

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Bruce D. Forrest
Application No.: 17/347,435
Confirmation No.: 4020
Filed: June 14, 2021
For: SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS
AND METHODS OF USE THEREOF
Examiner: Khatol S. Shahnan Shah
Art Unit: 1645

Certificate of Electronic Filing under 37 C.F.R. § 1.8

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Dated: March 20, 2026

Electronic Signature for Dawn Grimes Griffin: /Dawn Grimes Griffin/

RESPONSE AFTER FINAL OFFICE ACTION UNDER 37 C.F.R. § 1.116

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

Dear Commissioner:

In response to the final Office Action, dated January 21, 2026, Applicant respectfully requests entrance of the following Amendment and consideration of the following Remarks. The deadline for responding to the Office Action is April 21, 2026. Applicant thus submits that the present Response is timely submitted on Friday, March 20, 2026.

Please amend the above-identified Application as follows:

Amendments to the Claims are reflected in the Listing of Claims, which begins on page 2 of this Response.

Remarks begin on page 7 of this Response.

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims

1-295. (Canceled)

296. (Currently Amended) A pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates, each immunogenic saccharide-polypeptide conjugate consisting of a capsular polysaccharide, fragment thereof, or combination thereof, conjugated to a polypeptide, wherein the capsular polysaccharide, fragment thereof, or combination thereof is from a unique *Streptococcus pneumoniae* serotype, wherein a first serotype comprises 16F,[[20A,]] 20B, 24F, or 31, and at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38, wherein the at least one additional serotype is not the first serotype; and wherein the fragment of the capsular polysaccharide is a monosaccharide, a disaccharide, a trisaccharide, a tetrasaccharide, a pentasaccharide, a hexasaccharide, or an oligosaccharide.

297. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 31.

298. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 24F.

299. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional[[first]] serotype is 20A.

300. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 16F.

301. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises cross-reacting material 197 (CRM₁₉₇).

302. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises tetanus toxoid, a diphtheria toxoid, cholera toxoid, pertussis toxoid, inactivated or mutant pneumococcal pneumolysin, pneumococcal surface protein A, pneumococcal adhesion protein A, pneumococcal lipoprotein PsaA, C5a peptidase group A or group B *Streptococcus*, a non-typable *H. influenzae* P4 protein, a non-typable *H. influenzae* P6 protein, *M. catarrhalis* uspA, keyhole limpet haemocyanin (KLH), outer membrane protein complex (OMPC) from *N. meningitidis*, a purified protein derivative of tuberculin(PPD), protein D from *H. influenzae*, PspA, any fragment thereof, or any combination thereof.

303. (Previously Presented) The pharmaceutical composition of claim 296, further comprising an adjuvant; a chelating agent; a surfactant; an emulsifier; a buffering agent; a preservative; a salt; an anti-fungal compound; or a combination thereof.

304. (Previously Presented) The pharmaceutical composition of claim 296, wherein the pharmaceutical composition is in the form of an intramuscularly injectable composition, intradermally injectable composition, subcutaneously injectable composition, or an intranasally administrable composition.

305. (Previously Presented) The pharmaceutical composition of claim 296, wherein at least one of the immunogenic saccharide-polypeptide conjugates elicits an opsonophagocytic response.

306. (Canceled)

307. (Previously Presented) The pharmaceutical composition of claim 296, wherein the immunogenic saccharide-polypeptide conjugates comprise: (i) the capsular polysaccharide at least partially embedded in the polypeptide, (ii) the capsular polysaccharide chemically cross-linked to the polypeptide, and/or (iii) the capsular polysaccharide at least partially chemically cross-linked to the polypeptide.

308. (Previously Presented) The pharmaceutical composition of claim 296, wherein a toxin activity of the polypeptide is at least partly mitigated.

309. (Previously Presented) The pharmaceutical composition of claim 296, wherein each of the immunogenic saccharide-polypeptide conjugates is present in an amount of at least 0.001%, by weight, based on the weight of the pharmaceutical composition.

310. (Withdrawn) A method comprising administering to a subject the pharmaceutical composition of claim 296.

311.-315. (Cancelled)

316. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 16F, and the at least one additional serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, and 15A.

317. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first serotype comprises 16F[[20A]], and the at least one additional serotype comprises 7F, 8, 9N, 15A, 15C, [[16F,]] 19A, 20A, 22F, 23A, and 23B.

318. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 23B, and the at least one additional serotype comprises 16F, 20A, 22F, 23A, 24F, 31, 33F, and 35B.

319. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 24F, and the at least one additional serotype comprises 3, 7F, 8, 9N, 10A, 15A, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, and 31.

320. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 16F, and the at least one additional serotype comprises 3, 7F, 8, 9N, 10A, 12F, 15A, 15C, 17F, 20A, 22F, 23A, 23B, 31, 33F, and 35B.

321. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 24F, and the at least one additional serotype comprises 3, 6A, 7F, 9N, 10A, 11A, 12F, 15A, 15C, 16F, 19A, 20A, 22F, 23B, 31, and 35B.

322. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 31, and the at least one additional serotype comprises 10A, 11A, 12F, 15A, 15C, 16F, 17F, 19A, 22F, 33F, and 35B.

323. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 20B.

324. (Currently Amended) The pharmaceutical composition of claim 297[[323]], wherein the at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 16F, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, [[31,]] 33F, and 35B.

325. (Previously Presented) The pharmaceutical composition of claim 298, wherein the at least one additional serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

326. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 16F, and the at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

327. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 16F, and the at least one additional serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 24F, 31, 33F, and 35B.

REMARKS

Claims 296-305, 307-310, and 316-327 were pending in the Application before entrance of the present Amendment, of which claim 310 is withdrawn from consideration by the Examiner at this time. By the present Amendment, claims 296, 299, 317, and 324 are amended. Applicant reserves the right to pursue the subject matter canceled from the claims in one or more future continuing applications claiming priority to the present Application. Support for the amendments to claims 296, 299, and 317 can be found throughout the originally filed Application, *e.g.*, paragraphs [0042], [0043], [0052], and [0070]. Claim 324 is amended to update the dependency and to update the listed serotypes to agree with the amendment. After entrance of the present Amendment, claims 296-305, 307-310, and 316-327 will be pending in the Application, with claim 310 being withdrawn from consideration by the Examiner at this time. Applicant submits that no new matter is added to the Application by this Amendment.

Amendment or cancellation of the claims during prosecution of this Application is not to be construed as acquiescence to any of the objections or rejections set forth in the Office Action and was done solely to expedite prosecution of the Application. Applicant reserves the right to pursue the claims as originally filed or similar claims in this particular Application or one or more continuing patent applications claiming priority to this Application.

Each of the rejections levied by the Examiner is addressed in turn below.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 296-305, 307-309, and 316-327 under 35 U.S.C. § 103 as allegedly being unpatentable over Caufield *et al.* (WO 2011/100151; hereinafter “Caufield”) in view of Porro *et al.* (WO 2014/118201; hereinafter “Porro”), in view of Mekalanos (US 9,533,032) and further in view of del Amo *et al.* (“High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines.” *Clin. Microbiol. Infect.* 2013, 20(7):684-9; hereinafter “del Amo”). Applicant respectfully disagrees.

However, without conceding the correctness of the Examiner’s position and solely in the interest of advancing prosecution, the claims have been amended and are directed, *inter alia*, to a pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-

polypeptide conjugates, each immunogenic saccharide-polypeptide conjugate ... is from a unique *Streptococcus pneumoniae* serotype, wherein a first serotype comprises 16F, 20B, 24F, or 31, and at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38, wherein the at least one additional serotype is not the first serotype.

None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims. Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a carrier protein (*e.g.*, CRM₁₉₇), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 20B, 24F, or 31).

Porro similarly does not describe the immunogenic saccharide-polypeptide conjugates of the claims, but is directed to multivalent molecular constructs comprising at least three carbohydrate structures (*e.g.*, capsular polysaccharides) all bound to a helper-T dependent carrier protein (*see, e.g.*, Abstract and claim 1 of Porro). Porro specifically explains that the multivalent construct structure is beneficial to address carrier protein-dependent immune-suppression and immune interference, noting that the “vaccine formulation encompassing as many as eighteen type-specific conjugate antigens, as an example, will be synthesized by only using one third (or 33%) of the amount of carrier protein needed in the nowadays available single-antigen-associated formulation, so that the immunogenic burden on the immune-system of the host will be significantly lower and, consequently, safer” (Porro, p. 4). Porro also indicates that the “new generation of conjugate antigens expressing multiple specificities or obtaining vaccines with an always broader spectrum of protection against a variety of bacterial pathogens while drastically reducing the amount of carrier protein” will improve “the cost of production of the vaccines, ... production efficiency, ... production accuracy, ... safety, ... [and] the public utility of such conjugate vaccines” (Porro, pages 9-10). In addition to not teaching or suggesting the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1

ratio), Porro also does not disclose serotypes 16F, 20B, 24F, or 31. With respect to serotypes 20A and 20B, it is noted that, contrary to the Examiner's assertion, serotype 20 does not "implicitly" disclose serotypes 20A and 20B. Rather, Porro recites a set of polysaccharides from the Pneumovax 23 vaccine (PPSV23) and the Wyeth 6A vaccine, noting that "[w]hile the presently licensed 13-valent vaccine [the Wyeth 6A vaccine] covers about 61% of IPD in children younger than 5 years, ... it has been estimated that a formulation containing the 23-valent types of Ps today present in the polysaccharide-based vaccine [the PPSV23 vaccine], accounts for 88% of the bacteremic pneumococcal diseases which then cross-react with types of Ps causing an additional 8% of disease due to *S. pneumoniae*" (p. 67, lines 10-20). The PPSV23 vaccine (Merck) comprises serotype 20A, as noted in Scott *et al.*, CID, 2026:82 (15 February 2026): e217 (submitted concurrently herewith): "[a]dvances in serotyping methods led to further characterization of serotype 20 included in PPSV23 as 20A" (FIG. 3). Therefore, Porro does not implicitly disclose serotype 20B, but rather refers only to serotype 20A.

