Electronic Supplementary Material (ESI) for Faraday Discussions.

Supporting information

Probing the influence of substrate binding on photocatalytic dehalogenation with a heteroleptic supramolecular square containing PDI photosensitizers as linker

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Characterization

^{1}H-NMR

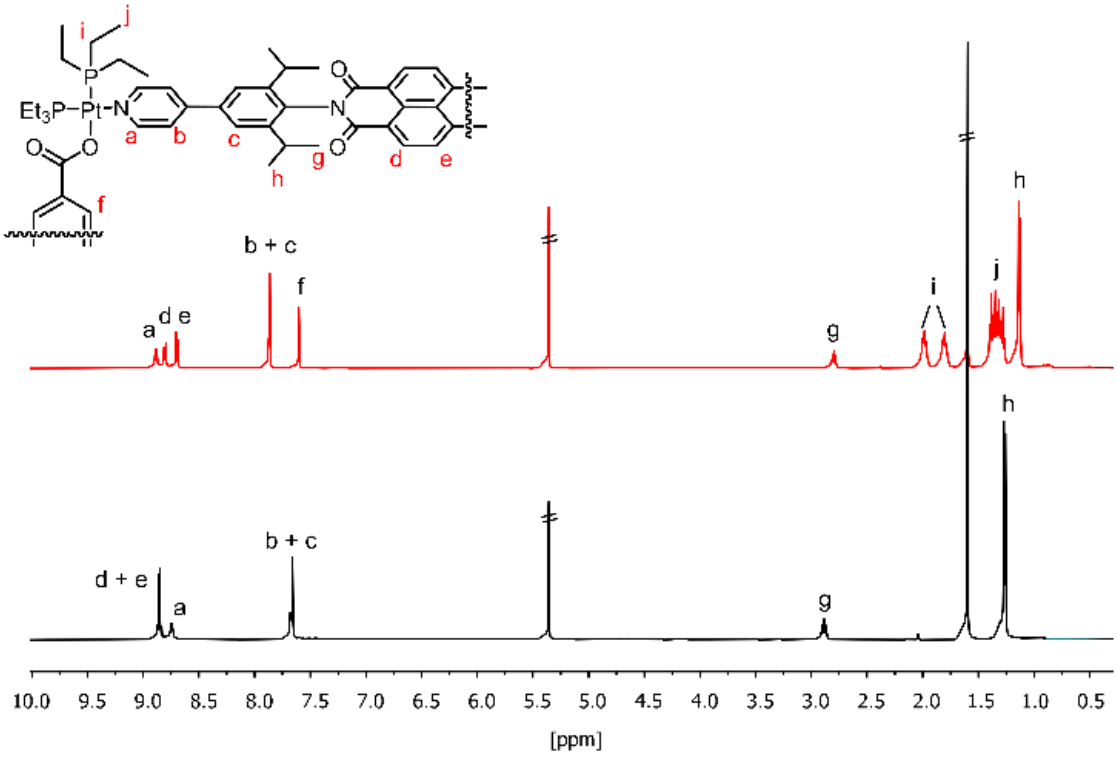

Figure S1. ^{1}H-NMR spectrum of free **PDI-Py$_2$** (bottom) and heteroleptic square **2** (top) in CD_3CN.

