

Supporting information for:

Flexible and Rigid “Chirally Distorted” π -Systems: Binaphthyl Conjugates as Organic CPL-Active Chromophores

Giovanni Preda,^a Elisa Maria Ciccarello,^a Alessio Bianchi,^a Francesco Zinna,^b Chiara Botta,^c Lorenzo Di Bari^b and Dario Pasini*^a

^a*Department of Chemistry and INSTM, University of Pavia Via Taramelli 12, 27100 Italy;* ^b*Dipartimento di Chimica e Chimica Industriale, Università di Pisa, Via Giuseppe Moruzzi 13, 56124 Pisa, Italy;* ^c*SCITEC-CNR, Consiglio Nazionale delle Ricerche, Istituto di Scienze e Tecnologie Chimiche ‘G. Natta’, Via A. Corti 12, 20133 Milano, Italy;*

Table of Contents

<i>1. Additional Figures</i>	S1
<i>2. Copies of NMR and mass spectra of new compounds</i>	S9

4. Additional Figures

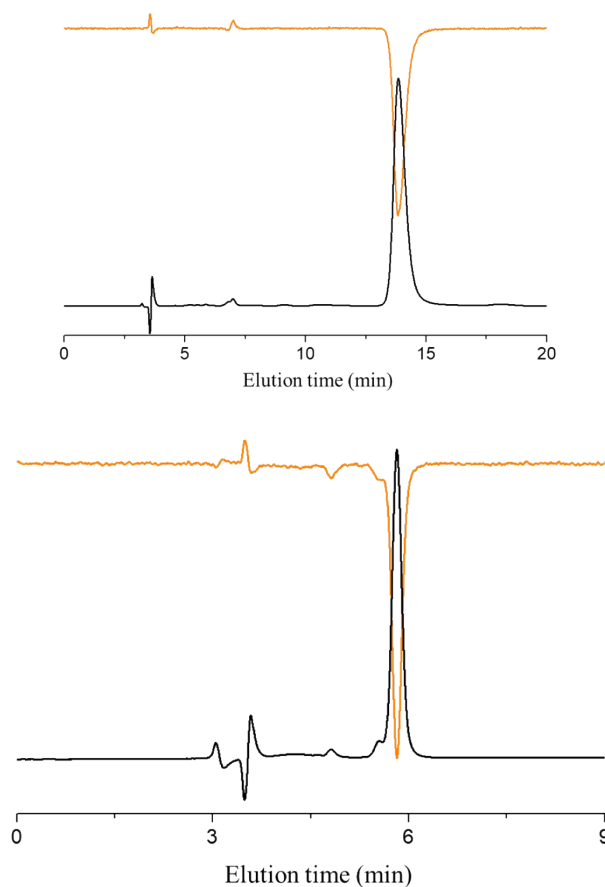


Figure S1. Top: Chiral HPLC analysis of compound (*S*)-**1**. Stationary phase: cellulose tris (3,5-dimethylphenylcarbamate) in Hex:EtOH:DEA 50:50:0.1 at 280 nm (black trace: UV-vis trace; orange trace: CD trace). **Bottom:** Chiral HPLC analysis of compound (*SS*)-**2**. Stationary phase: cellulose tris (3,5-dimethylphenylcarbamate) in Hex:EtOH:DEA 50:50:0.1 at 280 nm (black trace: UV-vis trace; orange trace: CD trace).

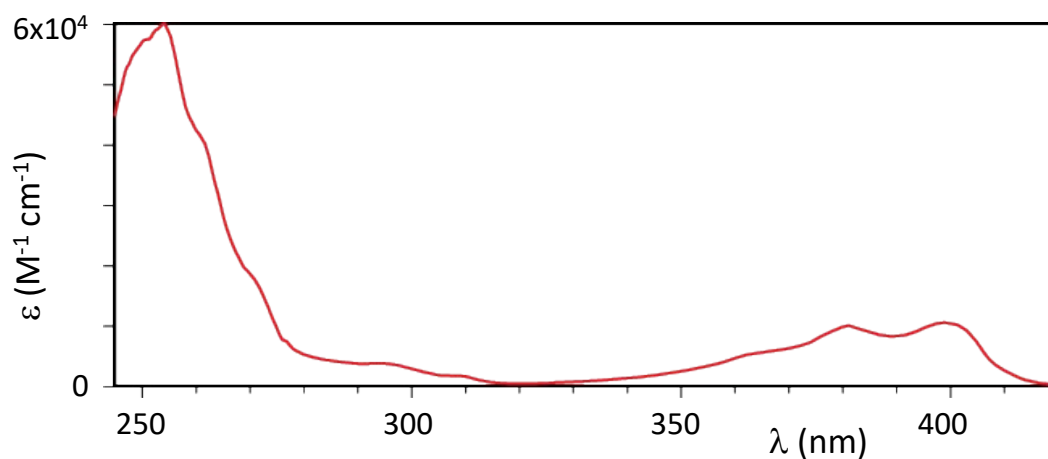


Figure S2. UV-vis absorption spectrum of acridone in $CHCl_3/MeOH$ 1:1.

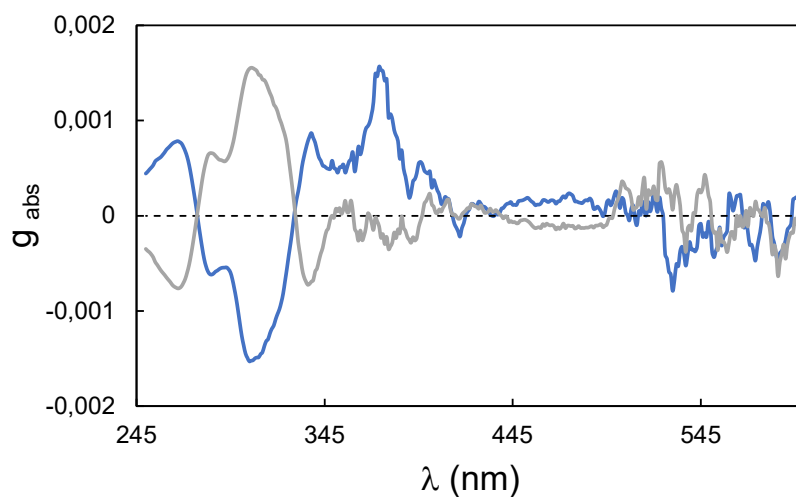


Figure S3. Plot of g_{abs} vs wavelength for compounds (*R*)-1 (blue trace) and (*S*)-1 (grey trace) in $\text{CHCl}_3/\text{MeOH}$ 1:1.

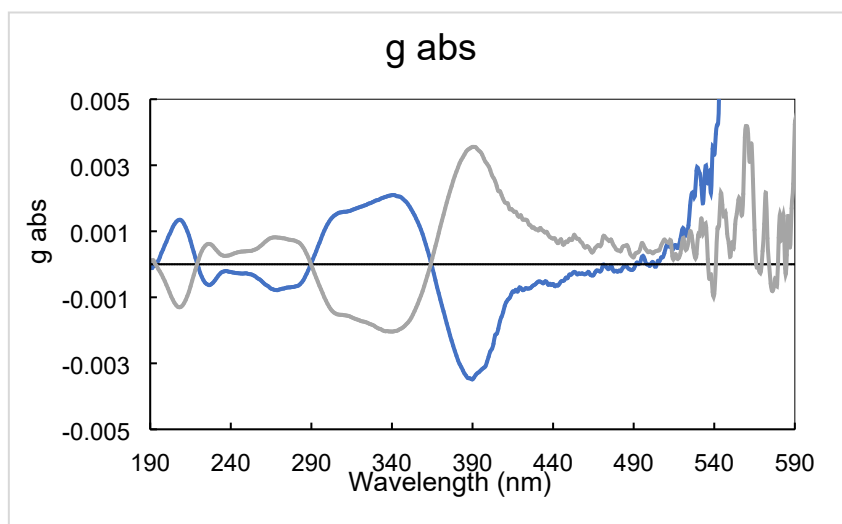


Figure S4. Plot of g_{abs} vs wavelength for compounds (*RR*)-2 (blue trace) and (*SS*)-2 (grey trace) in CHCl_3 .

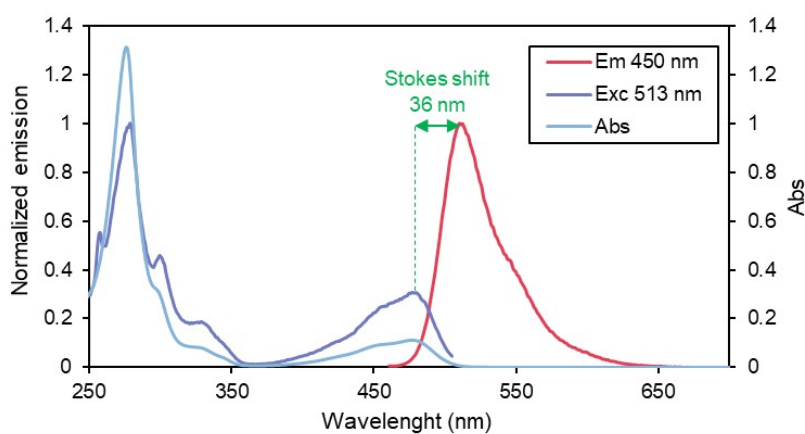


Figure S5. Comparison of absorption and emission spectra for compound 1 in solution.



Figure S6. Emissive behaviour of compound **2** under illumination of a UV lamp for TLC.

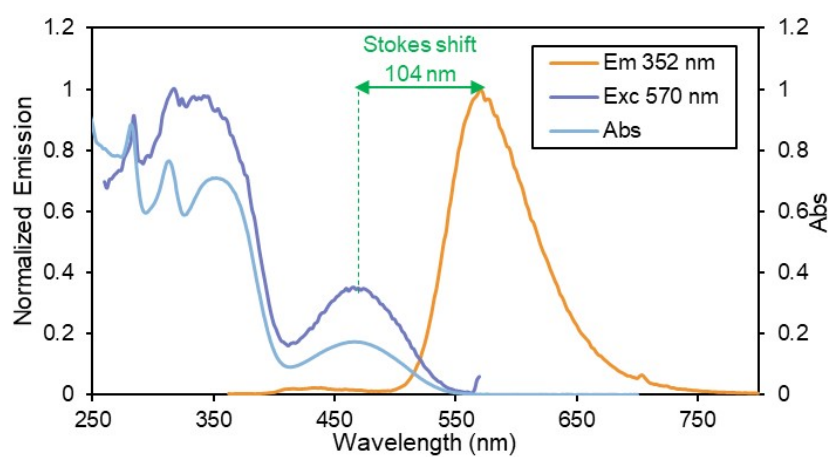


Figure S7. Comparison of absorption and emission spectra for compound **2** in solution.

