Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Lanthanoid-carboxylates directed two Coordination Polymers for the Luminescent Selective Detection of Fe3+ and meta-nitro aniline in Aqueous Solution

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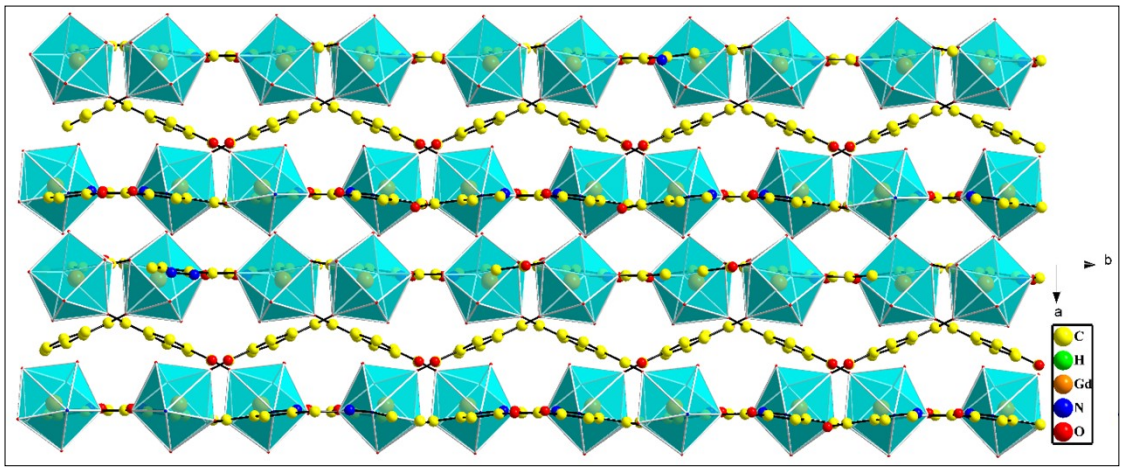

Fig. S1 Polyhedral view of CP-**1** along the c-axis.

