Electronic Supplementary Information (ESI)

Water-Soluble Tb^{3+} and Eu^{3+} Complexes Based on Task-Specific Ionic Liquid Ligand and Their Application in luminescent poly(vinyl alcohol) Films

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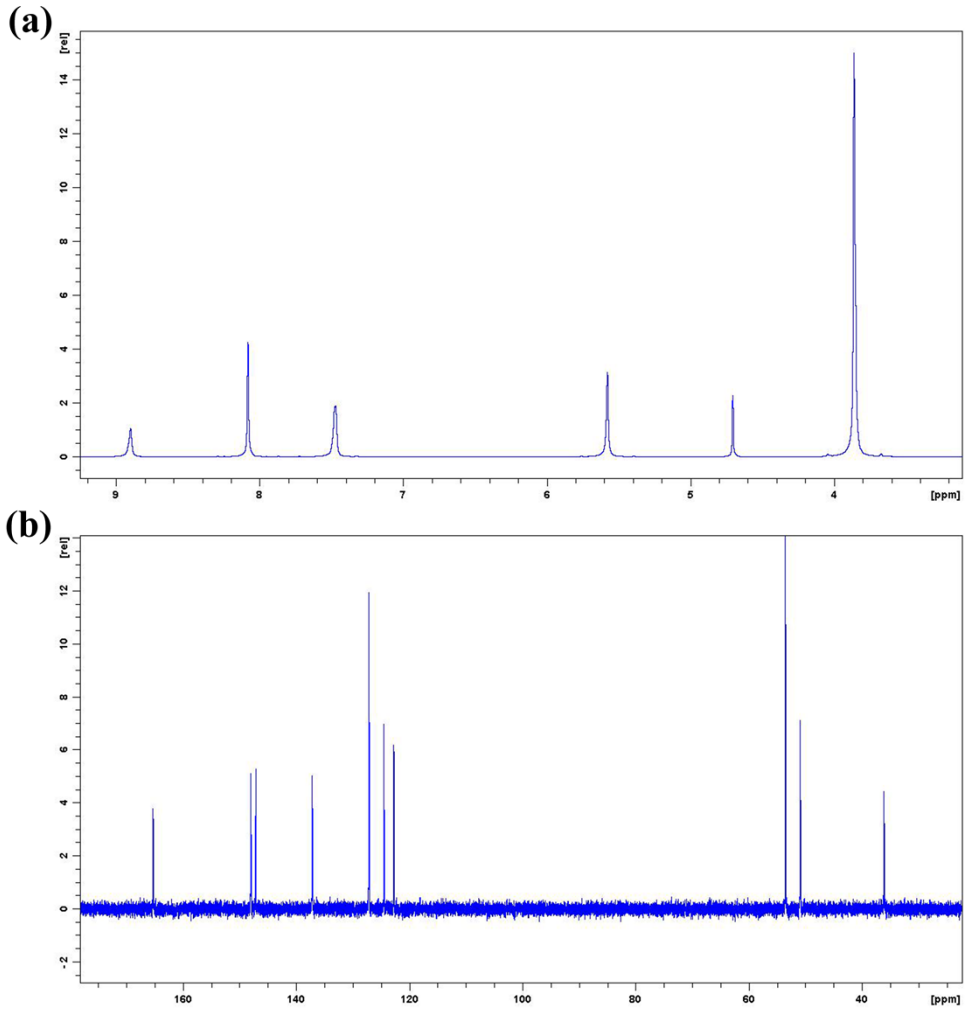

Fig. S1 ^{1}H-NMR (a) and ^{13}C-NMR (b) of compound 4, Solvent: D_2O, ^{1}H-NMR Solvent peak: 4.7 ppm

