

Supporting Information

Org. Commun. 18:X (2025) XX-XX

Ferric phosphate (FePO₄): An efficient and reusable catalyst for synthesis of aryl-14*H*-dibenzo[*a,j*]xanthene derivatives under solvent-free conditions

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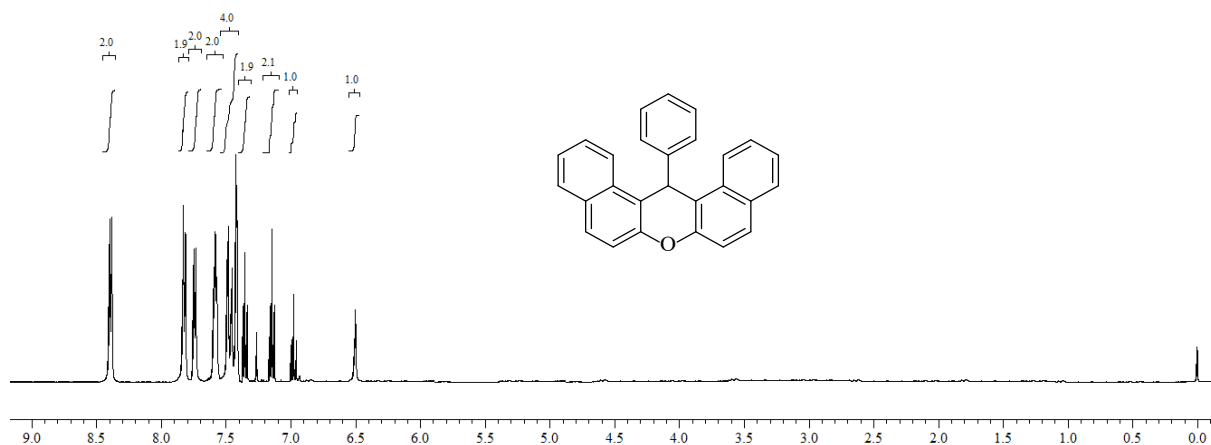