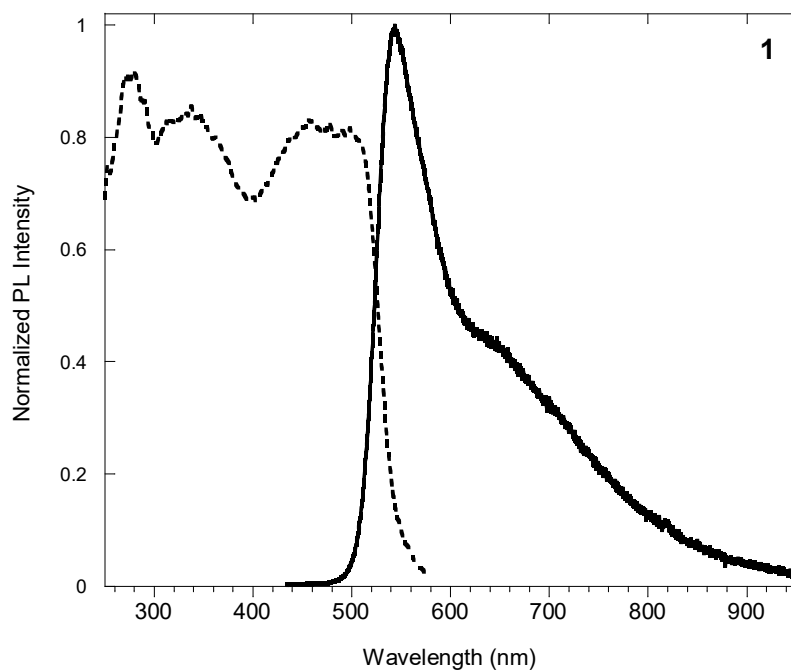


Figure S8. Emission properties of a spin-coated film of compound **1**. PL spectrum (solid line, excitation at 408nm) and PL excitation spectrum (dashed line, emission at 620nm).

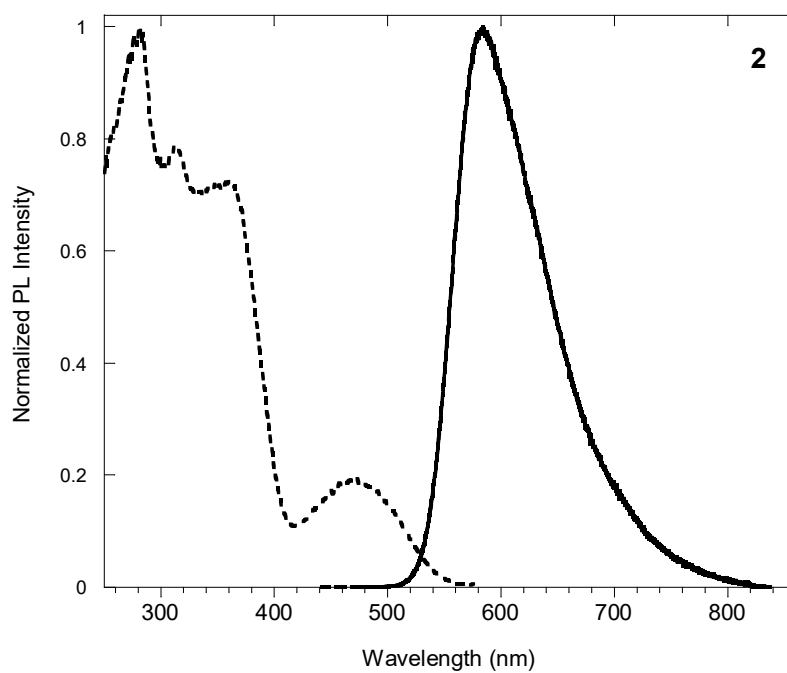


Figure S9. Emission properties of a spin-coated film of compound **2**. PL spectrum (solid line, excitation at 408nm) and PL excitation spectrum (dashed line, emission at 485nm).

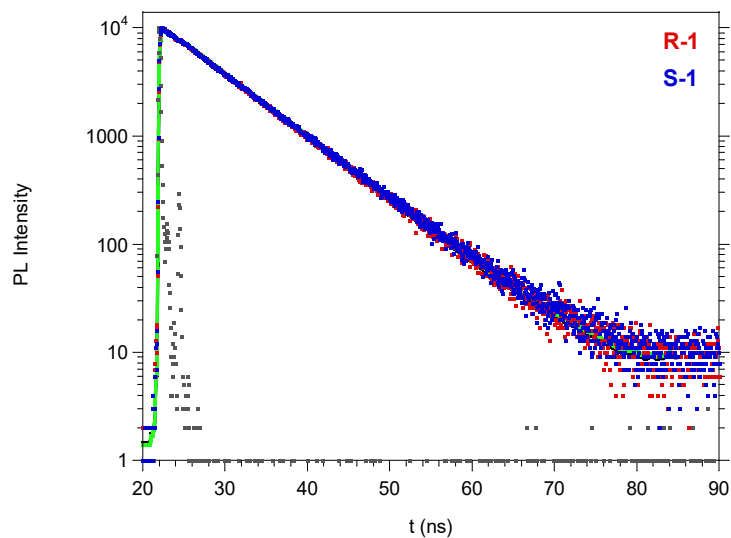


Figure S10. PL decays of solutions of **1** (excitation at 408nm, emission at 511nm). Prompt (grey points), monoexponential fits (solid lines) with $\tau=7.46$ ns, $\chi^2=1.368767$ (R-1, black) and $\tau=7.54$ ns, $\chi^2=1.506768$ (S-1, green).

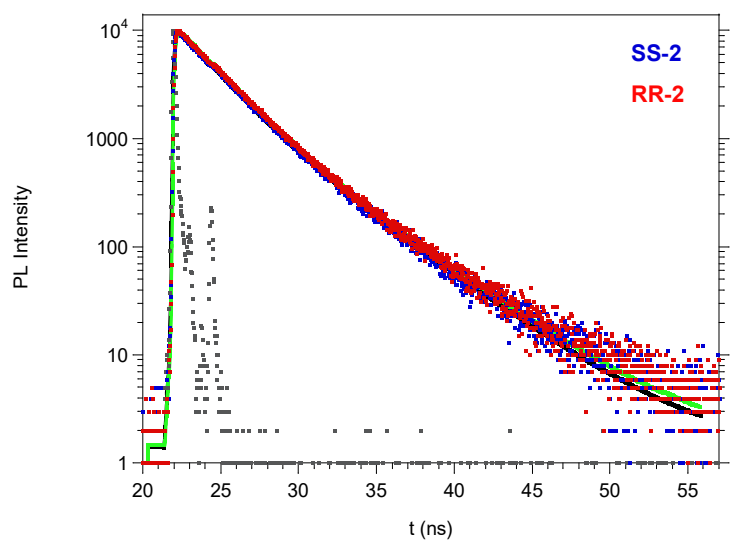


Figure S11. PL decays of solutions of **2**. (excitation at 408nm, emission at 575nm). Prompt (grey points); biexponential fits (solid lines) with parameters $t_1=2.17$ ns, $t_2=4.30$ ns, $A_1=0.70$, $A_2=0.30$, $\chi^2=1.654366$ (black, SS-2); $t_1=2.28$ ns, $t_2=4.53$ ns, $A_1=0.75$, $A_2=0.25$, $\chi^2=1.343742$ (green, RR-2).

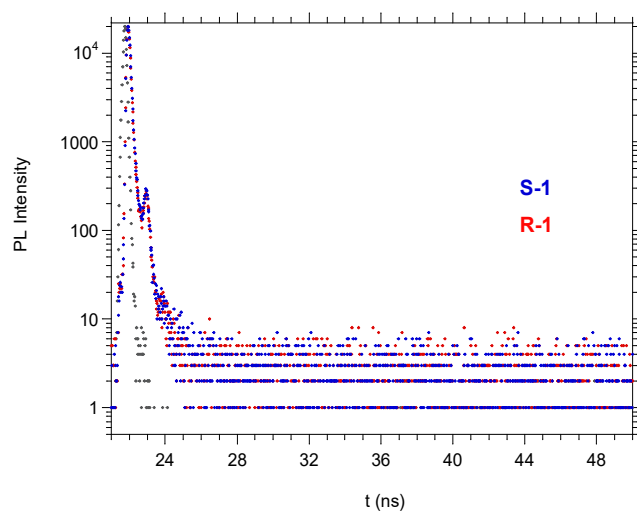


Figure S12. PL decays of films of **1**. (excitation at 408nm, emission at 544nm). Prompt (grey points)

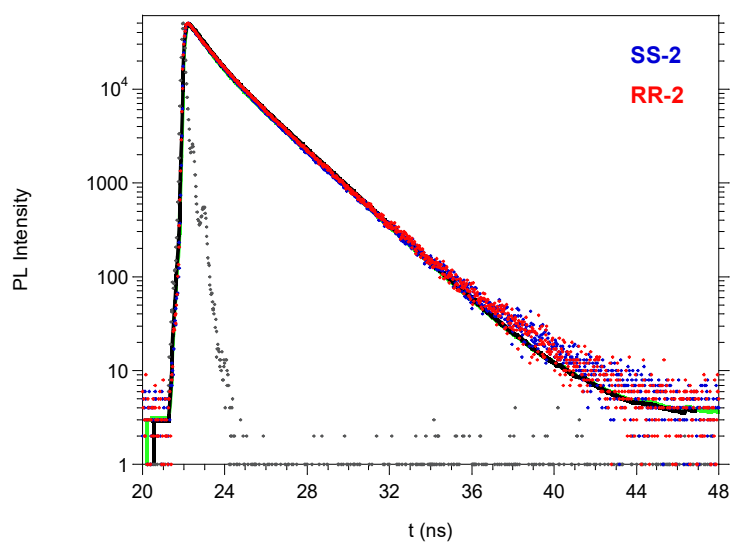


Figure S13. PL decays of film of **2**. (excitation at 408nm, emission at 585nm). Prompt (grey points). Biexponential fits (solid lines) with parameters $t_1=0.67\text{ns}$, $t_2=2.16\text{ ns}$, $A_1=0.50$, $A_2=0.50$, $\chi^2=3.972821$ (green, SS-2); $t_1=0.67\text{ns}$, $t_2=2.15\text{ ns}$, $A_1=0.47$, $A_2=0.53$, $\chi^2=3.772541$ (black, RR-2)

