Electronic Supplementary Material (ESI) for Dalton Transactions.

Supporting Information

Axial Bonded Pentads Constructed on Sn(IV) Porphyrin Scaffold

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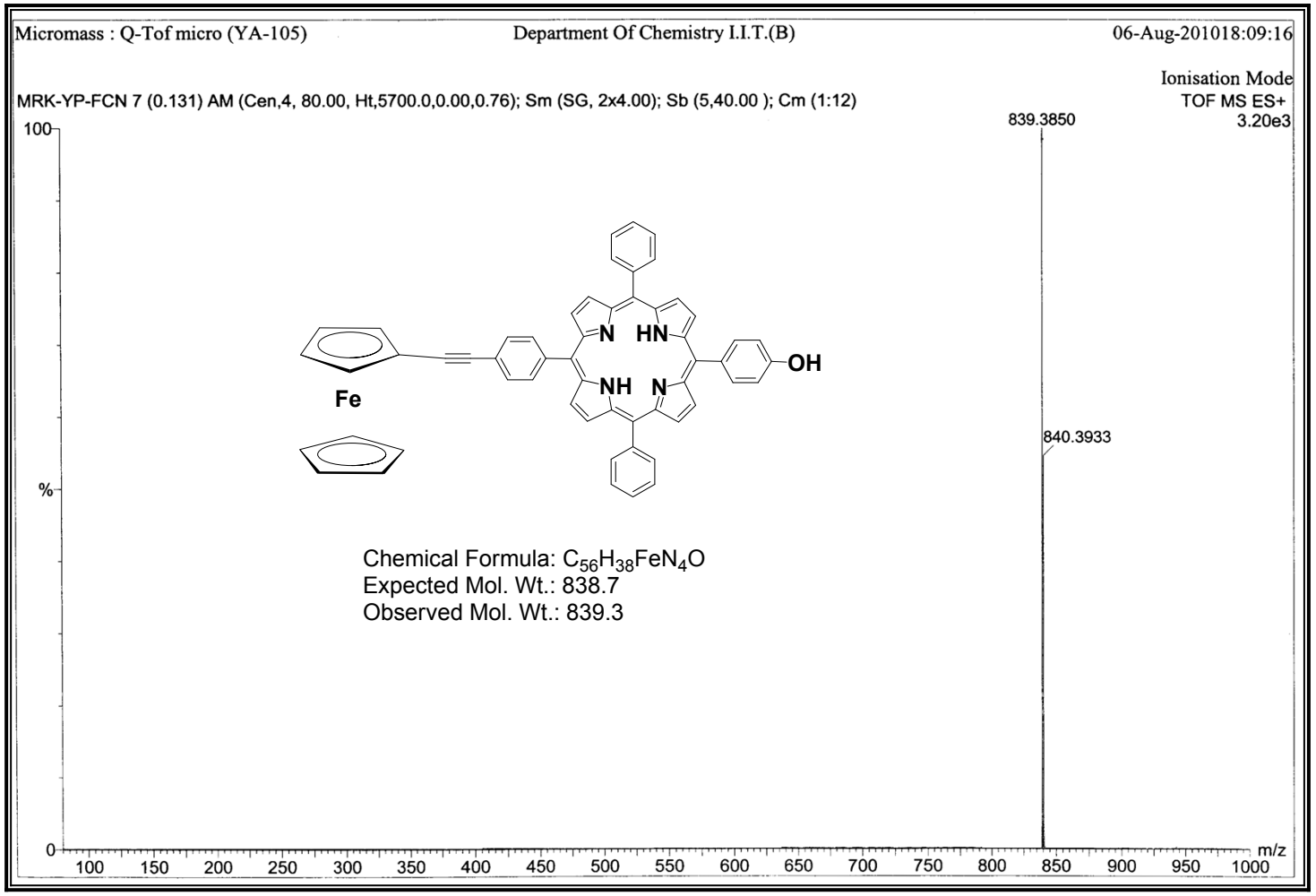


Figure S1: ES-MS spectrum of dyad **1**.

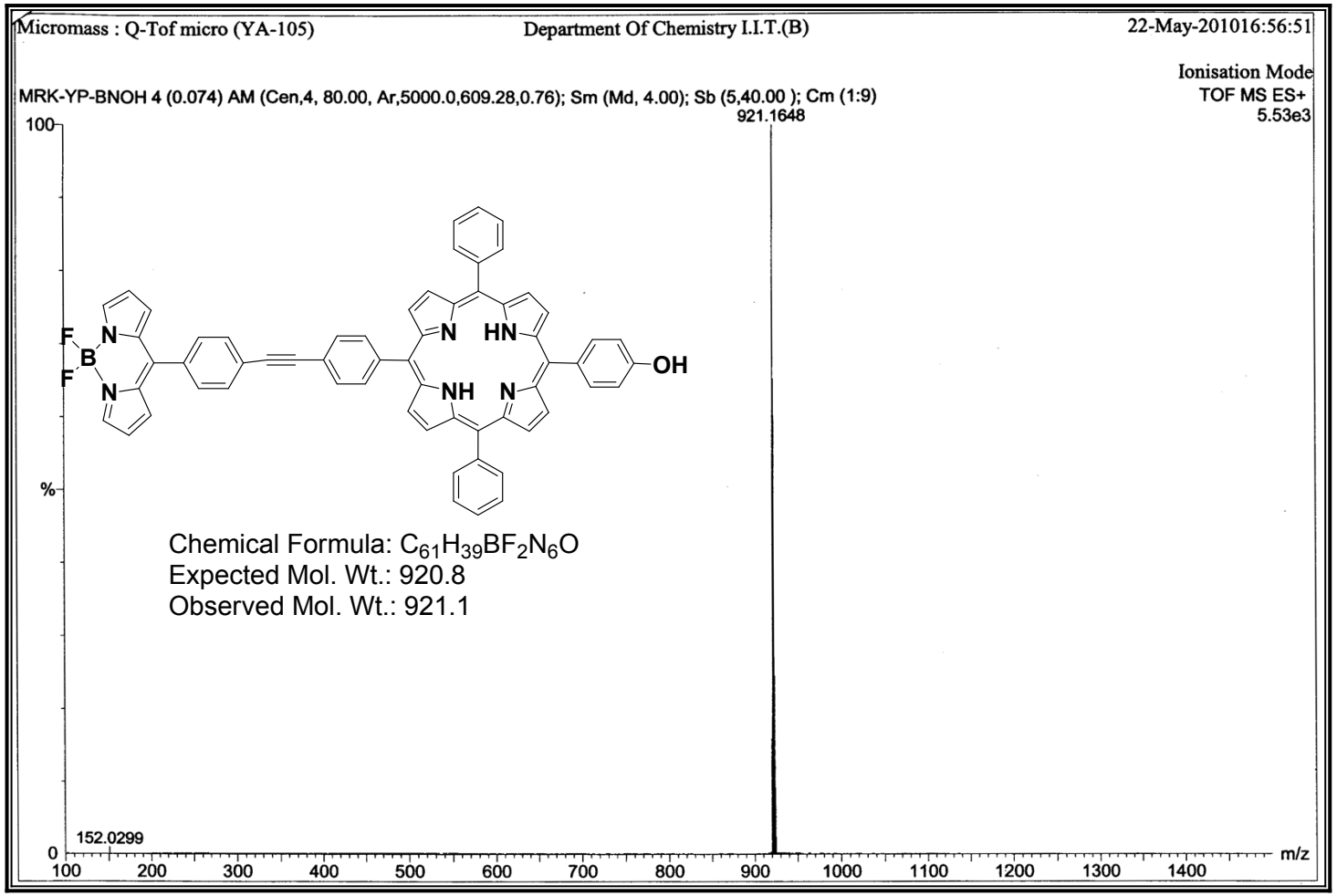


Figure S2: ES-MS spectrum of dyad **2**.