Figure S1: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3a**

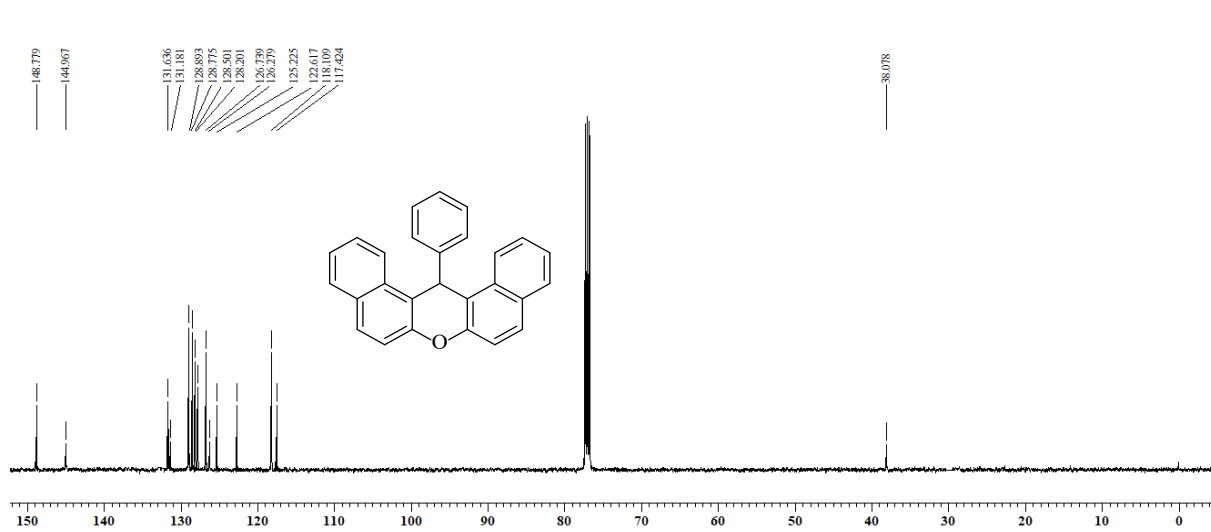


Figure S2: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3a**

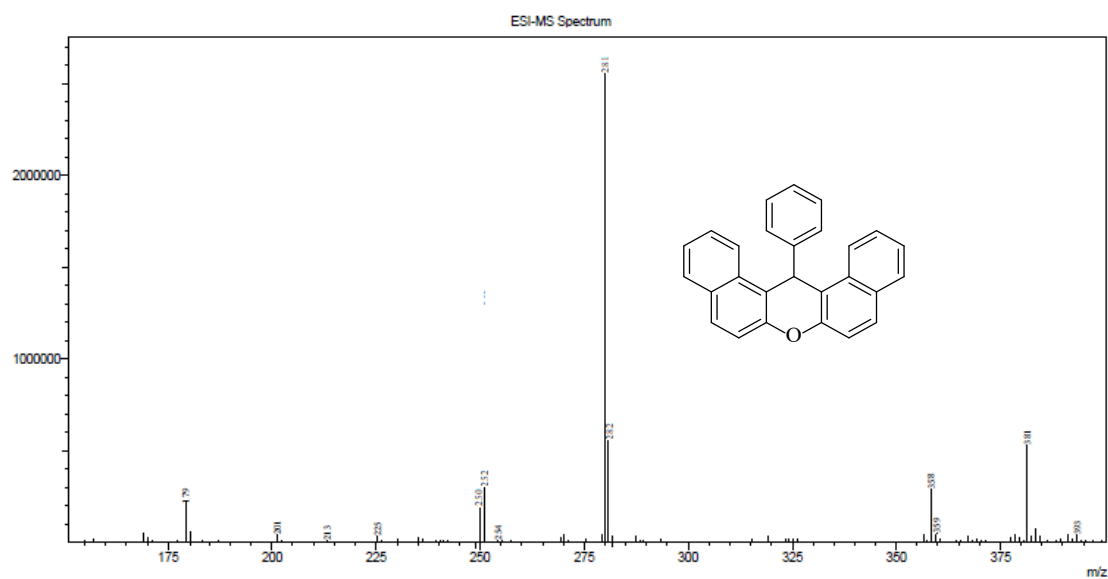


Figure S3: Mass spectrum of compound **3a**

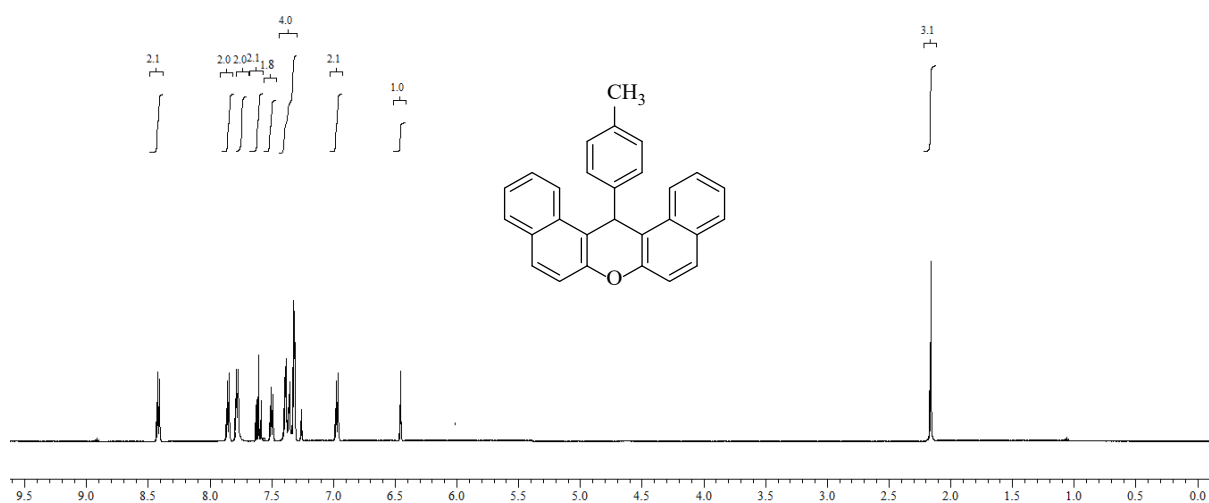


Figure S4: ^1H -NMR (300 MHz, CDCl_3) spectrum of compound **3b**

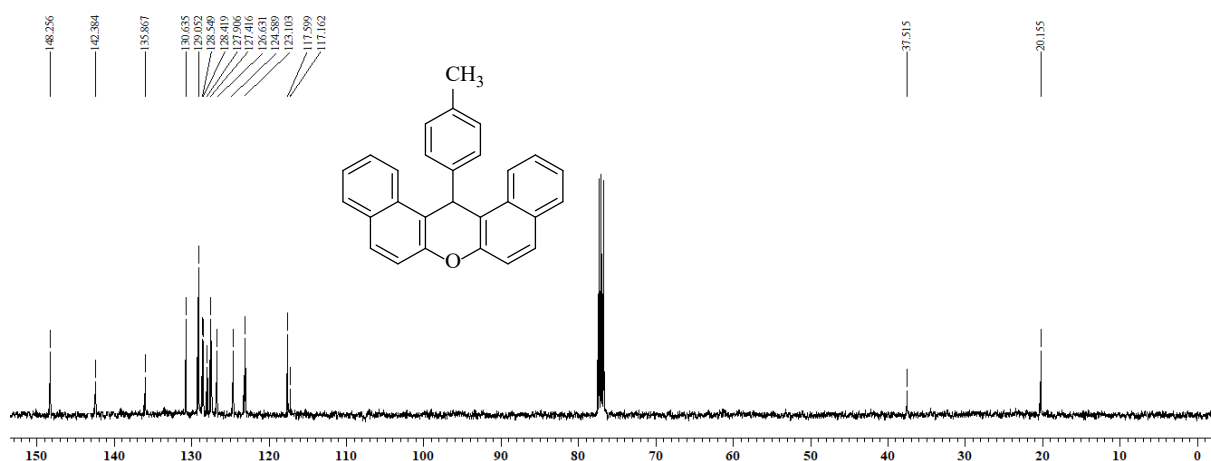


Figure S5: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3b**

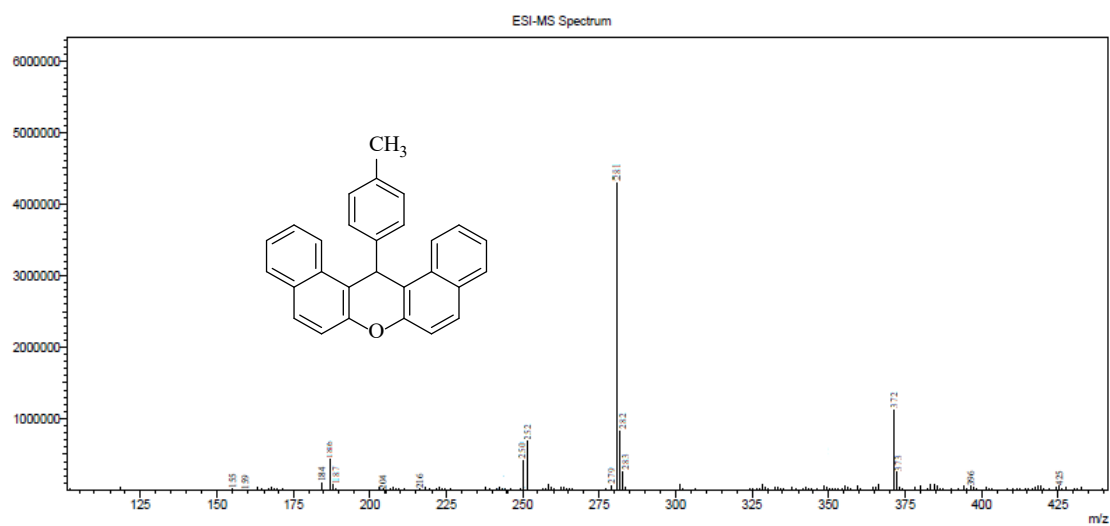