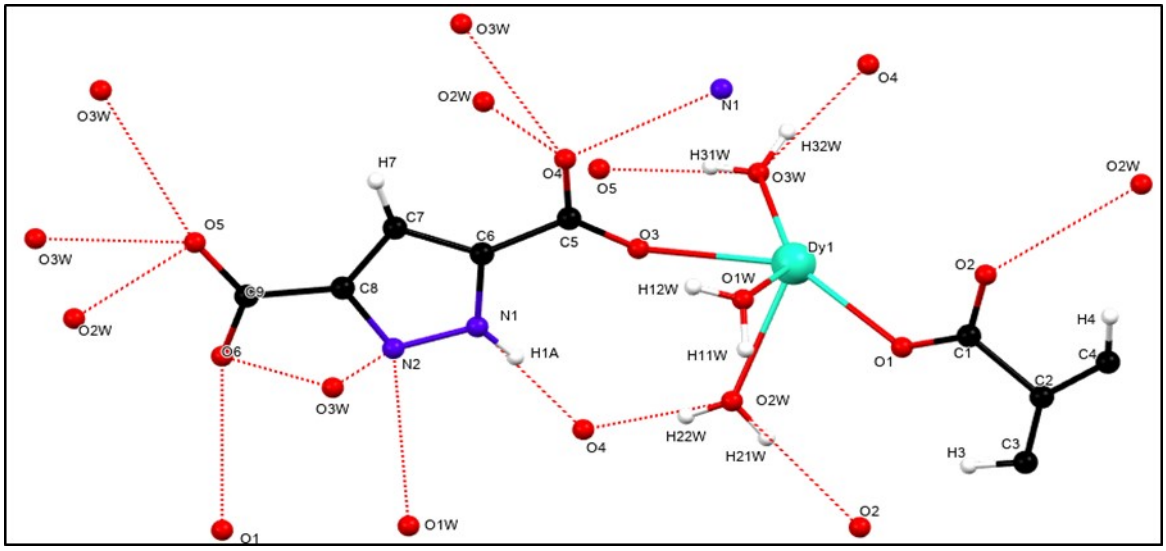

Fig. S2 Hydrogen bonding positions in Ln CP-**1**

2. Characterization by FTIR, PXRD, TGA and PL

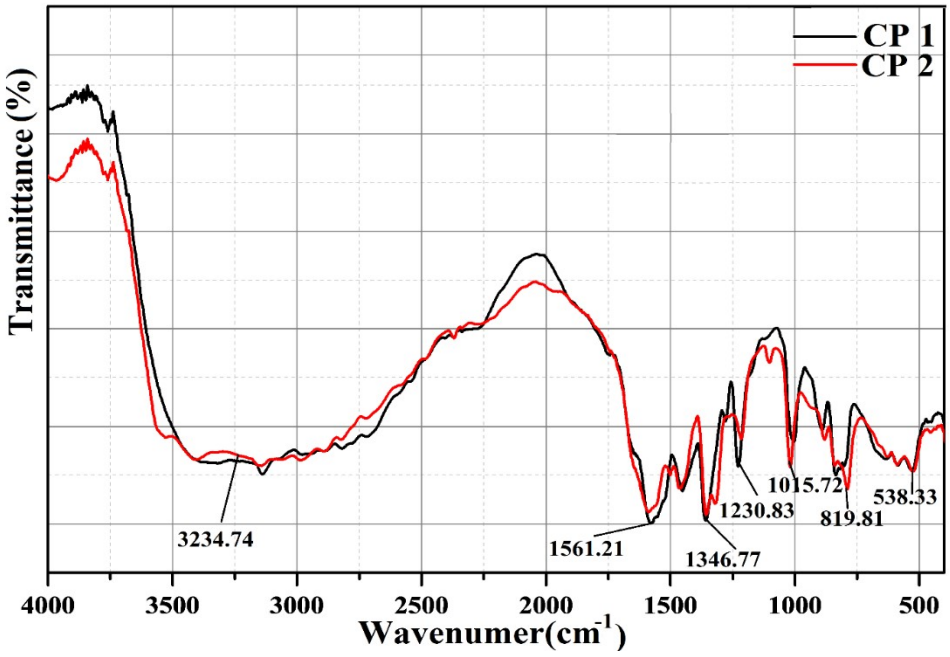

Fig. S3 FTIR spectra of Ln-CPs**1** and **2**.