Mekalanos, cited for its purported disclosure of serotypes 16F, 19A, 23B, 24F, and 31, also does not remedy the deficiencies of Caufield and Porro because it does not describe the immunogenic saccharide-polypeptide conjugates of the claims. Instead, Mekalanos describes vaccine compositions comprising an antigen (or two or more antigens) entrapped within a cross-linked carrier protein matrix (*e.g.*, Abstract, claims 1 and 12). In addition, Mekalanos lists over 80 different serotypes (claim 12) and does not provide any guidance as which serotype or serotypes should be present within the vaccine.

Similarly, the Examiner cited del Amo for its purported disclosure of numerous serotypes (*e.g.*, 1, 2, 3, 4, 5, 6A/6B, 6C, 7C/(7B/40), 7F/7A, 8, 9N/9L, 9V/9A, 10A, 10F/(10C/33C), 11A/11D, 12F/(12A/44/46), 13, 14, 15A/15F, 15B/15C, 16F, 17F, 18/(18A/18B/18C/18F), 19A, 19F, 20, 21, 22F/22A, 23A, 23B, 23F, 24/(24A/24B/24F), 31, 33F/(33A/37), 34, 35A/(35C/42), 35B, 35F/47F, 38/25F, and 39); however, the list of serotypes in del Amo includes those that may be detected using an *in vitro* assay, not for conjugation, let alone for inclusion in a composition comprising immunogenic saccharide-polypeptide conjugates as claimed. Moreover, using the assays described in del Amo, the authors found that serotypes 1, 3, 5, 7F, and 19A are the most invasive serotypes, and serotypes 6A, 6C, 19A, 19F, and 23B are the most common serotypes in carriage

(Abstract). That is, the most common and invasive serotypes described in del Amo, 1, 3, 5, 6A, 6C, 7F, 19A, 19F, and 23B, are not those required by the claim. In addition, del Amo suggests that the other, less common, serotypes should not be included in a vaccine, concluding that “all serotypes with high attack rate are included in PCV13 and that the *remaining serotypes circulating in our regions have a low invasive disease potential*” (emphasis added; p. 687). Therefore, one of ordinary skill in the art would have no motivation to select different (less common and/or less invasive) serotypes for a vaccine formulation based on the disclosure of del Amo.

Therefore, as none of the cited references, alone or in combination, teaches or suggests the claimed pharmaceutical composition comprising immunogenic saccharide-polypeptide conjugates, nor the combination of serotypes recited in the claims, withdrawal of the rejection is respectfully requested.

General Comments on Dependent Claims

Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicant therefore believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

In view of the foregoing, this Application should now be in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes, after this Response, the Application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number indicated below to discuss any outstanding issues.

If this Response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time.

Applicant believes all fees due with this Response are being paid by credit card. However, if any additional fees are due, please charge them, or credit any overpayment, to our Deposit Account No. 23/2825, under Docket No. P1143.70000US05, from which the undersigned is authorized to draw.

Dated: March 20, 2026

Respectfully submitted,

Electronic signature: /Jessica A. von Reyn/
Jessica A. von Reyn
Registration Number: 76,839
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	17/347,435-Conf. #4020
	Filing Date	June 14, 2021
	First Named Inventor	Bruce D. Forrest
	Art Unit	1645
	Examiner Name	K. S. Shahnan Shah
Total Number of Pages in This Submission	Attorney Docket Number	P1143.70000US05

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☒ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☐ Other Enclosure(s) (please Identify below):
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	WOLF, GREENFIELD & SACKS, P.C.		
Signature	/Jessica A. von Reyn/		
Printed name	Jessica A. von Reyn		
Date	March 20, 2026	Reg. No.	76,839

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Dated: March 20, 2026

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P.O. Box 1450
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This Listing of Claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims

1-295. (Canceled)

296. (Currently Amended) A pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates, each immunogenic saccharide-polypeptide conjugate consisting of a capsular polysaccharide, fragment thereof, or combination thereof, conjugated to a polypeptide, wherein the capsular polysaccharide, fragment thereof, or combination thereof is from a unique *Streptococcus pneumoniae* serotype, wherein a first serotype comprises 16F,[[20A,]] 20B, 24F, or 31, and at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38, wherein the at least one additional serotype is not the first serotype; and wherein the fragment of the capsular polysaccharide is a monosaccharide, a disaccharide, a trisaccharide, a tetrasaccharide, a pentasaccharide, a hexasaccharide, or an oligosaccharide.

297. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 31.

298. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 24F.

299. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional[[first]] serotype is 20A.

300. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype is 16F.

301. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises cross-reacting material 197 (CRM₁₉₇).

302. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises tetanus toxoid, a diphtheria toxoid, cholera toxoid, pertussis toxoid, inactivated or mutant pneumococcal pneumolysin, pneumococcal surface protein A, pneumococcal adhesion protein A, pneumococcal lipoprotein PsaA, C5a peptidase group A or group B *Streptococcus*, a non-typable *H. influenzae* P4 protein, a non-typable *H. influenzae* P6 protein, *M. catarrhalis* uspA, keyhole limpet haemocyanin (KLH), outer membrane protein complex (OMPC) from *N. meningitidis*, a purified protein derivative of tuberculin(PPD), protein D from *H. influenzae*, PspA, any fragment thereof, or any combination thereof.

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309. (Previously Presented) The pharmaceutical composition of claim 296, wherein each of the immunogenic saccharide-polypeptide conjugates is present in an amount of at least 0.001%, by weight, based on the weight of the pharmaceutical composition.

310. (Withdrawn) A method comprising administering to a subject the pharmaceutical composition of claim 296.

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316. (Previously Presented) The pharmaceutical composition of claim 296, wherein the first serotype comprises 16F, and the at least one additional serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, and 15A.

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324. (Currently Amended) The pharmaceutical composition of claim 297[[323]], wherein the at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 16F, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, [[31,]] 33F, and 35B.

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REMARKS

Claims 296-305, 307-310, and 316-327 were pending in the Application before entrance of the present Amendment, of which claim 310 is withdrawn from consideration by the Examiner at this time. By the present Amendment, claims 296, 299, 317, and 324 are amended. Applicant reserves the right to pursue the subject matter canceled from the claims in one or more future continuing applications claiming priority to the present Application. Support for the amendments to claims 296, 299, and 317 can be found throughout the originally filed Application, *e.g.*, paragraphs [0042], [0043], [0052], and [0070]. Claim 324 is amended to update the dependency and to update the listed serotypes to agree with the amendment. After entrance of the present Amendment, claims 296-305, 307-310, and 316-327 will be pending in the Application, with claim 310 being withdrawn from consideration by the Examiner at this time. Applicant submits that no new matter is added to the Application by this Amendment.

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Each of the rejections levied by the Examiner is addressed in turn below.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 296-305, 307-309, and 316-327 under 35 U.S.C. § 103 as allegedly being unpatentable over Caufield *et al.* (WO 2011/100151; hereinafter “Caufield”) in view of Porro *et al.* (WO 2014/118201; hereinafter “Porro”), in view of Mekalanos (US 9,533,032) and further in view of del Amo *et al.* (“High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines.” *Clin. Microbiol. Infect.* 2013, 20(7):684-9; hereinafter “del Amo”). Applicant respectfully disagrees.

However, without conceding the correctness of the Examiner’s position and solely in the interest of advancing prosecution, the claims have been amended and are directed, *inter alia*, to a pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-

polypeptide conjugates, each immunogenic saccharide-polypeptide conjugate ... is from a unique *Streptococcus pneumoniae* serotype, wherein a first serotype comprises 16F, 20B, 24F, or 31, and at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38, wherein the at least one additional serotype is not the first serotype.

None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims. Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a carrier protein (*e.g.*, CRM₁₉₇), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 20B, 24F, or 31).

Porro similarly does not describe the immunogenic saccharide-polypeptide conjugates of the claims, but is directed to multivalent molecular constructs comprising at least three carbohydrate structures (*e.g.*, capsular polysaccharides) all bound to a helper-T dependent carrier protein (*see, e.g.*, Abstract and claim 1 of Porro). Porro specifically explains that the multivalent construct structure is beneficial to address carrier protein-dependent immune-suppression and immune interference, noting that the “vaccine formulation encompassing as many as eighteen type-specific conjugate antigens, as an example, will be synthesized by only using one third (or 33%) of the amount of carrier protein needed in the nowadays available single-antigen-associated formulation, so that the immunogenic burden on the immune-system of the host will be significantly lower and, consequently, safer” (Porro, p. 4). Porro also indicates that the “new generation of conjugate antigens expressing multiple specificities or obtaining vaccines with an always broader spectrum of protection against a variety of bacterial pathogens while drastically reducing the amount of carrier protein” will improve “the cost of production of the vaccines, ... production efficiency, ... production accuracy, ... safety, ... [and] the public utility of such conjugate vaccines” (Porro, pages 9-10). In addition to not teaching or suggesting the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1

ratio), Porro also does not disclose serotypes 16F, 20B, 24F, or 31. With respect to serotypes 20A and 20B, it is noted that, contrary to the Examiner's assertion, serotype 20 does not "implicitly" disclose serotypes 20A and 20B. Rather, Porro recites a set of polysaccharides from the Pneumovax 23 vaccine (PPSV23) and the Wyeth 6A vaccine, noting that "[w]hile the presently licensed 13-valent vaccine [the Wyeth 6A vaccine] covers about 61% of IPD in children younger than 5 years, ... it has been estimated that a formulation containing the 23-valent types of Ps today present in the polysaccharide-based vaccine [the PPSV23 vaccine], accounts for 88% of the bacteremic pneumococcal diseases which then cross-react with types of Ps causing an additional 8% of disease due to *S. pneumoniae*" (p. 67, lines 10-20). The PPSV23 vaccine (Merck) comprises serotype 20A, as noted in Scott *et al.*, CID, 2026:82 (15 February 2026): e217 (submitted concurrently herewith): "[a]dvances in serotyping methods led to further characterization of serotype 20 included in PPSV23 as 20A" (FIG. 3). Therefore, Porro does not implicitly disclose serotype 20B, but rather refers only to serotype 20A.