Figure S6: Mass spectrum of compound **3b**

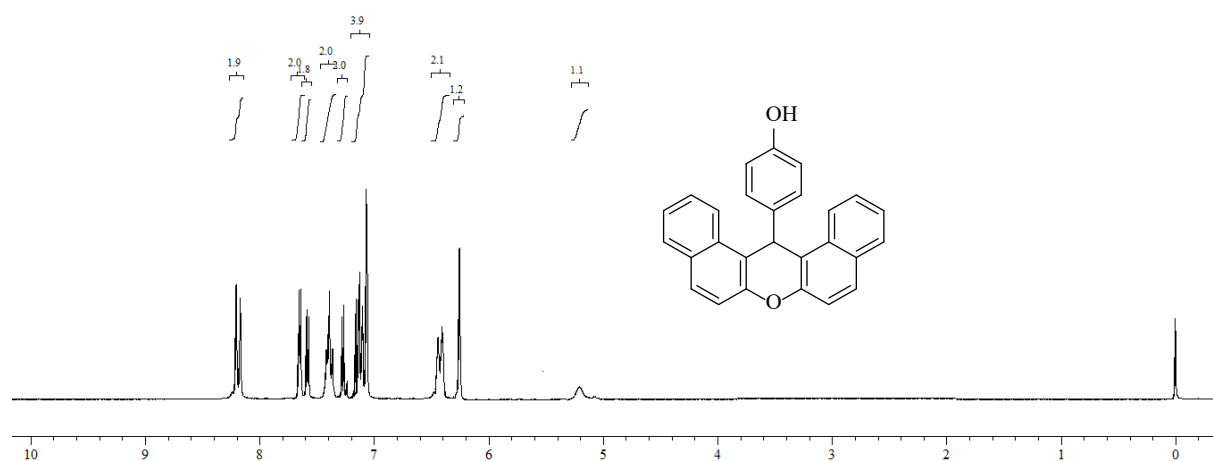


Figure S7: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound 3c

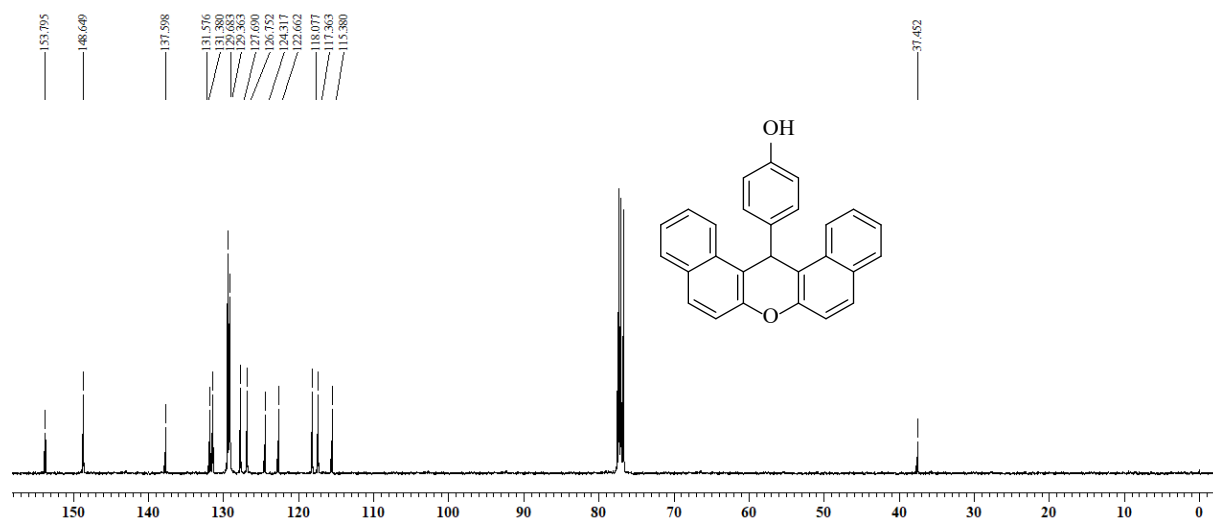


Figure S8: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound 3c

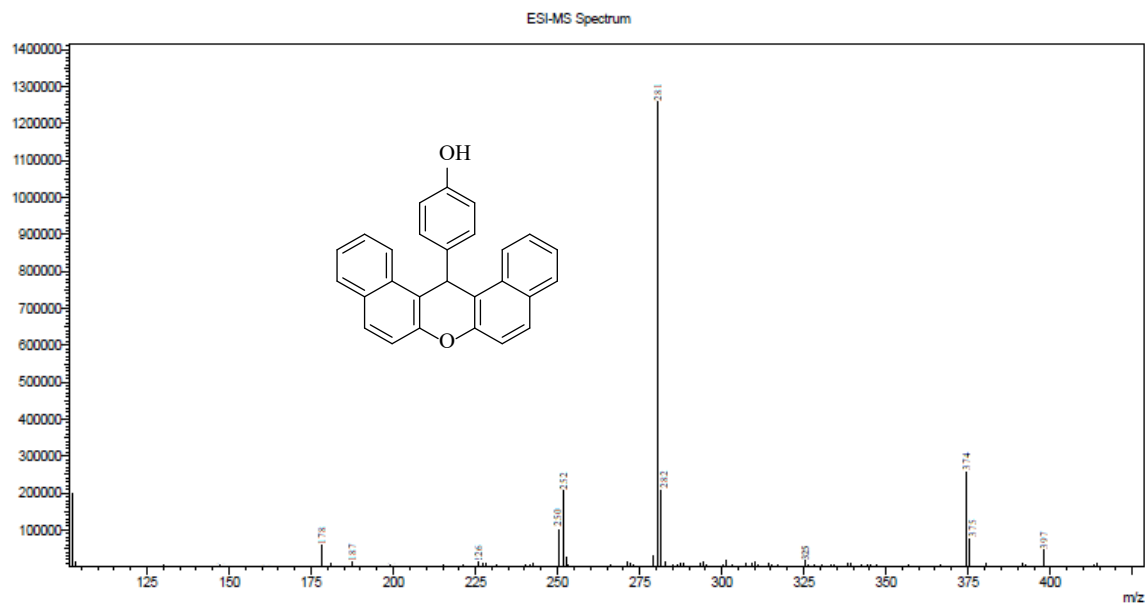


Figure S9: Mass spectrum of compound **3c**

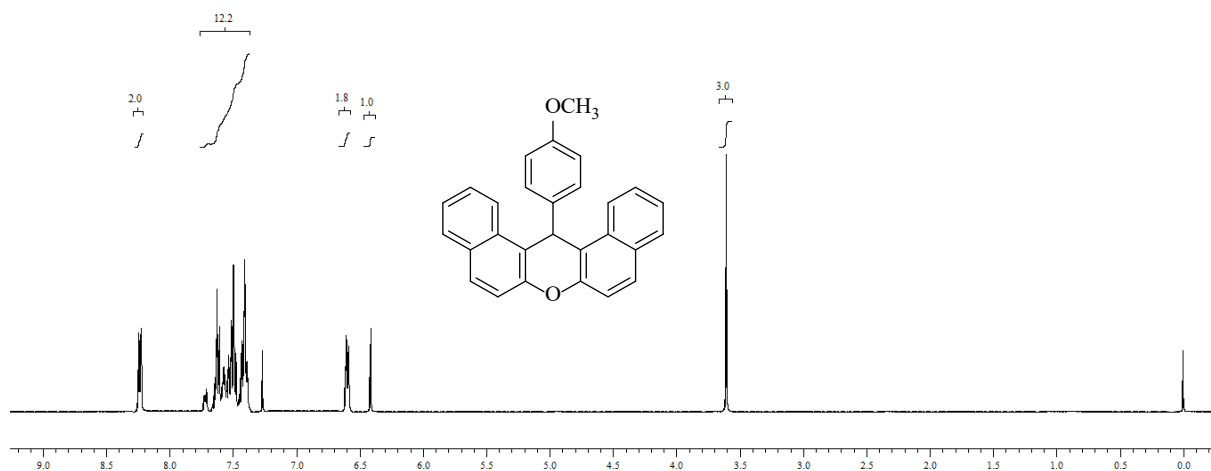


Figure S10: ^1H -NMR (300 MHz, CDCl_3) spectrum of compound **3d**

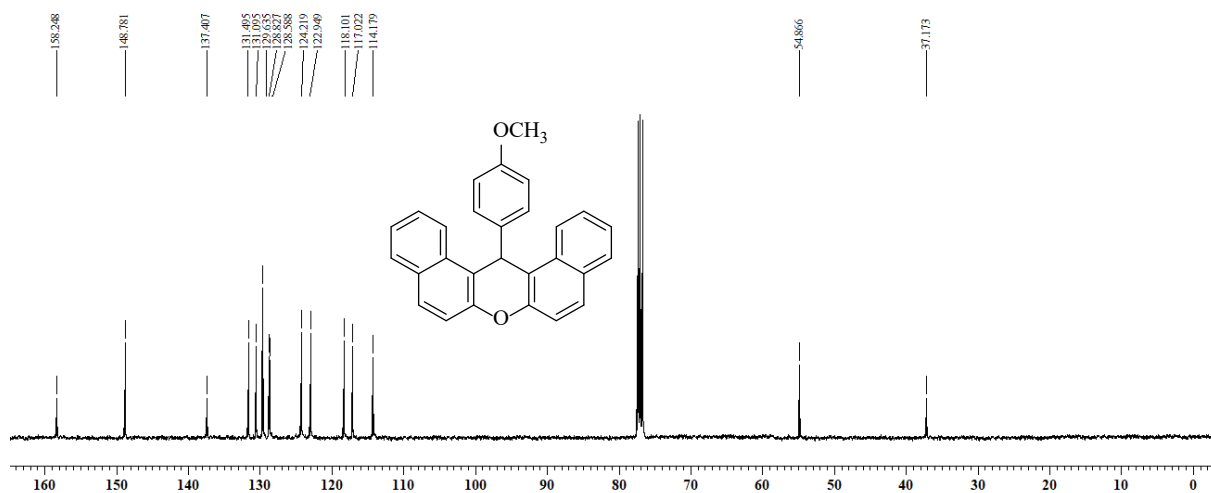


