

First intramolecular Diels-Alder using chromone derivatives: Synthesis of chromeno[3,4-*b*]xanthenes and (benzo[*c*]chromenyl)chromones

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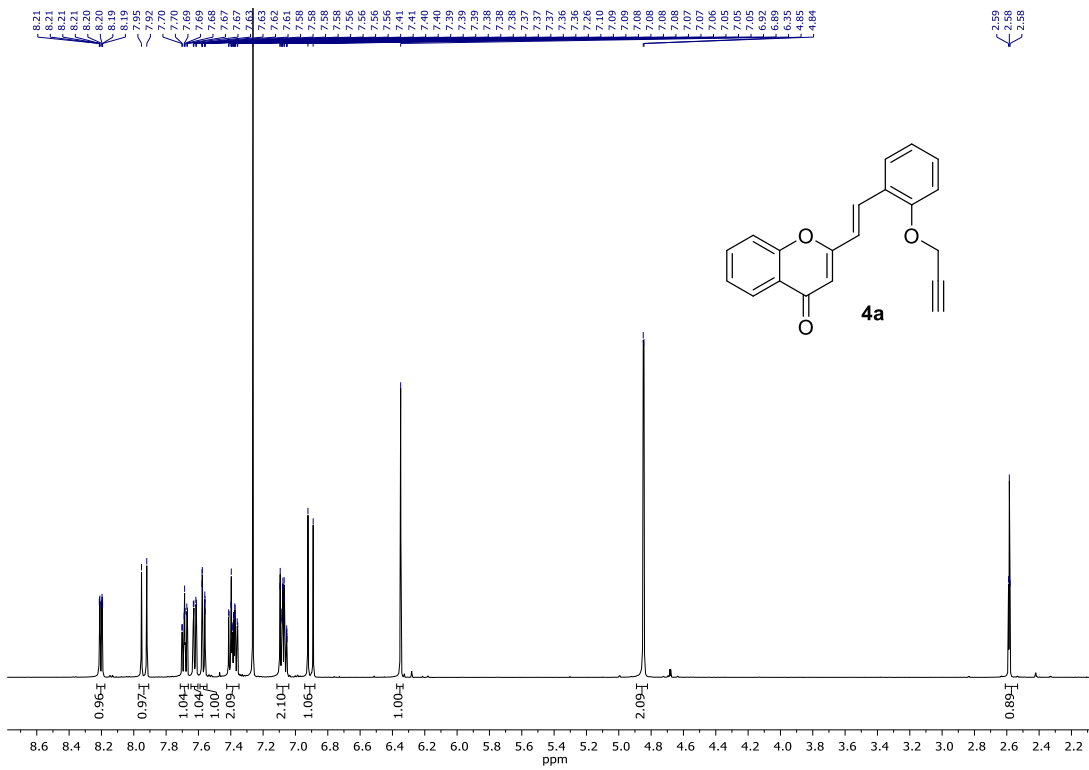


Figure S1: ¹H NMR of compound 4a (500 MHz, CDCl₃).

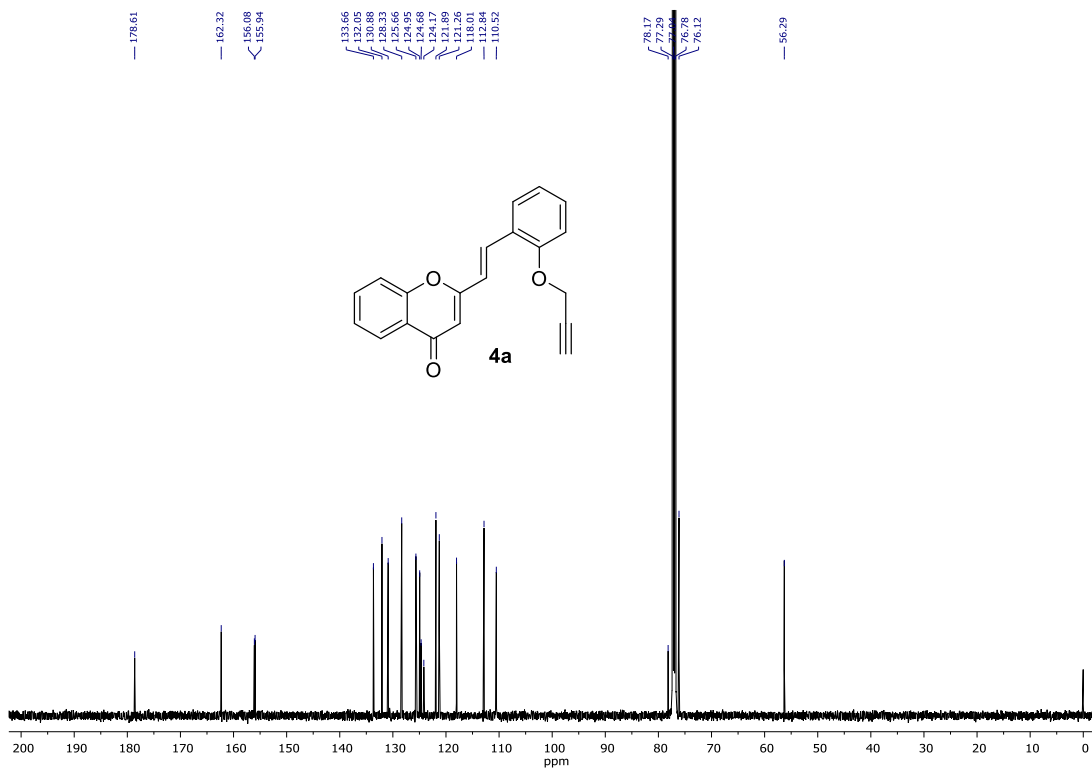


Figure S2: ¹³C NMR of compound 4a (125 MHz, CDCl₃).

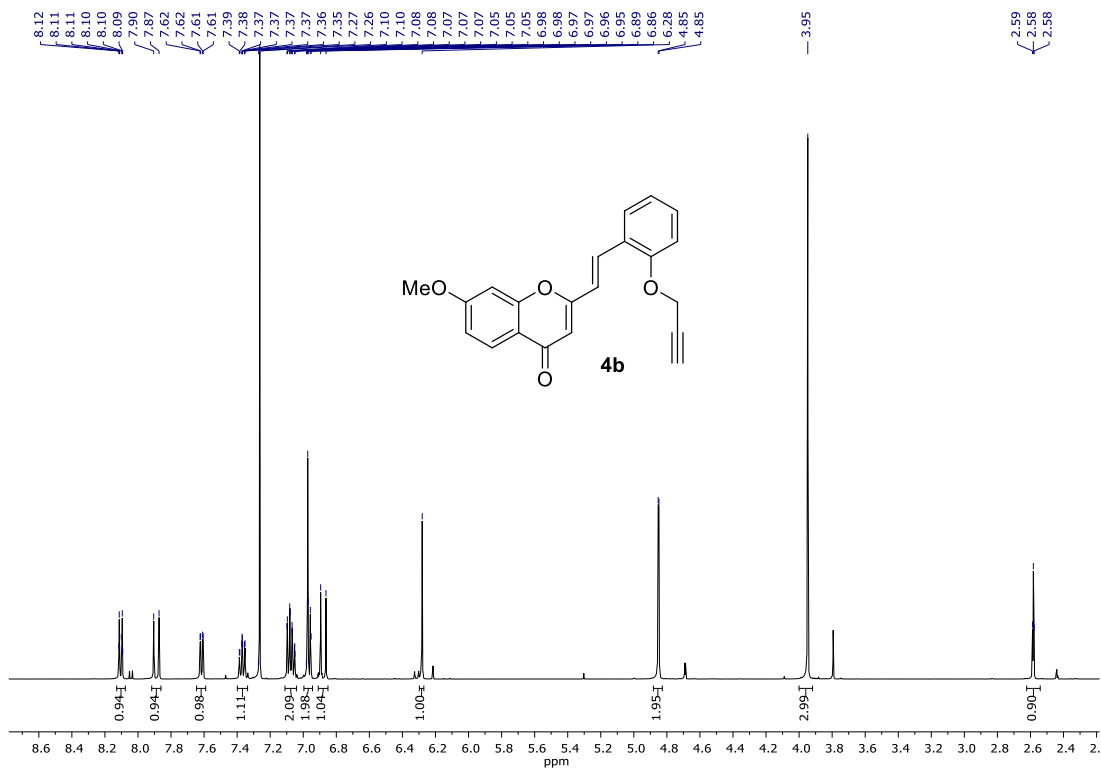


Figure S3: ^1H NMR of compound **4b** (500 MHz, CDCl_3).

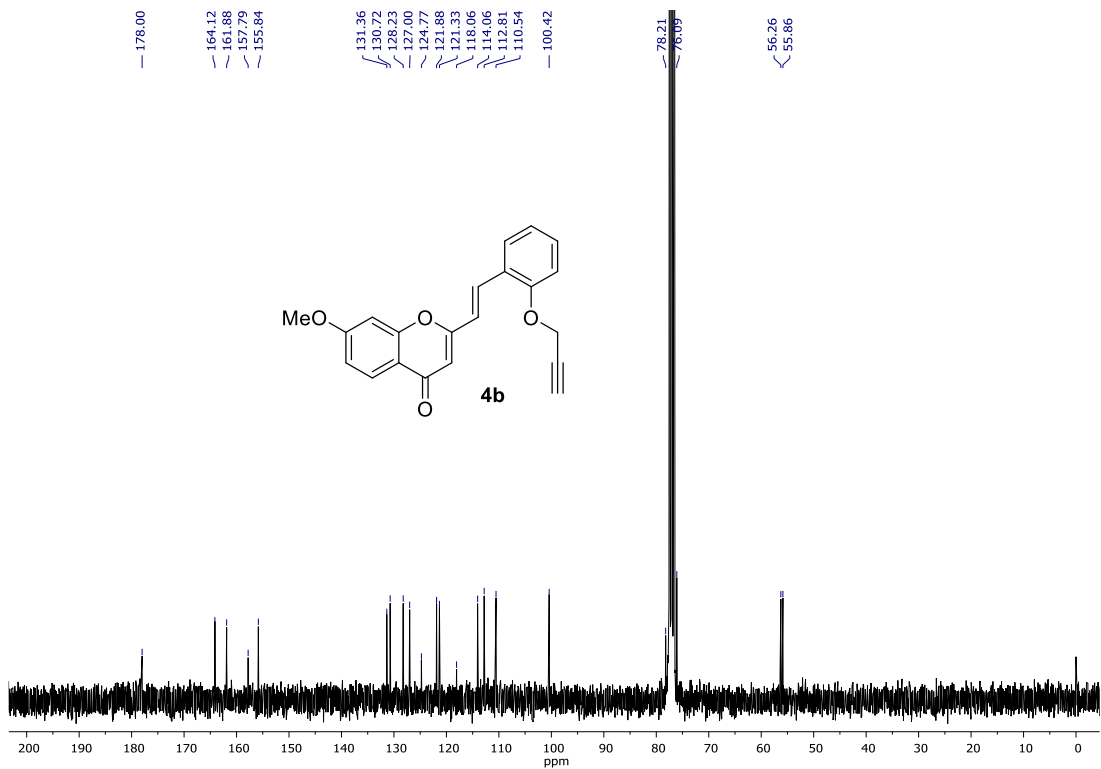


Figure S4: ^{13}C NMR of compound **4b** (75 MHz, CDCl_3).

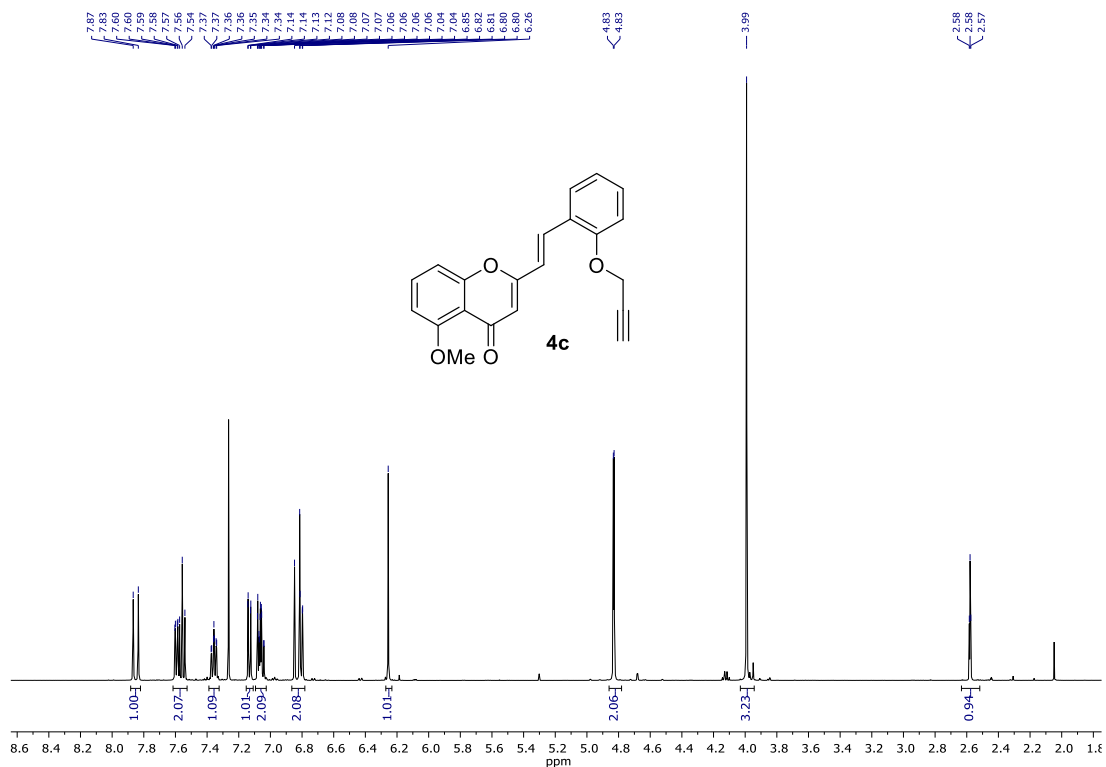


Figure S5: ¹H NMR of compound **4c** (500 MHz, CDCl₃).

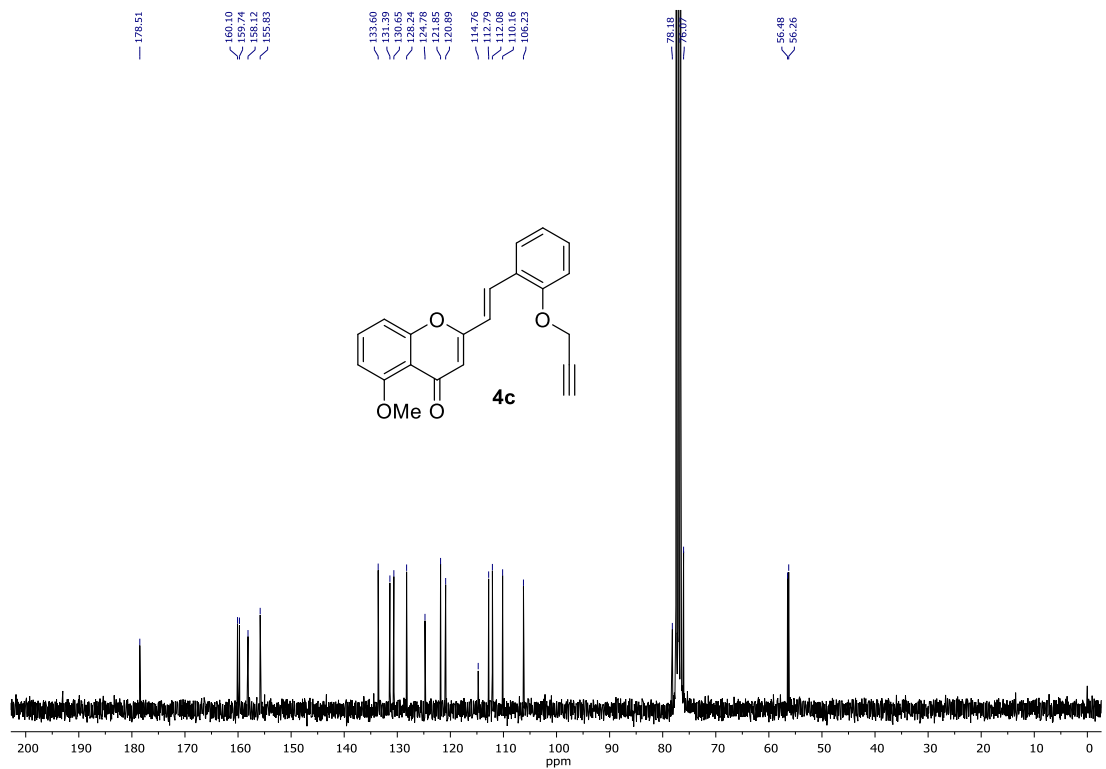


Figure S6: ¹³C NMR of compound **4c** (75 MHz, CDCl₃).

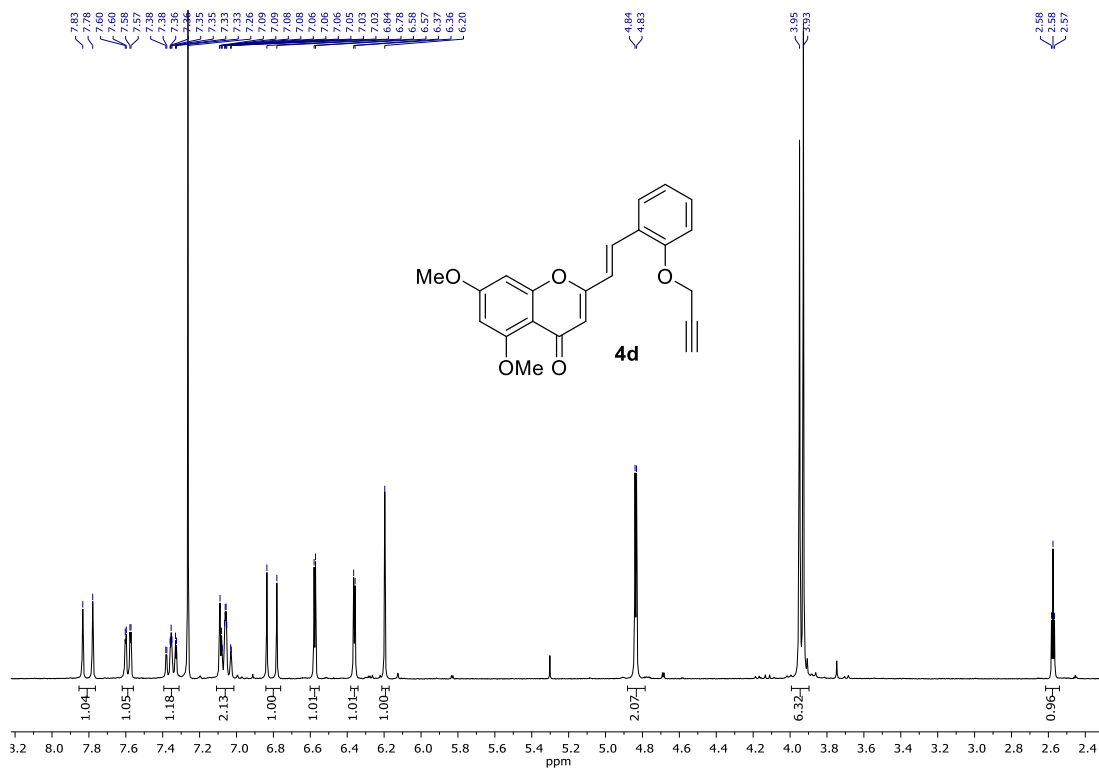


Figure S7: ¹H NMR of compound **4d** (300 MHz, CDCl₃).

