

Supporting information

Photophysical characterization of a bisacridinium-diphenylporphyrin conjugate

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Emission spectra

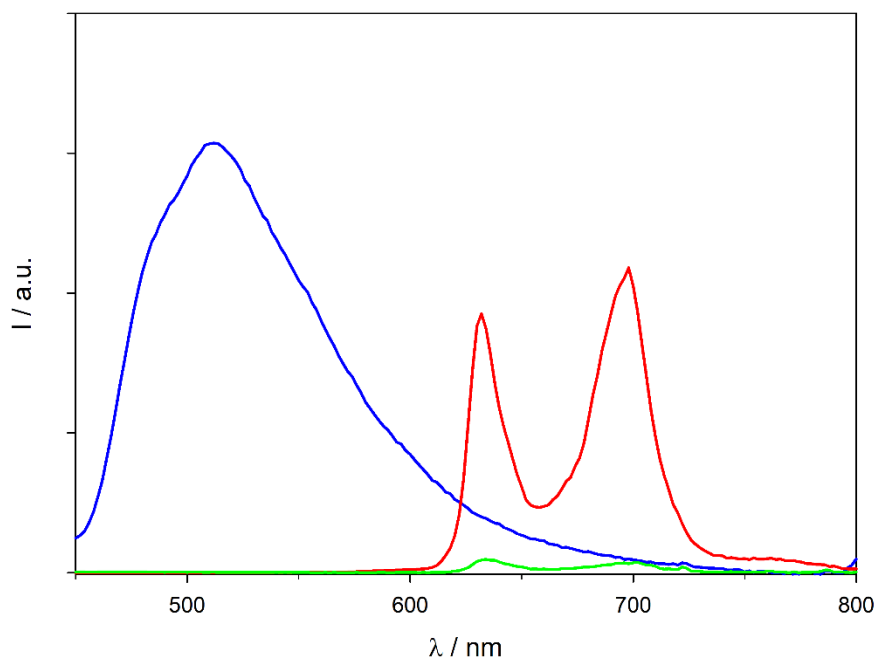


Fig. S1: Corrected luminescence spectra in CH₃CN of **Acr-PF₆** (blue), **DPP** (red) and **1-(PF₆)** (light green), upon predominant excitation of the acridinium moiety ($\lambda_{exc} = 361$ nm). Solutions of the models were prepared in order to have the same number of photons absorbed by the corresponding moieties in the conjugate.

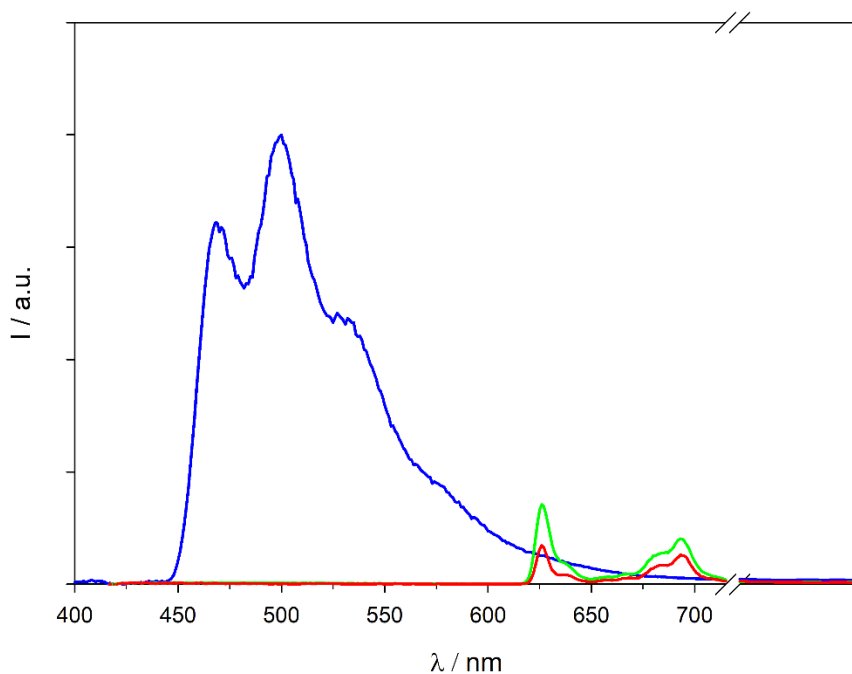


Fig. S2: Corrected fluorescence spectra at 77 K in butyronitrile of isoabsorbing solutions of **Acr-PF₆** (blue), **DPP** (red) and **1-(PF₆)** (light green), upon prevalent excitation of the acridinium moiety ($\lambda_{exc} = 360$ nm).

