

Supporting Information

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Tailor Made Synthesis of Amphiphilic Azoaromatics *via* Regioselective C-N Bond Fusion: Comparative Studies of Surface Properties of the Two Positional Isomers and Cobalt Complexes

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Table S1.Crystallographic data of [Co(L¹)(L⁵)]ClO₄·0.5C₆H₁₄

Empirical formula	C ₄₇ H ₅₃ Co N ₈ , ClO ₄
Molecular mass	888.35
Temperature (K)	100(2)
Crystal system	Triclinic
Space group	<i>p</i> -1
a (Å)	8.636(2)
b (Å)	10.519(3)
c (Å)	24.613(6)
α (deg)	79.300(6)
β(deg)	85.997(6)
γ(deg)	85.014(6)
V (Å ³)	2185.3(10)
Z	2
D _{calcd} (g/cm ³)	1.350
Crystal dimensions.(mm)	0.18x 0.24x 0.32
θ range for data collection (deg)	0.8-17.8
GOF	1.092
Total reflections collected	9321
Unique reflections	2895
final <i>R</i> indices [<i>I</i> > 2σ(<i>I</i>)]	R1 = 0.0554, wR2 = 0.1682
Rint	0.080

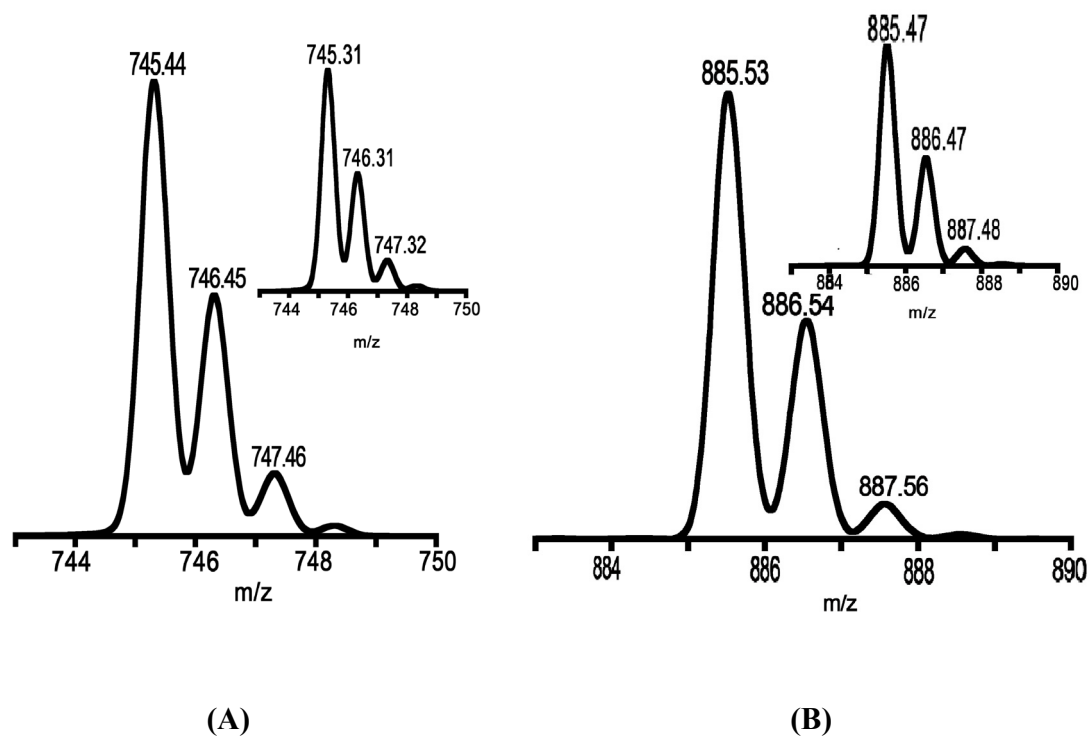
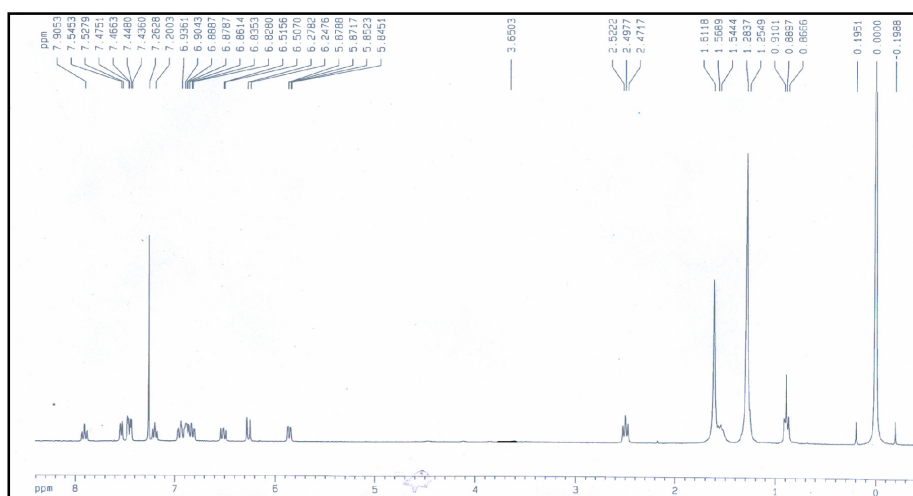
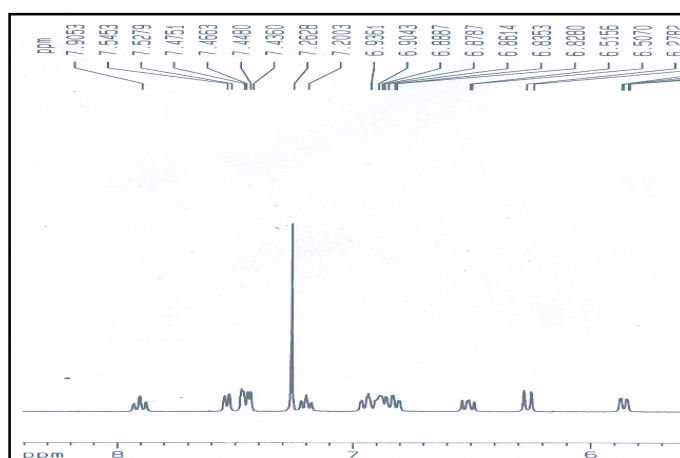