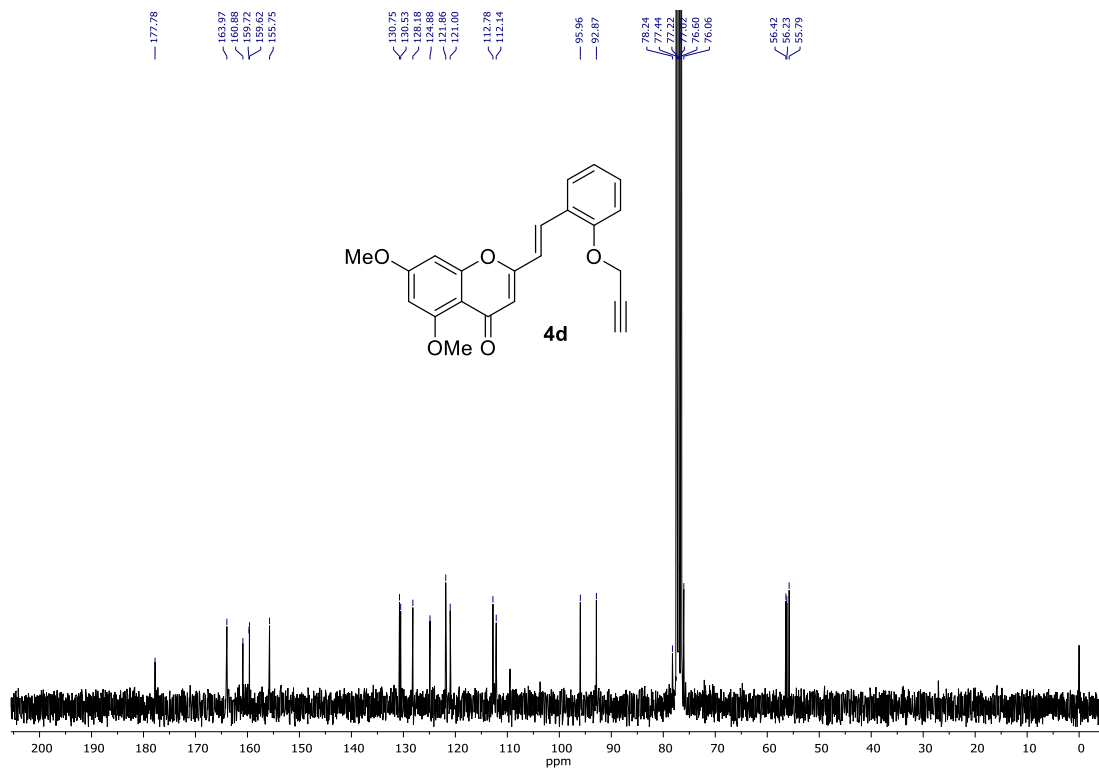


Figure S8: ¹³C NMR of compound **4d** (75 MHz, CDCl₃).

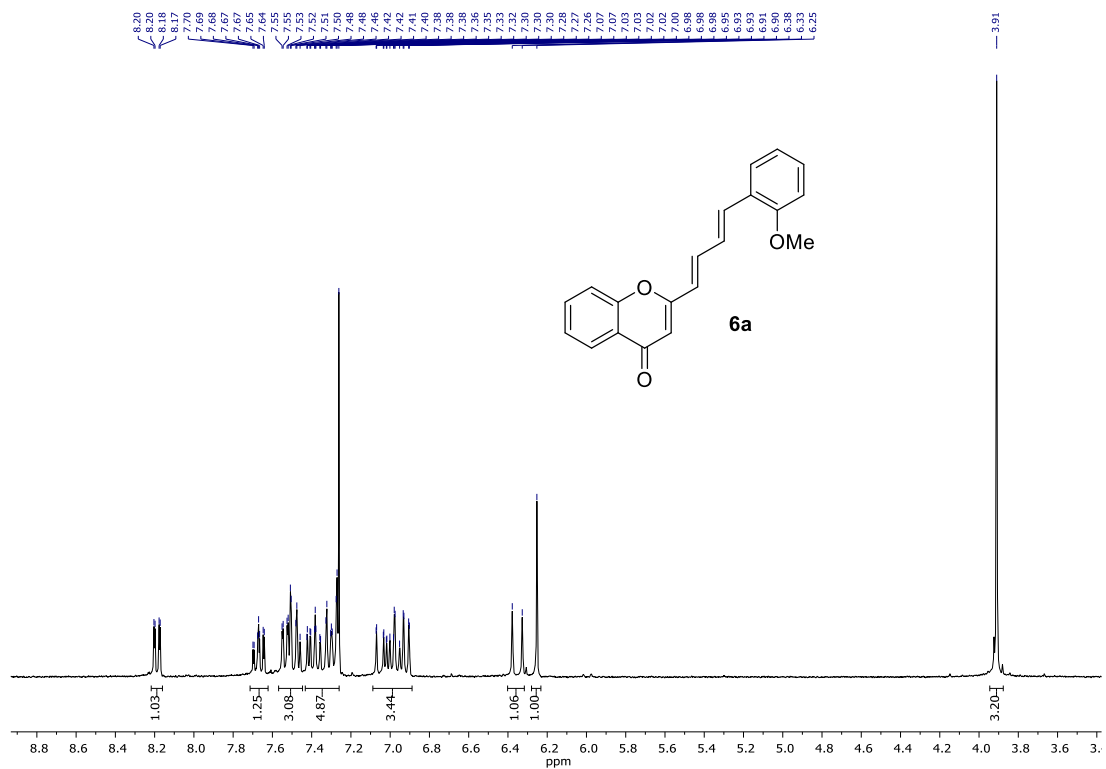


Figure S9: ¹H NMR of compound **6a** (300 MHz, CDCl₃).

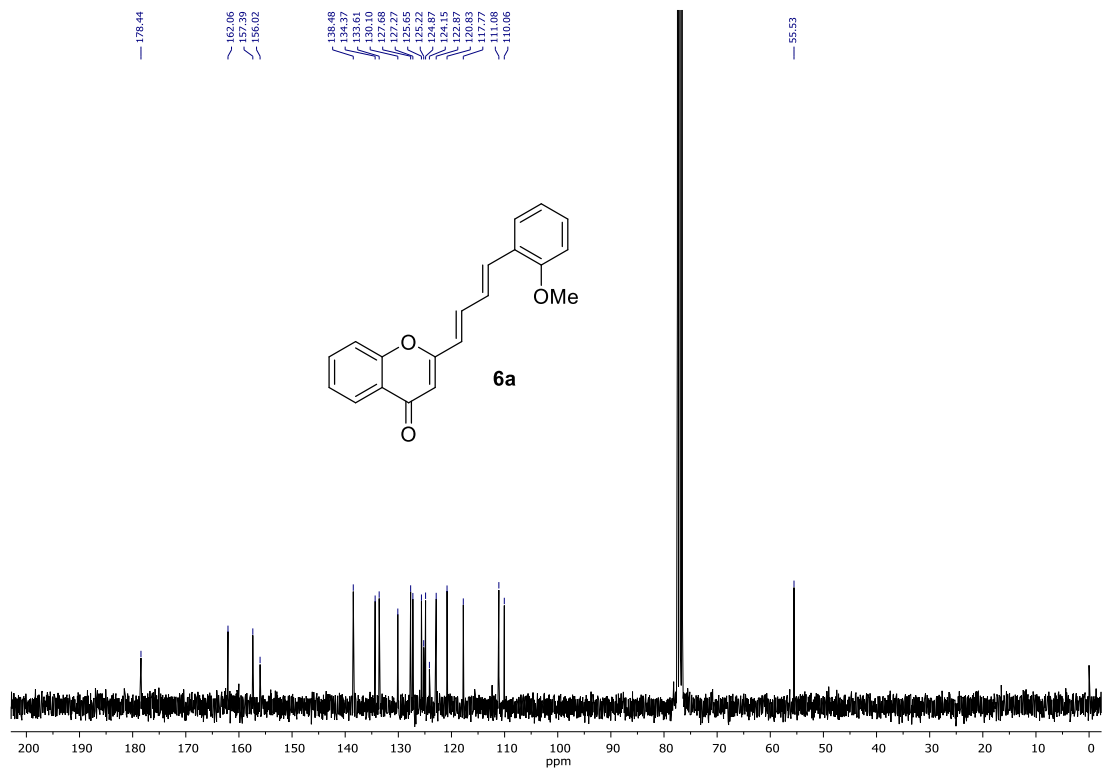


Figure S10: ¹³C NMR of compound **6a** (75 MHz, CDCl₃).

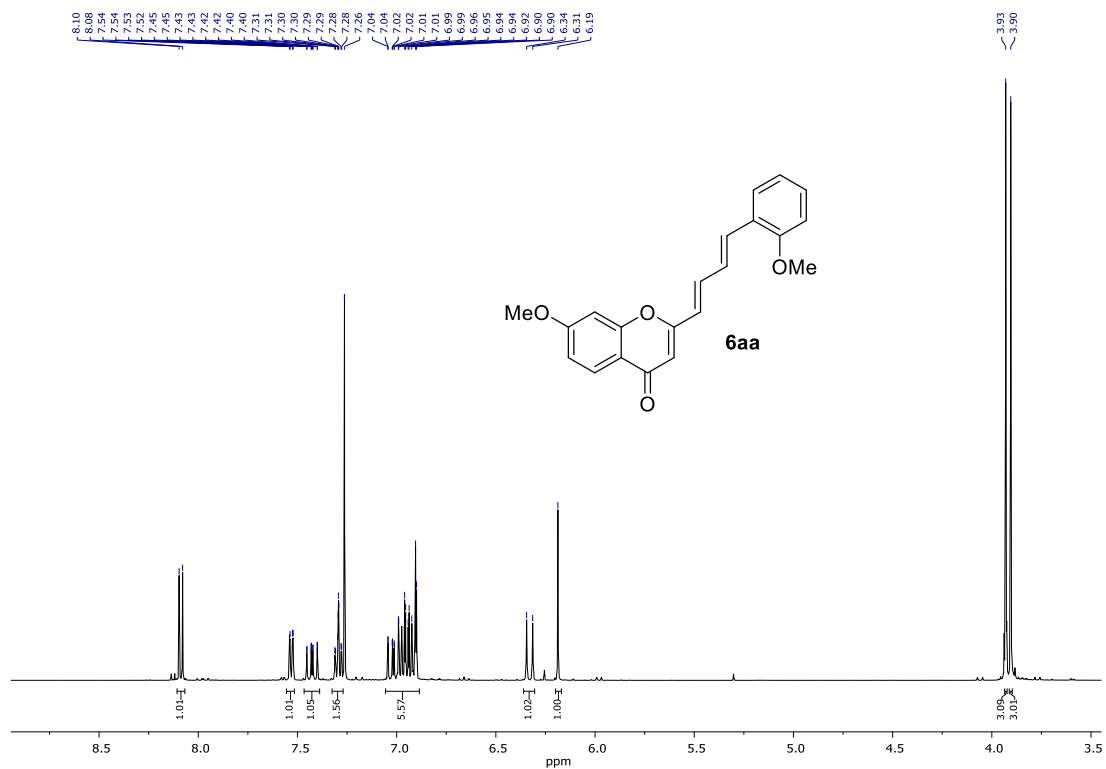


Figure S11: ¹H NMR of compound **6aa** (500 MHz, CDCl₃).

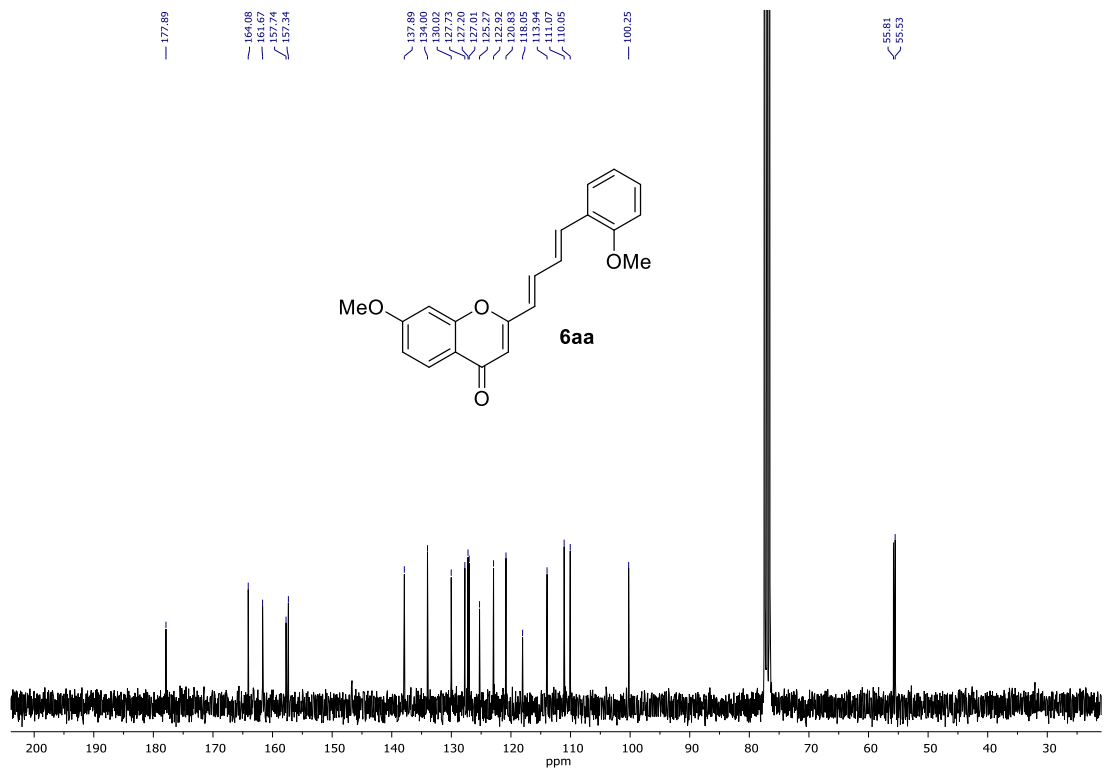


Figure S12: ¹³C NMR of compound **6aa** (75 MHz, CDCl₃).

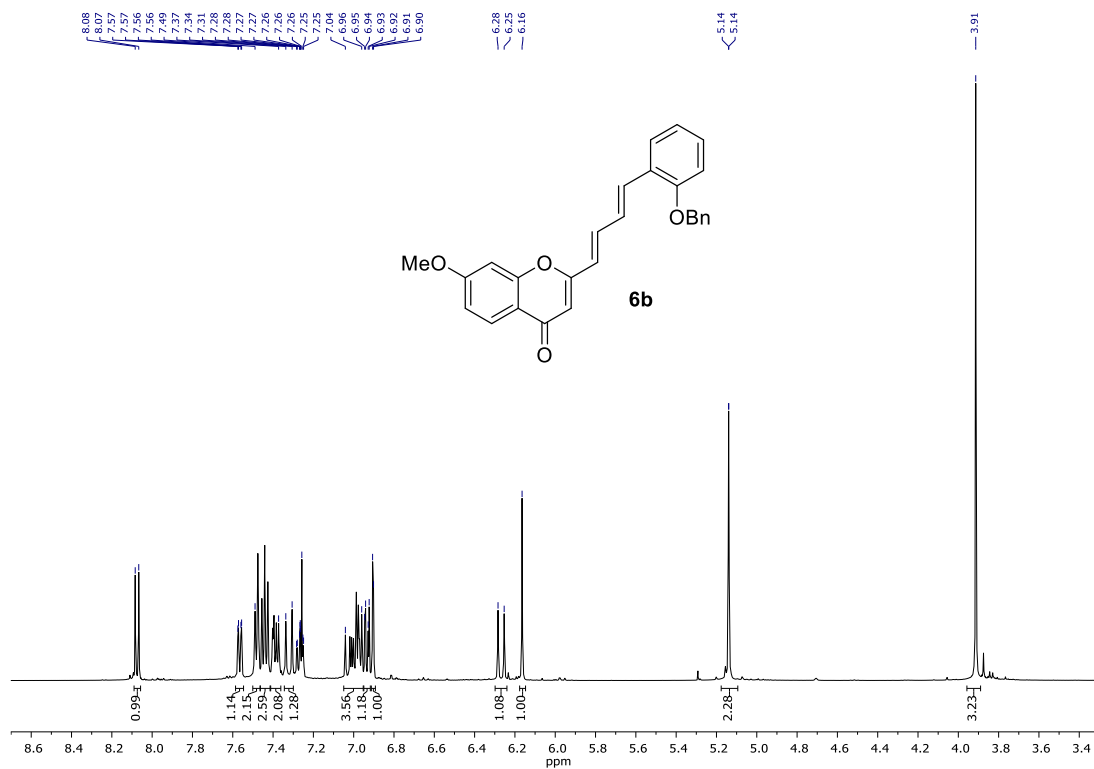


Figure S13: ¹H NMR of compound **6b** (500 MHz, CDCl₃).