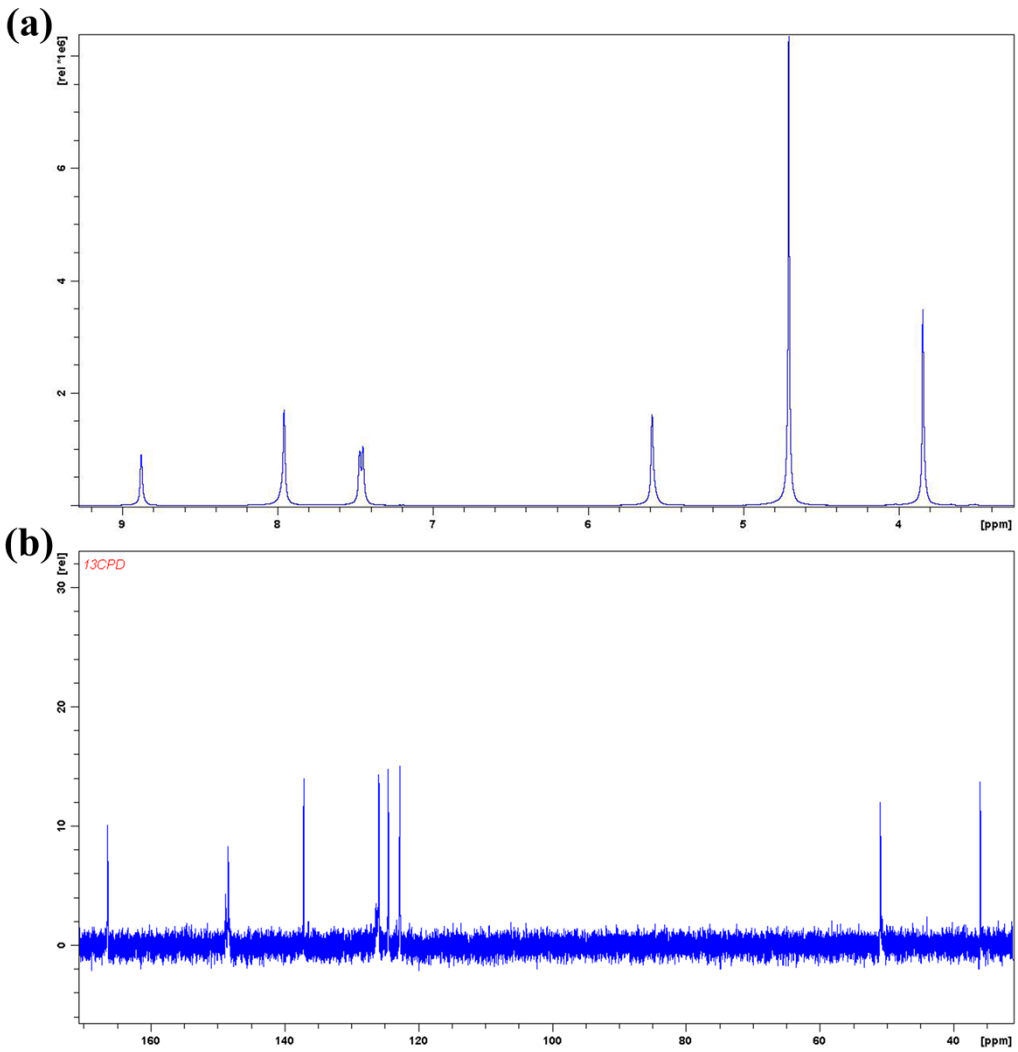

Fig. S2 ^{1}H-NMR (a) and ^{13}C-NMR (b) of IMI-DPA, Solvent: D_2O, ^{1}H-NMR Solvent peak: 4.7 ppm

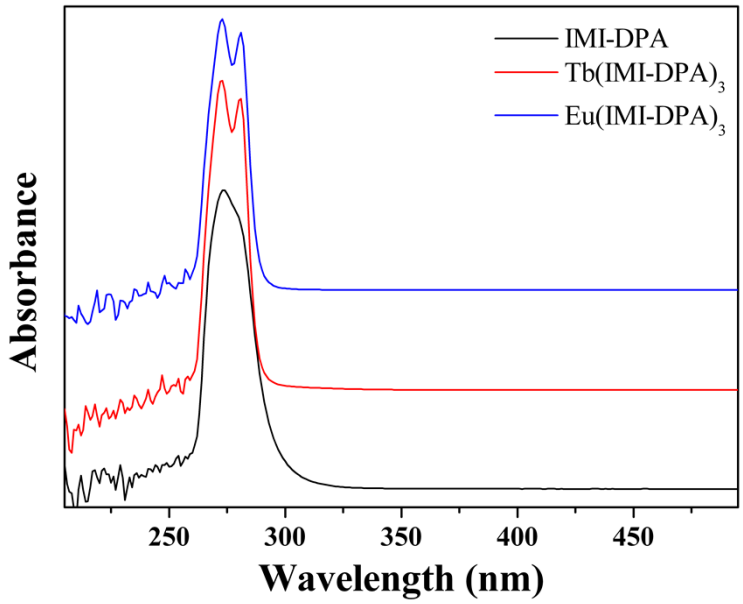

Fig. S3 UV-vis absorption spectra of the IMI-DPA (0.1 mmol/L) and complexes (0.05 mmol/L) in aqueous solution

