

Supporting information

for

PMMA-Copolymerized Color Tunable and Pure White-Light Emitting Eu^{3+} - Tb^{3+} Containing Ln-Metallopolymers

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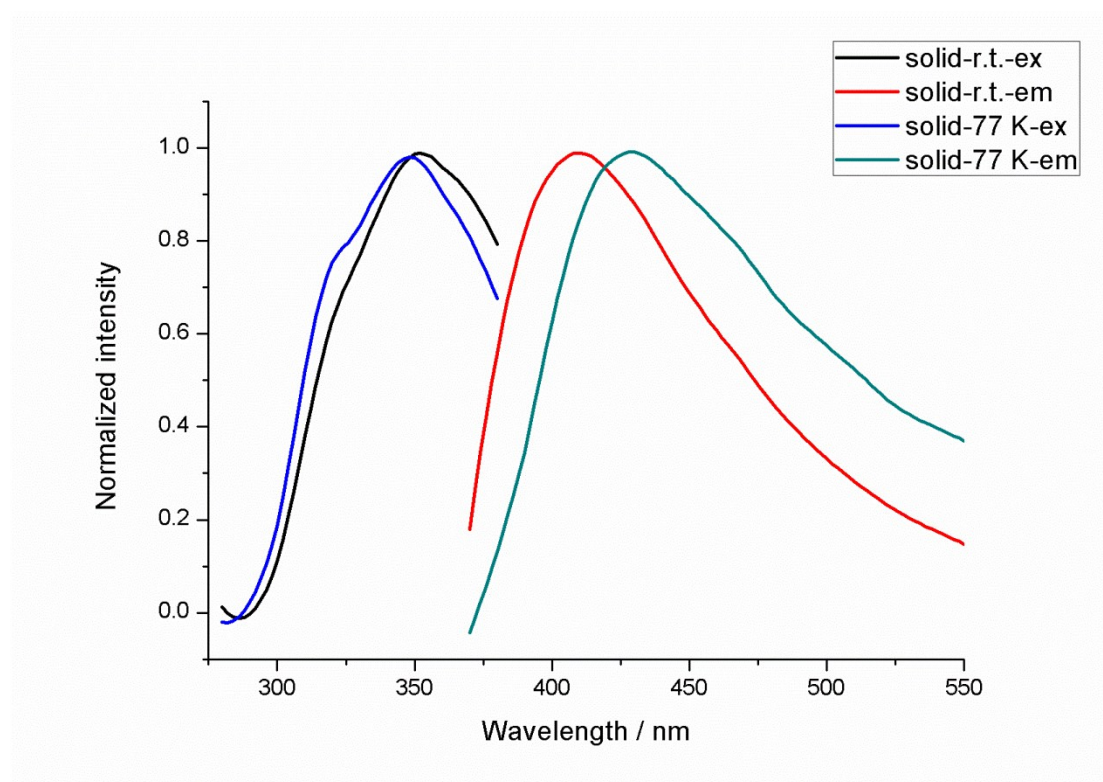


Fig. S1 Excitation ($\lambda_{\text{em}} = 400$ or 430 nm) and emission ($\lambda_{\text{ex}} = 345$ nm) spectra of complex **4-Gd** at room temperature and 77 K in the solid state.

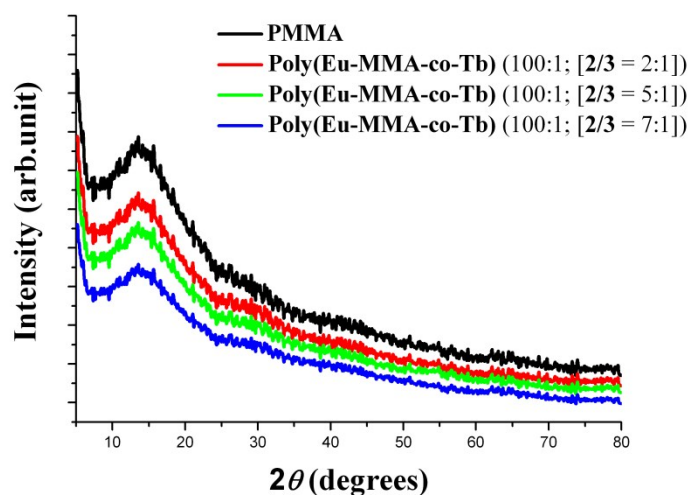


Fig. S2 PXRD patterns of PMMA and Poly(Eu-MMA-co-Tb) metallopolymer (MMA : Ln = 100 : 1, Eu : Tb = 2 : 1, 5 : 1 or 7 : 1).