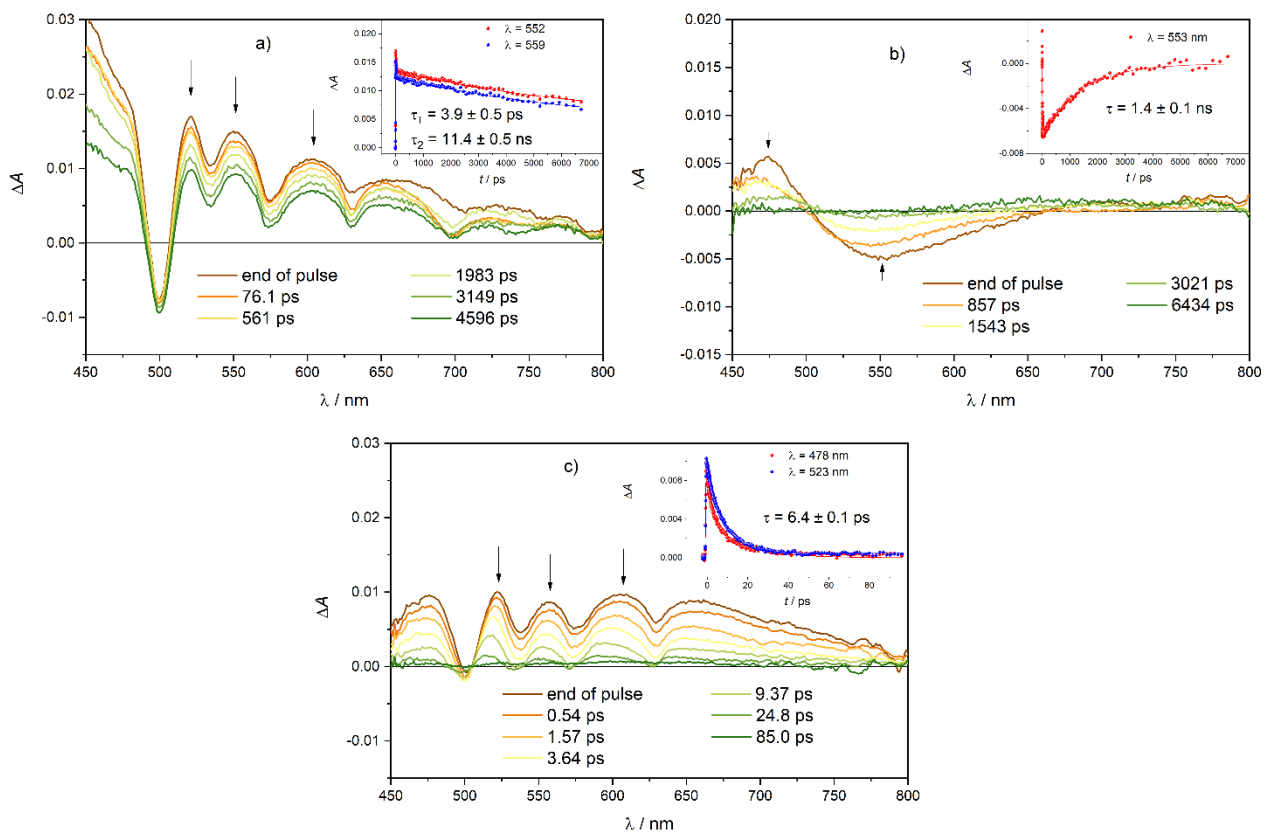


Fig. S3: Transient absorption spectra of (a) **DPP**, (b) **Acr-PF₆** and (c) **1-(PF₆)₂** in CH₃CN at different delays. Excitation at 360 nm ($A_{360} = 0.1, 0.2$ cm optical path, 4 μ J/pulse). Insets: ΔA time evolutions (dots) and fittings (lines) at the indicated wavelengths.

EXCITATION SPECTRA

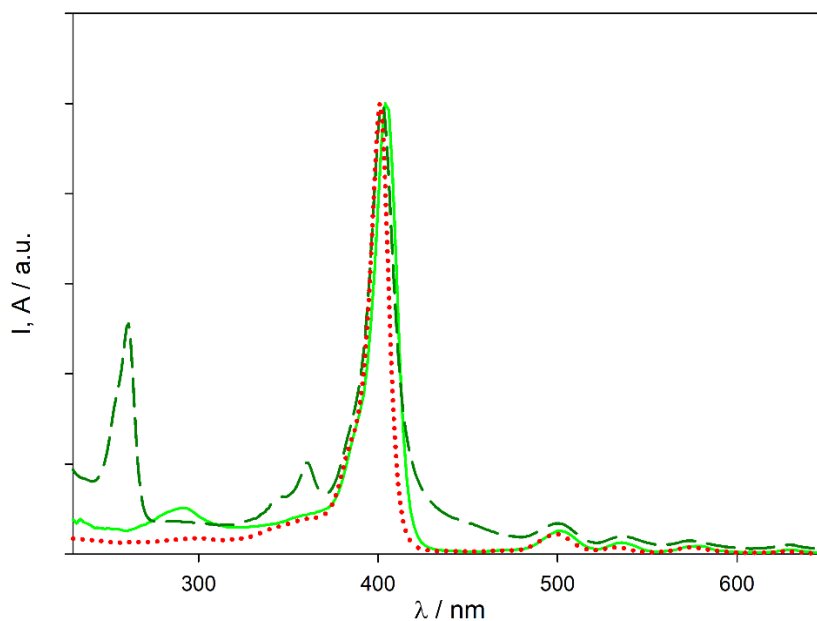


Fig. S4: Corrected excitation spectrum of **1-(PF₆)₂** in CH₃CN at RT collected at 704 nm (green). Arbitrarily scaled absorption spectra of **1** (dark green dashed) and of **DPP** model (red dotted) are presented for the sake of comparison.