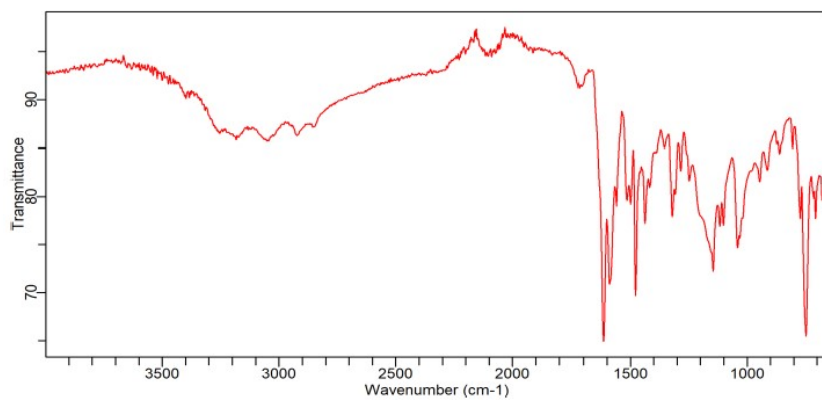


Figure S14. FT IR spectra of **1**

5. Copies of NMR and mass spectra of new compounds

Compound (R)-4

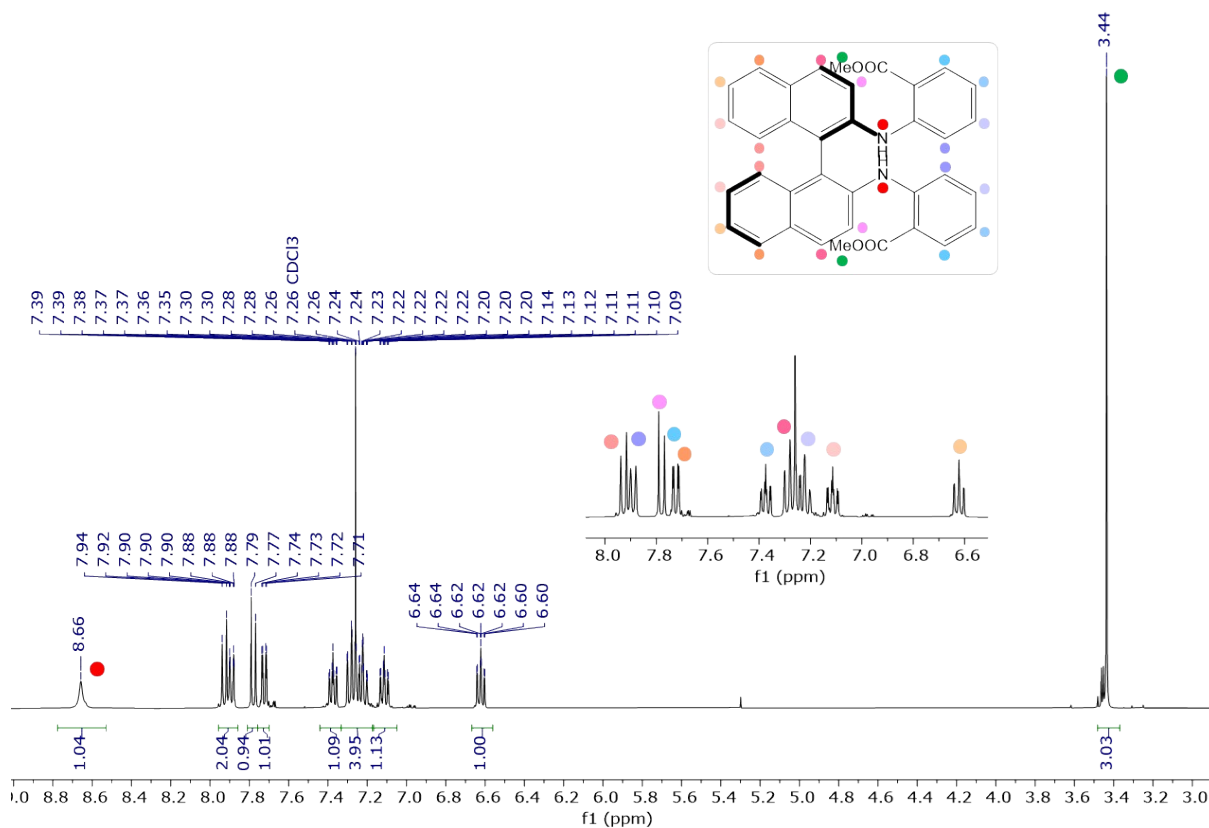


Fig.

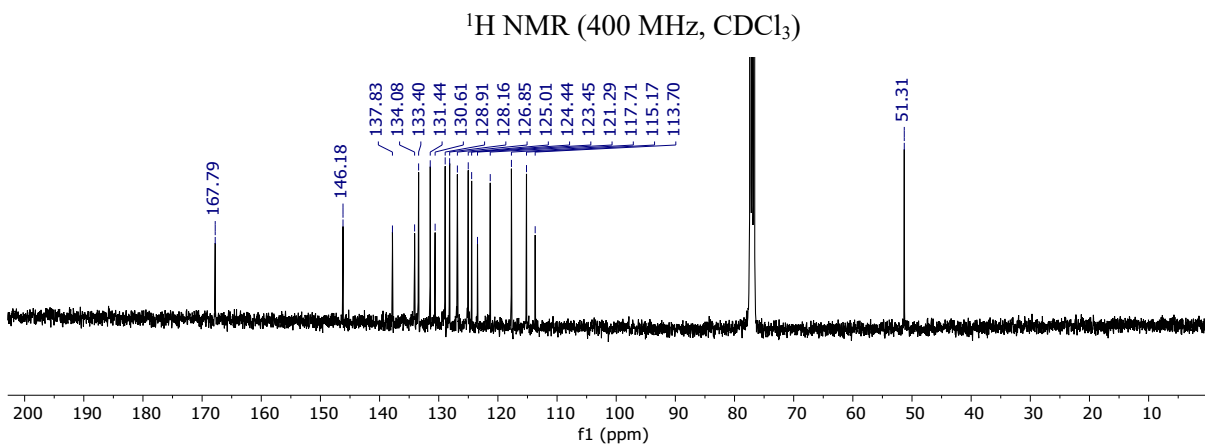
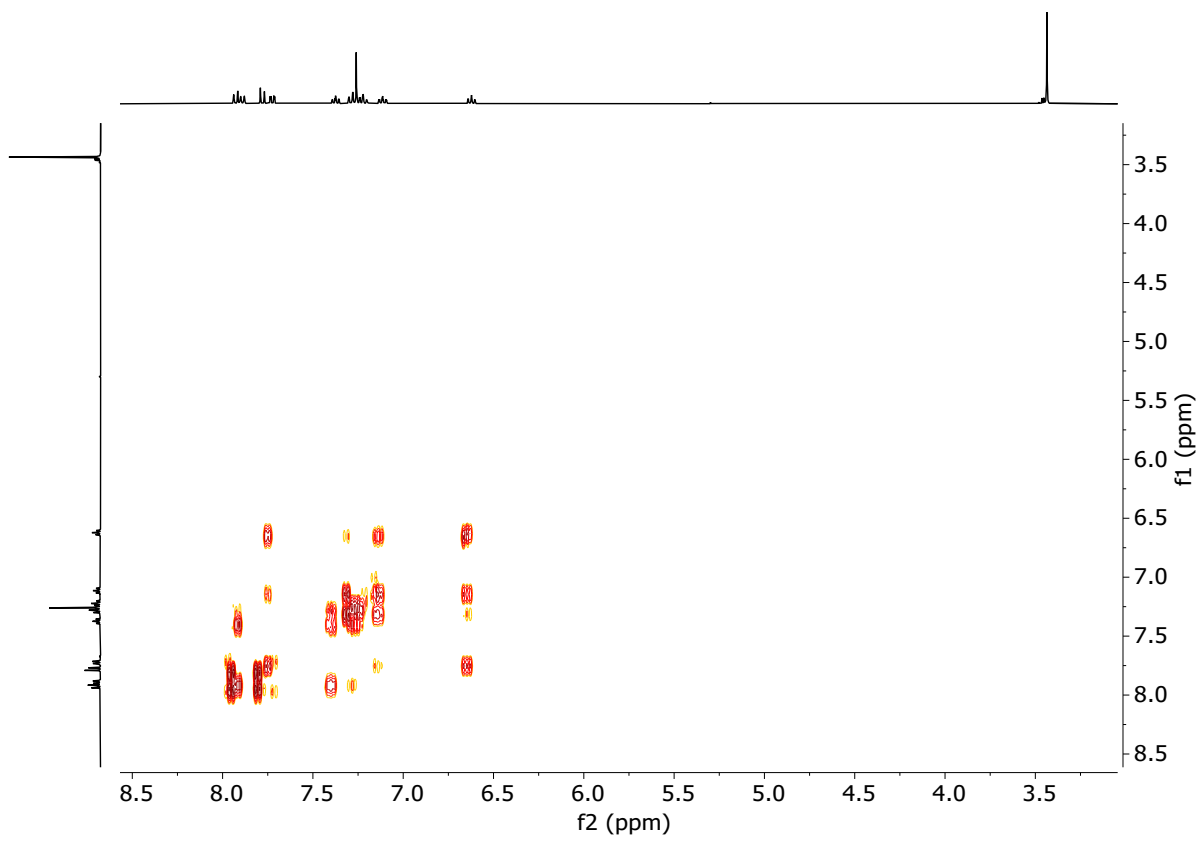
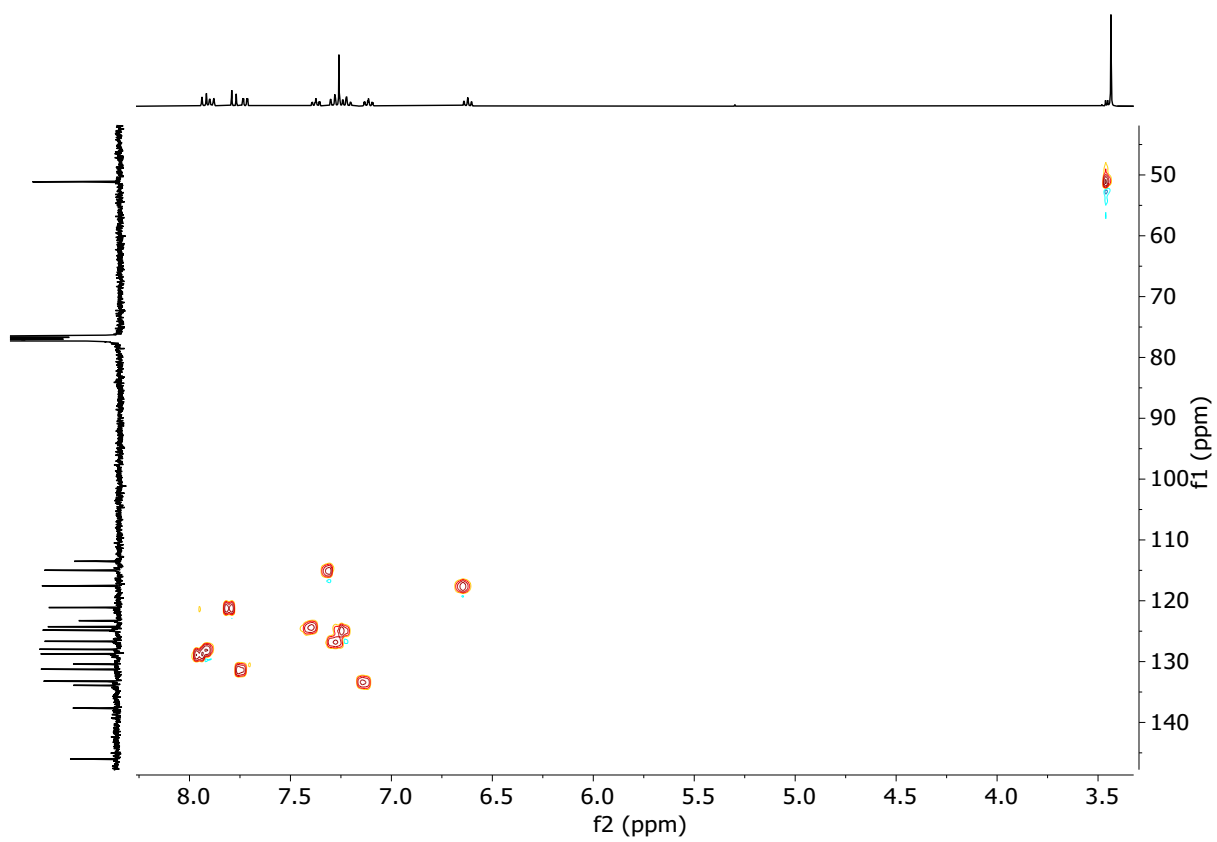


