

Supporting Information

Synthesis of the pentasaccharide unit of the *Pseudomonas aeruginosa* exopolysaccharide Psl conjugation with CRM197, and evaluation of antigenicity in a QS-21/Pam₃CSK₄-liposomal formulation

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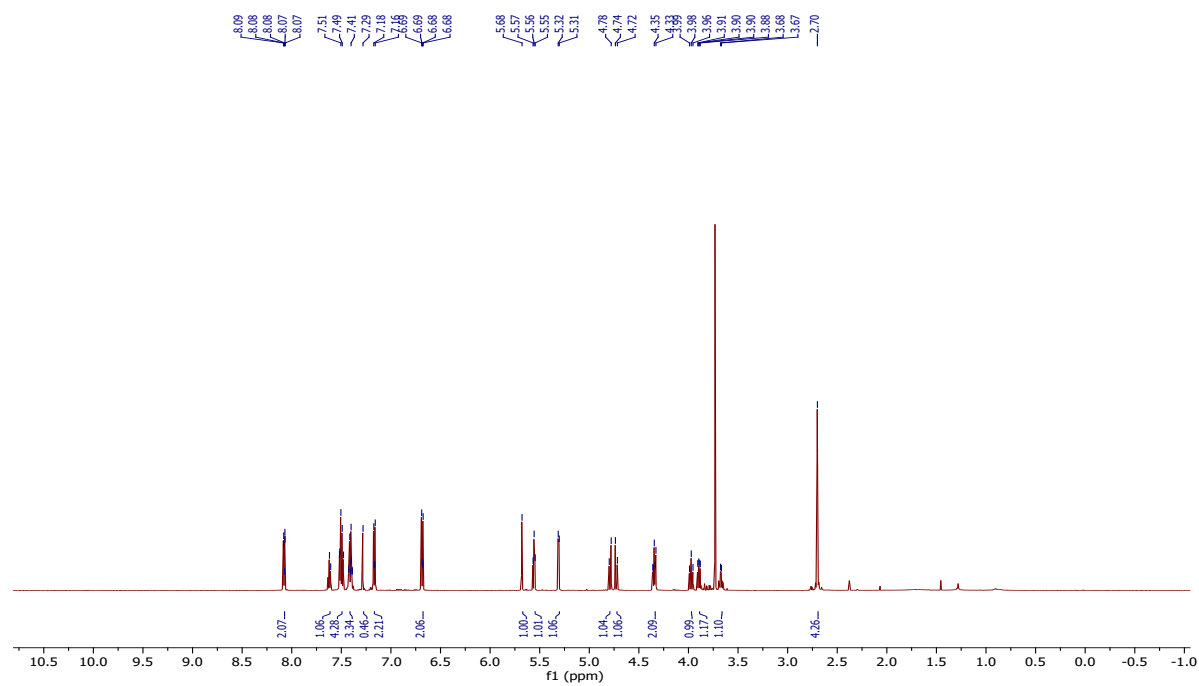
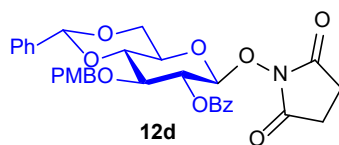
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Spectral Data

Figure S1: ^1H and ^{13}C NMR of compound **12d** (CDCl_3 , 600 MHz)



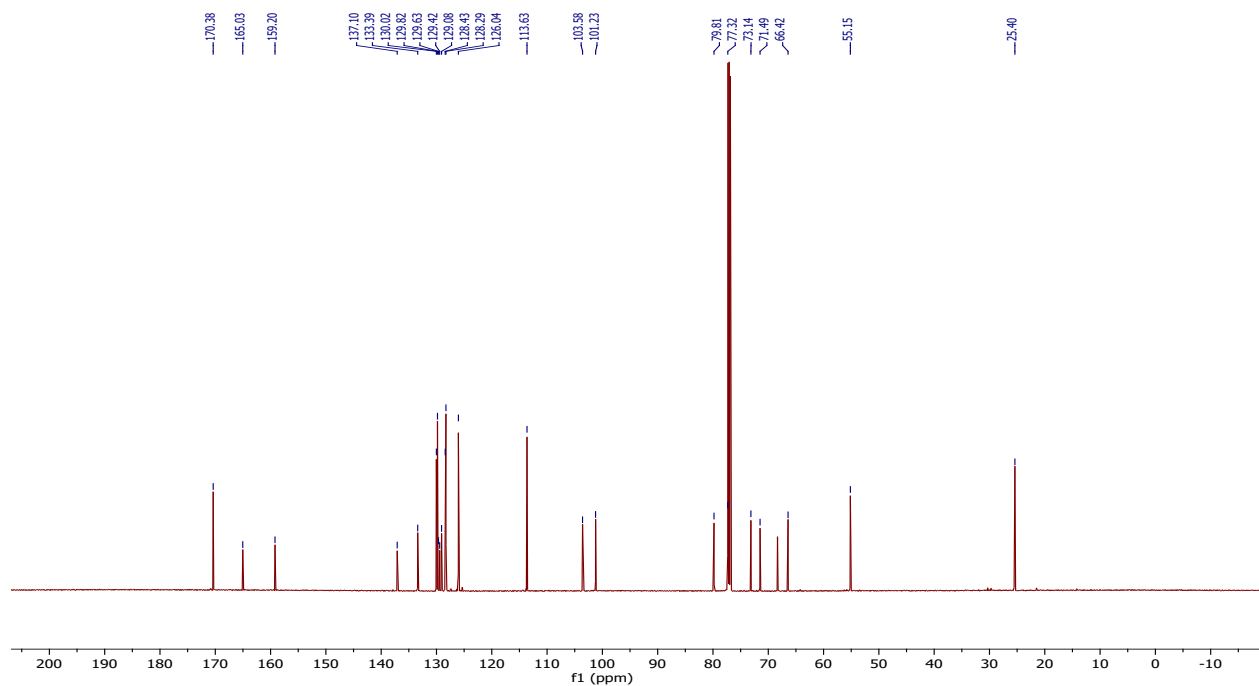
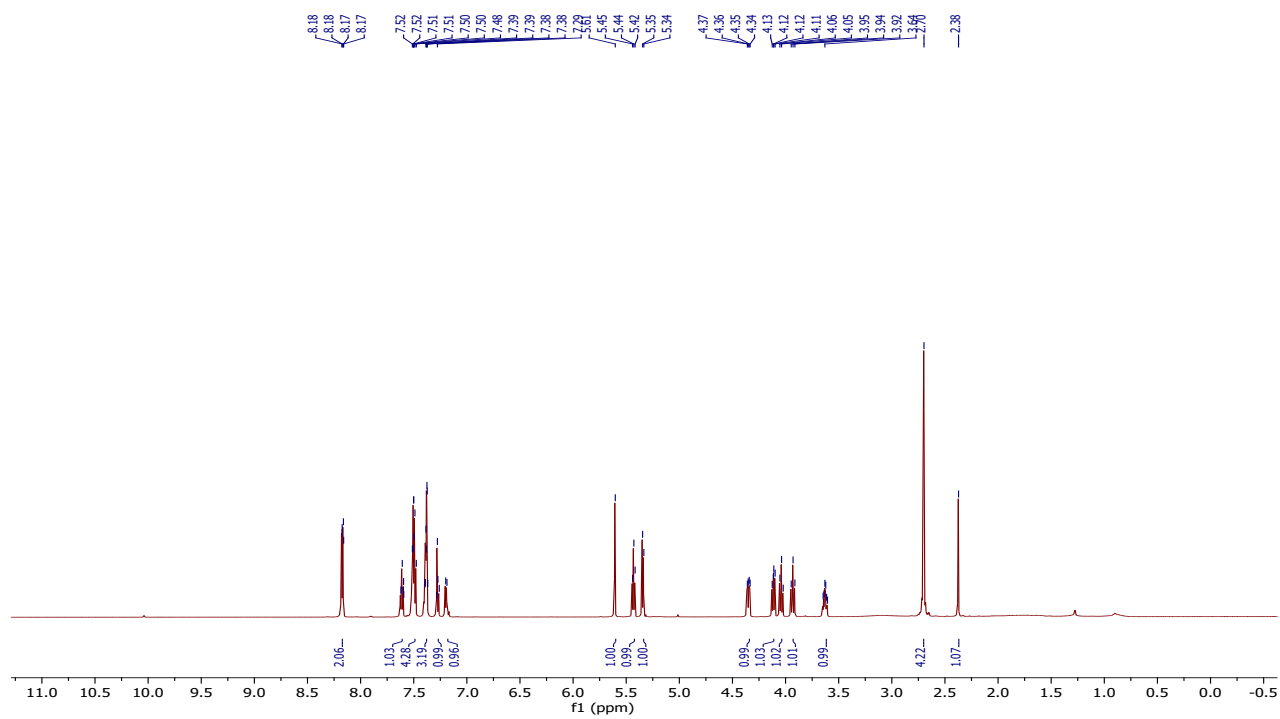
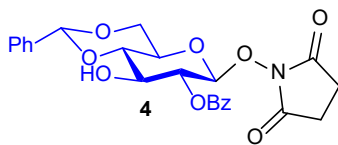


Figure S2: ^1H and ^{13}C NMR of compound **4** (CDCl_3 , 600 MHz)