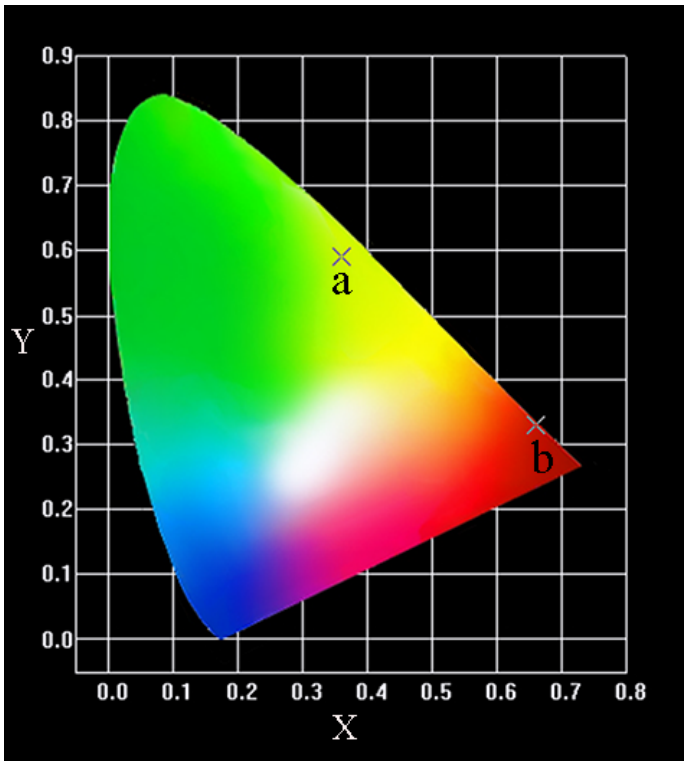

Fig. S4 Chromaticity diagram (CIE) of the $Tb(IMI\text{-}DPA)_3$ (a) and $Eu(IMI\text{-}DPA)_3$ (b) under 290 nm UV illumination

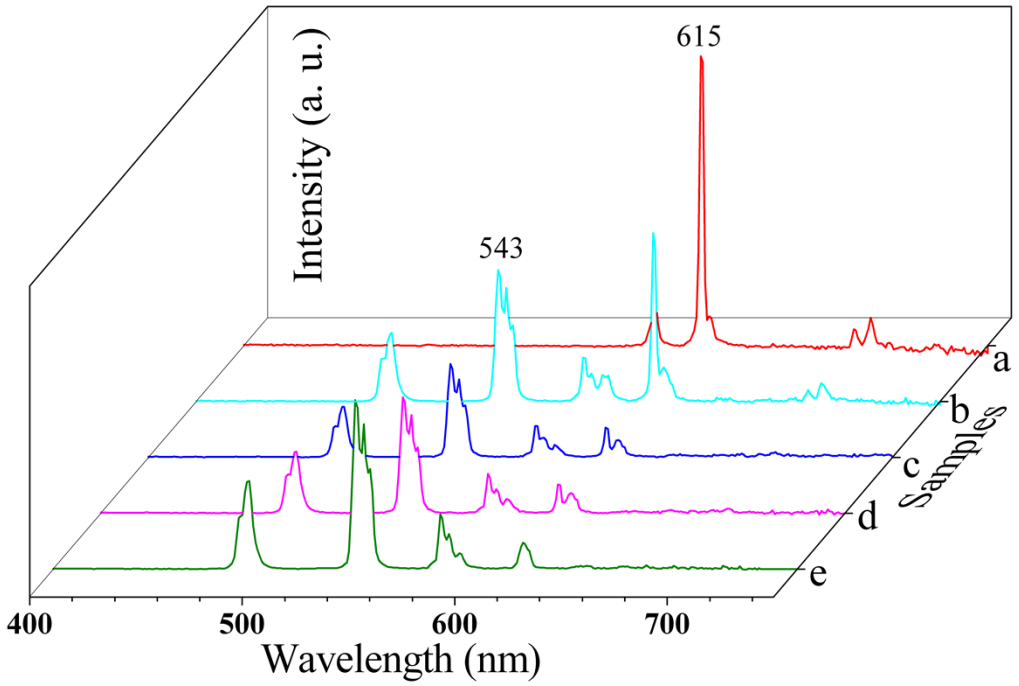

Fig. S5 The emission spectra of the luminescence PVA films upon excitation at 290 nm: (a) PVA-Eu; (b) PVA-Eu_1Tb_1; (c) PVA-Eu_1Tb_3; (d) PVA-Eu_1Tb_5; (e) PVA-Tb