^{31}P-NMR

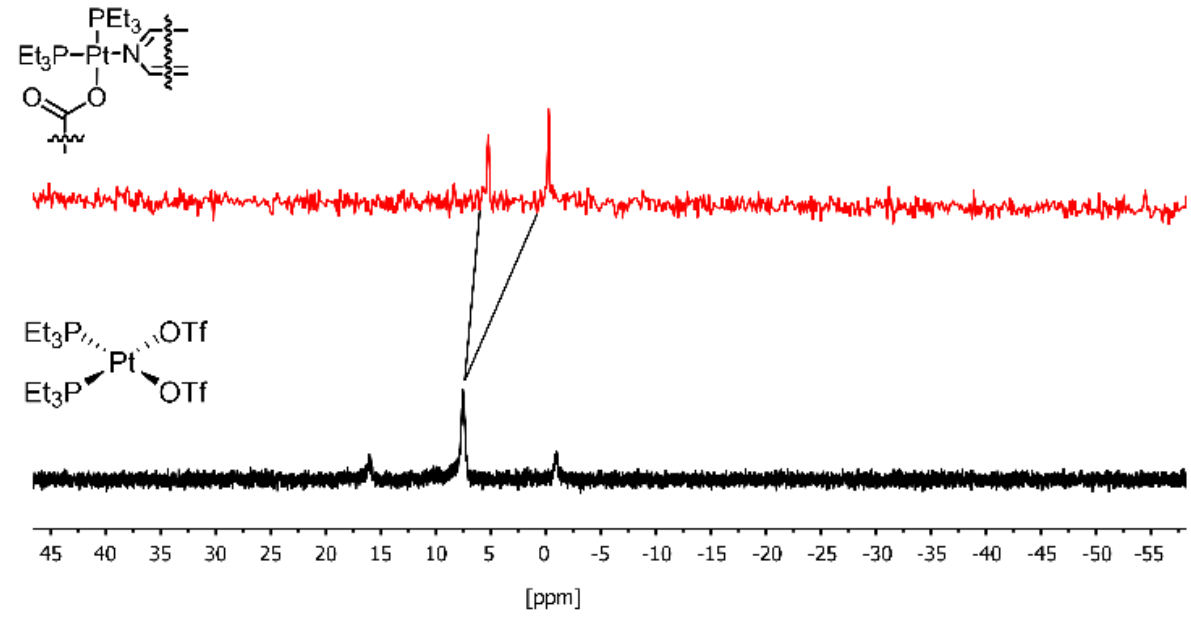

Figure S2. ^{31}P-NMR showing splitting of phosphine chemical shift due to heteroleptic coordination mode in CD_3CN.. Shown in black (bottom) is the Pt(II) precursor ***cis*-[Pt(PEt$_3$)$_2$(OTf)$_2$]**.

^{1}H-NMR DOSY

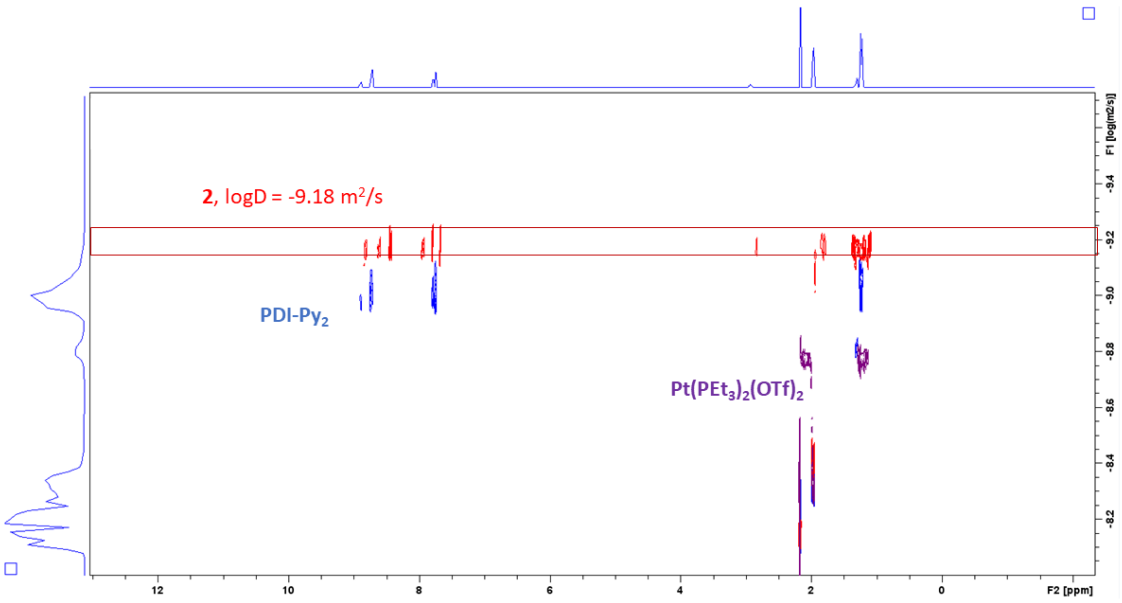

Figure S3. ^{1}H-DOSY comparing **PDI-Py$_2$**, ***cis*-[Pt(PEt$_3$)$_2$(OTf)$_2$]** and heteroleptic square **2** in CD_3CN.