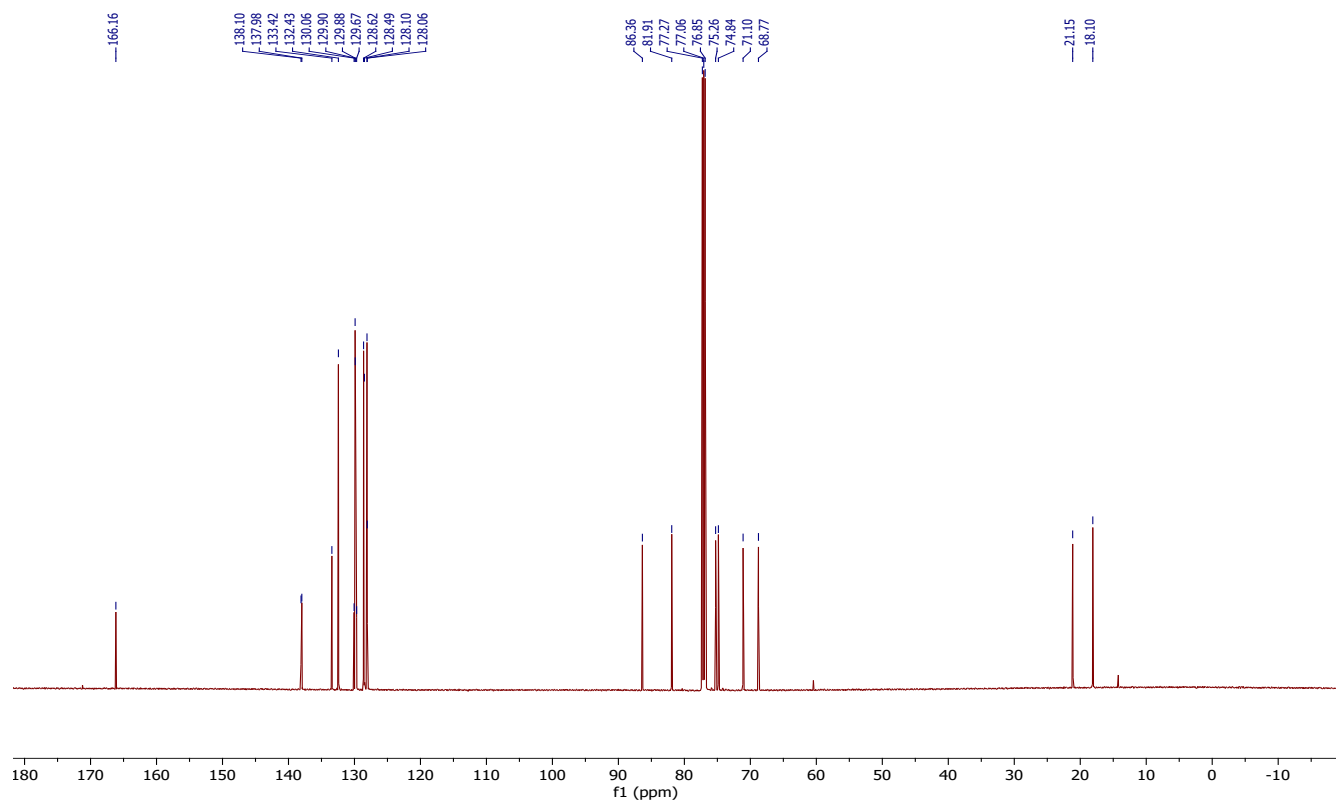
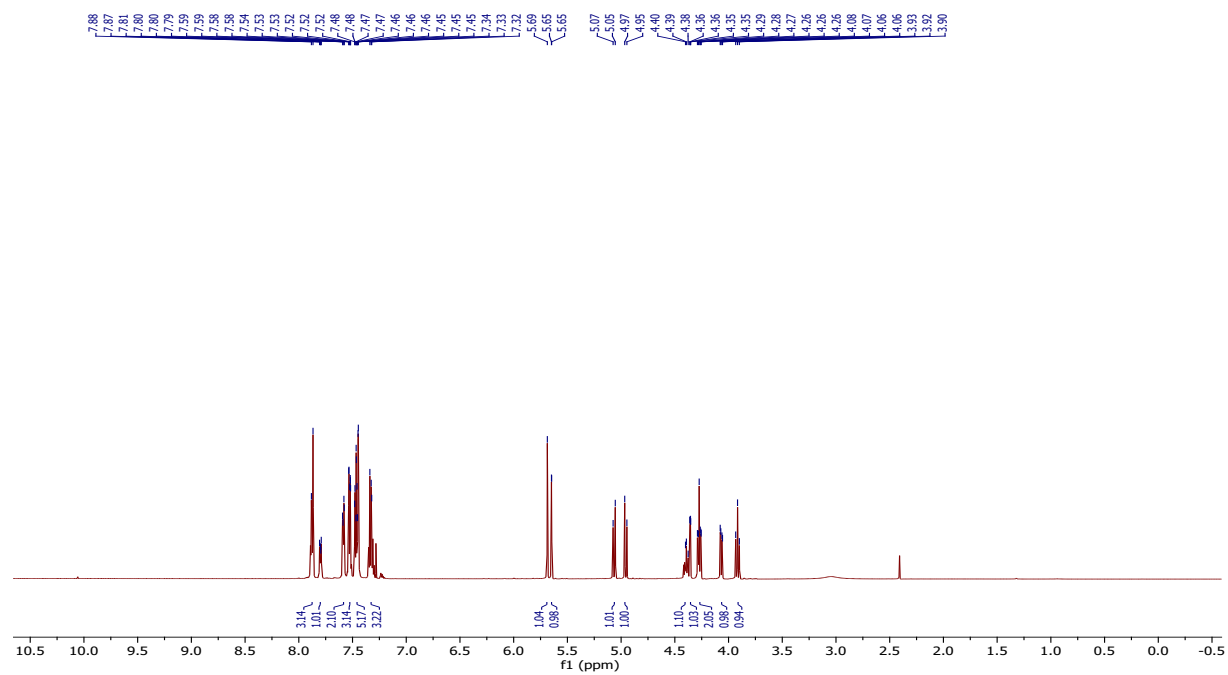
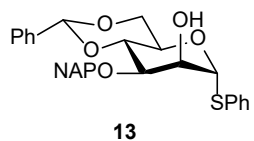


Figure S4: ¹H and ¹³C NMR of compound **13** (CDCl₃, 600 MHz)



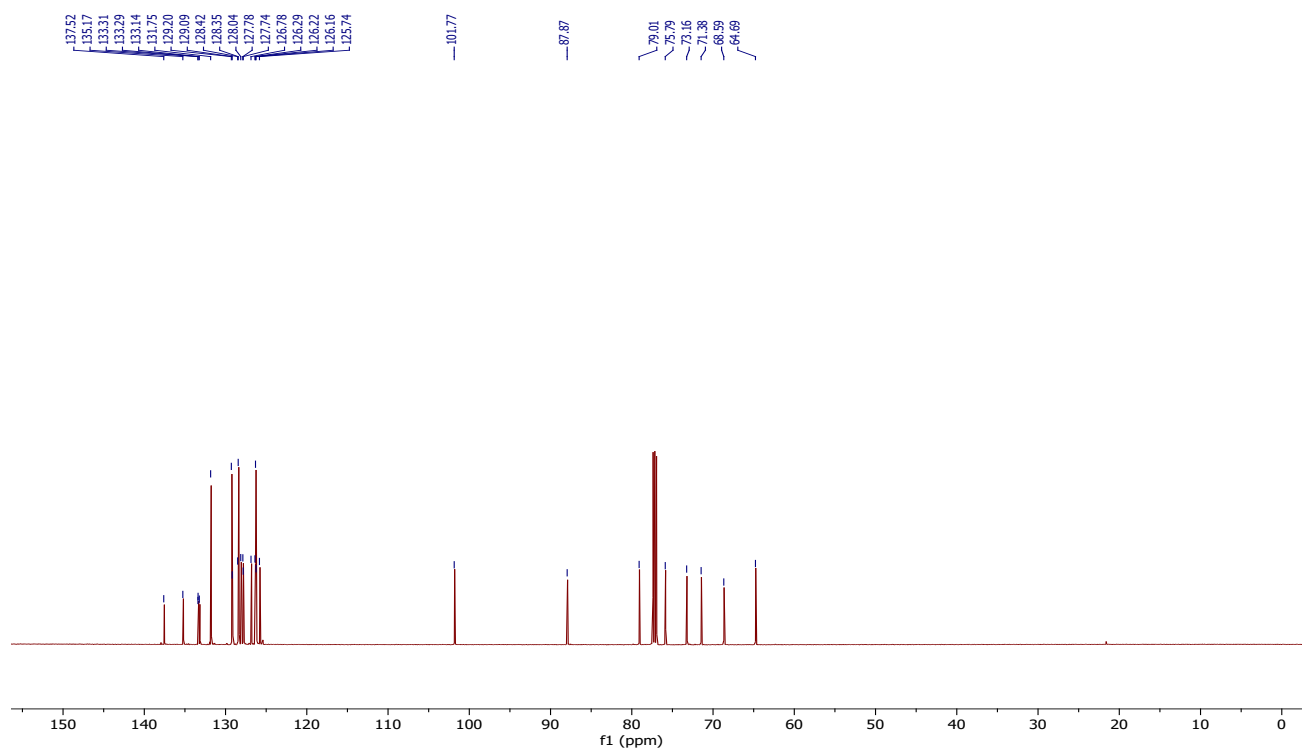
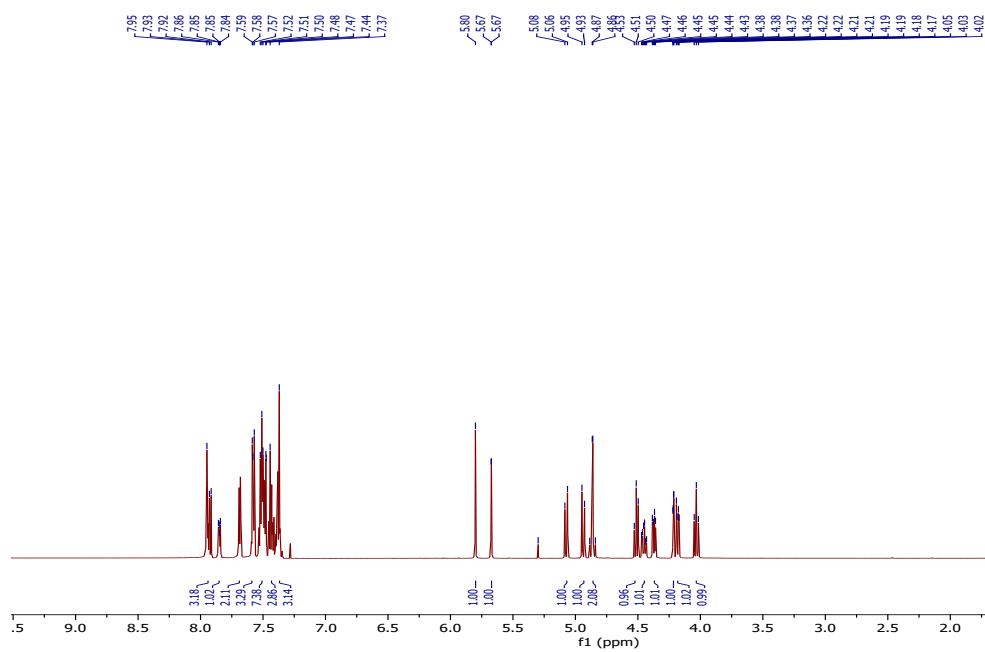
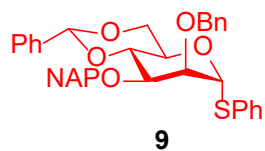