Figure S11: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3d**

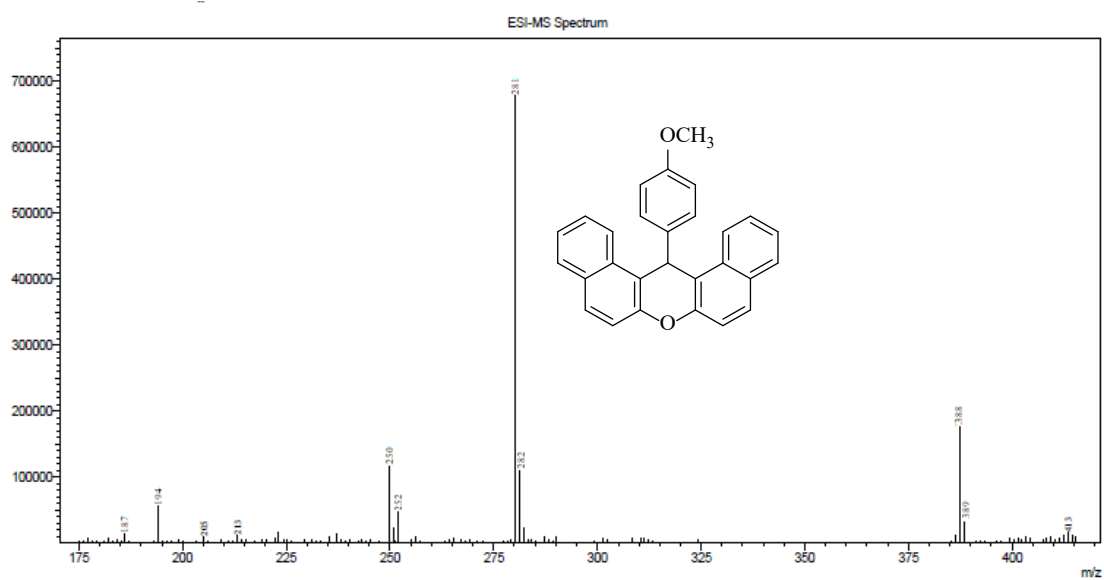


Figure S12: Mass spectrum of compound **3d**

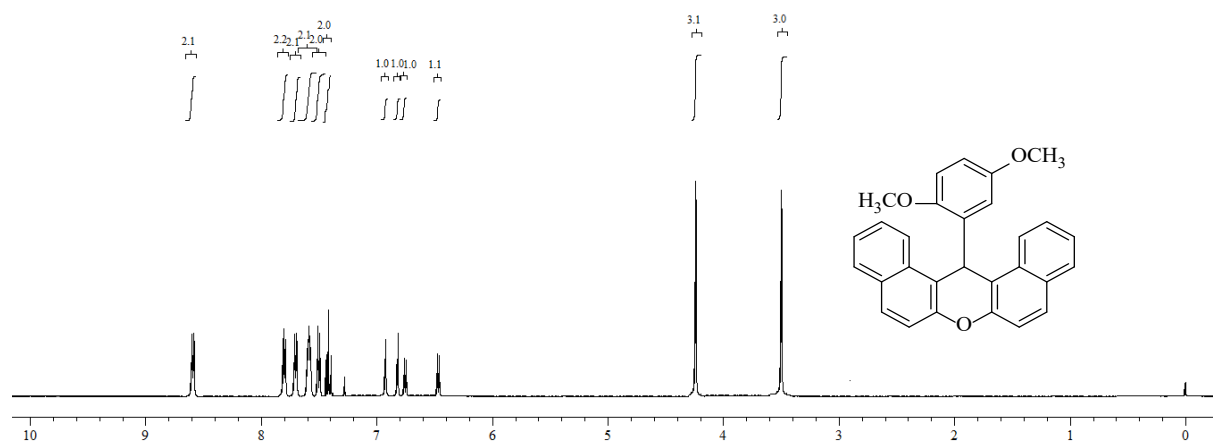


Figure S13: ^1H -NMR (300 MHz, CDCl_3) spectrum of compound **3e**

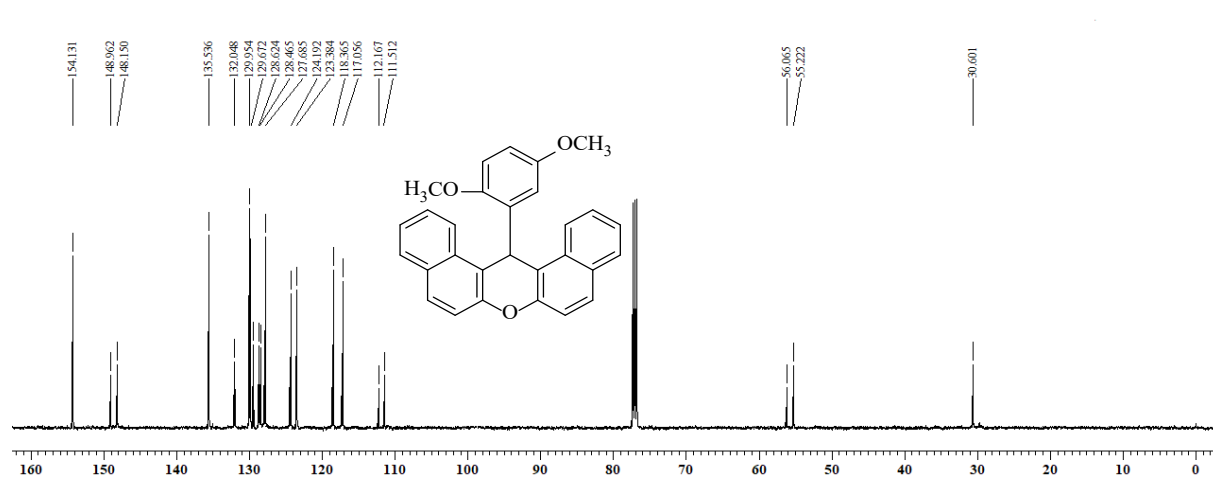


Figure S14: ^{13}C -NMR (75 MHz, CDCl_3) spectrum of compound **3e**

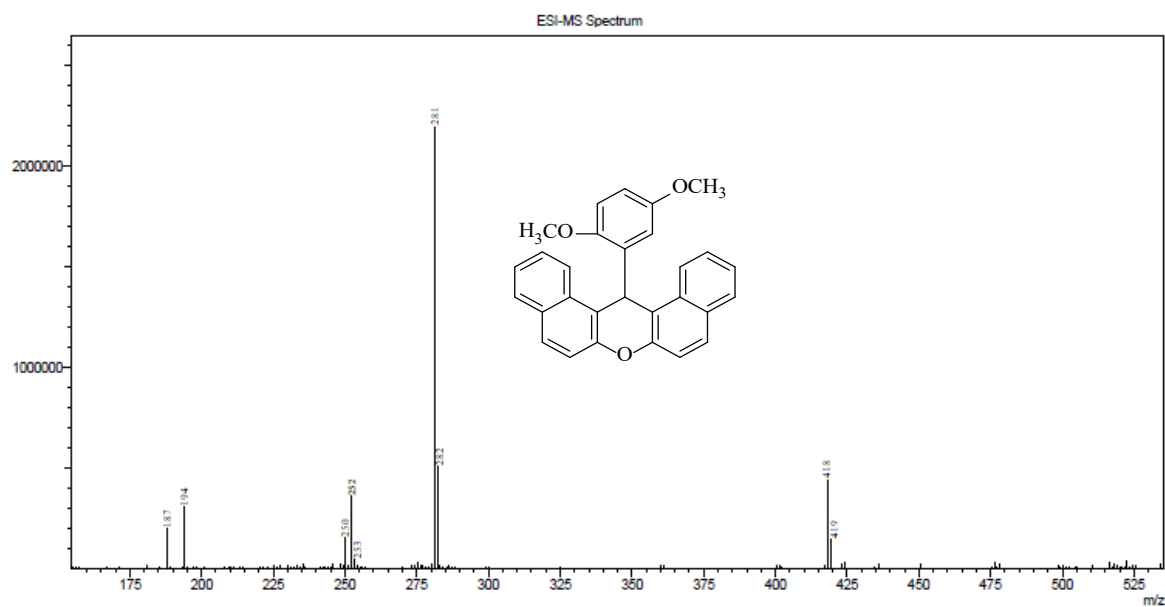


Figure S15: Mass spectrum of compound **3e**

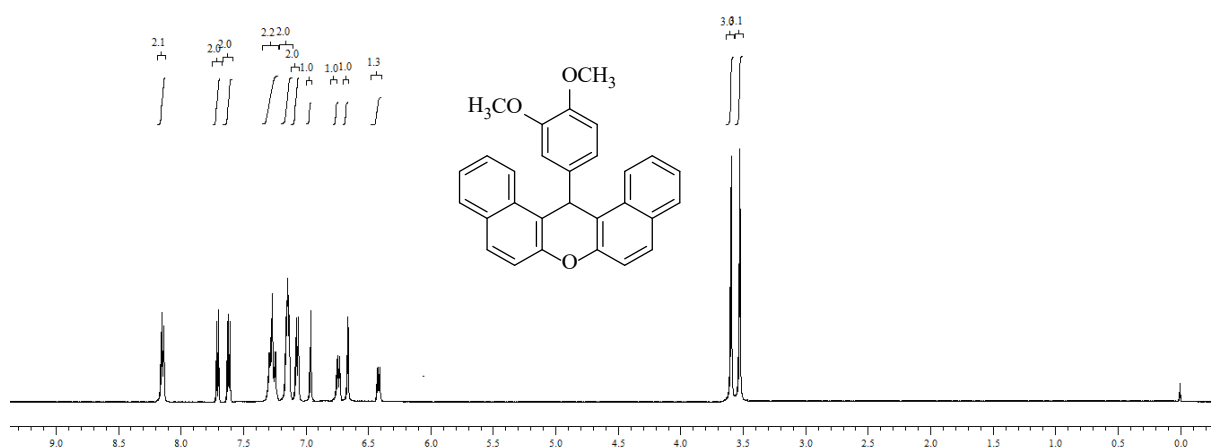


