

## Supplementary Information

### Chromophore appended DPA based copper(II) complexes with diimine motif towards DNA binding and fragmentation studies

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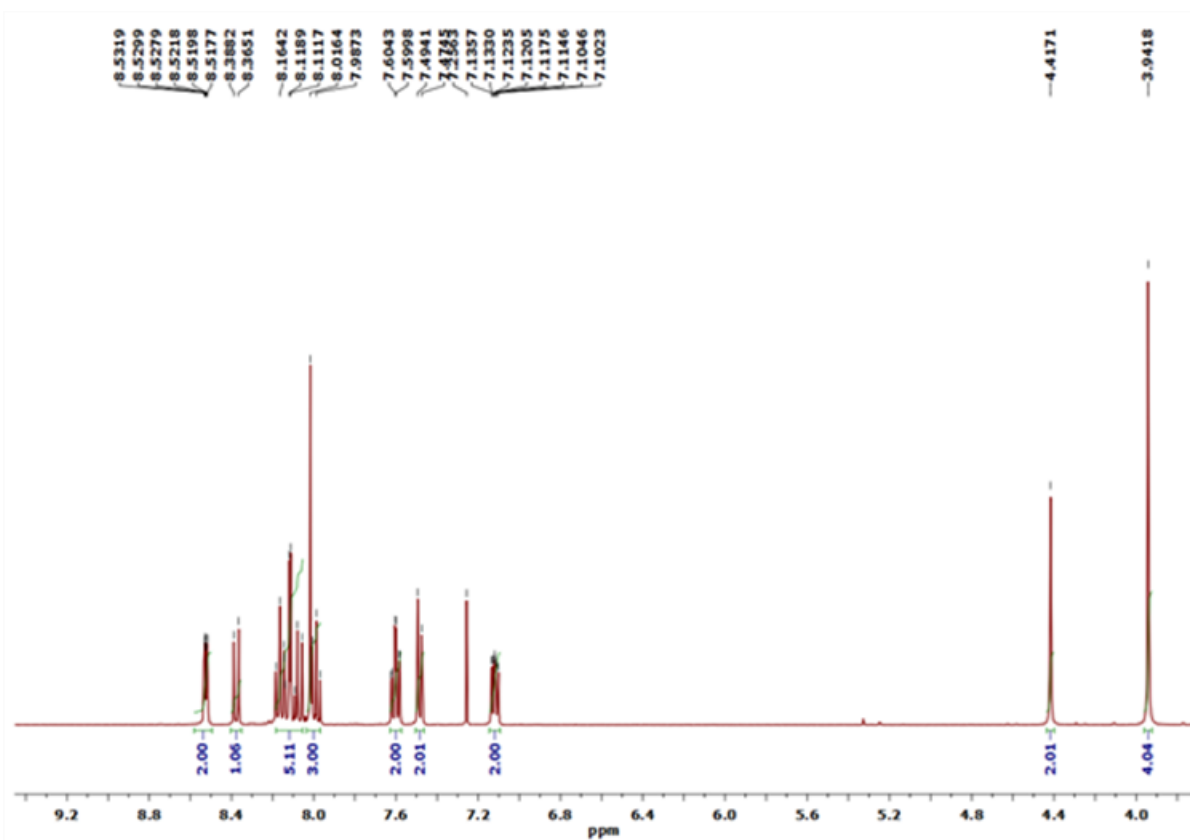
*E-mail: [anindya@bt.iith.ac.in](mailto:anindya@bt.iith.ac.in)*

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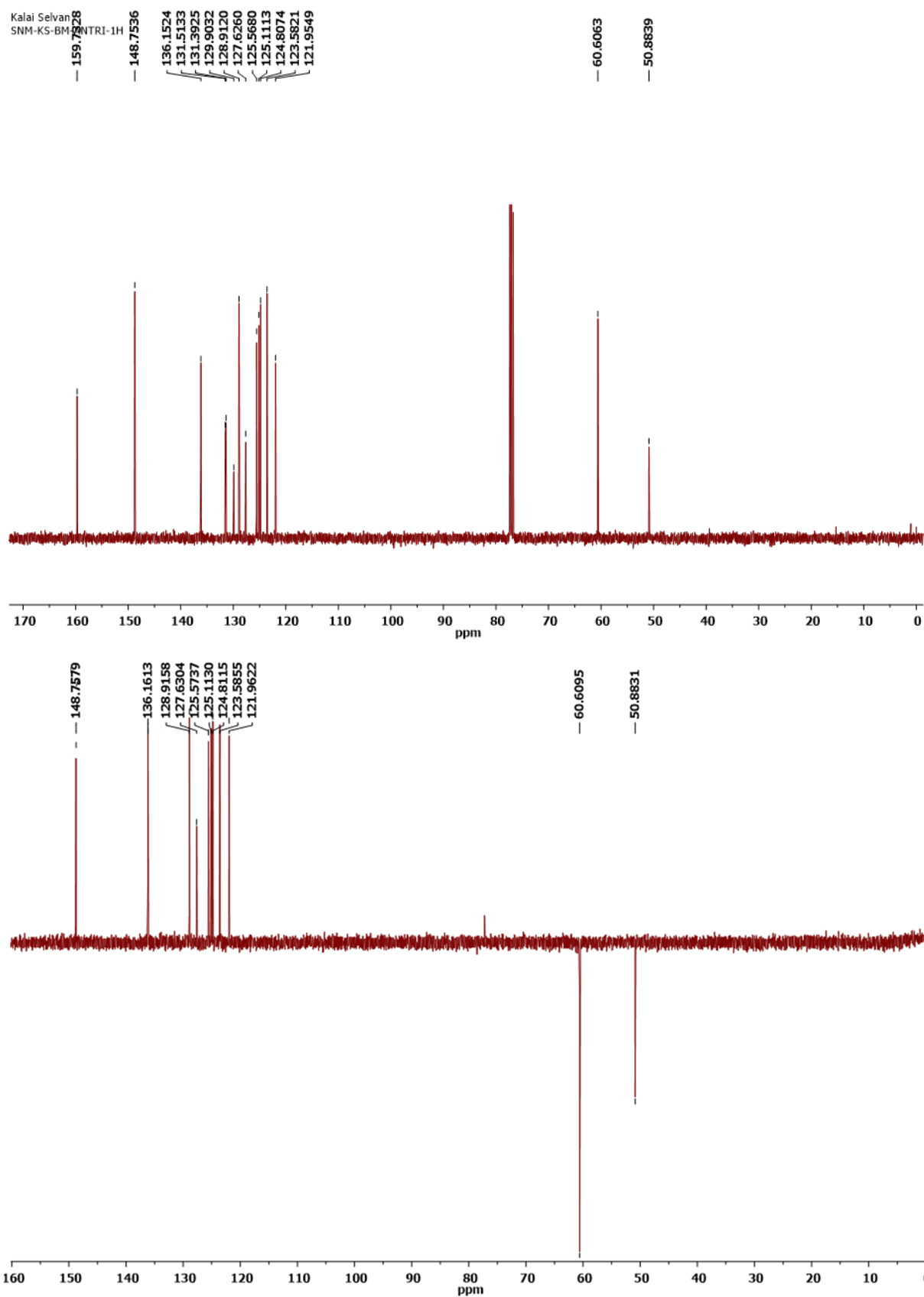
† These authors contributed equally to this work.

