

Supporting information For *J. Mater. Chem. C*

**Near-infrared (NIR) luminescent metallopolymers
based on Ln₄(Salen)₄ nanoclusters (Ln = Nd or Yb)**

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Supporting information

Table 1S Selected bond lengths (Å) and angles (°) for complex **3**·4EtOH·6H₂O

3 ·4EtOH·6H ₂ O			
Yb(1)-N(1)	2.435(5)	Yb(2)-O(1)	2.695(4)
Yb(1)-N(2)	2.380(5)	Yb(2)-O(2)	2.330(4)
Yb(1)-O(2)	2.259(4)	Yb(2)-O(3)	2.282(4)
Yb(1)-O(3)	2.294(4)	Yb(2)-O(4)	2.649(4)
Yb(1)-O(5) ^a	2.449(4)	Yb(2)-O(6)	2.387(4)
Yb(1)-O(b) ^a	2.306(4)	Yb(2)-O(7)	2.210(4)
Yb(1)-O(9)	2.285(4)	Yb(2)-O(8)	2.556(4)
Yb(1)-O(9) ^a	2.274(4)	Yb(2)-O(9)	2.336(4)
		Yb(2)-Cl(1)	2.706(2)
C(6)-C(7)	1.283(2)	C(25)-C(26)	1.255(3)
C(34)-C(35)	1.231(2)	C(51)-C(52)	1.261(2)
Yb(1)···Yb(2)	3.4375(5)	Yb(1)···Yb(1) ^a	3.6879(4)
Yb(1)···Yb(2) ^a	3.7947(4)	N(3)-H(3)···O(6)	2.615(8)
			135.6(4)

Symmetrical transformations used to generate equivalent atoms: a: $-x+1, -y+2, -z+1$ for

3·4EtOH·6H₂O

Figure 1S Perspective drawing of the cationic part in complex $3 \cdot 4\text{EtOH} \cdot 6\text{H}_2\text{O}$ with the strong intramolecular $\text{N4-H4} \cdots \text{O7}$ H-bond interactions ($2.615(8)$ Å and $135.6(4)^\circ$)

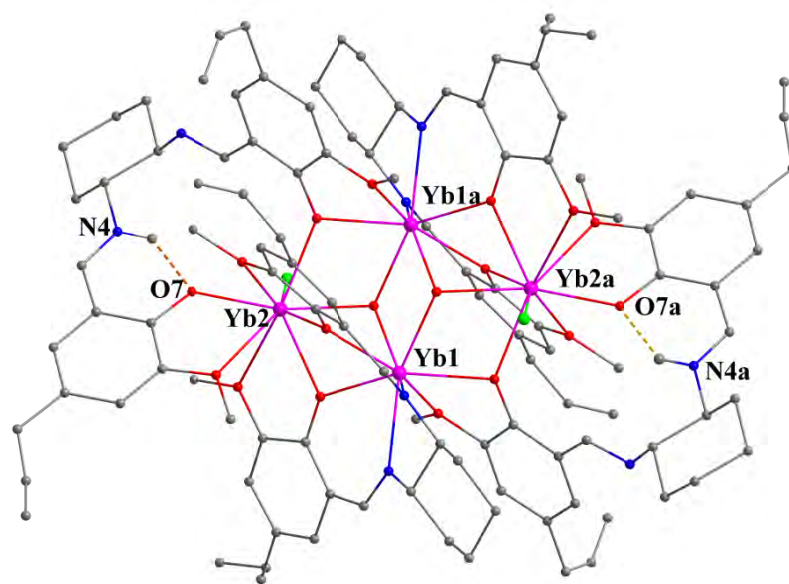


Figure 2S Visible emission and excitation spectra of the ligand H_2L and complex **5** in MeCN solution at 1×10^{-5} M at room temperature

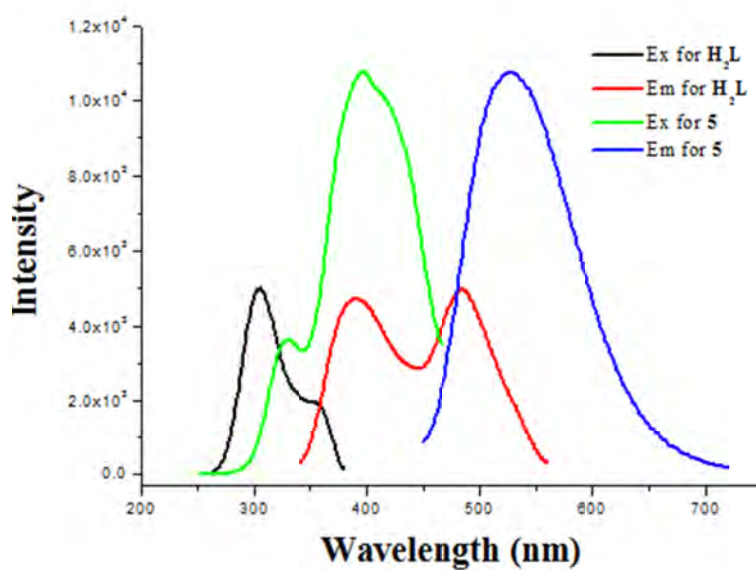


Figure 3S Visible emission and excitation spectra of the metallopolymer **PNBE-Co-5** in CHCl_3 solution at 0.3 g/L at room temperature

