Electronic Supporting Information **Part 2**

meso-Tetra(pentafluorophenyl)porphyrin as an Efficient Platform for Combinatorial Synthesis and the Selection of New Photodynamic Therapeutics using a Cancer Cell Line†

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†Dedicated to the memory of R. Bruce Merrifield, friend and colleague.

Spectral characterization of the newly synthesized mixed aryl porphyrin systems: meso pyridyl and tetrafluorophenyl glycosyl porphryins.

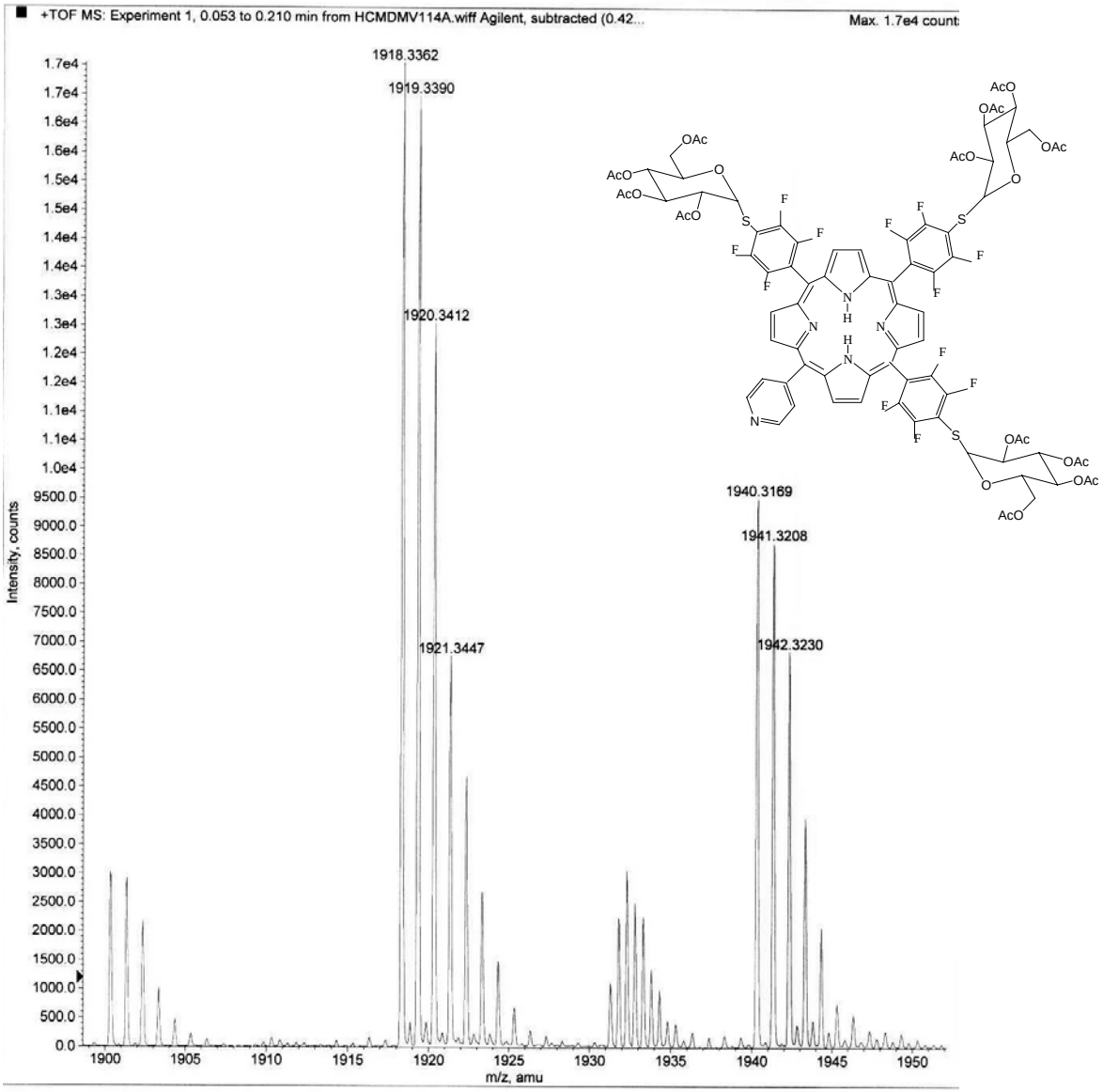


Figure ESI-22: ESI-TOF-MS of **GluAc/GluAc/GluAc/Py**: Peak at m/z 1918 is for $M+H^+$, 1940 is $M+Na^+$

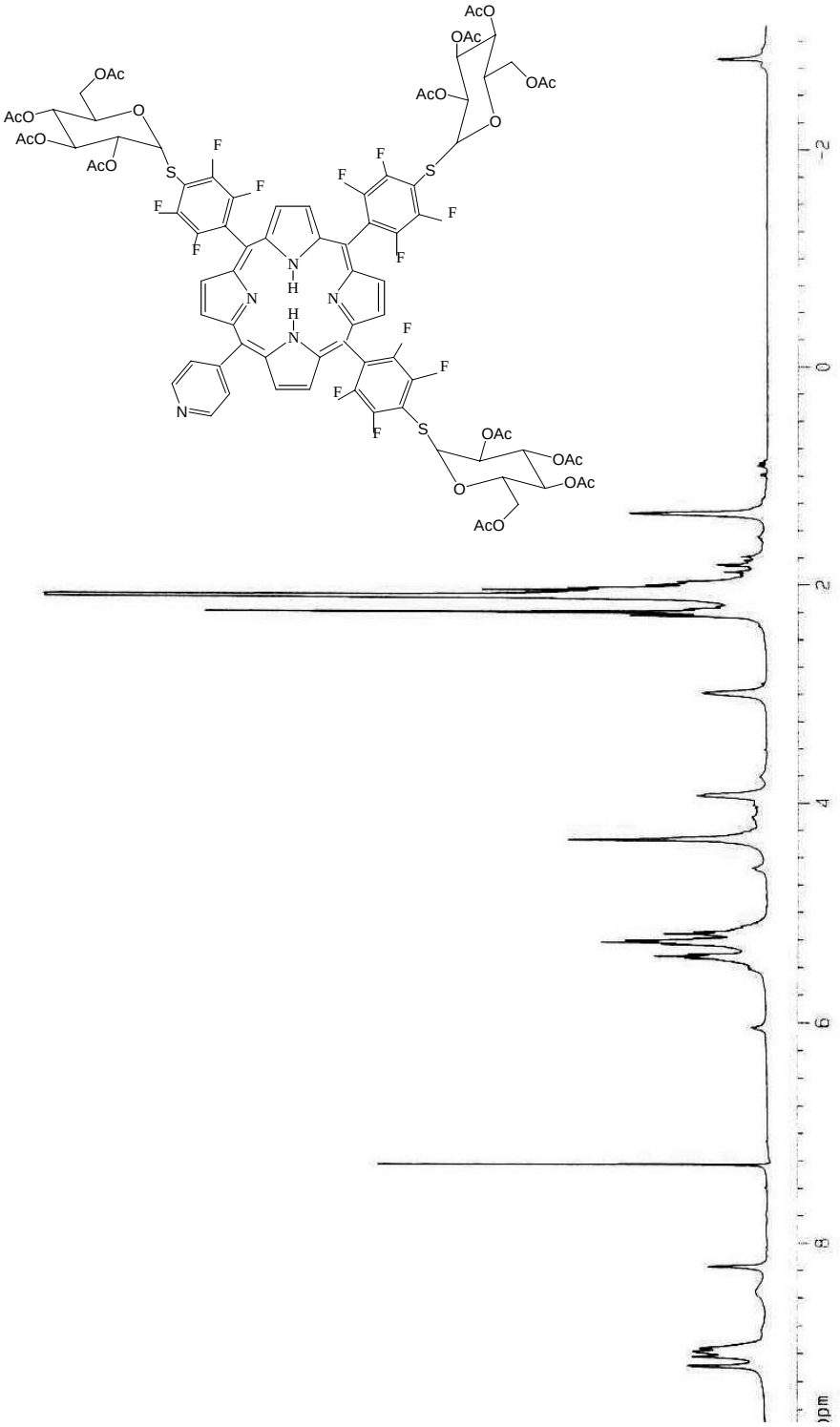


Figure ESI-23: GluAc/GluAc/GluAc/Py: NMR (500MHz, $CDCl_3$): δ = 9.12 (d, J = 2.5Hz, 2H), 8.99 (m, 8H), 8.22 (d, J = 4.7 Hz, 2H), 5.41 (t, 3H), 5.24 (m, 9H), 4.34 (s, 6H), 3.92 (m, 3H), 2.25 (m, 9H), 2.10 (m, 27H) and –2.82 (s, 2H). (Solvent peaks are at 7.28, 2.99 and 1.34)

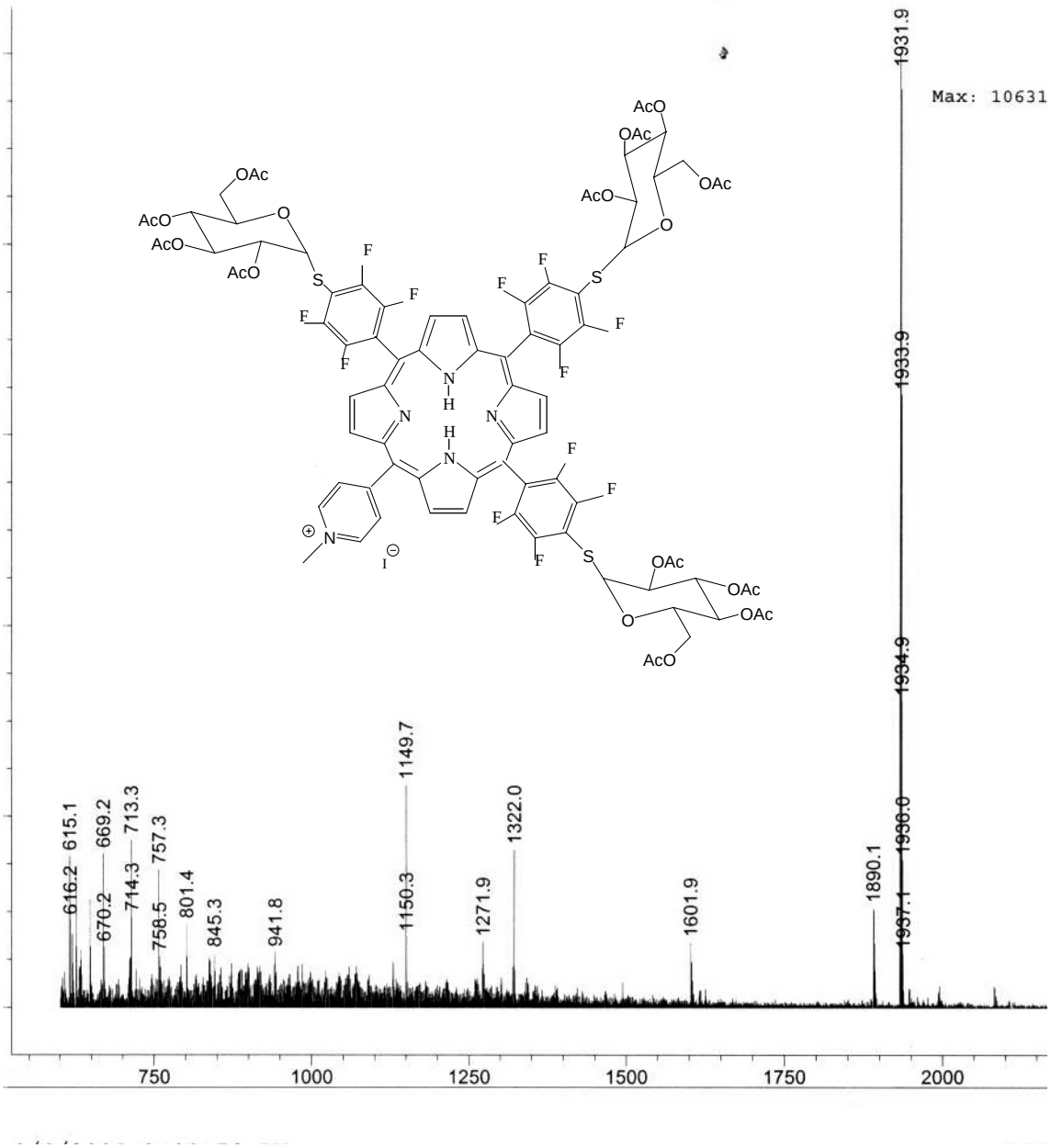


Figure ESI-24: ESI-MS (API) of **GluAc/GluAc/GluAc/Py$^+$:** Peak at 1931 is forM - I$^-$.