Mekalanos, cited for its purported disclosure of serotypes 16F, 19A, 23B, 24F, and 31, also does not remedy the deficiencies of Caufield and Porro because it does not describe the immunogenic saccharide-polypeptide conjugates of the claims. Instead, Mekalanos describes vaccine compositions comprising an antigen (or two or more antigens) entrapped within a cross-linked carrier protein matrix (*e.g.*, Abstract, claims 1 and 12). In addition, Mekalanos lists over 80 different serotypes (claim 12) and does not provide any guidance as which serotype or serotypes should be present within the vaccine.

Similarly, the Examiner cited del Amo for its purported disclosure of numerous serotypes (*e.g.*, 1, 2, 3, 4, 5, 6A/6B, 6C, 7C/(7B/40), 7F/7A, 8, 9N/9L, 9V/9A, 10A, 10F/(10C/33C), 11A/11D, 12F/(12A/44/46), 13, 14, 15A/15F, 15B/15C, 16F, 17F, 18/(18A/18B/18C/18F), 19A, 19F, 20, 21, 22F/22A, 23A, 23B, 23F, 24/(24A/24B/24F), 31, 33F/(33A/37), 34, 35A/(35C/42), 35B, 35F/47F, 38/25F, and 39); however, the list of serotypes in del Amo includes those that may be detected using an *in vitro* assay, not for conjugation, let alone for inclusion in a composition comprising immunogenic saccharide-polypeptide conjugates as claimed. Moreover, using the assays described in del Amo, the authors found that serotypes 1, 3, 5, 7F, and 19A are the most invasive serotypes, and serotypes 6A, 6C, 19A, 19F, and 23B are the most common serotypes in carriage

(Abstract). That is, the most common and invasive serotypes described in del Amo, 1, 3, 5, 6A, 6C, 7F, 19A, 19F, and 23B, are not those required by the claim. In addition, del Amo suggests that the other, less common, serotypes should not be included in a vaccine, concluding that “all serotypes with high attack rate are included in PCV13 and that the *remaining serotypes circulating in our regions have a low invasive disease potential*” (emphasis added; p. 687). Therefore, one of ordinary skill in the art would have no motivation to select different (less common and/or less invasive) serotypes for a vaccine formulation based on the disclosure of del Amo.

Therefore, as none of the cited references, alone or in combination, teaches or suggests the claimed pharmaceutical composition comprising immunogenic saccharide-polypeptide conjugates, nor the combination of serotypes recited in the claims, withdrawal of the rejection is respectfully requested.

General Comments on Dependent Claims

Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicant therefore believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

In view of the foregoing, this Application should now be in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes, after this Response, the Application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number indicated below to discuss any outstanding issues.

If this Response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time.

Applicant believes all fees due with this Response are being paid by credit card. However, if any additional fees are due, please charge them, or credit any overpayment, to our Deposit Account No. 23/2825, under Docket No. P1143.70000US05, from which the undersigned is authorized to draw.

Dated: March 20, 2026

Respectfully submitted,

Electronic signature: /Jessica A. von Reyn/
Jessica A. von Reyn
Registration Number: 76,839
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
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UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/347,435

RECEIPT DATE / TIME
03/20/2026 10:03:35 AM Z ET

ATTORNEY DOCKET #
P1143.70000US05

Title of Invention

SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS AND METHODS OF USE THEREOF

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT #

CONFIRMATION # 4020

FILED BY Dawn Grimes Griffin

PATENT CENTER # 74942000

FILING DATE 06/14/2021

CUSTOMER # 23628

FIRST NAMED
INVENTOR Bruce D. Forrest

CORRESPONDENCE
ADDRESS -

AUTHORIZED BY JESSICA VON REYN

Documents

TOTAL DOCUMENTS: 4

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
P114370000US05-116AMN-JXV.pdf	11	-	57 KB
P114370000US05-116AMN-JXV-A.NE.pdf	(1-1) 1	Response After Final Action	26 KB
P114370000US05-116AMN-JXV-CLM.pdf	(2-6) 5	Claims	35 KB
P114370000US05-116AMN-JXV-REM.pdf	(7-11) 5	Applicant Arguments/Remarks Made in an Amendment	40 KB
P114370000US05-TRN-JXV.pdf	1	Miscellaneous Incoming Letter	27 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
P114370000US05-116AMN-JXV.pdf	506D605CC6C7F92360CDEDE771235D2DFC35B15B207BC89725EC2B80D5418C61F38CE3DF8908DA91B3C635A820A2C36ADE3C3755238480FDBC6514682C3074E3
P114370000US05-116AMN-JXV-A.NE.pdf	FC974164A1894ADAB336ADBC8B54526CD9A37D01DCF0BDF0C993CC9E0BEE673BCAFFBA561560F68FA2670B603F1D7B1C3D1430312929EF5470CF55A36BC3DE1E
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P114370000US05-TRN-JXV.pdf	F6F406E91310E1CE87BAA26DAD6F19E54105F245C0C420E827340A7915A10565F78CA8A046C91ECAA47641D98818A62347B3CC054F288AA566AA0DF990ACB8AE

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 filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Bruce D. Forrest
Application No.: 17/347,435
Confirmation No.: 4020
Filed: June 14, 2021
For: SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS
AND METHODS OF USE THEREOF
Examiner: Khatol S. Shahnan Shah
Art Unit: 1645

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: March 20, 2026

Electronic Signature for Dawn Grimes Griffin: /Dawn Grimes Griffin/

RESPONSE AFTER FINAL OFFICE ACTION UNDER 37 C.F.R. § 1.116

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

Dear Commissioner:

In response to the final Office Action, dated January 21, 2026, Applicant respectfully requests entrance of the following Amendment and consideration of the following Remarks. The deadline for responding to the Office Action is April 21, 2026. Applicant thus submits that the present Response is timely submitted on Friday, March 20, 2026.

Please amend the above-identified Application as follows:

Amendments to the Claims are reflected in the Listing of Claims, which begins on page 2 of this Response.

Remarks begin on page 7 of this Response.



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/347,435	06/14/2021	Bruce D. Forrest	P1143.70000US05	4020
23628	7590	04/02/2026	EXAMINER	
WOLF GREENFIELD & SACKS, P.C.			SHAHNAN SHAH, KHATOL S	
600 ATLANTIC AVENUE				
BOSTON, MA 02210-2206				
			ART UNIT	PAPER NUMBER
			1645	
			NOTIFICATION DATE	DELIVERY MODE
			04/02/2026	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents_eOfficeAction@WolfGreenfield.com
WGS_eOfficeAction@WolfGreenfield.com

Attachment to Advisory Action

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.
2. Applicants' amendment and response after final of 3/20/2026 are acknowledged. Claims 296, 299, 317, 324 have been amended.

Status of Claims

3. Claims 296-305, 307-310 and 316-327 are pending. Claims 296, 299, 317, 324 have been amended. Claims 1-295, 306 and 311-315 have canceled by previous amended. Claim 310 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on May 20, 2024. Claims 296-305, 307-309 and 316-327 are currently under examination.

Claim Rejections - 35 USC § 103 Maintained

4. Rejection of claims 296-305, 307-309, 316-327 claims under 35 U.S.C. 103 as being unpatentable over Caufield et al. WO 2011/100151 A1, art of record applicants' search report, in view of Porro et al., (WO 2014/118201 A1), priority to 1/31/2013, in view of John J. Mekalanos US 9533032 B and further in view of del Amo et al. (Clinical Microbiology and Infection vol. 20, pp. 684-689, 8 November 2013), is maintained.

Applicants' Arguments

5. Applicant's arguments filed 3/20/2026 have been fully considered but they are not persuasive. Applicants argue:

None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims. Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a carrier protein (e.g., CRM197), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not

teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 20B, 24F, or 31).

Office Response

6. Applicant's arguments filed 3/20/2026 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

It is the examiner's position that claim 296 recites a pharmaceutical composition comprising or at **least two immunogenic saccharide -polypeptide conjugate** and the combination of references teach said composition.

In response to applicants' arguments, it is the examiner's position that Porro teach immune saccharide polypeptide conjugates of the claims. In particular, Porro does not disclose immunogenic saccharide-polypeptide conjugates, each comprising a capsular polysaccharide, fragment thereof, or combination thereof, conjugated to a polypeptide (see pages 3, 4, 5, 6, 7, 8, 10, 11 and claims 4, 7, 8, 18, 26). Porro teach glycoconjugates (see pages 7, 10, 11).

Page 10 of Porro recites that "the present invention summarizes the concepts and the technical procedures above referenced 10 for conjugate antigens composed of protein carrier and a maximum of two different carbohydrate structures. In developing the above state of the art, the preferred (not limitative) embodiment of the basic molecular construct subject of the present invention is composed 15 by a multivalent, preferably a tetra-valent semi synthetic glycoprotein which features built-in multiple epitopes and expresses its helper I-dependent immunogenic specificity "*in vivo*" to the protein CRM197, as well as to three carried type-specific Ps, 20 for example Ps of *S. pneumoniae*. As an example, any triad of the Ps type 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19A, 19F, 20, 22F, 23F, 33F of *S. pneumoniae* such as the triad consisting of the Ps type 3, 6A, 7F."

In response to applicants' arguments, it is the examiner's position that Porro teach the limitations of amended claim 296. Porro et al. disclose limitations of claims 296, a pharmaceutical or antigenic multivalent molecular construct consisting of a basic unit comprising a helper-T dependent carrier protein covalently bound to a minimum of three carbohydrate structures of different serological specificity, wherein each carbohydrate structure are at least three capsular polysaccharides selected among type 1, 2, 3, 4, 5, 6A, 6B, 6C, 6D, 7F, 8, 9N, 9V, 10A, 11A, 11B, 11C, 11F, 12F, 14, 15A, 15B, 15C, 17F, 18C, 19F, **20**, 22F, 23A, 23F, 33F and 35B of *Streptococcus pneumoniae* (see abs, claims specially claims 1, 2, 4, 5, 8, 9, 11. As to amended claim 296, Porro et al. teach serotype 20 which inherently include serotypes 20A and/or 20 B (see claim 6, pages 3, 20, 81). Porro et al. teach monosaccharide and oligosaccharide (see pages 5, 6, 8, 9, 12, 48, 80). Porro et al. disclose conjugated polypeptides to capsular polysaccharides (see claims). The invention contains each *S. pneumonia* capsular saccharide (see page 8, 12, 68 and claim 5).