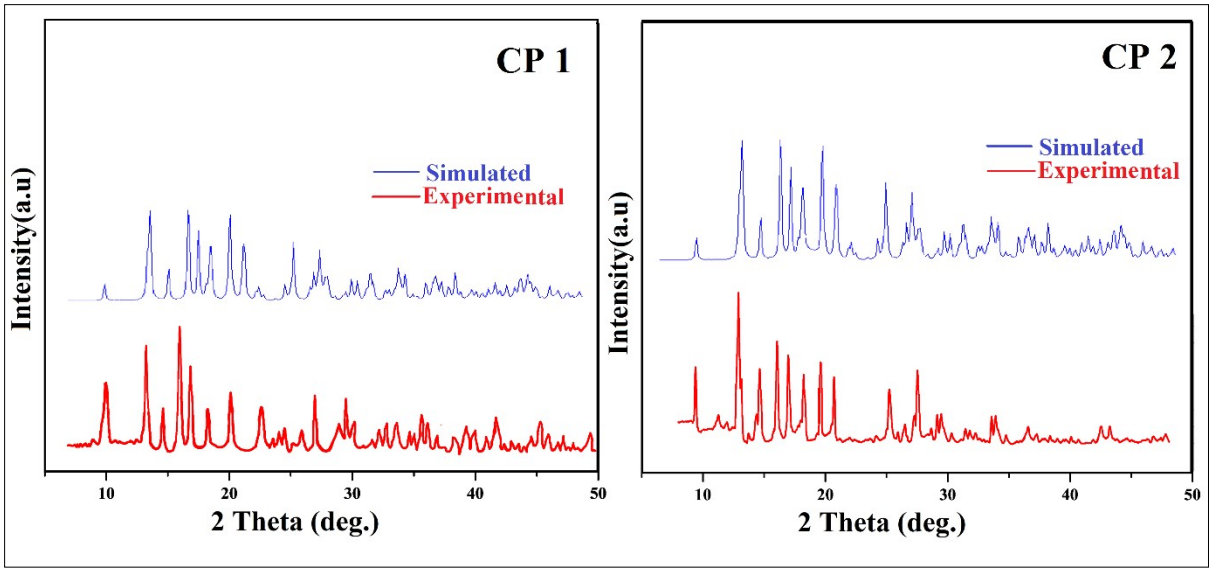

Fig. S4 Experimental and simulated PXRD Patterns of Ln-CP **1** and Ln-CP **2.**

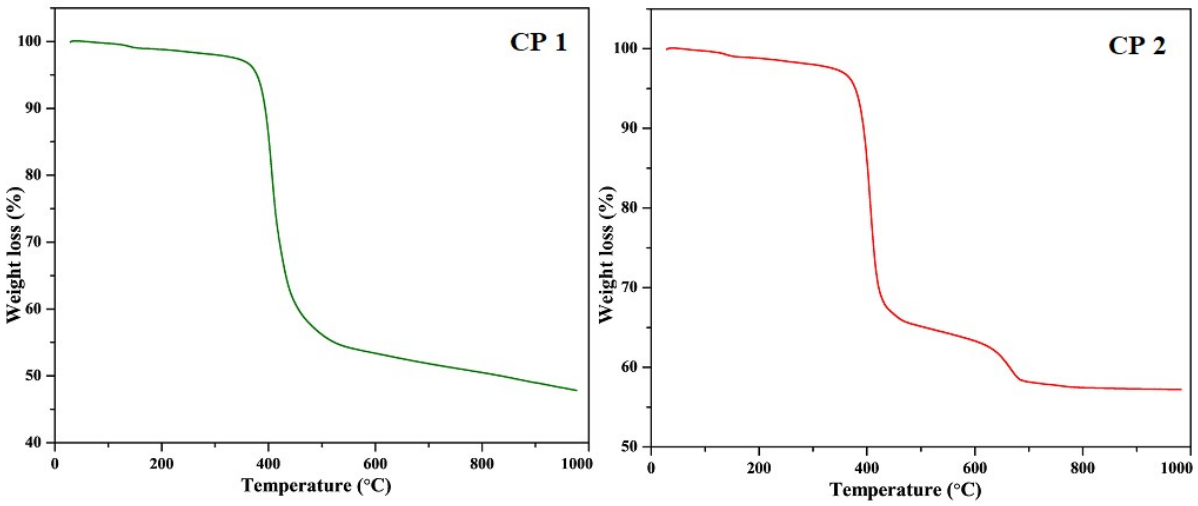

Fig. S5: TGA curves of Ln CPs **1** and **2**

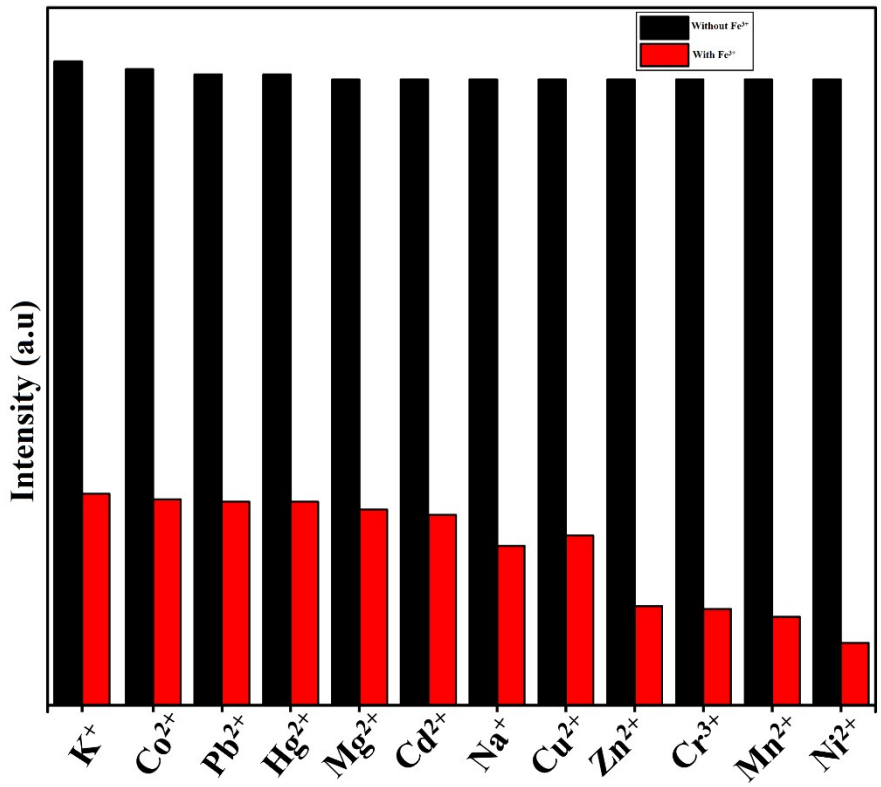

Fig. S6: Changes in luminescence intensity of CP-**2** after adding Fe^{3+} to different metal ion solutions.