Figure S5: ^1H and ^{13}C NMR of compound **9** (CDCl_3 , 600 MHz)



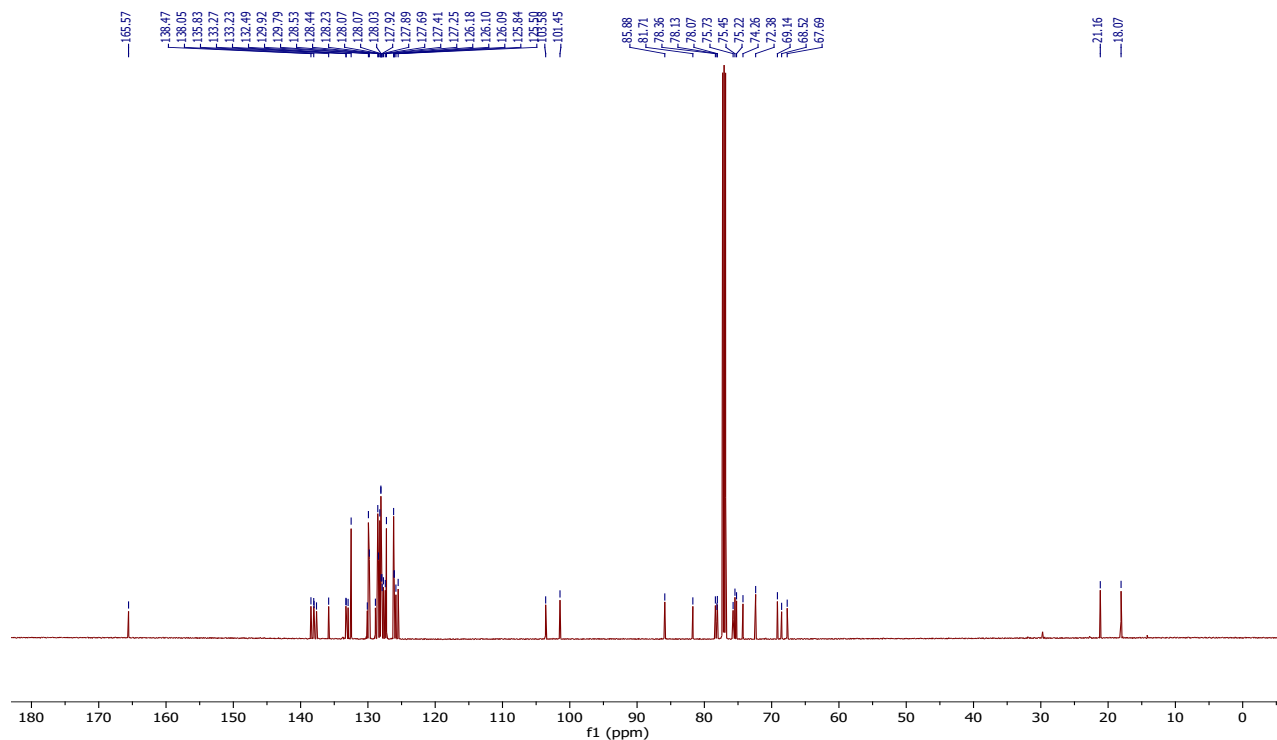
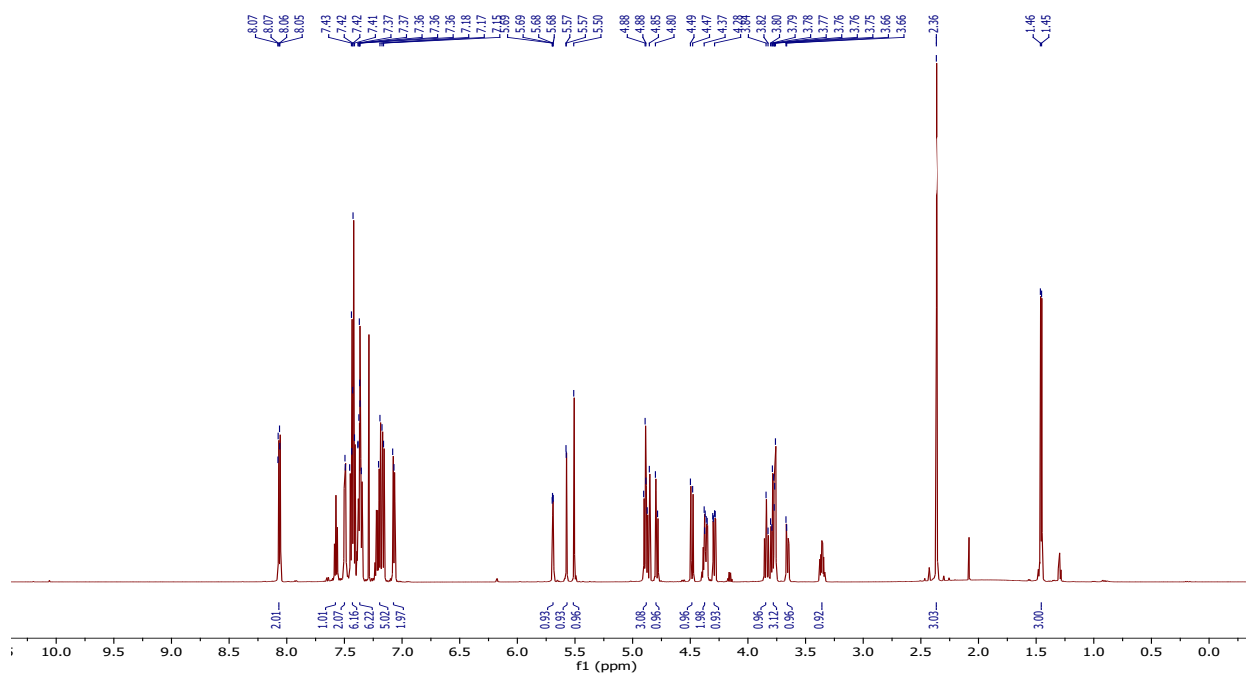
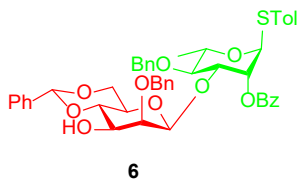


Figure S7: ^1H and ^{13}C NMR of Compound **6** (CDCl_3 , 600 MHz)