Additionally, Mekalanos column 11 teach a conjugate vaccine for a conjugate made between a PS and the carrier protein tetanus toxoid. In this model, only B-cells that display antibody receptors that recognize the PS bind the PS-protein conjugate. Mekalanos column 23 teach various carrier proteins of the invention include, e.g., toxins and toxoids diphtheria toxoid or CRM 197, tetanus toxin, tetanus toxoid.

Caulfield et al. teach an immunogenic composition comprising: a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes **1**, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a carrier protein; and a pharmaceutically acceptable carrier and further comprise a carrier protein CRM197 and a adjuvant. (see claims and abstract).

Caulfield et al. page 5 recites "The present invention provides a multivalent immunogenic composition comprising, consisting essentially of, or alternatively, consisting of 15 distinct polysaccharide protein conjugates, wherein each of the conjugates contains a different capsular polysaccharide conjugated to a carrier protein, and wherein the capsular polysaccharides are prepared from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F and 33F of *S. pneumoniae*, together with a

pharmaceutically acceptable carrier. In certain embodiments, the carrier protein is CRM197. “ Caulfield et al. teach composition comprising a plurality of at least two immunogenic polysaccharide-protein conjugates containing serotypes 22F and 33F provides robust antibody responses (see page 6).

The combination of references make the claims obvious.

Conclusion

7. No claims are allowed.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHATOL S SHAHNAN SHAH whose telephone number is (571)272-0863. The examiner can normally be reached on Mon-Tue, Thurs-Fri 12pm-8pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Kolker can be reached on 571-272-3181. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khatol S Shahn-Shah/

Examiner, Art Unit 1645

March 25, 2026

/JANA A HINES/

Primary Examiner, Art Unit 1645

Advisory Action Before the Filing of an Appeal Brief	Application No. 17/347,435		Applicant(s) Forrest et al.	
	Examiner KHATOL S SHAHNNAN SHAH		Art Unit 1645	AIA (First Inventor to File) Status Yes

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 20 March 2026 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires _____ months from the mailing date of the prior Advisory Action or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANTS FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because

a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

b) ☐ They raise the issue of new matter (see NOTE below);

c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____ (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☒ For purposes of appeal, the proposed amendment(s): (a) ☐ will not be entered; or (b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____

9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See attached.

13. ☐ Note the attached Information *Disclosure Statement(s)*. (PTO/SB/08) Paper No(s). _____

14. ☐ Other: _____

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:
 Claim(s) allowed: None.
 Claim(s) objected to: None.
 Claim(s) rejected: 285-305, 307-309 and 316-327.
 Claim(s) withdrawn from consideration: 310.

/KHATOL S SHAHNNAN SHAH/ Examiner, Art Unit 1645	/JANA A HINES/ Primary Examiner, Art Unit 1645
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REMARKS

Claims 296-305, 307-310, and 316-327 were pending in the Application before entrance of the present Amendment, of which claim 310 is withdrawn from consideration by the Examiner at this time. By the present Amendment, claims 296, 299, 317, and 324 are amended. Applicant reserves the right to pursue the subject matter canceled from the claims in one or more future continuing applications claiming priority to the present Application. Support for the amendments to claims 296, 299, and 317 can be found throughout the originally filed Application, *e.g.*, paragraphs [0042], [0043], [0052], and [0070]. Claim 324 is amended to update the dependency and to update the listed serotypes to agree with the amendment. After entrance of the present Amendment, claims 296-305, 307-310, and 316-327 will be pending in the Application, with claim 310 being withdrawn from consideration by the Examiner at this time. Applicant submits that no new matter is added to the Application by this Amendment.

Amendment or cancellation of the claims during prosecution of this Application is not to be construed as acquiescence to any of the objections or rejections set forth in the Office Action and was done solely to expedite prosecution of the Application. Applicant reserves the right to pursue the claims as originally filed or similar claims in this particular Application or one or more continuing patent applications claiming priority to this Application.

Each of the rejections levied by the Examiner is addressed in turn below.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 296-305, 307-309, and 316-327 under 35 U.S.C. § 103 as allegedly being unpatentable over Caufield *et al.* (WO 2011/100151; hereinafter “Caufield”) in view of Porro *et al.* (WO 2014/118201; hereinafter “Porro”), in view of Mekalanos (US 9,533,032) and further in view of del Amo *et al.* (“High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines.” *Clin. Microbiol. Infect.* 2013, 20(7):684-9; hereinafter “del Amo”). Applicant respectfully disagrees.

However, without conceding the correctness of the Examiner’s position and solely in the interest of advancing prosecution, the claims have been amended and are directed, *inter alia*, to a pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-

polypeptide conjugates, each immunogenic saccharide-polypeptide conjugate ... is from a unique *Streptococcus pneumoniae* serotype, wherein a first serotype comprises 16F, 20B, 24F, or 31, and at least one additional serotype comprises 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38, wherein the at least one additional serotype is not the first serotype.

None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims. Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a carrier protein (*e.g.*, CRM₁₉₇), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 20B, 24F, or 31).

Porro similarly does not describe the immunogenic saccharide-polypeptide conjugates of the claims, but is directed to multivalent molecular constructs comprising at least three carbohydrate structures (*e.g.*, capsular polysaccharides) all bound to a helper-T dependent carrier protein (*see, e.g.*, Abstract and claim 1 of Porro). Porro specifically explains that the multivalent construct structure is beneficial to address carrier protein-dependent immune-suppression and immune interference, noting that the “vaccine formulation encompassing as many as eighteen type-specific conjugate antigens, as an example, will be synthesized by only using one third (or 33%) of the amount of carrier protein needed in the nowadays available single-antigen-associated formulation, so that the immunogenic burden on the immune-system of the host will be significantly lower and, consequently, safer” (Porro, p. 4). Porro also indicates that the “new generation of conjugate antigens expressing multiple specificities or obtaining vaccines with an always broader spectrum of protection against a variety of bacterial pathogens while drastically reducing the amount of carrier protein” will improve “the cost of production of the vaccines, ... production efficiency, ... production accuracy, ... safety, ... [and] the public utility of such conjugate vaccines” (Porro, pages 9-10). In addition to not teaching or suggesting the immunogenic saccharide-polypeptide conjugates of the claims, in which each saccharide is conjugated to a unique polypeptide combination (a 1:1

ratio), Porro also does not disclose serotypes 16F, 20B, 24F, or 31. With respect to serotypes 20A and 20B, it is noted that, contrary to the Examiner's assertion, serotype 20 does not "implicitly" disclose serotypes 20A and 20B. Rather, Porro recites a set of polysaccharides from the Pneumovax 23 vaccine (PPSV23) and the Wyeth 6A vaccine, noting that "[w]hile the presently licensed 13-valent vaccine [the Wyeth 6A vaccine] covers about 61% of IPD in children younger than 5 years, ... it has been estimated that a formulation containing the 23-valent types of Ps today present in the polysaccharide-based vaccine [the PPSV23 vaccine], accounts for 88% of the bacteremic pneumococcal diseases which then cross-react with types of Ps causing an additional 8% of disease due to *S. pneumoniae*" (p. 67, lines 10-20). The PPSV23 vaccine (Merck) comprises serotype 20A, as noted in Scott *et al.*, CID, 2026:82 (15 February 2026): e217 (submitted concurrently herewith): "[a]dvances in serotyping methods led to further characterization of serotype 20 included in PPSV23 as 20A" (FIG. 3). Therefore, Porro does not implicitly disclose serotype 20B, but rather refers only to serotype 20A.

Mekalanos, cited for its purported disclosure of serotypes 16F, 19A, 23B, 24F, and 31, also does not remedy the deficiencies of Caufield and Porro because it does not describe the immunogenic saccharide-polypeptide conjugates of the claims. Instead, Mekalanos describes vaccine compositions comprising an antigen (or two or more antigens) entrapped within a cross-linked carrier protein matrix (*e.g.*, Abstract, claims 1 and 12). In addition, Mekalanos lists over 80 different serotypes (claim 12) and does not provide any guidance as which serotype or serotypes should be present within the vaccine.

Similarly, the Examiner cited del Amo for its purported disclosure of numerous serotypes (*e.g.*, 1, 2, 3, 4, 5, 6A/6B, 6C, 7C/(7B/40), 7F/7A, 8, 9N/9L, 9V/9A, 10A, 10F/(10C/33C), 11A/11D, 12F/(12A/44/46), 13, 14, 15A/15F, 15B/15C, 16F, 17F, 18/(18A/18B/18C/18F), 19A, 19F, 20, 21, 22F/22A, 23A, 23B, 23F, 24/(24A/24B/24F), 31, 33F/(33A/37), 34, 35A/(35C/42), 35B, 35F/47F, 38/25F, and 39); however, the list of serotypes in del Amo includes those that may be detected using an *in vitro* assay, not for conjugation, let alone for inclusion in a composition comprising immunogenic saccharide-polypeptide conjugates as claimed. Moreover, using the assays described in del Amo, the authors found that serotypes 1, 3, 5, 7F, and 19A are the most invasive serotypes, and serotypes 6A, 6C, 19A, 19F, and 23B are the most common serotypes in carriage

(Abstract). That is, the most common and invasive serotypes described in del Amo, 1, 3, 5, 6A, 6C, 7F, 19A, 19F, and 23B, are not those required by the claim. In addition, del Amo suggests that the other, less common, serotypes should not be included in a vaccine, concluding that “all serotypes with high attack rate are included in PCV13 and that the *remaining serotypes circulating in our regions have a low invasive disease potential*” (emphasis added; p. 687). Therefore, one of ordinary skill in the art would have no motivation to select different (less common and/or less invasive) serotypes for a vaccine formulation based on the disclosure of del Amo.

Therefore, as none of the cited references, alone or in combination, teaches or suggests the claimed pharmaceutical composition comprising immunogenic saccharide-polypeptide conjugates, nor the combination of serotypes recited in the claims, withdrawal of the rejection is respectfully requested.

General Comments on Dependent Claims

Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicant therefore believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

In view of the foregoing, this Application should now be in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes, after this Response, the Application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number indicated below to discuss any outstanding issues.