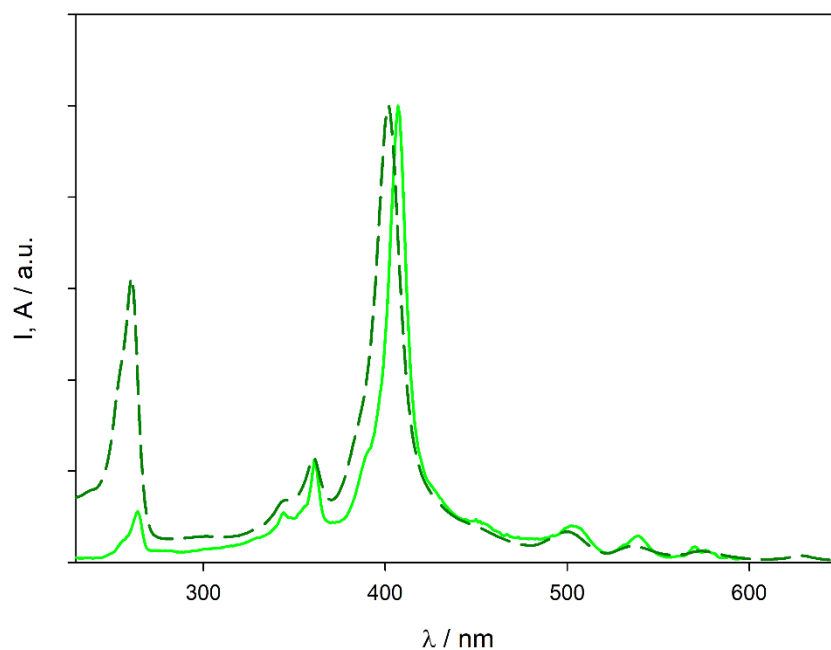


Fig. S5: Corrected excitation spectrum of **1**·(PF₆), at 77 K in CH₂Cl₂:CH₃CN collected at 626 nm (light green). The arbitrarily scaled absorption spectrum of **1**·(PF₆), at RT (dashed dark green) is presented for the sake of comparison.

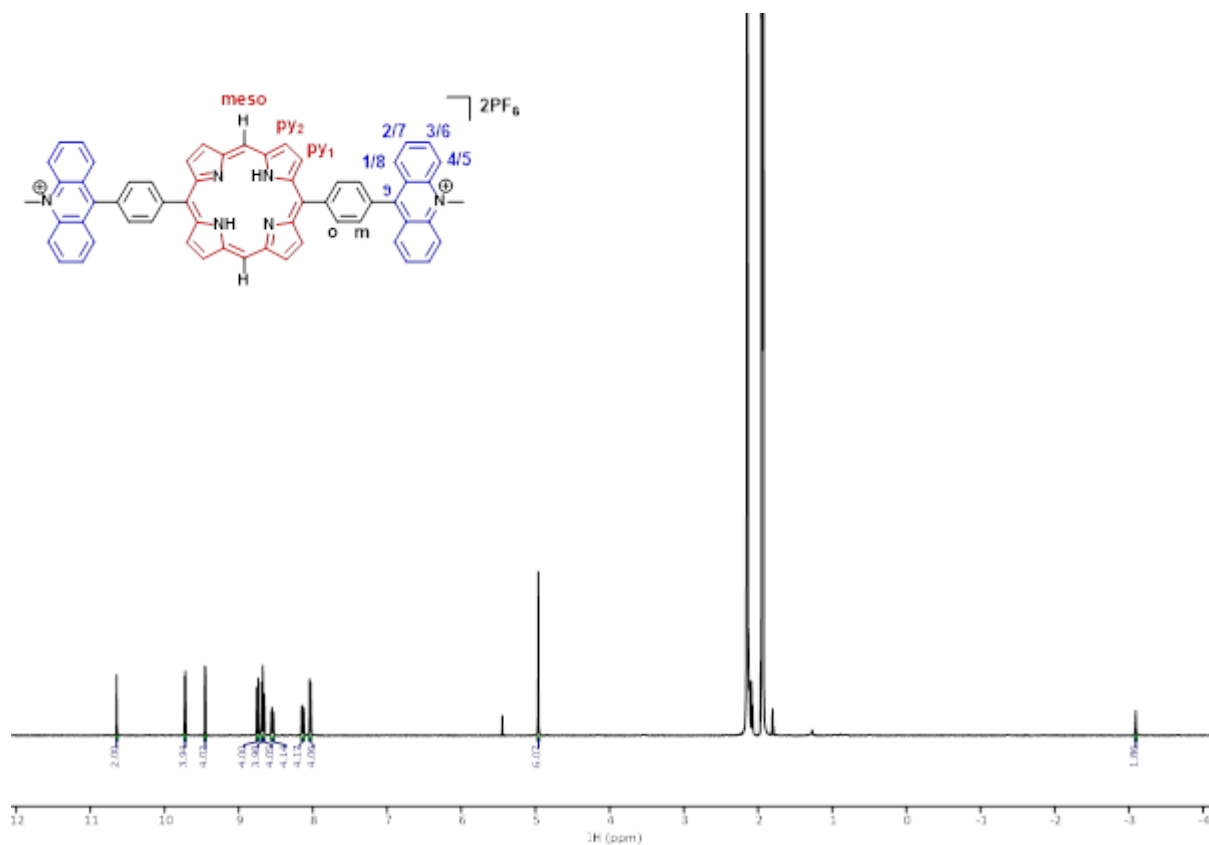


Fig. S6: ¹H NMR (500 MHz, CD₃CN, 298 K) spectrum of **1**·(PF₆).