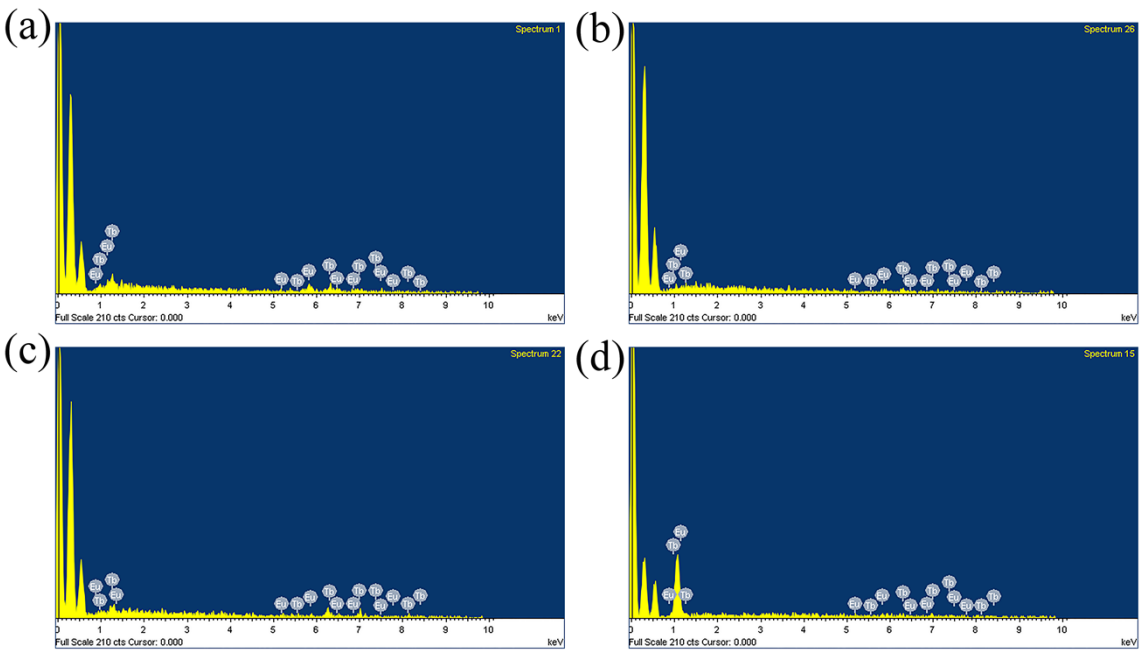

Fig. S6 EDX graphs of PVA-Eu_1Tb_1 (a), PVA-Eu_1Tb_3 (b), PVA-Eu_1Tb_5 (c), PVA-Na-BTC-Eu_1Tb_1 (d)

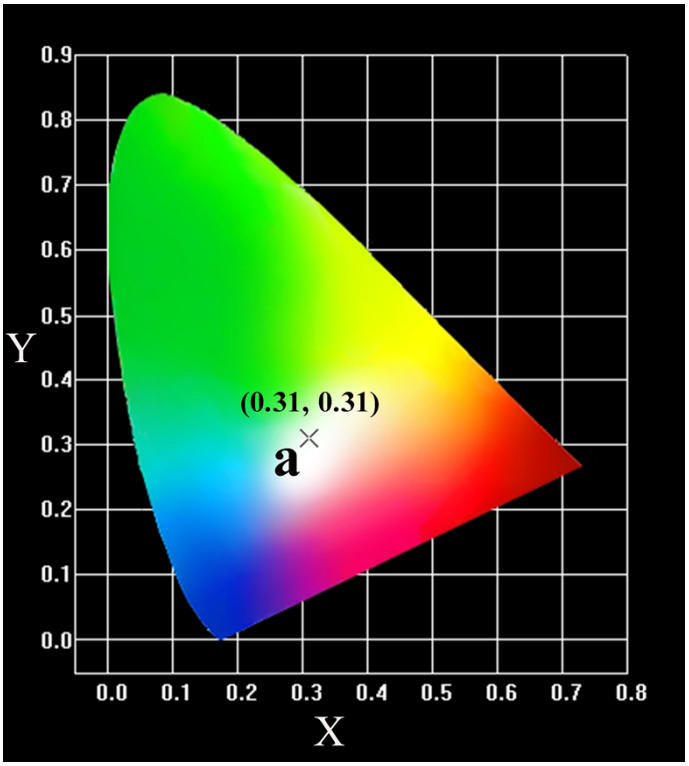

Fig. S7 Chromaticity diagram (CIE) of the PVA-Na-BTC-Eu_1Tb_1 (a) under 305 nm UV illumination