

A synthetic disaccharide analogue from *Neisseria meningitidis* A capsular polysaccharide stimulates immune cell responses and induces IgG production in mice when protein-conjugated

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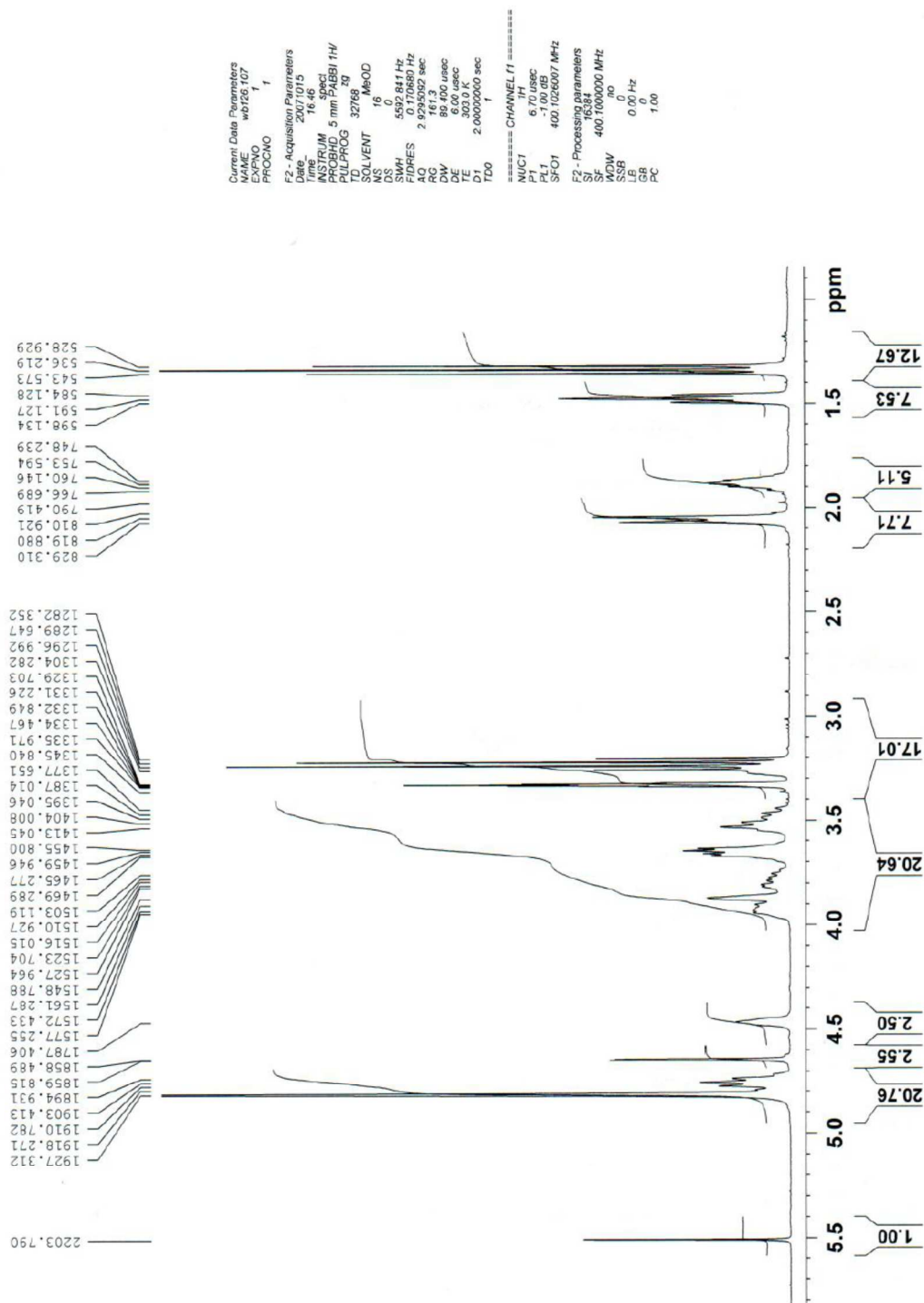
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Supplementary Information