Figure S16: ^1H -NMR (300 MHz, CDCl_3) spectrum of compound **3f**

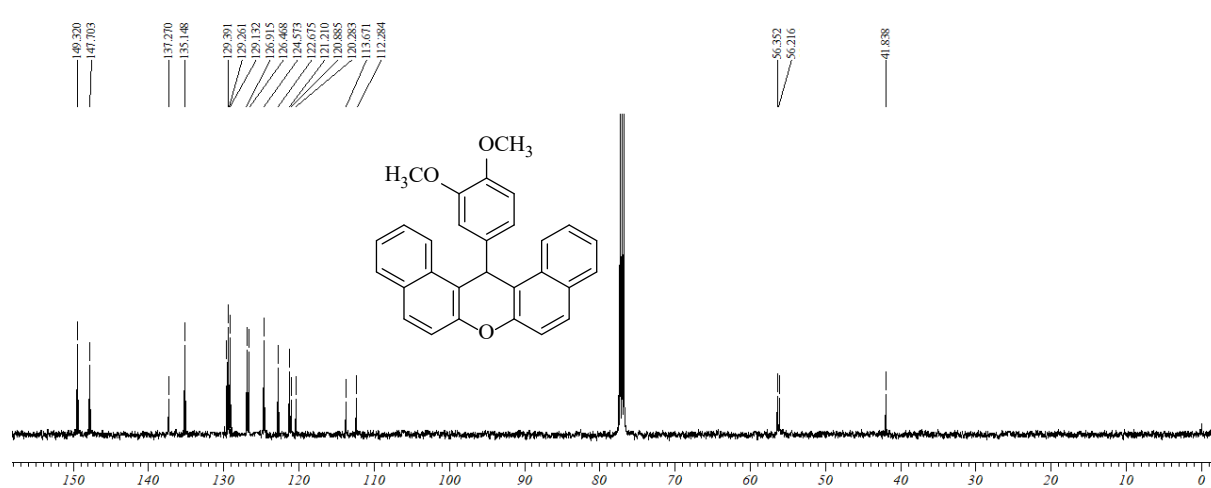


Figure S17: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3f**

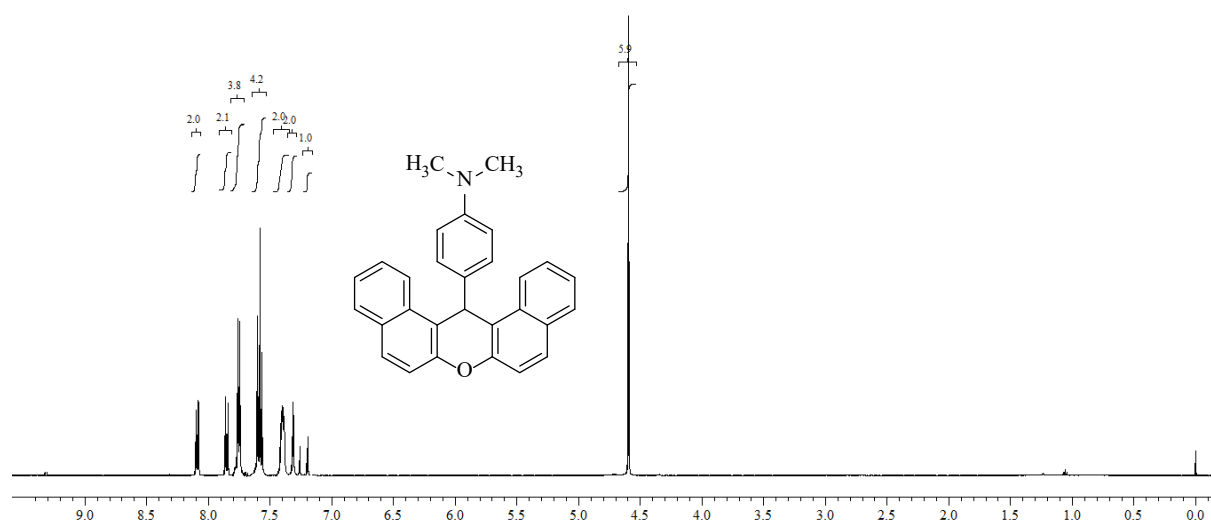


Figure S18: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3g**

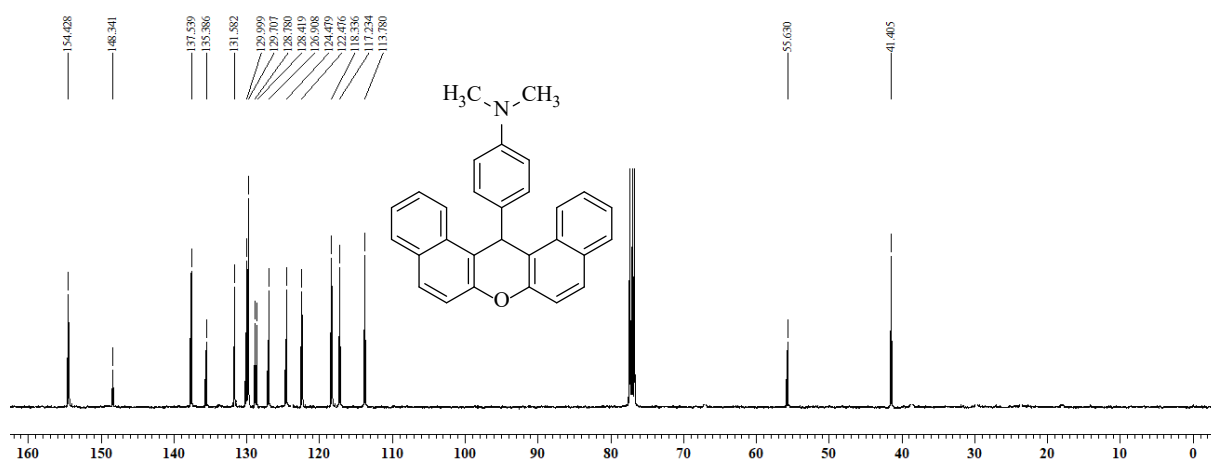


Figure S19: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3g**

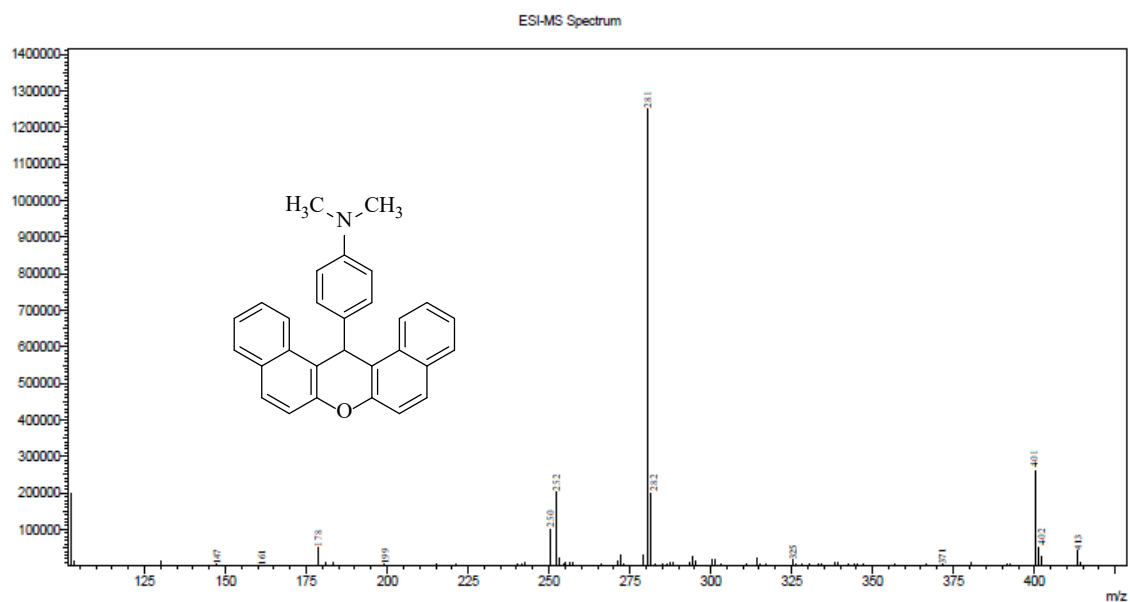


Figure S20: Mass spectrum of compound **3g**

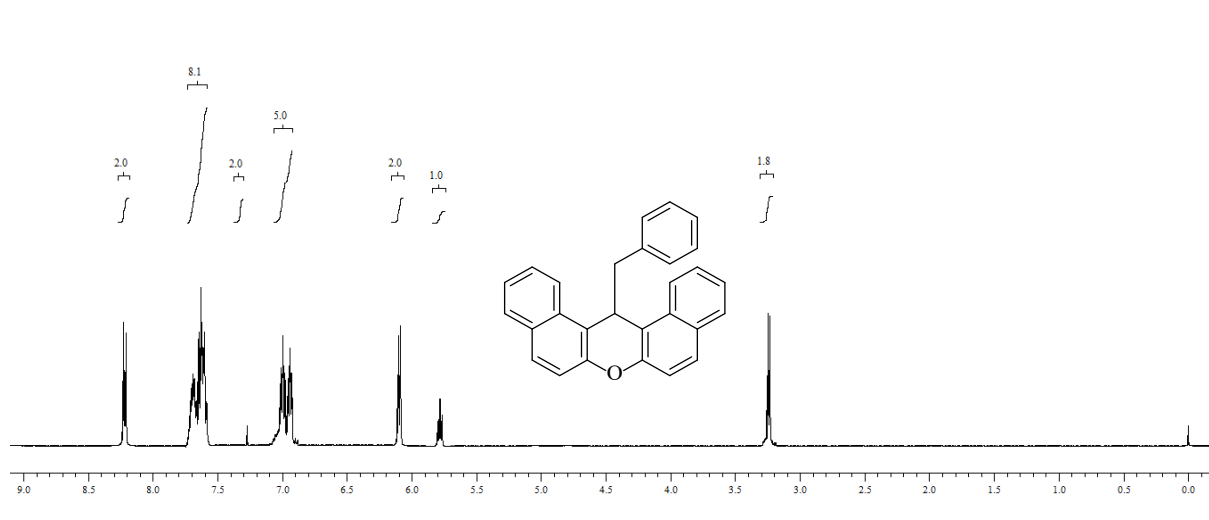