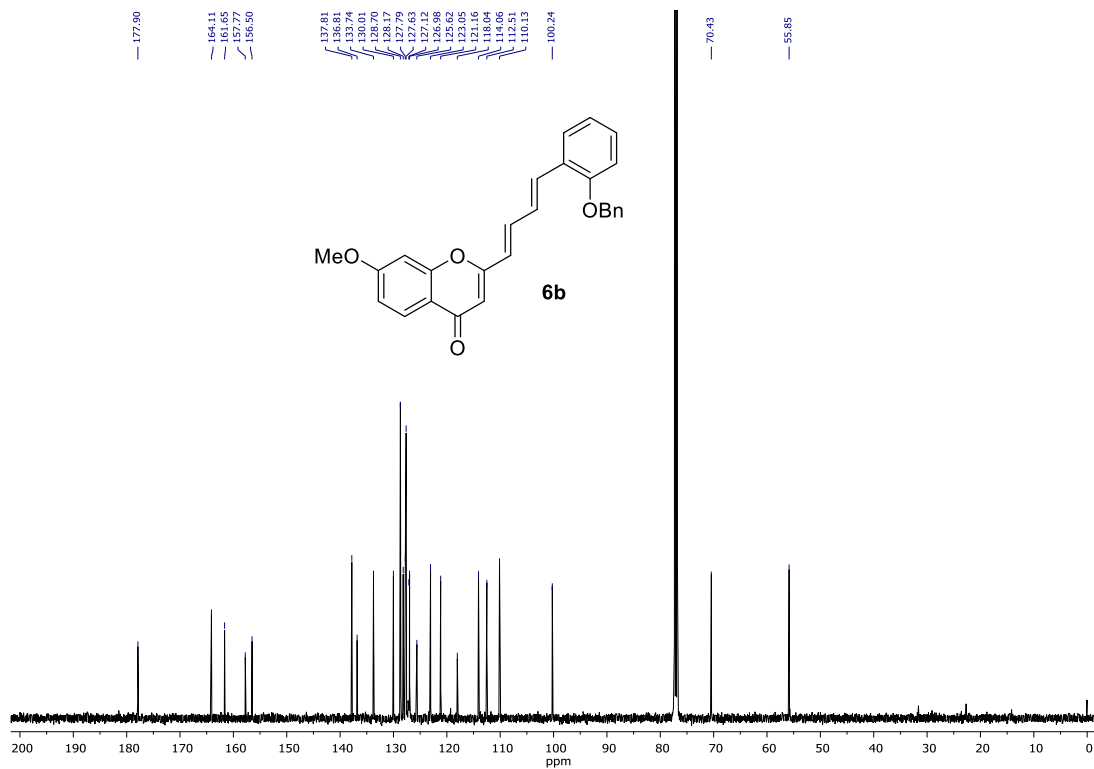


Figure S14: ¹³C NMR of compound **6b** (125 MHz, CDCl₃).

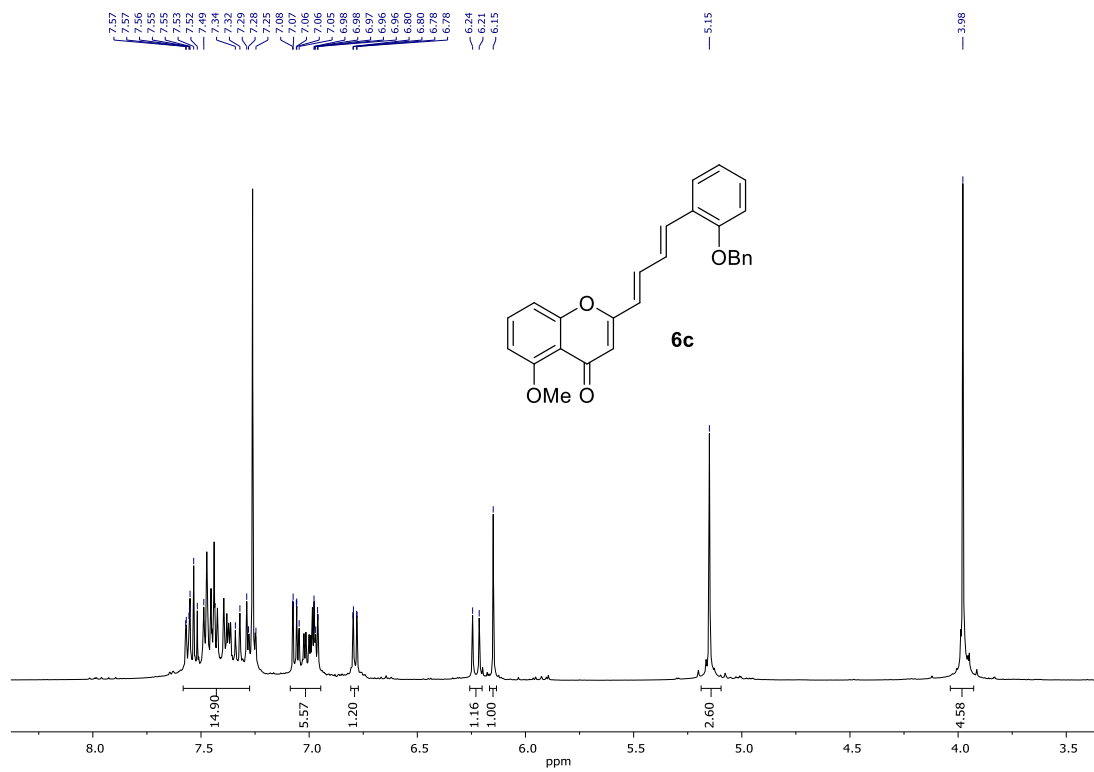


Figure S15: ¹H NMR of compound **6c** (500 MHz, CDCl₃).

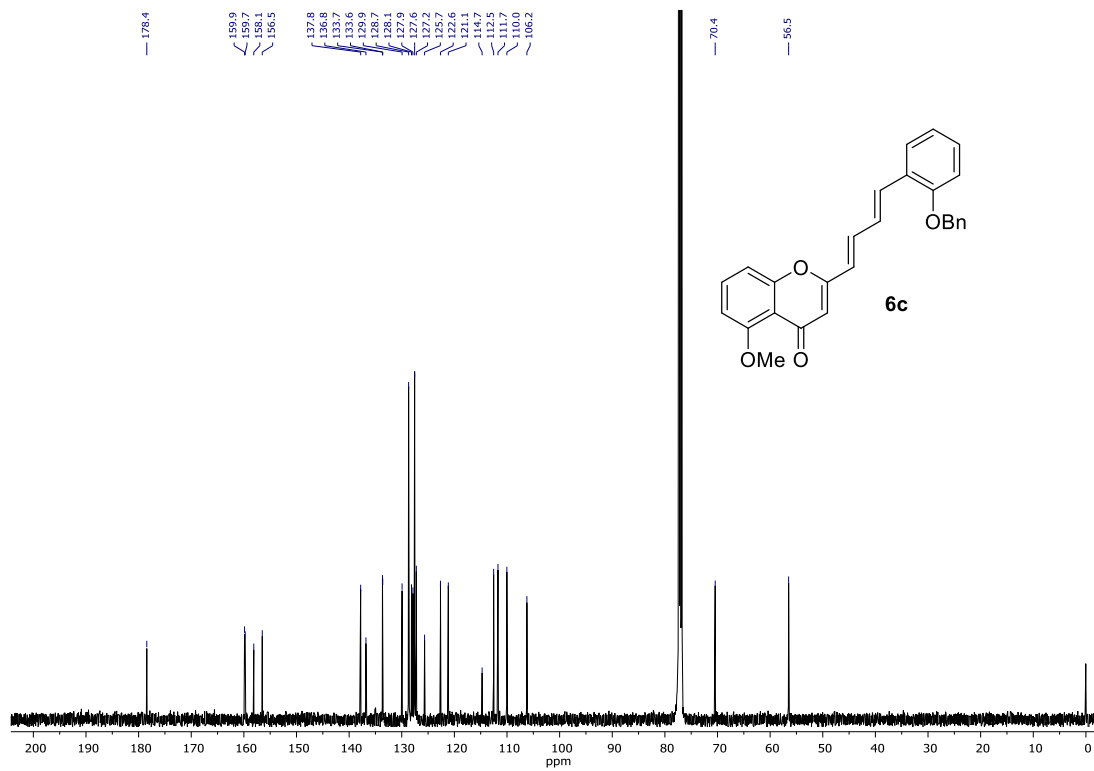


Figure S16: ¹³C NMR of compound **6c** (125 MHz, CDCl₃).

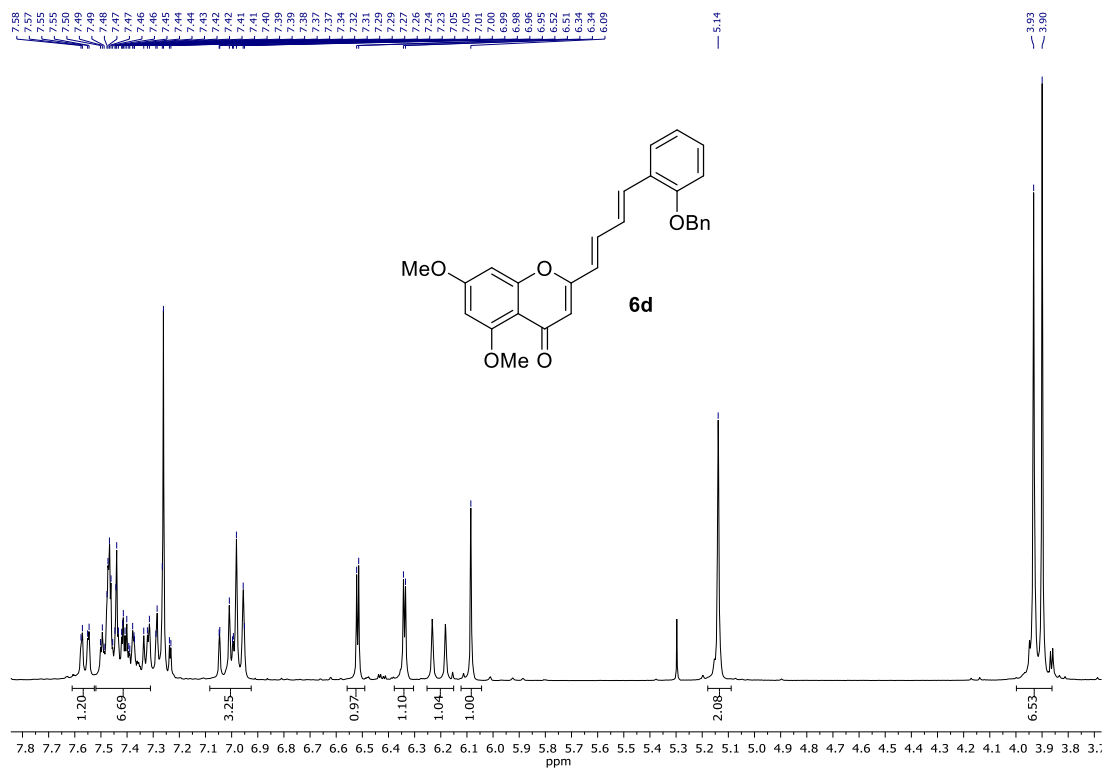


Figure S17: ¹H NMR of compound **6d** (300 MHz, CDCl₃).

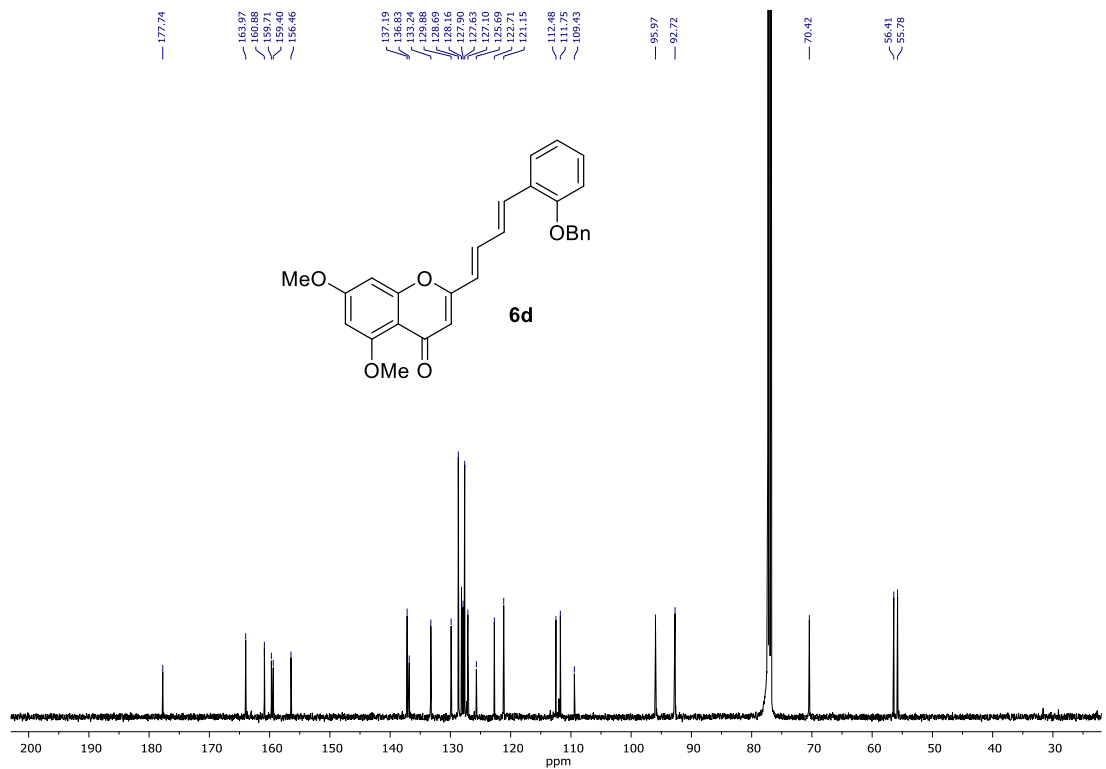


Figure S18: ¹³C NMR of compound **6d** (125 MHz, CDCl₃).

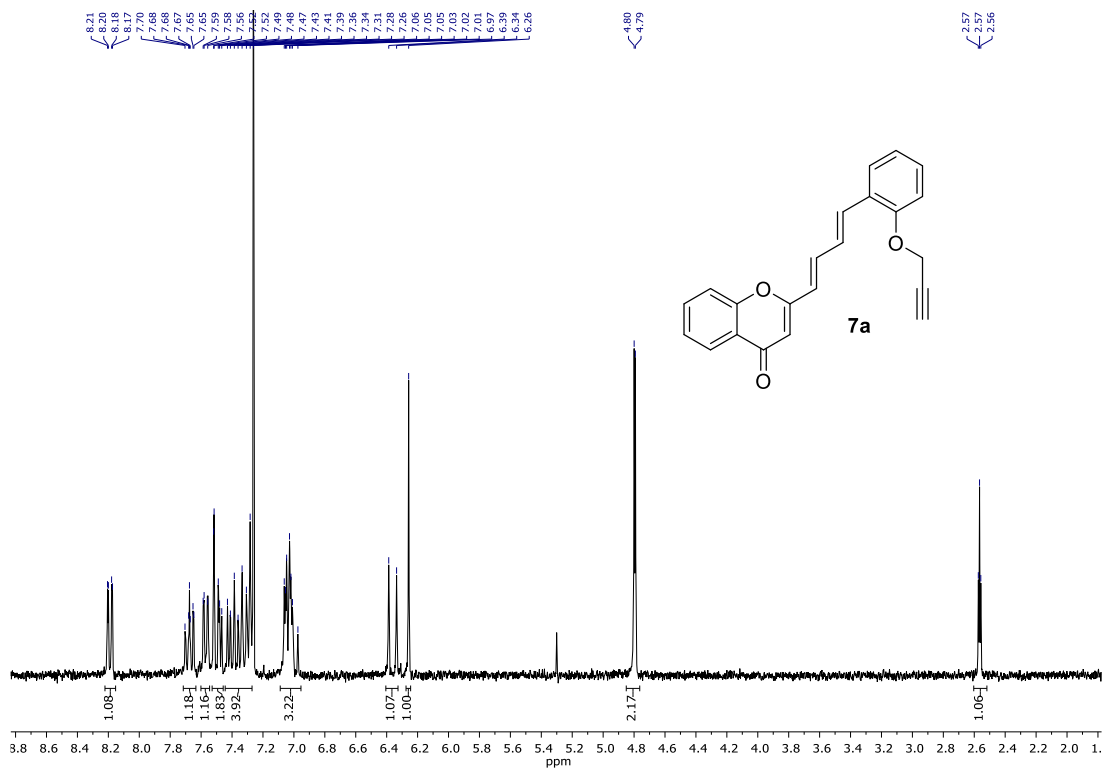


Figure S19: ¹H NMR of compound **7a** (300 MHz, CDCl₃).

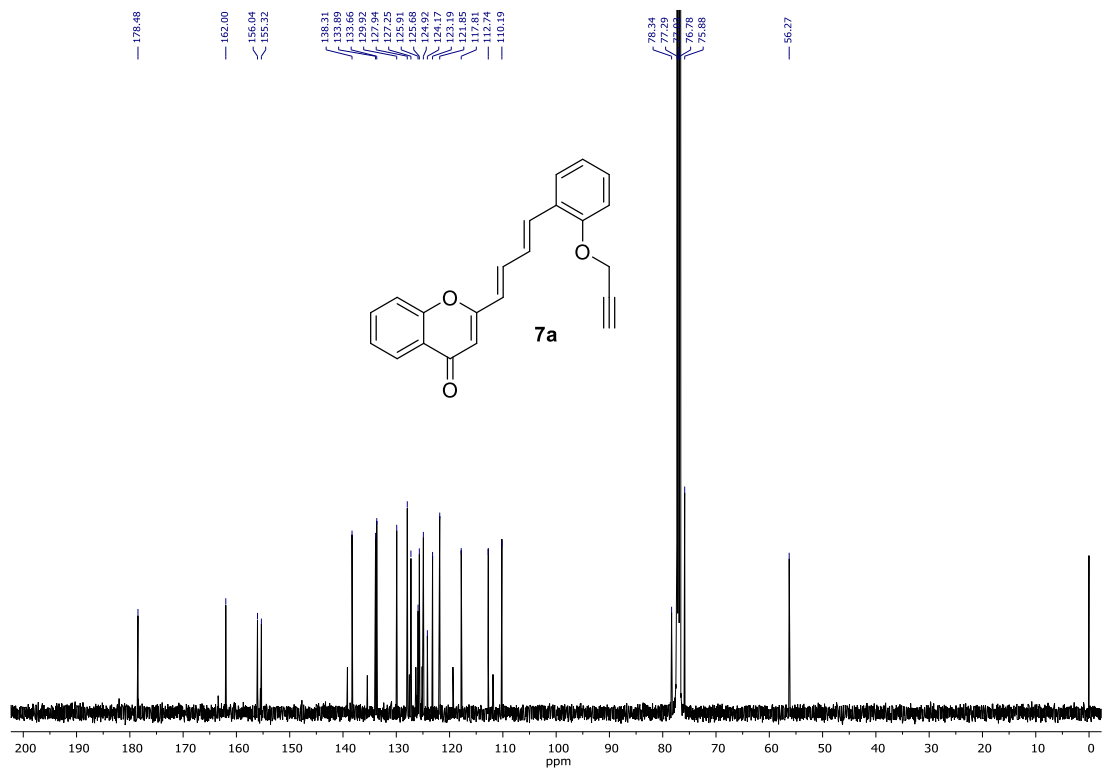


Figure S20: ¹³C NMR of compound **7a** (125 MHz, CDCl₃).