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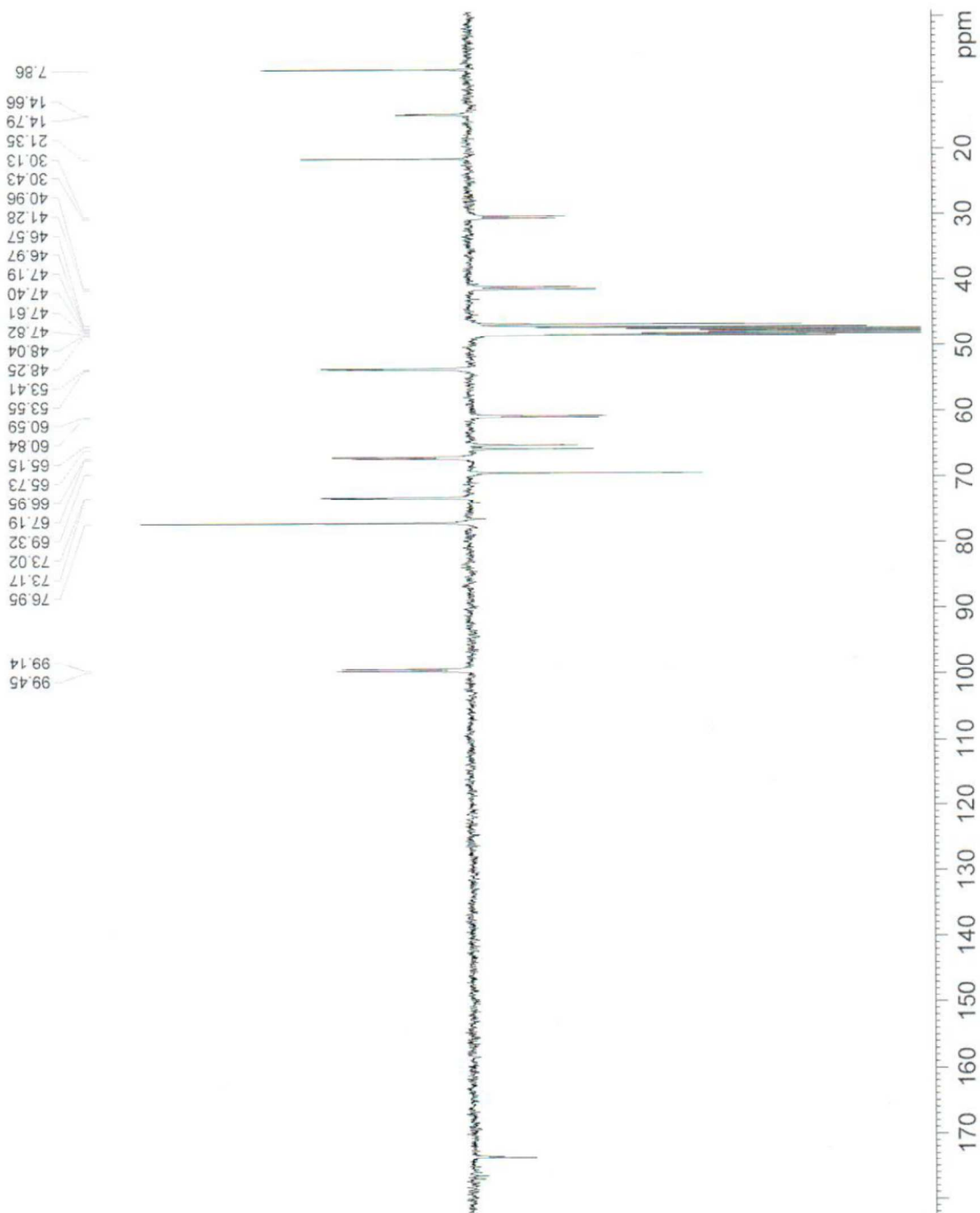
¹H-NMR Compound 5

Spettro 1H 1D



^{13}C -APT NMR Compound 5

¹H-NMR Compound 6



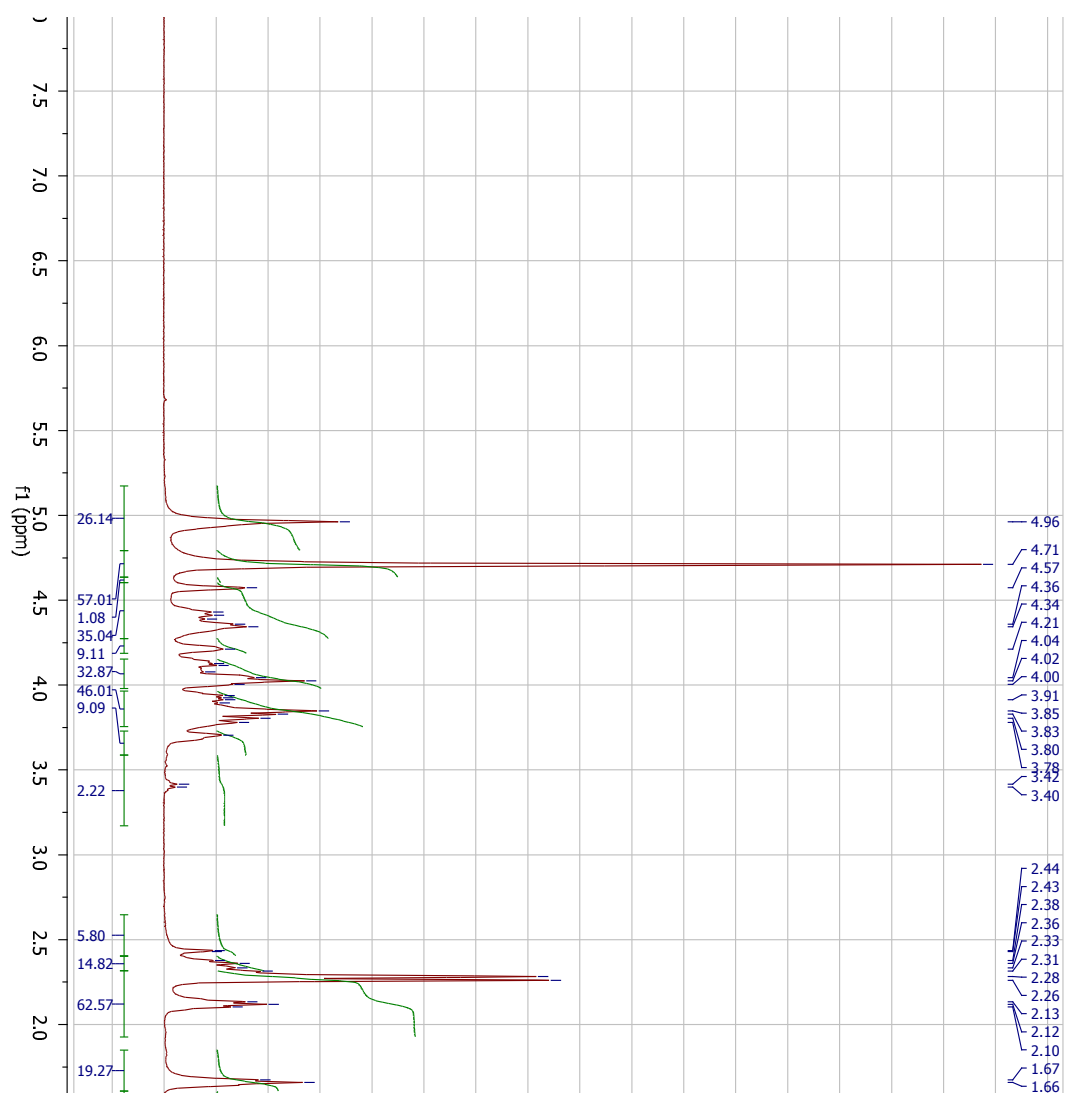
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PROCNO 1