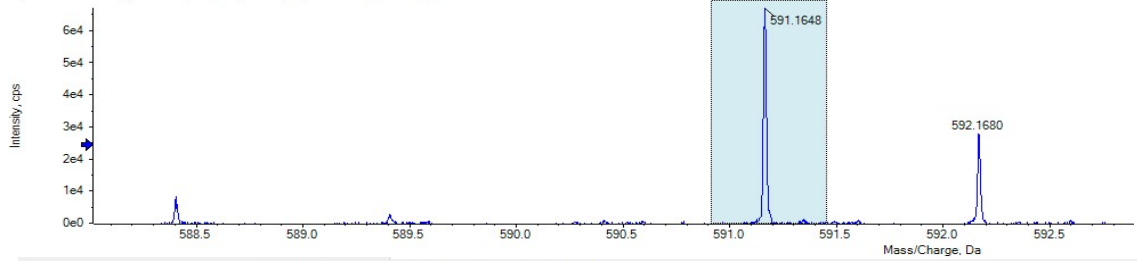
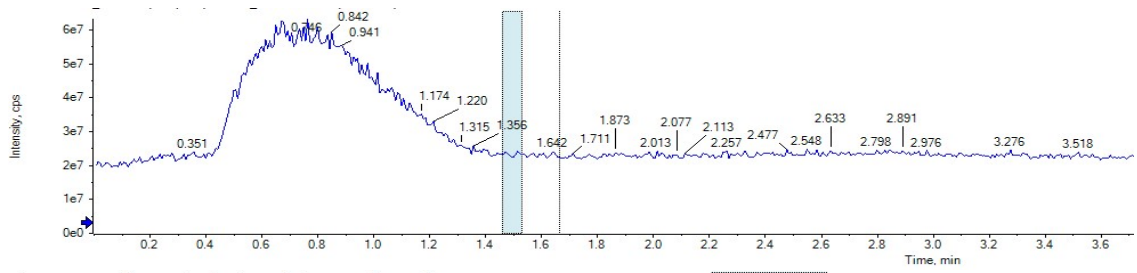
Fig.



H,H COSY

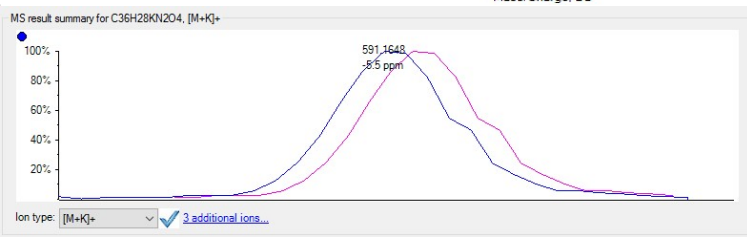


HSQC



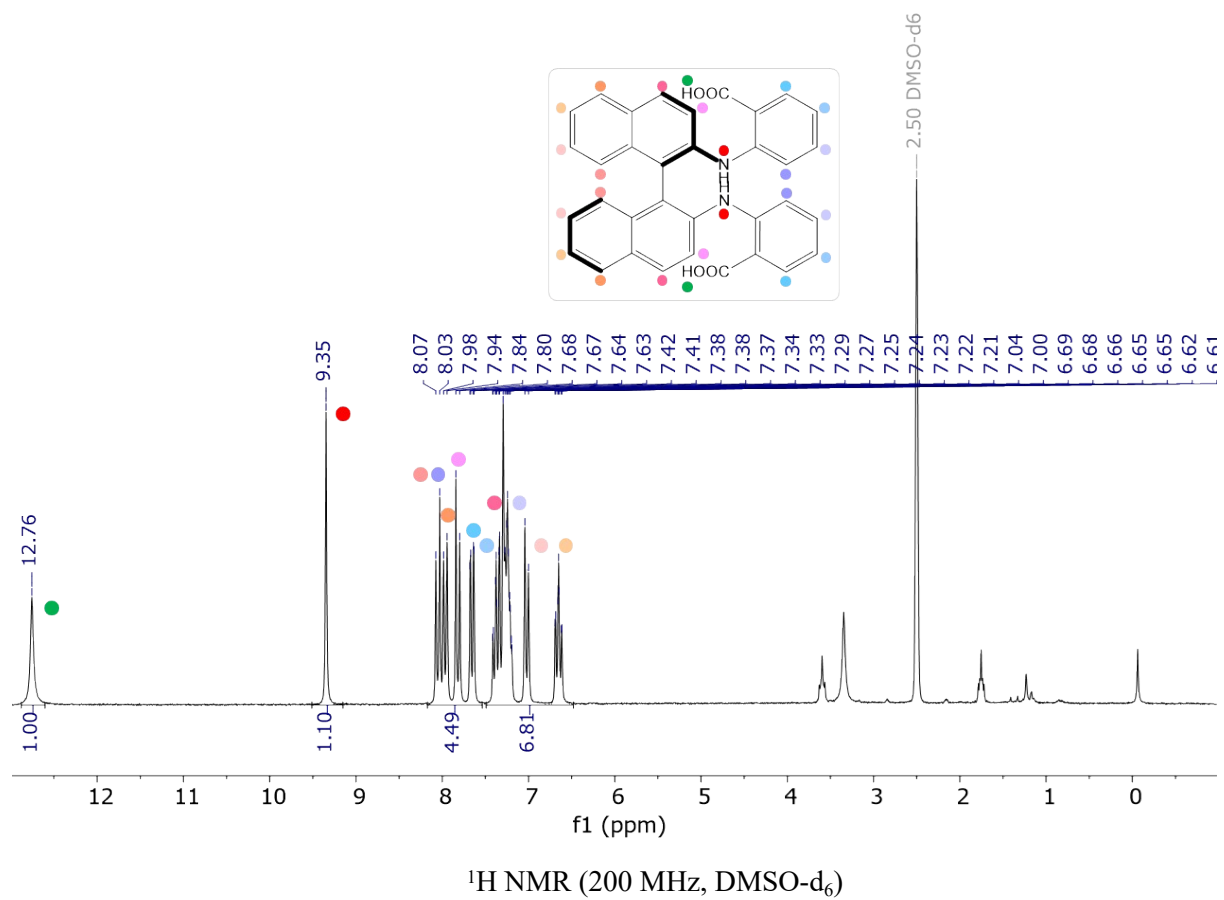
Found elemental compositions

Hit	Formula	m/z	RDB	ppm	MS Rank	MSMS Rank	MSMS Rank	Found
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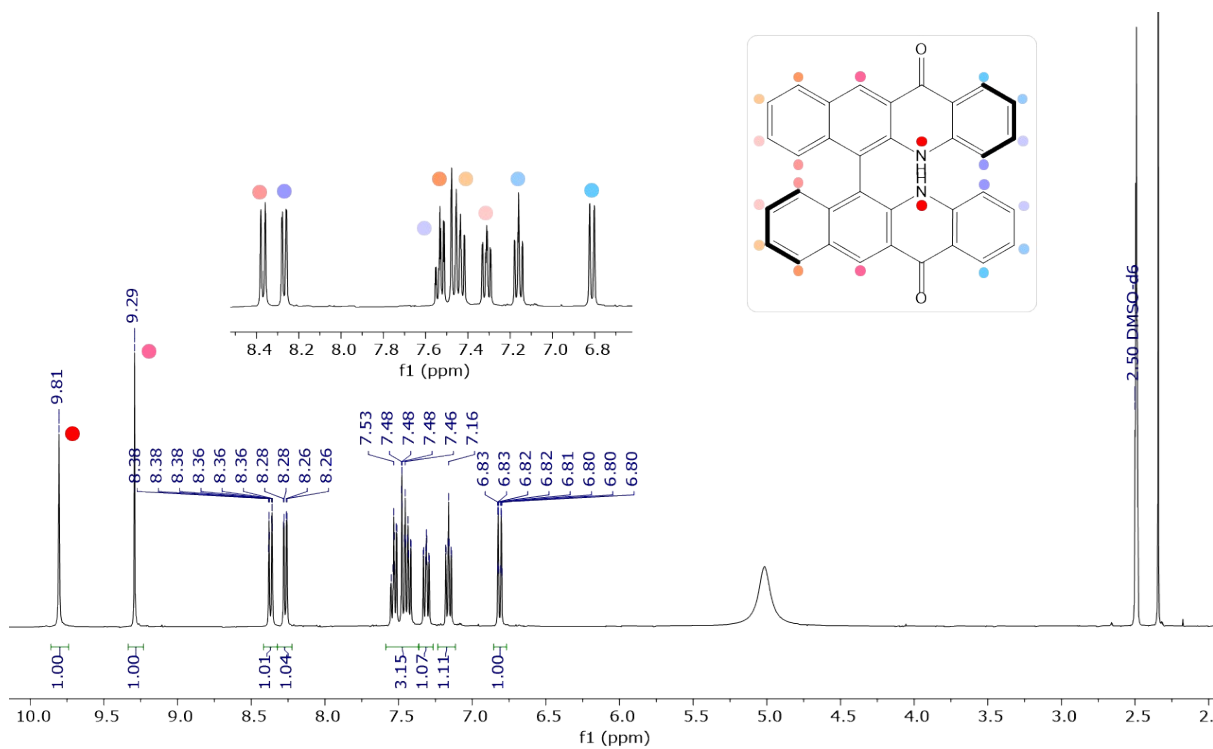


HRMS.