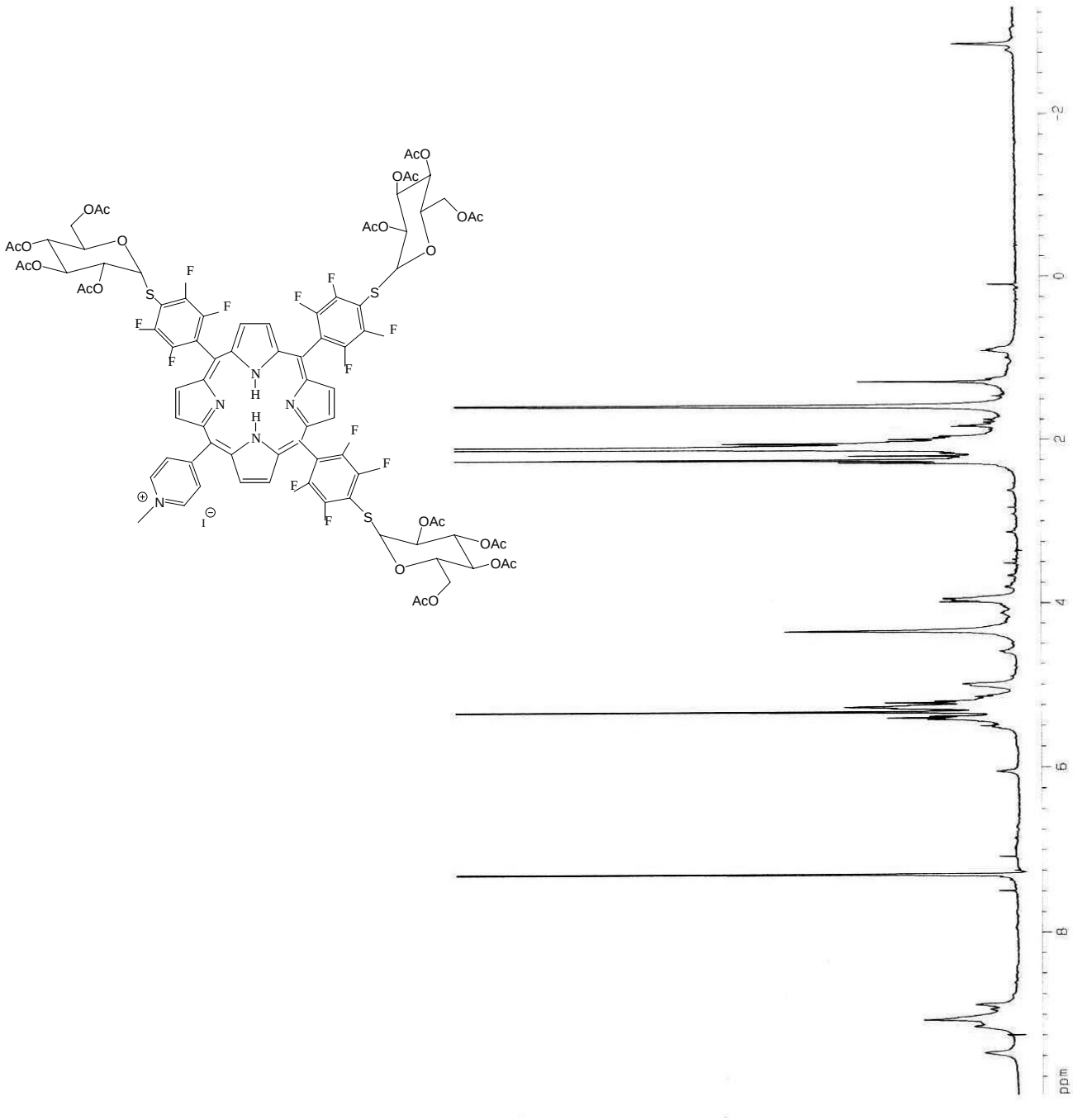


Figure ESI-25: GluAc/GluAc/GluAc/Py$^+$: ^{1}H NMR (500MHz, $CDCl_3$): δ = 9.46 (S (br), 2H), 9.10 (m, 8H), 8.87 (s (br) 2H), 5.41 - 5.19 (m, 12H), 4.99 (s, 3H), 4,34 (s, 6H), 3.96 (m, 3H), 2.25 (m, 9H), 2.10 (m, 27H) and –2.86 (s, 2H). (Solvent peaks at 7.28, 5.32, 1.58 and 1.29)

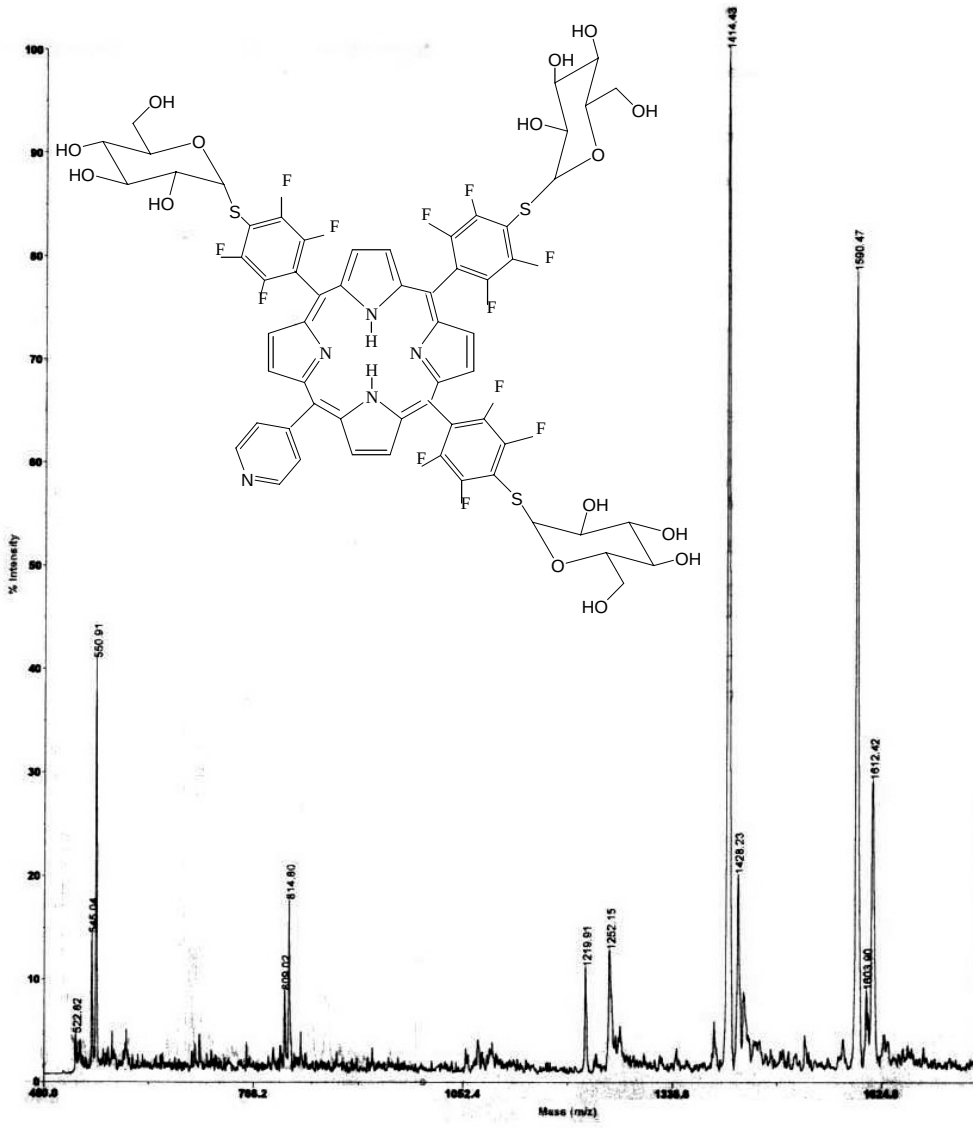


Figure ESI-26: MALDI-MS of **Glu/Glu/Glu/Py:** Peak at 1414 is for $M+H^+$, 1590 is $M + Na^+$ + 2,5-dihydroxybenzoic acid (matrix).