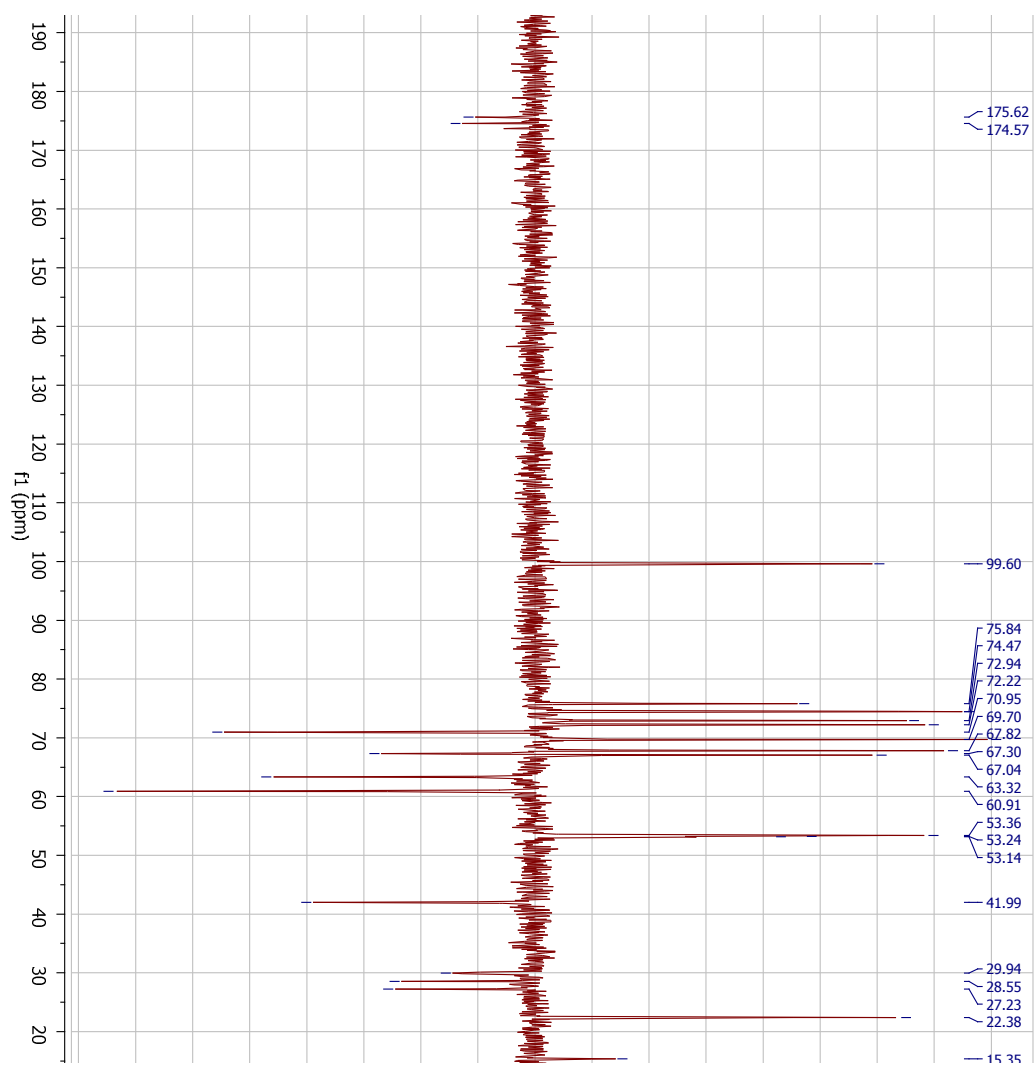
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SOLVENT MeOD
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DS 4
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FIDRES 0.731836 Hz
AQ 0.6832628 sec
RG 16384
DW 20.850 usec
DE 8.00 usec
TE 303.0
CNST2 145.0000000
CNST11 1.0000000
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d20 0.00689555 sec
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TDO 1000

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P2 29.40 usec
PL1 -2.50 dB
SFO1 100.6162916 MHz