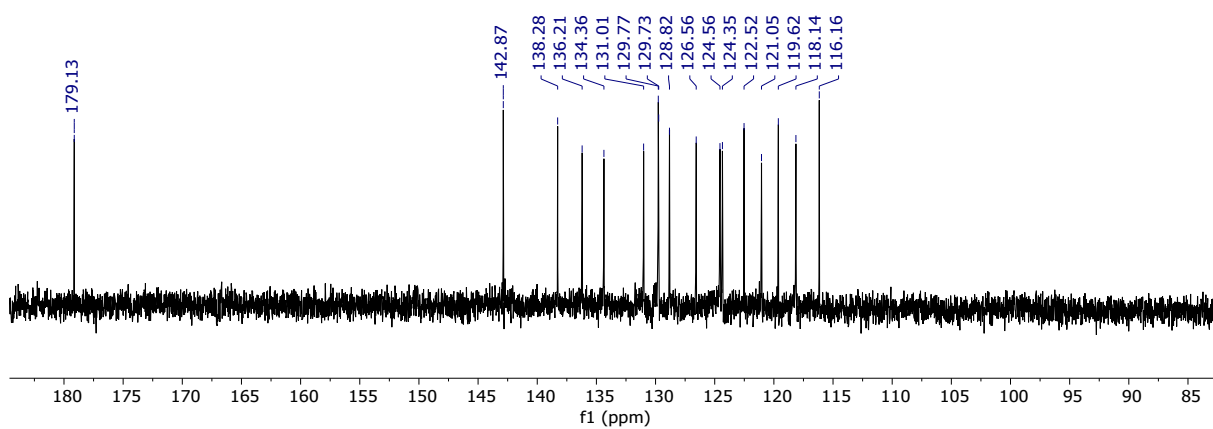
Compound (R)-6



Compound (R)-1



¹H NMR (400 MHz, DMSO-d₆)



¹³C NMR (101 MHz, DMSO-d₆)

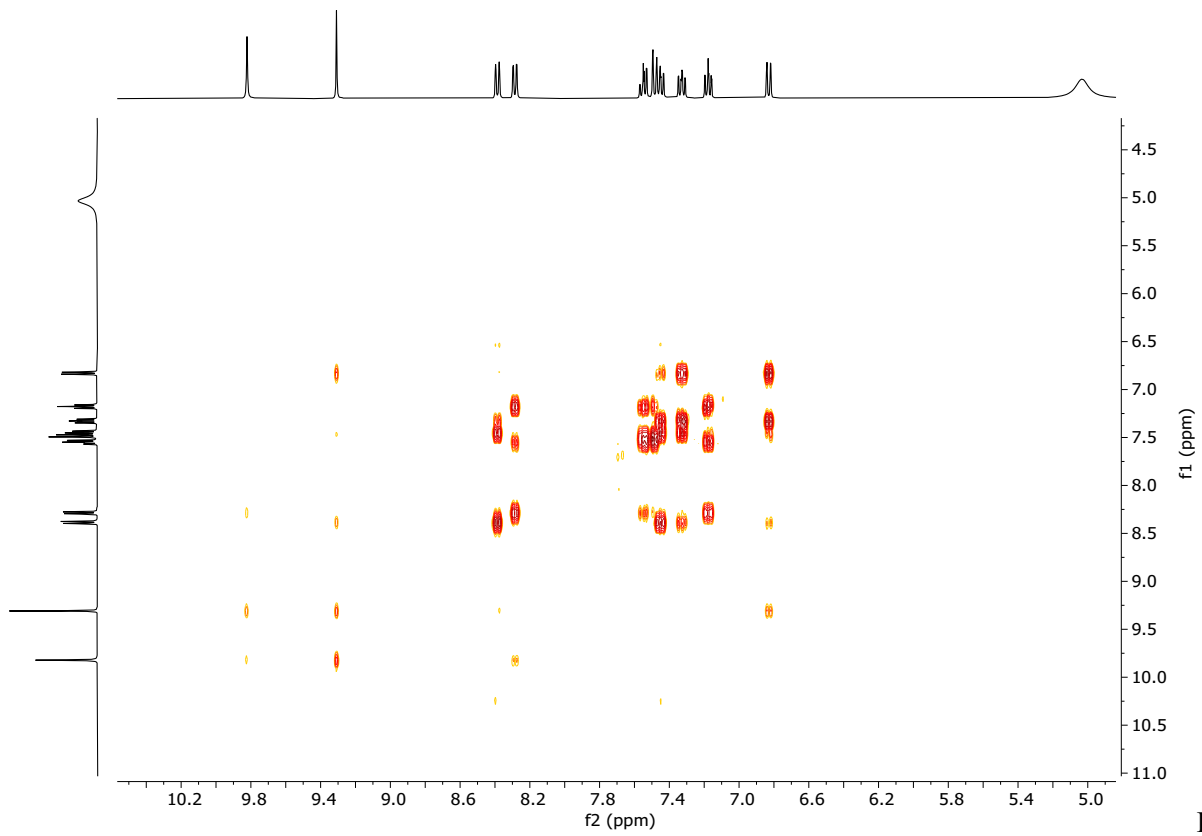
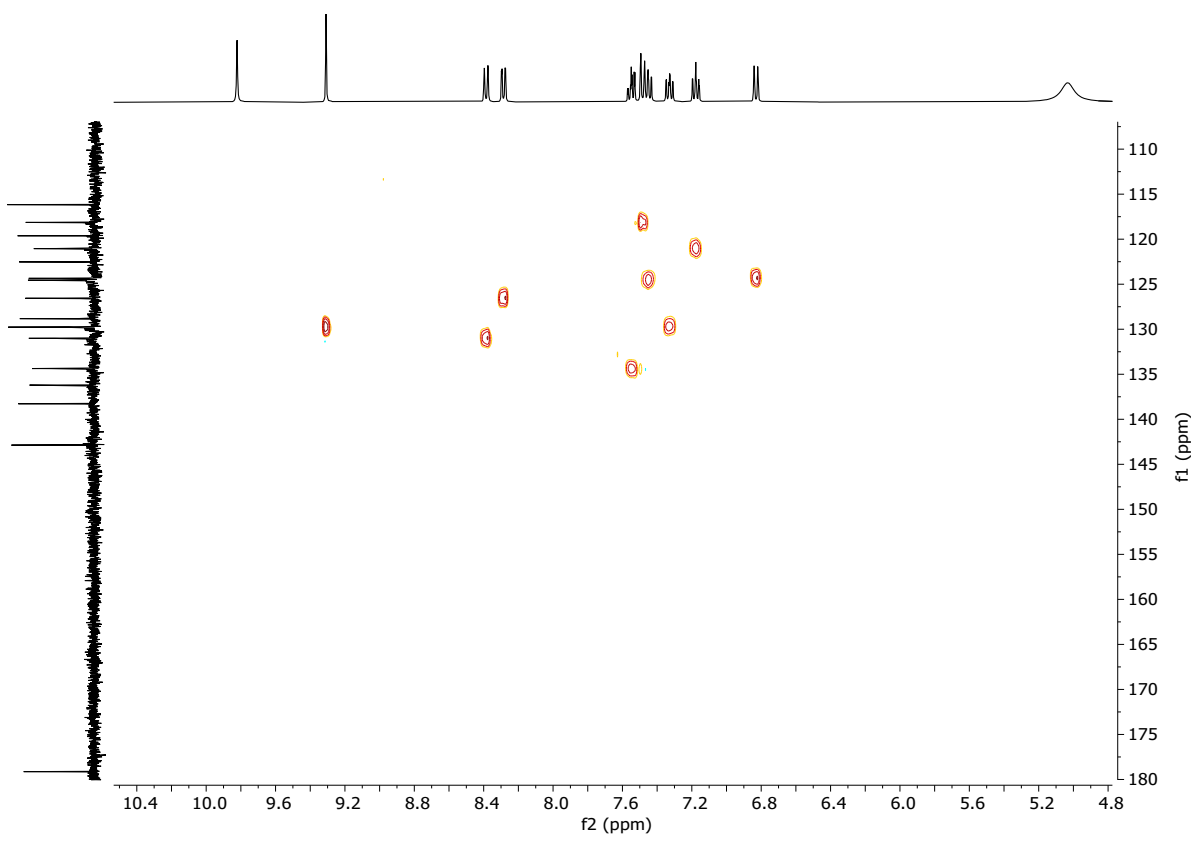
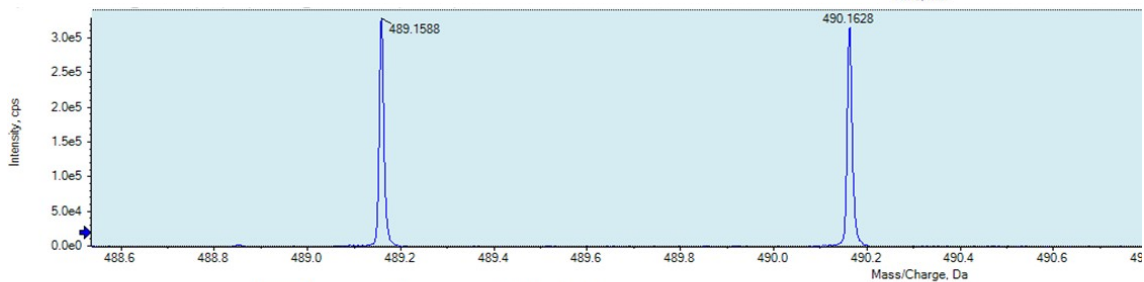
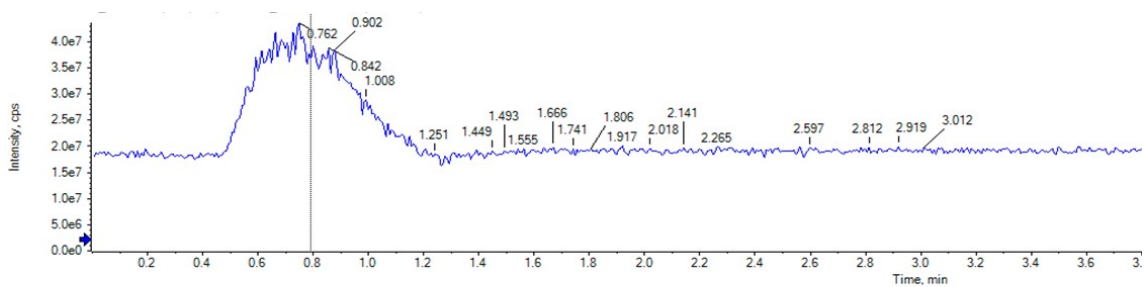


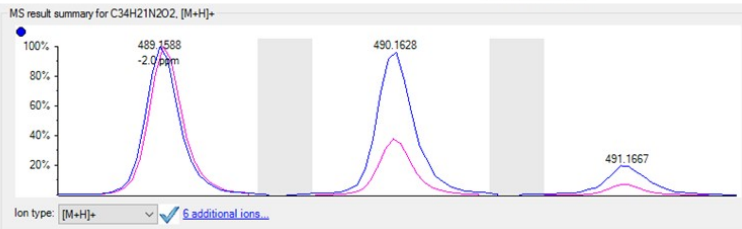
Fig.