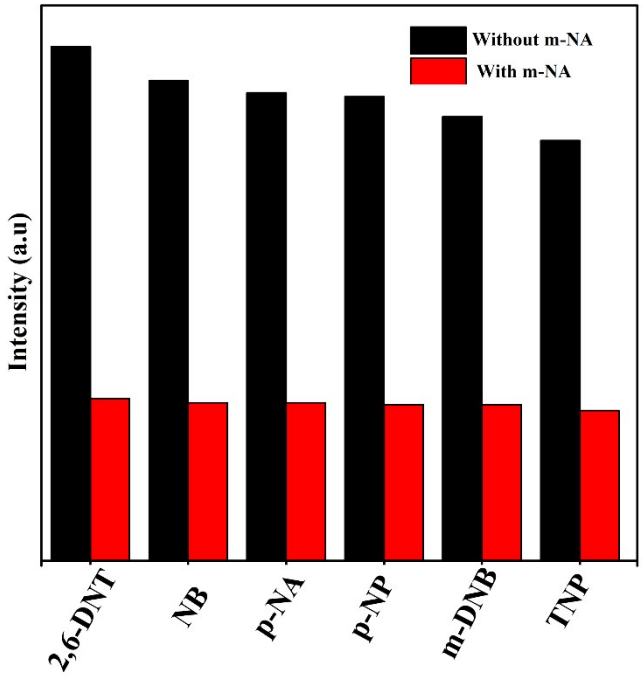

Fig. S7: Changes in luminescence intensity of CP **2** after adding m-NA to different nitroaromatic solutions.

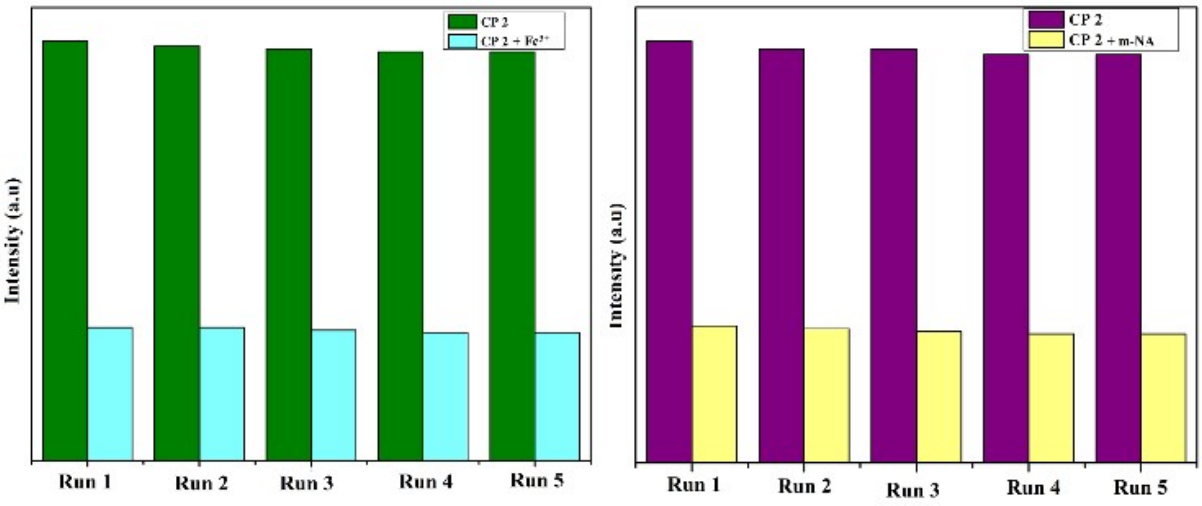

Fig. S8 Recyclability of CP-2 with Fe^{3+} and m-NA after five consecutive cycles

3. Crystallographic Information (Tables)

Table S1. Selected Bond lengths (Å) for CP **1** (Å)

Gd1—O5	2.345 (6)	Gd1—O9	2.423 (6)
Gd1—O1	2.363 (5)	Gd1—O7	2.435 (7)
Gd1—O8	2.363 (6)	Gd1—O3^{ii}	2.445 (6)
Gd1—O4^{i}	2.410 (6)	Gd1—N2^{ii}	2.508 (7)

Symmetry code(s): (i) *x*, *y*−1, *z*; (ii) *x*, −*y*+3/2, *z*−1/2.