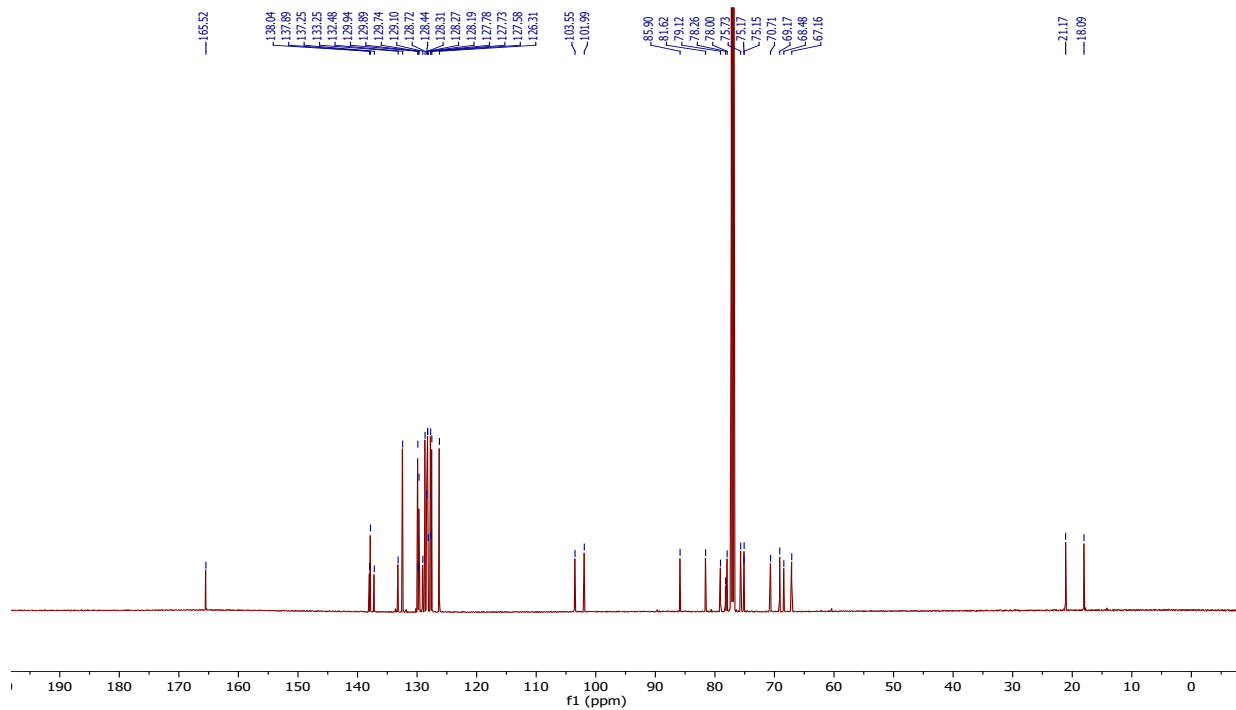
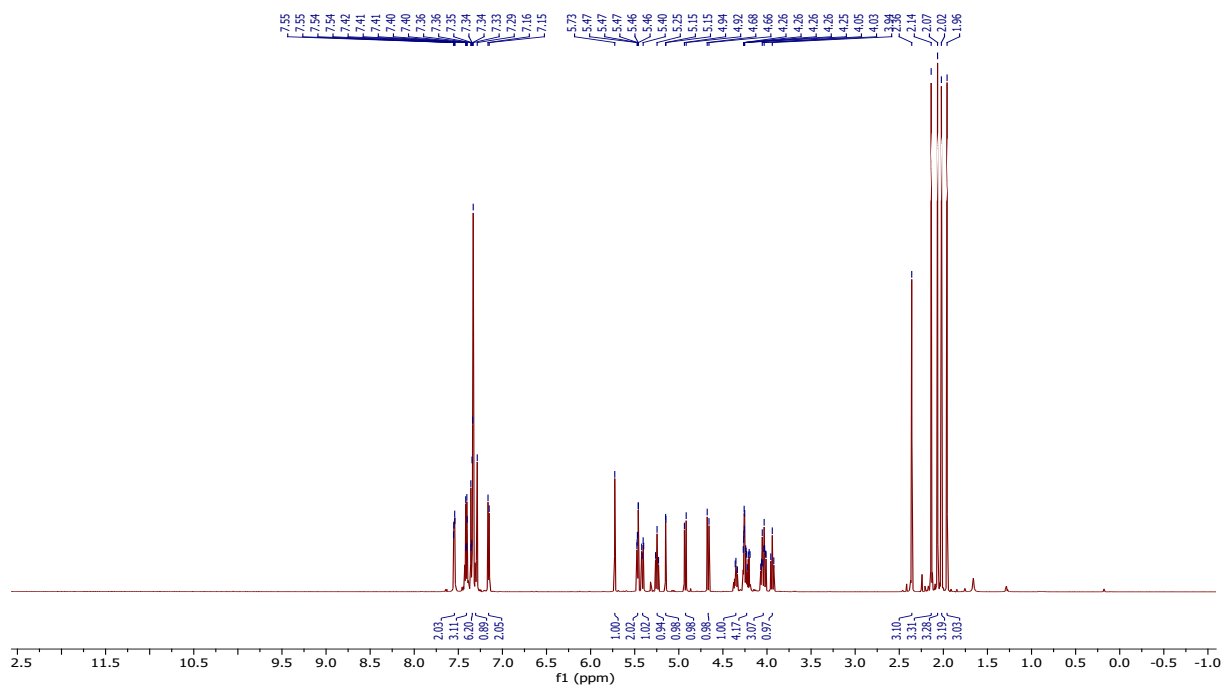
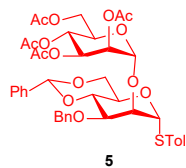


Figure S8: ¹H and ¹³C NMR of Compound **5** (CDCl₃, 600 MHz)



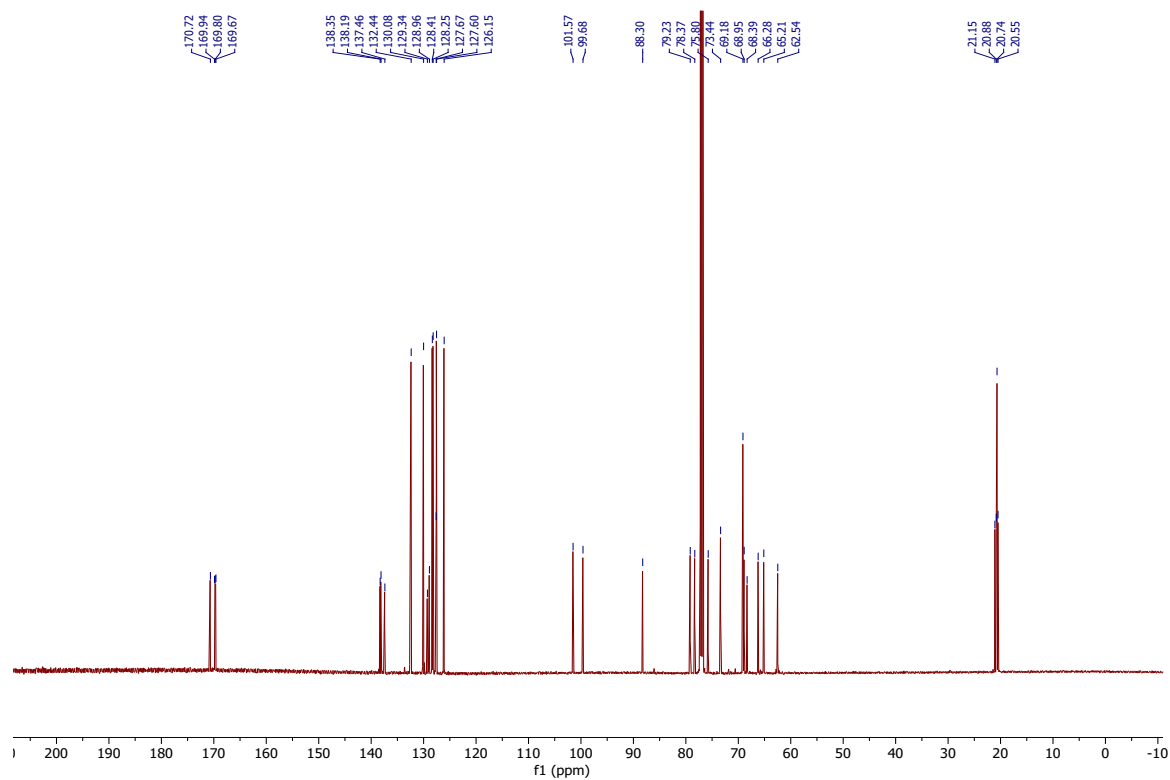
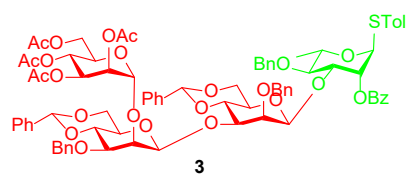


Figure S9: ^1H and ^{13}C NMR of Compound **3** (CDCl_3 , 600 MHz)



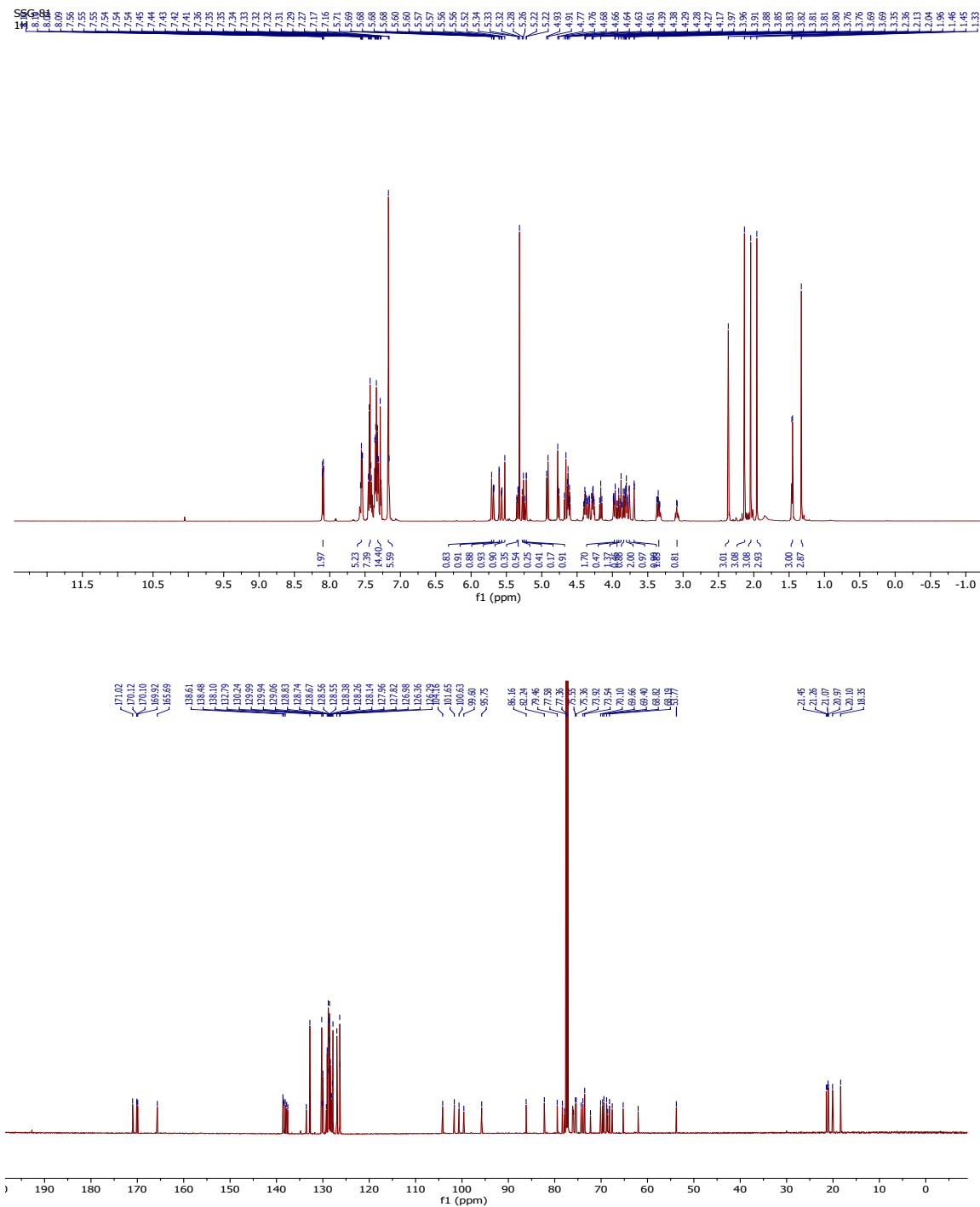
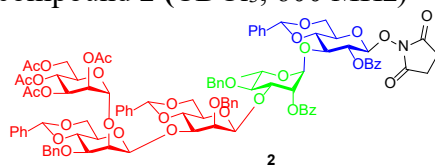
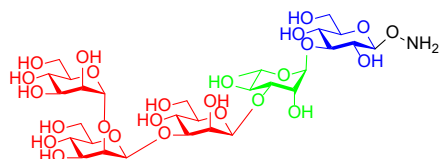