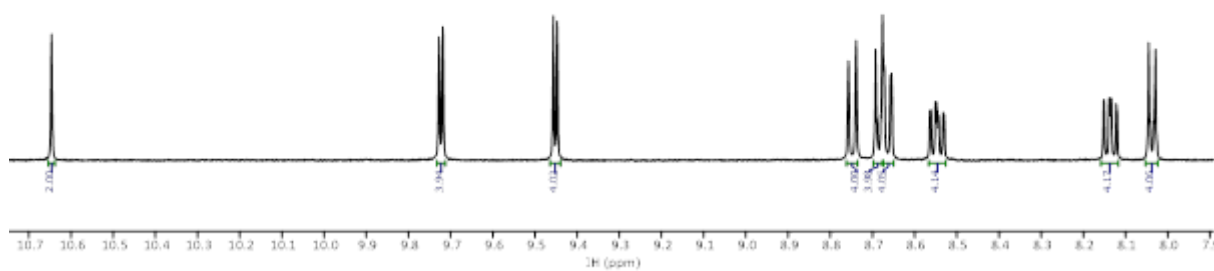


Fig. S7: ^1H NMR (500 MHz, CD_3CN , 298 K) spectrum of $\mathbf{1}\cdot(\text{PF}_6)$, (zoom of aromatic region).

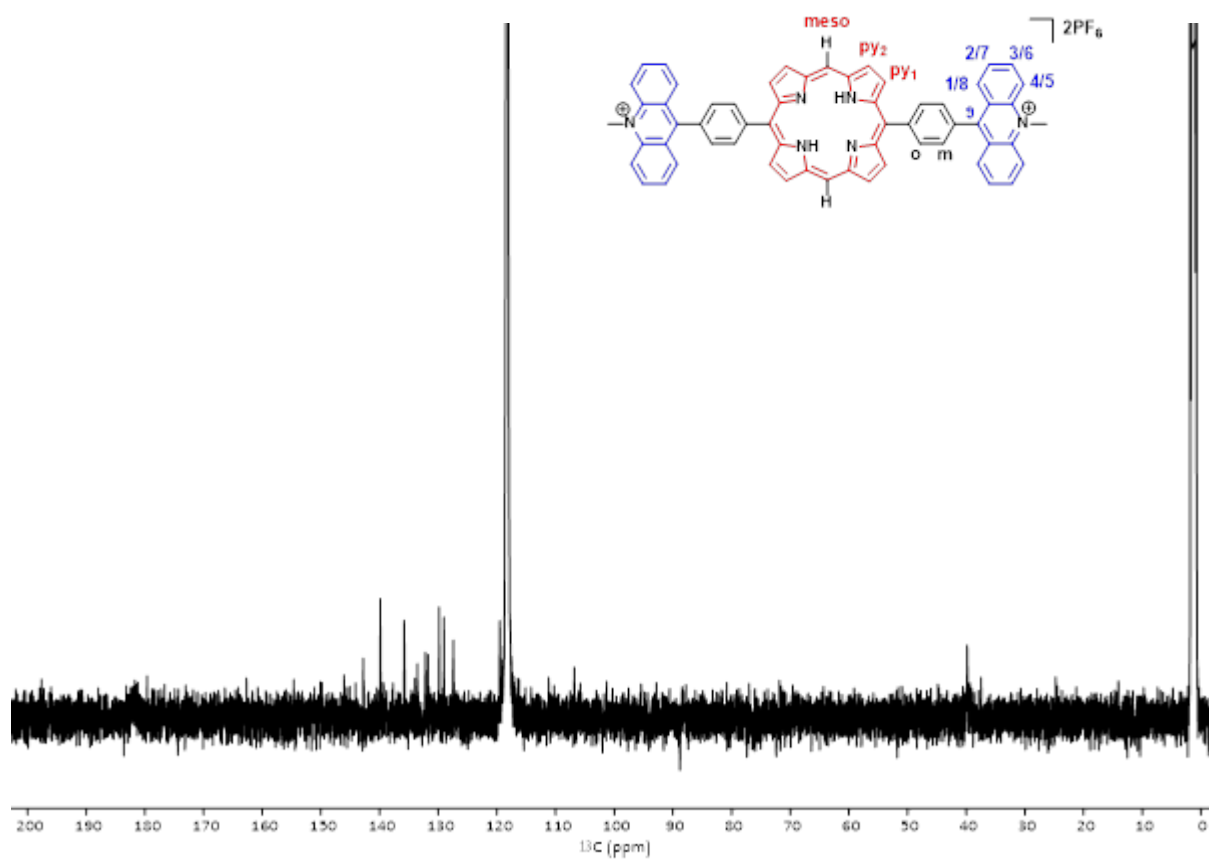


Fig. S8: ^{13}C NMR (125 MHz, CD_3CN , 298 K) spectrum of $\mathbf{1}\cdot(\text{PF}_6)$.