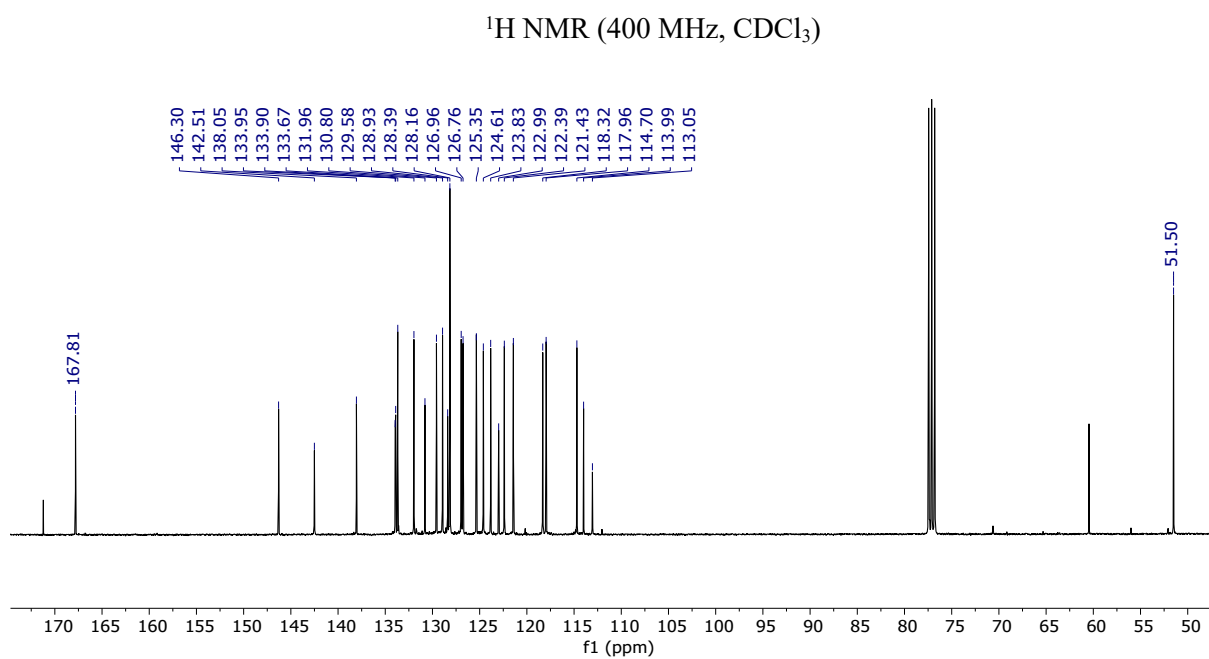
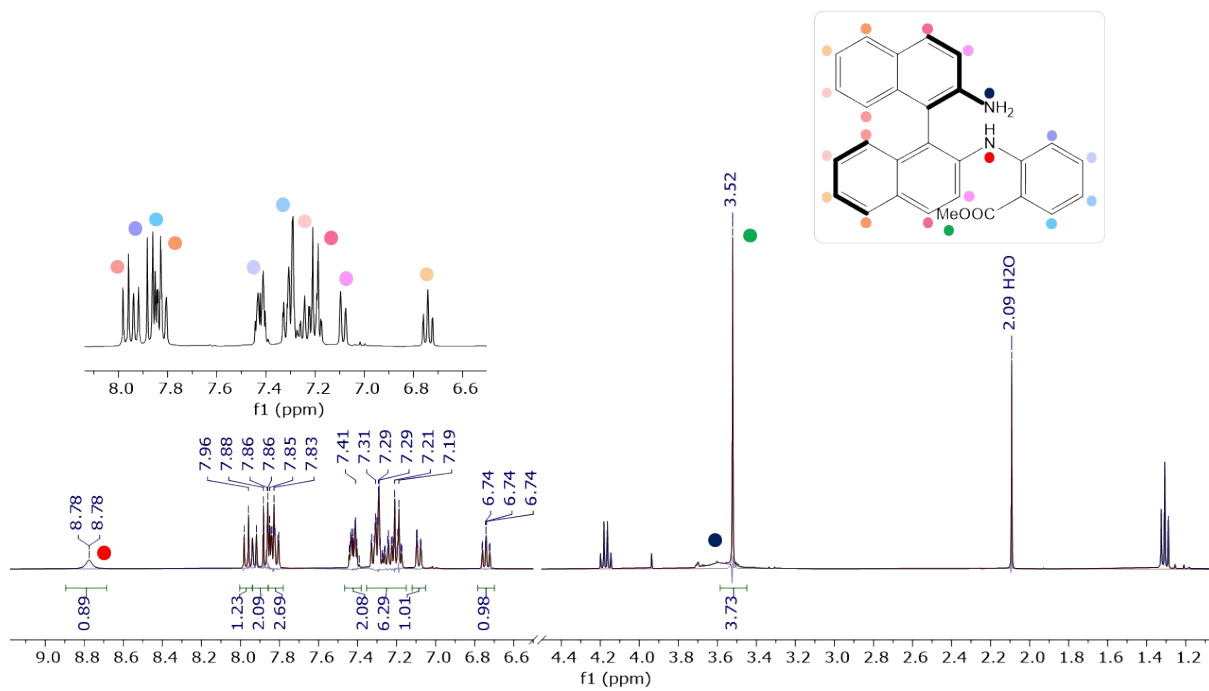
Found elemental compositions

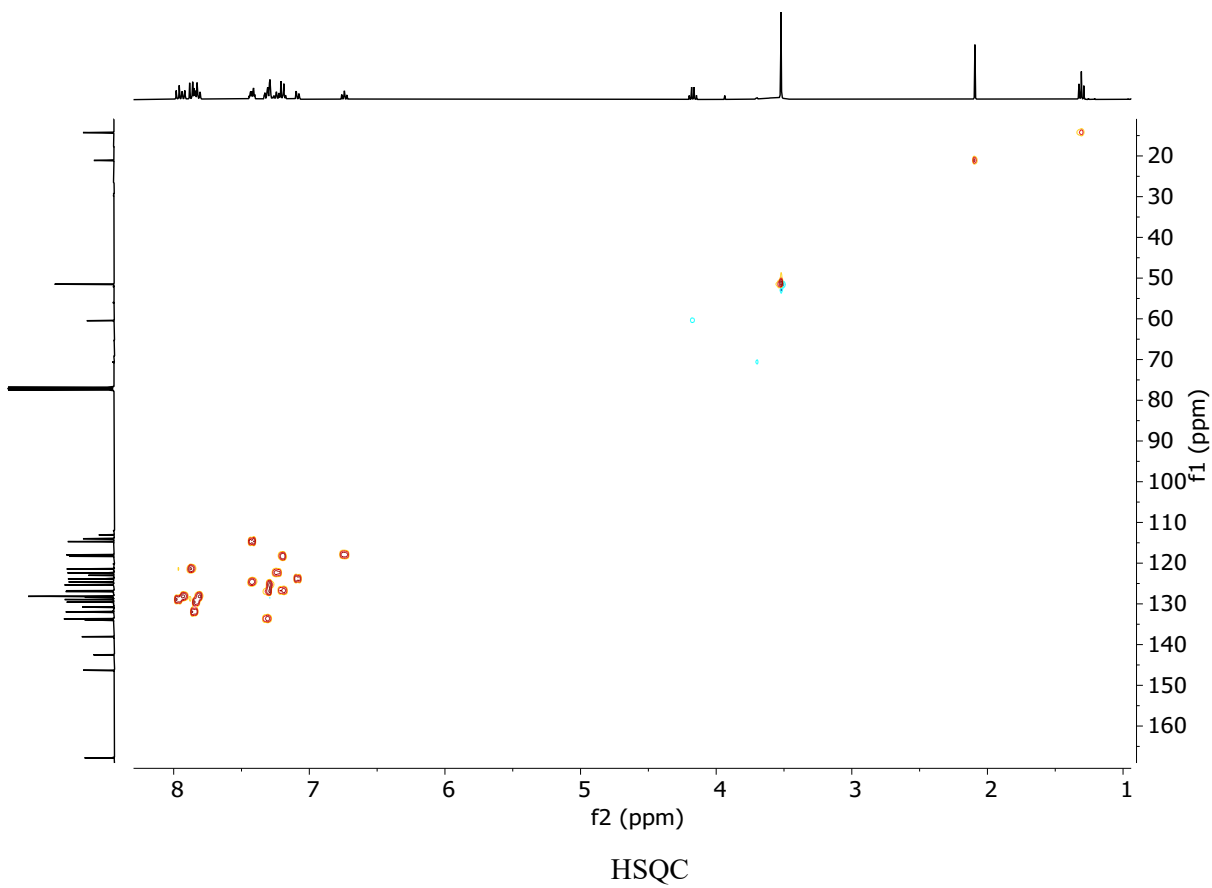
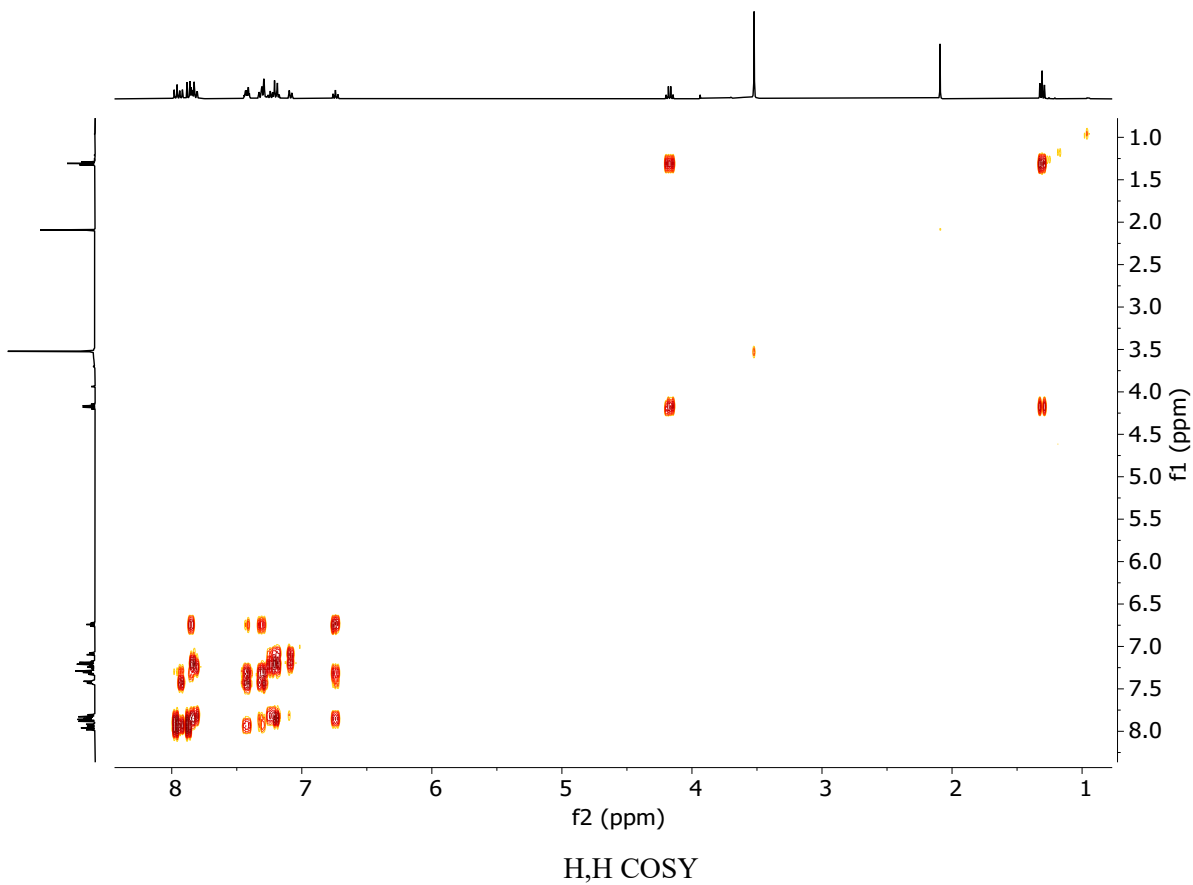
Hit	Formula	m/z	RDB	ppm	MS Rank	MSMS Rank	MSMS Rank	Found
1	C ₃₄ H ₂₀ N ₂ O ₂	489.1598	26.0	-2.0	1			NA/1