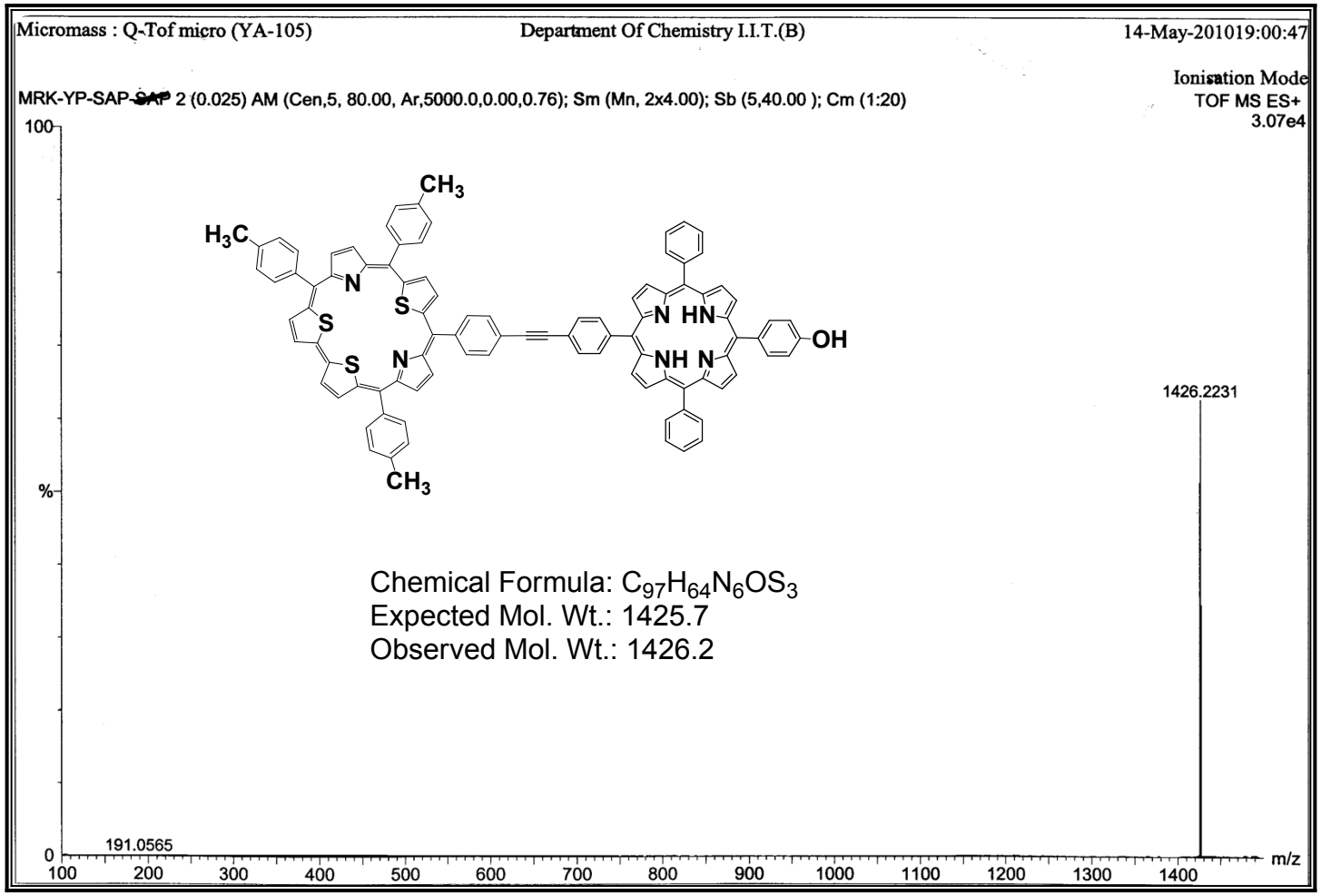


Figure S3: ES-MS spectrum of dyad **3**.

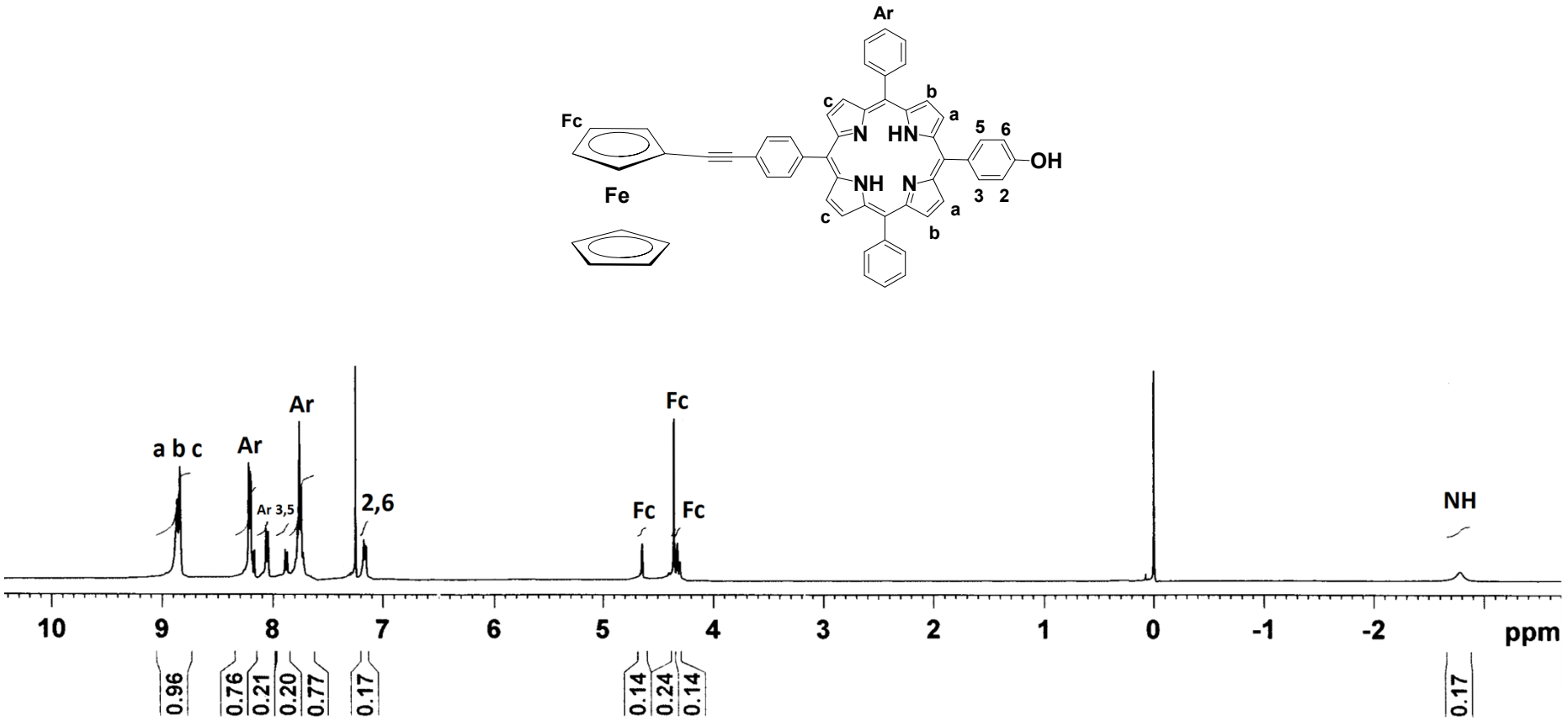


Figure S4: ^{1}H NMR spectrum of dyad **1**.

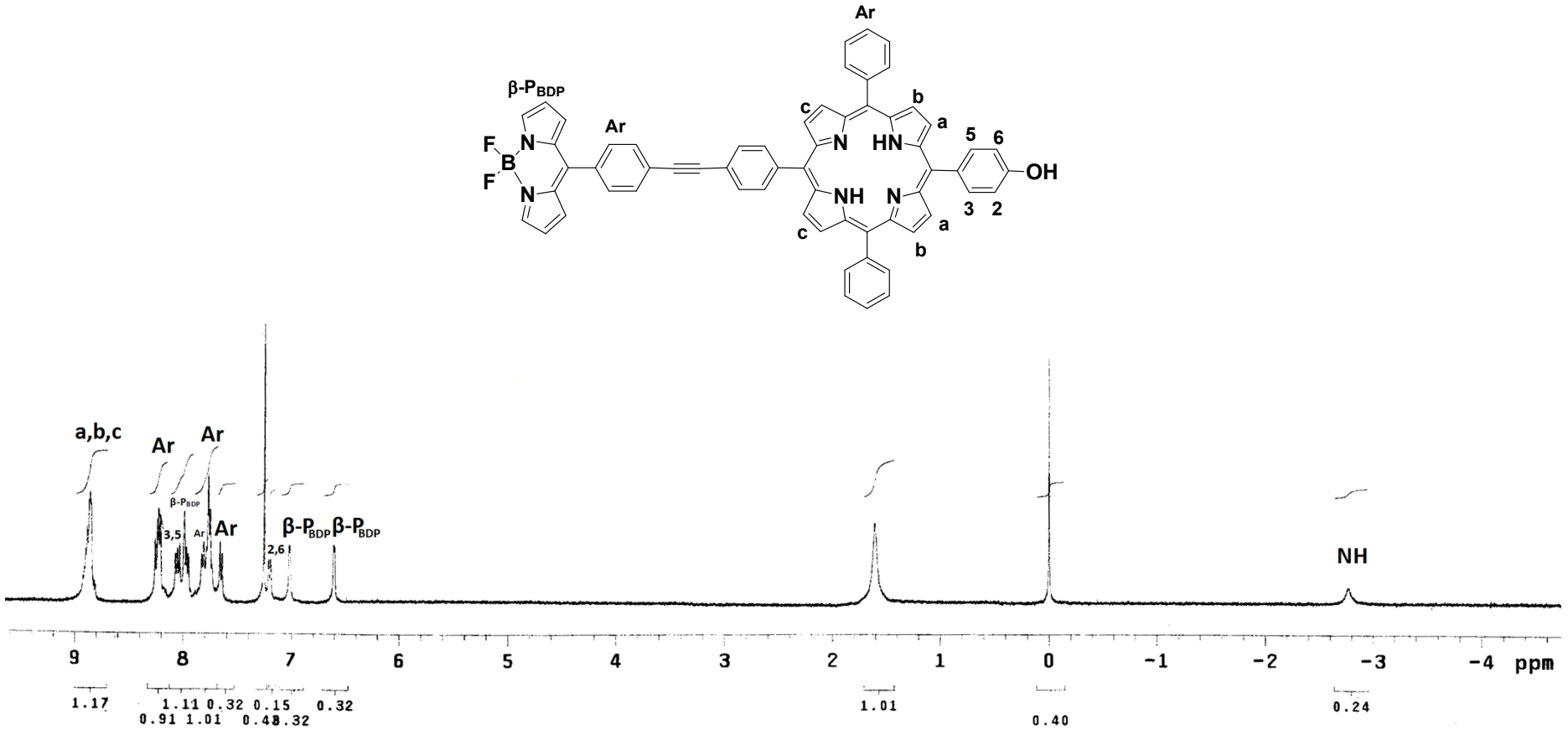


Figure S5: ^{1}H NMR spectrum of dyad **2**.

