

## Supporting Information

### Tuning structure and Zn(II) sensing of lanthanide complexes with two phenylimidazophenanthrolines by acetonitrile hydrolysis

Xia Zhou, Jun-Ling Peng, Cai-Ying Wen, Xing-Hao Wang, Ze-Yu Liu, Jian-Zhong Wu\* and Yong-Cong Ou\*

**Table S1** Microanalysis and IR spectral data for complexes  $[\text{Ln}_2(\text{cpip})_2(\text{OAc})_4]_n$  (**1-Ln**, Ln = Sm, Eu) and  $[\text{Ln}_2(\text{pip})_2(\text{OAc})_6]$  (**0-Ln**; Ln = Sm, Eu, Tb, Dy)

Complex	Microanalysis (%)		IR band ( $\text{cm}^{-1}$ )
	Calculated	(Found)	
<b>1-Sm</b>	C 46.65 (46.61); H 2.80 (2.78); N 8.71 (8.73)	3426(w), 2928(m), 2366(m), 1596(s), 1406(s), 1132(m), 1076(w), 939(w), 866(w), 816(w), 746(m), 676(m), 616(w), 536(w), 416(m)	
<b>1-Eu</b>	C 47.02 (47.12); H 2.82 (2.76); N 8.78 (8.68)	3427(w), 2928(m), 2367(m), 1596(s), 1404(s), 1132(m), 1079(w), 939(w), 869(w), 816(w), 746(m), 676(m), 615(w), 536(w), 414(m)	
<b>0-Sm</b>	C 48.09 (48.07); H 3.37 (3.40); N 8.98 (9.01)	3389(w), 3071(w), 2996(w), 2783(w), 1591(s), 1555(s), 1418(m), 1359(m), 1187(w), 1103(w), 1075(s), 1019(w), 935(w), 820(s), 735(s), 703(m), 668(m)	
<b>0-Eu</b>	C 47.97 (47.95); H 3.35 (3.37); N 8.95 (8.93)	3390(w), 3071(w), 3000(w), 2782(w), 1590(s), 1560(s), 1419(m), 1354(m), 1186(w), 1104(w), 1072(s), 1018(w), 936(w), 818(s), 734(s), 700(m), 666(m)	
<b>0-Tb</b>	C 47.43 (47.47); H 3.32 (3.35); N 8.86 (8.91)	3393(w), 3071(w), 2994(w), 2783(w), 1592(s), 1561(s), 1423(m), 1352(m), 1179(w), 1105(w), 1075(s), 1012(w), 931(w), 815(s), 736(s), 699(m), 667(m)	
<b>0-Dy</b>	C 48.56 (48.51); H 3.40 (3.39); N 9.07 (9.11)	3393(w), 3072(w), 2995(w), 2781(w), 1595(s), 1560(s), 1415(m), 1354(m), 1183(w), 1101(w), 1073(s), 1020(w), 938(w), 812(s), 733(s), 701(m), 669(m)	

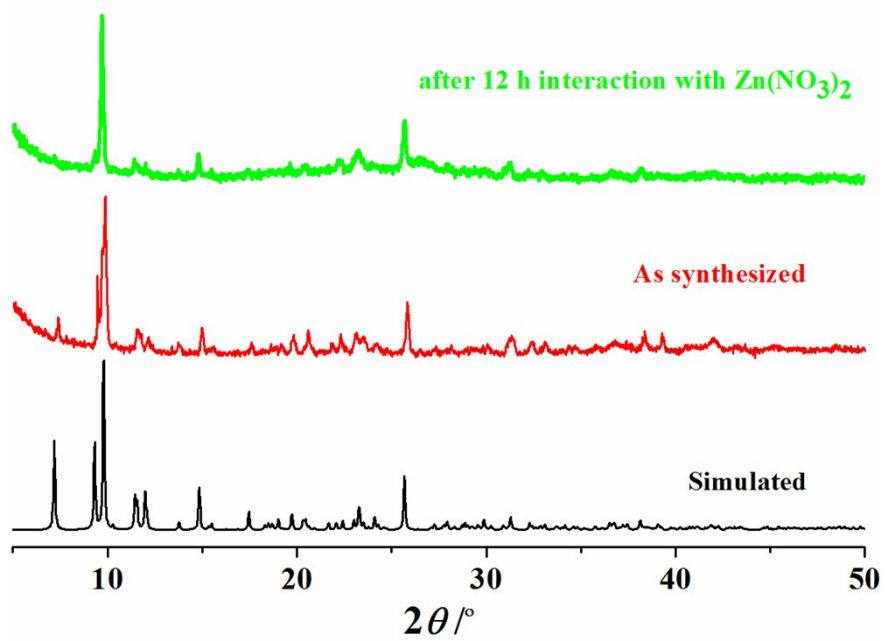


Fig. S1 PXRD diagrams of **1-Eu** before and after interaction with Zn(II) ion.