Figure S1. ESI MS spectra of (A) $[\text{Co}(\text{L}^5)(\text{L}^1)]\text{ClO}_4$ and (B) $[\text{Co}(\text{L}^1)_2]\text{ClO}_4$ and Insets: Simulated isotopic pattern.

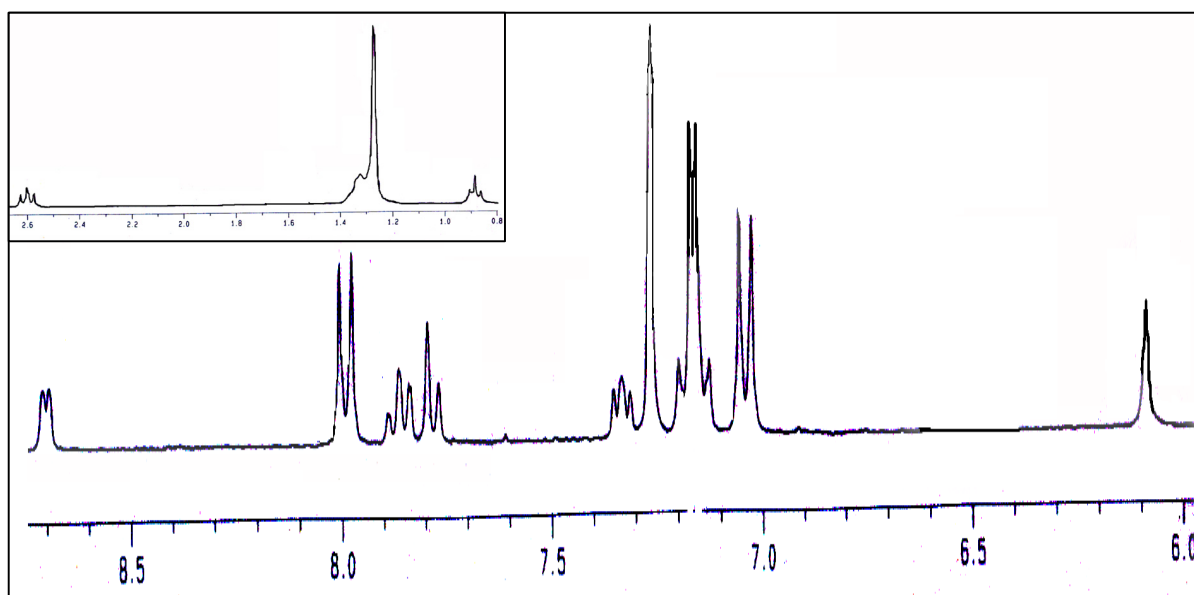


(A)