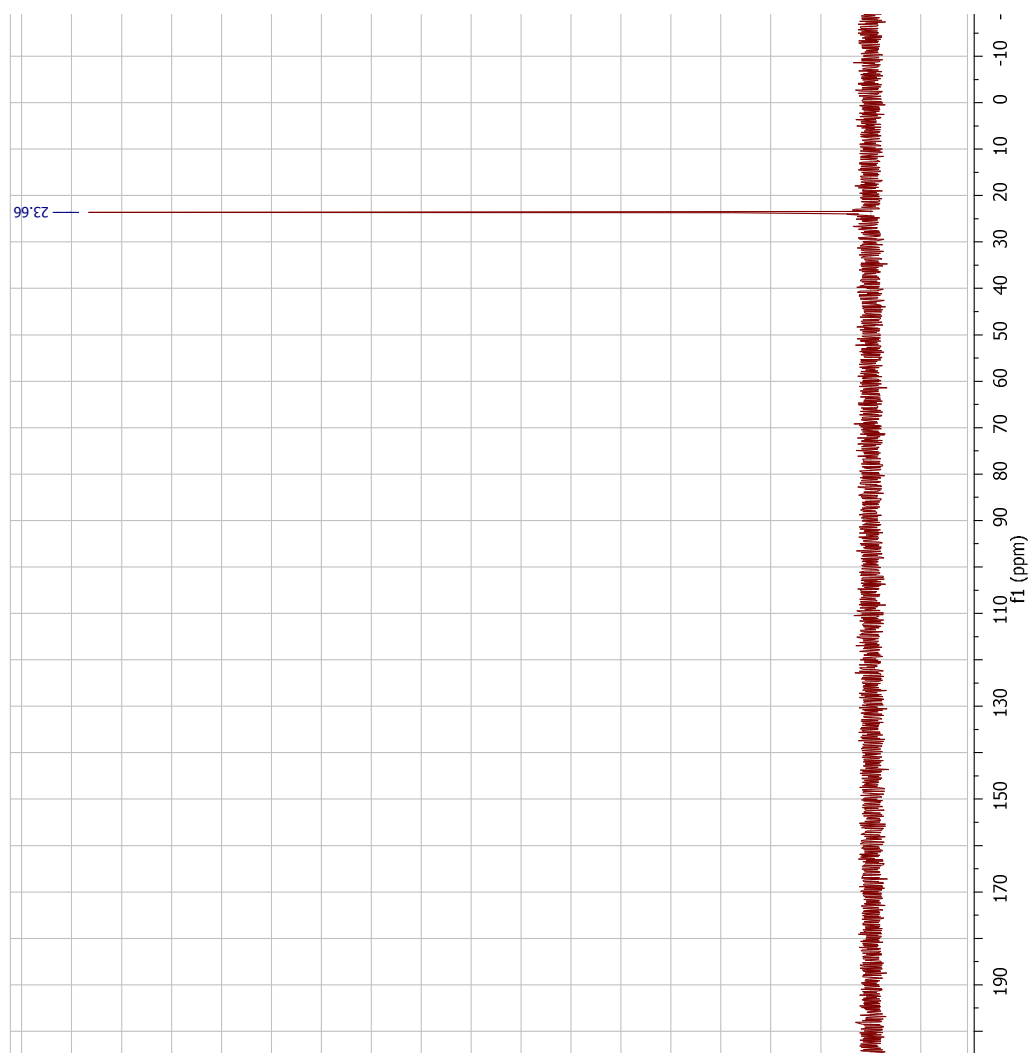
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PC 0.40