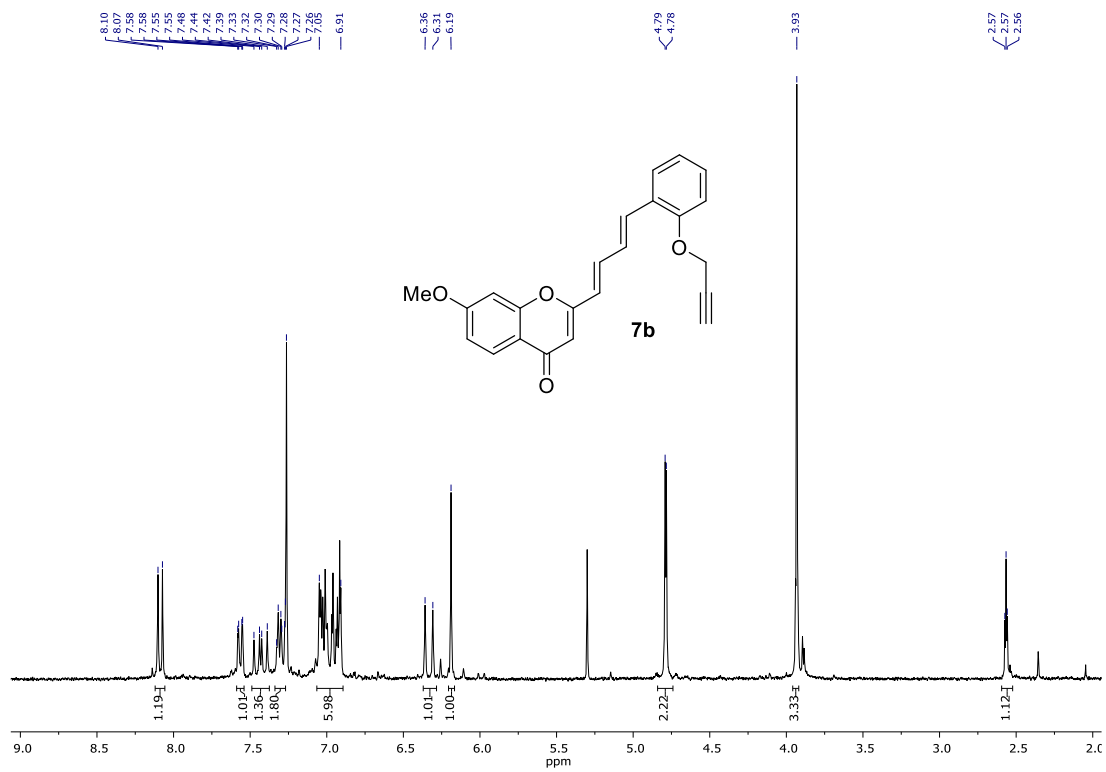


Figure S21: ¹H NMR of compound **7b** (300 MHz, CDCl₃).

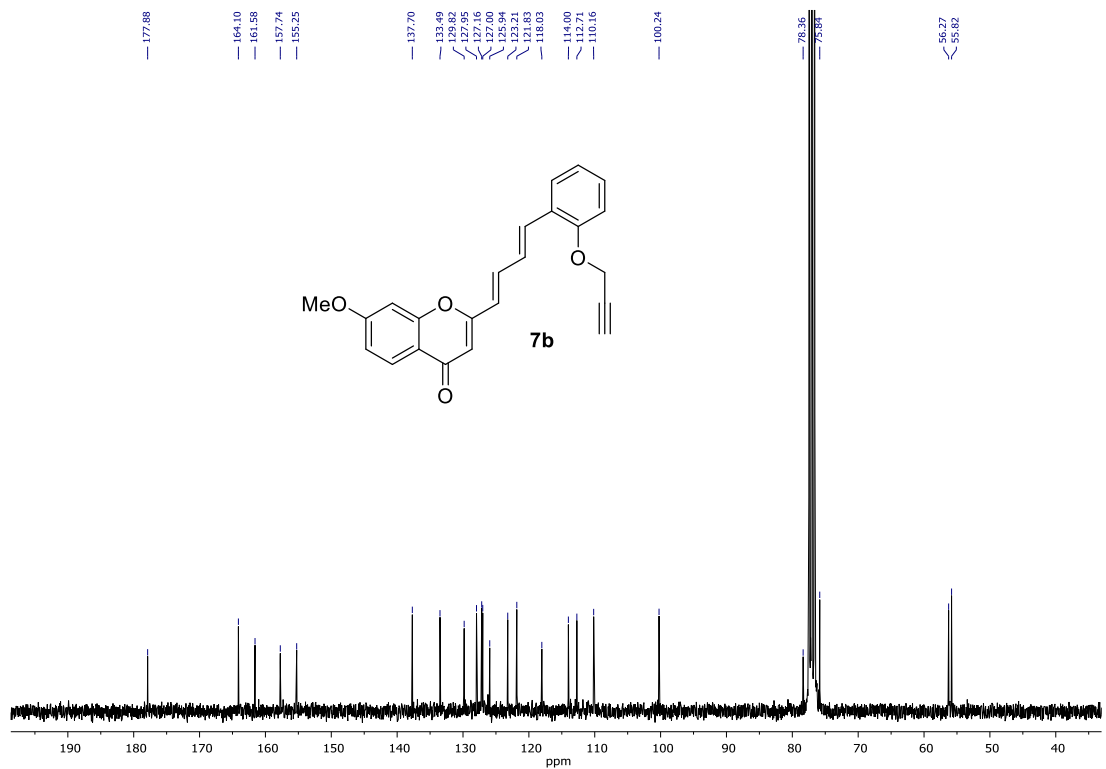


Figure S22: ¹³C NMR of compound **7b** (75 MHz, CDCl₃).

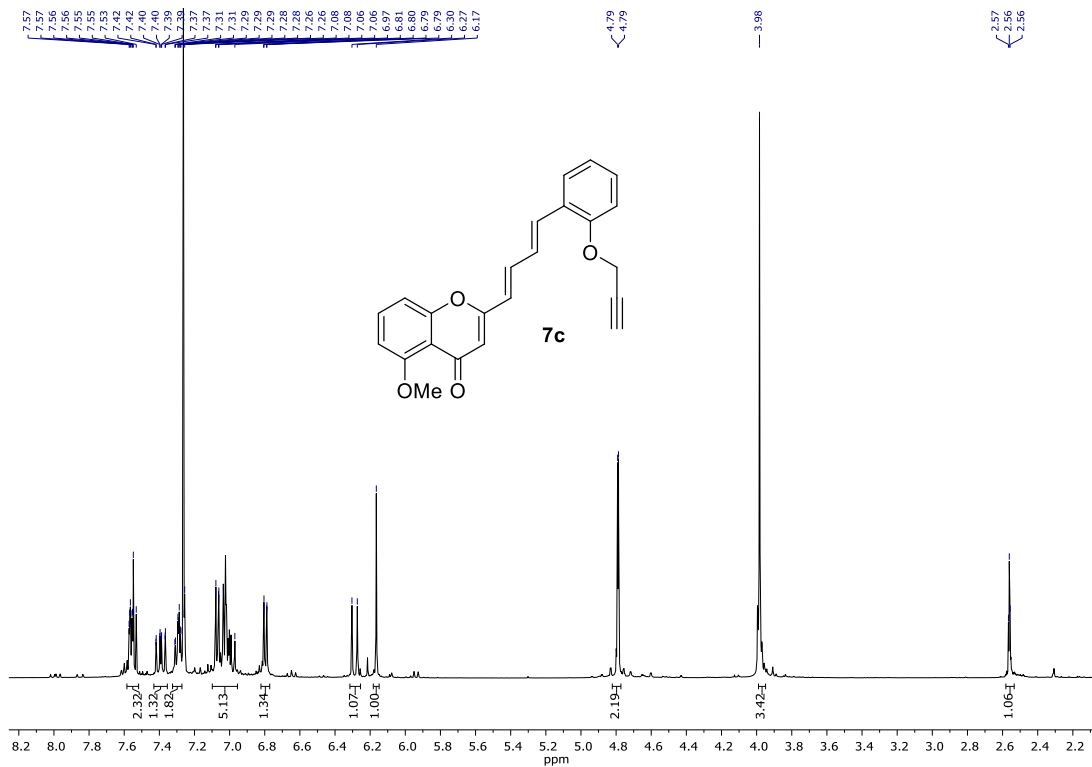


Figure S23: ^1H NMR of compound **7c** (500 MHz, CDCl_3).

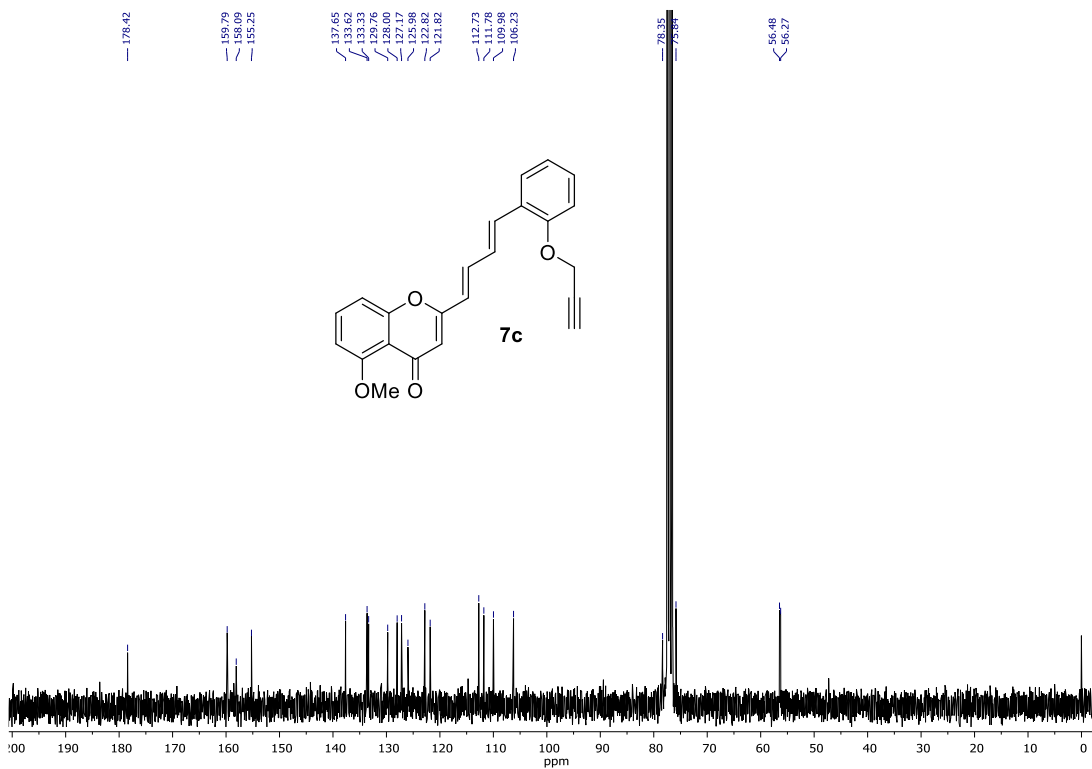


Figure S24: ^{13}C NMR of compound **7c** (75 MHz, CDCl_3).

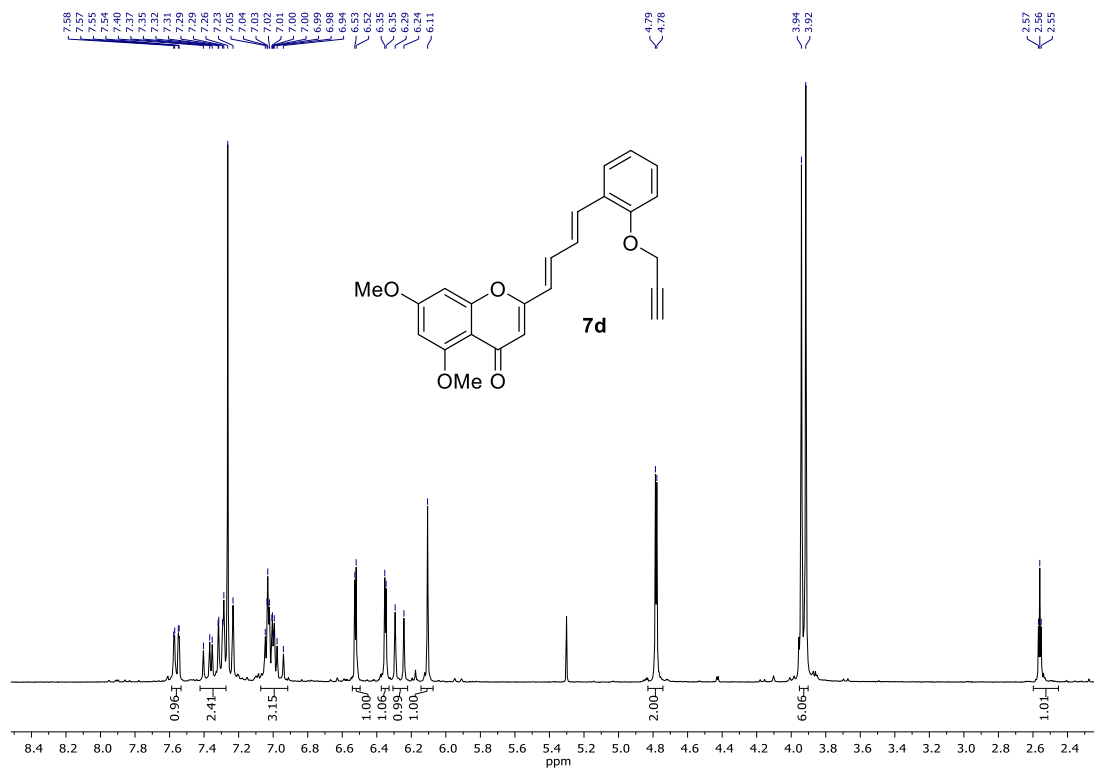


Figure S25: ¹H NMR of compound **7d** (500 MHz, CDCl₃).

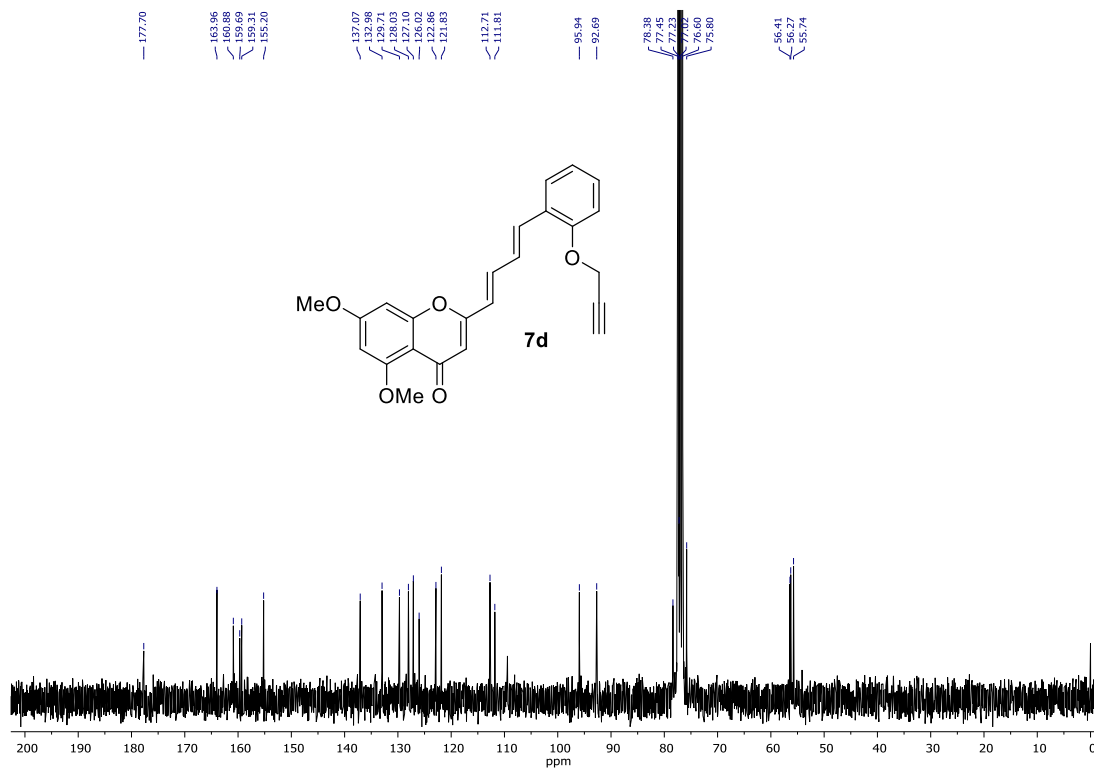


Figure S26: ¹³C NMR of compound **7d** (75 MHz, CDCl₃).

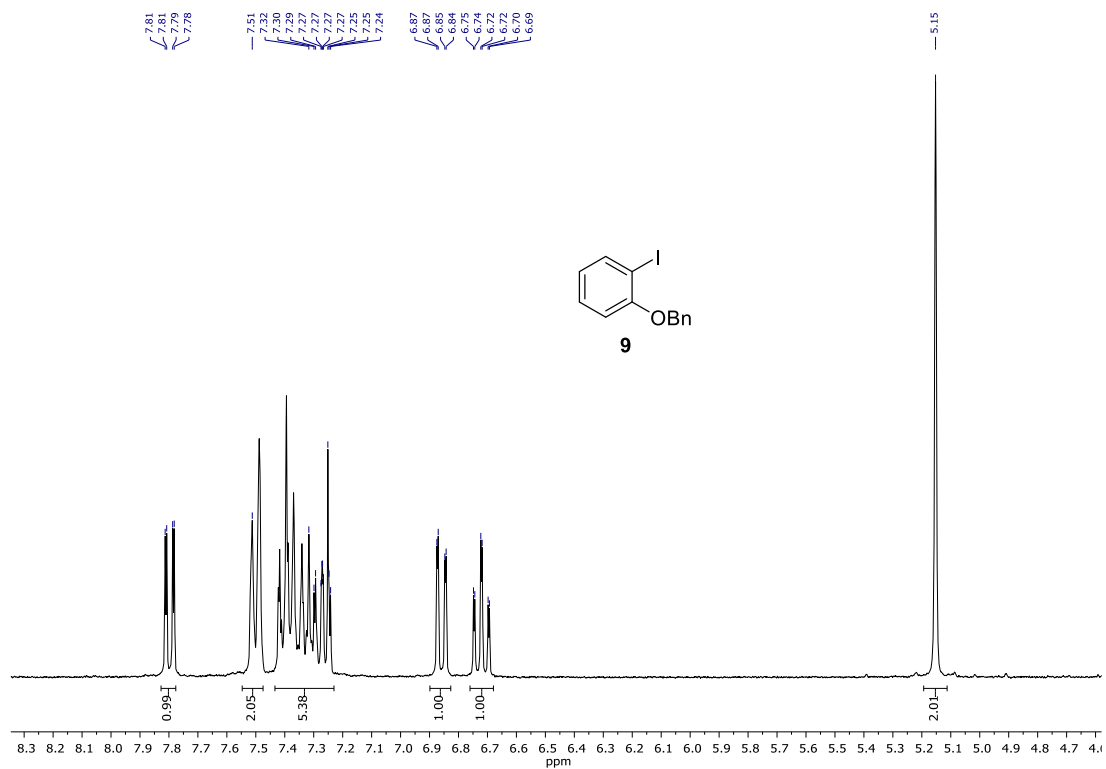


Figure S27: ¹H NMR of compound 9 (300 MHz, CDCl₃).