If this Response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time.

Applicant believes all fees due with this Response are being paid by credit card. However, if any additional fees are due, please charge them, or credit any overpayment, to our Deposit Account No. 23/2825, under Docket No. P1143.70000US05, from which the undersigned is authorized to draw.

Dated: March 20, 2026

Respectfully submitted,

Electronic signature: /Jessica A. von Reyn/
Jessica A. von Reyn
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Bruce D. Forrest
Application No.: 17/347,435
Confirmation No.: 4020
Filed: June 14, 2021
For: SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS
AND METHODS OF USE THEREOF
Examiner: Khatol S. Shahnan Shah
Art Unit: 1645

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 21, 2026

Signature: /Samantha Fuchs/ (Samantha Fuchs)

SUPPLEMENTAL RESPONSE UNDER 37 C.F.R. § 1.114

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

Dear Commissioner:

In response to the final Office Action, dated January 21, 2026, Applicant filed a Response under 37 C.F.R. § 1.116 on March 20, 2026. An Advisory Action, was issued by the Office on April 2, 2026 indicating that the case was not in condition for allowance. In response to the final Office Action and subsequent Advisory Action, Applicant respectfully requests entrance of the following Amendment and consideration of the following Remarks which are being filed with a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114. The deadline for responding to the final Office Action is April 21, 2026. Applicant thus submits that the present Supplemental Response and RCE is timely submitted on Tuesday, April 21, 2026.

Please amend the above-identified Application as follows:

Amendments to the Claims are reflected in the Listing of Claims, which begins on page 3 of this response.

Remarks begin on page 8 of this response.

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims

1-295. (Canceled)

296. (Currently Amended) A pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates,

wherein each immunogenic saccharide-polypeptide conjugate ~~consists~~ consisting of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide, wherein

(a) a first immunogenic saccharide-polypeptide conjugate comprises a ~~[[the]]~~ capsular polysaccharide, fragment thereof, or combination thereof ~~[[is]]~~ from a ~~first~~ unique *Streptococcus pneumoniae* serotype, wherein ~~the~~ [[a]] first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, ~~[[20B,]]~~ 24F, or 31, and

(b) at least one additional immunogenic saccharide-polypeptide conjugate comprises a capsular polysaccharide, fragment thereof, or combination thereof from at least one additional *Streptococcus pneumoniae* serotype, wherein ~~the~~ at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38; ~~[[,]]~~

wherein the at least one additional serotype is not the same as the first serotype; and

wherein the fragment of the capsular polysaccharide is a monosaccharide, a disaccharide, a trisaccharide, a tetrasaccharide, a pentasaccharide, a hexasaccharide, or an oligosaccharide.

297. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 31.

298. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 24F.

299. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional *Streptococcus pneumoniae* serotype is 20A.

300. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F.

301. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises cross-reacting material 197 (CRM₁₉₇).

302. (Currently Amended) The pharmaceutical composition of claim 296, wherein the polypeptide comprises tetanus toxoid, [[a]] diphtheria toxoid, cholera toxoid, pertussis toxoid, inactivated or mutant pneumococcal pneumolysin, pneumococcal surface protein A, pneumococcal adhesion protein A, pneumococcal lipoprotein PsaA, C5a peptidase group A or group B *Streptococcus*, [[a]] non-typable *H. influenzae* P4 protein, [[a]] non-typable *H. influenzae* P6 protein, *M. catarrhalis* uspA, keyhole limpet haemocyanin (KLH), outer membrane protein complex (OMPC) from *N. meningitidis*, a purified protein derivative of tuberculin (PPD), protein D from *H. influenzae*, [[PspA,]] any fragment thereof, or any combination thereof.

303. (Previously Presented) The pharmaceutical composition of claim 296, further comprising an adjuvant; a chelating agent; a surfactant; an emulsifier; a buffering agent; a preservative; a salt; an anti-fungal compound; or a combination thereof.

304. (Previously Presented) The pharmaceutical composition of claim 296, wherein the pharmaceutical composition is in the form of an intramuscularly injectable composition,

intradermally injectable composition, subcutaneously injectable composition, or an intranasally administrable composition.

305. (Previously Presented) The pharmaceutical composition of claim 296, wherein at least one of the immunogenic saccharide-polypeptide conjugates elicits an opsonophagocytic response.

306. (Canceled)

307. (Currently Amended) The pharmaceutical composition of claim 296, wherein the immunogenic saccharide-polypeptide conjugates comprise: (i) the capsular polysaccharide, fragment thereof, or combination thereof at least partially embedded in the polypeptide, (ii) the capsular polysaccharide, fragment thereof, or combination thereof chemically cross-linked to the polypeptide, and/or (iii) the capsular polysaccharide, fragment thereof, or combination thereof at least partially chemically cross-linked to the polypeptide.

308. (Previously Presented) The pharmaceutical composition of claim 296, wherein a toxin activity of the polypeptide is at least partly mitigated.

309. (Previously Presented) The pharmaceutical composition of claim 296, wherein each of the immunogenic saccharide-polypeptide conjugates is present in an amount of at least 0.001%, by weight, based on the weight of the pharmaceutical composition.

310. (Withdrawn) A method comprising administering to a subject the pharmaceutical composition of claim 296.

311.-315. (Cancelled)

316. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, and 15A.

317. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 7F, 8, 9N, 15A, 15C, 19A, 20A, 22F, 23A, and 23B.

318. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 31 [[23B]], and the at least one additional *Streptococcus pneumoniae* serotype comprises 16F, 20A, 22F, 23A, 24F, [[31,]] 33F, and 35B.

319. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 24F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 7F, 8, 9N, 10A, 15A, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, and 31.

320. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 7F, 8, 9N, 10A, 12F, 15A, 15C, 17F, 20A, 22F, 23A, 23B, 31, 33F, and 35B.

321. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 24F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 9N, 10A, 11A, 12F, 15A, 15C, 16F, 19A, 20A, 22F, 23B, 31, and 35B.

322. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 31, and the at least one additional *Streptococcus pneumoniae* serotype comprises 10A, 11A, 12F, 15A, 15C, 16F, 17F, 19A, 22F, 33F, and 35B.

323. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional *Streptococcus pneumoniae* ~~[[first]]~~ serotype is 20B.

324. (Currently Amended) The pharmaceutical composition of claim 297, wherein the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 16F, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, 33F, and 35B.

325. (Currently Amended) The pharmaceutical composition of claim 298, wherein the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

326. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F, and the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

327. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 24F, 31, 33F, and 35B.

REMARKS

Claims 296-305, 307-310, and 316-327 were pending in the Application before entrance of the present Amendment, of which claim 310 is withdrawn from consideration by the Examiner at this time. By the present Amendment, claims 296-300, 302, 307, and 316-323 are amended. Applicant reserves the right to pursue the subject matter canceled from the claims in one or more future continuing applications claiming priority to the present Application. Support for the amendments to claim 296 can be found throughout the originally filed Application, *e.g.*, paragraphs [0042], [0043], [0052], and [0070]. Claim 323 is amended to update the recited serotype to agree with the amendment to claim 296 and claims 297-300, 302, 307, and 316-322 have been amended to agree with the amendments to claim 296 as well. After entrance of the present Amendment, claims 296-305, 307-310, and 316-327 will be pending in the Application, with claim 310 being withdrawn from consideration by the Examiner at this time. Applicant submits that no new matter is added to the Application by this Amendment.

Amendment or cancellation of the claims during prosecution of this Application is not to be construed as acquiescence to any of the objections or rejections set forth in the Office Action and was done solely to expedite prosecution of the Application. Applicant reserves the right to pursue the claims as originally filed or similar claims in this particular Application or one or more continuing patent applications claiming priority to this Application.

Each of the rejections levied by the Examiner is addressed in turn below.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 296-305, 307-309, and 316-327 under 35 U.S.C. § 103 as allegedly being unpatentable over Caufield *et al.* (WO 2011/100151; hereinafter “Caufield”) in view of Porro *et al.* (WO 2014/118201; hereinafter “Porro”), in view of Mekalanos (US 9,533,032), and further in view of del Amo *et al.* (“High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines.” *Clin. Microbiol. Infect.* 2013, 20(7):684-9; hereinafter “del Amo”). Applicant respectfully disagrees.

However, without conceding the correctness of the Examiner's position and solely in the interest of advancing prosecution, the claims have been amended and are directed, *inter alia*, to a pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates, wherein each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide. The first immunogenic saccharide-polypeptide conjugate comprises the capsular polysaccharide, fragment thereof, or combination thereof from a first *Streptococcus pneumoniae* serotype, wherein the first serotype is 16F, 24F, or 31 and the at least one additional immunogenic saccharide-polypeptide conjugate comprises the capsular polysaccharide, fragment thereof, or combination thereof from at least one additional *Streptococcus pneumoniae* serotype, wherein the at least one additional *Streptococcus pneumoniae* serotype is 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38. The first serotype and the at least one additional serotype are not the same. None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims, including a first immunogenic saccharide-polypeptide conjugate comprising a polysaccharide, fragment thereof, or combination thereof from *Streptococcus pneumoniae* serotype 16F, 24F, or 31.

Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a single carrier protein (*e.g.*, CRM₁₉₇), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 24F, or 31).

Porro in combination with Caufield similarly does not describe the immunogenic saccharide-polypeptide conjugates of the claimed invention, but is also directed to multivalent molecular constructs comprising at least three carbohydrate structures (*e.g.*, capsular polysaccharides) all

bound to a helper-T dependent carrier protein (*see, e.g.*, Abstract and claim 1 of Porro, “covalently bound to a **minimum of three carbohydrate structures** of different serological specificity”; emphasis added). Porro specifically explains that the multivalent construct structure is beneficial to address carrier protein-dependent immune-suppression and immune interference, noting that the “vaccine formulation encompassing as many as eighteen type-specific conjugate antigens, as an example, will be synthesized by only using one third (or 33%) of the amount of carrier protein needed in the nowadays available single-antigen-associated formulation, so that the immunogenic burden on the immune-system of the host will be significantly lower and, consequently, safer” (Porro, p. 4). Porro also indicates that the “new generation of conjugate antigens expressing multiple specificities or obtaining vaccines with an always broader spectrum of protection against a variety of bacterial pathogens while drastically reducing the amount of carrier protein” will improve “the cost of production of the vaccines, ... production efficiency, ... production accuracy, ... safety, ... [and] the public utility of such conjugate vaccines” (Porro, pages 9-10). In addition to not teaching or suggesting the immunogenic saccharide-polypeptide conjugates of the claims, in each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio), Porro also does not disclose any of the first serotypes 16F, 24F, or 31 recited in the amended claims.