\*Corresponding author

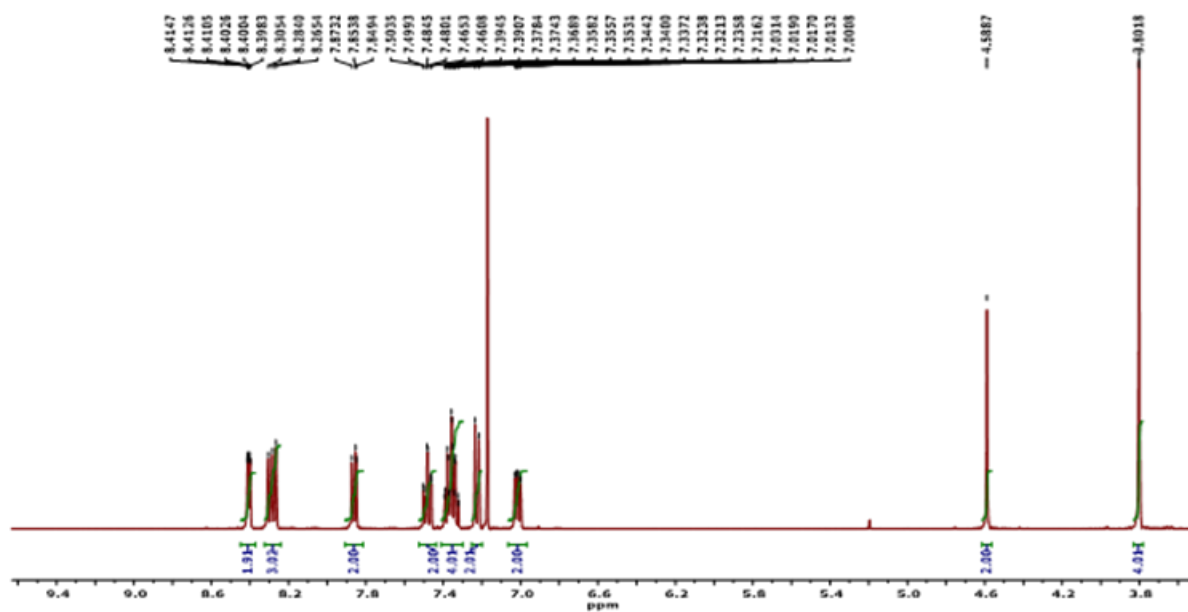
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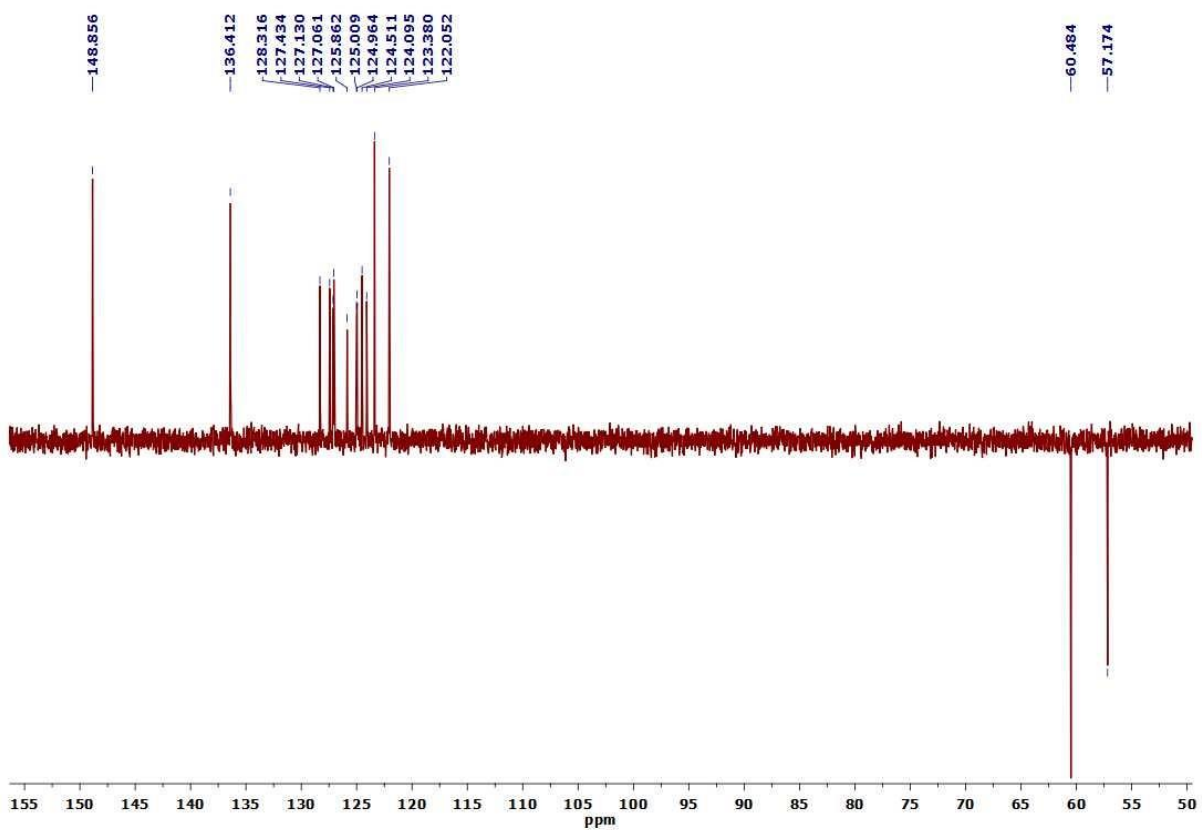
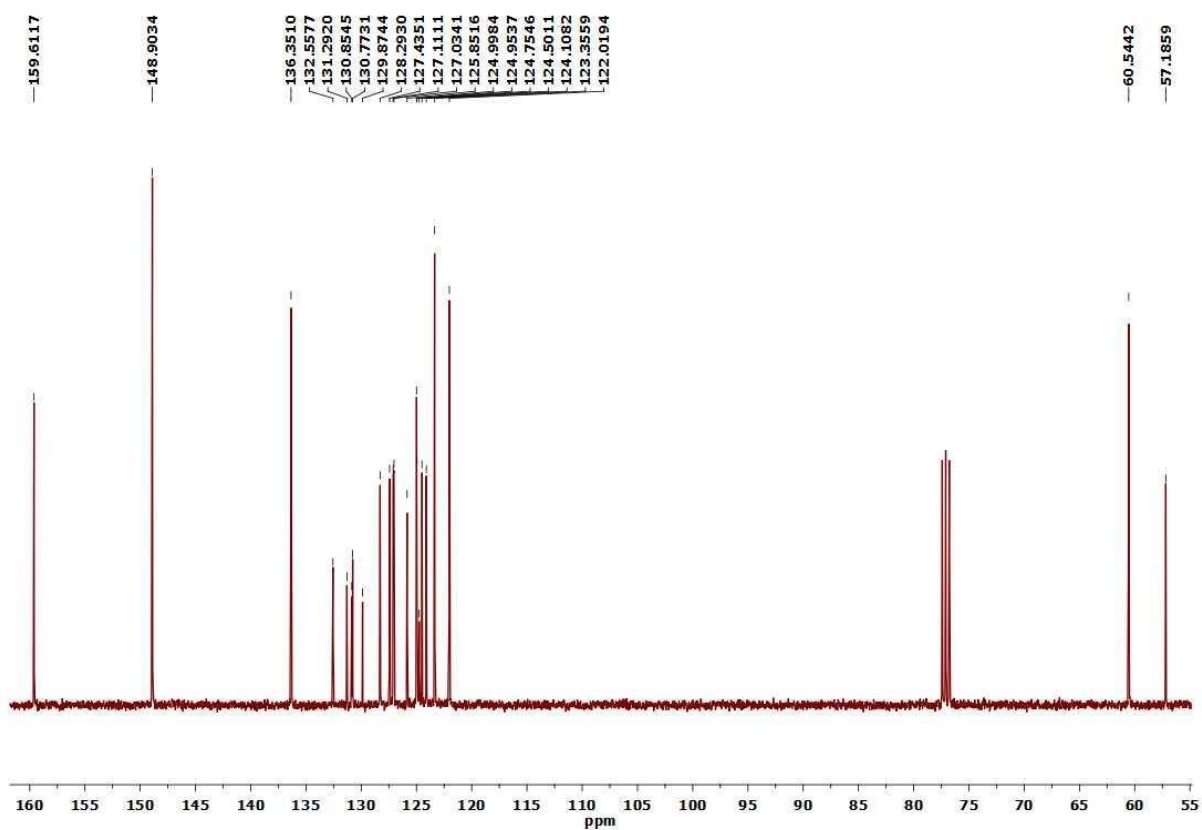
**Fig. S1**  $^1\text{H}$  NMR of 1-(anthracen-9-yl)-N,N-bis(pyridin-2-ylmethyl)methanamine (**L1**) in  $\text{CDCl}_3$  at room temperature.



**Fig. S2**  $^{13}\text{C}$  NMR (above) and DEPT (below) of 1-(anthracen-9-yl)-N,N-bis(pyridin-2-ylmethyl)methanamine (**L1**) in  $\text{CDCl}_3$  at room temperature.



**Fig. S3**  $^1\text{H}$  NMR of 1-(pyren-1-yl)-N,N-bis(pyridin-2-ylmethyl)methanamine (**L2**) in  $\text{CDCl}_3$  at room temperature.



**Fig. S4**  $^{13}\text{C}$  NMR (above) and DEPT (below) of 1-(pyren-1-yl)-N,N-bis(pyridin-2-ylmethyl)methanamine (**L2**) in  $\text{CDCl}_3$  at room temperature.