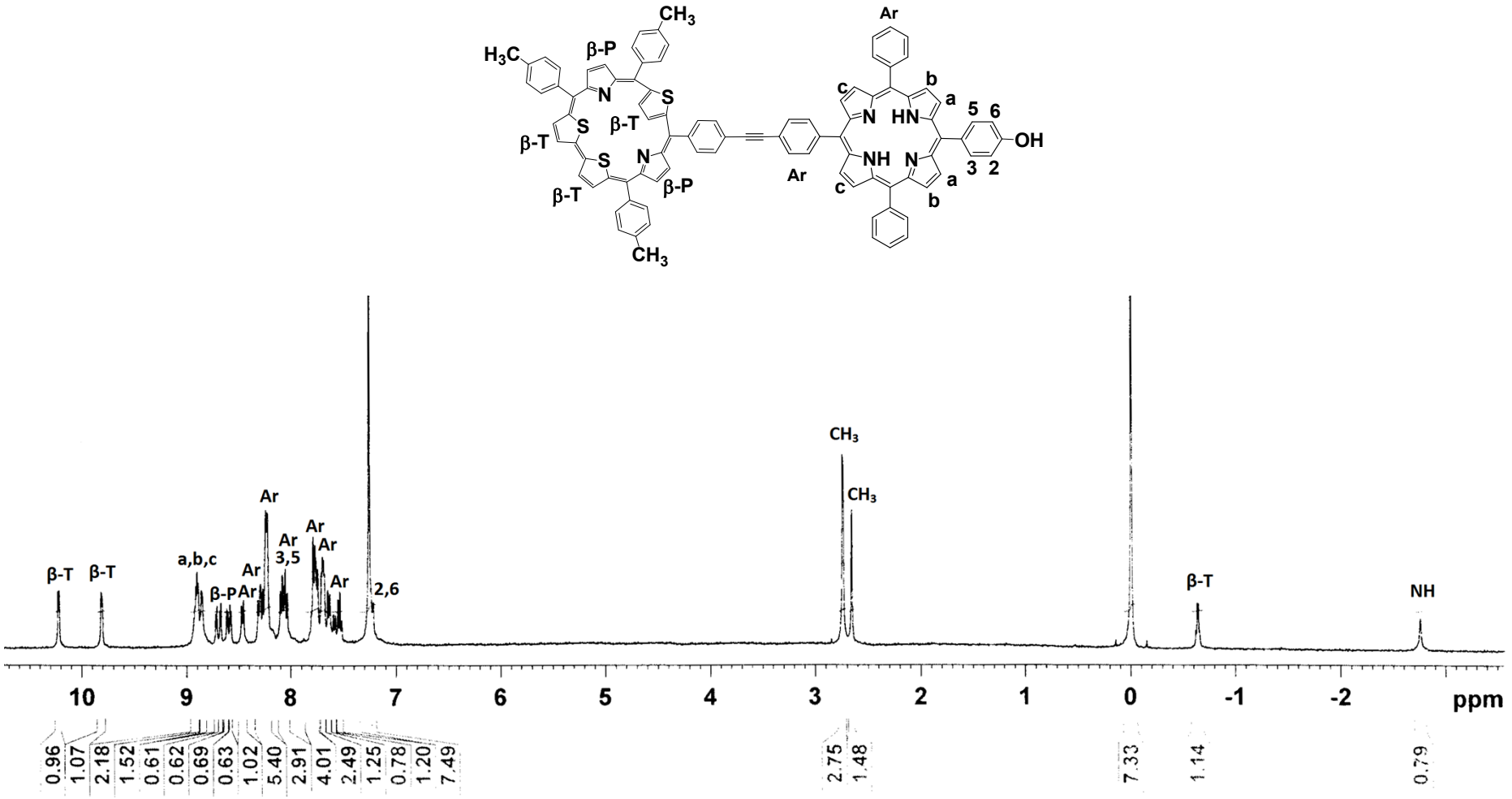


Figure S6: ^{1}H NMR spectrum of dyad **3**.