Even if one of skill in the art were to combine the teachings of Porro and Caufield, which Applicant does not concede, the combination of Porro and Caufield would lead one of skill in the art to compositions in which polysaccharides from numerous serotypes are conjugated to the same carrier protein molecule in order to reduce the immunogenic burden on the subject, not to the immunogenic saccharide-polypeptide conjugates of the claimed invention, in which each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio).

Mekalanos, cited for its purported disclosure of serotypes 16F, 19A, 23B, 24F, and 31, also does not remedy the deficiencies of Caufield and Porro because it does not describe the immunogenic saccharide-polypeptide conjugates of the amended claims. Instead, Mekalanos

describes vaccine compositions comprising an antigen (or two or more antigens) entrapped within a cross-linked carrier protein *matrix* (e.g., Abstract, claims 1 and 12), not conjugated to a single polypeptide as claimed. Mekalanos lists over 80 different serotypes (claim 12) and does not provide any guidance as to which serotype(s) should be present within a vaccine. Therefore, if one of skill in the art were to combine the teachings of Porro, Caufield, and Mekalanos, the result would not be the pharmaceutical composition of the amended claims but rather compositions in which numerous serotypes (e.g., those disclosed in Mekalanos) are conjugated to the same carrier protein (as described in Porro and Caufield).

Similarly, del Amo does not describe the immunogenic saccharide-polypeptide conjugates recited in the amended claims, even in combination with the other cited references. The Examiner cited del Amo for its purported disclosure of numerous serotypes (e.g., 1, 2, 3, 4, 5, 6A/6B, 6C, 7C/(7B/40), 7F/7A, 8, 9N/9L, 9V/9A, 10A, 10F/(10C/33C), 11A/11D, 12F/(12A/44/46), 13, 14, 15A/15F, 15B/15C, 16F, 17F, 18/(18A/18B/18C/18F), 19A, 19F, 20, 21, 22F/22A, 23A, 23B, 23F, 24/(24A/24B/24F), 31, 33F/(33A/37), 34, 35A/(35C/42), 35B, 35F/47F, 38/25F, and 39); however, the list of serotypes in del Amo includes those that may be detected using an *in vitro* assay, not for conjugation to a polypeptide for use in a vaccine, as claimed. Moreover, using the assays described in del Amo, the authors found that serotypes 1, 3, 5, 7F, and 19A are the most invasive serotypes, and serotypes 6A, 6C, 19A, 19F, and 23B are the most common serotypes (Abstract). That is, the most common and invasive serotypes described in del Amo, 1, 3, 5, 6A, 6C, 7F, 19A, 19F, and 23B, do not match any of the first serotypes listed in the amended claims. In addition, del Amo suggests that the other, less common, serotypes should not be included in a vaccine, concluding that “all serotypes with high attack rate are included in PCV13 and that the *remaining serotypes circulating in our regions have a low invasive disease potential*” (emphasis added; p. 687). Therefore, one of ordinary skill in the art would have no motivation to select different (less common and/or less invasive) serotypes for a vaccine formulation based on the disclosure of del Amo. Moreover, as discussed above, the teachings of Porro and Caufield would lead one of ordinary skill in the art to compositions in which numerous serotypes are conjugated to the same carrier protein in order to reduce the immunogenic burden on the subject or to a cross-linked carrier protein (described in Mekalanos), not to a composition comprising at least two immunogenic saccharide-polypeptide

conjugates, each consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide.

Therefore, as none of the cited references, alone or in combination, teaches or suggests the claimed pharmaceutical composition, withdrawal of the rejection is respectfully requested.

General Comments on Dependent Claims

Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicant therefore believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

In view of the foregoing, this Application should now be in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes, after this Response, the Application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number indicated below to discuss any outstanding issues.

If this Response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time.

Applicant believes all fees due with this Response are being paid by credit card. However, if any additional fees are due, please charge them, or credit any overpayment, to our Deposit Account No. 23/2825, under Docket No. P1143.70000US05, from which the undersigned is authorized to draw.

Dated: April 21, 2026

Respectfully submitted,

Electronic signature: /Jessica A. von Reyn/
Jessica A. von Reyn
Registration Number: 76,839
WOLF, GREENFIELD & SACKS, P.C.
600 Atlantic Avenue
Boston, Massachusetts 02210-2206
617.646.8000

Request for Continued Examination (RCE) Transmittal Address to: Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	17/347,435-Conf. #4020
	Filing Date	June 14, 2021
	First Named Inventor	Bruce D. Forrest
	Art Unit	1645
	Examiner Name	K. S. Shahnan Shah
	Attorney Docket Number	P1143.70000US05

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. ☐ **Submission required under 37 CFR 1.114** Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).
- a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.
- i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ii. ☐ Other _____
- b. ☒ Enclosed
- i. ☒ Amendment/Reply
- ii. ☐ Affidavit(s)/ Declaration(s)
- iii. ☐ Information Disclosure Statement (IDS)
- iv. ☒ Other Fee Transmittal
2. ☐ **Miscellaneous**
- a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)
- b. ☐ Other _____
3. ☐ **Fees** The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.
- a. ☒ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 23/2825.
- i. ☒ RCE fee required under 37 CFR 1.17(e)
- ii. ☐ Extension of time fee (37 CFR 1.136 and 1.17)
- iii. ☐ Other _____
- b. ☐ Check in the amount of \$ _____ enclosed
- c. ☒ Payment by credit card (~~Form PTO-2038 enclosed~~)
- d. ☐ Payment by USPTO patent electronic filing system.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED			
Signature	/Jessica A. von Reyn/	Date	April 21, 2026
Name (Print/Type)	Jessica A. von Reyn	Registration No.	76,839

CERTIFICATE OF MAILING OR TRANSMISSION			
I hereby certify that this correspondence is transmitted by the USPTO patent electronic filing system, or by facsimile to (571-273-8300, to the USPTO, or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.			
Signature			
Name (Print/Type)		Date	

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 21, 2026

Signature: /Samantha Fuchs/ (Samantha Fuchs)

FEE TRANSMITTAL (page 1 of 2)		Complete if known	
		Application Number	17/347,435-Conf. #4020
		Filing Date	June 14, 2021
☒	Applicant asserts small entity status. See 37 CFR 1.27.	First Named Inventor	Bruce D. Forrest
☐	Applicant certifies micro entity status. See 37 CFR 1.29. Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.	Examiner Name	K. S. Shahnan Shah
		Art Unit	1645
TOTAL AMOUNT OF PAYMENT		Practitioner Docket No.	P1143.70000US05
(\$)		1,144.00	

METHOD OF PAYMENT (check all that apply)

☐ Check
 ☒ Credit Card
 ☐ Money Order
 ☐ None
 ☐ Other (please identify): _____

☒ Deposit Account
 Deposit Account Number: 23/2825
 Deposit Account Name: Wolf, Greenfield & Sacks, P.C.

For the above-identified deposit account, the Director is hereby authorized to (check all that apply):

☐ Charge fee(s) indicated below
 ☐ Charge fee(s) indicated below, **except for the filing fee**

☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17, **except for any excess claims fees or multiple dependent claims fees**
☐ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17

☒ Credit any overpayment of fee(s)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES (U = undiscounted fee; S = small entity fee; M = micro entity fee)

Application Type	FILING FEES			SEARCH FEES			EXAMINATION FEES			Fees Paid (\$)
	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	U (\$)	S (\$)	M (\$)	
Utility	350	140*	70	770	308	154	880	352	176	
Design	300	120	60	300	120	60	700	280	140	
Plant	240	96	48	485	194	97	725	290	145	
Reissue	350	140	70	770	308	154	2,550	1,020	510	
Provisional	325	130	65	0	0	0	0	0	0	

* The \$140 small entity filing fee for a utility application is further reduced to \$70 for a small entity applicant who files the application via Patent Center.

2. EXCESS CLAIM FEES

Fee Description	Undiscounted Fee (\$)	Small Entity Fee (\$)	Micro Entity Fee (\$)
Each claim over 20 (including Reissues)	200	80	40
Each independent claim over 3 (including Reissues)	600	240	120
Multiple dependent claims	925	370	185

Total Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
27	- 27 or HP =	x	=
HP = highest number of total claims paid for, if greater than 20.			
Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
1	- 3 or HP =	x	=
HP = highest number of independent claims paid for, if greater than 3.			

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$450 (\$180 for small entity) (\$90 for micro entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 =	/50 =	(round up to a whole number) x	=	

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 21, 2026

Signature: /Samantha Fuchs/ (Samantha Fuchs)

FEE TRANSMITTAL

(page 2 of 2)

4. CONTINUING APPLICATION FEE

If the actual filing date of the application is more than six years after the earliest benefit date, a continuing application fee is due. The earliest benefit date is the earliest filing date for which benefit is claimed under 35 U.S.C. 120, 121, 365(c), or 386(c) and § 1.78(d).

Choose only one of the following:

If the actual filing date is more than six years, and is less than or equal to nine years, after the earliest benefit date, the continuing application fee is \$2,700 (\$1,080 for small entity or \$540 for micro entity). See 37 CFR 1.17(w)(1).

or

If the actual filing date is more than nine years after the earliest benefit date, the continuing application fee is \$4,000 (\$1,600 for small entity or \$800 for micro entity), less any amount previously paid under 37 CFR 1.17(w)(1). See 37 CFR 1.17(w)(2).

Fees Paid (\$)

5. OTHER FEE(S)

Non-English specification, \$150 fee (\$60 for small entity) (\$30 for micro entity)

Non-electronic filing fee under 37 CFR 1.16(t) for a utility application, \$400 fee (\$200 small or micro entity)

Other (e.g., late filing surcharge): 2820 Request for continued examination (RCE) - 2nd and ...