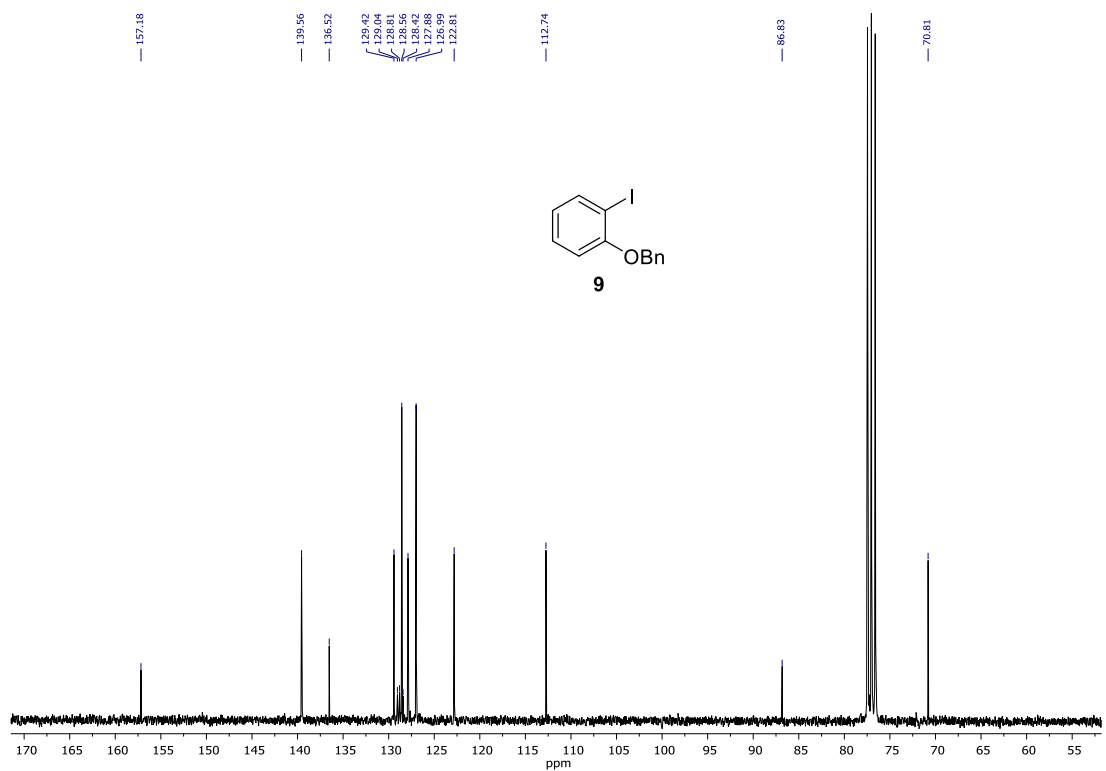


Figure S28: ¹³C NMR of compound 9 (75 MHz, CDCl₃).

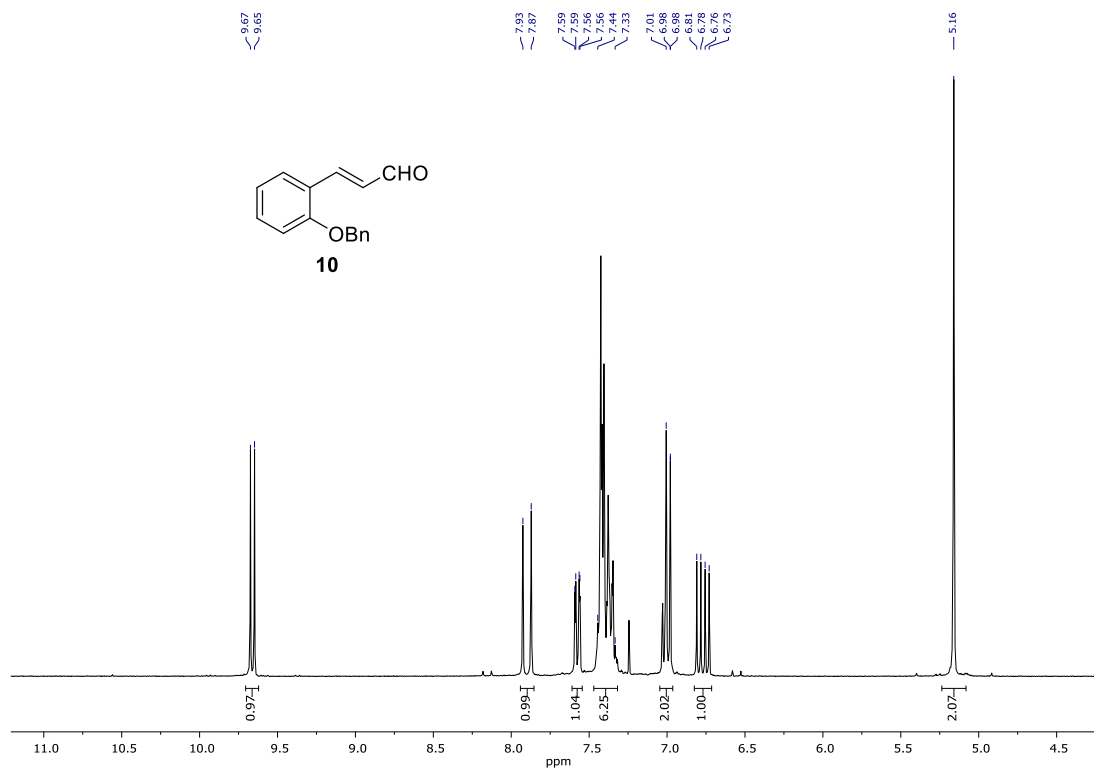


Figure S29: ¹H NMR of compound **10** (300 MHz, CDCl₃).

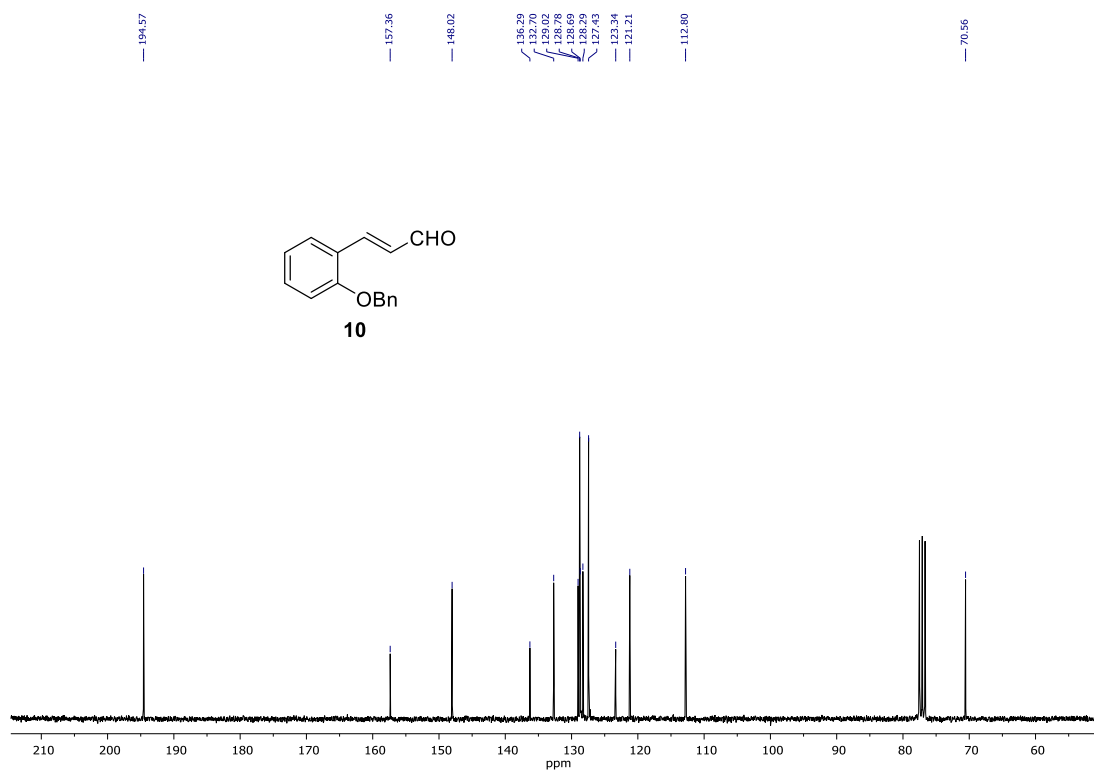


Figure S30: ¹³C NMR of compound **10** (75 MHz, CDCl₃).

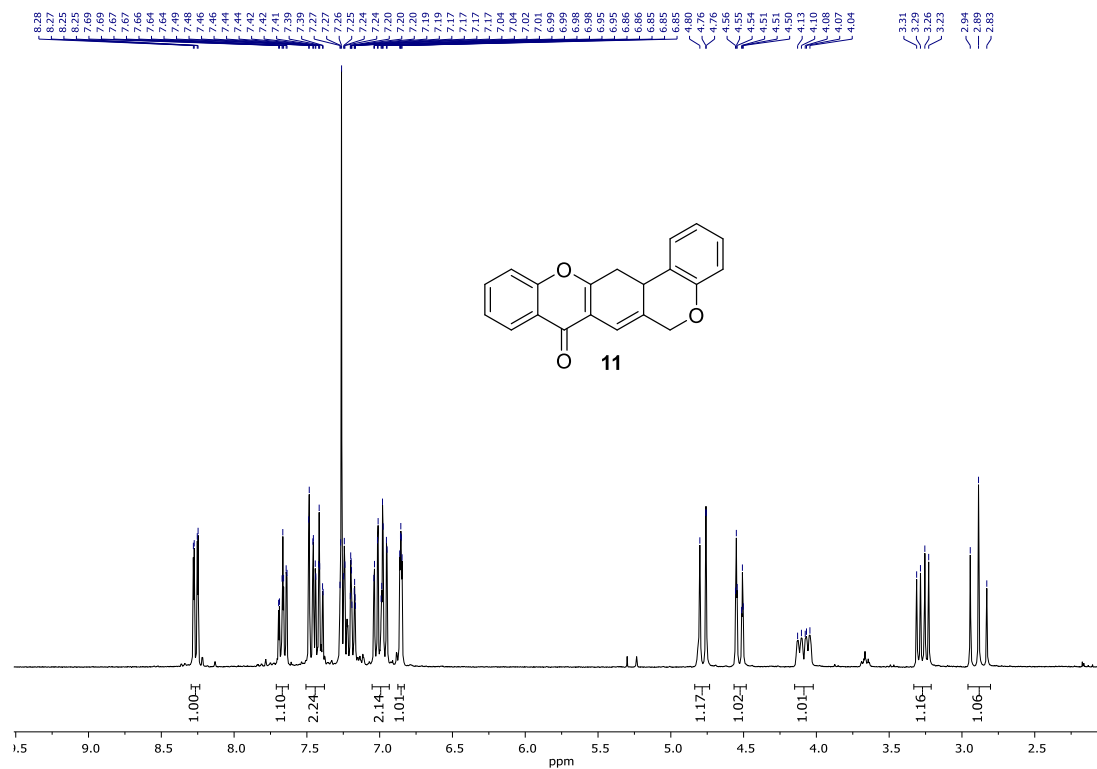


Figure S31: ¹H NMR of compound **11** (300 MHz, CDCl₃).

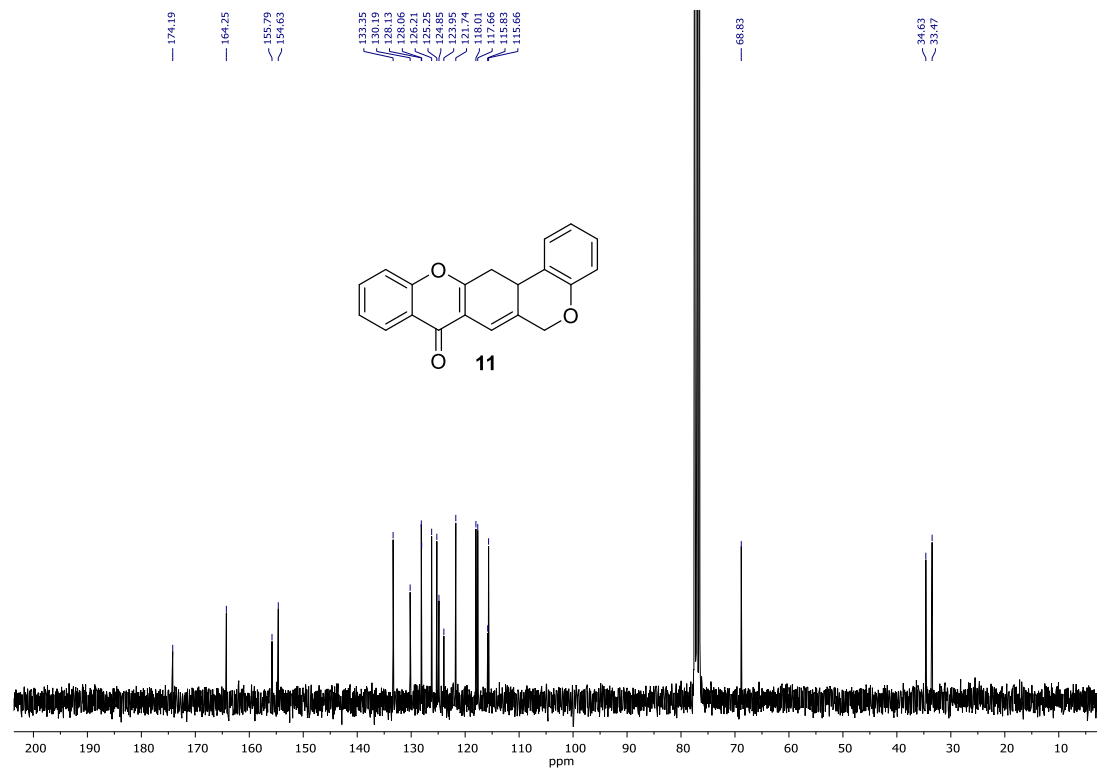


Figure S32: ¹³C NMR of compound **11** (75 MHz, CDCl₃).

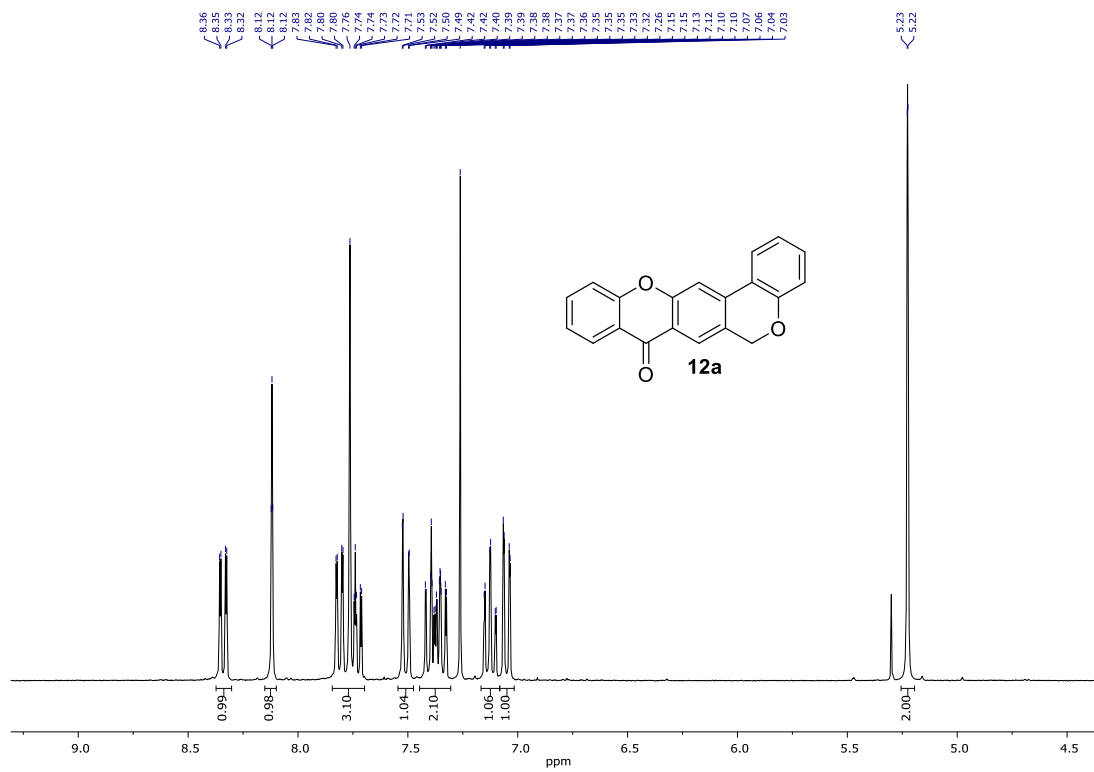


Figure S33: ¹H NMR of compound 12a (300 MHz, CDCl₃).

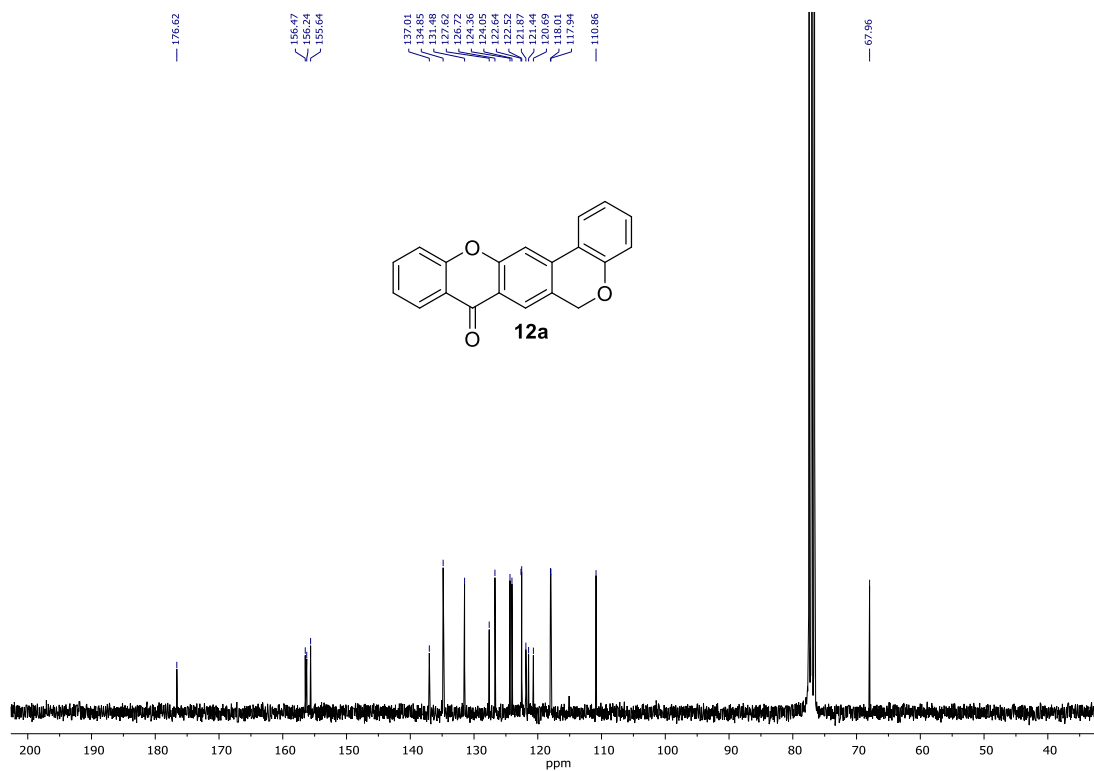


Figure S34: ¹³C NMR of compound 12a (75 MHz, CDCl₃).