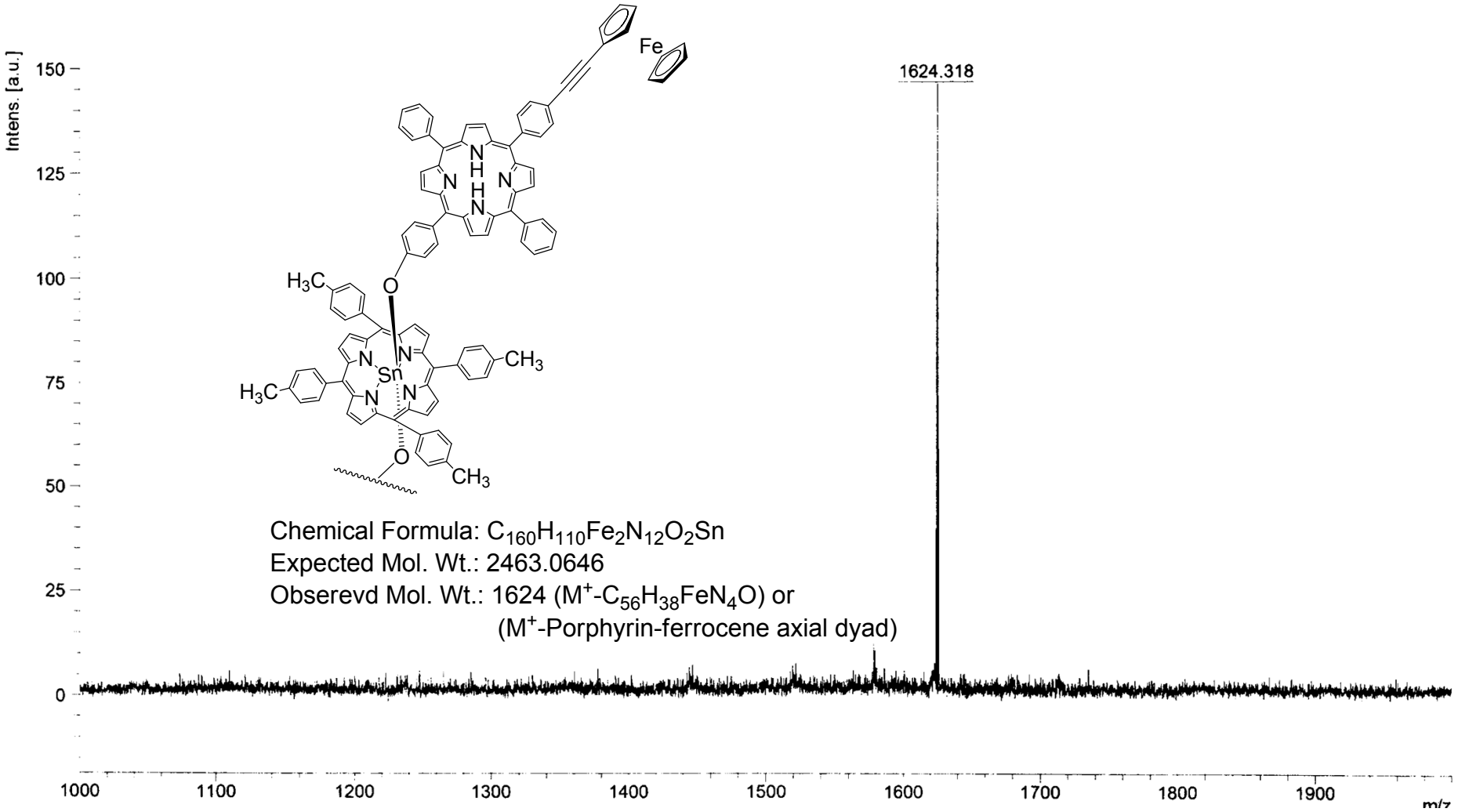


Figure S7: MALDI-TOF spectrum of pentad **1**

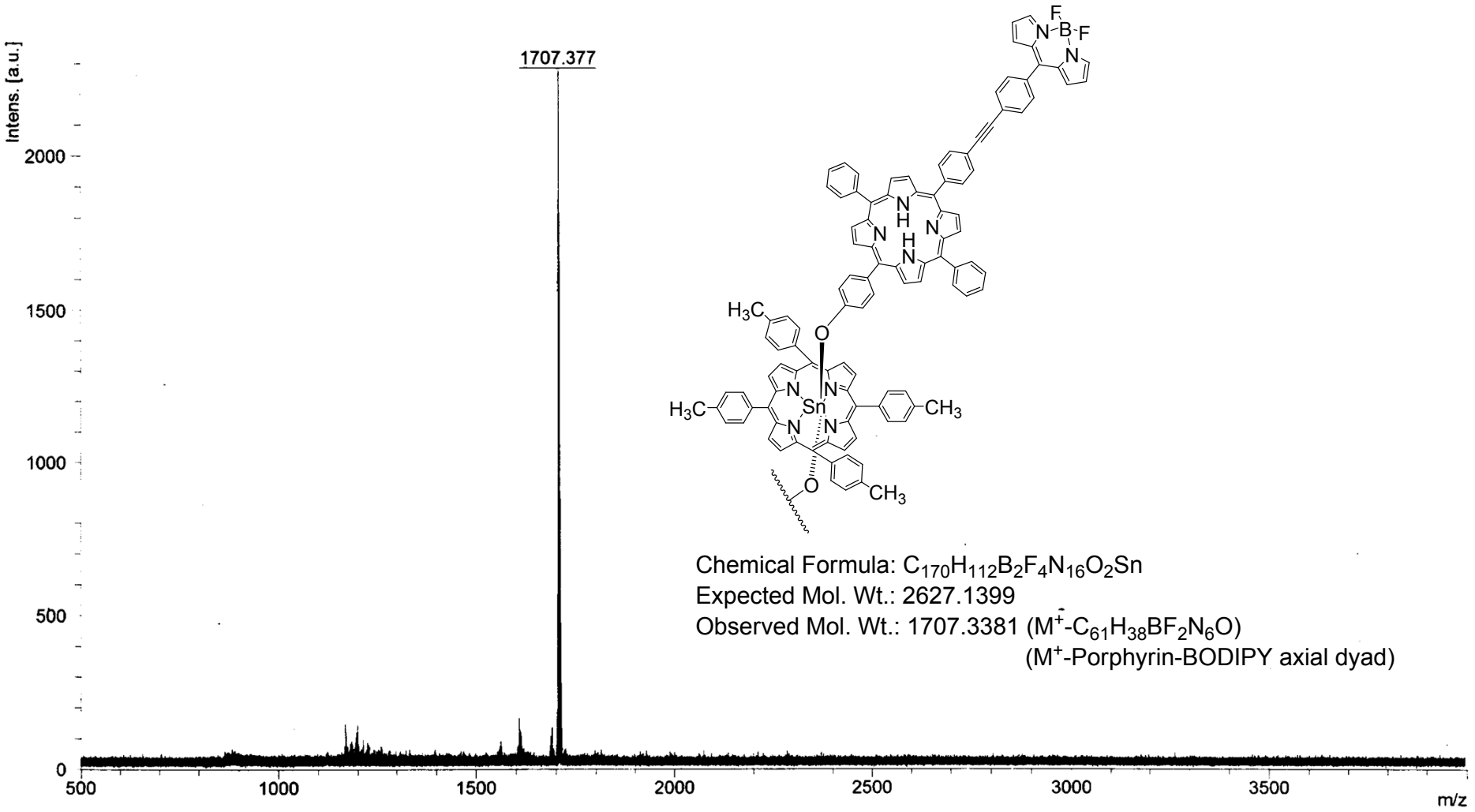


Figure S8: MALDI-TOF spectrum of pentad **2**

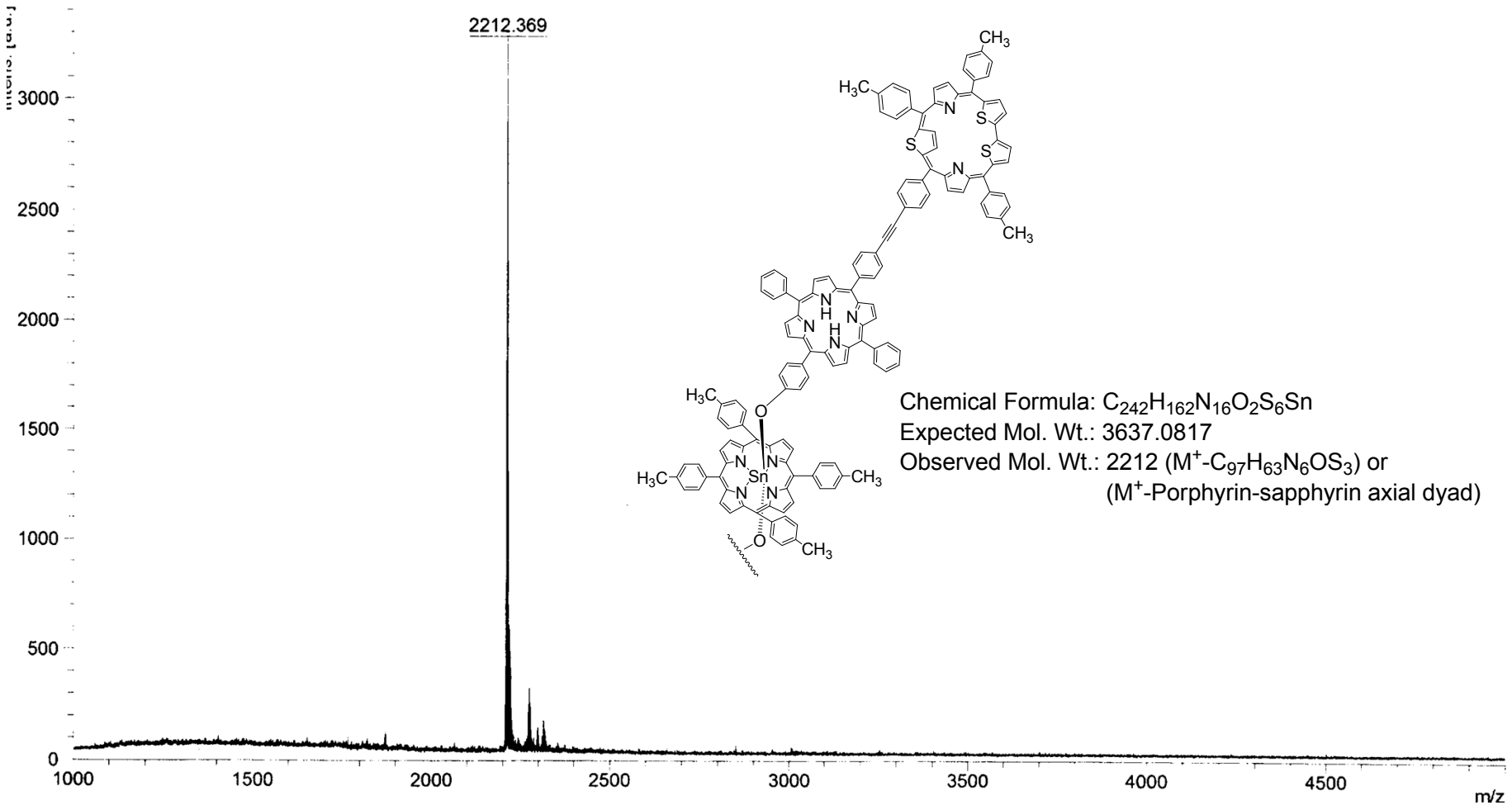