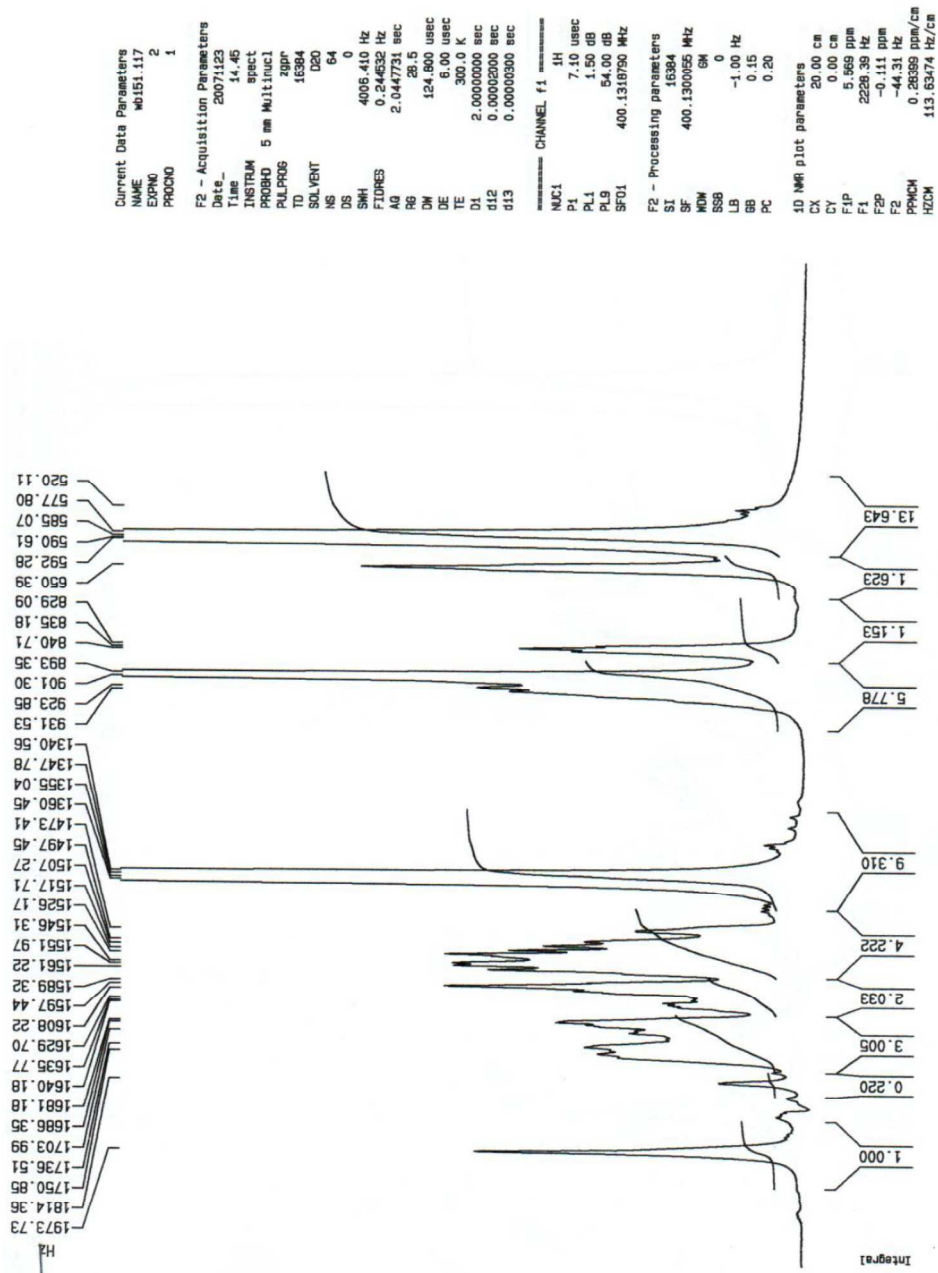




^{31}P -NMR Compound 6

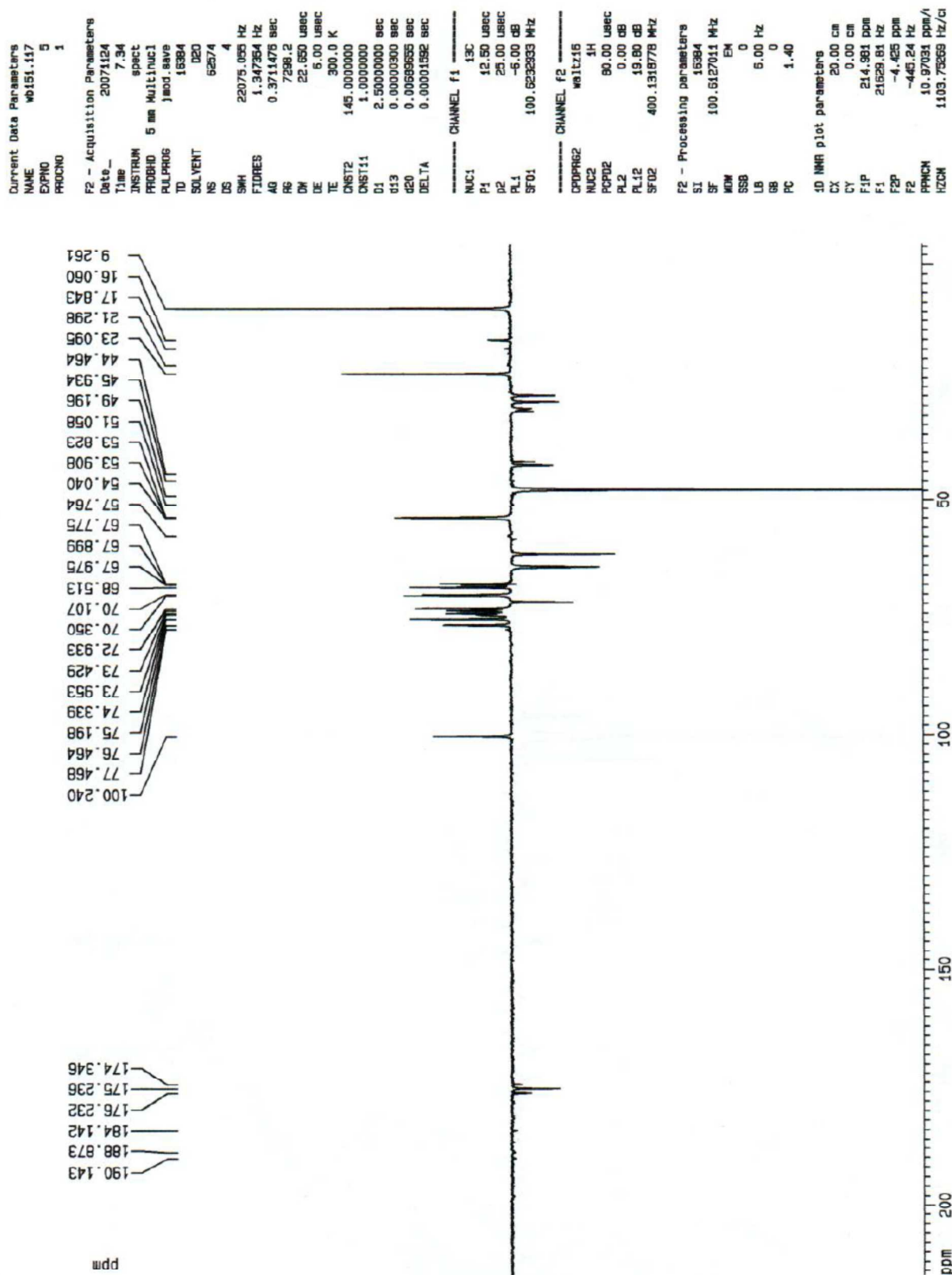


¹H-NMR Compound 7

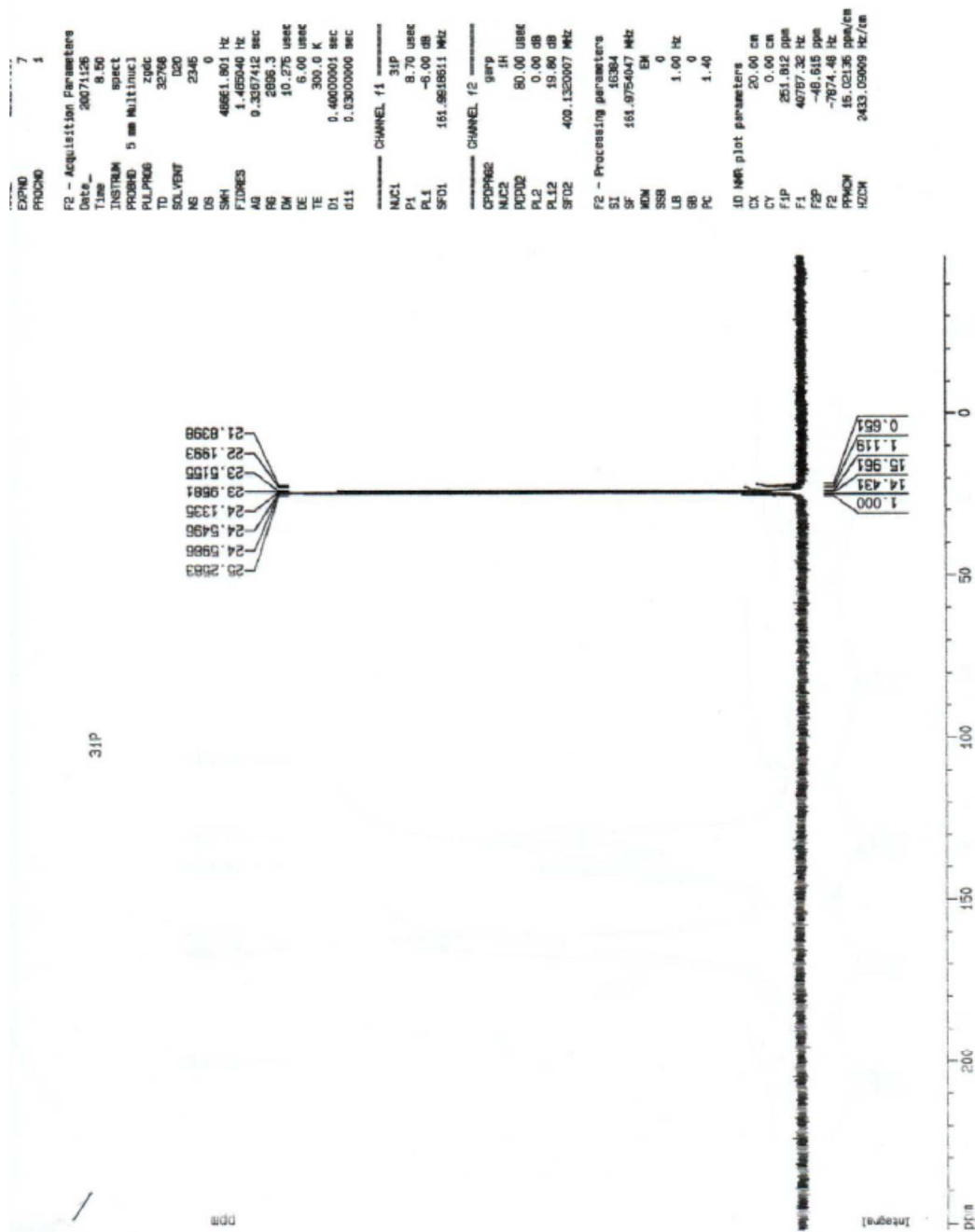


¹³C-APT NMR Compound 7