ESI-MS

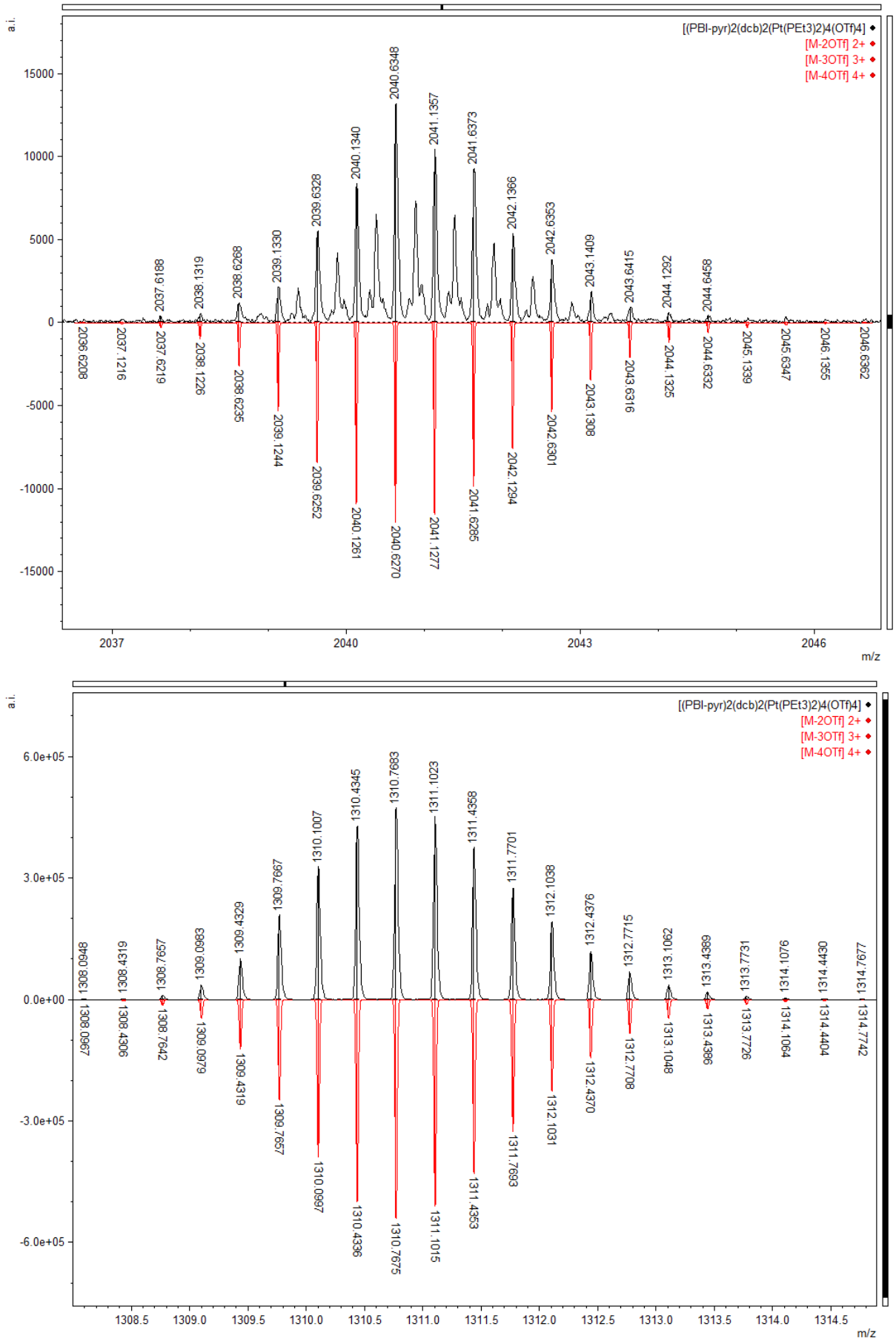

Figure S4. Sections from ESI-MS spectra of **2**.