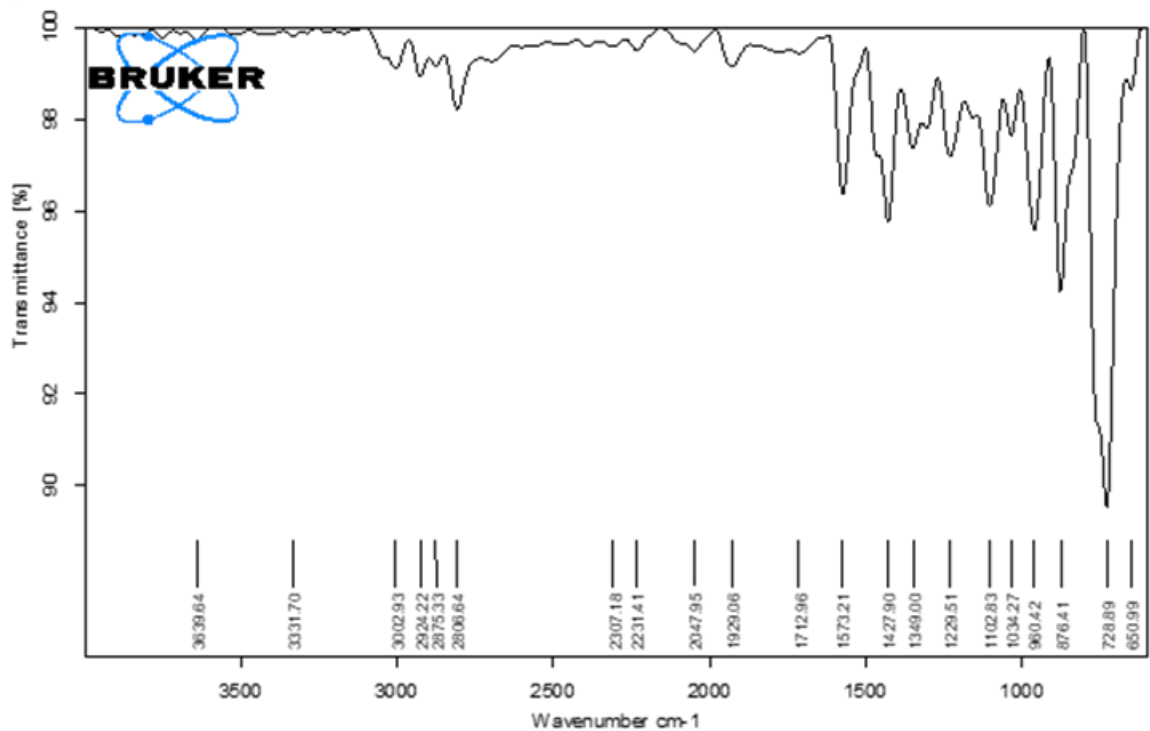


Fig. S5 FT-IR (solid) of L1.

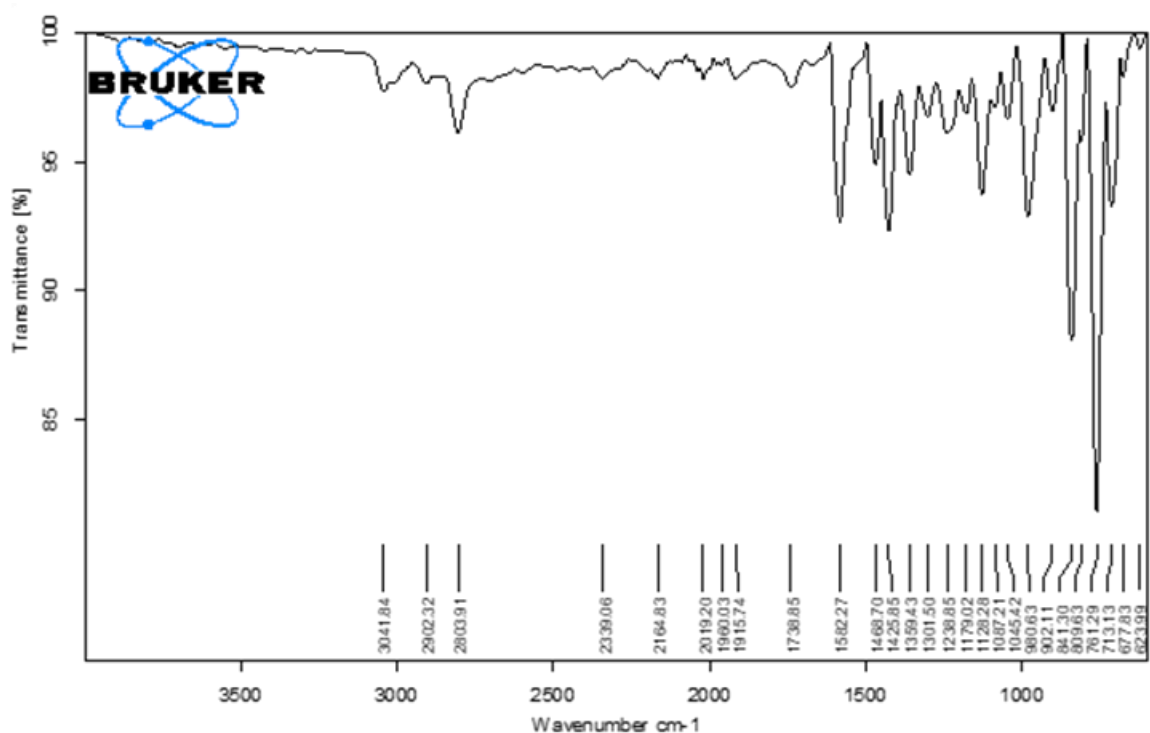
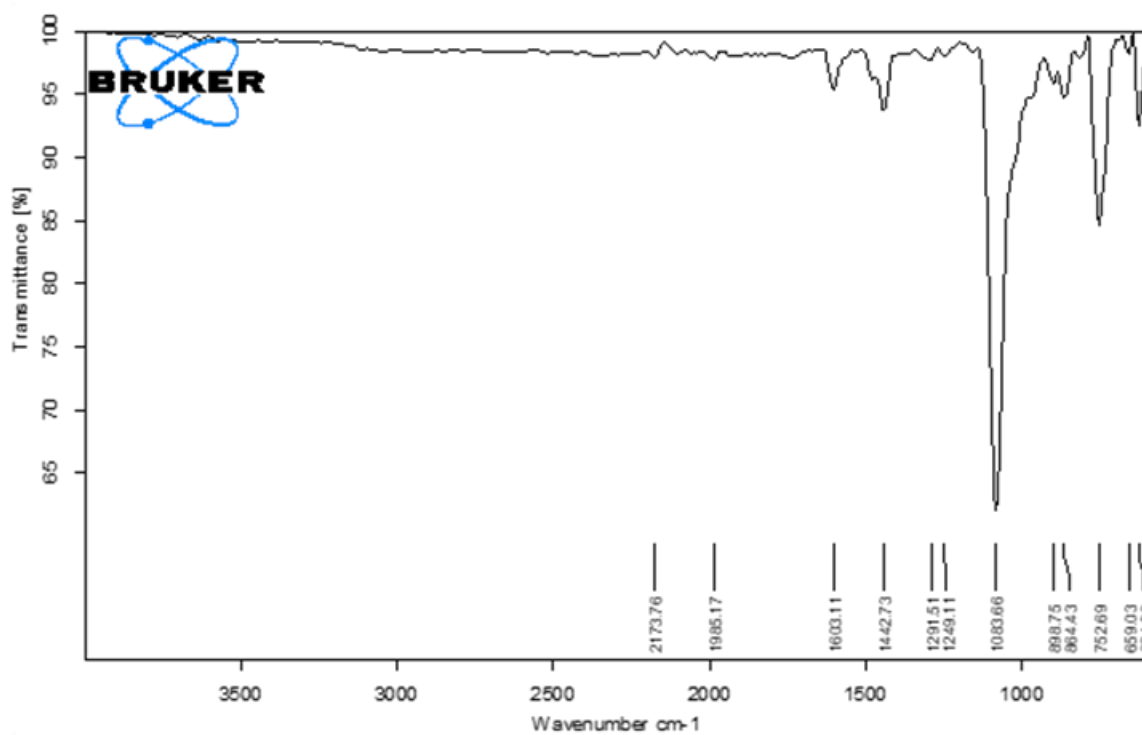
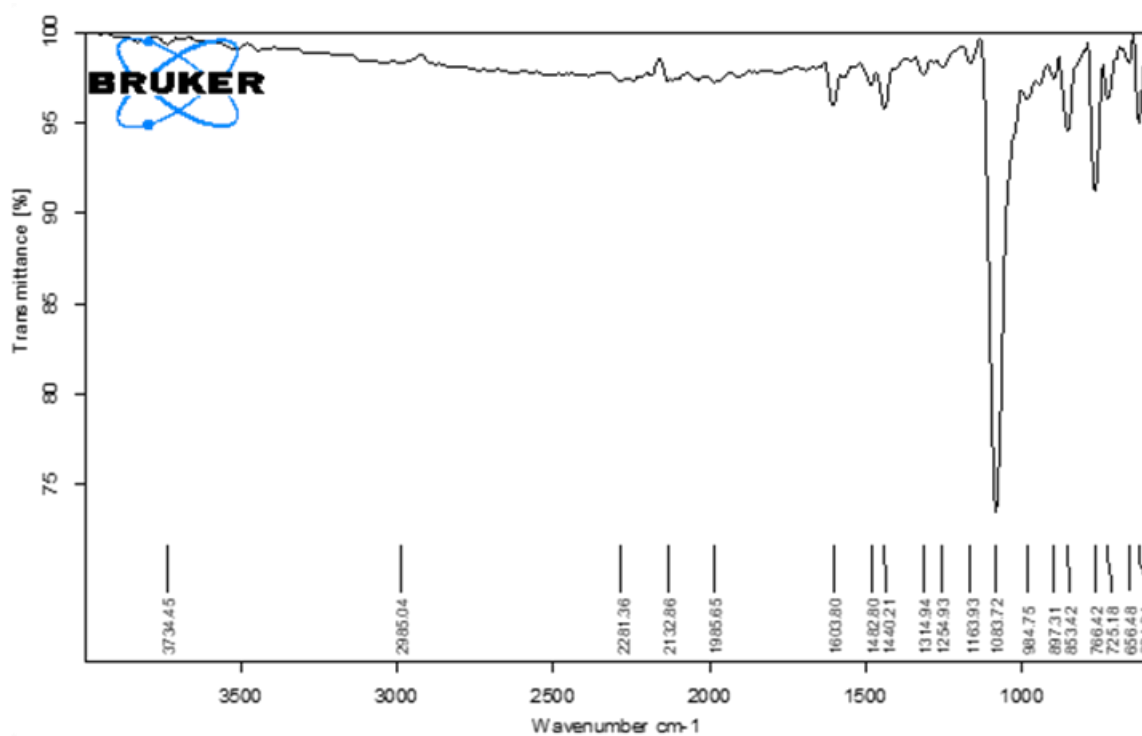