Figure S9: MALDI-TOF spectrum of pentad **3.**

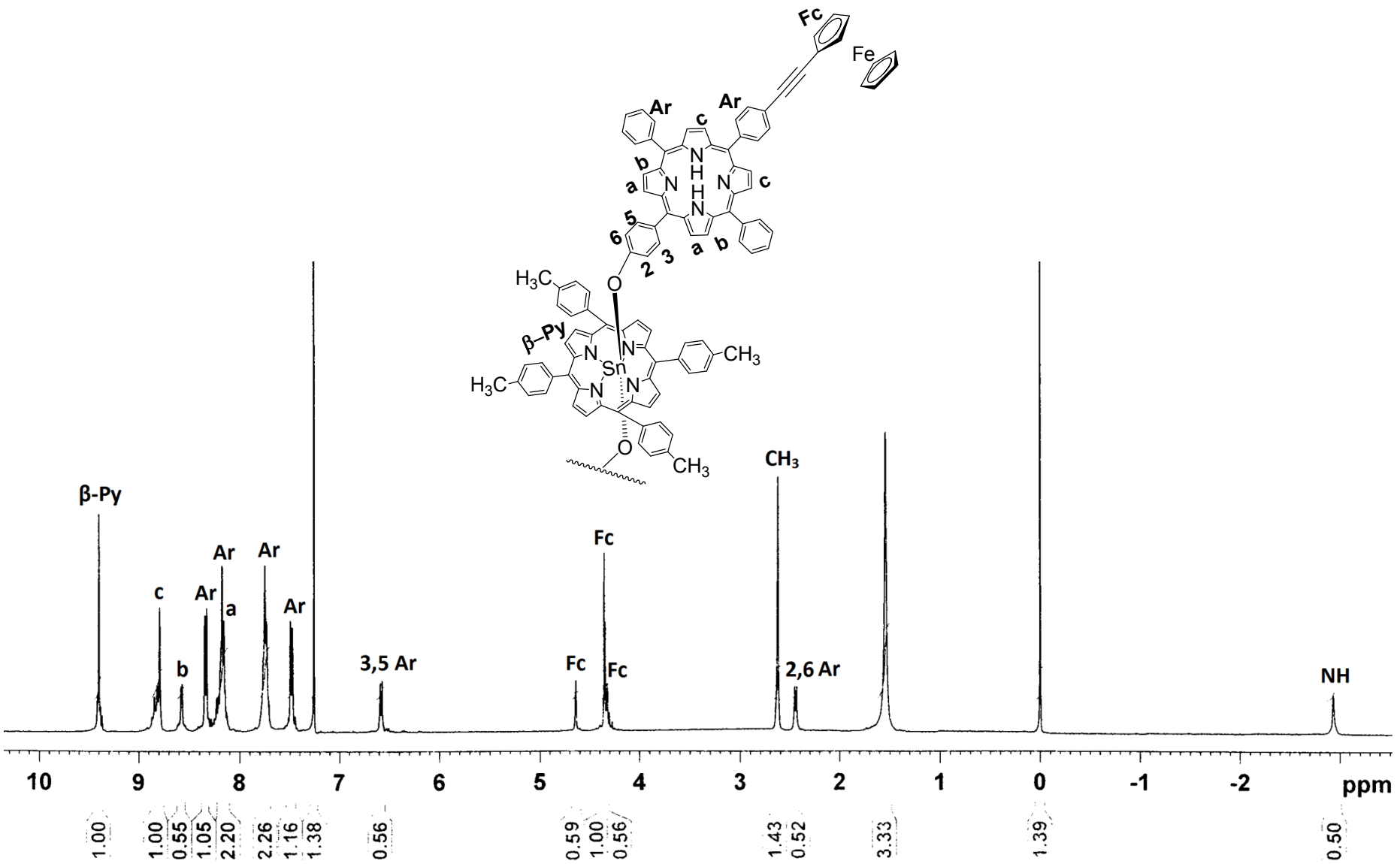


Figure S10: ^{1}H NMR spectrum of pentad **1**.

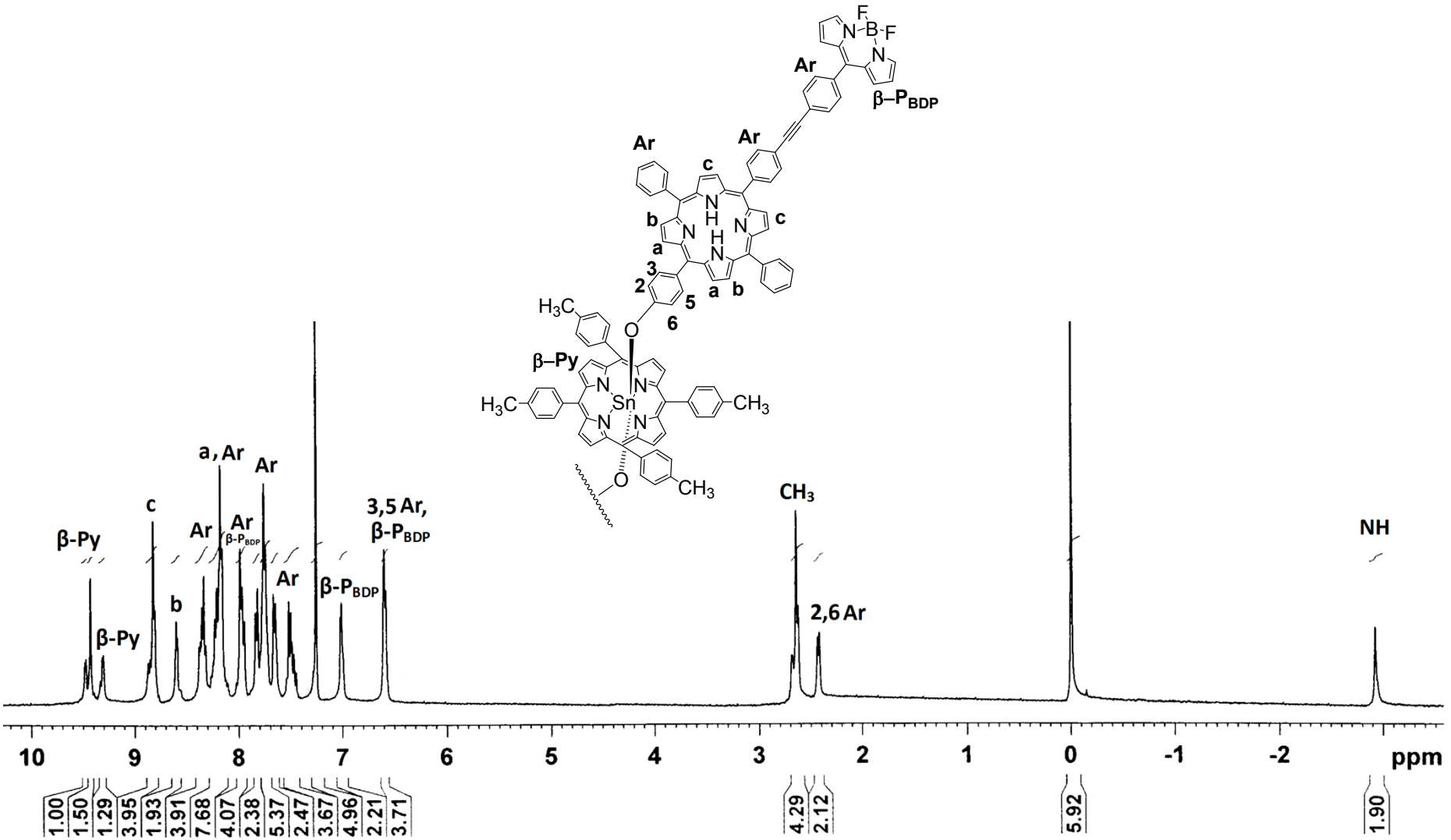


Figure S11: ^{1}H NMR spectrum of pentad **2**.