^{1}H-NMR titrations

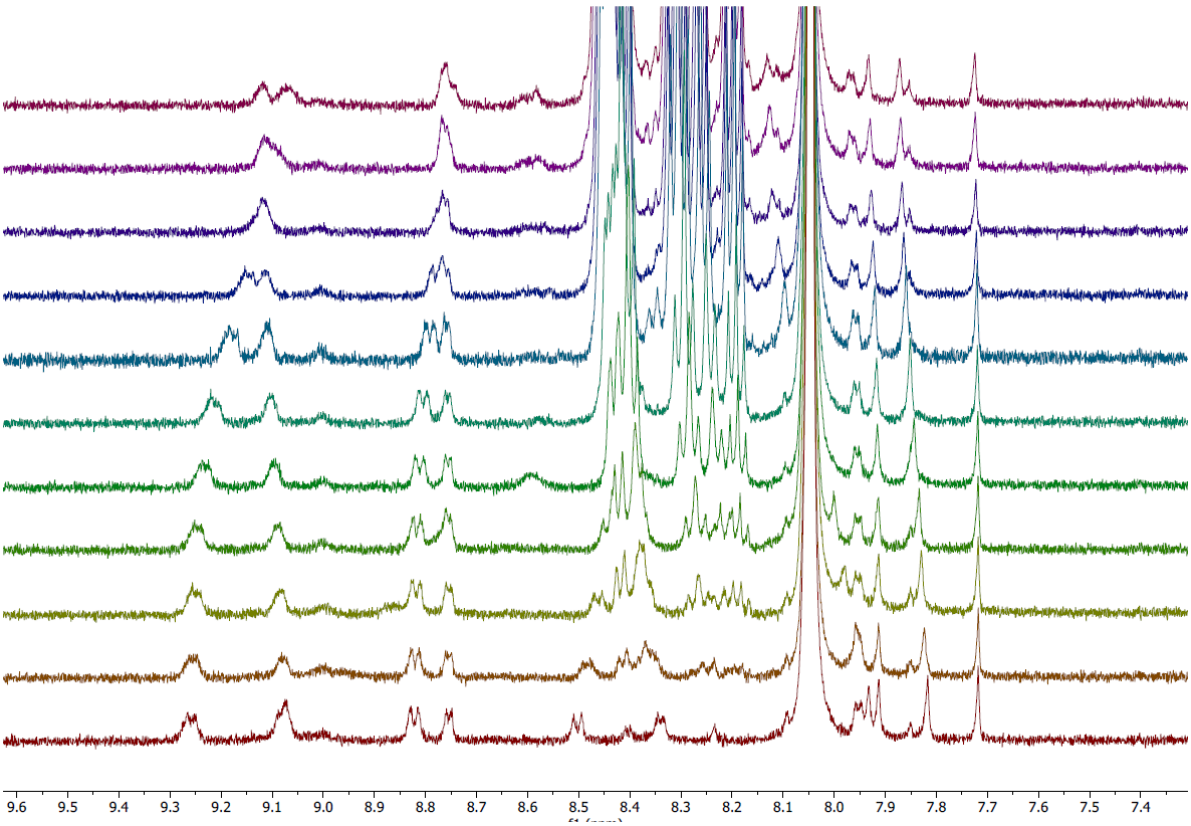

Figure S5. ^{1}H-NMR titration of 1-bromopyrene **5** to square **2** in CD_3CN..