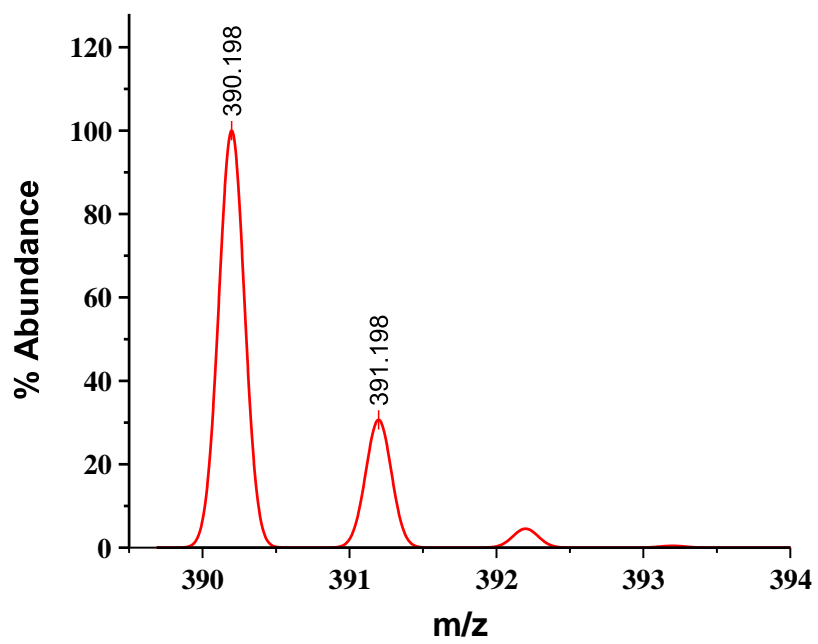
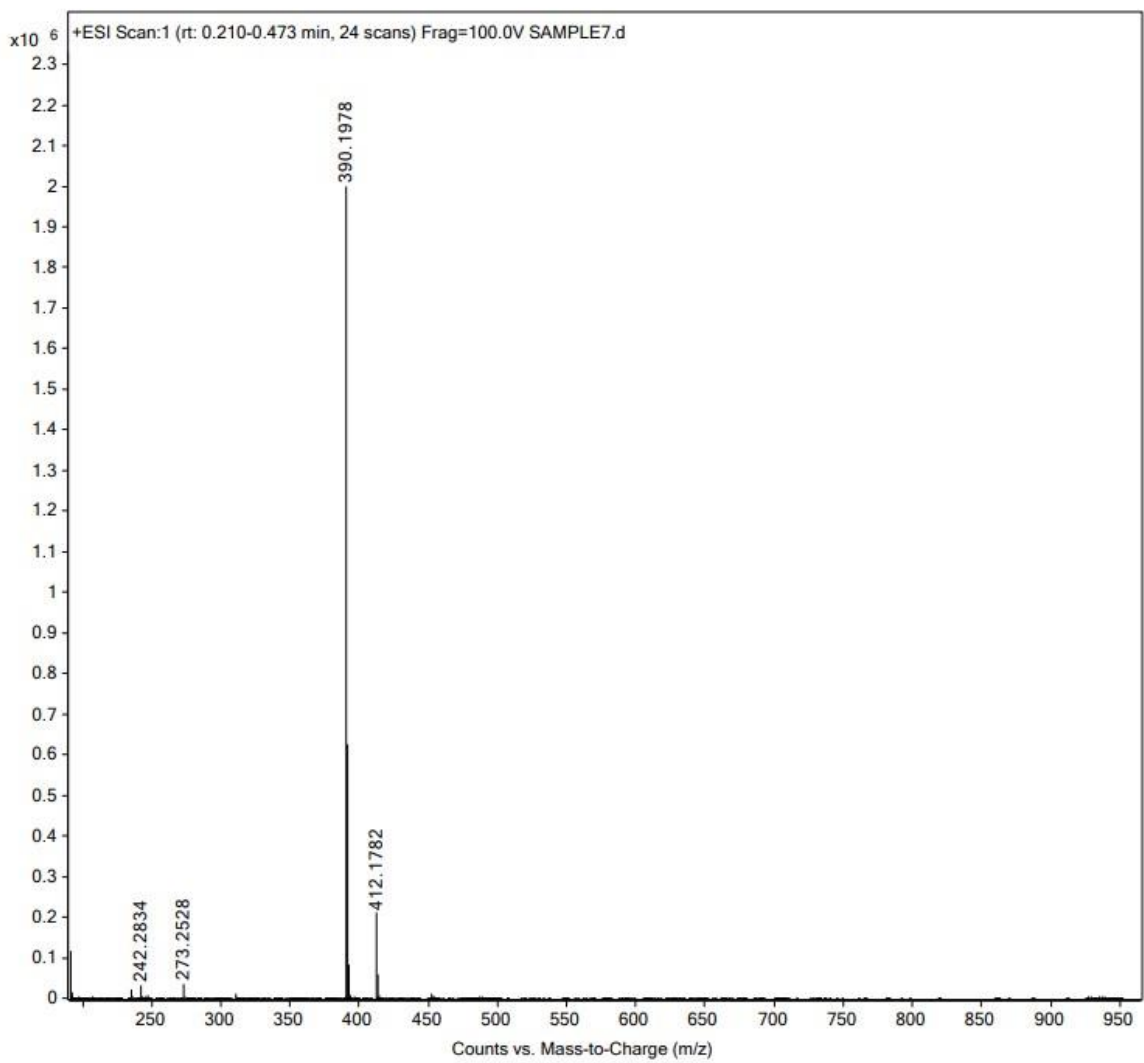
Fig. S6 FT-IR (solid) of L2.