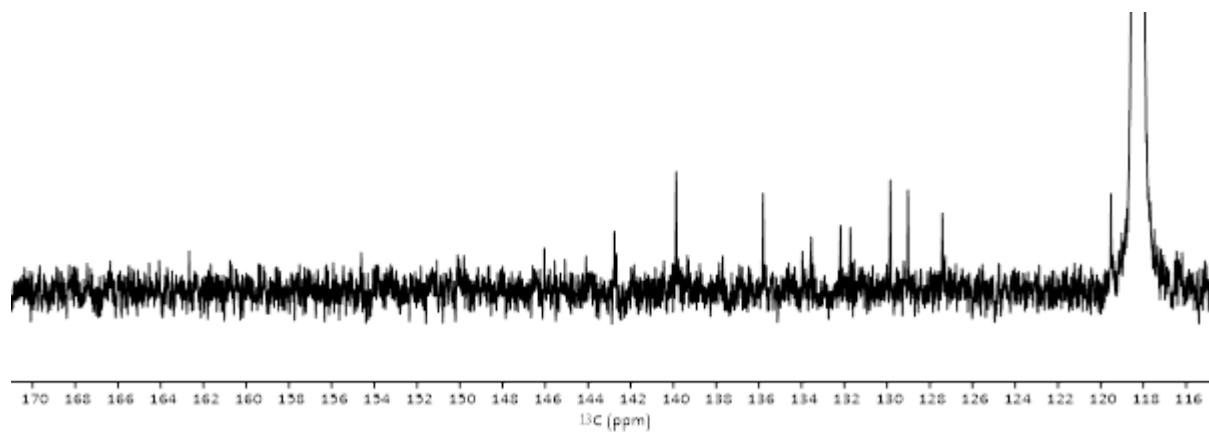


Fig. S9: ^{13}C NMR (125 MHz, CD_3CN , 298 K) spectrum of $\mathbf{1}\cdot(\text{PF}_6)$, (zoom of aromatic region).