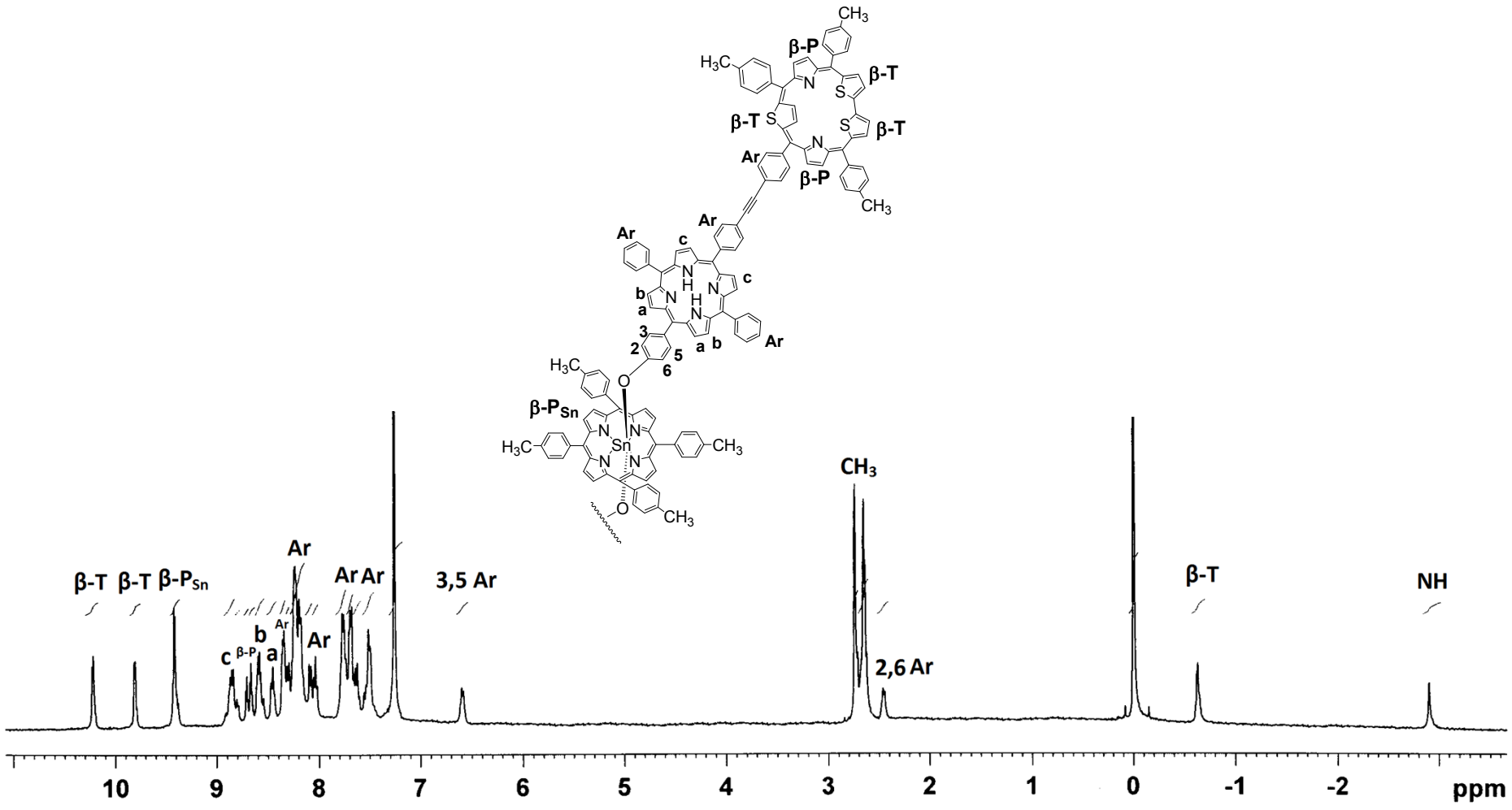
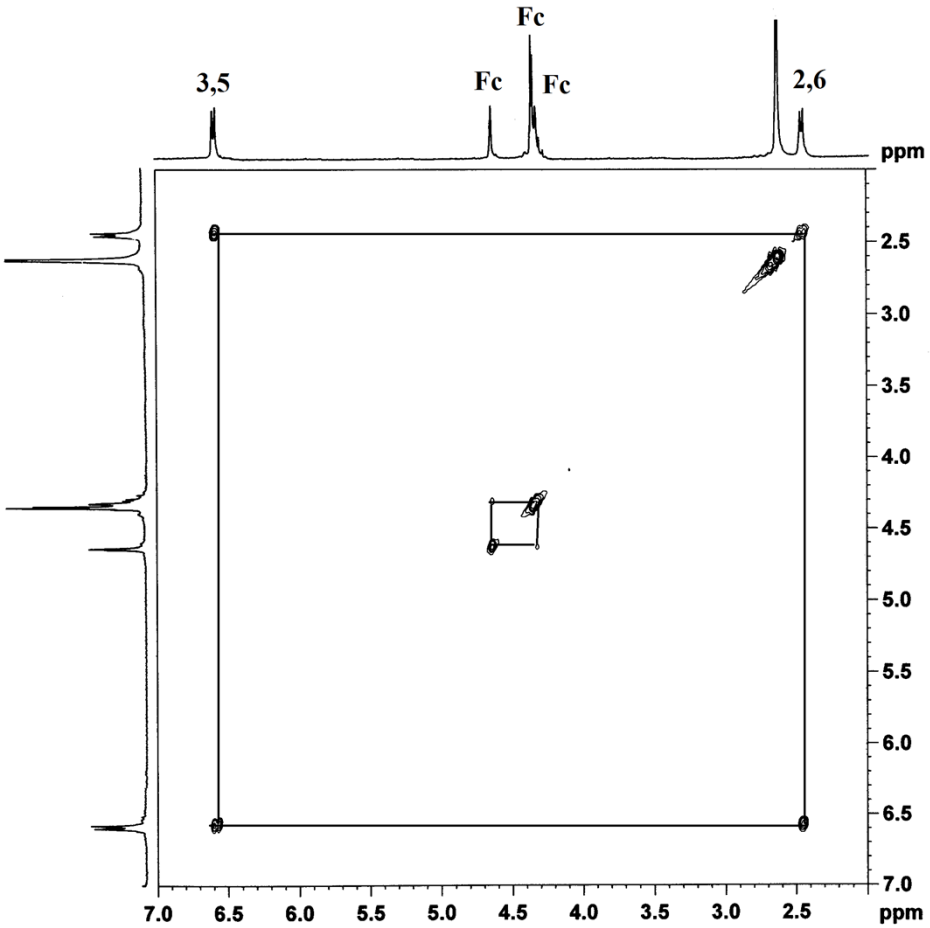


Figure S12: ^{1}H NMR spectrum of pentad **3**.



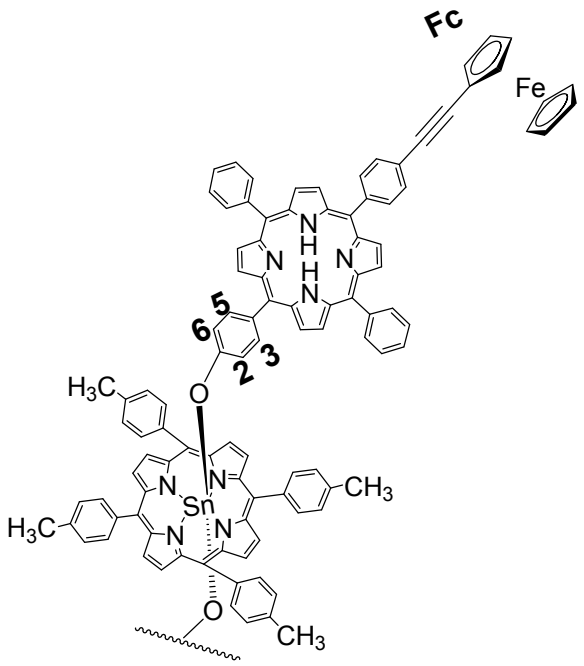
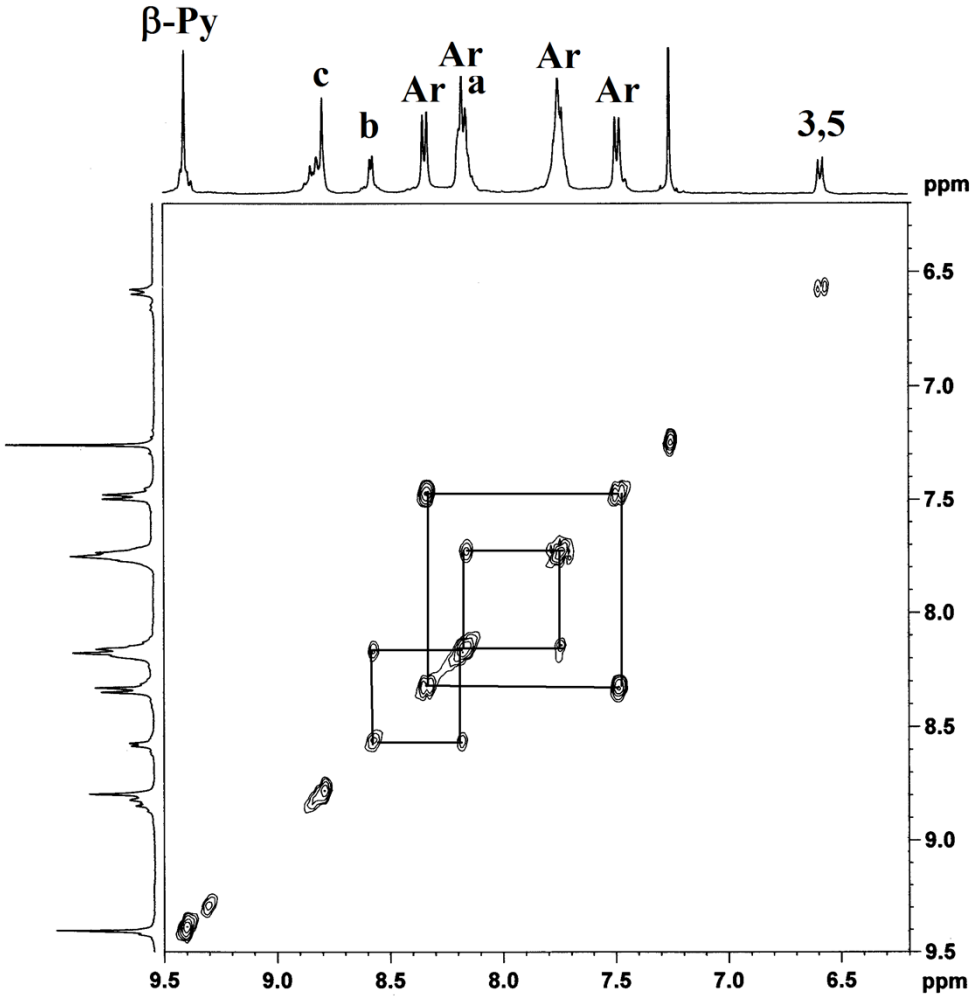