**Fig. S7** FT-IR (solid) of **1**.

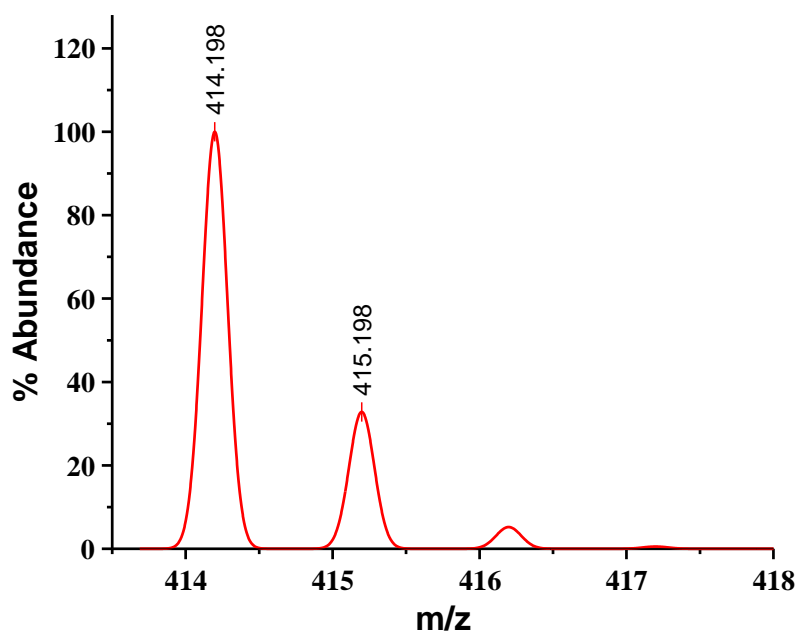
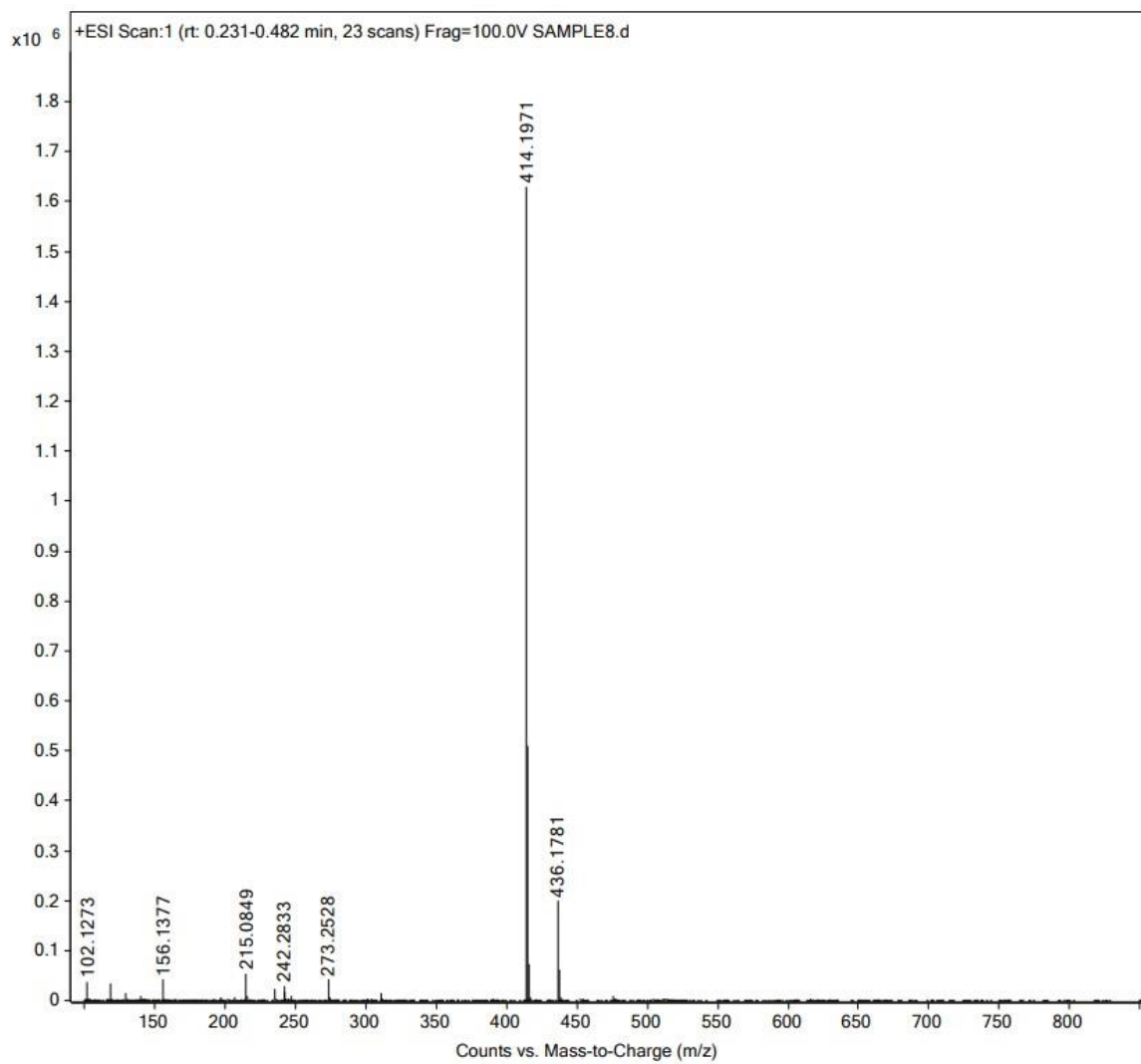


**Fig. S8** FT-IR (solid) of **2**.



**Fig. S9** ESI mass spectra of **L1**.





**Fig. S10** ESI mass spectra of **L2**.

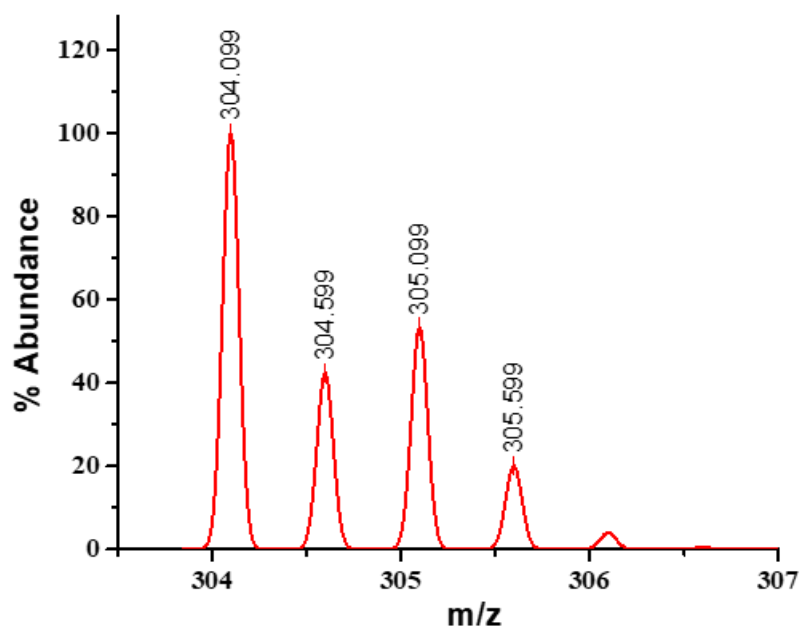
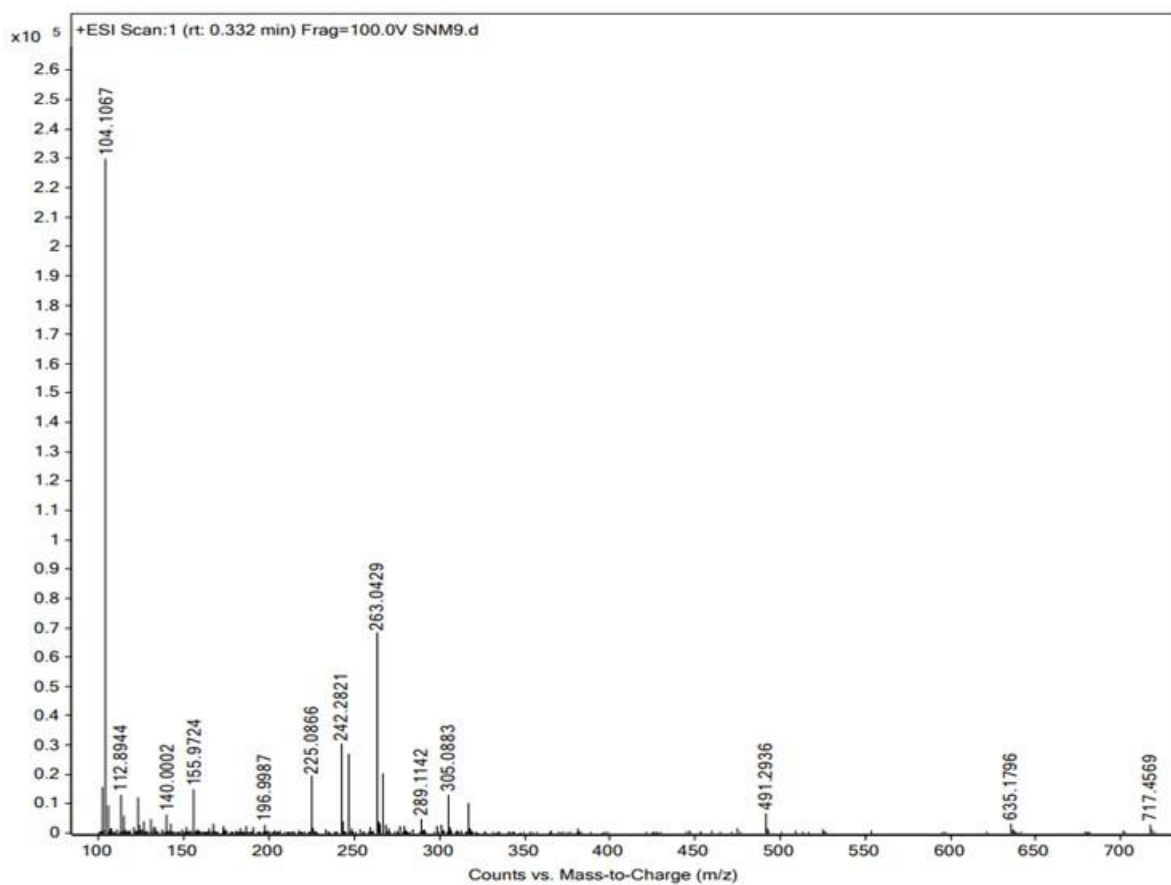


Fig. S11 ESI mass spectra of 1.

