field of the Invention" at page 1, the following subheading and paragraph.

INCORPORATION OF SEQUENCE LISTING

The Sequence Listing filed on October 10, 2012 (in U.S. Patent Application No. 13/609,614, filed September 11, 2012), created on September 30, 2012, named 039560538002_ST25.txt, having a size in bytes of 1,091 B, is hereby incorporated by reference herein in its entirety.

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Please replace the paragraph beginning at line 3 and ending at line 17 on page 675 of the original specification submitted on October 18, 2013 (i.e., the paragraph immediately following the "EXAMPLE 82" heading) with the following paragraph (markings to show all changes are presented as per 37 C.F.R. § 1.121(b)(1)(ii)).

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[[,]] primer: 5'-AGCCATGGCGTTAGTA(T)GAGTGT-3' (SEQ ID NO:1)[[, and]]; antisense[[,]] primer: 5'-TTCCGCAGACCACTATGG-3' (SEQ ID NO:2); and probe[[,]]: 5'-FAM-CCTCCAGGACCCCCCCTCCC-TAMRA-3' (SEQ ID NO:3)).

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REQUEST TO TRANSFER SEQUENCE INFORMATION
UNDER 37 C.F.R. § 1.821(e)

Pursuant to 37 C.F.R. § 1.821(e), the electronically filed copy of the Sequence Listing in the instant application is identical to the electronically filed copy of the Sequence Listing filed in Application No. 13/609,614, filed September 11, 2012. In accordance with 37 C.F.R. § 1.821(e), please use the electronically filed copy of the Sequence Listing in that application as the electronically filed copy of the Sequence Listing for the instant application. It is understood that the Patent and Trademark Office will make the necessary changes in application number and filing date for the instant application.

Gilead Exhibit 2024
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REMARKS

Applicant has amended the specification to include the required paragraph to incorporate-by-reference the Sequence Listing filed in the parent application. The present amendment hereby specifically directs the entry of the Sequence Listing into the application, as required by 37 C.F.R. § 1.821. Applicant also has amended the specification to include the required sequence identifiers, as previously included in the parent application. Accordingly, no new matter has been added by way of these amendments. Therefore, entry of the present amendment is respectfully requested. Early and favorable action on the merits also is respectfully and earnestly requested.

Applicant's undersigned attorney may be reached in our New York office by telephone at 212.218.2100. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

/Joseph P. Pieroni/
Joseph P. Pieroni
Attorney for Applicant
Registration No. 53,469

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Electronic Acknowledgement Receipt

EFS ID:	17612762
Application Number:	14057675
International Application Number:	
Confirmation Number:	4233
Title of Invention:	NUCLEOSIDE PHOSPHORAMIDATE PRODRUGS
First Named Inventor/Applicant Name:	Jinfa Du
Customer Number:	104538
Filer:	Joseph P. Pieroni/DAVID NGUY
Filer Authorized By:	Joseph P. Pieroni
Attorney Docket Number:	03956.053800.4
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Time Stamp:	11:42:00
Application Type:	Utility under 35 USC 111(a)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		SECPRELMAMD039560538004.pdf	121884 4a55d9324e6ad9c9f0fbf5d92e71b77c8fae7d74	yes	5

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	Application Number	14057675
	Filing Date	2013-10-18
	First Named Inventor	DU, Jinfa
	Art Unit	1621
	Examiner Name	LEWIS, Patrick T.
	Attorney Docket Number	03956.053800.4

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	Art Unit	1621
	Examiner Name	LEWIS, Patrick T.
	Attorney Docket Number	03956.053800.4

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	1	MCGUIGAN, CHRISTOPHER, et al., Certain Phosphoramidate Derivatives of Dideoxy Uridine (ddU) Are Active Against HIV and Successfully By-pass Thymidine Kinase, FEBS Letters (1994), 351, 11-14.	☐
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