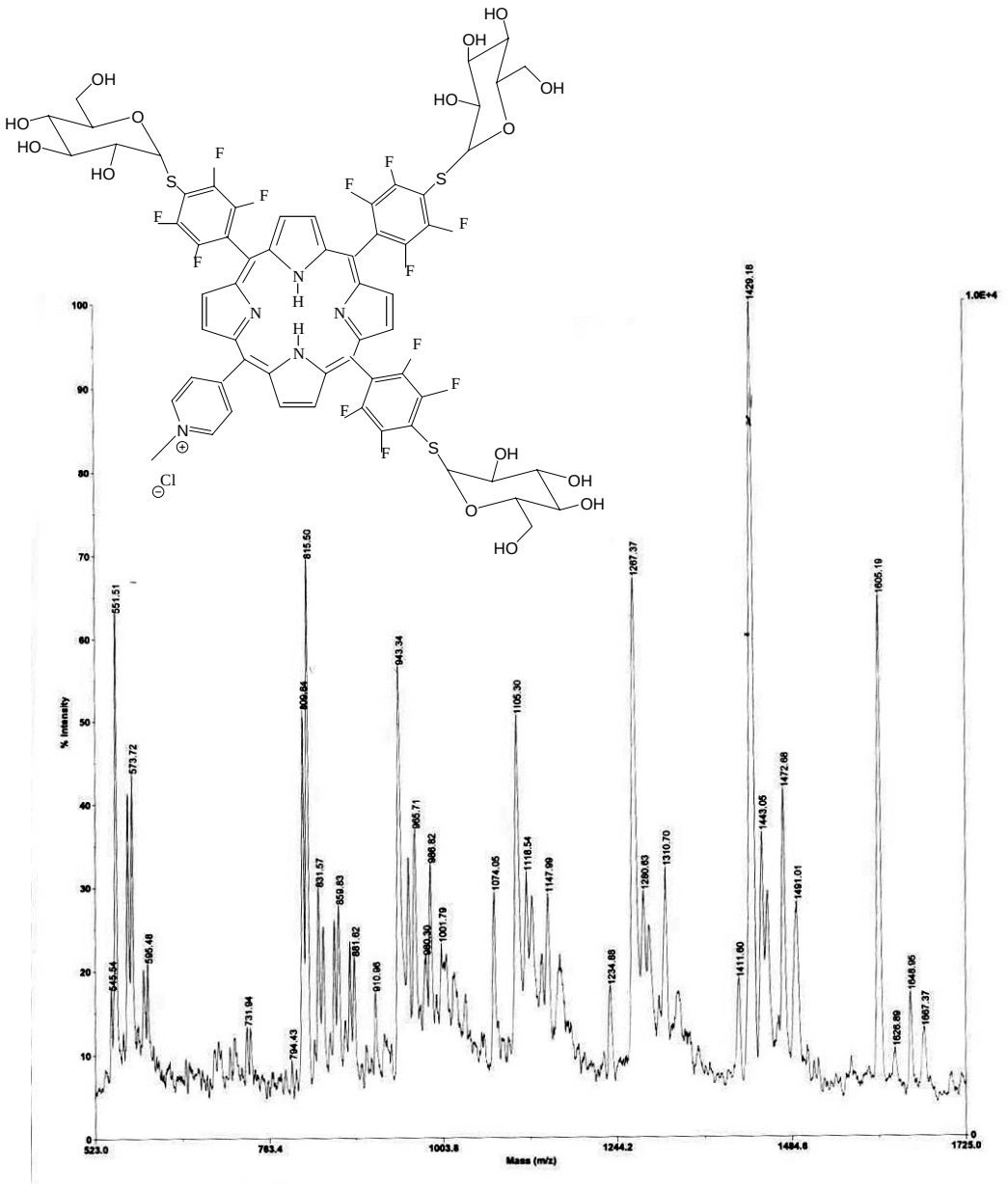


Figure ESI-27: MALDI-MS of **Glu/Glu/Glu/Py$^+$:** Peak at m/z 1429 is for M-Cl$^-$, 1605 is M-Cl$^-$ + Na + 2,5-dihydroxybenzoic acid (calibration matrix), other major peaks are -162 mass units indicating some SGlu fractions were lost during MALDI measurements.

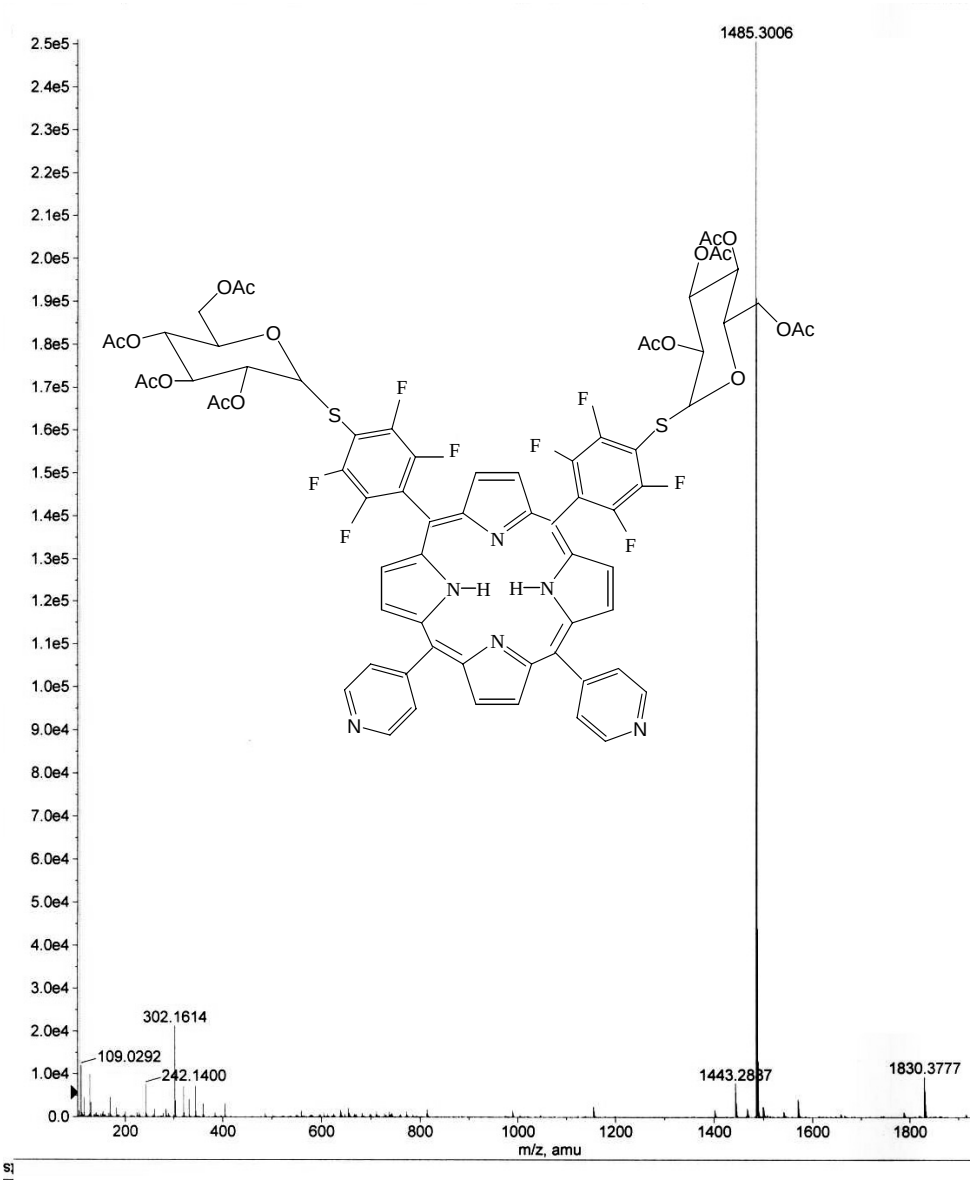


Figure ESI-28: ESI-TOF-MS of **GluAc/GluAc/Py/Py**: Peak at m/z 1485 is for $M+H^+$.

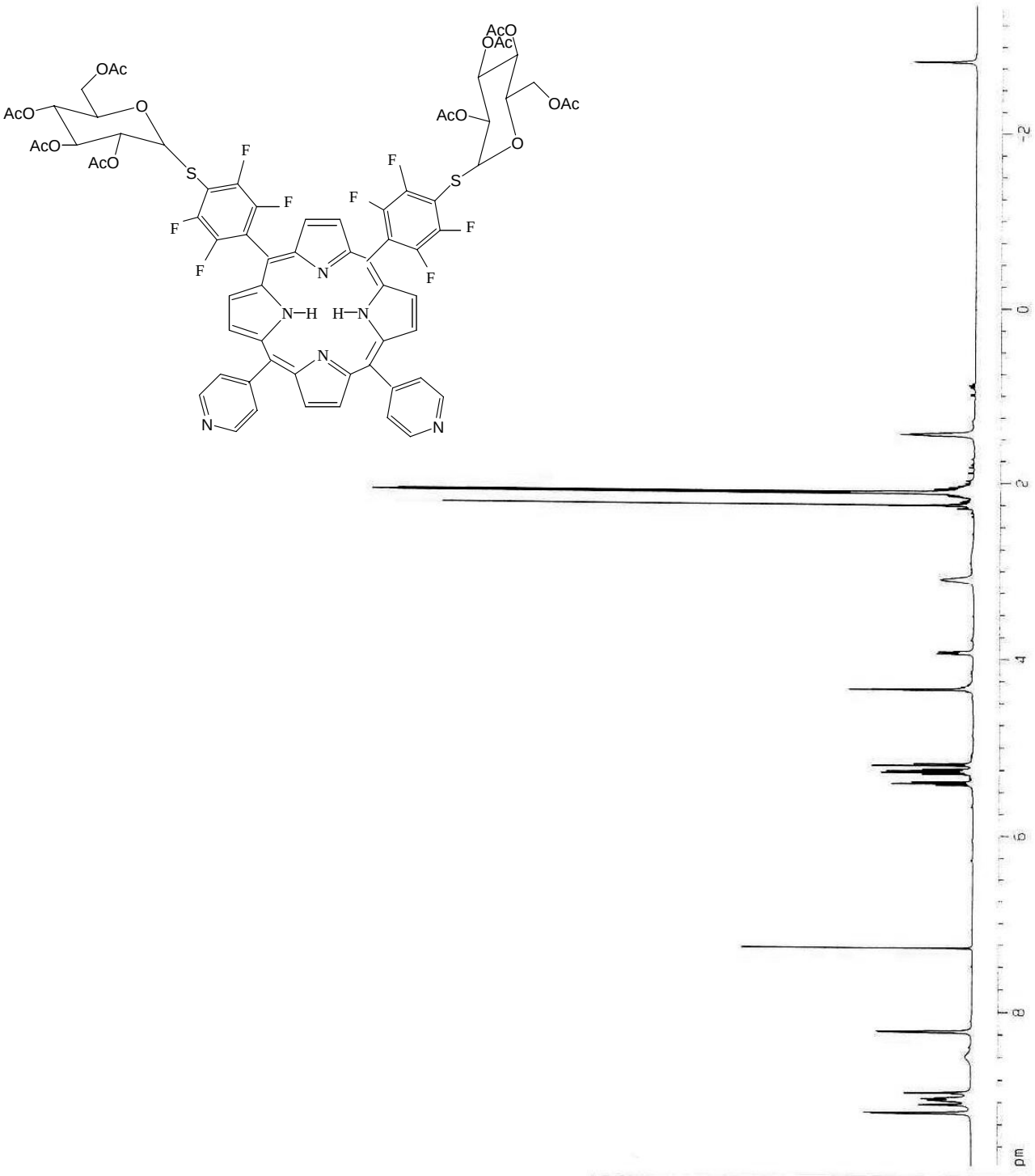


Figure ESI-29: GluAc/GluAc/Py/Py: ^{1}H NMR (500MHz, $CDCl_3$): δ = 9.12 (d, J = 5.1 Hz, 4H), 8.96 (m, 8H), 8.22 (d, J = 5.1 Hz, 4H), 5.40 (t, 2H), 5.23 (m, 6H), 4.33 (s, 4H), 3.92 (m, 2H), 2.25 (m, 6H), 2.10 (m, 18H) and –2.81 (s, 2H). (Solvent peaks at 7.28, 3.00 and 1.44)