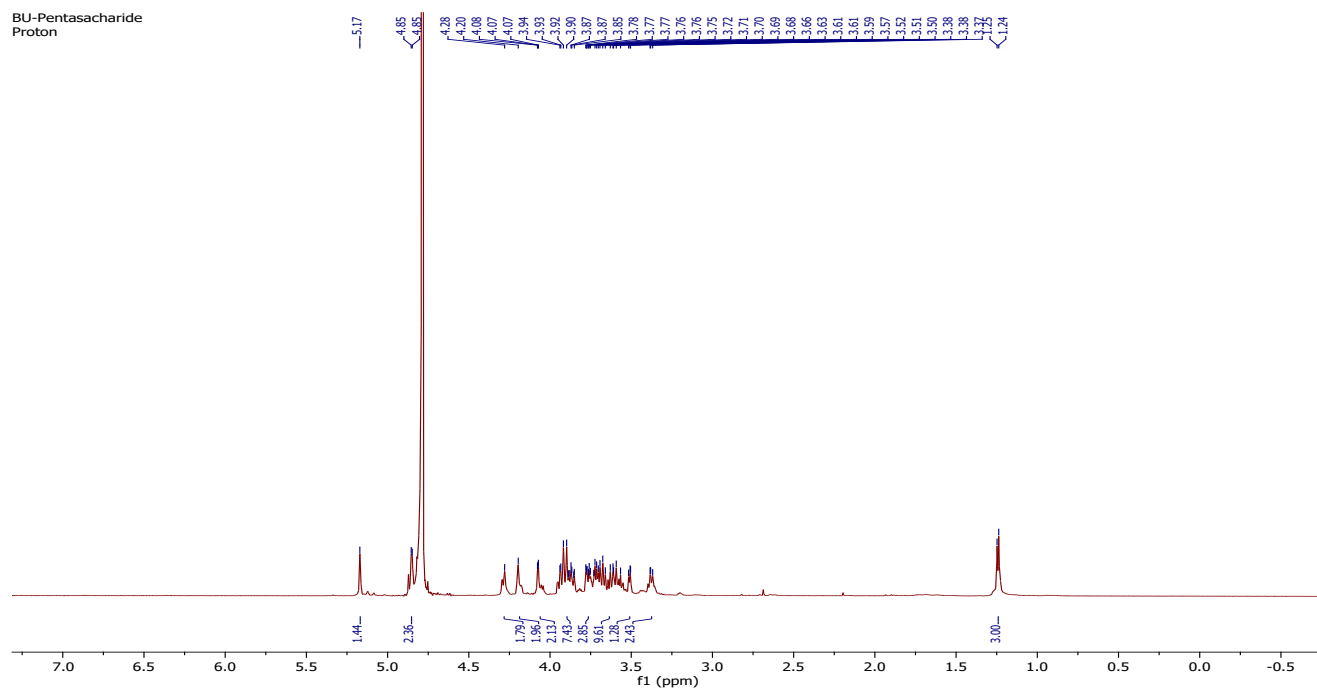
Figure S10: ¹H and ¹³C NMR of compound **2** (CDCl₃, 600 MHz)