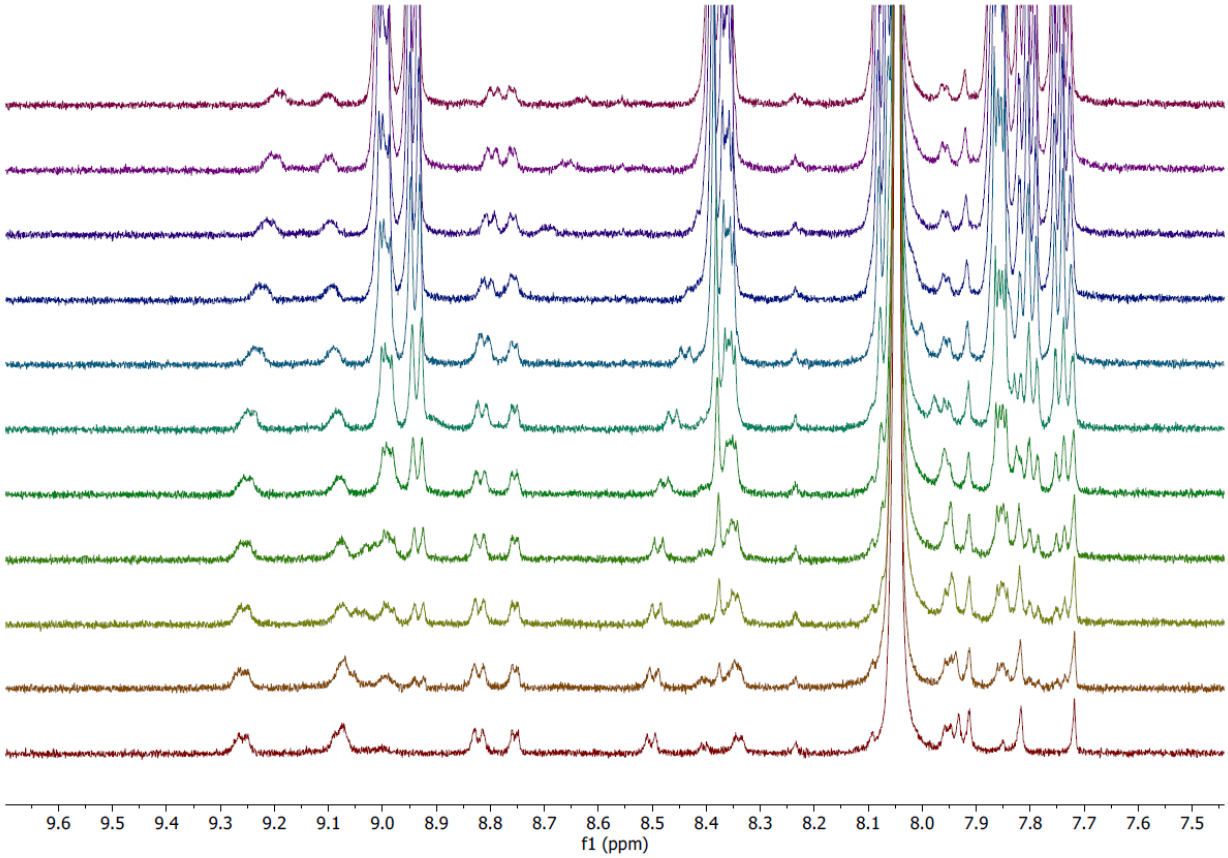

Figure S6. ^{1}H-NMR titration 9-bromophenanthrene **4** to square **2.**

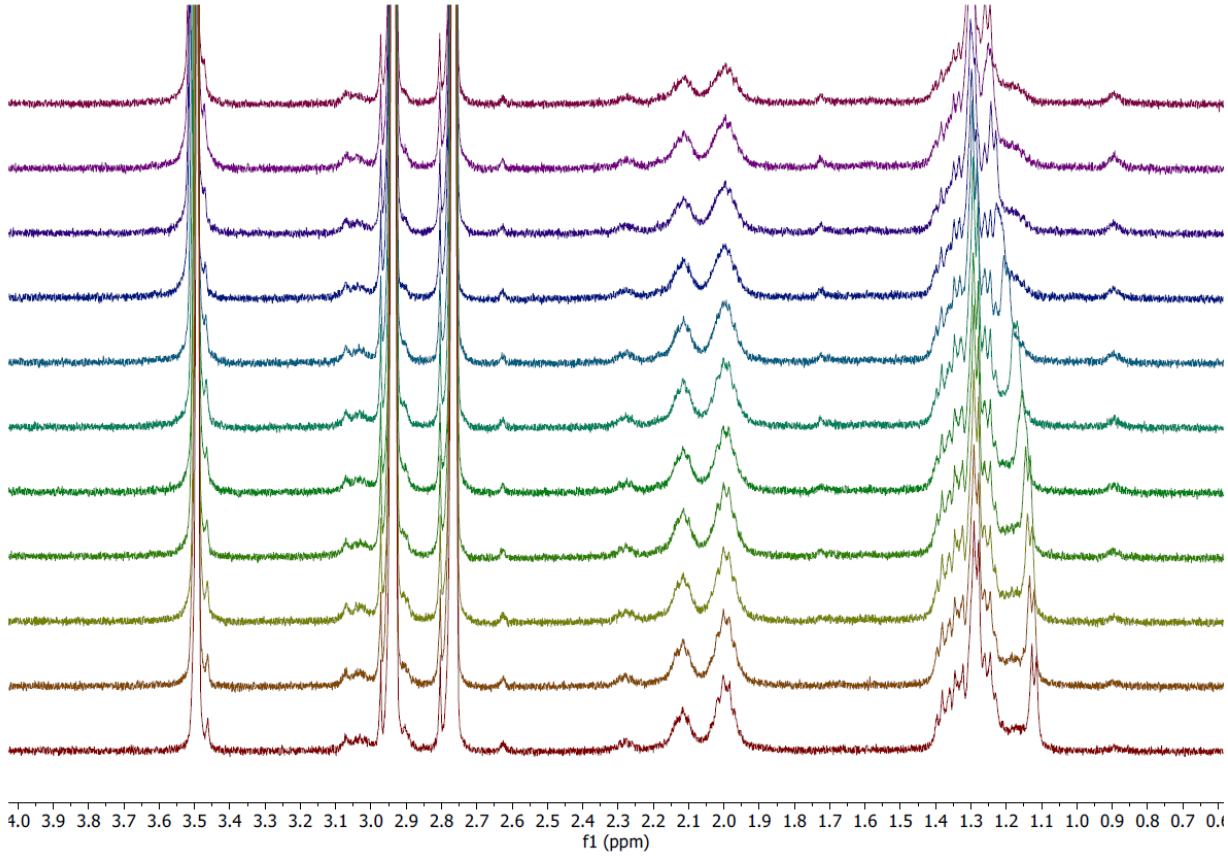

Figure S7. ^{1}H-NMR titration 9-bromophenanthrene **4** to square **2.**