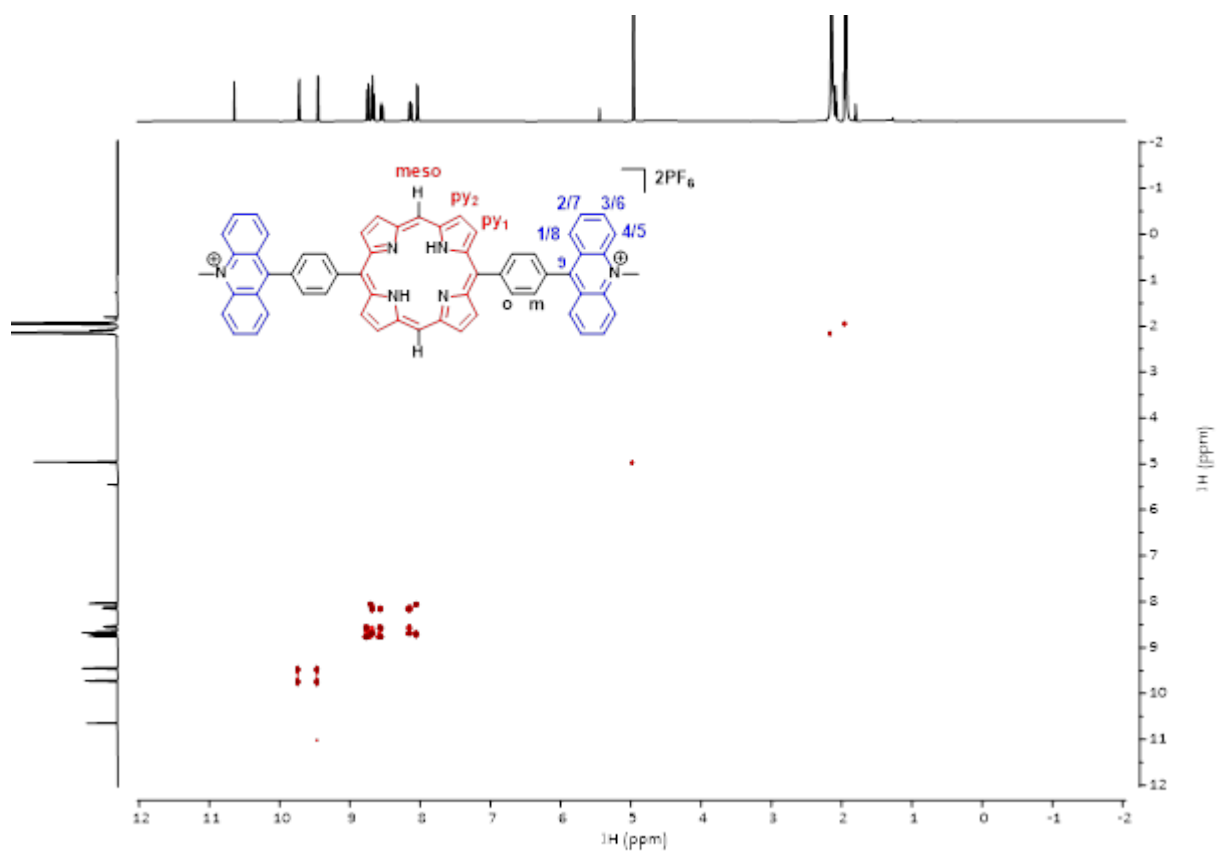


Fig. S10: ^1H - ^1H COSY 2D-NMR (500 MHz, CD₃CN, 298 K) spectrum of **1**·(PF₆).

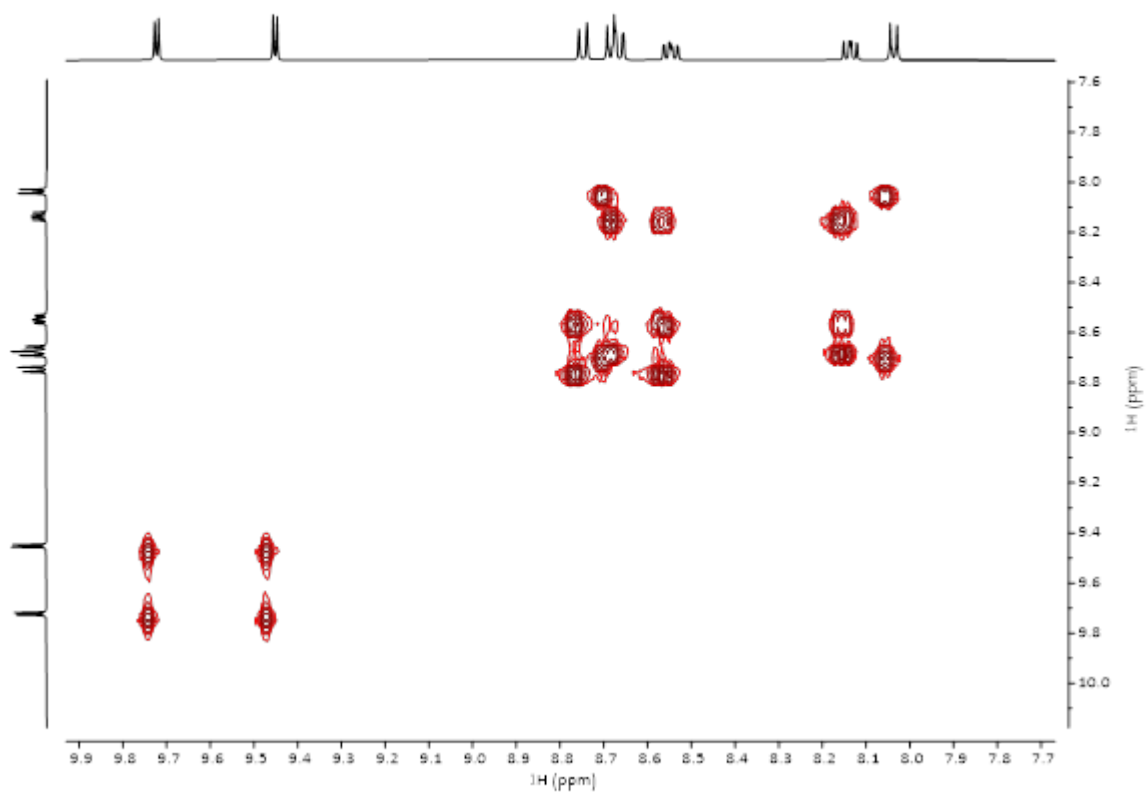


Fig. S11: ^1H - ^1H COSY 2D-NMR (500 MHz, CD₃CN, 298 K) spectrum of **1**·(PF₆), (zoom of aromatic region).