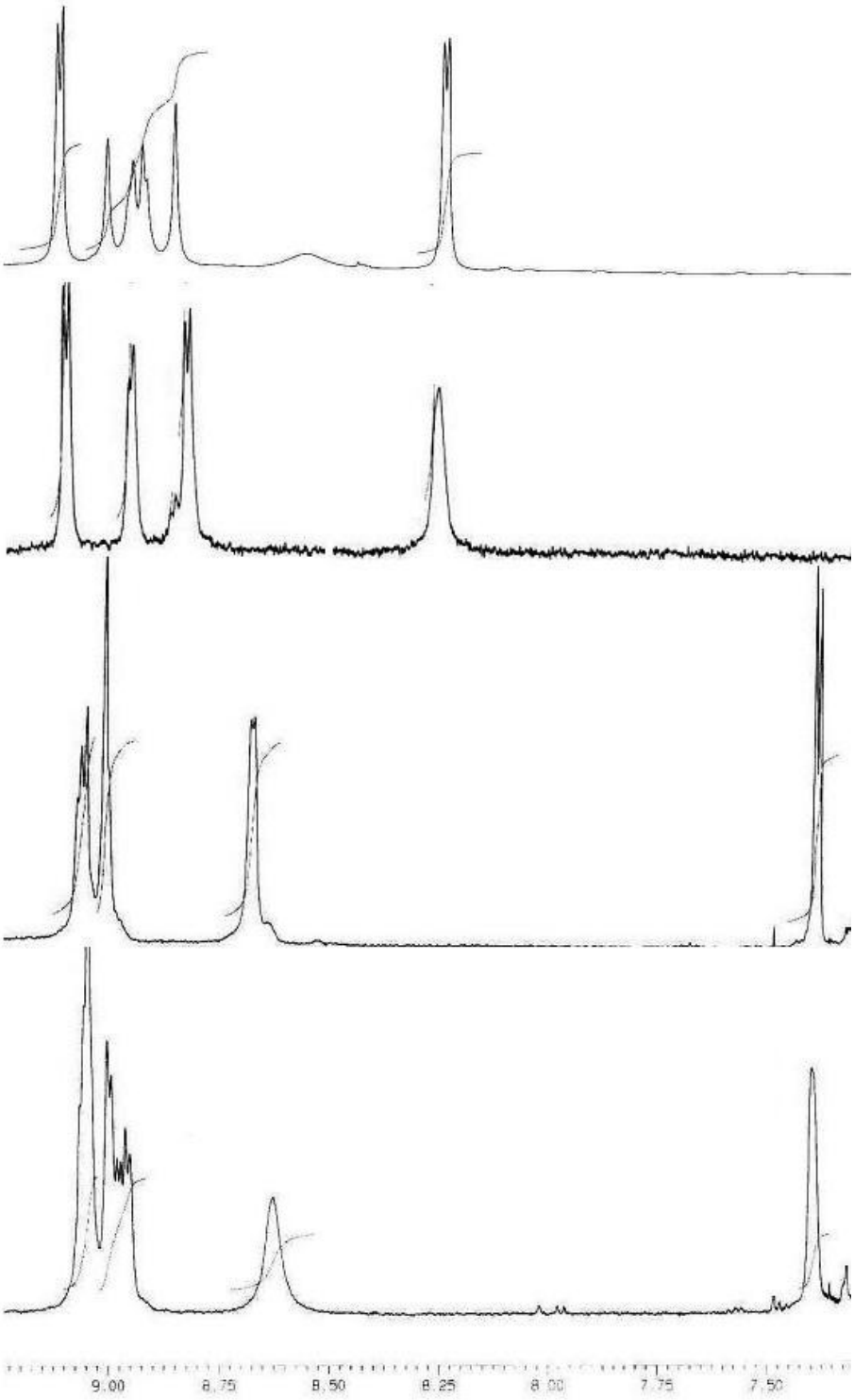


Figure ESI-30: Comparison of the aromatic regions in the ^{1}H NMR of 5,10 and 5,15 pyridyl porphyrins, from the top: 1. **GluAc/GluAc/Py/Py**, 2. **GluAc/Py/GluAc/Py**, 3. **GluAc/GluAc/SPy/SPy** and 4. **GluAc/GluAc/SPy/SPy**.

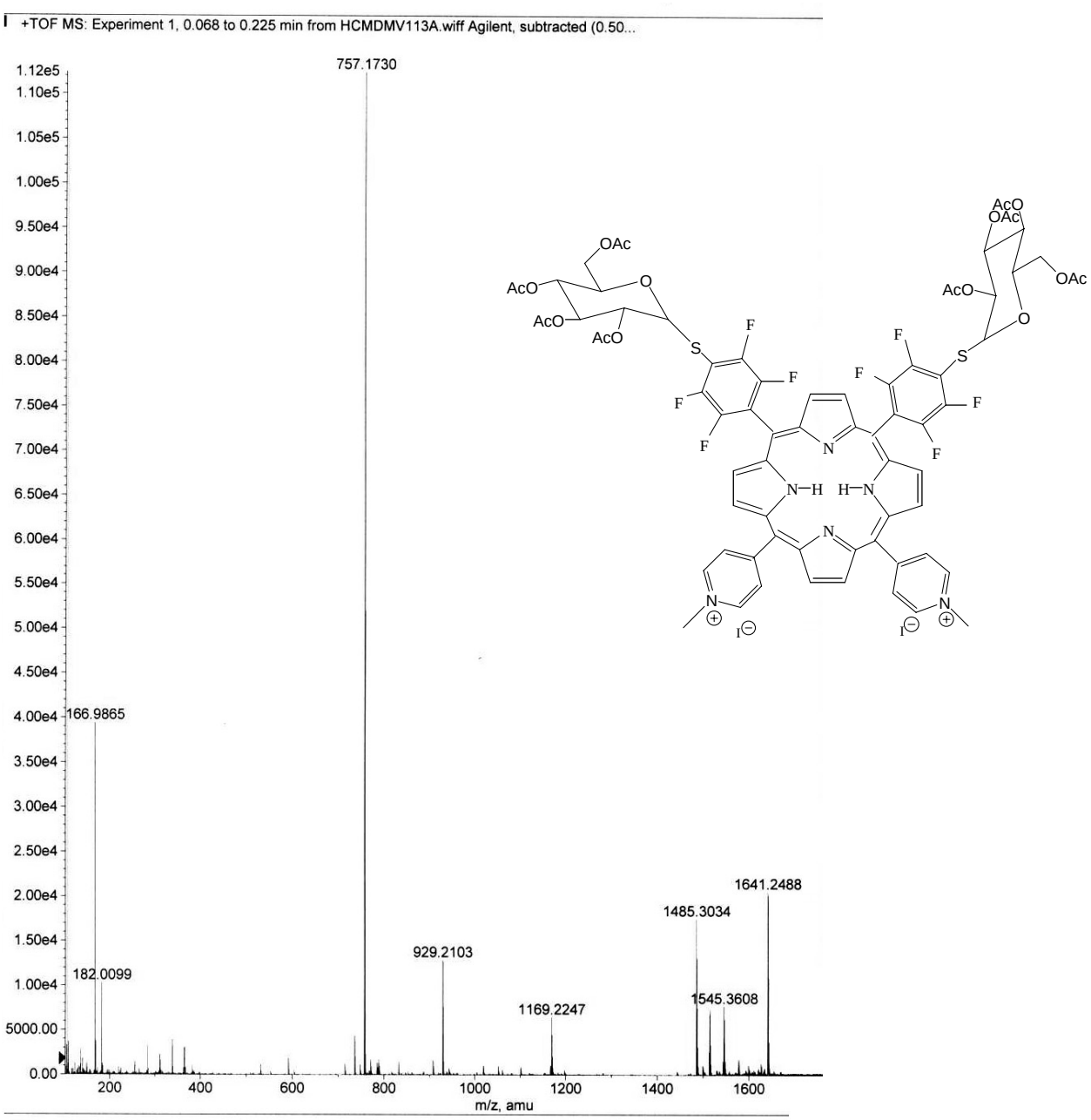


Figure ESI-31: ESI-TOF-MS of **GluAc/GluAc/Py^{+}/Py^{+}**: m/z peak at 1641 is for M - I^{-}, and at 757 is for
(M - 2I^{-})/2.

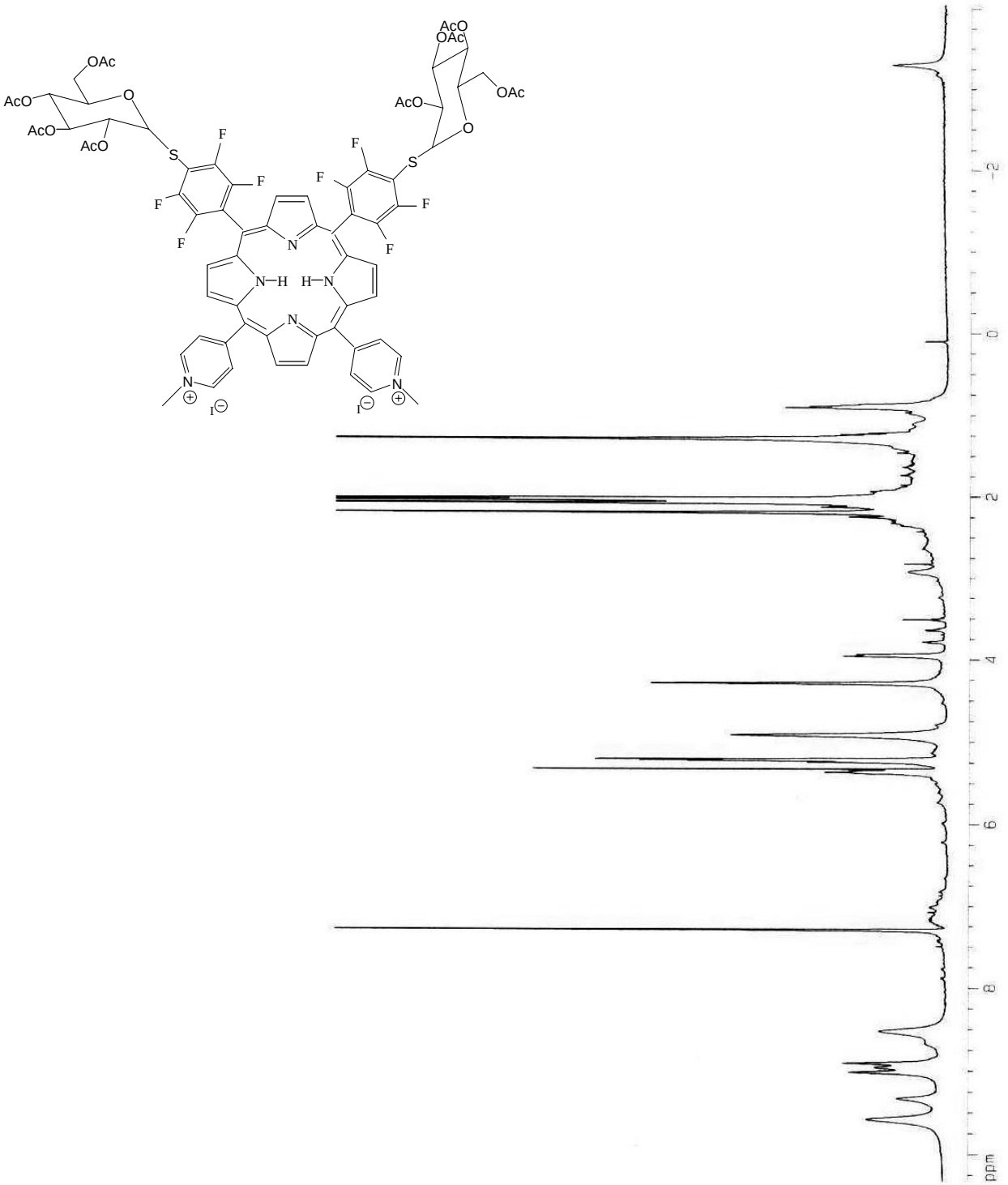
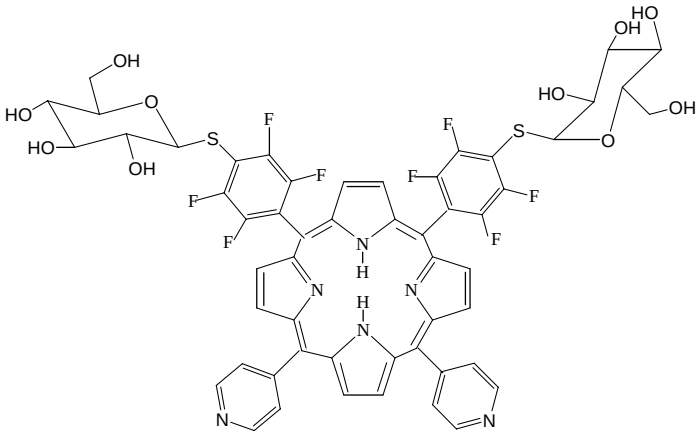