Fees Paid (\$)

1,144.00

SUBMITTED BY

Signature	/Jessica A. von Reyn/	Registration No. (Attorney/Agent)	76,839	Telephone	617.646.8000
Name (Print/Type)	Jessica A. von Reyn	Date	April 21, 2026		



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
17/347,435

RECEIPT DATE / TIME
04/21/2026 01:34:41 PM Z ET

ATTORNEY DOCKET #
P1143.70000US05

Title of Invention

SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS AND METHODS OF USE THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	
CONFIRMATION #	4020	FILED BY	Samantha Fuchs
PATENT CENTER #	75384015	FILING DATE	06/14/2021
CUSTOMER #	23628	FIRST NAMED INVENTOR	Bruce D. Forrest
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	JESSICA VON REYN

Documents

TOTAL DOCUMENTS: 5

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
P114370000US05-FEE-JXV.pdf	2	Fee Worksheet (SB06)	85 KB
P114370000US05-RCE-JXV.pdf	1	Request for Continued Examination (RCE)	30 KB
Warning: This is not a USPTO supplied RCE fillable form. Data in the form cannot be automatically loaded to other USPTO systems.			
P114370000US05-SUPAMN-JXV.pdf	13	-	78 KB
P114370000US05-SUPAMN-JXV-SA...pdf	(1-2) 2	Supplemental Response or Supplemental Amendment	29 KB
P114370000US05-SUPAMN-JXV-CLM.pdf	(3-7) 5	Claims	41 KB

P114370000US05-
SUPAMN-JXV-REM.pdf

(8-13) 6

Applicant Arguments/Remarks
Made in an Amendment

52 KB

Digest

DOCUMENT

MESSAGE DIGEST(SHA-512)

P114370000US05-FEE-
JXV.pdf

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E66D888DDD63BCC221D305E2B234A99

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 filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Bruce D. Forrest
Application No.: 17/347,435
Confirmation No.: 4020
Filed: June 14, 2021
For: SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS
AND METHODS OF USE THEREOF
Examiner: Khatol S. Shahnan Shah
Art Unit: 1645

Certificate of Electronic Filing under 37 C.F.R. § 1.8

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted via the Office's electronic filing system in accordance with 37 C.F.R. § 1.6(a)(4).

Dated: April 21, 2026

Signature: /Samantha Fuchs/ (Samantha Fuchs)

SUPPLEMENTAL RESPONSE UNDER 37 C.F.R. § 1.114

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

Dear Commissioner:

In response to the final Office Action, dated January 21, 2026, Applicant filed a Response under 37 C.F.R. § 1.116 on March 20, 2026. An Advisory Action, was issued by the Office on April 2, 2026 indicating that the case was not in condition for allowance. In response to the final Office Action and subsequent Advisory Action, Applicant respectfully requests entrance of the following Amendment and consideration of the following Remarks which are being filed with a Request for Continued Examination (RCE) under 37 C.F.R. § 1.114. The deadline for responding to the final Office Action is April 21, 2026. Applicant thus submits that the present Supplemental Response and RCE is timely submitted on Tuesday, April 21, 2026.

Please amend the above-identified Application as follows:

Amendments to the Claims are reflected in the Listing of Claims, which begins on page 3 of this response.

Remarks begin on page 8 of this response.

AMENDMENTS TO THE CLAIMS

This Listing of Claims will replace all prior versions, and listings, of claims in the Application:

Listing of Claims

1-295. (Canceled)

296. (Currently Amended) A pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates,

wherein each immunogenic saccharide-polypeptide conjugate consists ~~consisting~~ of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide, wherein

(a) a first immunogenic saccharide-polypeptide conjugate comprises a ~~[[the]]~~ capsular polysaccharide, fragment thereof, or combination thereof ~~[[is]]~~ from a ~~first~~ unique *Streptococcus pneumoniae* serotype, wherein the ~~the~~ [[a]] first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, ~~[[20B,]]~~ 24F, or 31, and

(b) at least one additional immunogenic saccharide-polypeptide conjugate comprises a capsular polysaccharide, fragment thereof, or combination thereof from at least one additional *Streptococcus pneumoniae* serotype, wherein the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38; ~~[[,]]~~

wherein the at least one additional serotype is not the same as the first serotype; and

wherein the fragment of the capsular polysaccharide is a monosaccharide, a disaccharide, a trisaccharide, a tetrasaccharide, a pentasaccharide, a hexasaccharide, or an oligosaccharide.

297. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 31.

298. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 24F.

299. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional *Streptococcus pneumoniae* serotype is 20A.

300. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F.

301. (Previously Presented) The pharmaceutical composition of claim 296, wherein the polypeptide comprises cross-reacting material 197 (CRM₁₉₇).

302. (Currently Amended) The pharmaceutical composition of claim 296, wherein the polypeptide comprises tetanus toxoid, [[a]] diphtheria toxoid, cholera toxoid, pertussis toxoid, inactivated or mutant pneumococcal pneumolysin, pneumococcal surface protein A, pneumococcal adhesion protein A, pneumococcal lipoprotein PsaA, C5a peptidase group A or group B *Streptococcus*, [[a]] non-typable *H. influenzae* P4 protein, [[a]] non-typable *H. influenzae* P6 protein, *M. catarrhalis* uspA, keyhole limpet haemocyanin (KLH), outer membrane protein complex (OMPC) from *N. meningitidis*, a purified protein derivative of tuberculin (PPD), protein D from *H. influenzae*, [[PspA,]] any fragment thereof, or any combination thereof.

303. (Previously Presented) The pharmaceutical composition of claim 296, further comprising an adjuvant; a chelating agent; a surfactant; an emulsifier; a buffering agent; a preservative; a salt; an anti-fungal compound; or a combination thereof.

304. (Previously Presented) The pharmaceutical composition of claim 296, wherein the pharmaceutical composition is in the form of an intramuscularly injectable composition,

intradermally injectable composition, subcutaneously injectable composition, or an intranasally administrable composition.

305. (Previously Presented) The pharmaceutical composition of claim 296, wherein at least one of the immunogenic saccharide-polypeptide conjugates elicits an opsonophagocytic response.

306. (Canceled)

307. (Currently Amended) The pharmaceutical composition of claim 296, wherein the immunogenic saccharide-polypeptide conjugates comprise: (i) the capsular polysaccharide, fragment thereof, or combination thereof at least partially embedded in the polypeptide, (ii) the capsular polysaccharide, fragment thereof, or combination thereof chemically cross-linked to the polypeptide, and/or (iii) the capsular polysaccharide, fragment thereof, or combination thereof at least partially chemically cross-linked to the polypeptide.

308. (Previously Presented) The pharmaceutical composition of claim 296, wherein a toxin activity of the polypeptide is at least partly mitigated.

309. (Previously Presented) The pharmaceutical composition of claim 296, wherein each of the immunogenic saccharide-polypeptide conjugates is present in an amount of at least 0.001%, by weight, based on the weight of the pharmaceutical composition.

310. (Withdrawn) A method comprising administering to a subject the pharmaceutical composition of claim 296.

311.-315. (Cancelled)

316. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, and 15A.

317. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 7F, 8, 9N, 15A, 15C, 19A, 20A, 22F, 23A, and 23B.

318. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 31 [[23B]], and the at least one additional *Streptococcus pneumoniae* serotype comprises 16F, 20A, 22F, 23A, 24F, [[31,]] 33F, and 35B.

319. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 24F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 7F, 8, 9N, 10A, 15A, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, and 31.

320. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 7F, 8, 9N, 10A, 12F, 15A, 15C, 17F, 20A, 22F, 23A, 23B, 31, 33F, and 35B.

321. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 24F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 9N, 10A, 11A, 12F, 15A, 15C, 16F, 19A, 20A, 22F, 23B, 31, and 35B.

322. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype ~~comprises~~ is 31, and the at least one additional *Streptococcus pneumoniae* serotype comprises 10A, 11A, 12F, 15A, 15C, 16F, 17F, 19A, 22F, 33F, and 35B.

323. (Currently Amended) The pharmaceutical composition of claim 296, wherein the at least one additional *Streptococcus pneumoniae* ~~[[first]]~~ serotype is 20B.

324. (Currently Amended) The pharmaceutical composition of claim 297, wherein the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 16F, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, 33F, and 35B.

325. (Currently Amended) The pharmaceutical composition of claim 298, wherein the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

326. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F, and the at least one additional *Streptococcus pneumoniae* serotype ~~comprises~~ is 1, 2, 3, 4, 5, 6A, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 17F, 18C, 19A, 19F, 20B, 22F, 23A, 23B, 23F, 31, 33F, and 35B.

327. (Currently Amended) The pharmaceutical composition of claim 296, wherein the first *Streptococcus pneumoniae* serotype is 16F, and the at least one additional *Streptococcus pneumoniae* serotype comprises 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 17F, 19A, 20A, 22F, 23A, 23B, 23F, 24F, 31, 33F, and 35B.

REMARKS

Claims 296-305, 307-310, and 316-327 were pending in the Application before entrance of the present Amendment, of which claim 310 is withdrawn from consideration by the Examiner at this time. By the present Amendment, claims 296-300, 302, 307, and 316-323 are amended. Applicant reserves the right to pursue the subject matter canceled from the claims in one or more future continuing applications claiming priority to the present Application. Support for the amendments to claim 296 can be found throughout the originally filed Application, *e.g.*, paragraphs [0042], [0043], [0052], and [0070]. Claim 323 is amended to update the recited serotype to agree with the amendment to claim 296 and claims 297-300, 302, 307, and 316-322 have been amended to agree with the amendments to claim 296 as well. After entrance of the present Amendment, claims 296-305, 307-310, and 316-327 will be pending in the Application, with claim 310 being withdrawn from consideration by the Examiner at this time. Applicant submits that no new matter is added to the Application by this Amendment.

Amendment or cancellation of the claims during prosecution of this Application is not to be construed as acquiescence to any of the objections or rejections set forth in the Office Action and was done solely to expedite prosecution of the Application. Applicant reserves the right to pursue the claims as originally filed or similar claims in this particular Application or one or more continuing patent applications claiming priority to this Application.

Each of the rejections levied by the Examiner is addressed in turn below.