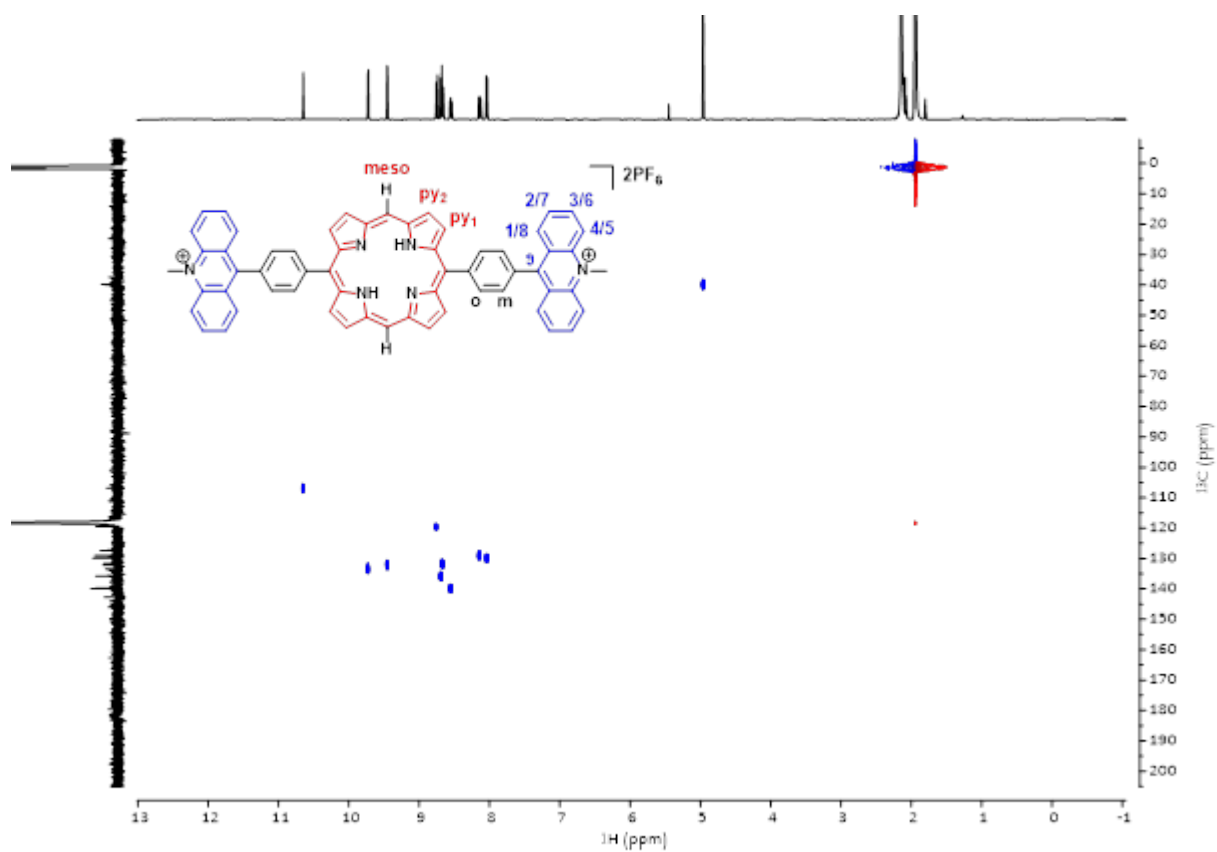


Fig. S12: ^1H - ^{13}C HSQC 2D-NMR (500 MHz, CD_3CN , 298 K) spectrum of $\mathbf{1}\cdot(\text{PF}_6)$.