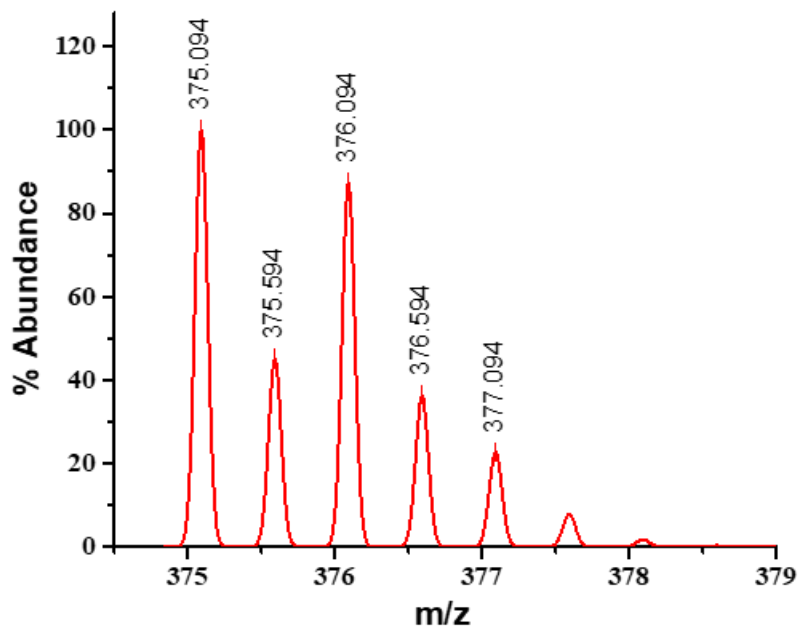
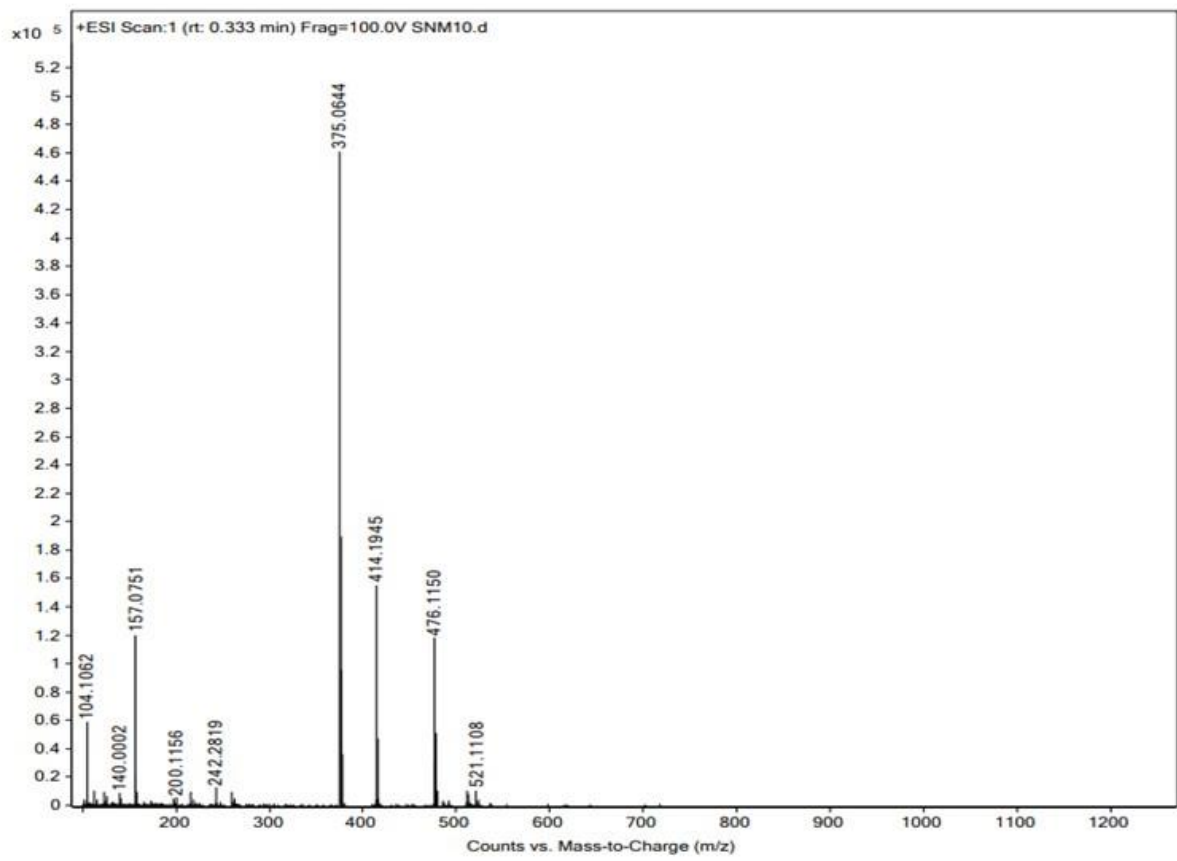


Fig. S12 ESI mass spectra of 2.

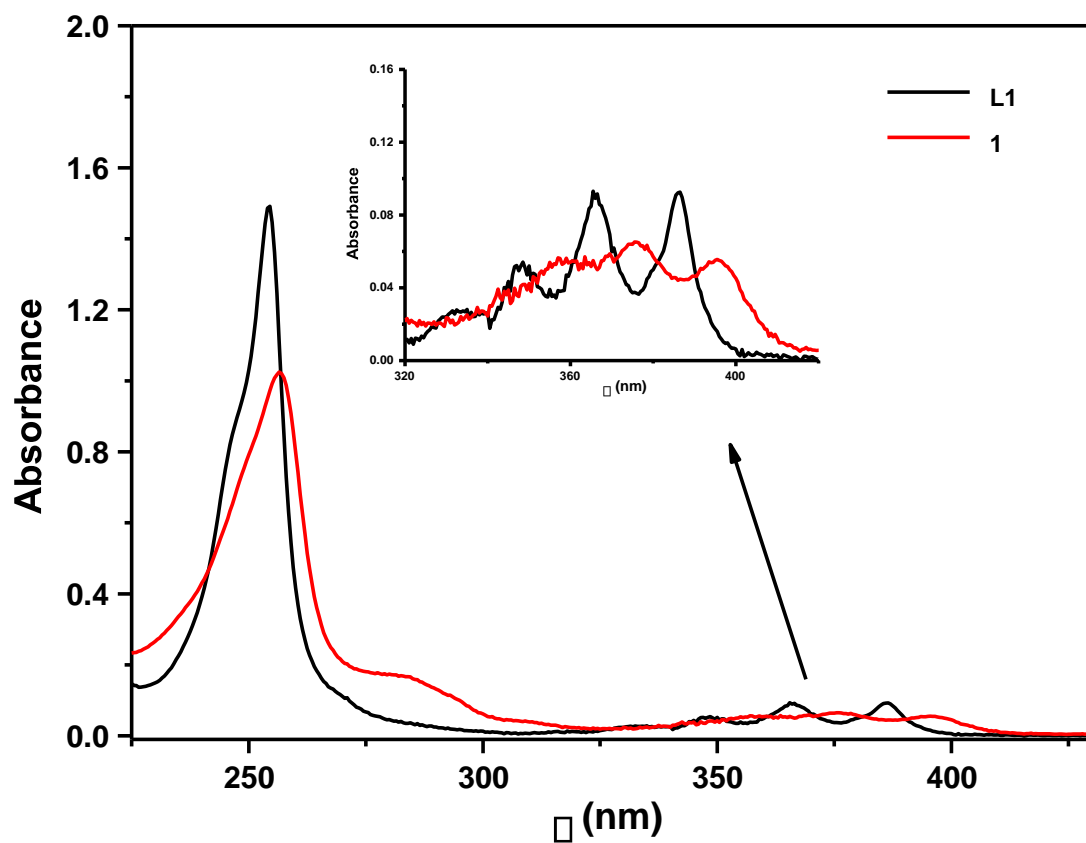


Fig. S13 UV-vis spectra of L1 and 1.