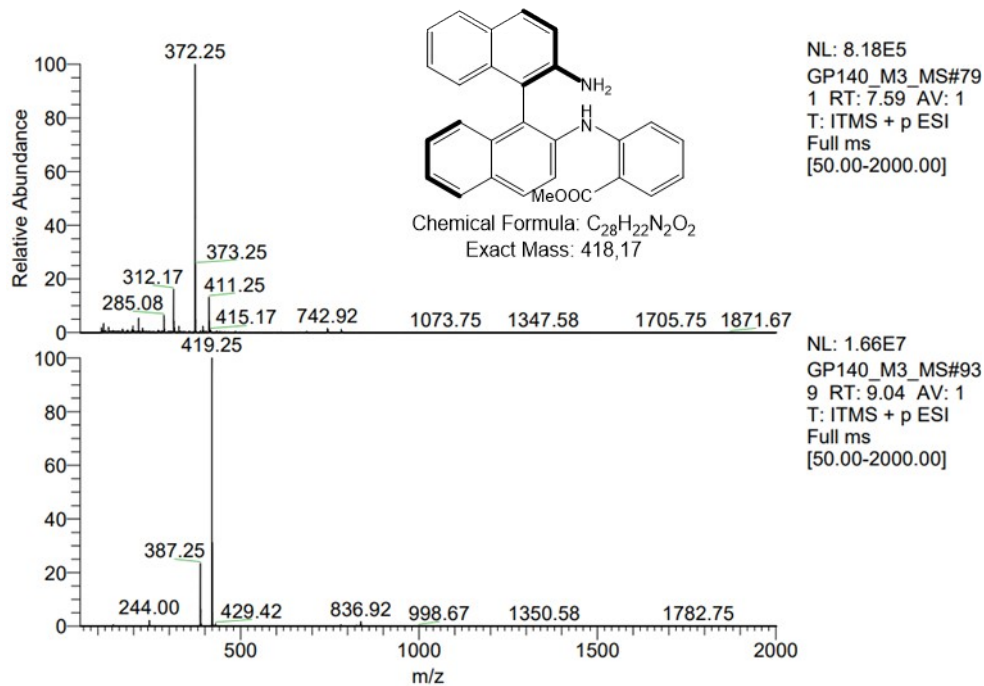
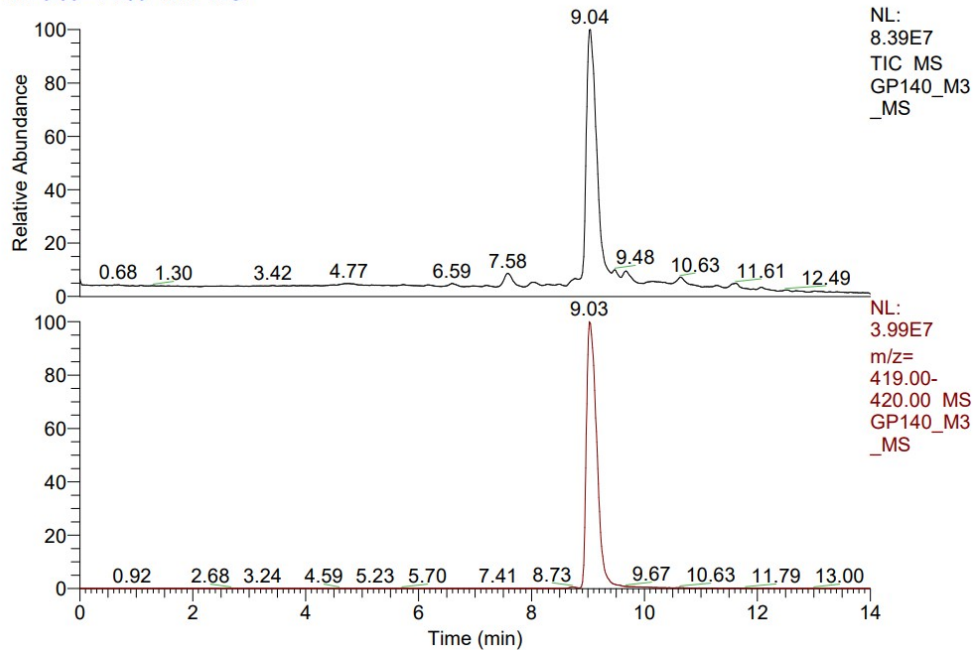
HRMS