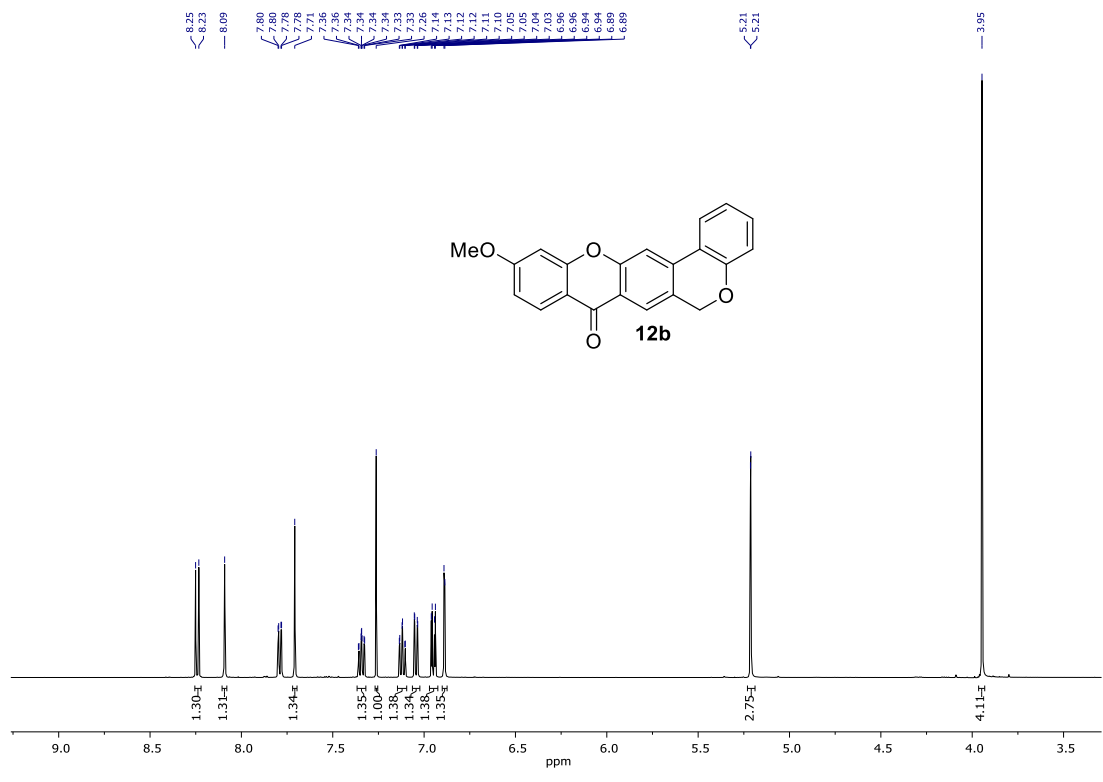


Figure S35: ¹H NMR of compound **12b** (500 MHz, CDCl₃).

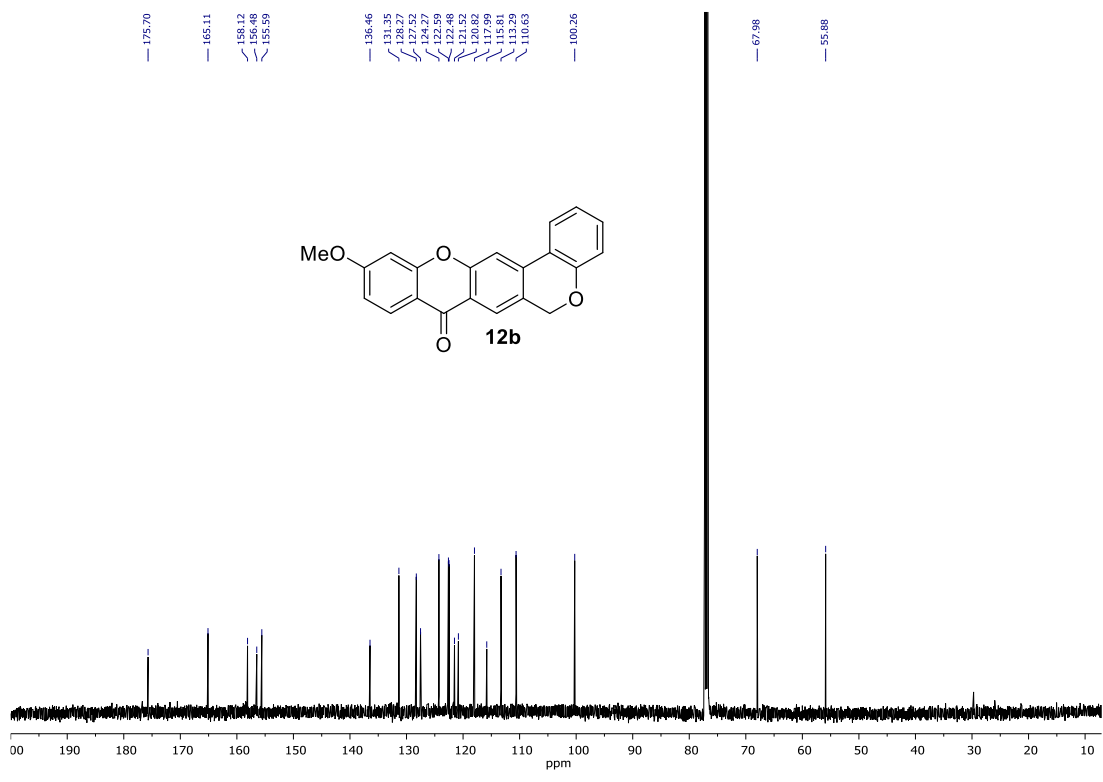


Figure S36: ¹³C NMR of compound **12b** (125 MHz, CDCl₃).

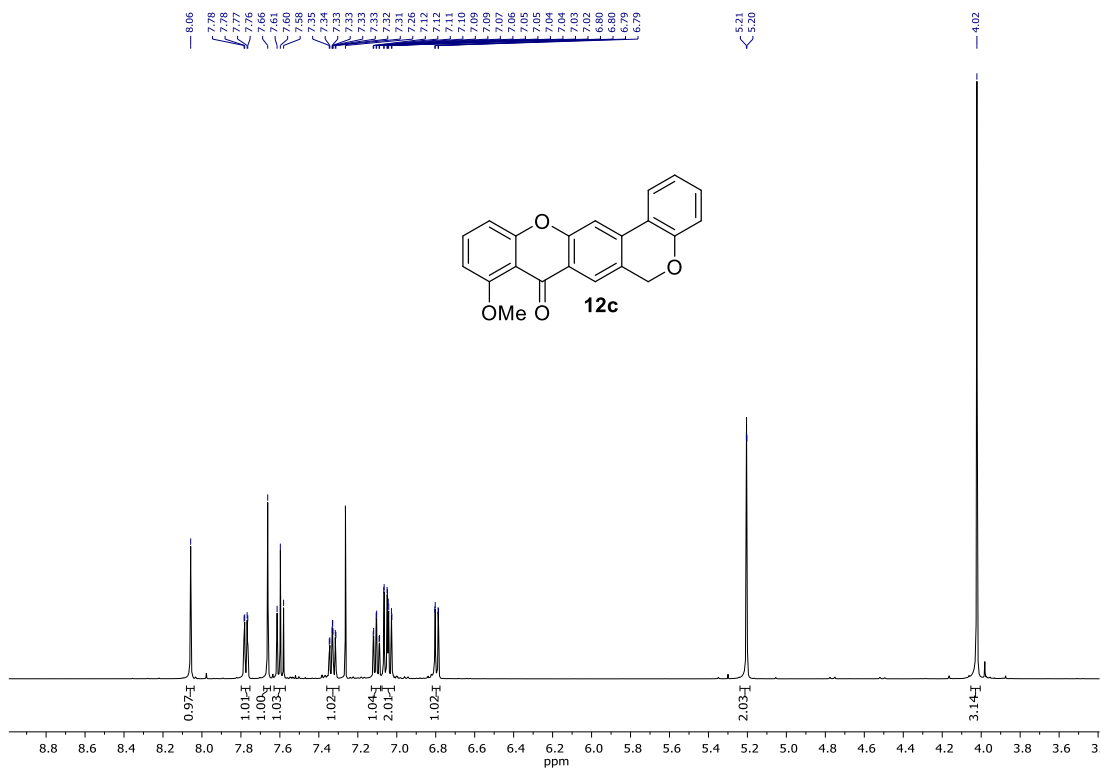


Figure S37: ^1H NMR of compound **12c** (500 MHz, CDCl_3).

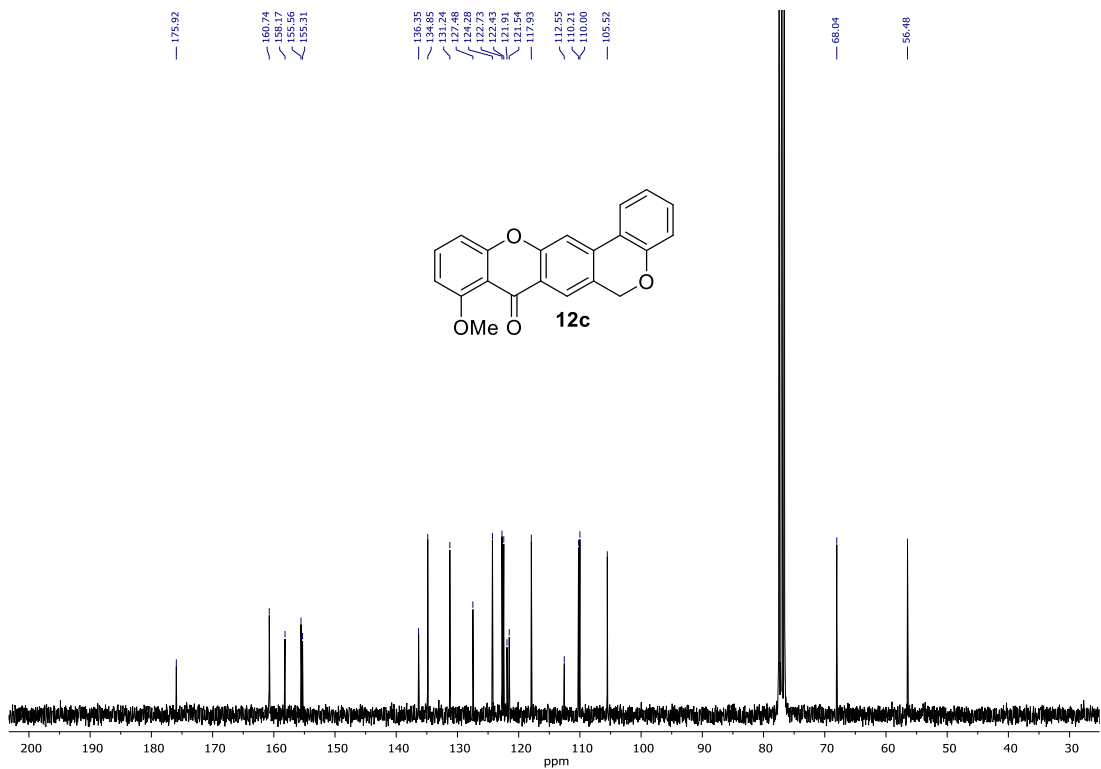


Figure S38: ^{13}C NMR of compound **12c** (75 MHz, CDCl_3).

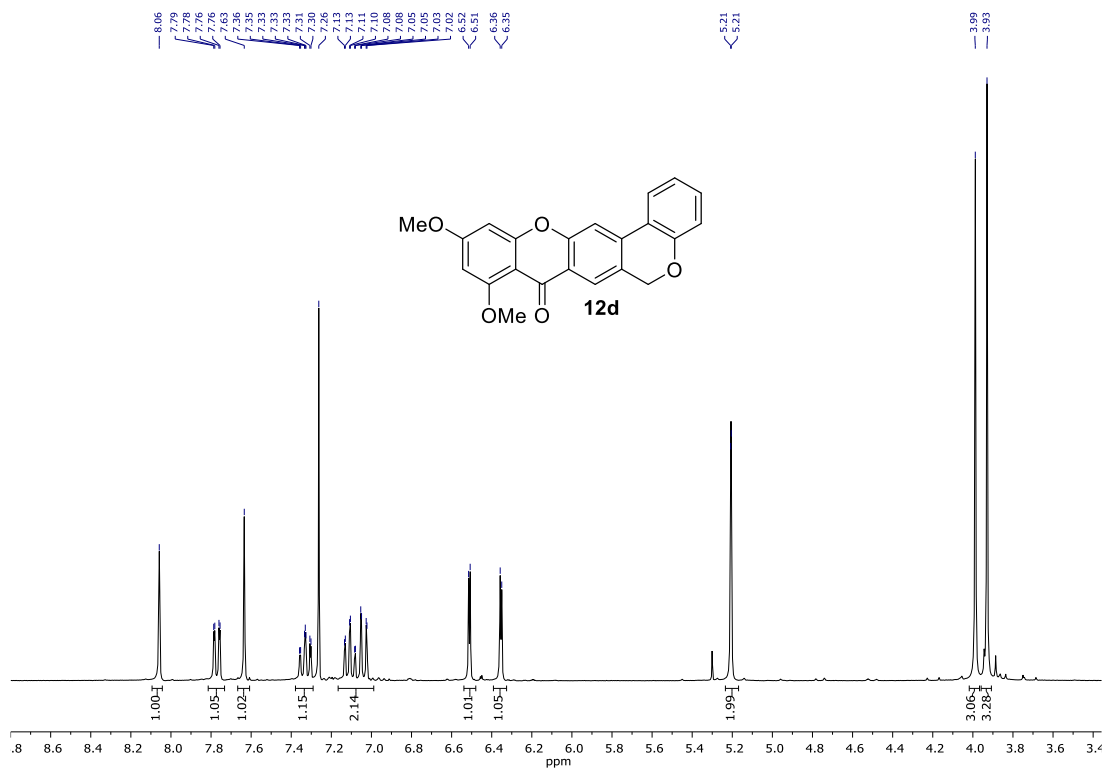


Figure S39: ¹H NMR of compound **12d** (300 MHz, CDCl₃).

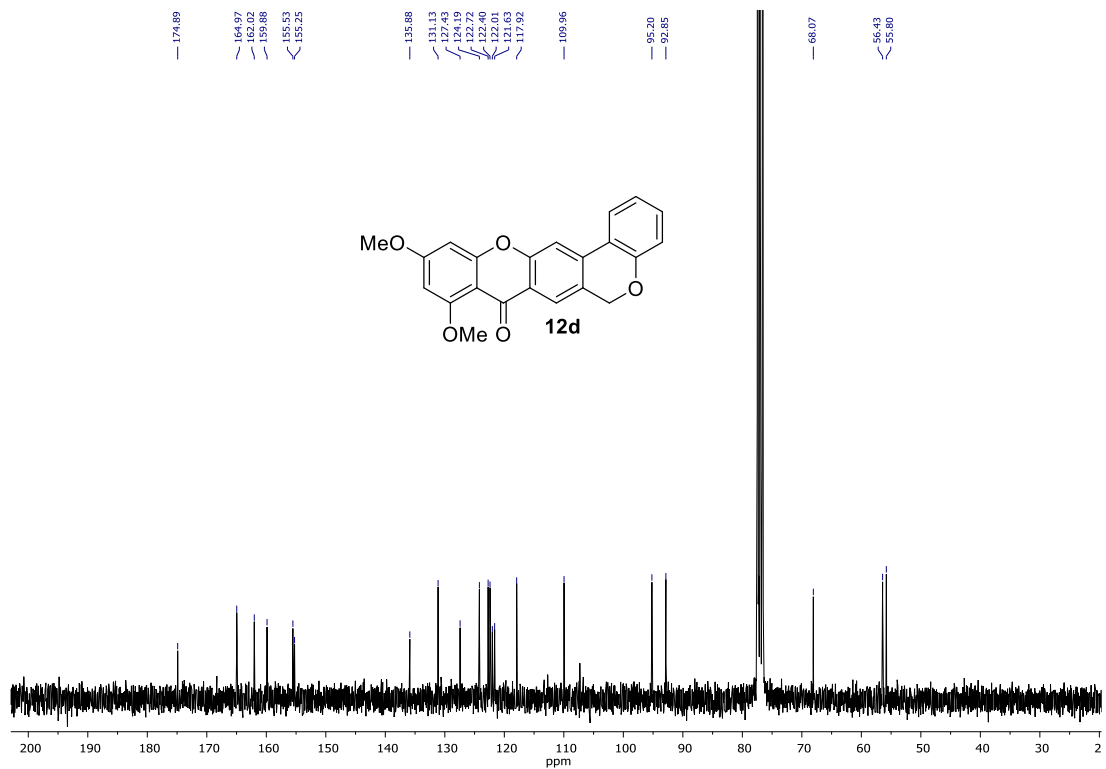


Figure S40: ¹³C NMR of compound **12d** (75 MHz, CDCl₃).

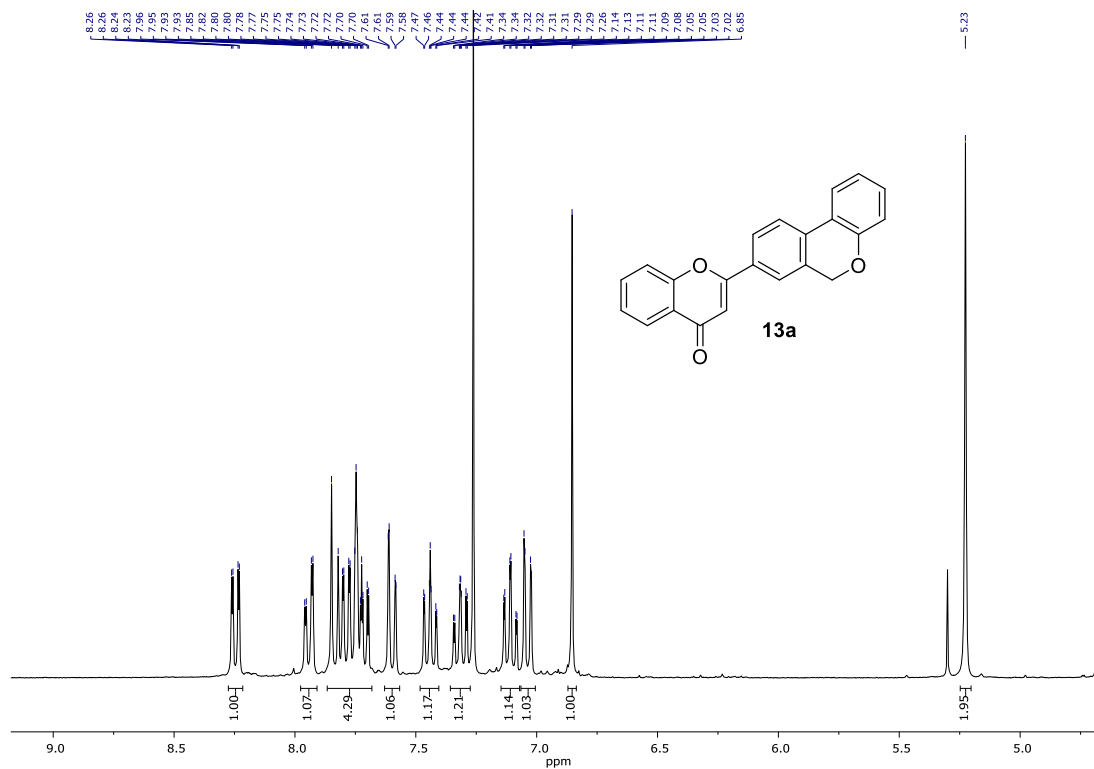


Figure S41: ¹H NMR of compound **13a** (300 MHz, CDCl₃).