Figure S13: Partial ^{1}H-^{1}H COSY NMR spectrum of pentad **1.**



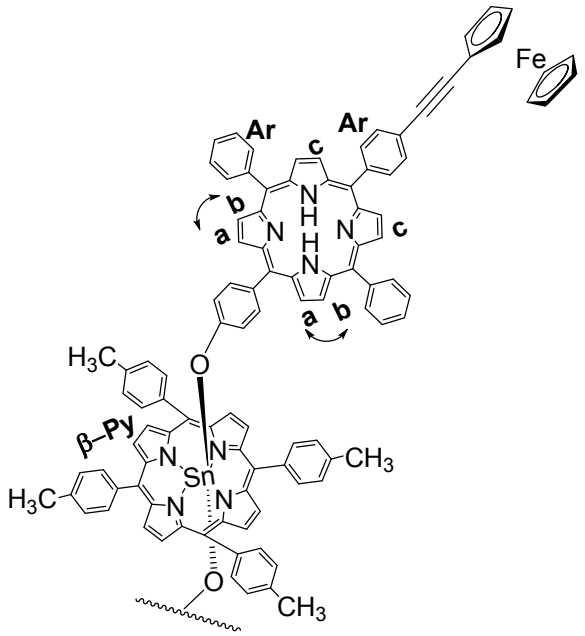


Figure S14: Partial ^{1}H-^{1}H COSY NMR spectrum of pentad **1.**

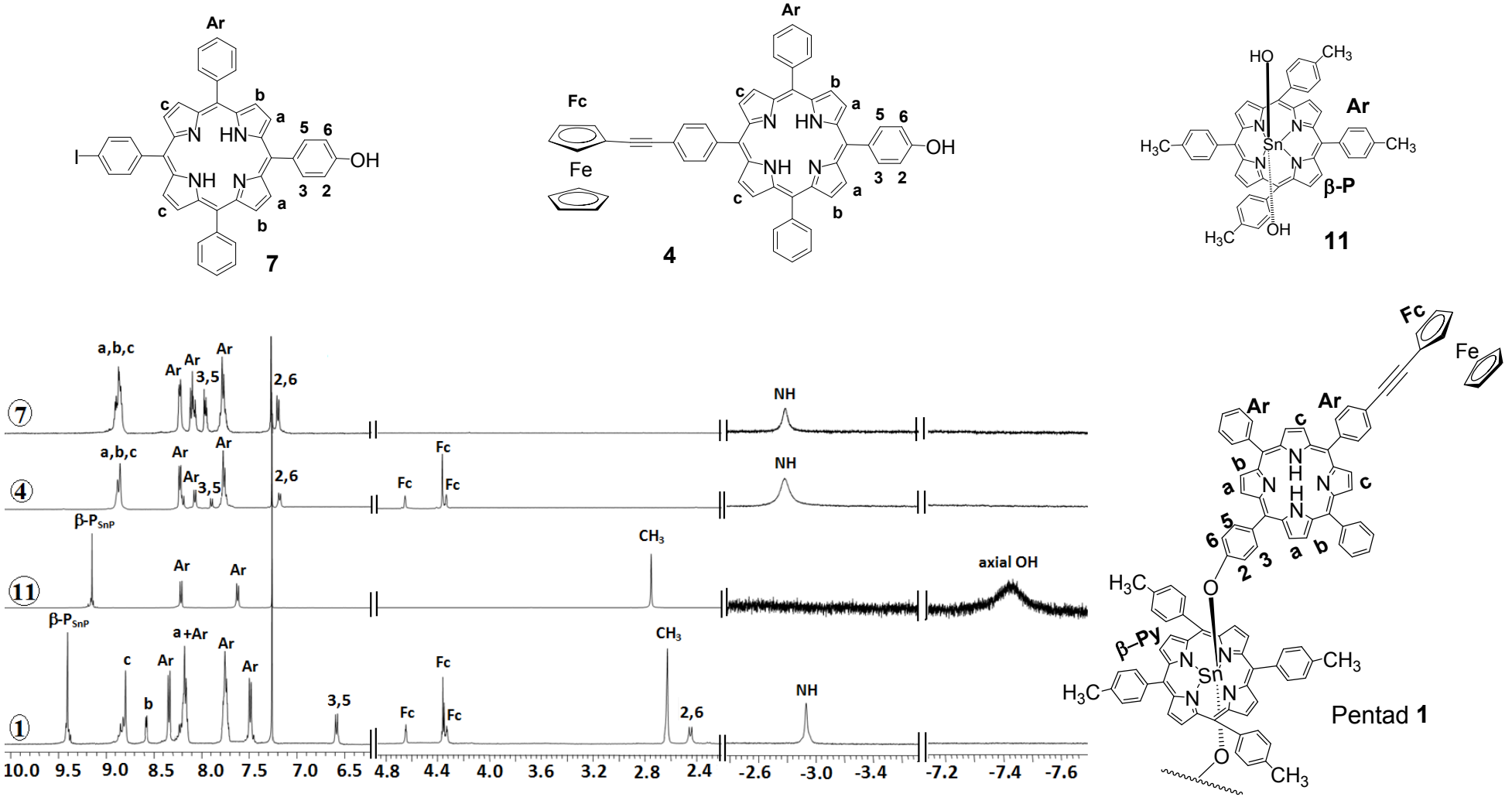
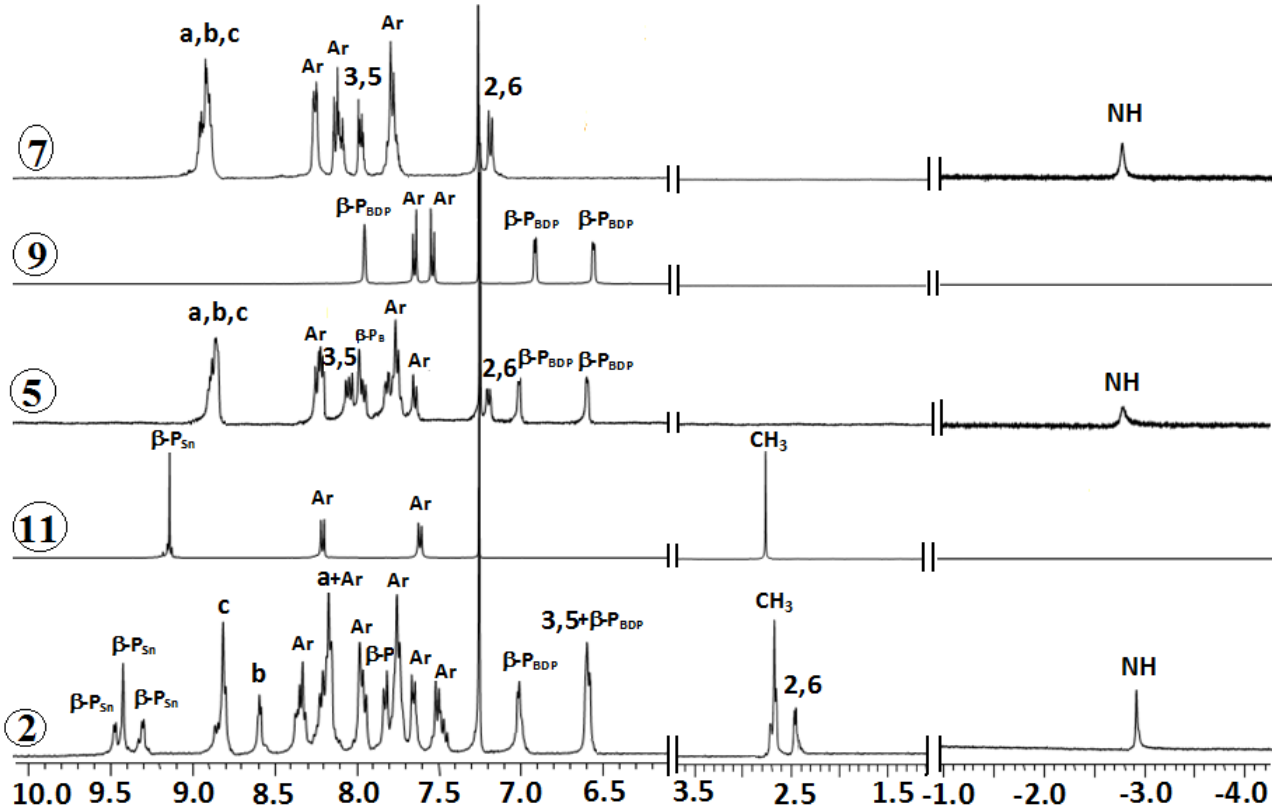


Figure S15: Comparison of ^{1}H NMR spectrum of pentad **1** with dyad **4** and monomers **7** and **11**.