Figure S21: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3h**

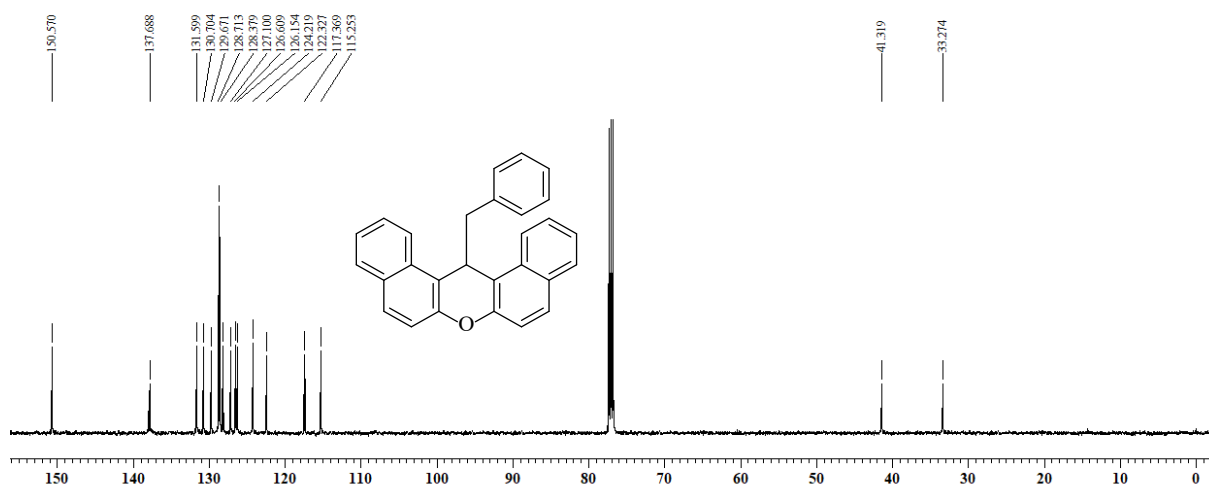


Figure S22: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3h**

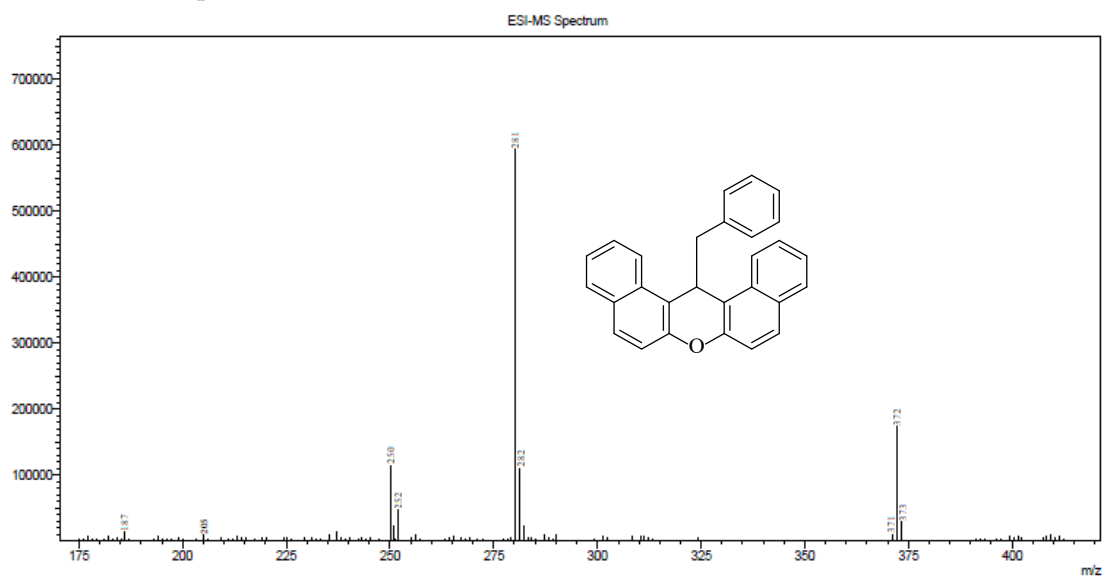


Figure S23: Mass spectrum of compound **3h**

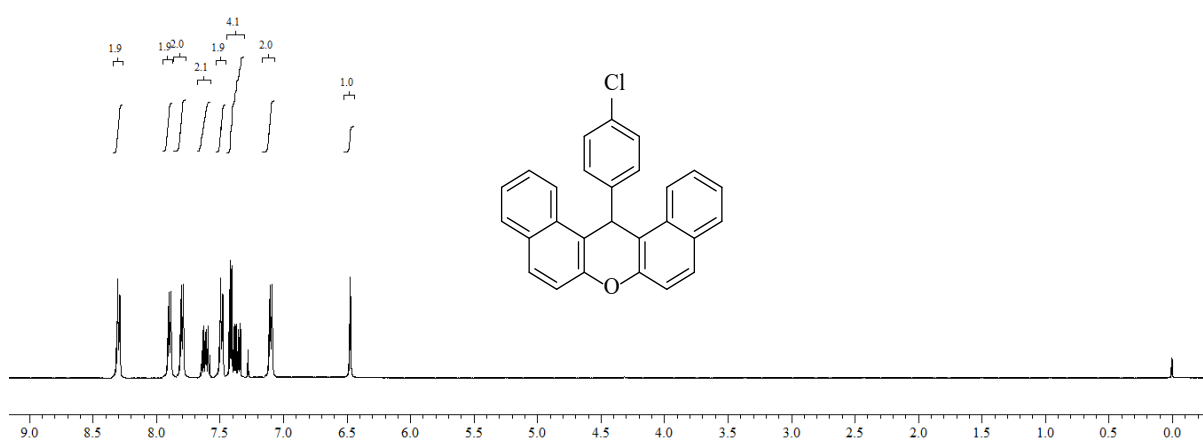


Figure S24: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3i**

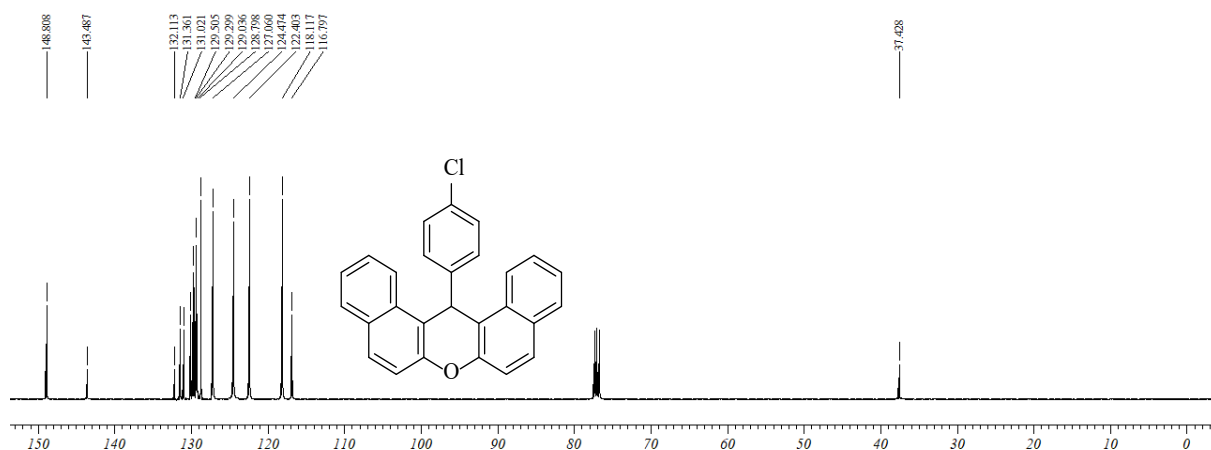


Figure S25: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3i**

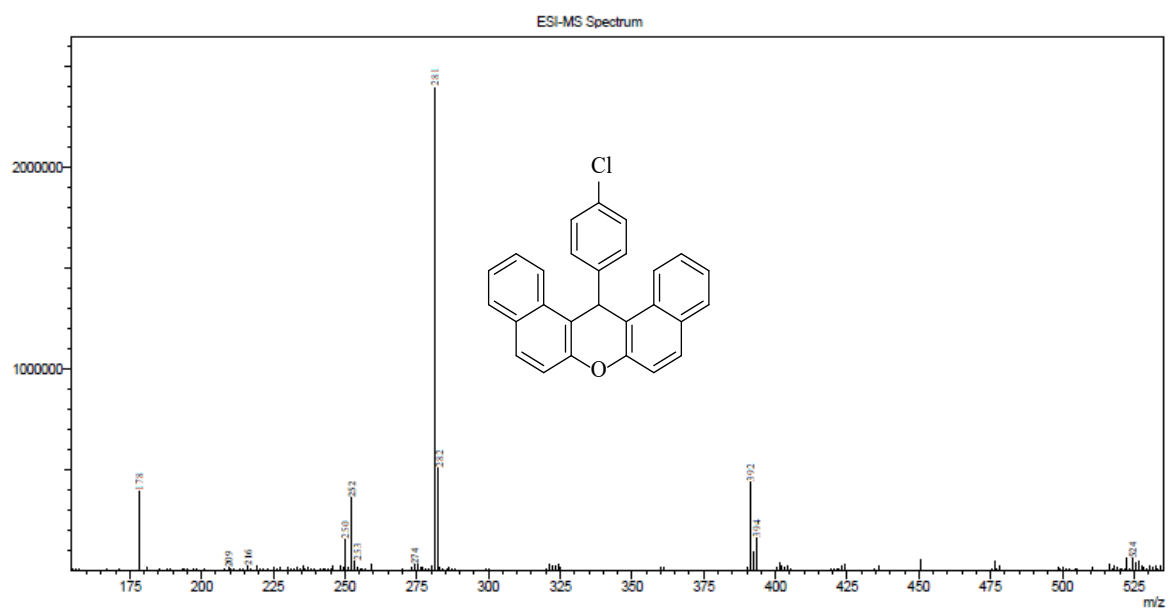