1

BU-Pentasaccharide
Proton



BU-Pentasaccharide
carbon

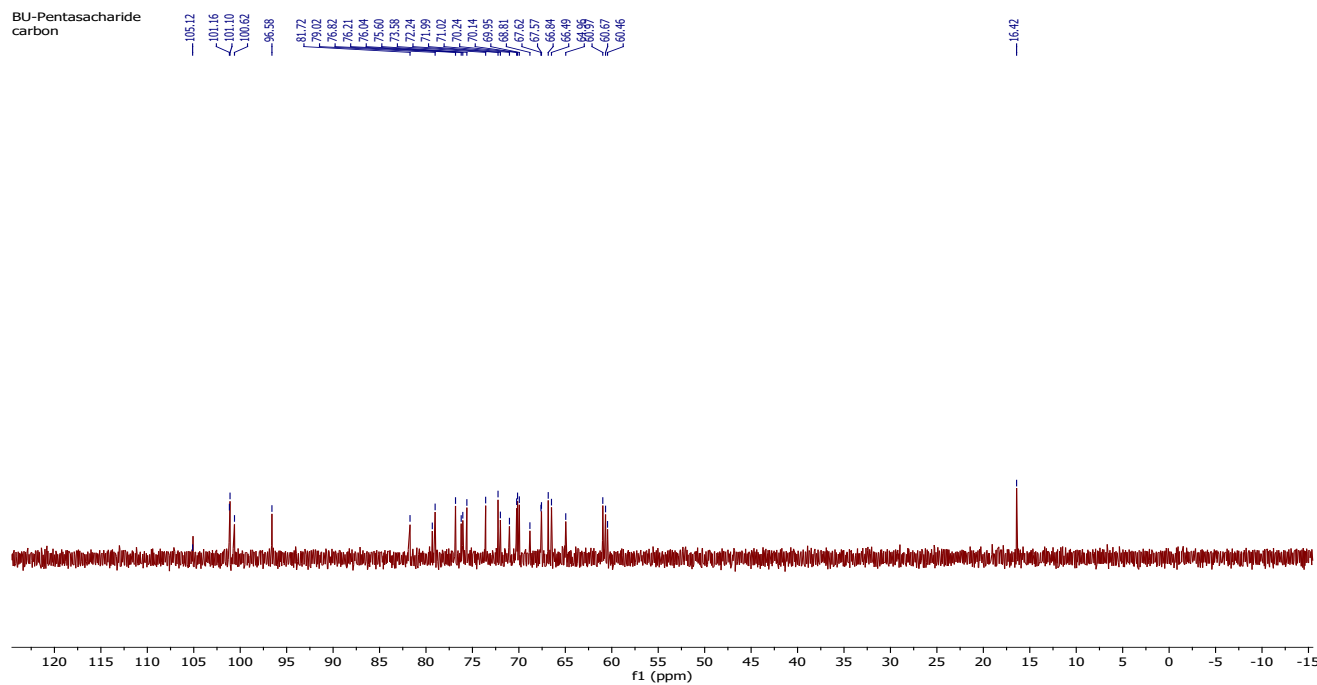


Figure S12: HRMS Data of Compound 1

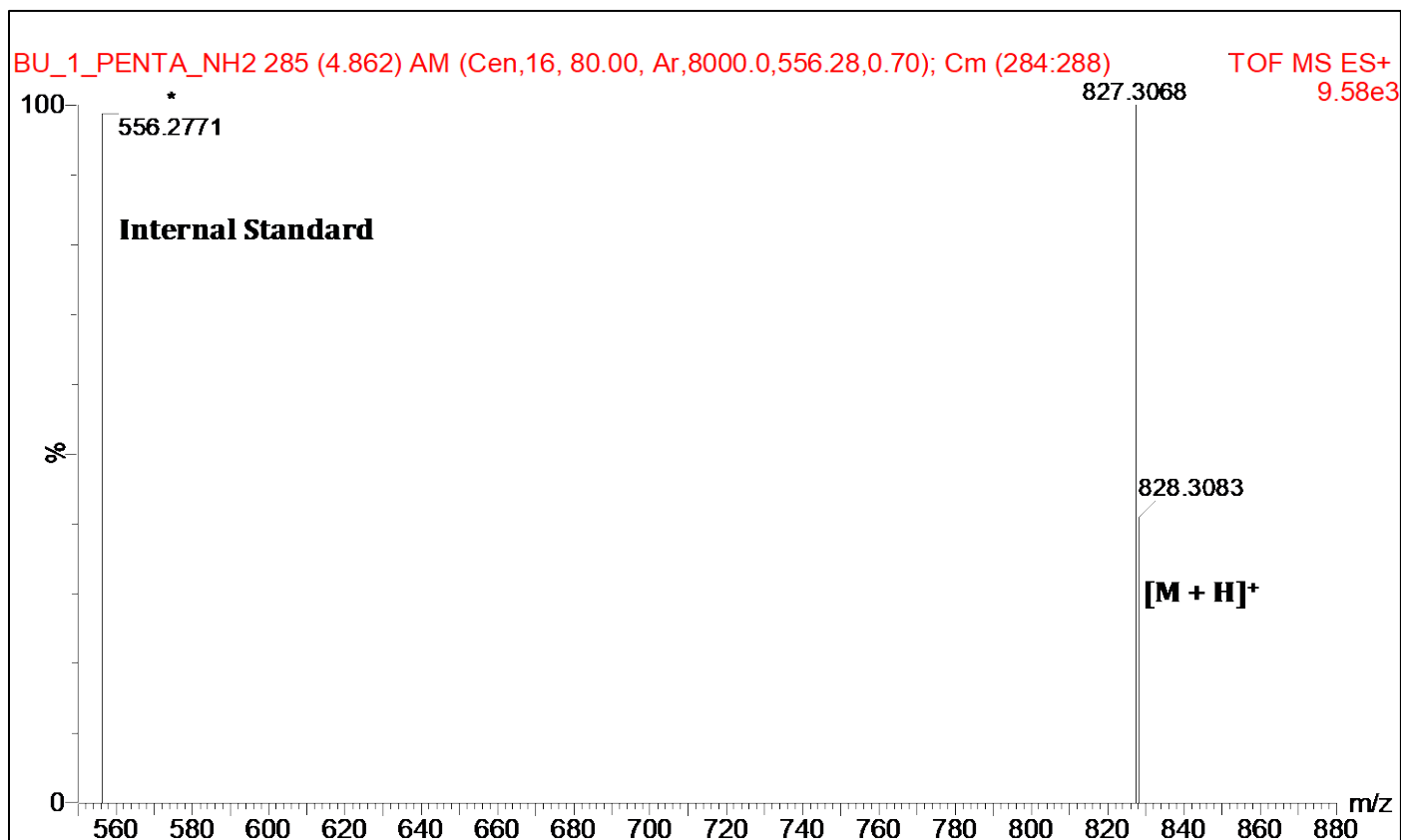
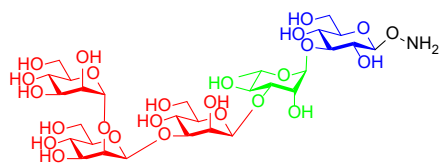
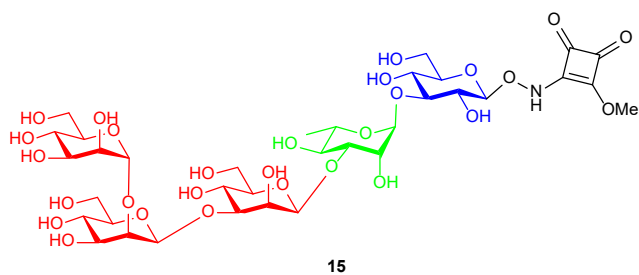


Figure S13: ESI-MS of Compound **15**



une 24th 2023 TLC MS to recheck for june 22 2023 sec time #1 RT: 0.00 AV: 1 NL: 1.01E7
T: + c ESI Full ms [930.00-1300.00]

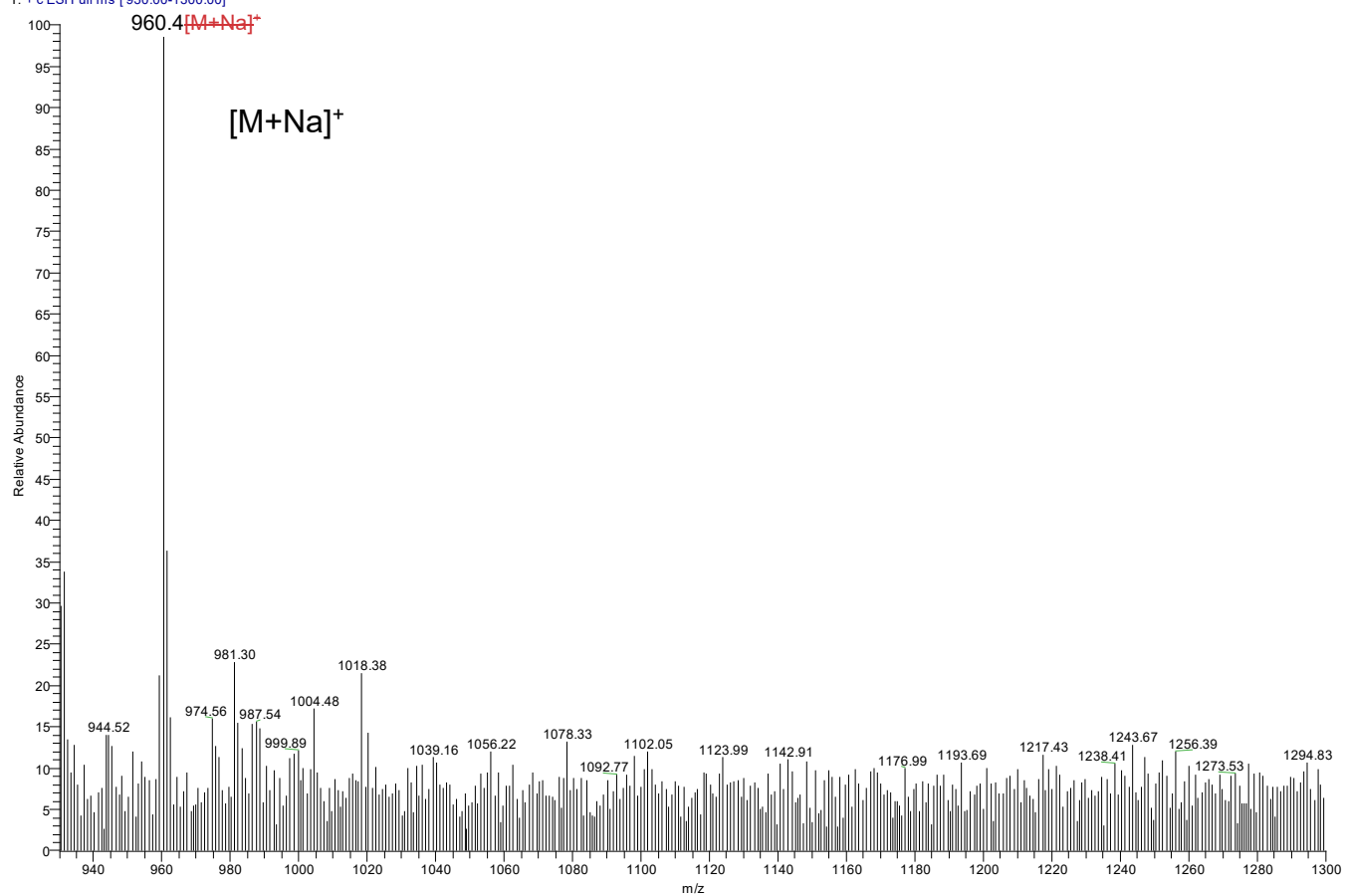


Figure S14: ESI-MS of Psl-Biotin conjugate **18**

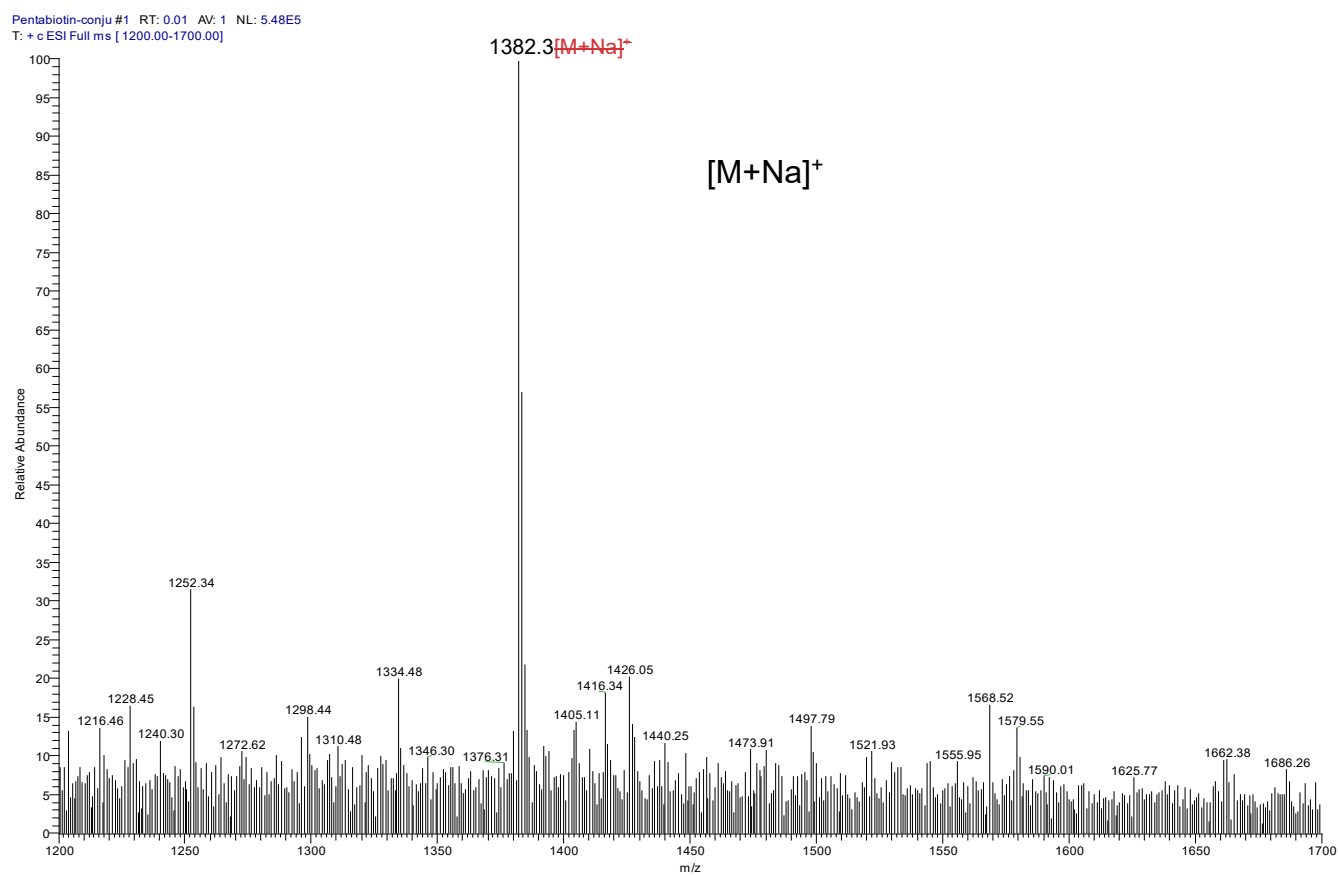
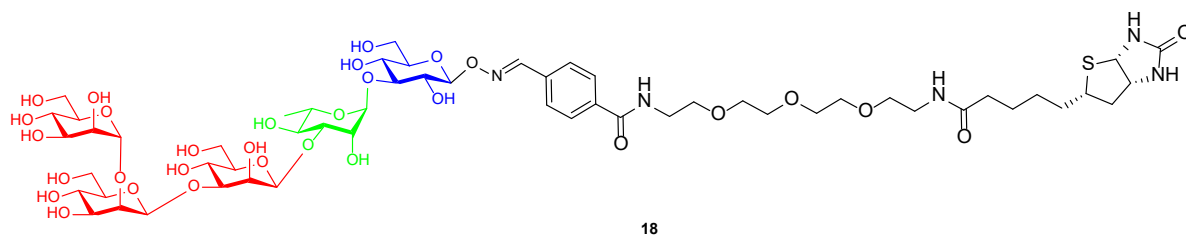