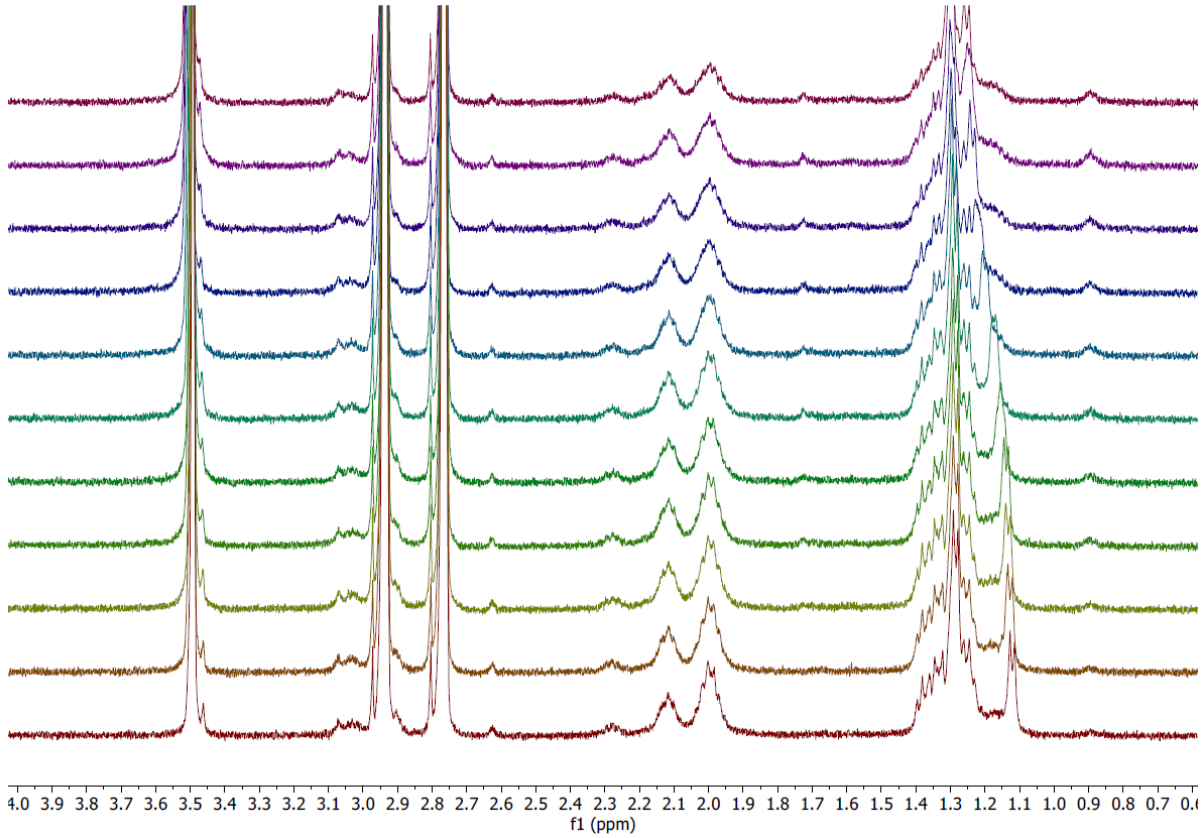

Figure S8. ^{1}H-NMR titration 4-bromo-benzaldehyde **3** to square **2.**

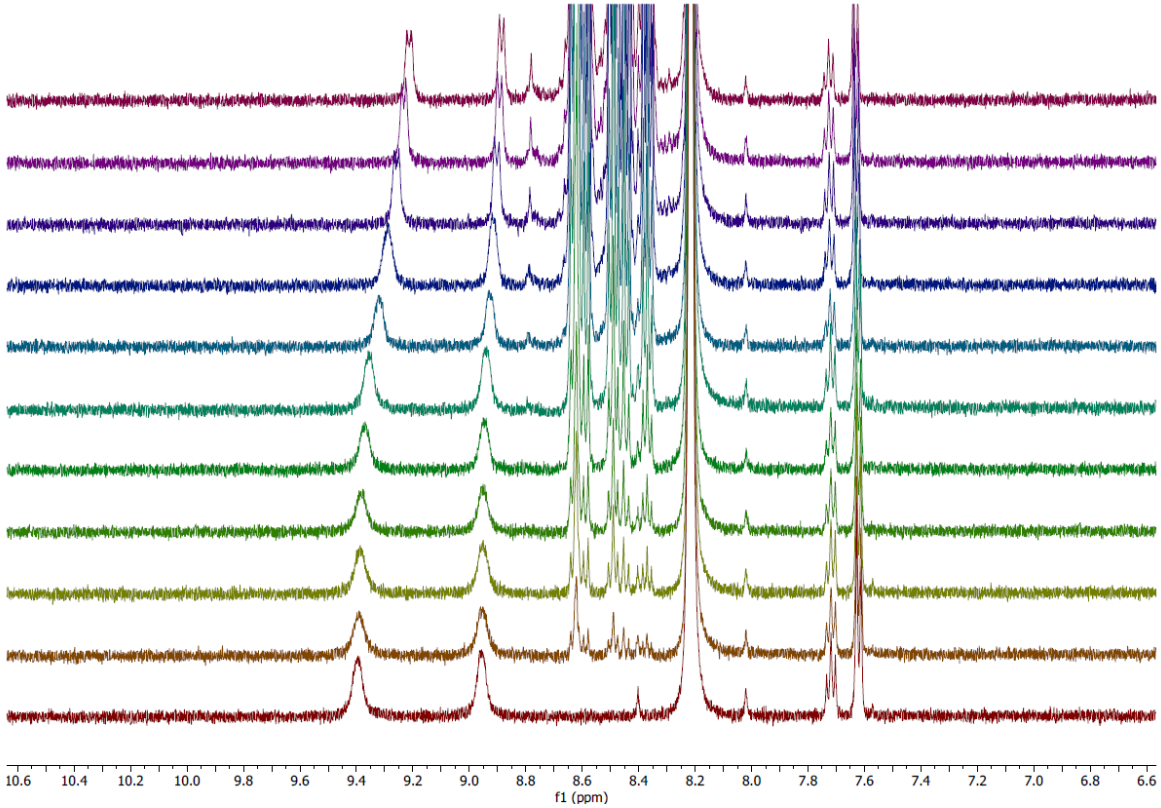