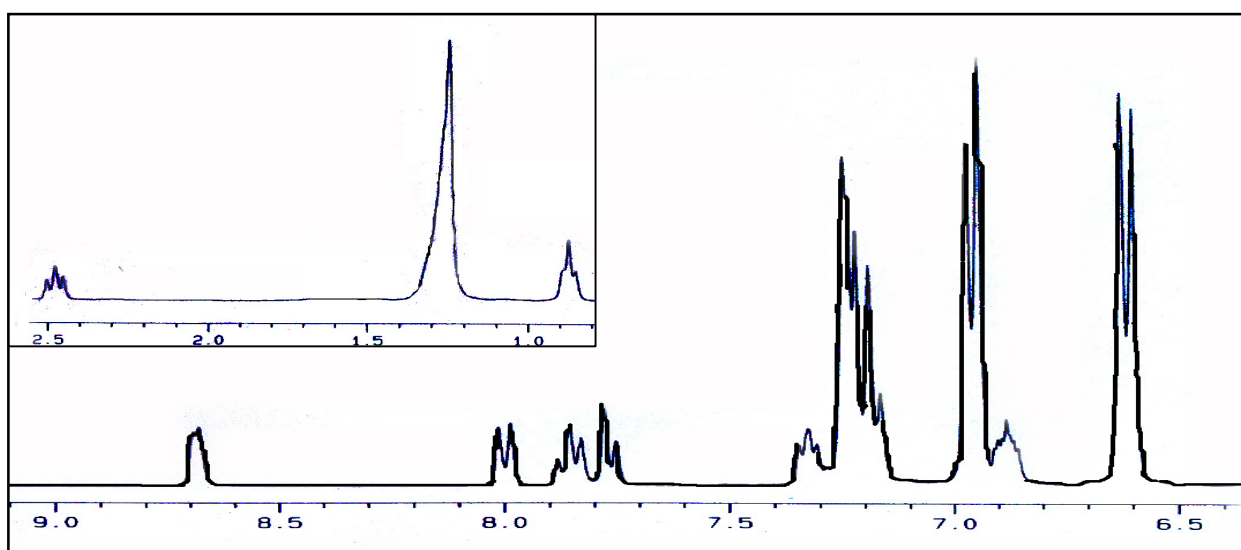


(B)

Figure S2. ^1H NMR spectrum of (A) $[\text{Co}(\text{L}^1)_2]\text{ClO}_4$ in CDCl_3 and (B) Expansion of the aromatic region.



(A)



(B)

Figure S3. ^1H NMR spectra of HL^1 (A) and HL^2 (B) in CDCl_3 . Inset: Expansion of aliphatic region.

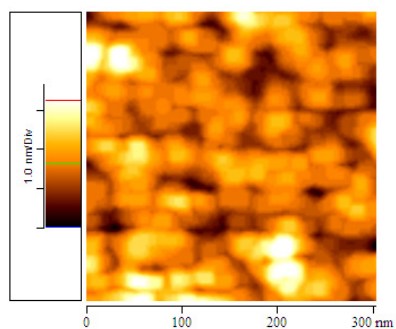


Figure S4. AFM topographical image of the single layer of HL^1 , transferred at 10 mN/m surface pressure.

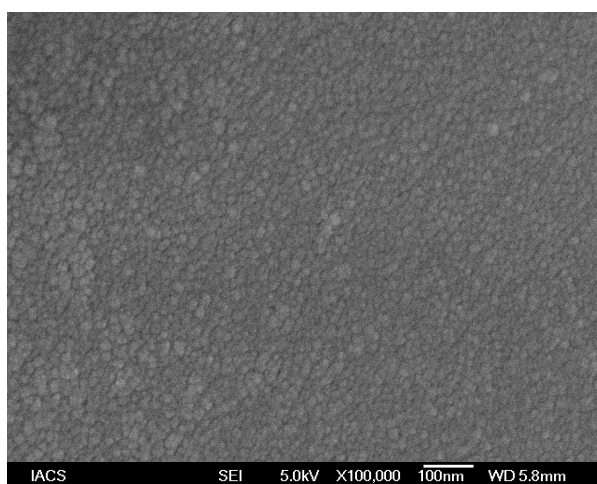


Figure S5. FESEM image of surface morphology of single layer of $[\text{Co}(\text{L}^1)(\text{L}^5)]\text{ClO}_4$ at 10 mN/m pressure.