Figure S15: SDS PAGE of Compound **16**

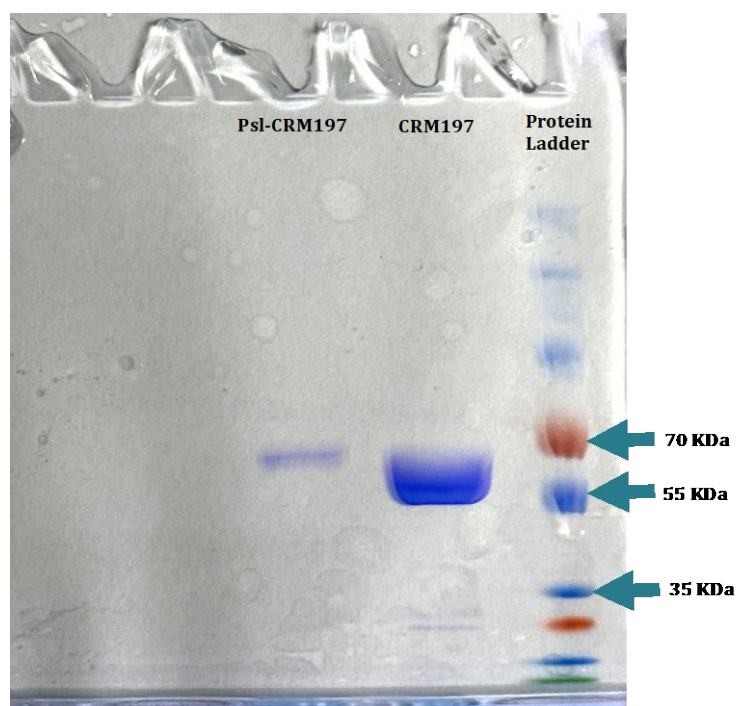
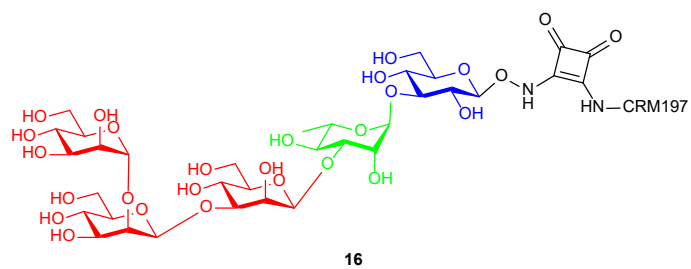


Figure S16: MALDI-TOF data of Compound **16**

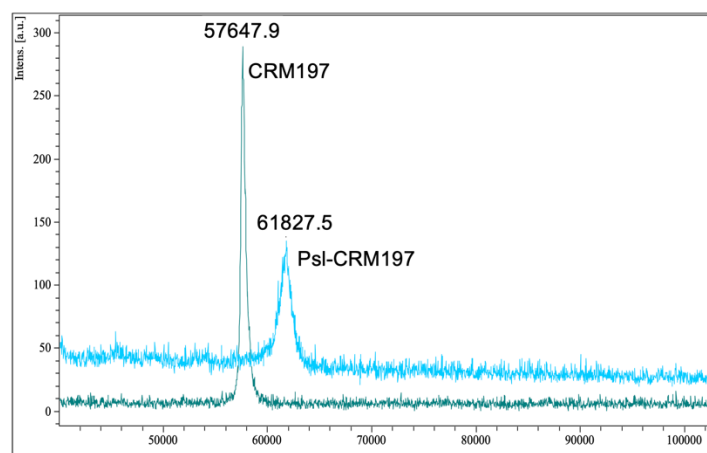


Figure S17: SDS-PAGE of BSA conjugate to Psl (Compound **17**)

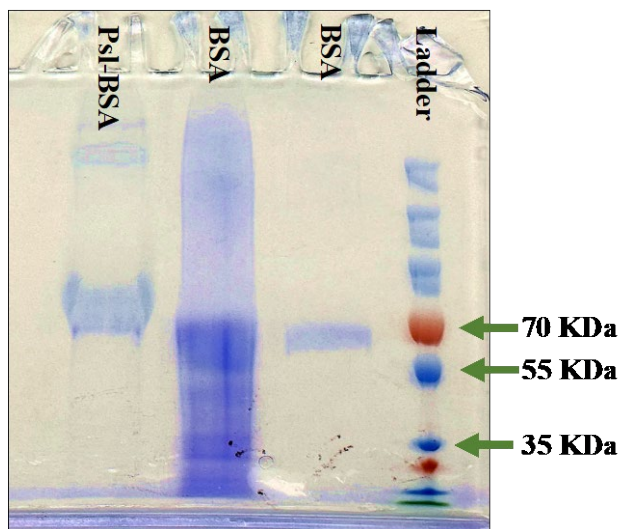
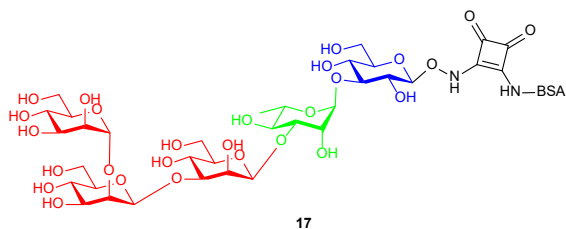


Figure S18: MALDI-TOF of BSA Conjugate to Psl (Compound 17)

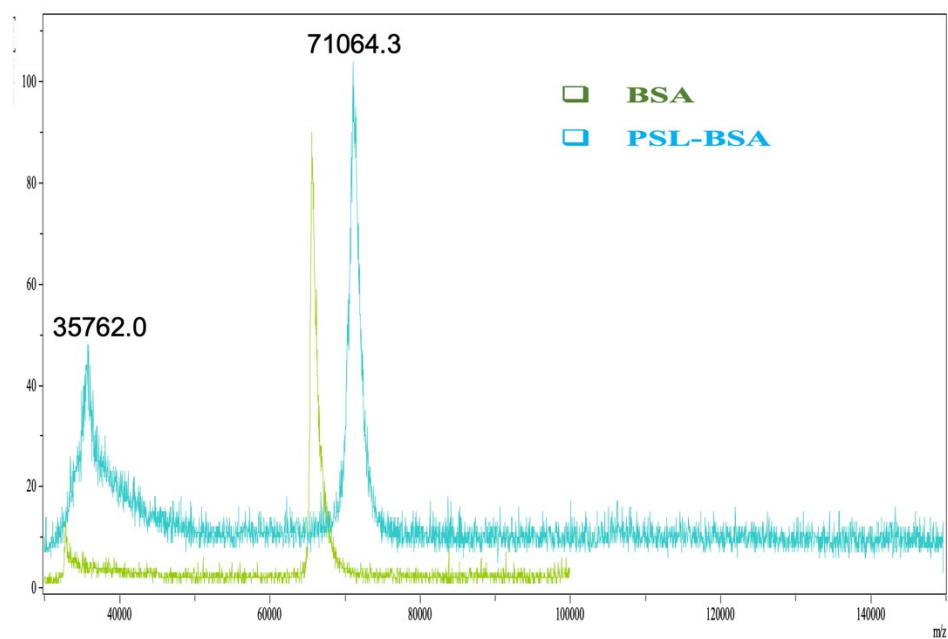


Table S1: DLS data for QS-21 and QS-21 + Psl-CRM197 (**16**) liposomes.