apt



³¹P-NMR Compound 7



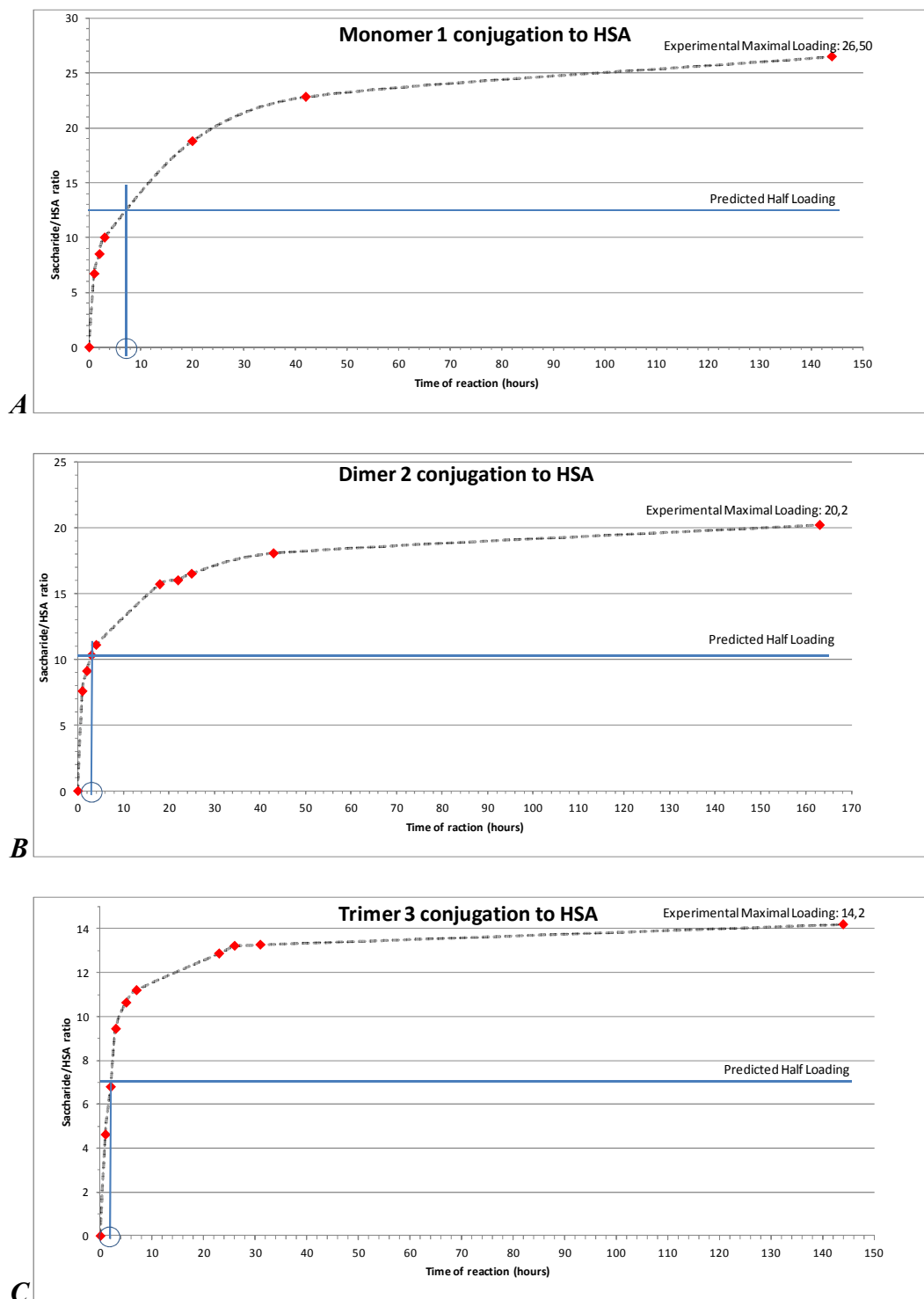


Figure S1. Plotting of saccharide/protein ratio versus the reaction time. **A)** Monomer 1; **B)** Dimer 2; **C)** Trimer 3