Figure S26: Mass spectrum of compound **3i**

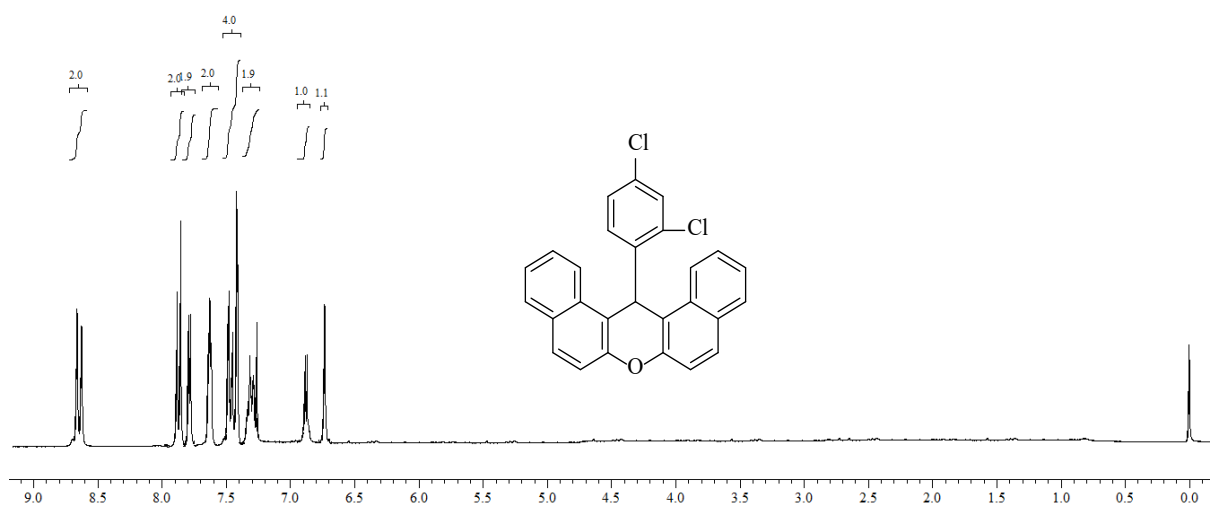


Figure S27: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3j**

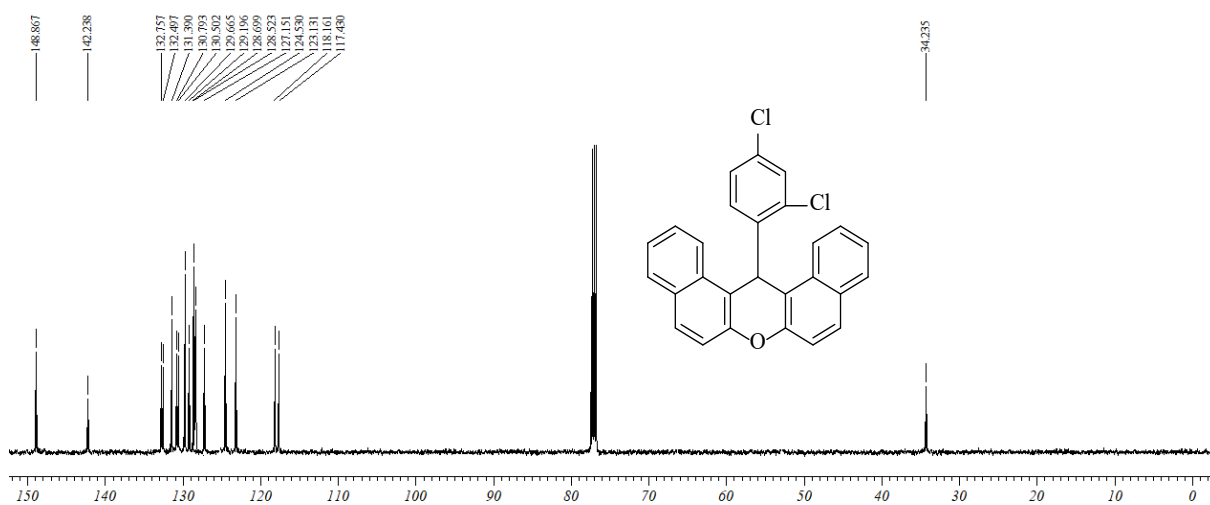


Figure S28: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3j**

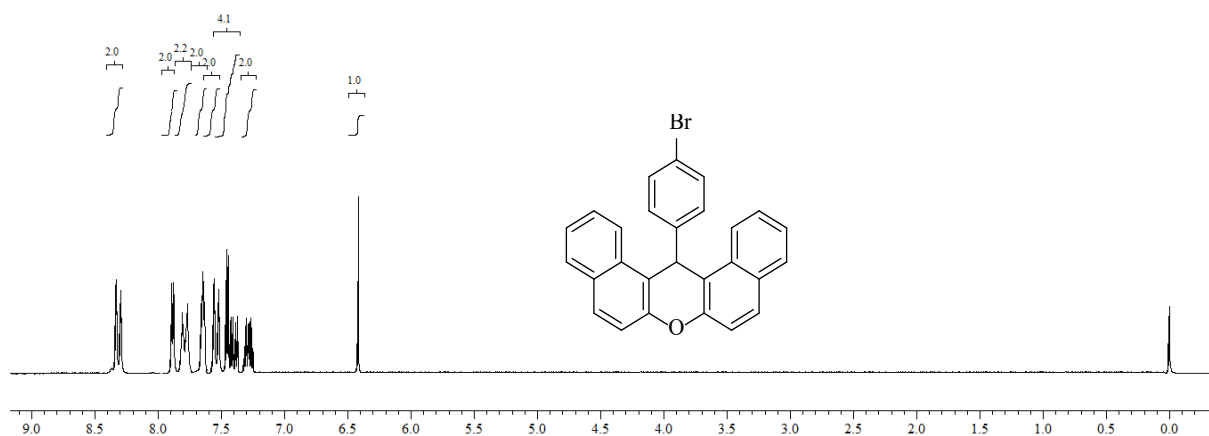


Figure S29: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3k**

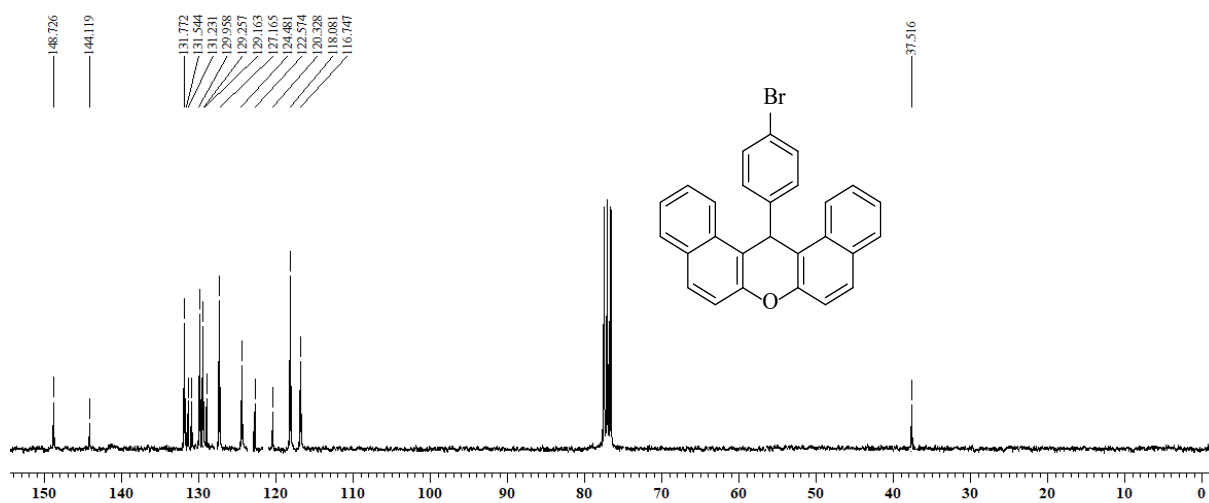


Figure S30: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3k**