Table S2. Selected Bond angles (Å) for CP **1**

O1—Dy1—O3W	145.8 (3)	O5^{i}—Dy1—O1W	141.8 (3)
O1—Dy1—O3	140.1 (3)	O1—Dy1—O6^{ii}	77.1 (3)
O3W—Dy1—O3	72.6 (3)	O3W—Dy1—O6^{ii}	78.0 (3)
O1—Dy1—O2W	77.1 (3)	O3—Dy1—O6^{ii}	138.8 (2)
O3W—Dy1—O2W	114.9 (3)	O2W—Dy1—O6^{ii}	147.2 (3)
O3—Dy1—O2W	73.0 (3)	O5^{i}—Dy1—O6^{ii}	84.2 (2)
O1—Dy1—O5^{i}	80.9 (3)	O1W—Dy1—O6^{ii}	115.8 (3)
O3W—Dy1—O5^{i}	73.6 (3)	O1—Dy1—N2^{ii}	110.1 (3)
O3—Dy1—O5^{i}	113.5 (2)	O3W—Dy1—N2^{ii}	79.0 (3)
O2W—Dy1—O5^{i}	72.1 (3)	O3—Dy1—N2^{ii}	81.9 (3)
O1—Dy1—O1W	73.3 (3)	O2W—Dy1—N2^{ii}	145.0 (3)
O3W—Dy1—O1W	139.6 (3)	O5^{i}—Dy1—N2^{ii}	141.9 (3)
O3—Dy1—O1W	73.8 (3)	O1W—Dy1—N2^{ii}	74.7 (3)
O2W—Dy1—O1W	75.0 (3)	O6^{ii}—Dy1—N2^{ii}	64.4 (2)

Symmetry code(s): (i) *x*, *y*−1, *z*; (ii) *x*, −*y*+3/2, *z*−1/2

Table S3. Selected Bond lengths (Å) for CP **2**

Gd1—O5	2.345 (6)	Gd1—O9	2.423 (6)
Gd1—O1	2.363 (5)	Gd1—O7	2.435 (7)
Gd1—O8	2.363 (6)	Gd1—O3^{ii}	2.445 (6)
Gd1—O4^{i}	2.410 (6)	Gd1—N2^{ii}	2.508 (7)

Symmetry code(s): (i) *x*, *y*−1, *z*; (ii) *x*, −*y*+3/2, *z*−1/2

Table S4. Selected Bond angles (Å) for CP **2**

O5—Gd1—O1	139.3 (2)	O9—Gd1—O7	73.9 (2)
O5—Gd1—O8	146.9 (2)	O5—Gd1—O3^{ii}	77.2 (2)
O1—Gd1—O8	72.8 (2)	O1—Gd1—O3^{ii}	138.47 (19)
O5—Gd1—O4^{i}	81.6 (2)	O8—Gd1—O3^{ii}	77.7 (2)
O1—Gd1—O4^{i}	115.1 (2)	O4^{i}—Gd1—O3^{ii}	83.22 (19)
O8—Gd1—O4^{i}	74.2 (2)	O9—Gd1—O3^{ii}	147.1 (2)
O5—Gd1—O9	77.4 (2)	O7—Gd1—O3^{ii}	117.4 (2)
O1—Gd1—O9	73.5 (2)	O5—Gd1—N2^{ii}	109.1 (2)
O8—Gd1—O9	115.3 (2)	O1—Gd1—N2^{ii}	81.5 (2)
O4^{i}—Gd1—O9	72.7 (2)	O8—Gd1—N2^{ii}	78.5 (2)
O5—Gd1—O7	72.8 (3)	O4^{i}—Gd1—N2^{ii}	141.3 (2)
O1—Gd1—O7	72.2 (2)	O9—Gd1—N2^{ii}	145.2 (2)
O8—Gd1—O7	139.0 (2)	O7—Gd1—N2^{ii}	75.6 (2)
O4^{i}—Gd1—O7	141.4 (2)	O3^{ii}—Gd1—N2^{ii}	64.3 (2)

Symmetry code(s): (i) *x*, *y*−1, *z*; (ii) *x*, −*y*+3/2, *z*−1/2.