Figure ESI-32: GluAc/GluAc/Py$^+$/Py$^+$: ^{1}H NMR (500MHz, $CDCl_3$): δ = 9.58 (S, 4H), 9.33-8.90 (m, 8H), 8.52 (s ,4H), 5.38 - 5.20 (m, 8H), 4.91 (s, 6H), 4.28 (s, 4H), 3.94 (m, 2H), 2.19 (m, 6H), 2.03 (m, 18H) and –3.30 (s, 2H). (Solvent peaks at 7.28, 5.32, 1.28 and 0.88)



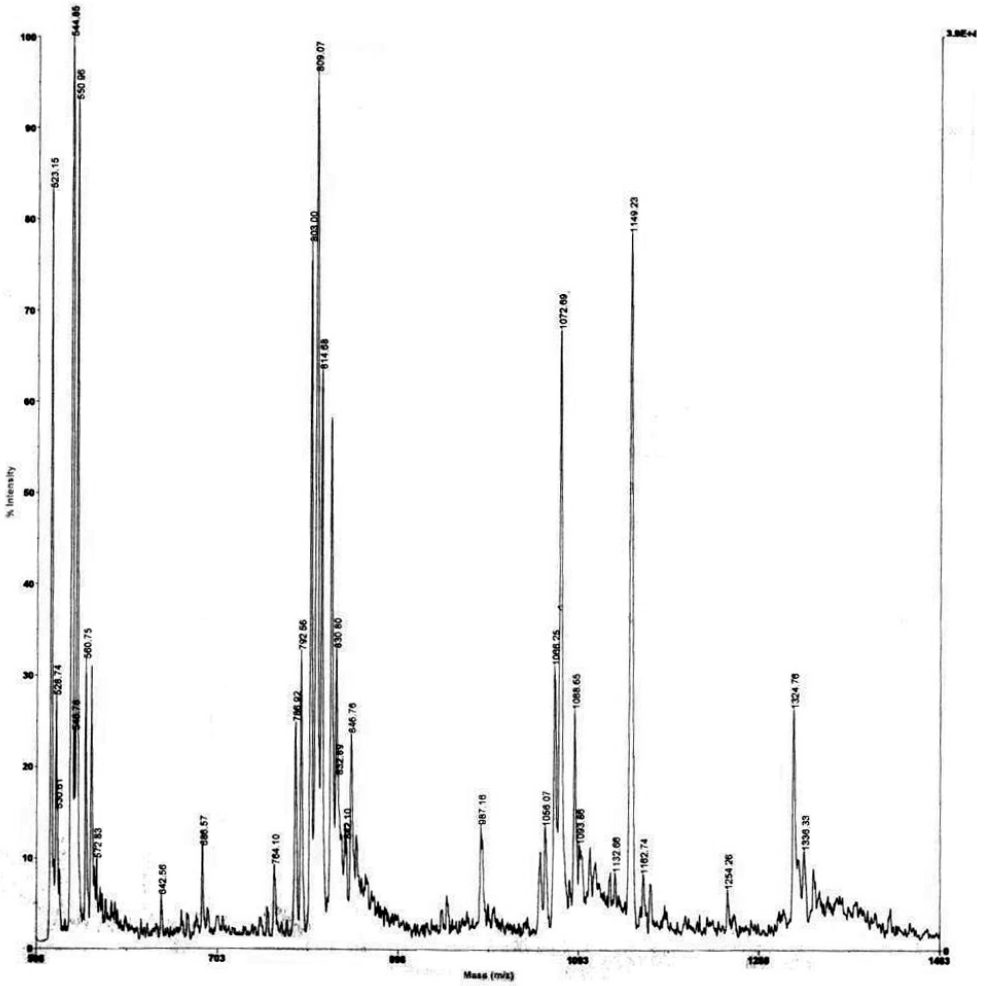


Figure ESI-33: MALDI-MS of **Glu/Glu/Py/Py:** the peak at m/z 1149 is for $M+H^+$, 1324 is for M + Na^+ + 2,5-dihydroxybenzoic acid (matrix), and 1073 is for M-pyridine

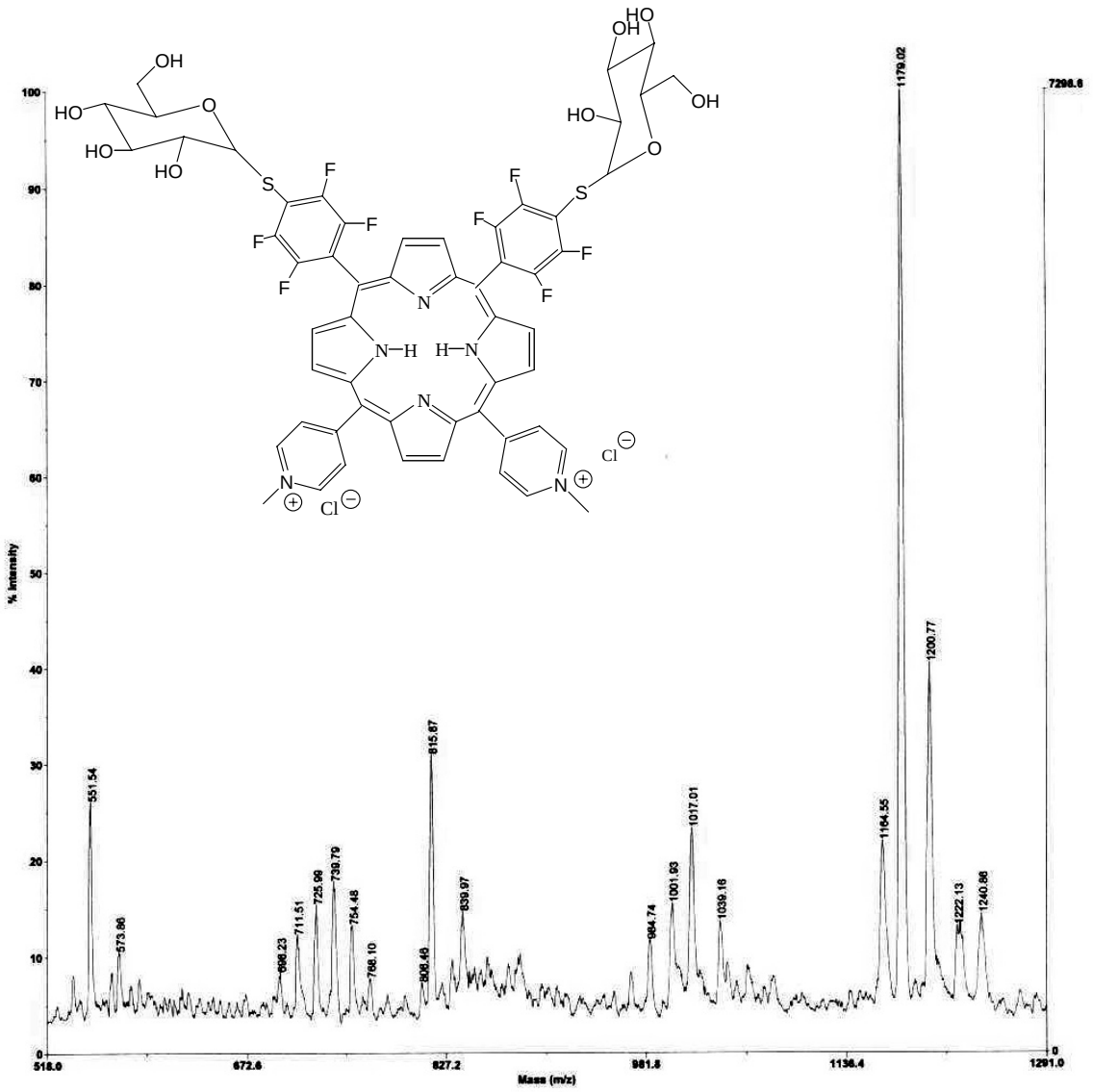


Figure ESI-34: MALDI-MS of **Glu/Glu/Py$^+$/Py$^+$**: Peak at m/z 1179 is for M-2Cl$^-$, and at 1201 is for M – 2Cl$^-$ + Na$^+$)

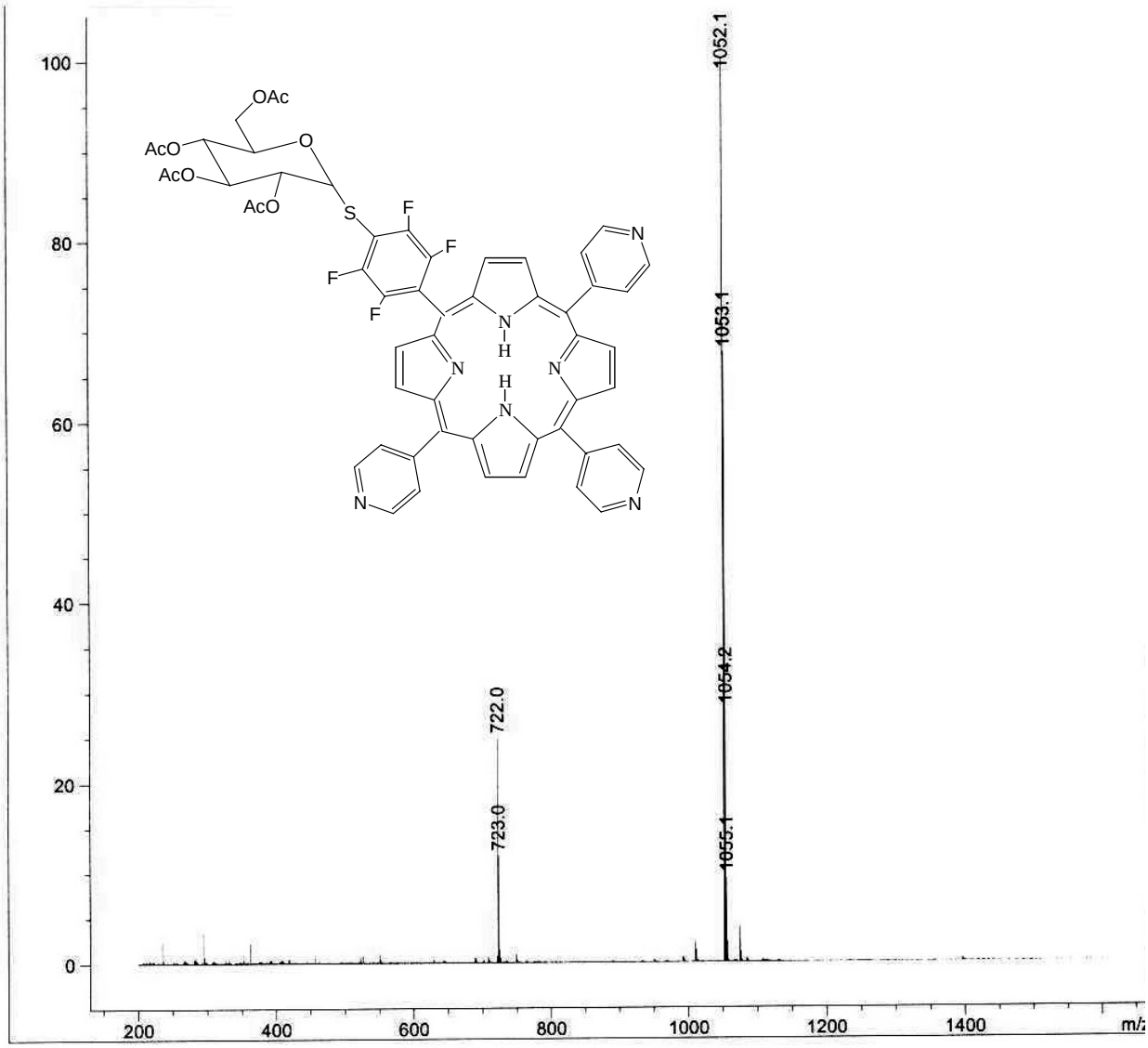


Figure ESI-35: ESI-MS (API) of **GluAc/Py/Py/Py**: Peak at m/z 1052 is for $M+H^+$.