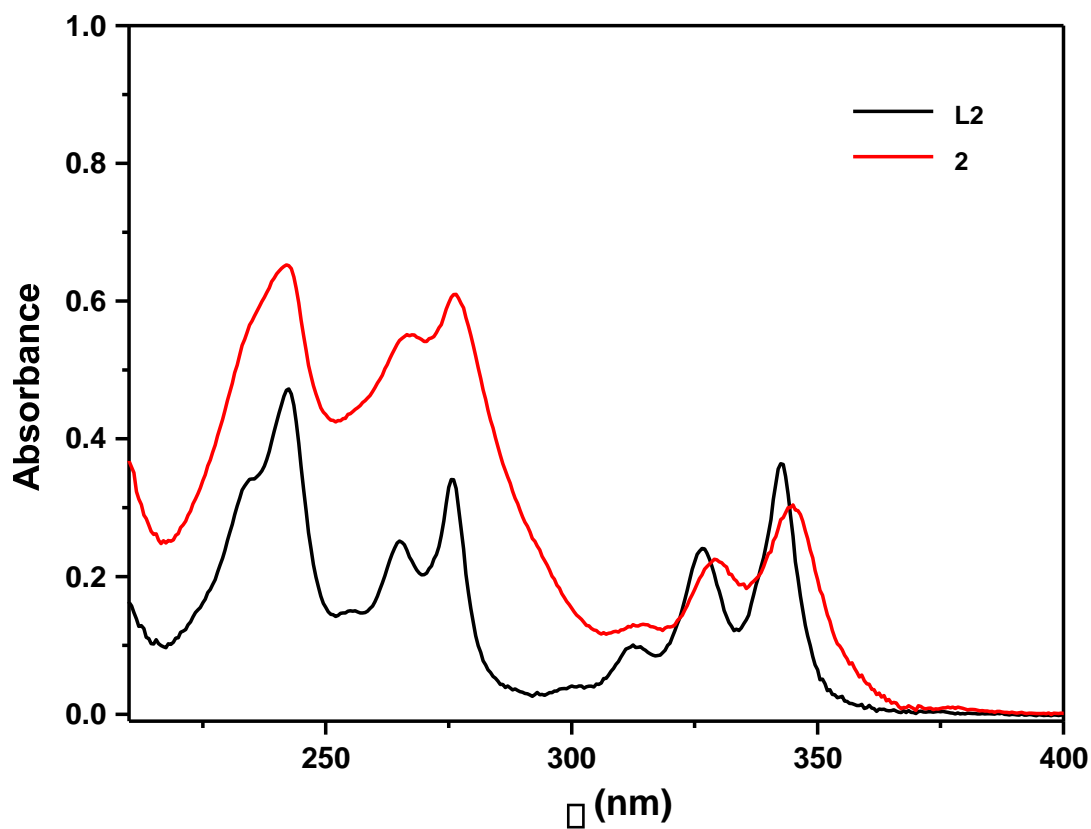
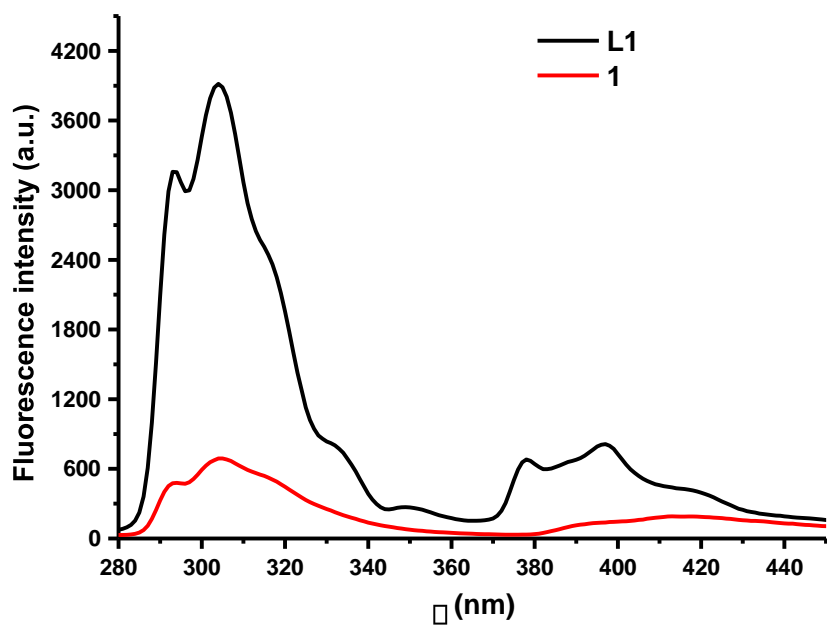
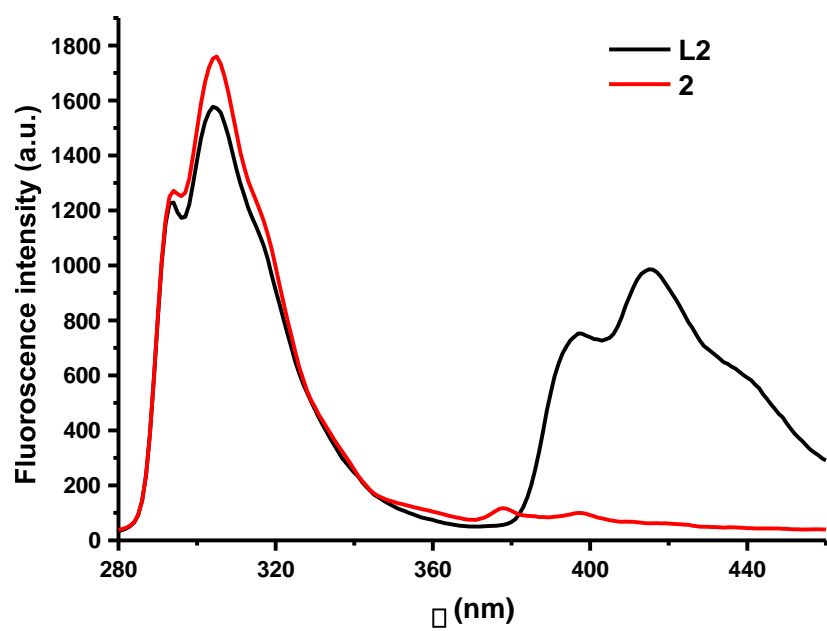


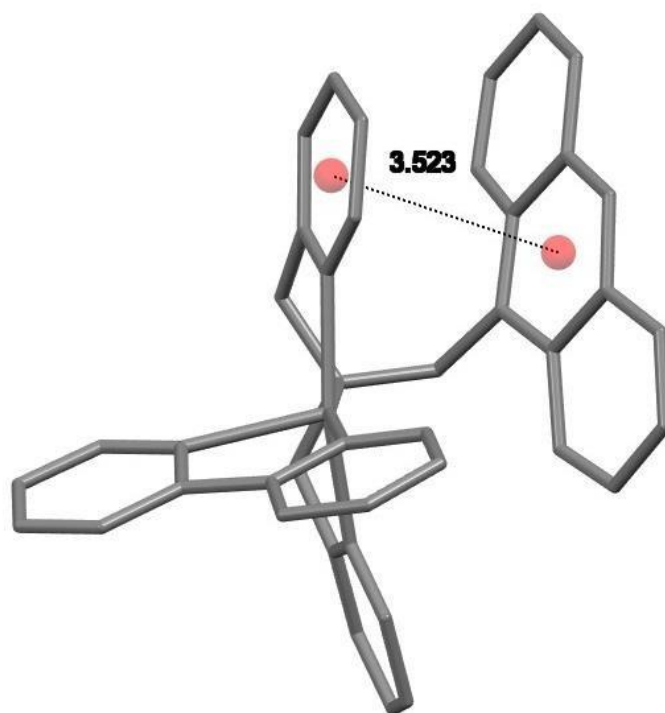
Fig. S14 UV-vis spectra of L2 and 2.



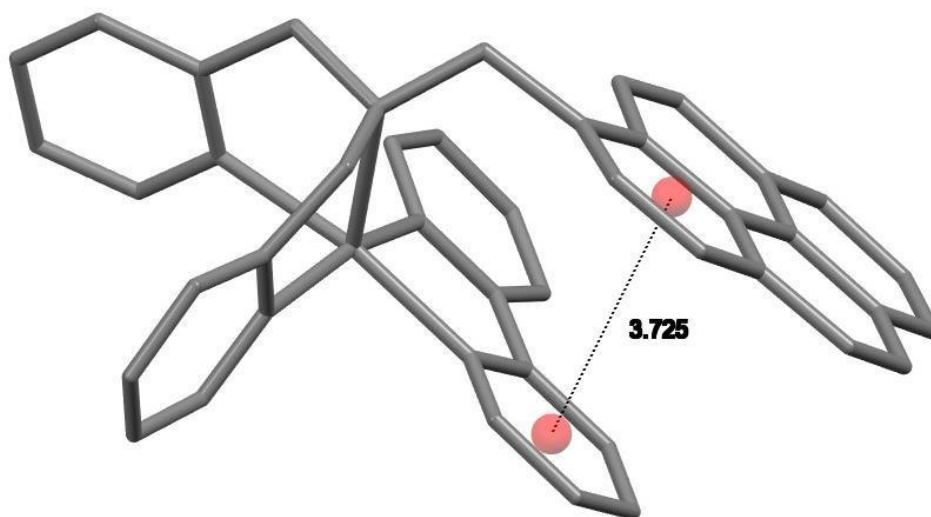
**Fig. S15** Fluorescence spectra of **L1** and **1** (25  $\mu$ M).