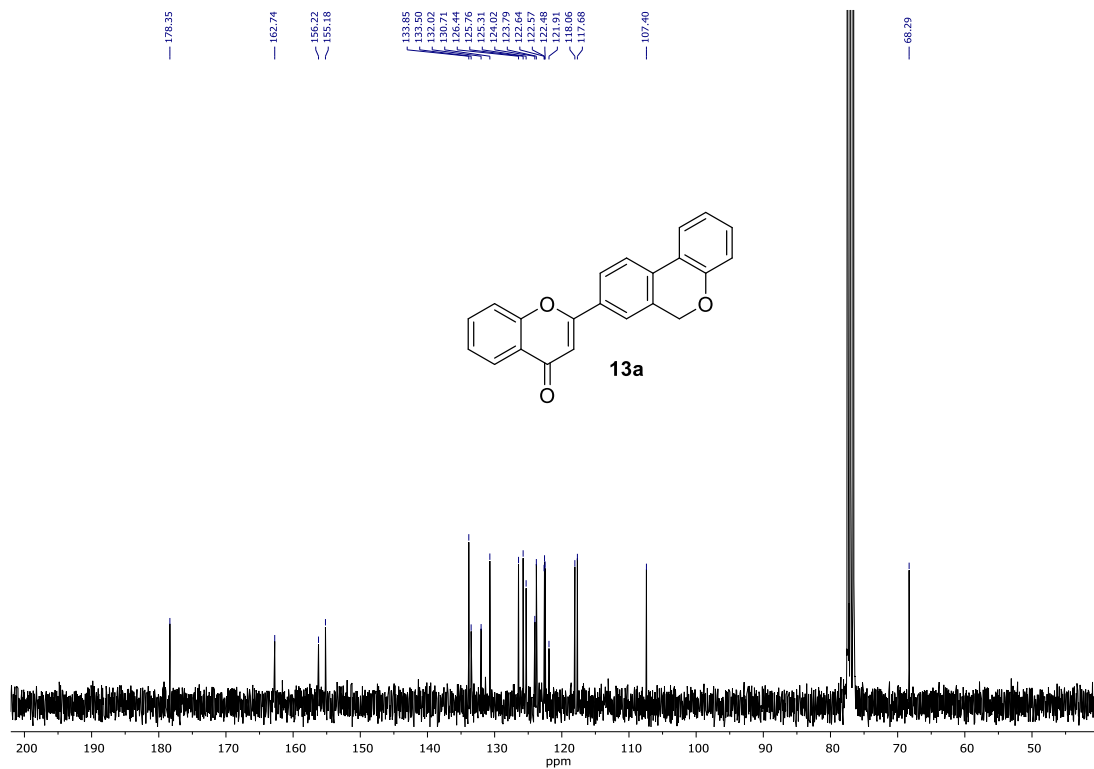


Figure S42: ¹³C NMR of compound **13a** (75 MHz, CDCl₃).

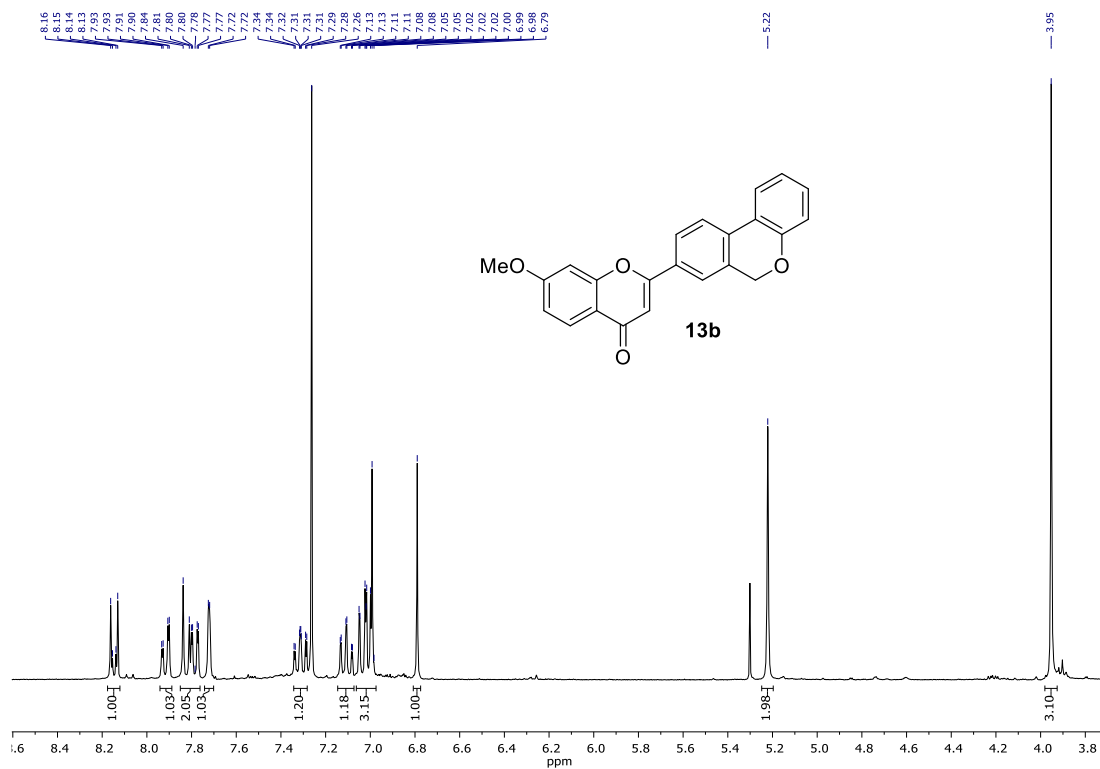


Figure S43: ¹H NMR of compound **13b** (300 MHz, CDCl₃).

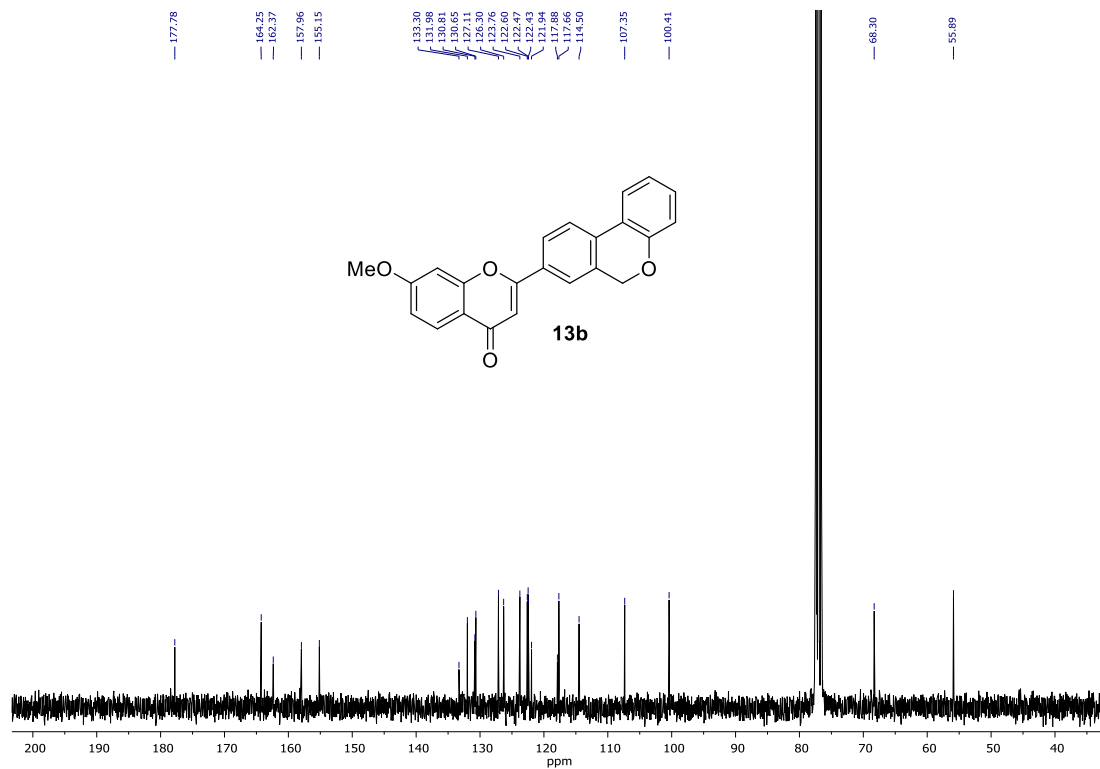


Figure S44: ¹³C NMR of compound **13b** (75 MHz, CDCl₃).

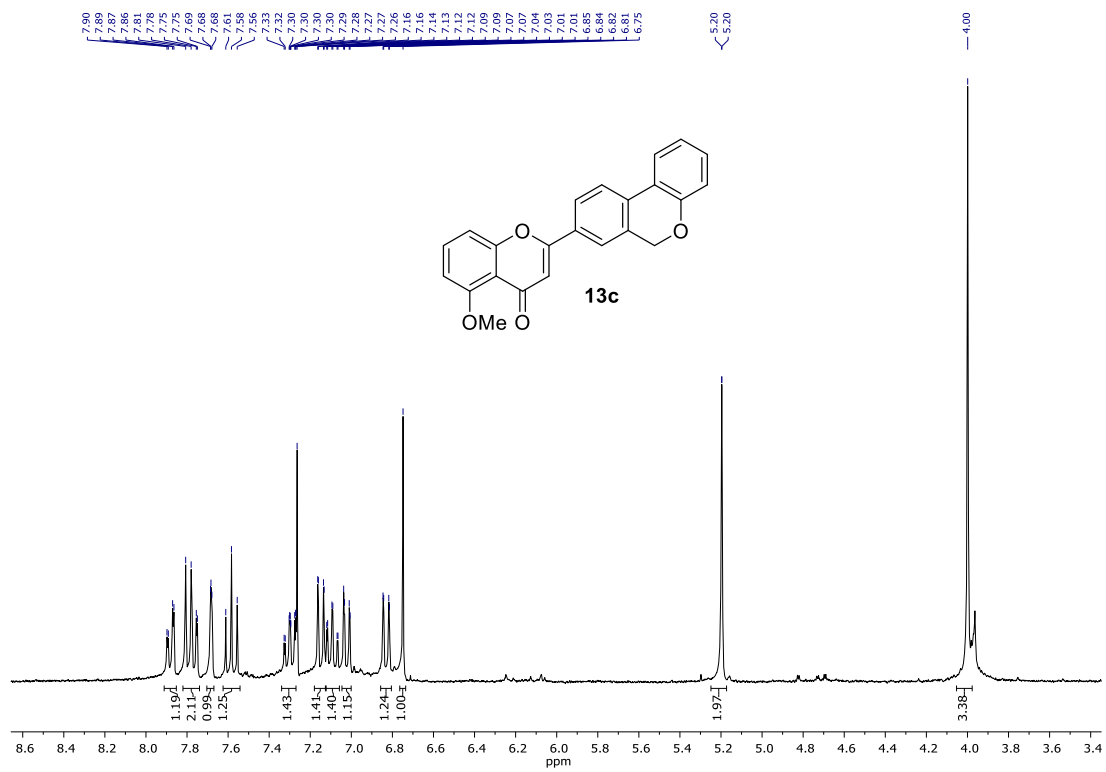


Figure S45: ¹H NMR of compound **13c** (300 MHz, CDCl₃).

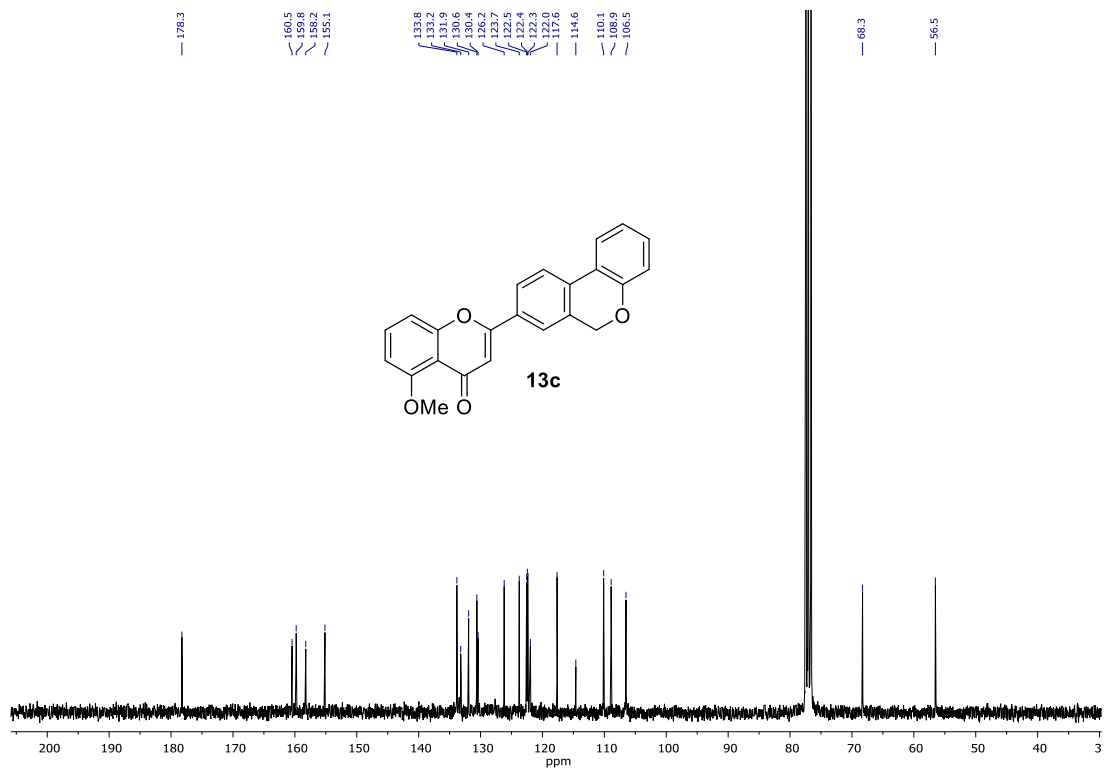


Figure S46: ¹³C NMR of compound **13c** (75 MHz, CDCl₃).

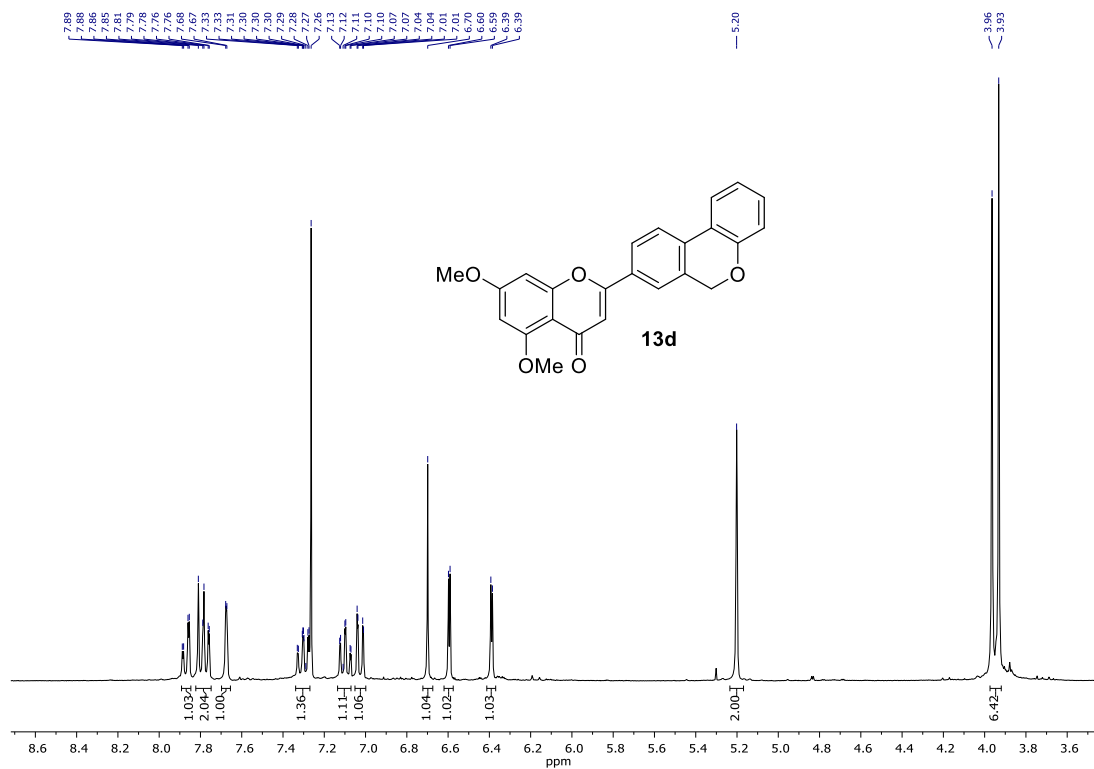


Figure S47: ¹H NMR of compound **13d** (300 MHz, CDCl₃).