Figure S9. ^{1}H-NMR titration 1-bromopyrene **5** to free PDI **1.**

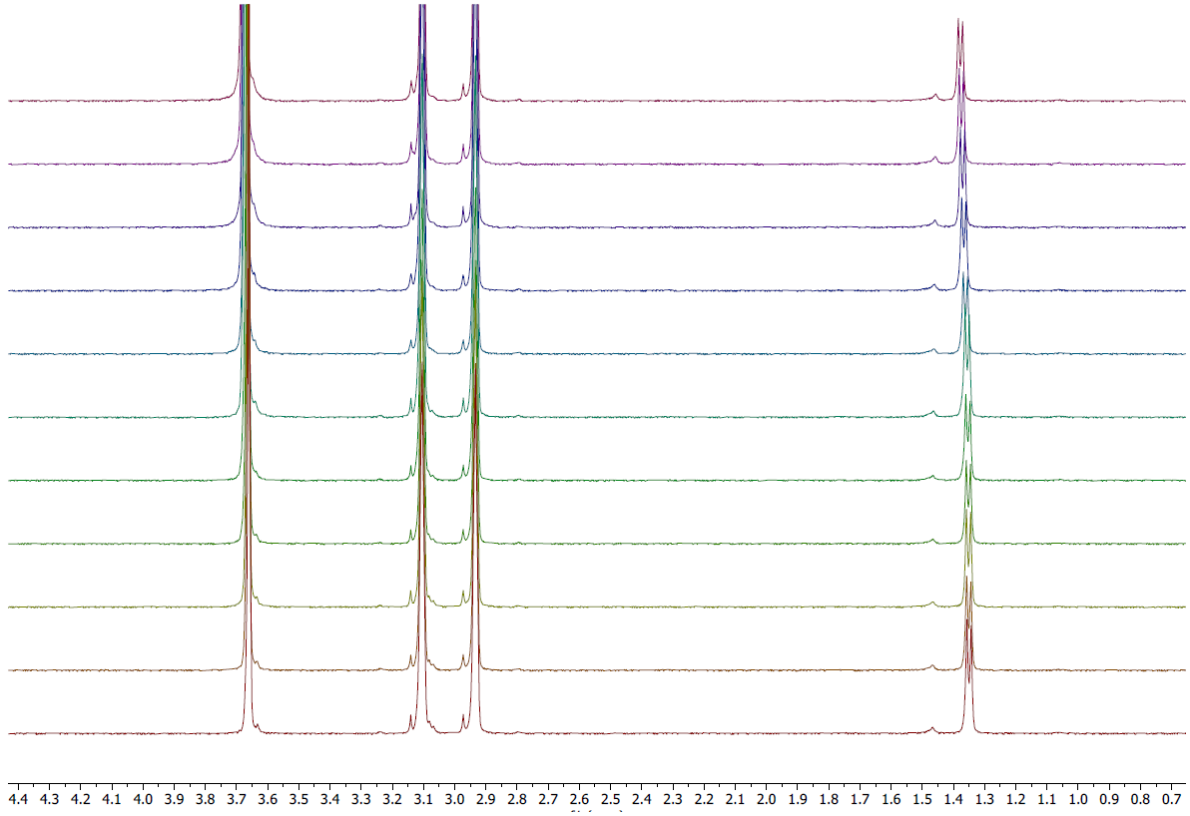

Figure S10. ^{1}H-NMR titration 1-bromopyrene **5** to free PDI **1**

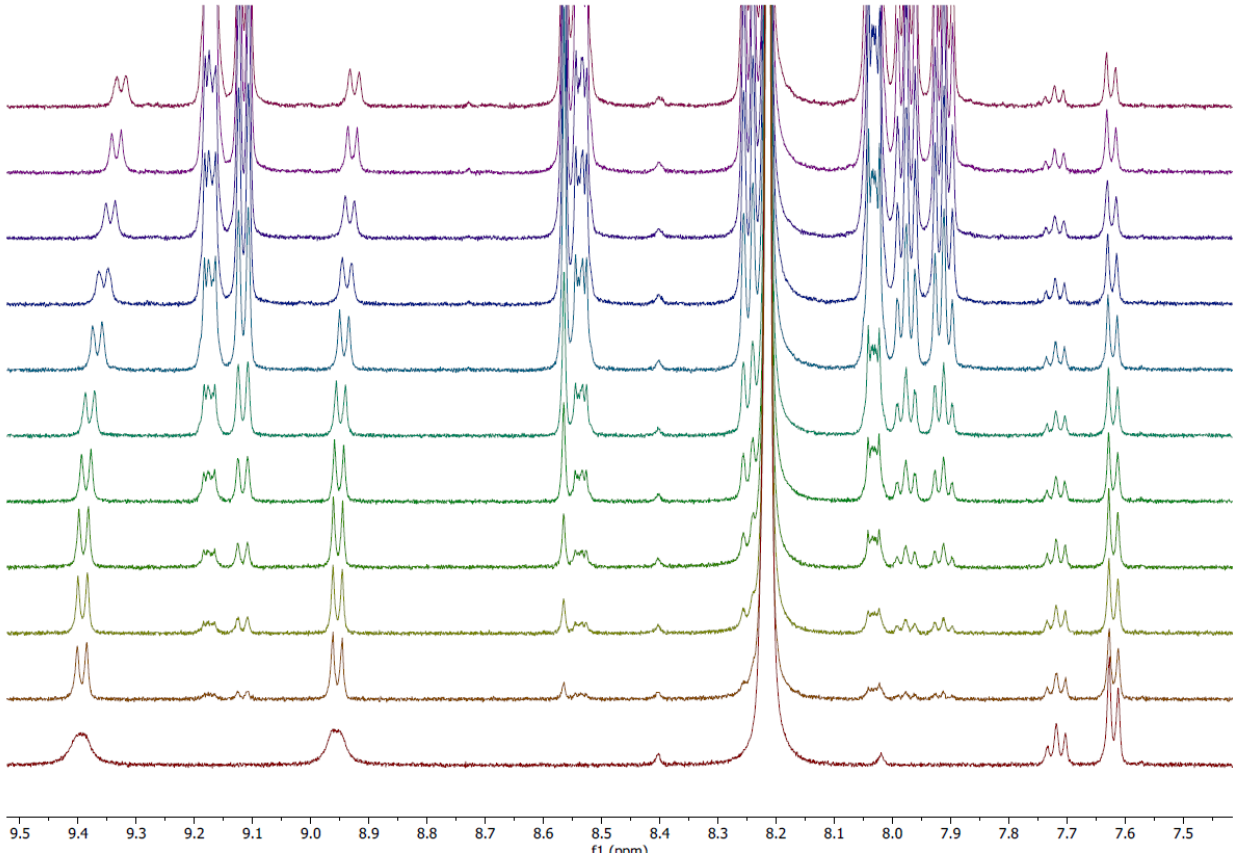