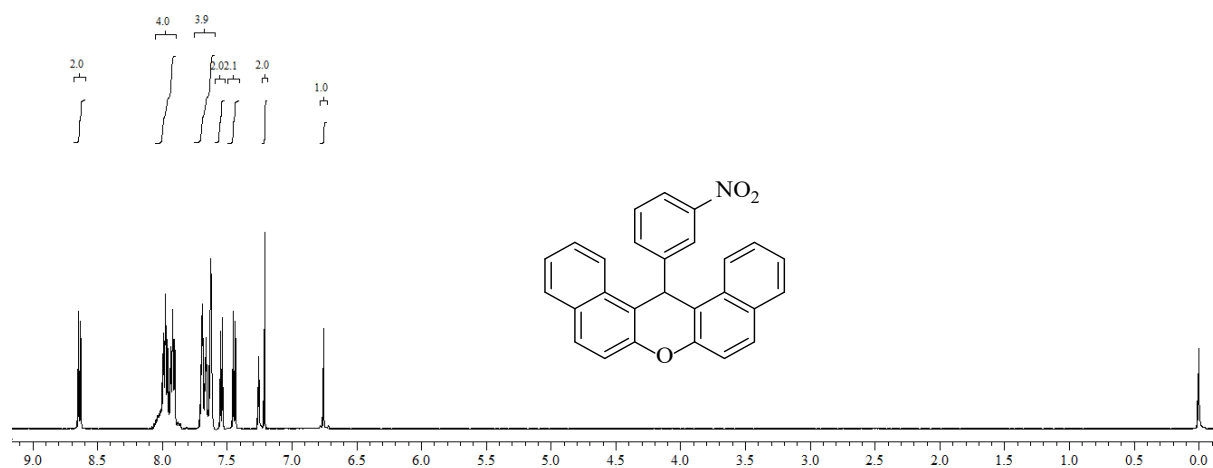


Figure S31: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **31**

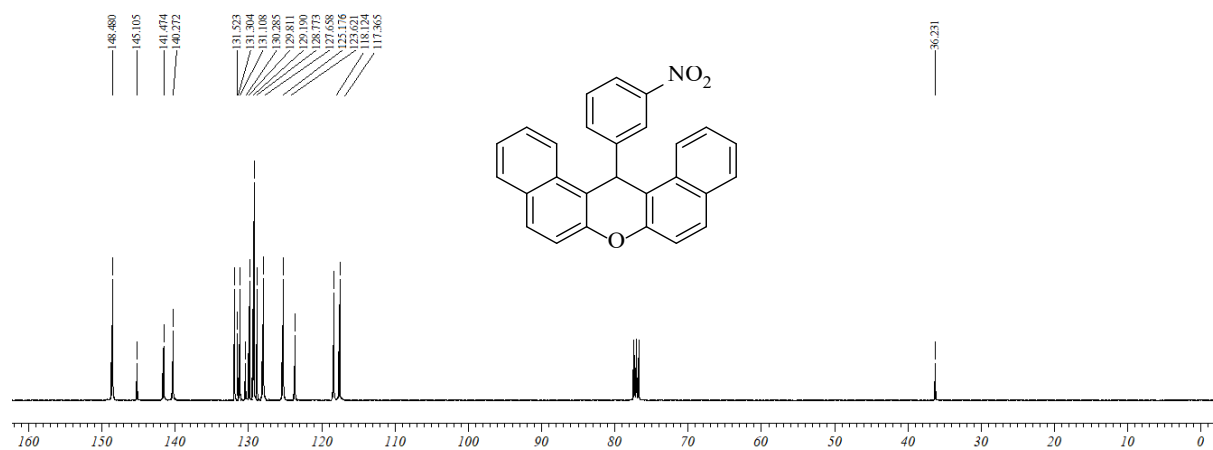


Figure S32: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **31**

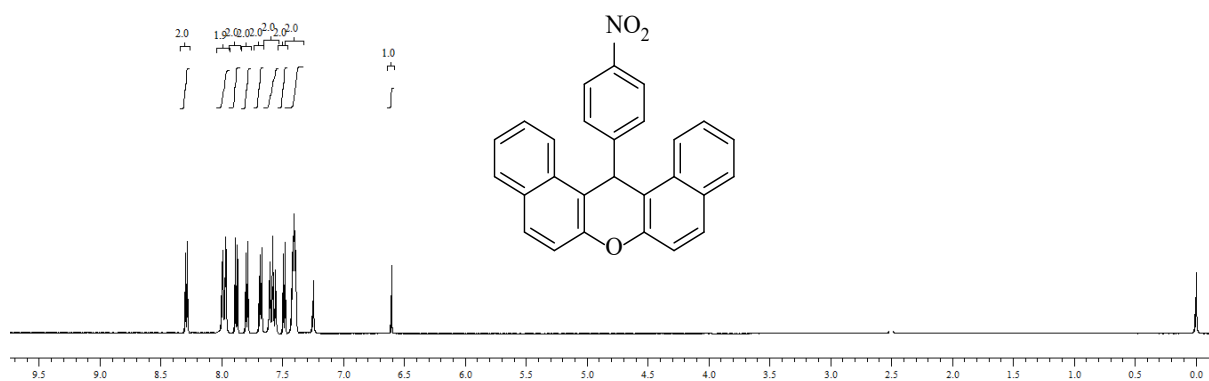


Figure S33: ¹H-NMR (300 MHz, CDCl₃) spectrum of compound **3m**

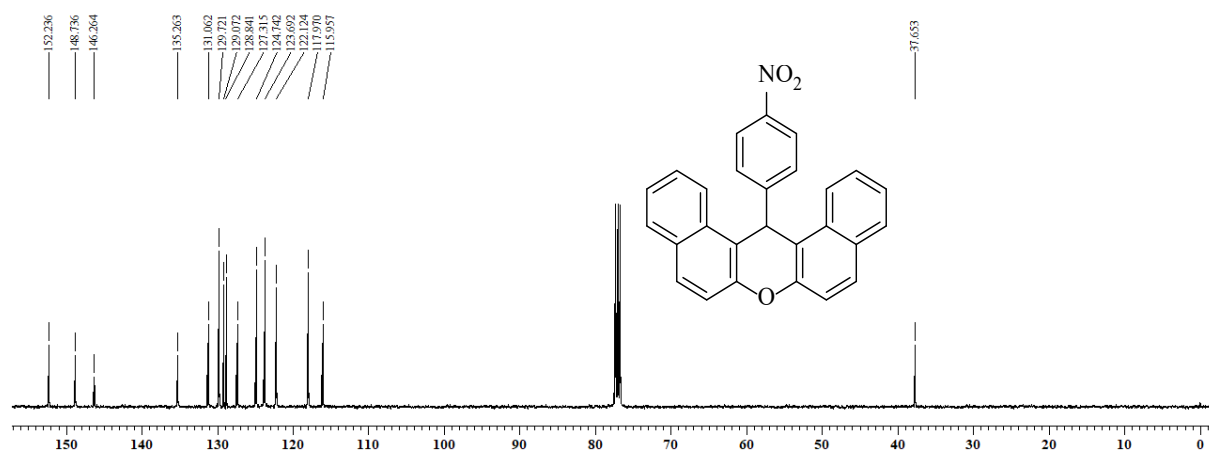


Figure S34: ¹³C-NMR (75 MHz, CDCl₃) spectrum of compound **3m**

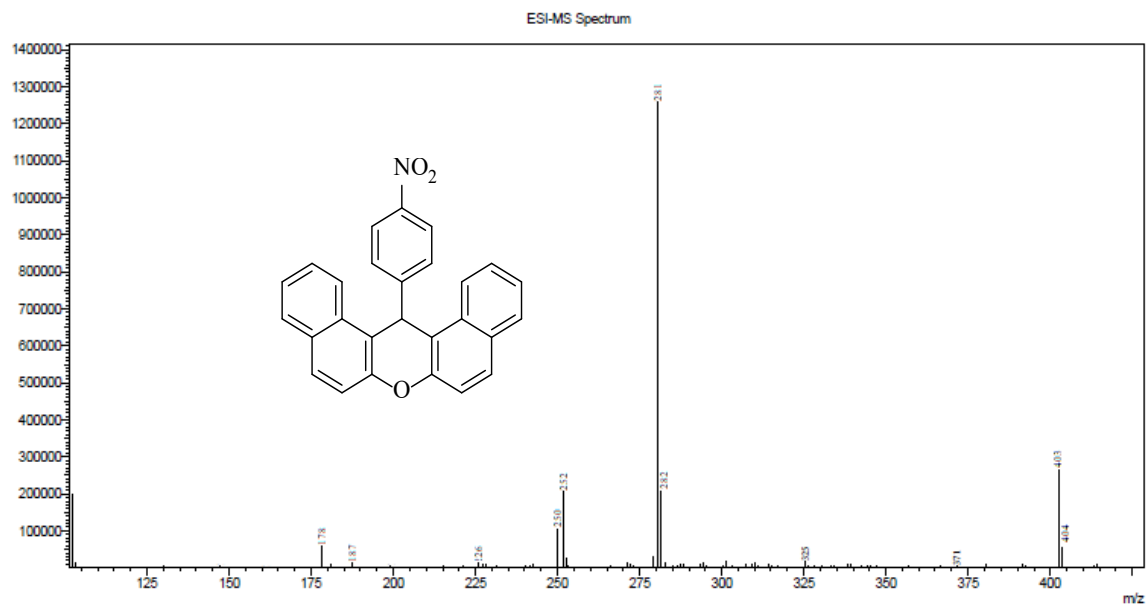


Figure S35: Mass spectrum of compound **3m**