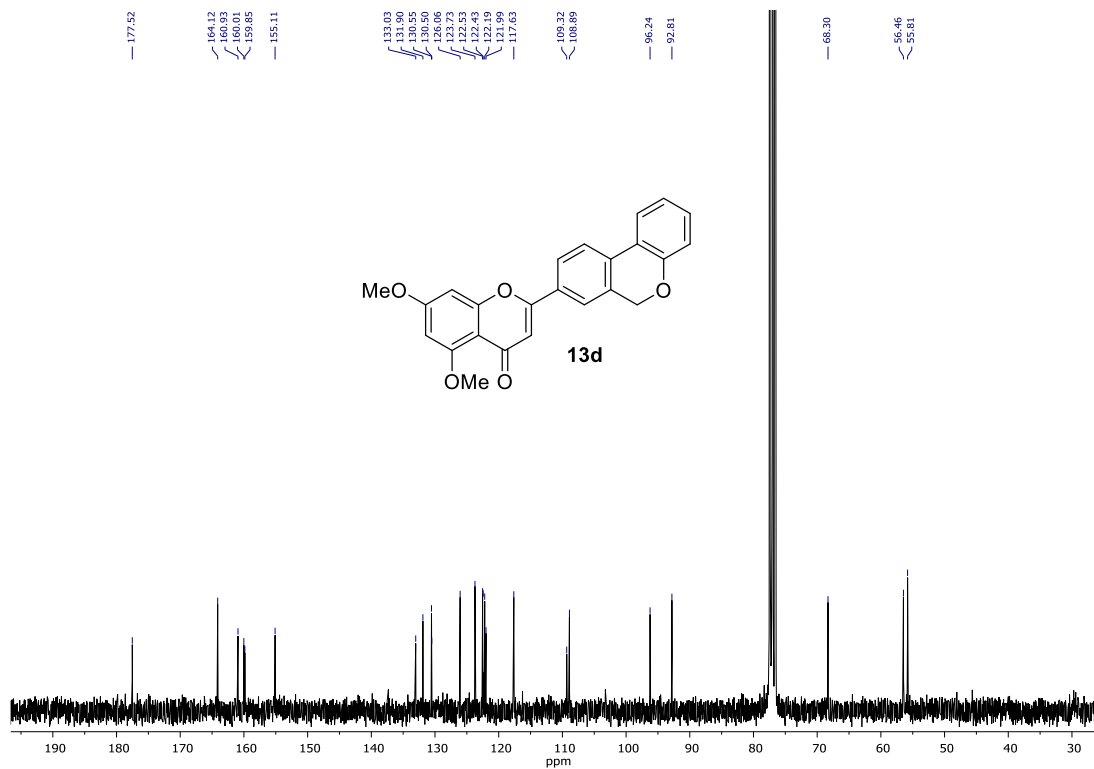


Figure S48: ¹³C NMR of compound **13d** (75 MHz, CDCl₃).

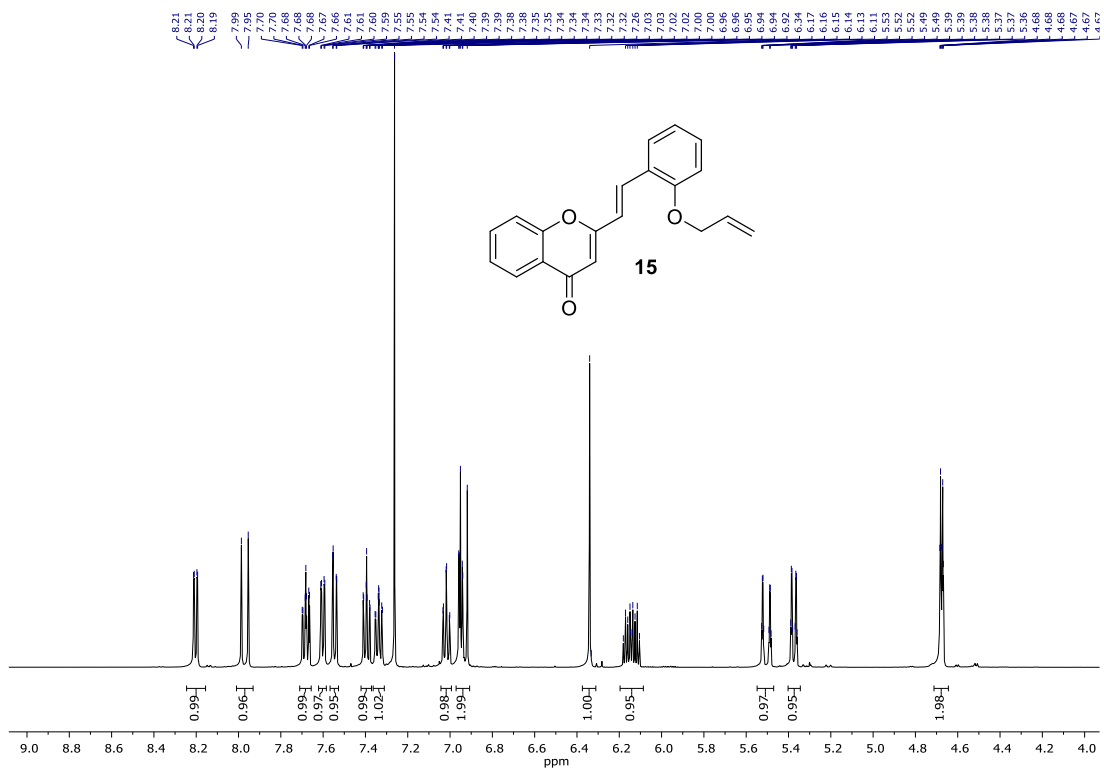


Figure S49: ¹H NMR of compound **15** (500 MHz, CDCl₃).

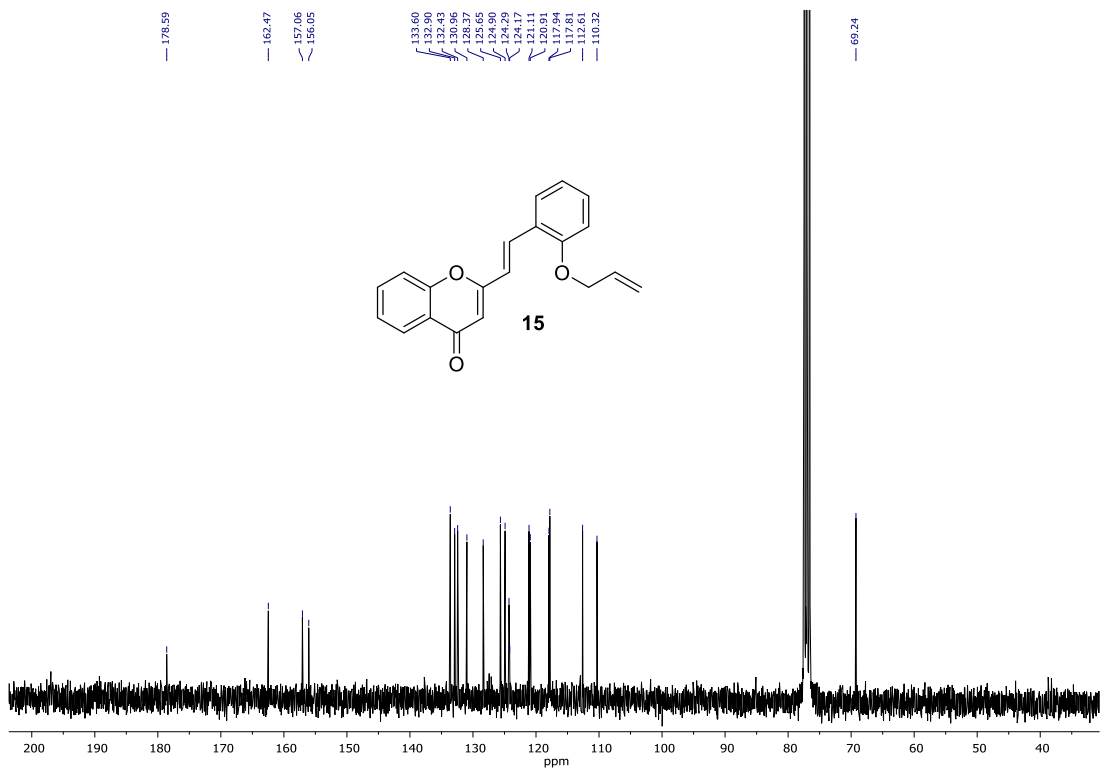


Figure S50: ¹³C NMR of compound **15** (75 MHz, CDCl₃).

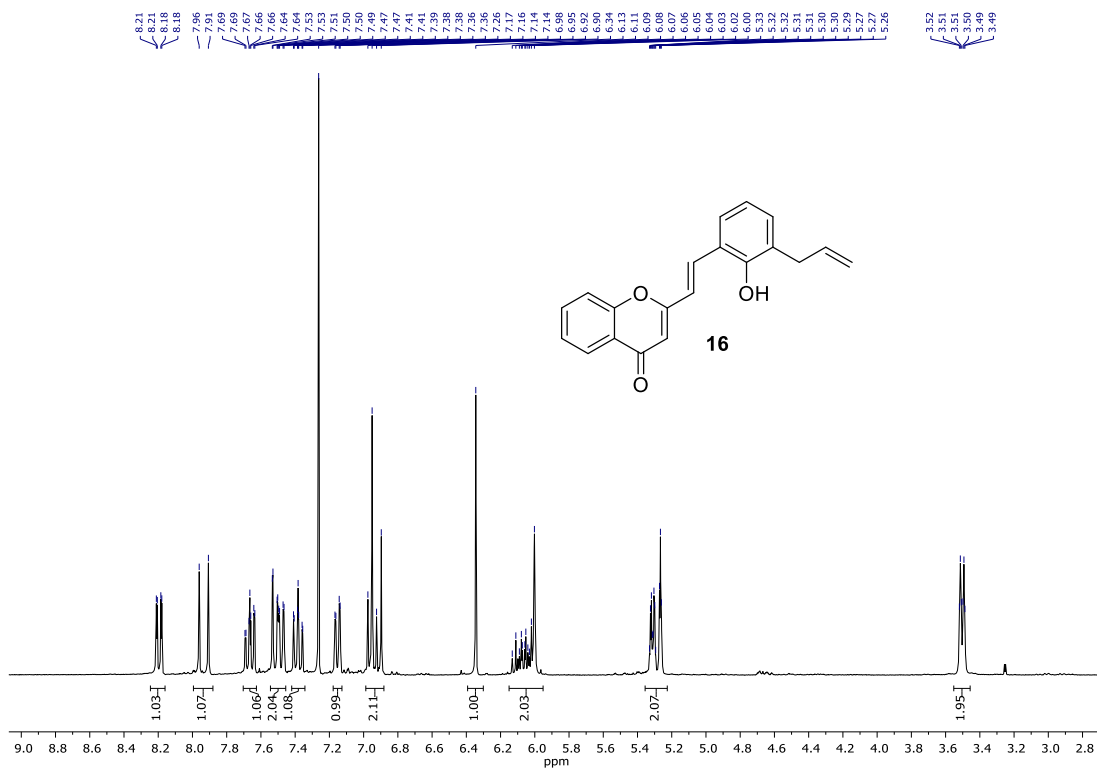


Figure S51: ¹H NMR of compound 16 (300 MHz, CDCl₃).

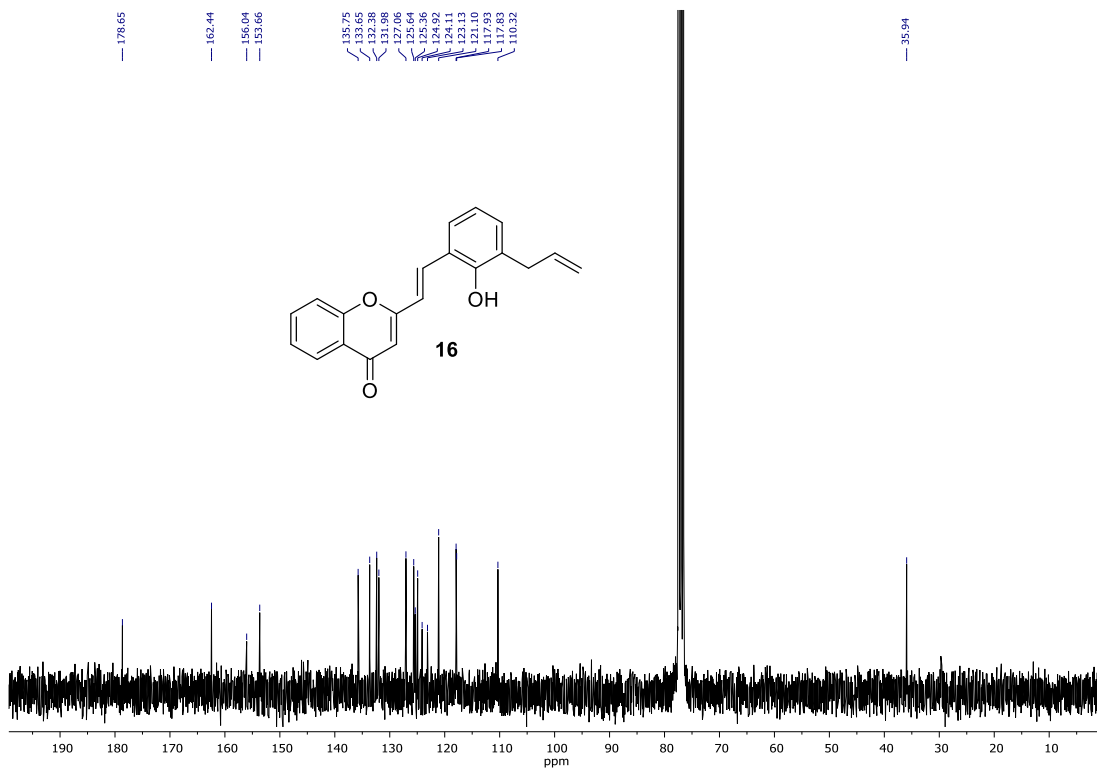


Figure S52: ¹³C NMR of compound 16 (75 MHz, CDCl₃).

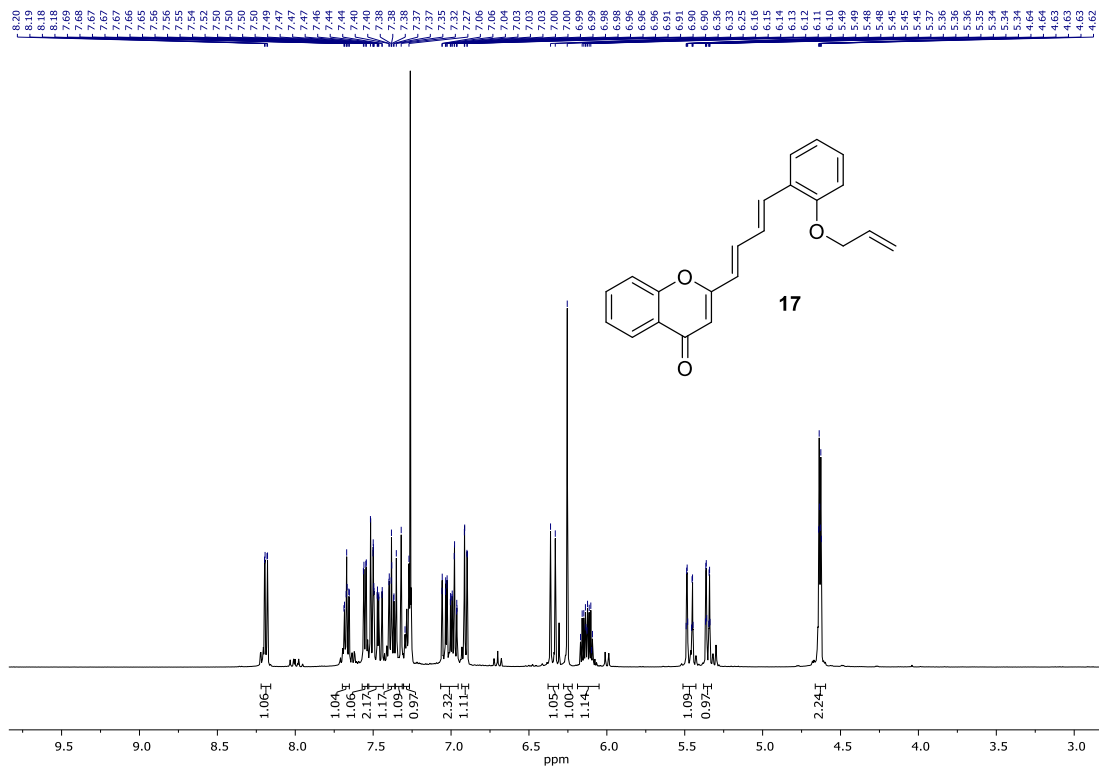


Figure S53: ¹H NMR of compound 17 (300 MHz, CDCl₃).

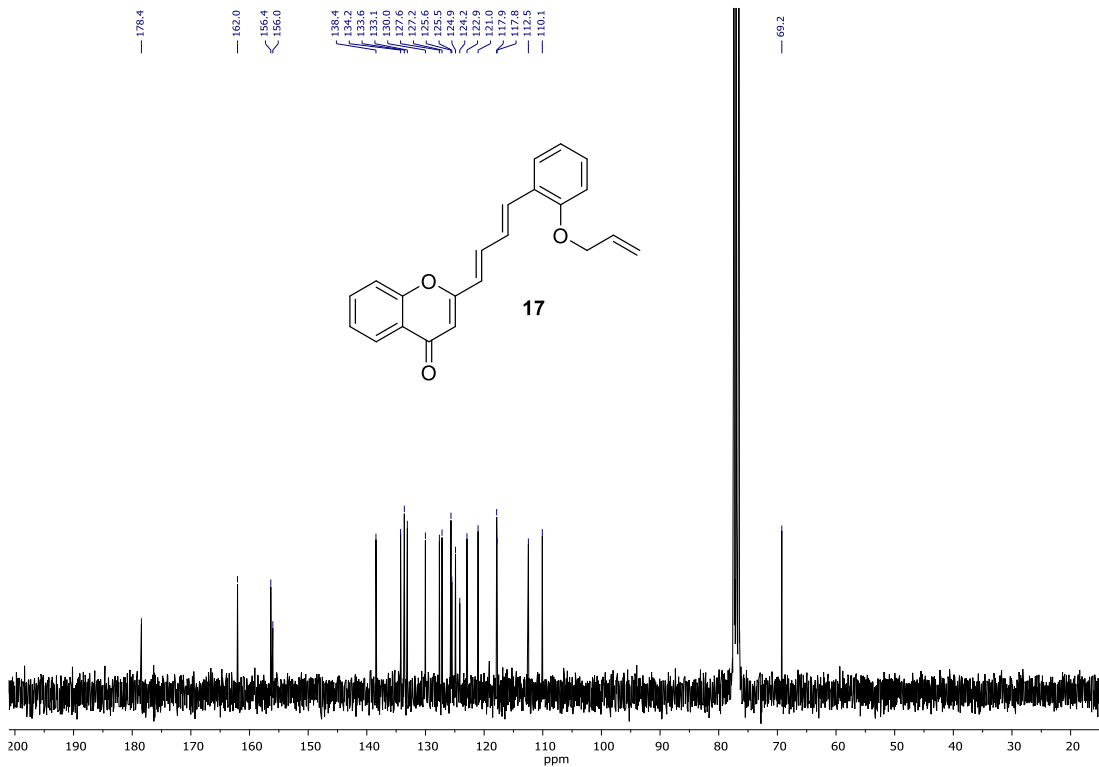


Figure S54: ¹³C NMR of compound 17 (75 MHz, CDCl₃).