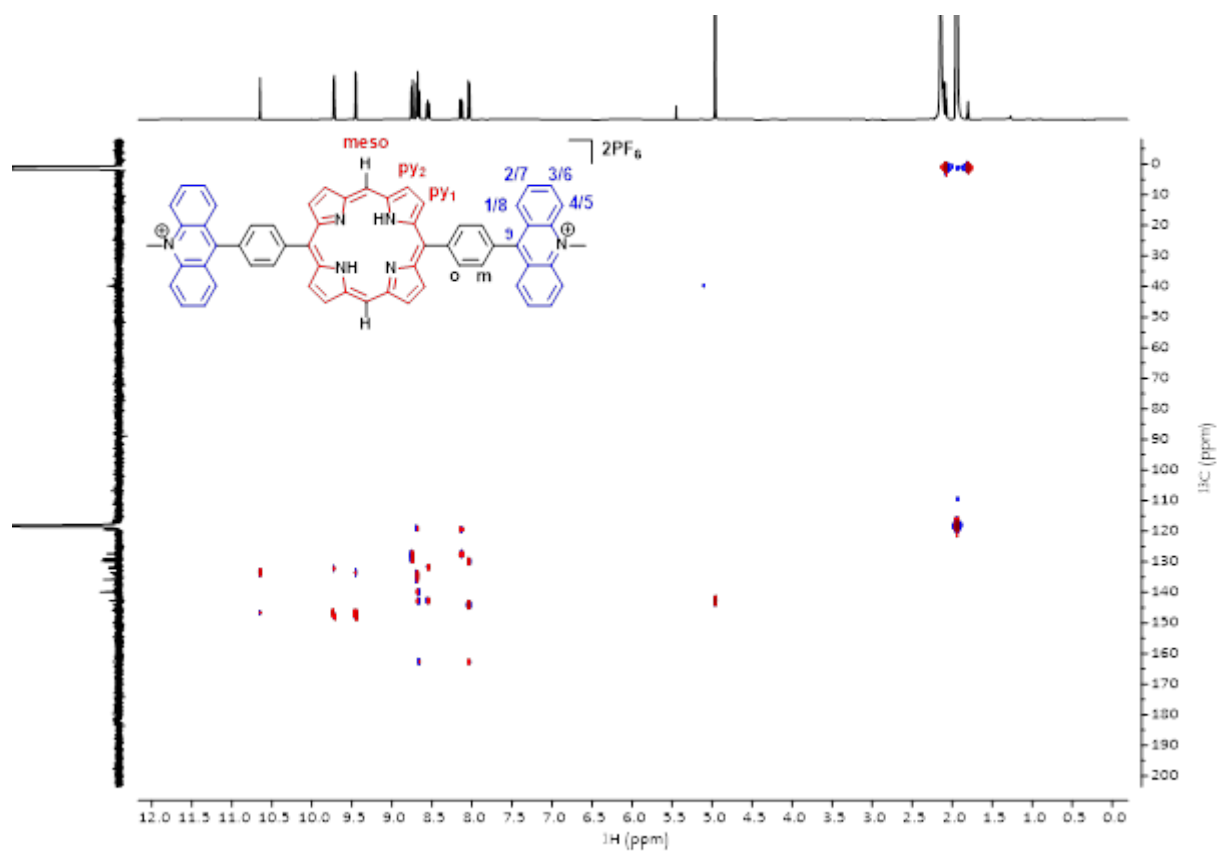


Fig. S13: ^1H - ^{13}C HMBC 2D-NMR (500 MHz, CD_3CN , 298 K) spectrum of $\mathbf{1}\cdot(\text{PF}_6)$.

Acquisition Parameter							
Source Type	ESI	Capillary	4500 V	Nebulizer	0.3 Bar	Set Hexapole RF	330.0 Vpp
Ion Polarity	Positive	Dry Heater	200 °C	Dry Gas	3.0 l/min	Set Capillary Exit	150.0 V

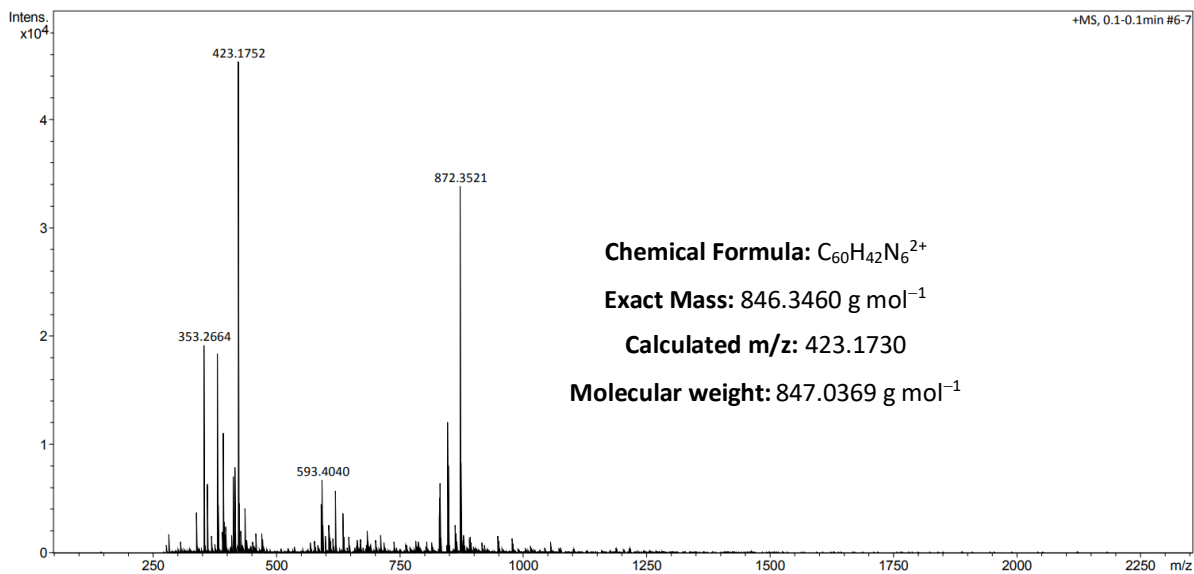


Fig. S14: HRMS (ESI-TOF) spectrum of $1 \cdot (PF_6)_2$.

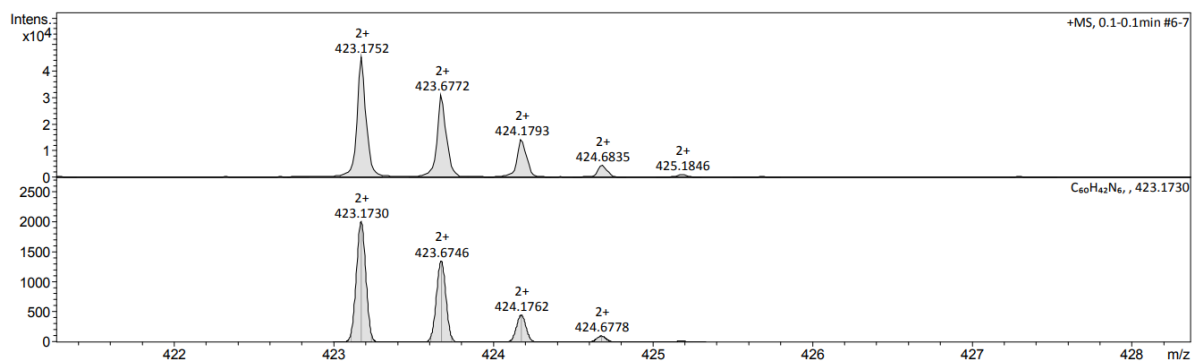


Fig. S 15: HRMS (ESI-TOF) spectrum of $1 \cdot (PF_6)_2$, focusing on the M^{2+} ion peak.