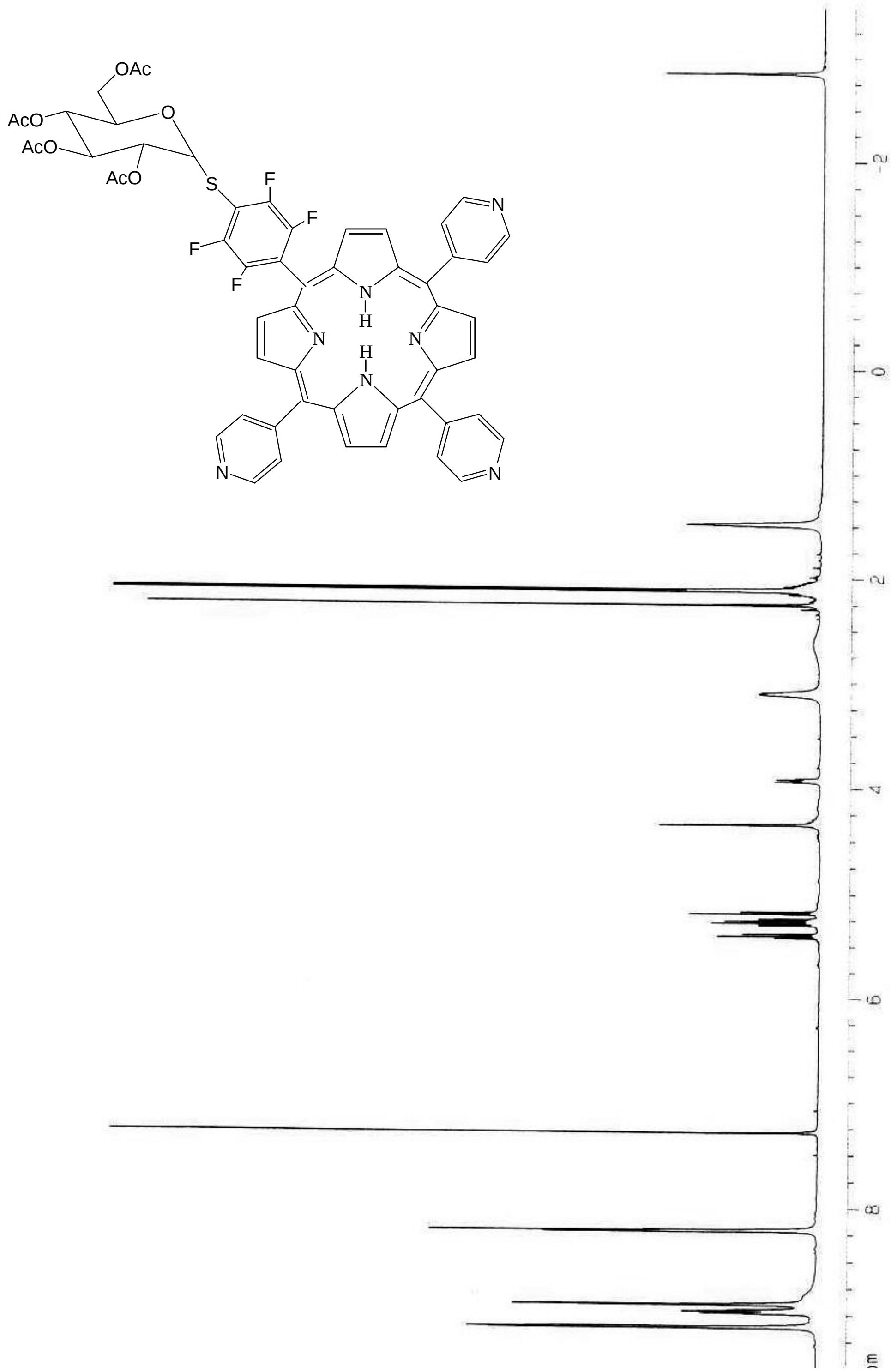


Figure ESI-36: GluAc/Py/Py/Py ^{1}H NMR (500MHz, $CDCl_3$): δ = 9.11 (d, J 4.8 Hz, 6H), 8.94 (m, 8H), 8.21 (d, J = 5.3 Hz, 6H), 5.39 (t, 1H), 5.23 (m, 3H), 4.33 (s, 2H), 3.90 (m, 1H), 2.25 (m, 3H), 2.11 (m, 9H) and –2.85 (s, 2H). (Solvent peaks at 7.28, 3.10 and 1.48)

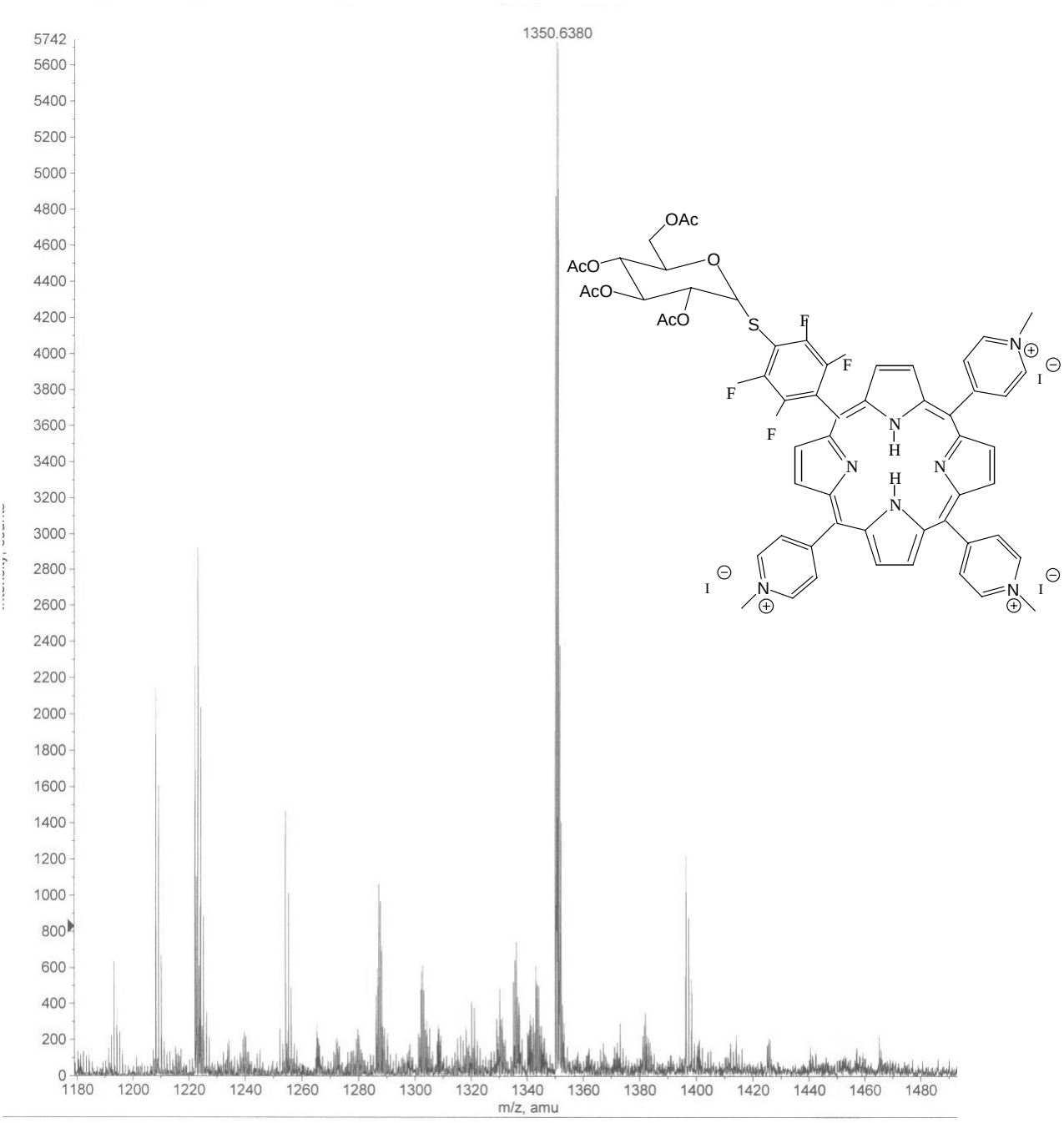


Figure ESI-37: ESI-TOF-MS of **GluAc/Py$^+$/Py$^+$/Py$^+$:** peak at m/z 1350 is for M – I$^-$)