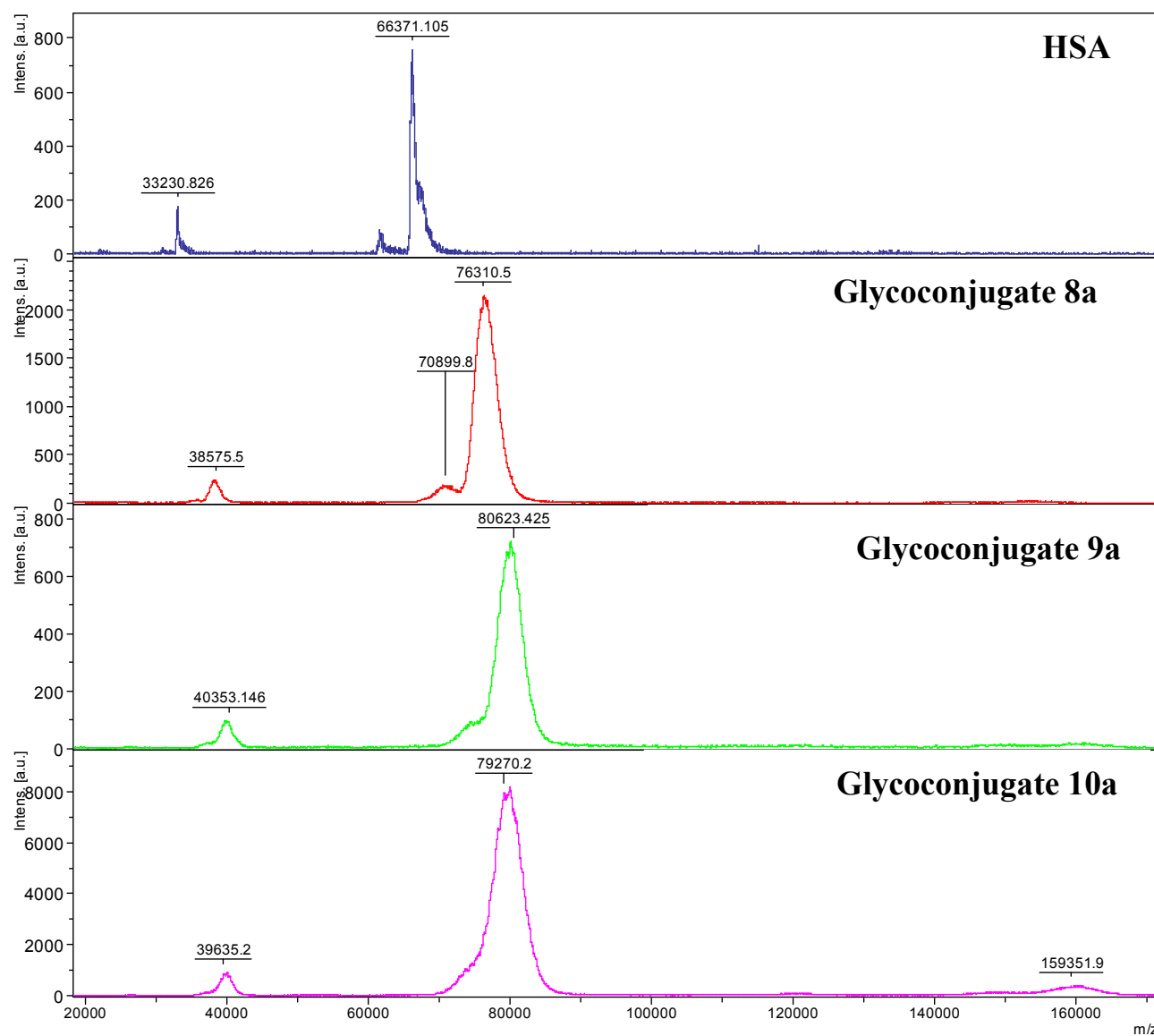


Figure S2. MALDI TOF MS spectra of prepared HSA conjugates with “full” loading of sugar