Compound (R)-5



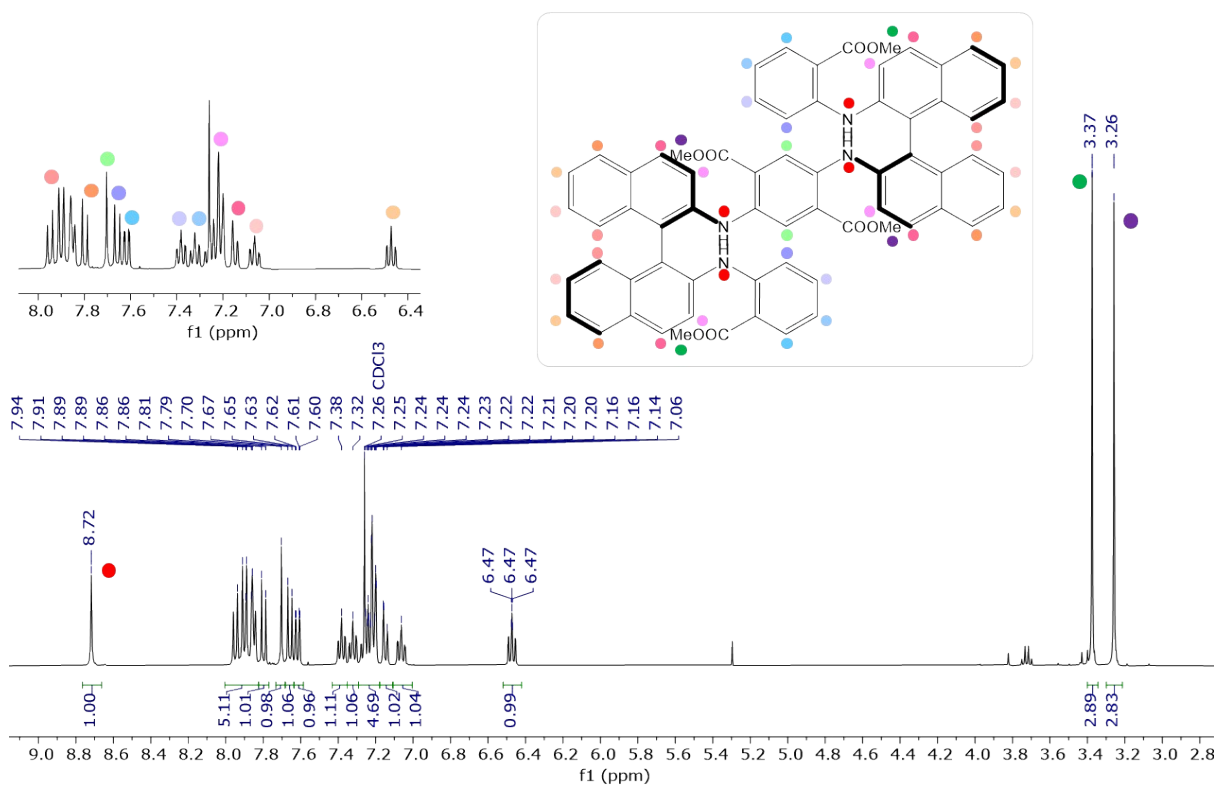


RT: 0.00 - 14.00 SM: 11G

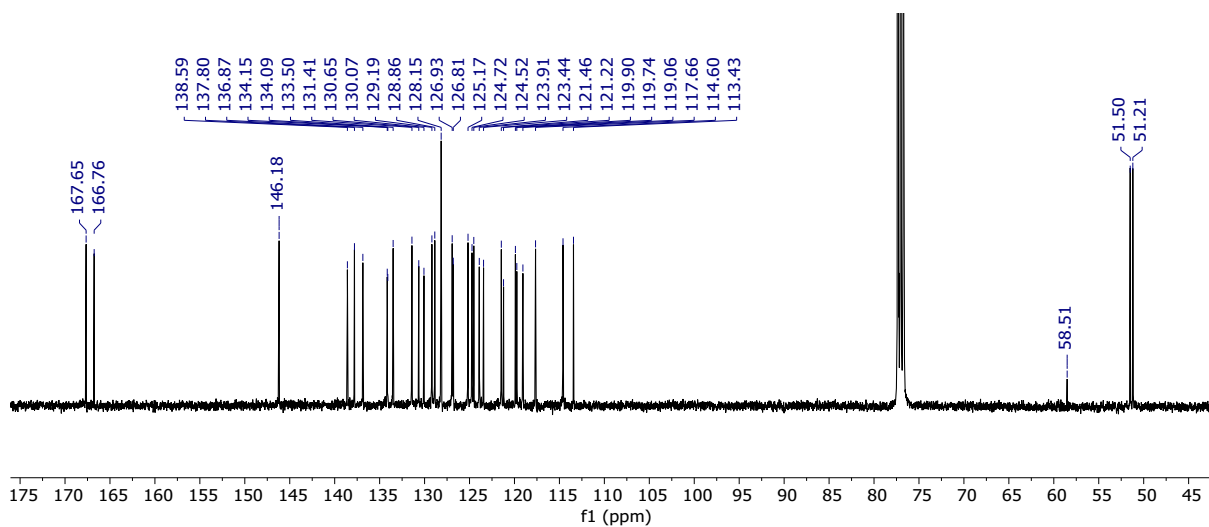


UPLC-ESI

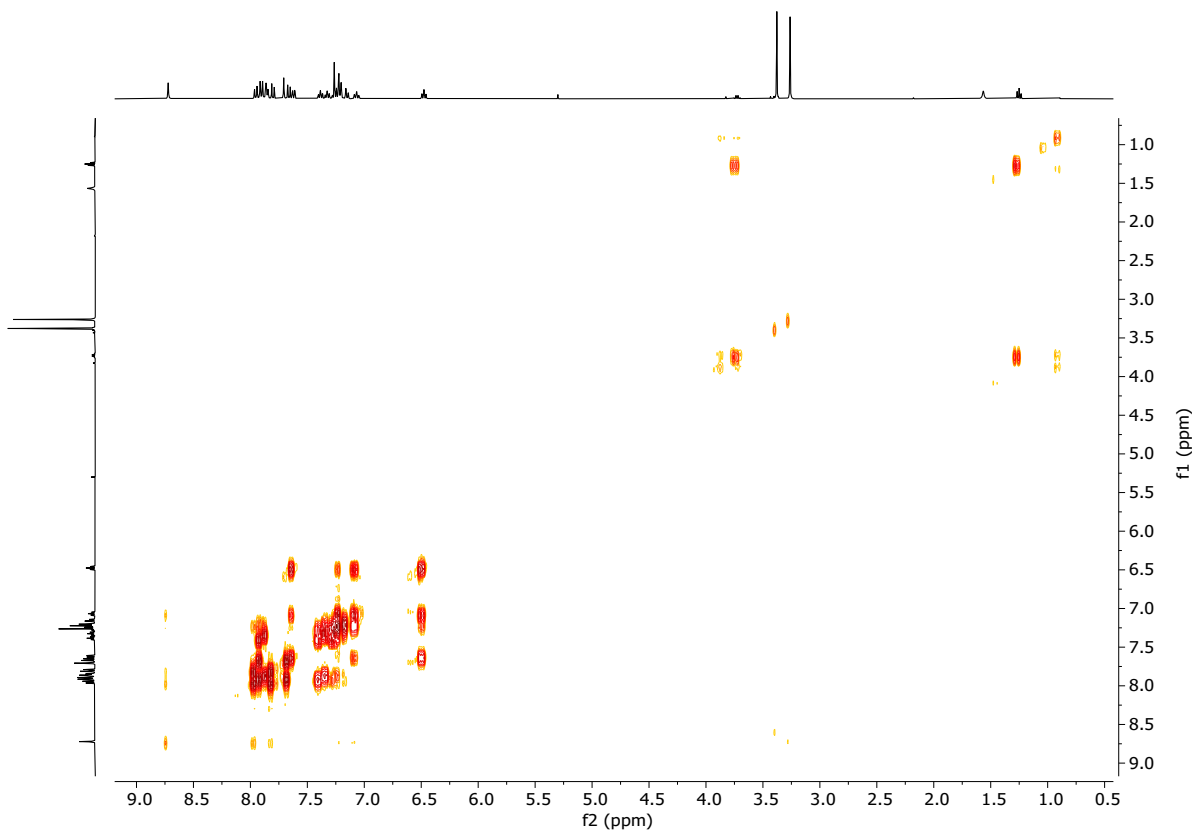
Compound (RR)-2



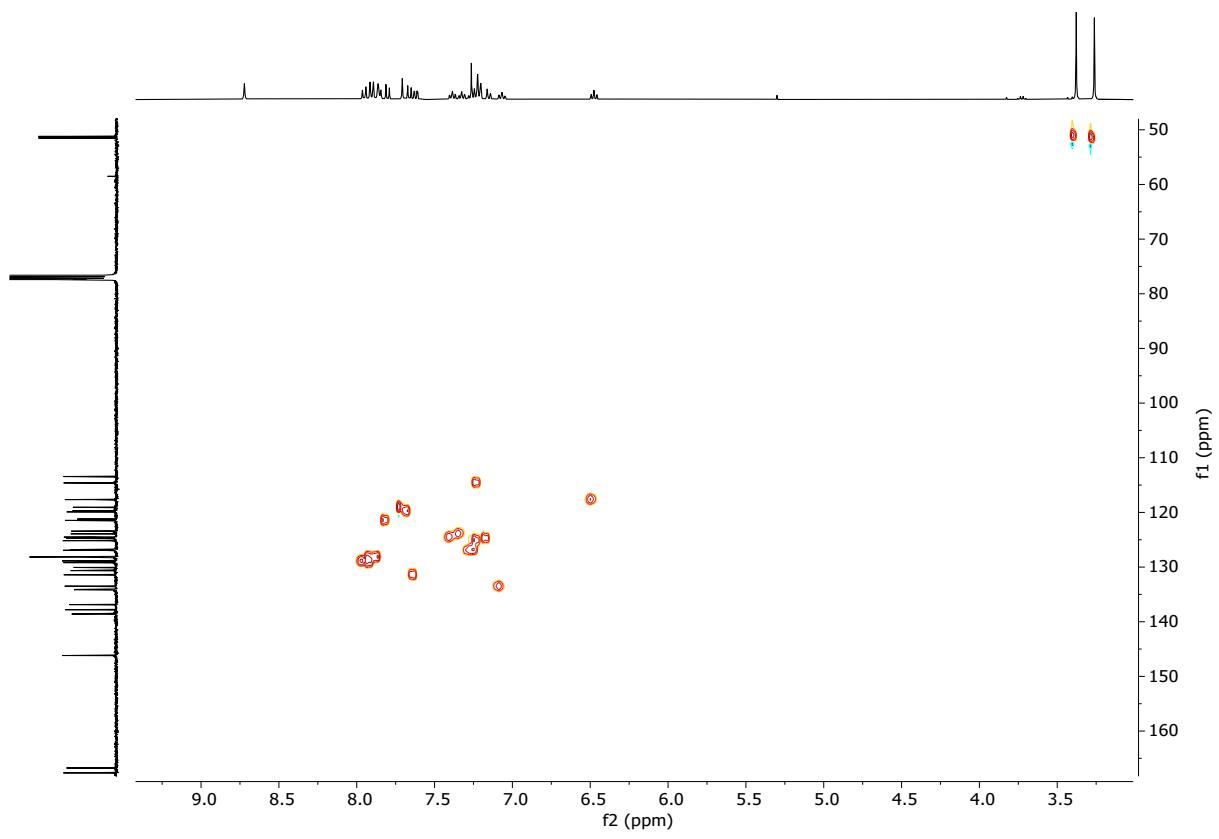
¹H NMR (400 MHz, CDCl₃)



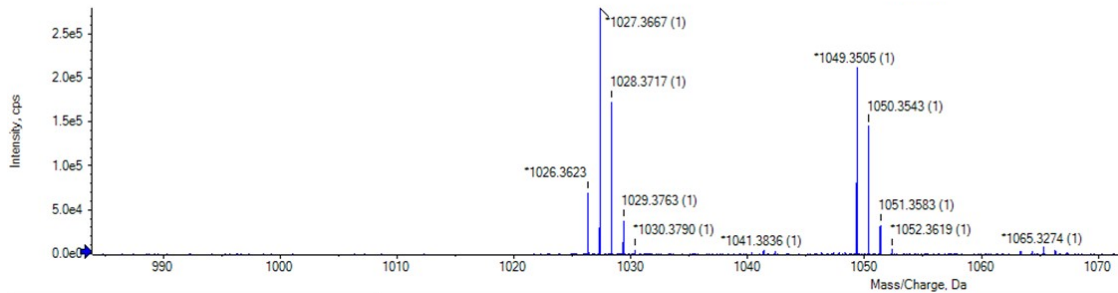
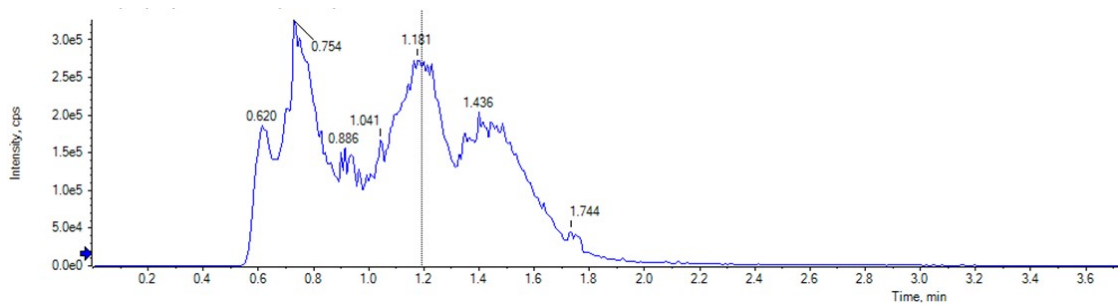
¹³C NMR (101 MHz, CDCl₃)



H,H COSY



HSQC



Found elemental compositions							
Ht	Formula	m/z	RDB	ppm	MS Rank	MSMS Rank	Found
1	C ₆₆ H ₅₁ N ₄ O ₈	1027.3701	44.0	-3.3	1		NA/NA

MS result summary for C₆₆H₅₁N₄O₈, [M+H]⁺

Ion type: [M+H]⁺ 5 additional ions...

HRMS