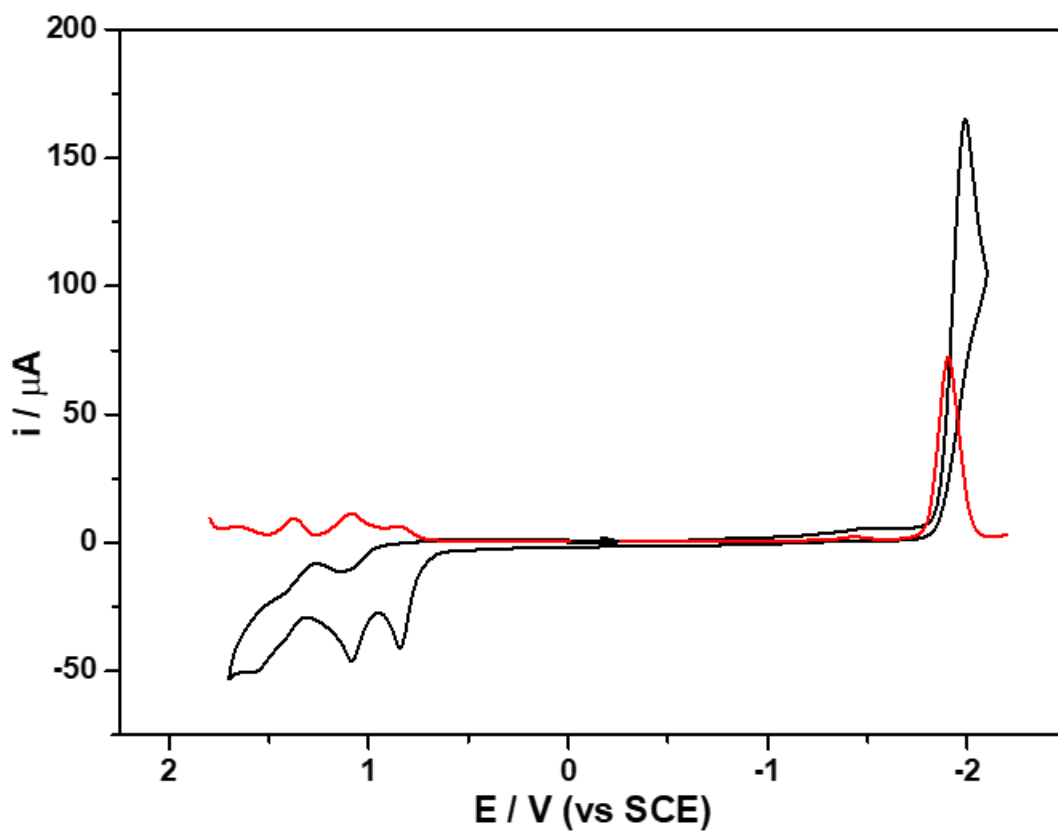
**Fig. S16** Fluorescence spectra of **L2** and **2** (25  $\mu$ M).



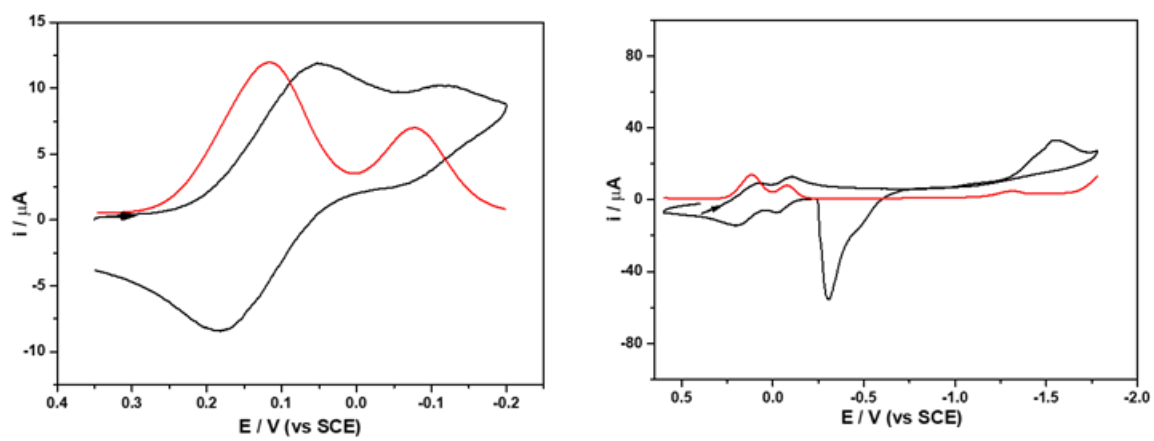
**Fig. S17** The intramolecular  $\pi$ - $\pi$  interactions between anthracene and pyridine ring in **1**.



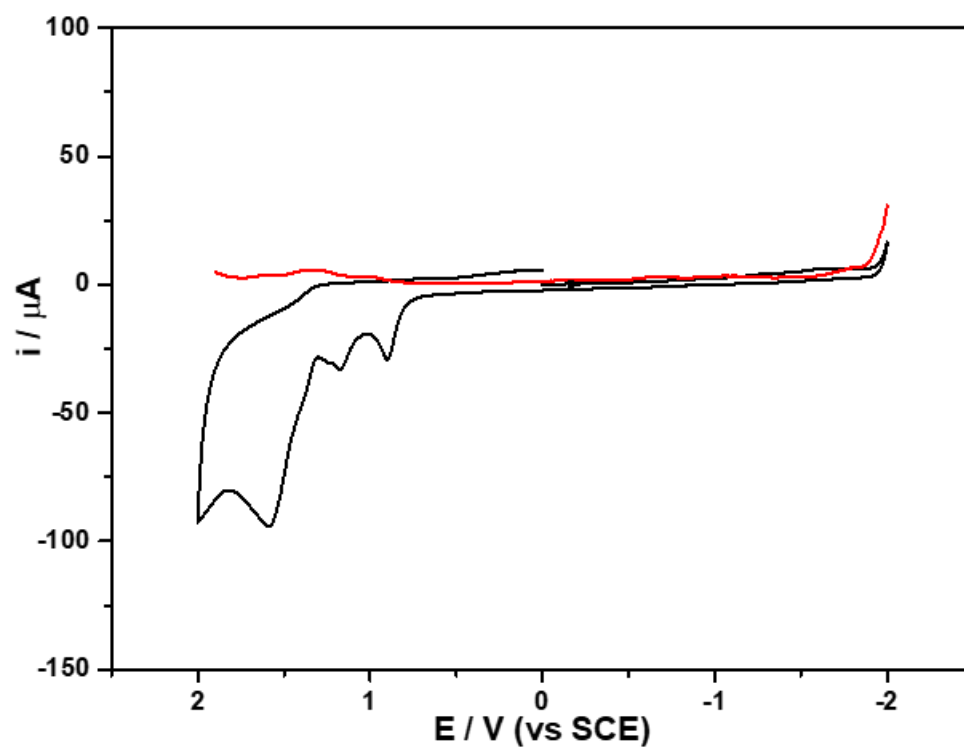
**Fig. S18** The intramolecular  $\pi$ - $\pi$  interactions between pyrene and bpy in **2**.



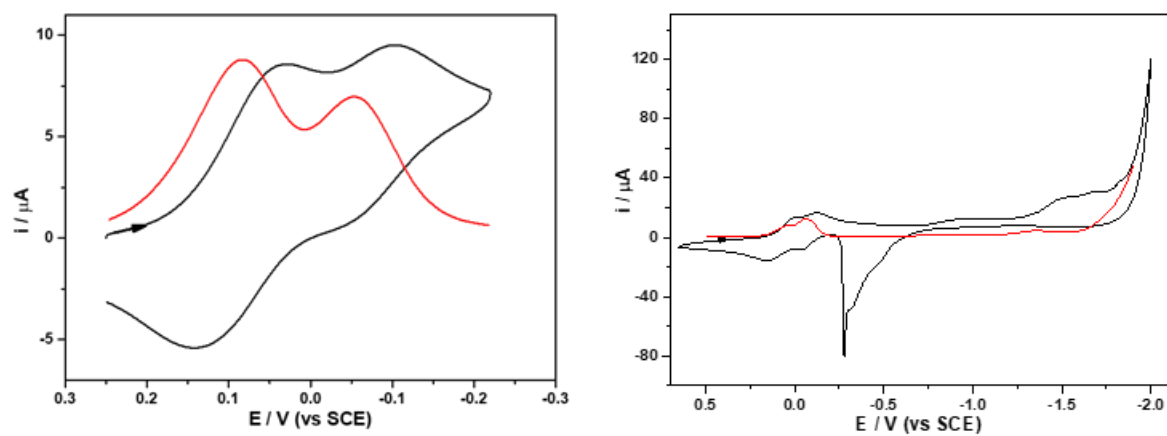
**Fig. S19** Cyclic voltammogram of L1.



**Fig. S20** Cyclic voltammogram (black) and DPV (red) of 1.



**Fig. S21** Cyclic voltammogram of L2.



**Fig. S22** CV (black) and DPV (red) of 2.