Figure S11. ^{1}H-NMR titration 9-bromophenanthrene **4** to free PDI **1**

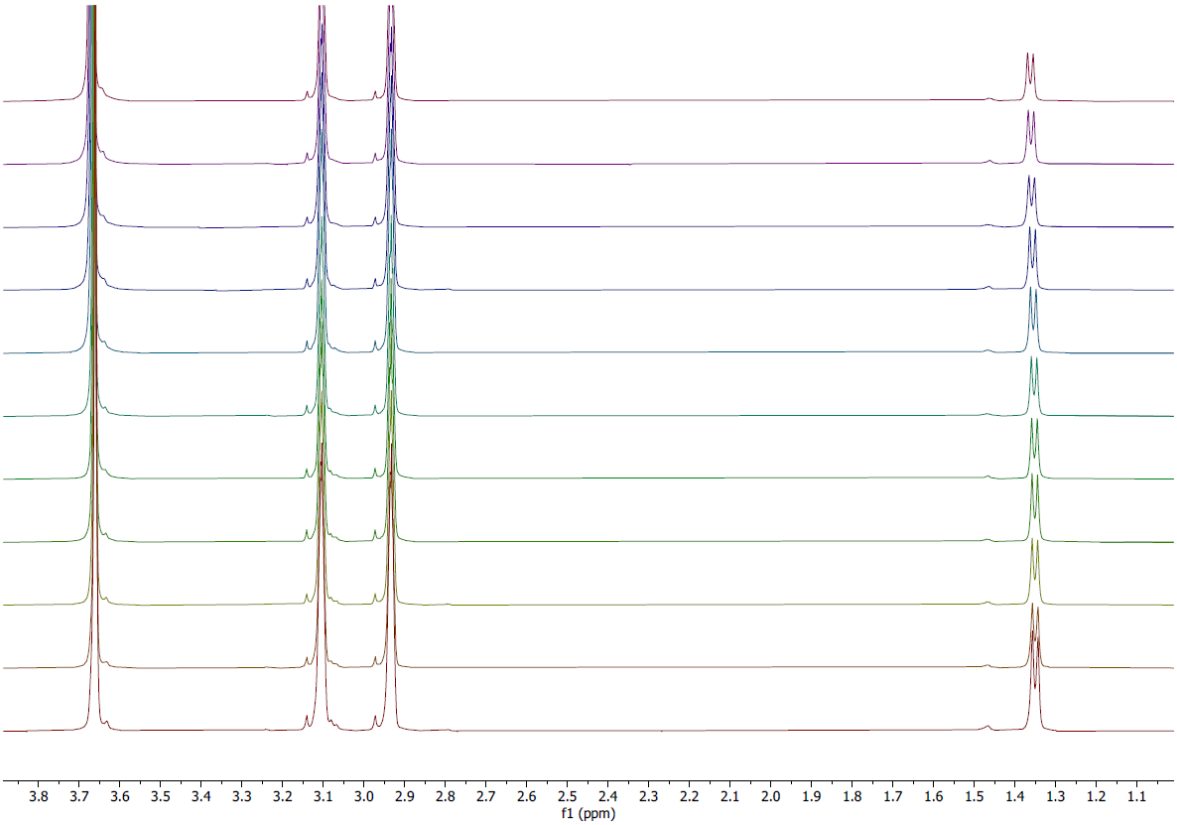

Figure S12. ^{1}H-NMR titration 9-bromophenanthrene **4** to free PDI **1**