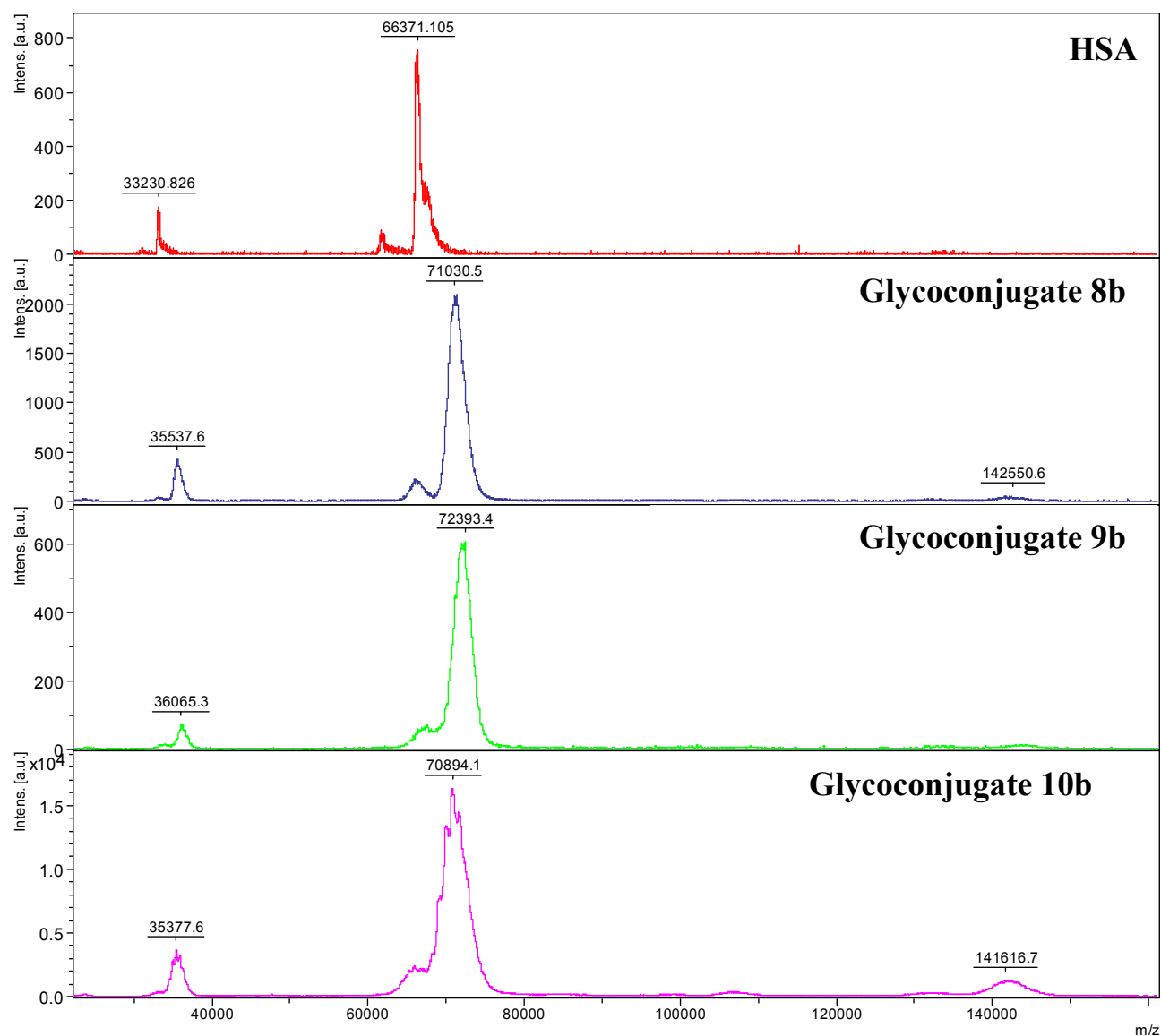
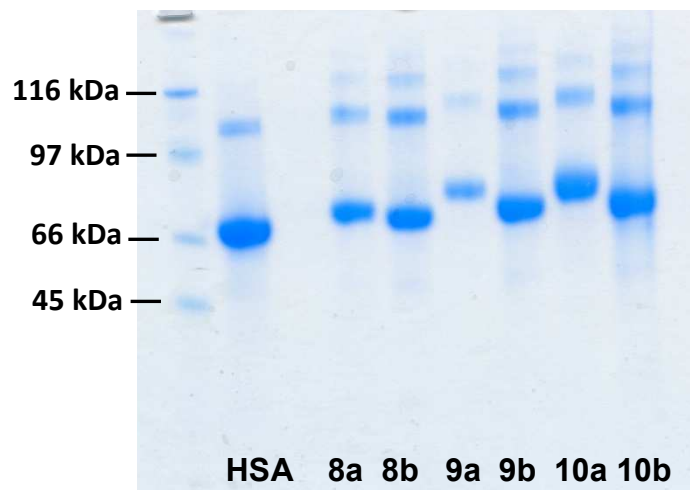


Figure S3. MALDI TOF MS spectra of prepared HSA conjugates with “half” loading of sugar

SDS Page gel electrophoresis (4-12% MOPS)



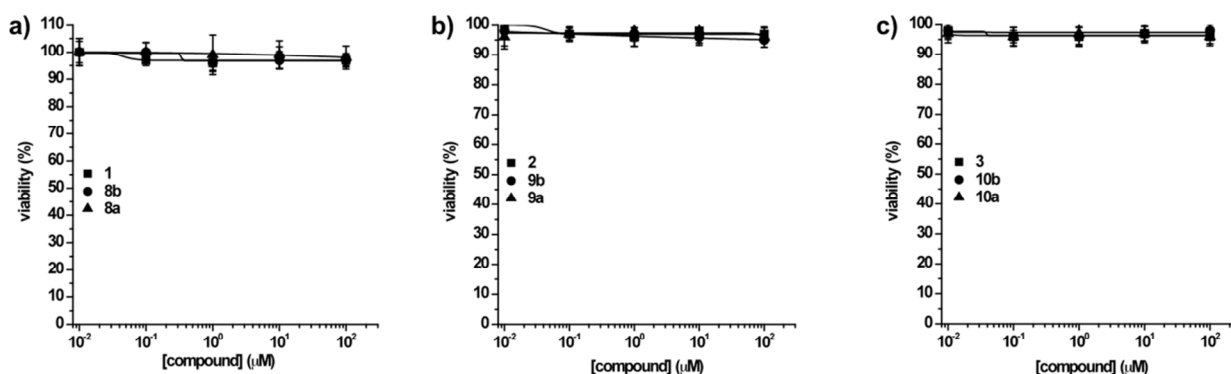


Figure S4. Effects of tested compounds on cell viability. a) HSA-conjugated monosaccharide **8b** and **8a** and unconjugated monosaccharide **1**; b) HSA-conjugated disaccharide **9b** and **9a** and unconjugated disaccharide **2**; c) HSA-conjugated trisaccharide **10b** and **10a** and unconjugated trisaccharide **3**. Human PBMC were treated with increasing concentrations (10⁻²-10² μM) of each compound for 24h. Cell viability was assessed by Calcein-AM assay. The concentration-response curves show the percentage of cell viability in comparison with controls (cell treated with water alone). The data represent mean ± SEM of at least three experiments run in triplicate.