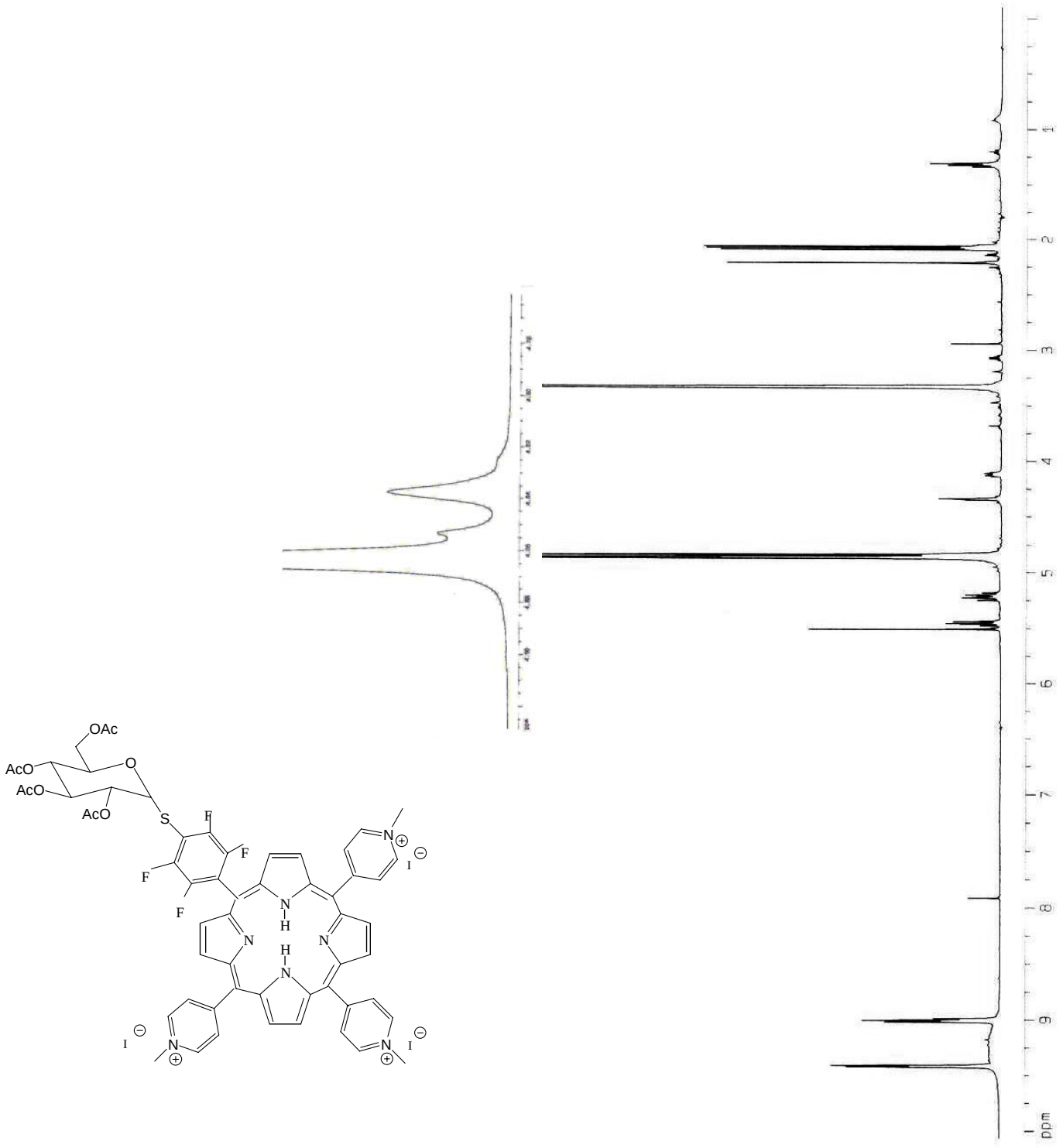


Figure ESI-38: GluAc/Py$^+$/Py$^+$/Py$^+$: $^{+1}$H NMR (500MHz, CD_3OD): δ = 9.42- 8.98 (m (20H), 5.50 - 5.19 (m, 4H), 4.83 (s, 9H), 4,33 (s, 2H), 4.10 (m, 1H), 2.21 (s, 3H), 2.07 (m, 9H). (Solvent peaks are at 5.50, 4.85,3.33 and1.31). Enlarged spectra between 4.92 and 4.76 are also shown to distinguish methanol peak and N^+-CH_3 peaks

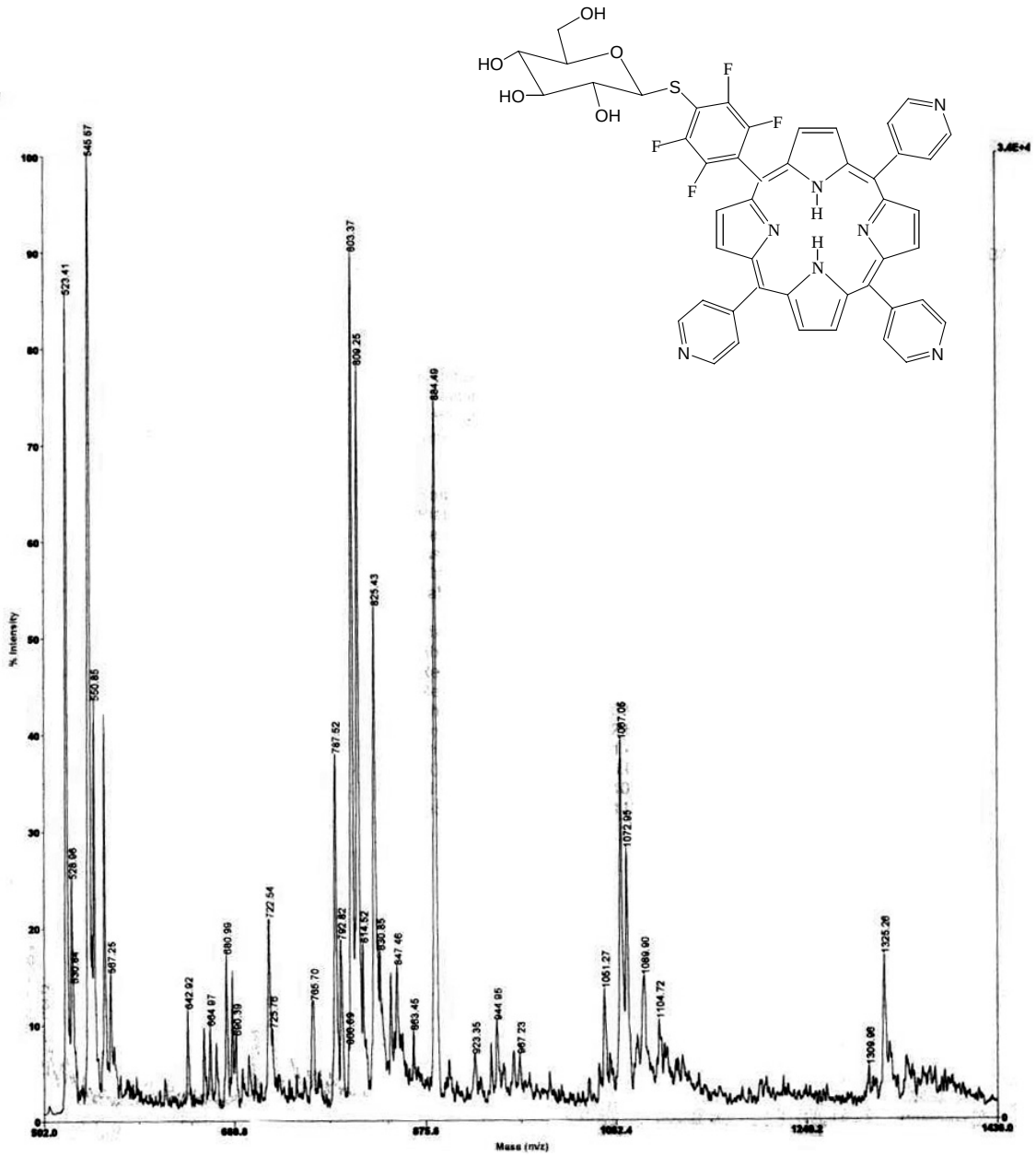


Figure ESI-39: MALDI-MS of **Glu/Py/Py/Py**: Peak at m/z 884 is for $M+H^+$.

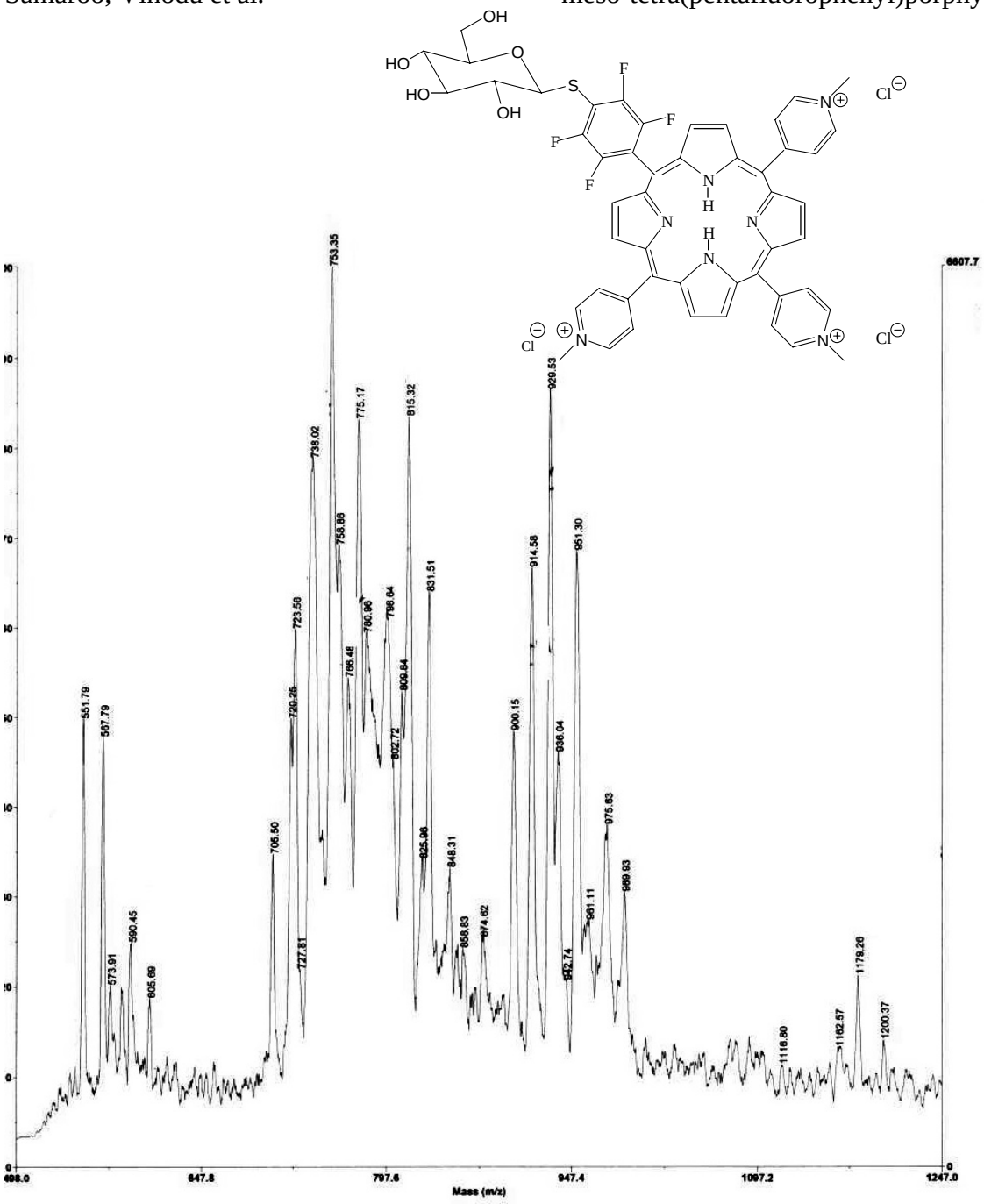


Figure ESI-40: MALDI-MS of **Glu/Py$^+$/Py$^+$/Py$^+$**: Peak at m/z 929 is for M –3Cl$^-$, 952 is M – 3Cl$^-$ + Na$^+$, The other major peaks corresponds to the loss of Glu or CH_3 groups.