Liposome formulation	R_h (nm)	ζ (V)
QS-21 liposome (Control)	500.88	0.0057 ± 0.0014
QS-21+Psl-CRM197 (16) Liposome	1029.51	0.0016 ± 0.0014

Figure S19A: Vaccine DLS Data (DMPG/DMPC/Cholesterol/Pam3CysSK4/QS-21/**16**): Phase Plot

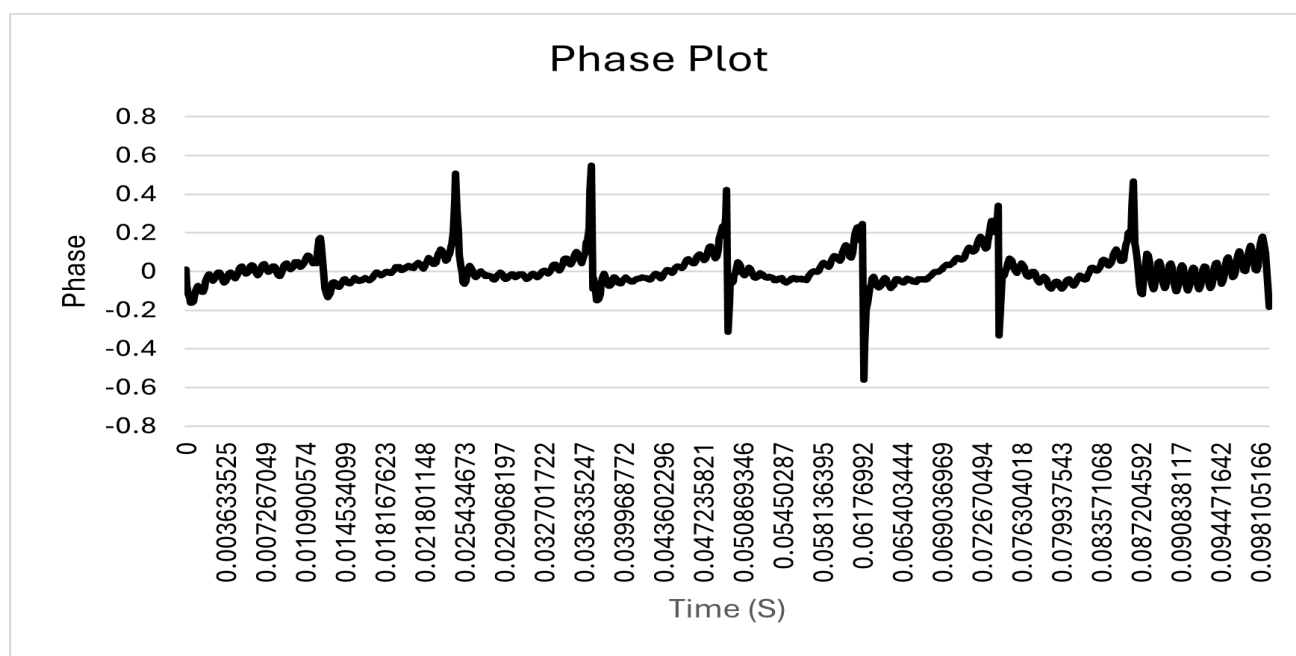


Figure S19B: Vaccine DLS Data (DMPG/DMPC/Cholesterol/Pam3CysSK4/QS-21/**16**): Size Distribution

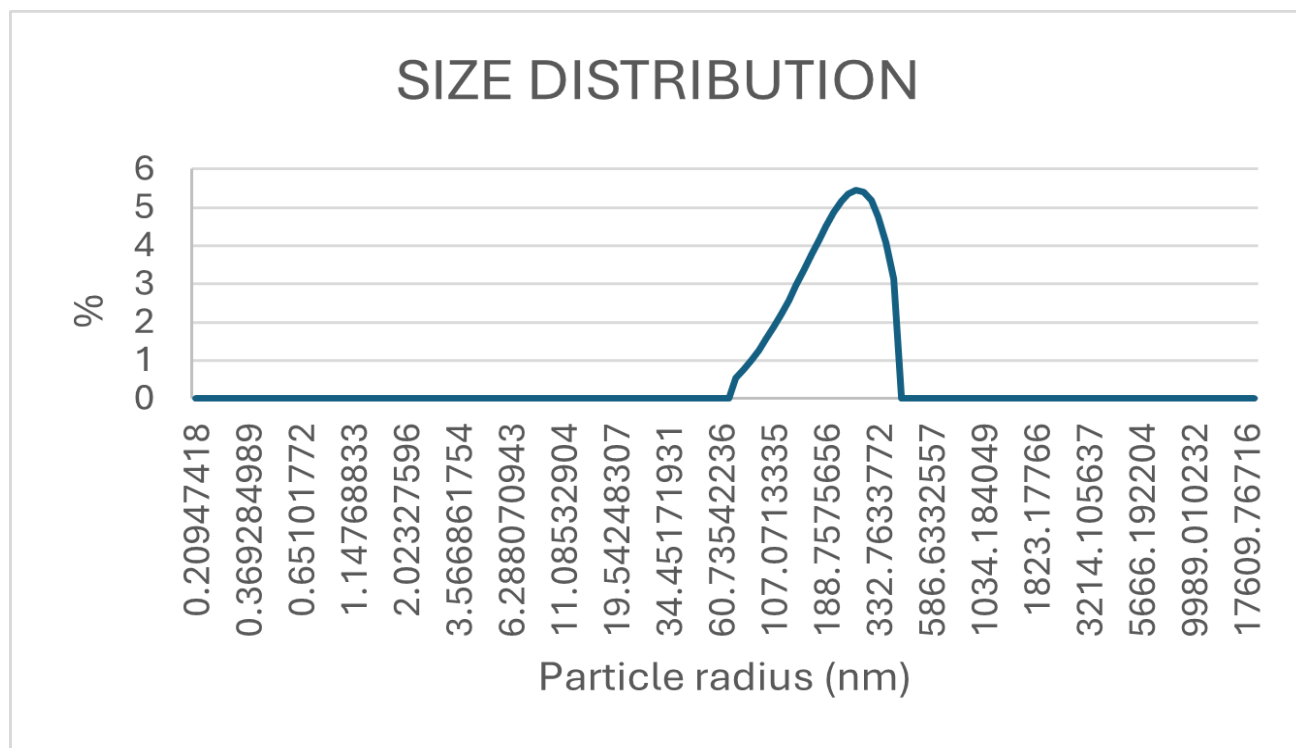


Figure S19C: Vaccine DLS Data (DMPG/DMPC/Cholesterol/Pam3CysSK4/QS-21/**16**): Zeta Potential

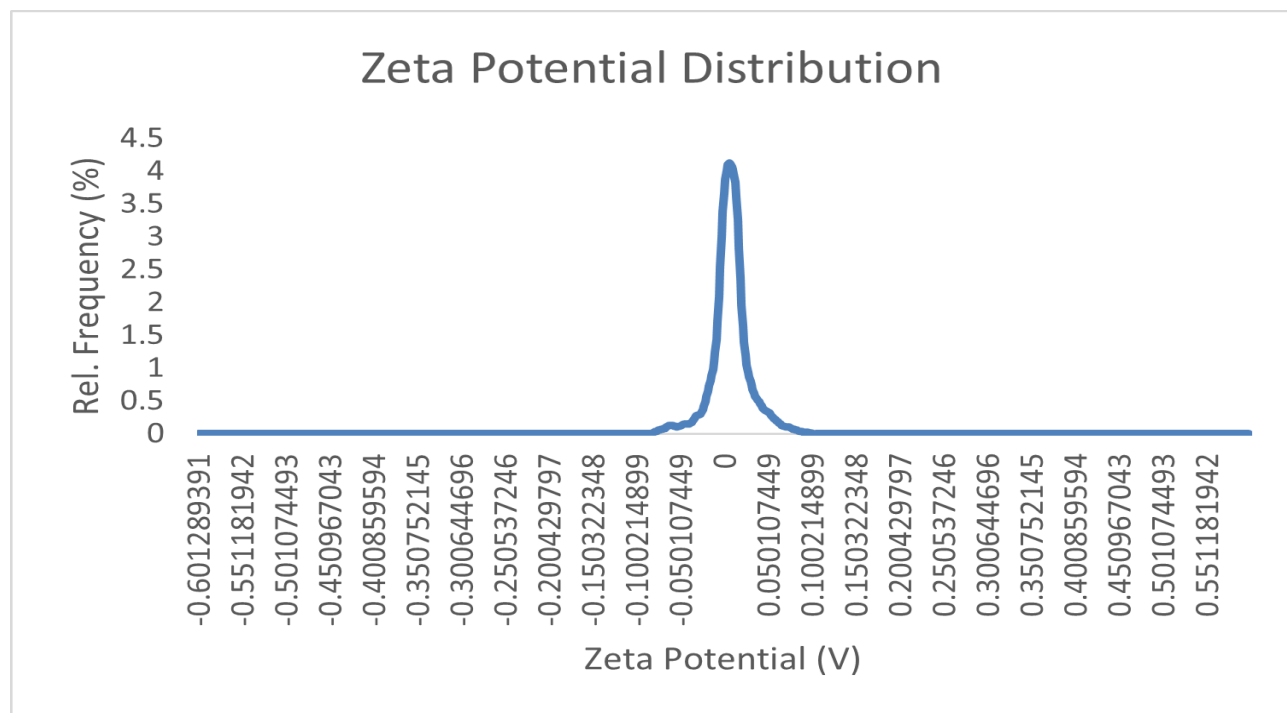


Figure S19D: Vaccine DLS Data (DMPG/DMPC/Cholesterol/Pam3CysSK4/QS-21/**16**): Zeta Potential