Claim Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 296-305, 307-309, and 316-327 under 35 U.S.C. § 103 as allegedly being unpatentable over Caufield *et al.* (WO 2011/100151; hereinafter “Caufield”) in view of Porro *et al.* (WO 2014/118201; hereinafter “Porro”), in view of Mekalanos (US 9,533,032), and further in view of del Amo *et al.* (“High invasiveness of pneumococcal serotypes included in the new generation of conjugate vaccines.” *Clin. Microbiol. Infect.* 2013, 20(7):684-9; hereinafter “del Amo”). Applicant respectfully disagrees.

However, without conceding the correctness of the Examiner's position and solely in the interest of advancing prosecution, the claims have been amended and are directed, *inter alia*, to a pharmaceutical composition comprising a plurality of at least two immunogenic saccharide-polypeptide conjugates, wherein each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide. The first immunogenic saccharide-polypeptide conjugate comprises the capsular polysaccharide, fragment thereof, or combination thereof from a first *Streptococcus pneumoniae* serotype, wherein the first serotype is 16F, 24F, or 31 and the at least one additional immunogenic saccharide-polypeptide conjugate comprises the capsular polysaccharide, fragment thereof, or combination thereof from at least one additional *Streptococcus pneumoniae* serotype, wherein the at least one additional *Streptococcus pneumoniae* serotype is 1, 2, 3, 4, 5, 6A, 6B, 6C, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15A, 15B, 15C, 16F, 17F, 18C, 19A, 19F, 20A, 20B, 22F, 23A, 23B, 23F, 24F, 31, 33F, 34, 35B, or 38. The first serotype and the at least one additional serotype are not the same. None of the cited references, alone or in combination, teach the pharmaceutical composition of the amended claims, including a first immunogenic saccharide-polypeptide conjugate comprising a polysaccharide, fragment thereof, or combination thereof from *Streptococcus pneumoniae* serotype 16F, 24F, or 31.

Caufield, cited for its purported disclosure of a multivalent polysaccharide-protein conjugate mixture consisting of capsular polysaccharides from serotypes 1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 22F, 23F, and 33F of *Streptococcus pneumoniae* conjugated to a single carrier protein (*e.g.*, CRM₁₉₇), does not describe the immunogenic saccharide-polypeptide conjugates of the claims, in which each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio), let alone the combination of serotypes recited in claim 296. The reference also does not teach or suggest any of the first serotypes recited in amended claim 296 (serotypes 16F, 24F, or 31).

Porro in combination with Caufield similarly does not describe the immunogenic saccharide-polypeptide conjugates of the claimed invention, but is also directed to multivalent molecular constructs comprising at least three carbohydrate structures (*e.g.*, capsular polysaccharides) all

bound to a helper-T dependent carrier protein (*see, e.g.*, Abstract and claim 1 of Porro, “covalently bound to a **minimum of three carbohydrate structures** of different serological specificity”; emphasis added). Porro specifically explains that the multivalent construct structure is beneficial to address carrier protein-dependent immune-suppression and immune interference, noting that the “vaccine formulation encompassing as many as eighteen type-specific conjugate antigens, as an example, will be synthesized by only using one third (or 33%) of the amount of carrier protein needed in the nowadays available single-antigen-associated formulation, so that the immunogenic burden on the immune-system of the host will be significantly lower and, consequently, safer” (Porro, p. 4). Porro also indicates that the “new generation of conjugate antigens expressing multiple specificities or obtaining vaccines with an always broader spectrum of protection against a variety of bacterial pathogens while drastically reducing the amount of carrier protein” will improve “the cost of production of the vaccines, ... production efficiency, ... production accuracy, ... safety, ... [and] the public utility of such conjugate vaccines” (Porro, pages 9-10). In addition to not teaching or suggesting the immunogenic saccharide-polypeptide conjugates of the claims, in each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio), Porro also does not disclose any of the first serotypes 16F, 24F, or 31 recited in the amended claims.

Even if one of skill in the art were to combine the teachings of Porro and Caufield, which Applicant does not concede, the combination of Porro and Caufield would lead one of skill in the art to compositions in which polysaccharides from numerous serotypes are conjugated to the same carrier protein molecule in order to reduce the immunogenic burden on the subject, not to the immunogenic saccharide-polypeptide conjugates of the claimed invention, in which each immunogenic saccharide-polypeptide conjugate consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide (a 1:1 ratio).

Mekalanos, cited for its purported disclosure of serotypes 16F, 19A, 23B, 24F, and 31, also does not remedy the deficiencies of Caufield and Porro because it does not describe the immunogenic saccharide-polypeptide conjugates of the amended claims. Instead, Mekalanos

describes vaccine compositions comprising an antigen (or two or more antigens) entrapped within a cross-linked carrier protein *matrix* (e.g., Abstract, claims 1 and 12), not conjugated to a single polypeptide as claimed. Mekalanos lists over 80 different serotypes (claim 12) and does not provide any guidance as to which serotype(s) should be present within a vaccine. Therefore, if one of skill in the art were to combine the teachings of Porro, Caufield, and Mekalanos, the result would not be the pharmaceutical composition of the amended claims but rather compositions in which numerous serotypes (e.g., those disclosed in Mekalanos) are conjugated to the same carrier protein (as described in Porro and Caufield).

Similarly, del Amo does not describe the immunogenic saccharide-polypeptide conjugates recited in the amended claims, even in combination with the other cited references. The Examiner cited del Amo for its purported disclosure of numerous serotypes (e.g., 1, 2, 3, 4, 5, 6A/6B, 6C, 7C/(7B/40), 7F/7A, 8, 9N/9L, 9V/9A, 10A, 10F/(10C/33C), 11A/11D, 12F/(12A/44/46), 13, 14, 15A/15F, 15B/15C, 16F, 17F, 18/(18A/18B/18C/18F), 19A, 19F, 20, 21, 22F/22A, 23A, 23B, 23F, 24/(24A/24B/24F), 31, 33F/(33A/37), 34, 35A/(35C/42), 35B, 35F/47F, 38/25F, and 39); however, the list of serotypes in del Amo includes those that may be detected using an *in vitro* assay, not for conjugation to a polypeptide for use in a vaccine, as claimed. Moreover, using the assays described in del Amo, the authors found that serotypes 1, 3, 5, 7F, and 19A are the most invasive serotypes, and serotypes 6A, 6C, 19A, 19F, and 23B are the most common serotypes (Abstract). That is, the most common and invasive serotypes described in del Amo, 1, 3, 5, 6A, 6C, 7F, 19A, 19F, and 23B, do not match any of the first serotypes listed in the amended claims. In addition, del Amo suggests that the other, less common, serotypes should not be included in a vaccine, concluding that “all serotypes with high attack rate are included in PCV13 and that the *remaining serotypes circulating in our regions have a low invasive disease potential*” (emphasis added; p. 687). Therefore, one of ordinary skill in the art would have no motivation to select different (less common and/or less invasive) serotypes for a vaccine formulation based on the disclosure of del Amo. Moreover, as discussed above, the teachings of Porro and Caufield would lead one of ordinary skill in the art to compositions in which numerous serotypes are conjugated to the same carrier protein in order to reduce the immunogenic burden on the subject or to a cross-linked carrier protein (described in Mekalanos), not to a composition comprising at least two immunogenic saccharide-polypeptide

conjugates, each consists of a capsular polysaccharide, fragment thereof, or combination thereof from one particular *Streptococcus pneumoniae* serotype, conjugated to a polypeptide.

Therefore, as none of the cited references, alone or in combination, teaches or suggests the claimed pharmaceutical composition, withdrawal of the rejection is respectfully requested.

General Comments on Dependent Claims

Each of the dependent claims depends from a base claim that is believed to be in condition for allowance, and Applicant therefore believes that it is unnecessary at this time to argue the allowability of each of the dependent claims individually. Applicant does not, however, necessarily concur with the interpretation of the dependent claims as set forth in the Office Action, nor does Applicant concur that the basis for the rejection of any of the dependent claims is proper. Therefore, Applicant reserves the right to specifically address the patentability of the dependent claims in the future.

In view of the foregoing, this Application should now be in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes, after this Response, the Application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number indicated below to discuss any outstanding issues.

If this Response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time.

Applicant believes all fees due with this Response are being paid by credit card. However, if any additional fees are due, please charge them, or credit any overpayment, to our Deposit Account No. 23/2825, under Docket No. P1143.70000US05, from which the undersigned is authorized to draw.

Dated: April 21, 2026

Respectfully submitted,

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ELECTRONIC PAYMENT RECEIPT

APPLICATION # 17/347,435	RECEIPT DATE / TIME 04/21/2026 01:34:41 PM Z ET	ATTORNEY DOCKET # P1143.70000US05
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Title of Invention

SACCHARIDE-POLYPEPTIDE CONJUGATE COMPOSITIONS AND METHODS OF USE THEREOF

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	
CONFIRMATION #	4020	FILED BY	Samantha Fuchs
PATENT CENTER #	75384015	AUTHORIZED BY	JESSICA VON REYN
CUSTOMER #	23628	FILING DATE	06/14/2021
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	Bruce D. Forrest

Payment Information

PAYMENT METHOD CARD / 8543	PAYMENT TRANSACTION ID E20264KD35099409	PAYMENT AUTHORIZED BY Samantha Fuchs
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FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
2820	REQUEST FOR CONTINUED EXAMINATION (RCE)- 2ND AND SUBSEQUENT REQUEST (SEE 37 CFR 1.114)	1144.00	1	1144.00
TOTAL AMOUNT:				\$1,144.00

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 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

Petitioner Merck Ex-1066, 0069

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.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/347,435	Filing Date 06/14/2021	☐ To be Mailed
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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 \$50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$240 =	
☐ 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

		(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)	
AMENDMENT	04/21/2026	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA			
	Total (37 CFR 1.16(i))	* 26	Minus	** 27	= 0	x \$80 =	0	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	= 0	x \$240 =	0	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
						TOTAL ADD'L FEE	0	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$0 =		
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$0 =		
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
						TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						SLIE		
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/NICHELE D PETERSON/		
*** 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 number found in the appropriate box in column 1.								

This collection of information is required by 37 CFR 1.16. 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 12 minutes 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.**

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