Supporting information for *New J. Chem.*

PMMA-supported hybrid materials doped with highly near-infrared (NIR) luminescent complexes $[Zn(L^1)(Py)Ln(L^2)_3]$ (Ln = Nd, Yb or Er) from both Salen-type Schiff-base ligand H_2L^1 and *β*-diketonate ligand HL^2

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Supporting information

Table 1S. Selected atomic distances (Å) and bond angles (°) for **3**.

Zn(1)-N(1)	2.053(6)	Yb(1)-O(1)	2.330(4)
Zn(1)-N(2)	2.046(7)	Yb(1)-O(2)	2.346(5)
Zn(1)-N(3)	2.047(5)	Yb(1)-O(3)	2.261(5)
Zn(1)-O(1)	2.004(4)	Yb(1)-O(4)	2.399(5)
Zn(1)-O(2)	2.014(4)	Yb(1)-O(5)	2.271(5)
		Yb(1)-O(6)	2.366(4)
		Yb(1)-O(7)	2.274(5)
		Yb(1)-O(8)	2.374(5)
N(1)-Zn(1)-N(2)	79.9(3)	O(1)-Yb(1)-O(2)	69.44(15)
N(1)-Zn(1)-N(3)	112.7(3)	O(3)-Yb(1)-O(4)	73.03(18)
N(1)-Zn(1)-O(1)	89.8(2)	O(5)-Yb(1)-O(6)	72.26(15)
N(1)-Zn(1)-O(2)	144.4(2)	O(7)-Yb(1)-O(8)	72.66(17)

Figure 1S. Comparison of the determined power X-ray patterns of complexes **1**-**5** (**1**, red; **2**, green; **3**, blue; **4**, magenta; **5**, yellow line) and the simulation powder X-ray pattern (black line) of complex **3**.

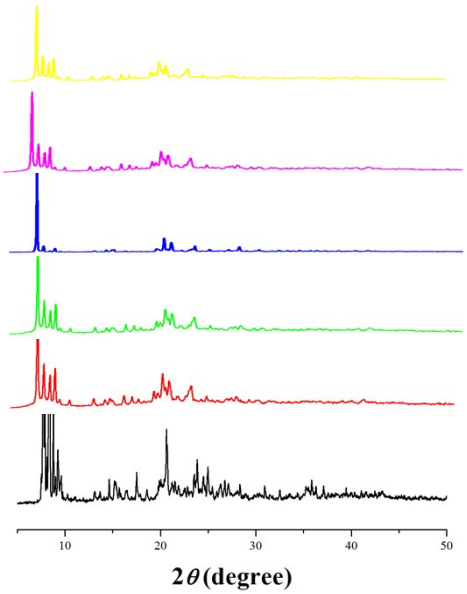

Figure 2S. Visible emission and excitation spectra of the two ligands $\mathbf{H_2L^1}$ and $\mathbf{HL^2}$ and the

precursor **[Zn(L^1)(Py)]** in MeCN solution at 2 × 10^{-5} M at RT.

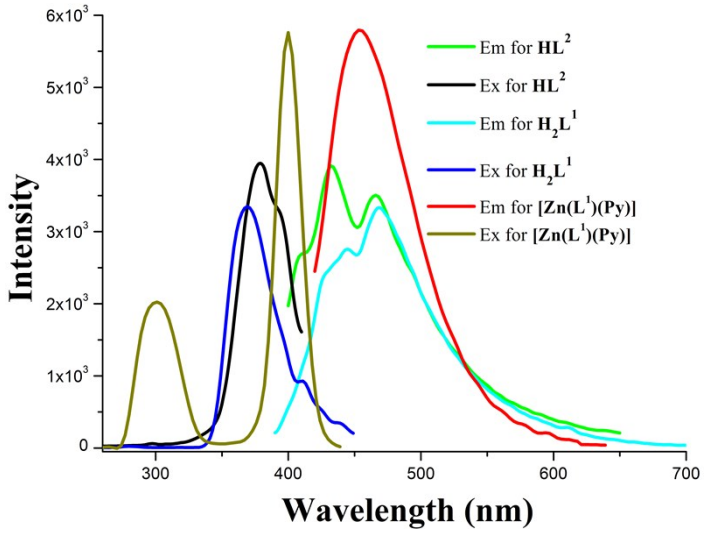

Figure 2S. Visible emission and excitation spectra of complex **5** in MeCN solution at 2 × 10^{-5} M and its PMMA-supported doping hybrid material **PMMA@5** from a feeding molar ratio of 100:1 in solid state at room temperature or 77 K.