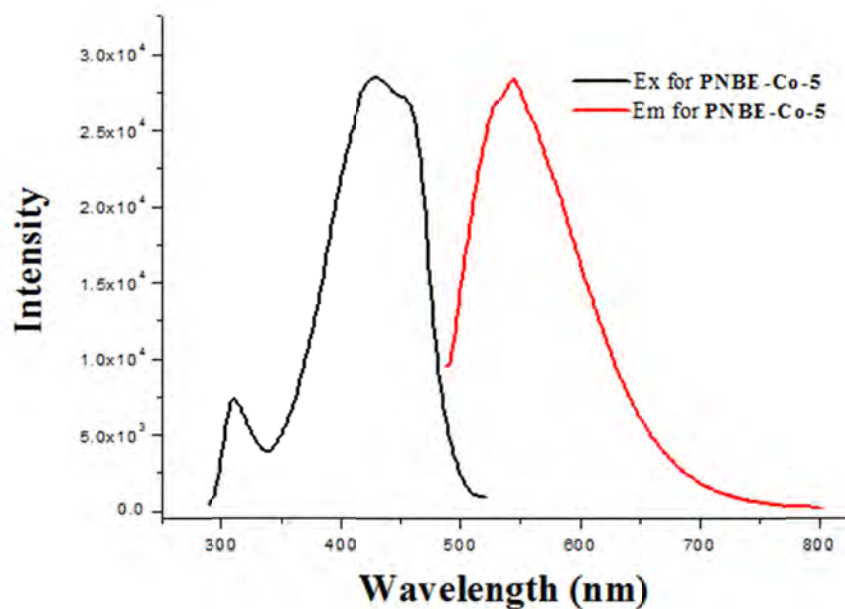


Figure 4S DR spectra of $\text{Ln}_4(\text{Salen})_4$ monomers (Ln = Nd, **2**; Yb, **3**; Er, **4** or Gd, **5**) at room temperature

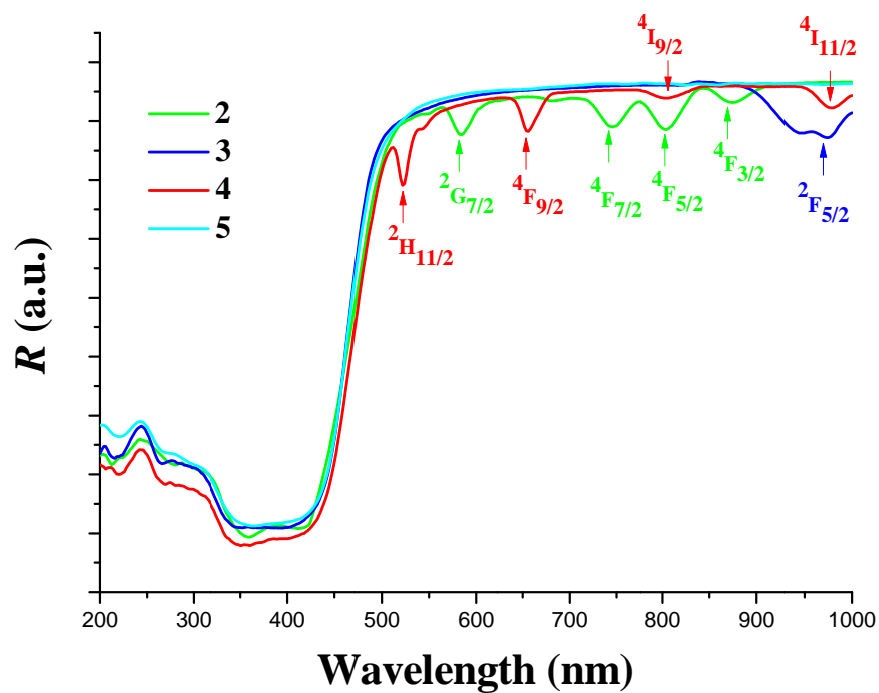


Figure 5S Visible emission and excitation spectra of metallopolymer **PNBE-Co-5** and complex **5** in solid state at room temperature

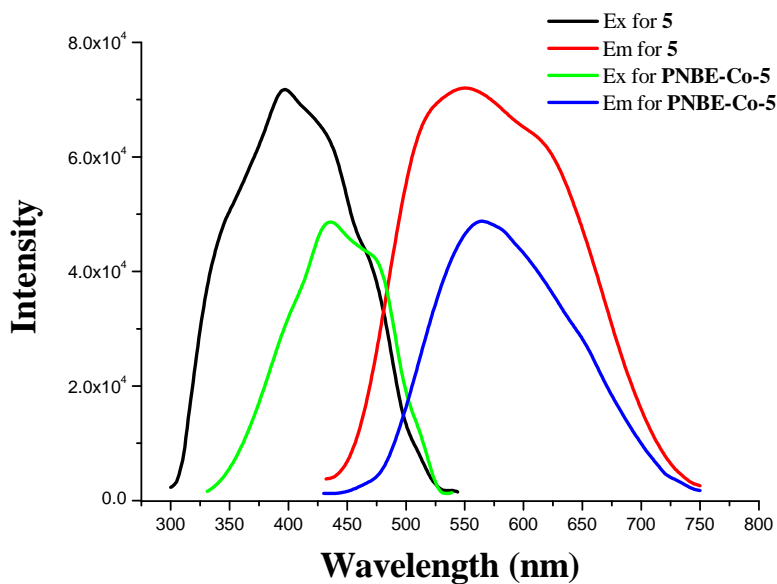


Figure 6S NIR emission and excitation spectra of metallopolymer **PNBE-Co-3** from different monomer ratios (30:1, 50:1 and 100:1) of NBE to **3** in solid state at room temperature