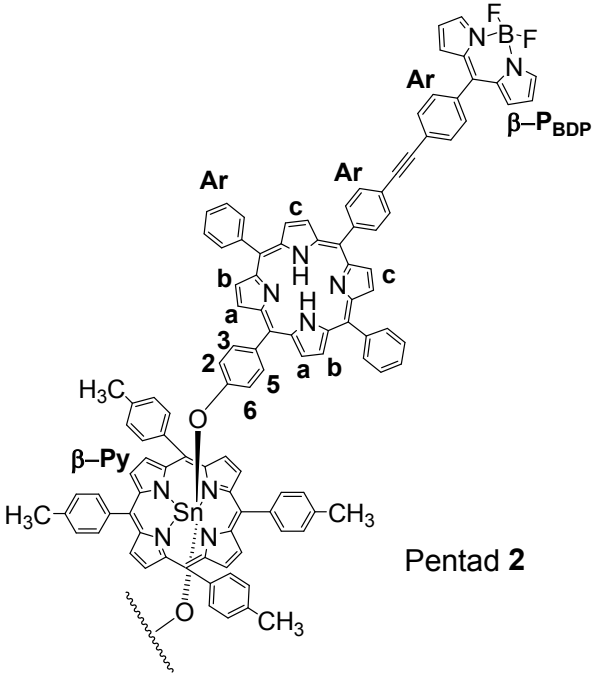
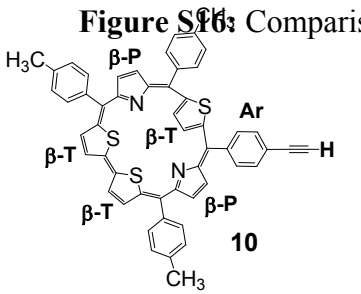
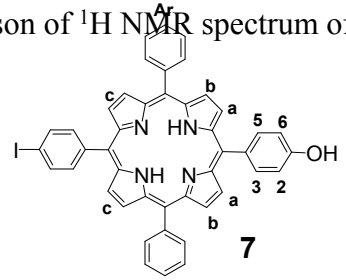
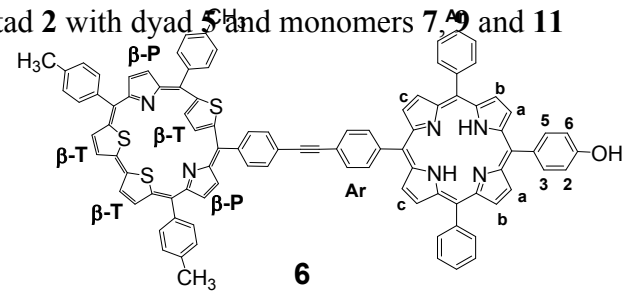
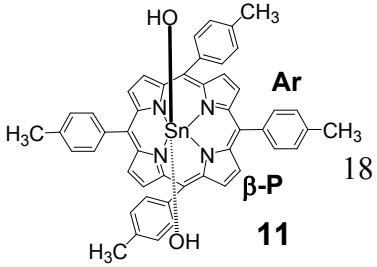


Figure S16: Comparison of ^{1}H NMR spectrum of pentad **2** with dyad **5** and monomers **7**, **9** and **11**









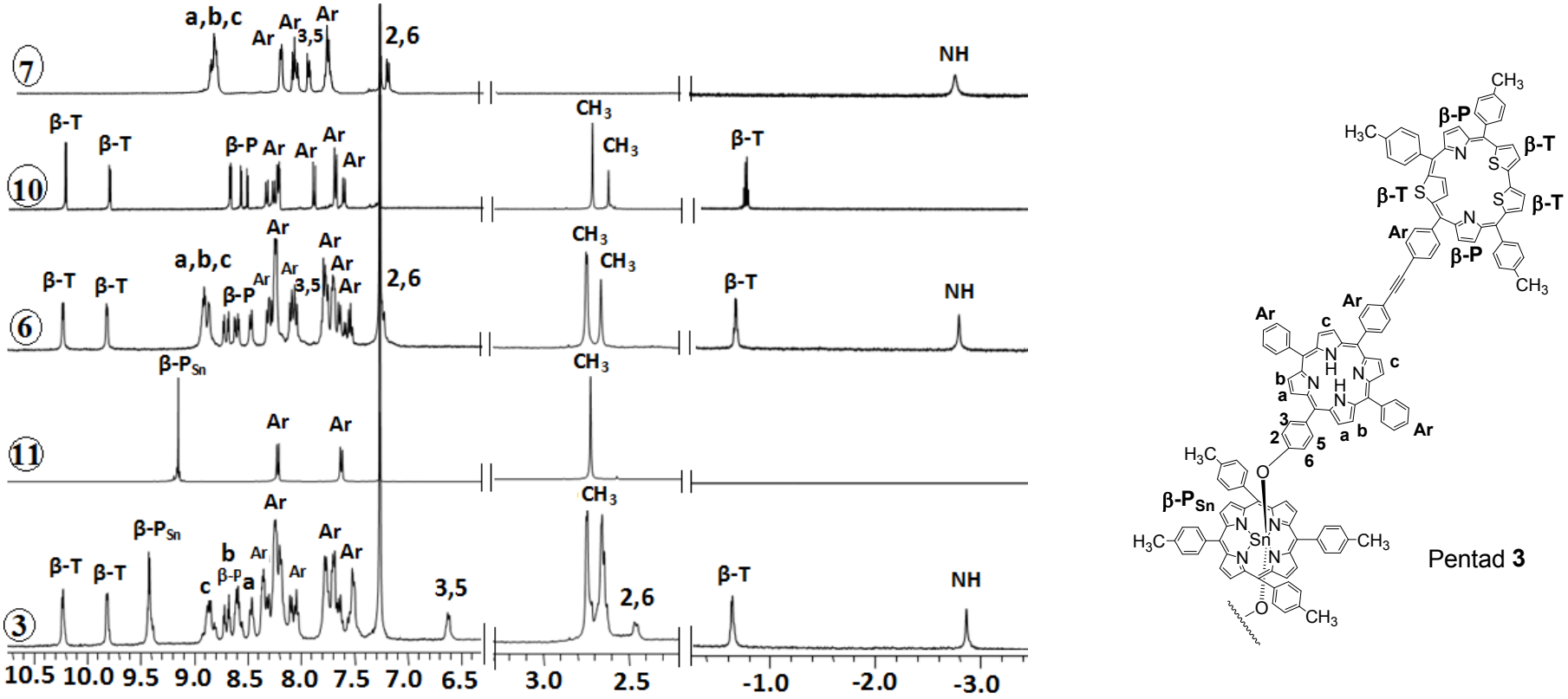


Figure S17: Comparison of ^{1}H NMR spectrum of pentad **3** with dyad **6** and monomers **7**, **10** and **11**.

Table S1: Selected ^{1}H NMR data for pentads **1**, **2** and **3** with monomers axial porphyrin unit **7** and basal Sn(IV) porphyrin unit **11**.

Compounds	Basal Sn(IV) porphyrin	Porphyrin unit of axial dyads			Basal Sn(IV) porphyrin	Phenoxo group	
	β-Pyrrole protons	β-Pyrrole protons			β-Pyrrole protons	3,5 protons	2,6 protons
		type c	type b	type a			
11	9.13 (s)	-	-	-	9.13 (s)	-	-
7	-	8.87 (m) multiplet for a, b and c type			-	8.00 (d)	7.17 (d)
1	9.40 (m)	8.83 (m)	8.57 (d)	8.14 (m)	9.40 (m)	6.58 (d)	2.44 (d)
2	9.48 (d), 9.42 (s), 9.31 (d)	8.93 (m)	8.59 (d)	8.13 (m)	9.48 (d), 9.42 (s), 9.31 (d)	6.59 (d)	2.42 (d)
3	9.41 (d)	8.85 (m)	8.58 (m)	8.48 (d)	9.41 (d)	6.59 (d)	2.44 (d)

General Experimental Section:

All general chemicals and solvents were procured from S.D. Fine chemicals, India. Column chromatography was performed using silica gel and basic alumina obtained from Sisco Research Laboratories, India. All the solvents used were of analytical grade and were purified and dried by routine procedures immediately before use.

^{1}H NMR spectra were recorded with Bruker 400 MHz instrument using trimethylsilane (TMS) as an internal standard. All NMR measurements were carried out at room temperature in deuterochloroform ($CDCl_3$). Absorption and steady state fluorescence spectra were obtained with Perkin-Elmer Lambda-35 and Varian Cary-Eclipse respectively. The fluorescence quantum yields (ϕ_f) were estimated from the emission and absorption spectra by comparative method.[37] ES-MS mass spectra were recorded with a Q-Tof Micromass spectrometer. MALDI-TOF mass spectra were recorded on Bruker MALDI-TOF spectrometer. Cyclic voltammetric (CV) and differential pulse voltammetric (DPV) studies were carried out with BAS electrochemical system utilizing the three electrode configuration consisting of a glassy carbon (working electrode), platinum wire (auxiliary electrode) and saturated calomel (reference electrode) electrodes in dry dichloromethane using 0.1 M tetrabutylammonium perchlorate as supporting electrolyte.