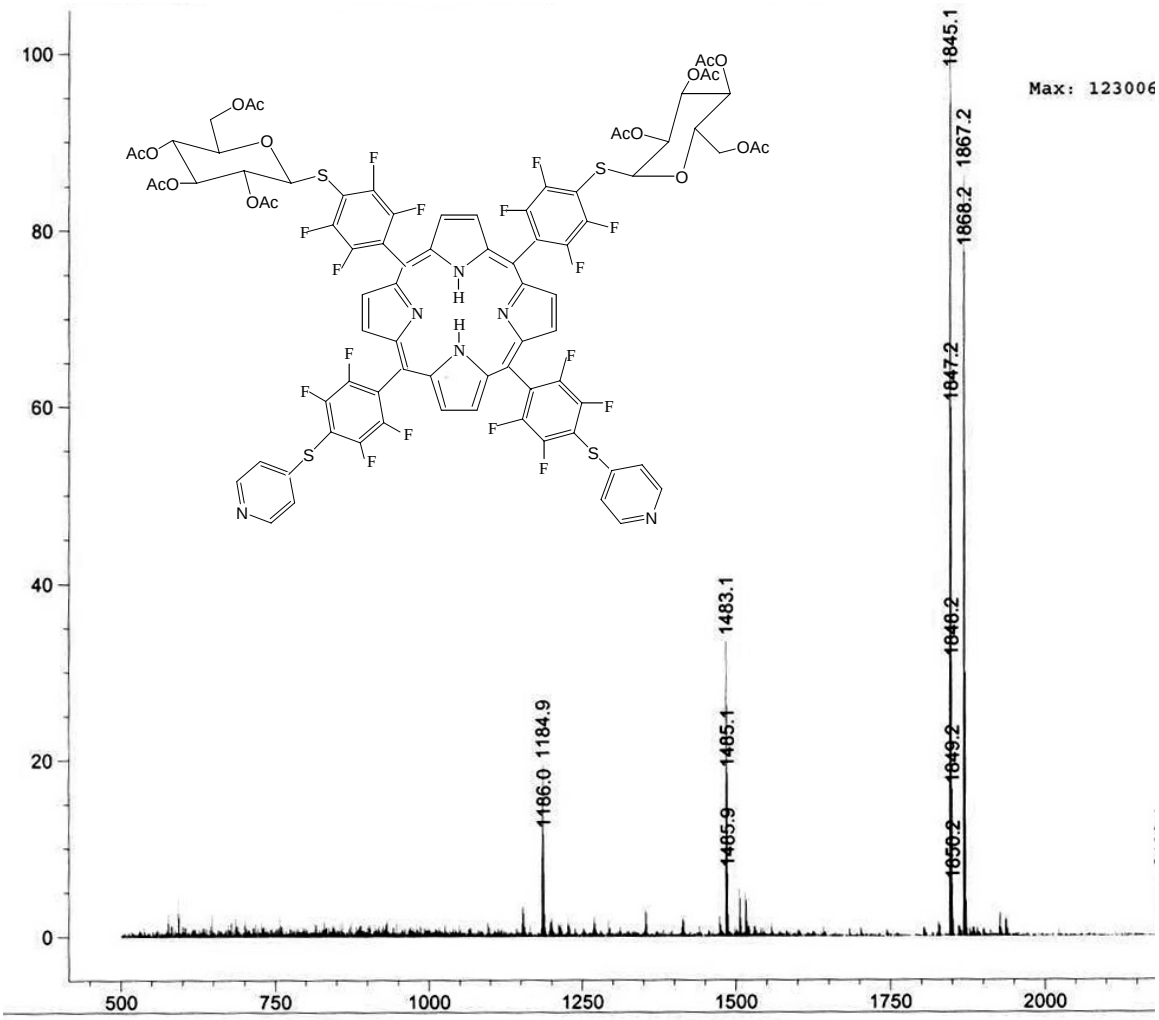


Figure ESI-41: ESI-MS (API) of **GluAc/GluAc/SPy/SPy**: peak at m/z 1845 is for $M+H^+$, 1867 is for $M+Na^+$, 1483 is for M – Glu, and 1184 is M – 2Glu.

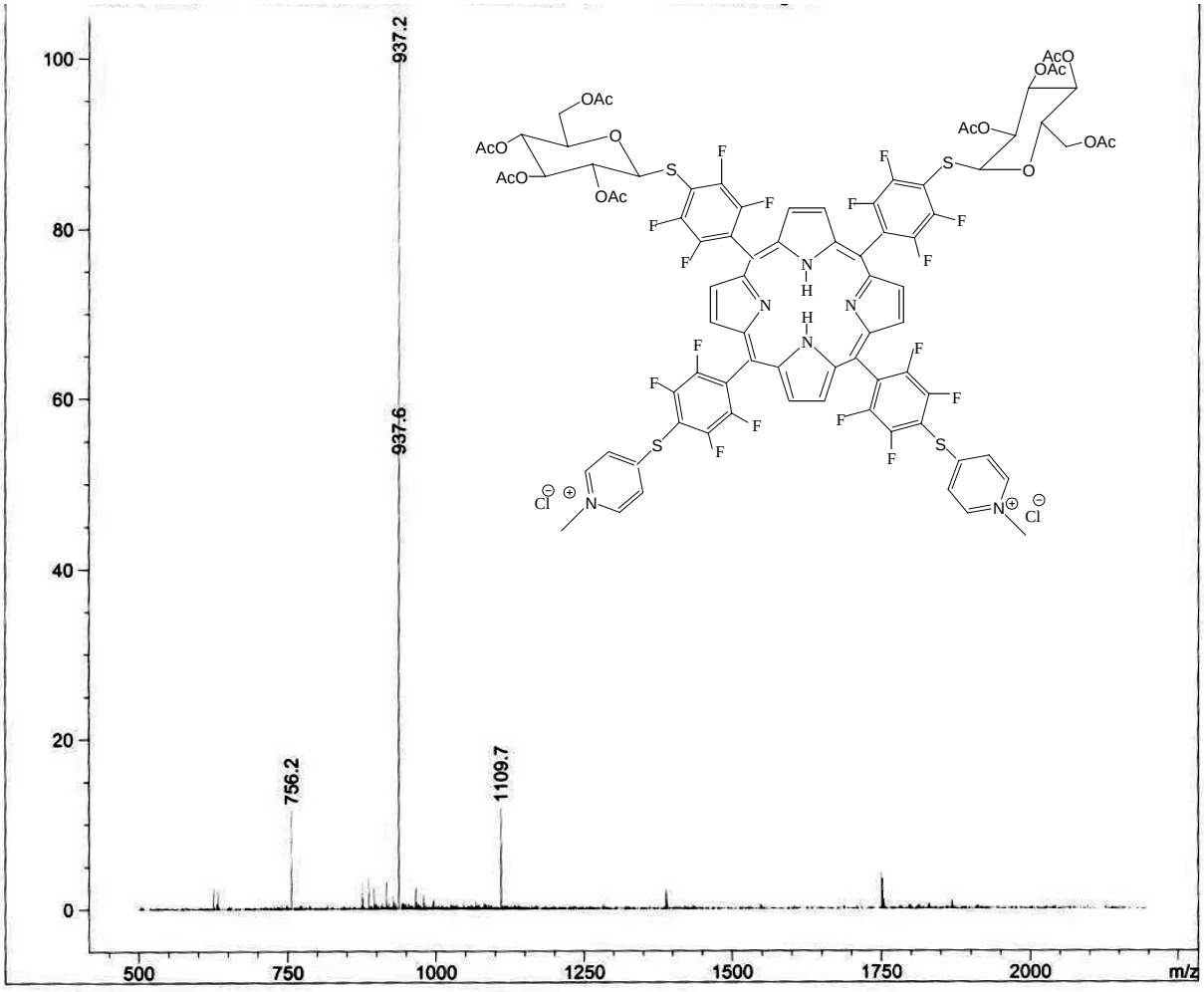


Figure ESI-42: ESI-MS (API) of **GluAc/GluAc/SPy^{+}/SPy^{+}:** peak at m/z 937 is for (M- 2Cl^{-})/2.

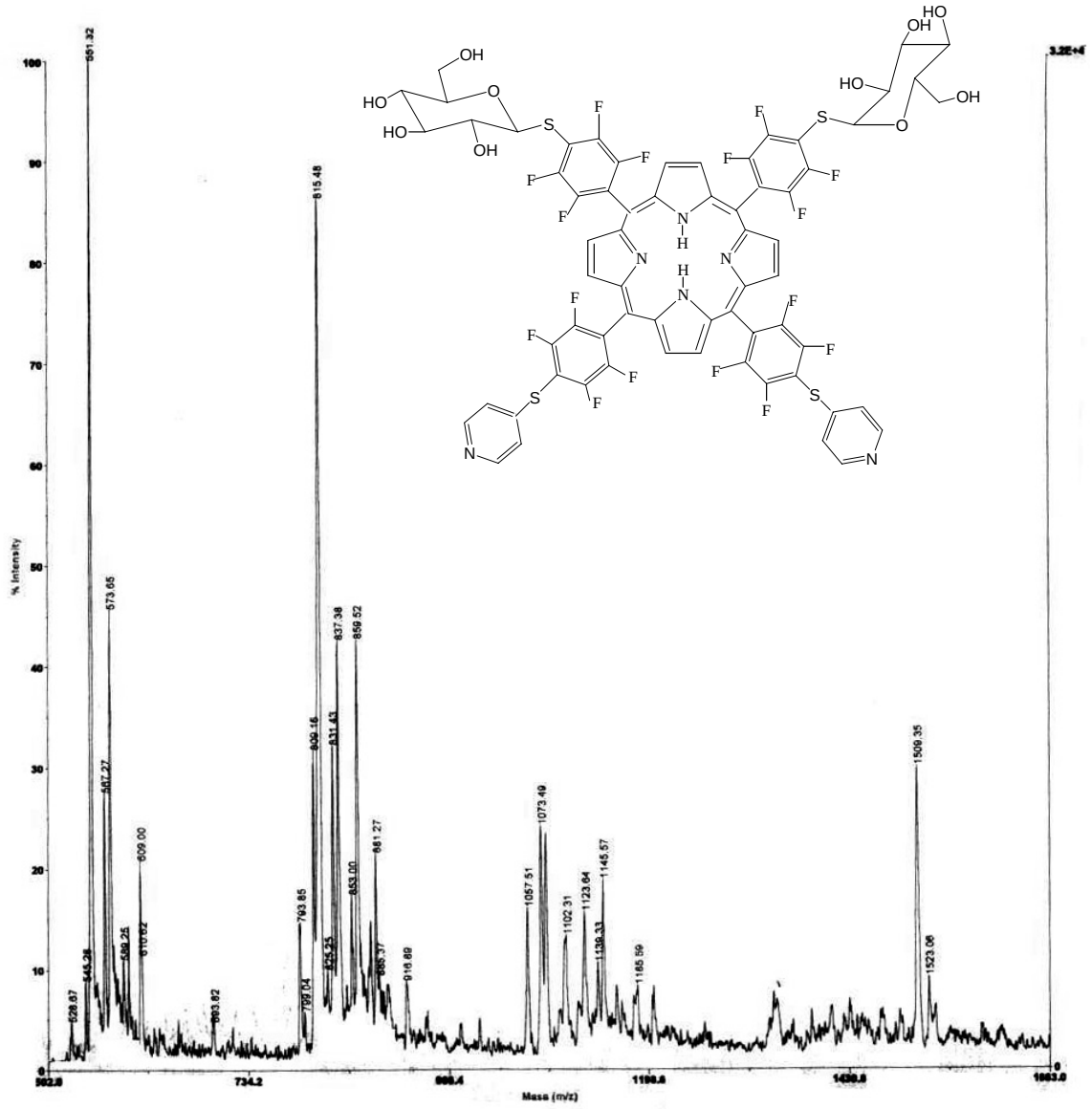


Figure ESI-43: MALDI-MS of **Glu/Glu/SPy/SPy**: Peak at m/z 1509 is for $M+H^+$.

MALDI-MS were obtained as a service from the University of Illinois mass spectrometry facility. ESI-MS were taken at the CUNY mass spectrometry facility at Hunter College.