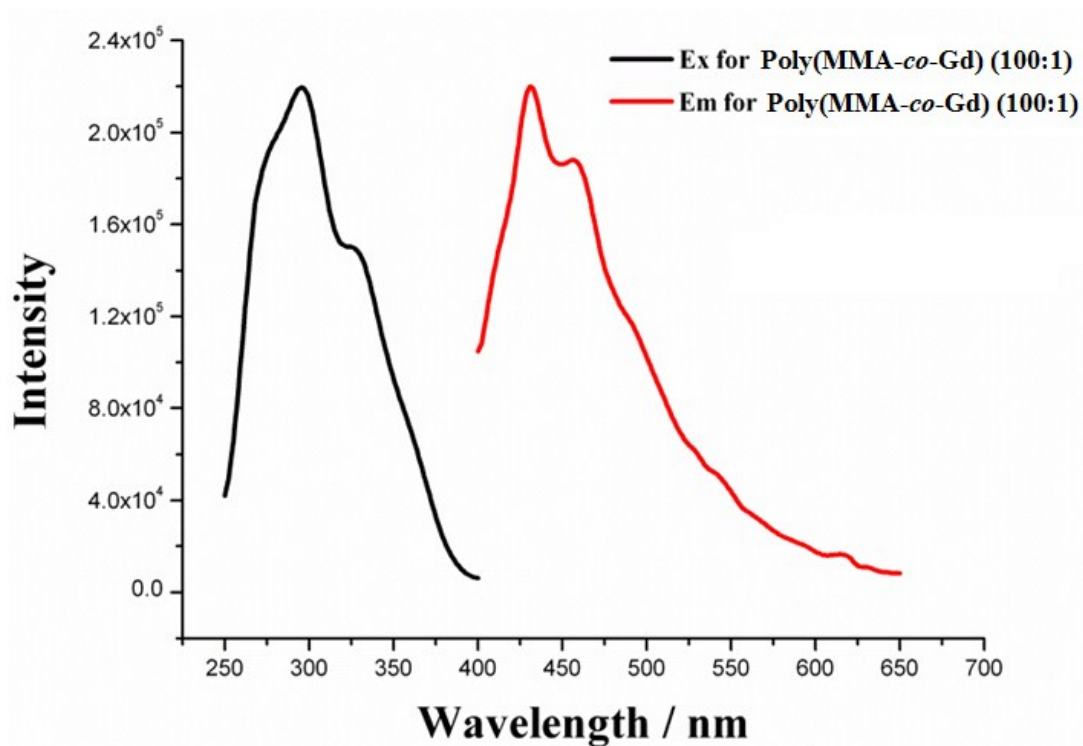


Fig. S3 Excitation ($\lambda_{em} = 413$ nm) and emission ($\lambda_{ex} = 295$ nm) spectra of Poly(MMA-co-Gd) metallopolymer (MMA : Ln = 100:1) at 77 K.

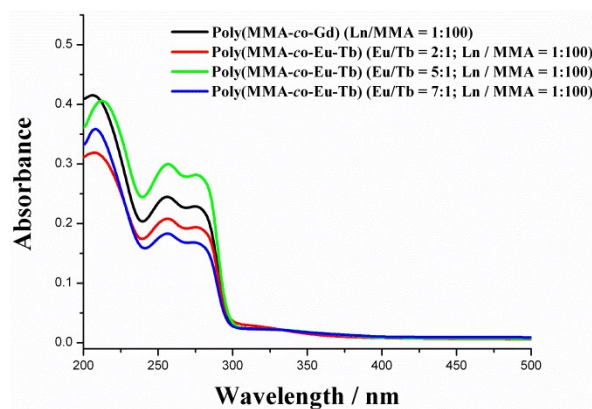


Fig. S4 UV-Vis spectra of **Poly(MMA-co-Gd)** and **Poly(MMA-co-Eu-Tb)** metallopolymers (MMA: Ln = 100:1; Eu: Tb = 2:1, 5:1 or 7:1) in the solid state.

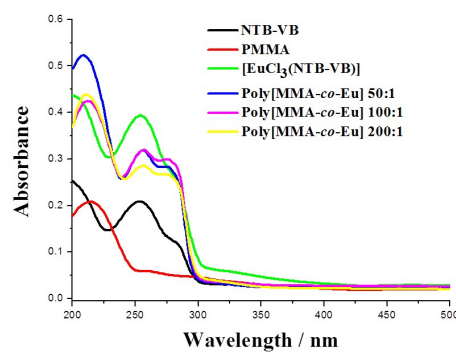


Fig.S5 UV-Vis absorption spectra of the Poly[MMA-co-Eu] metallopolymer compared with the ligand, PMMA and monomeric complex in the solid state at room temperature.

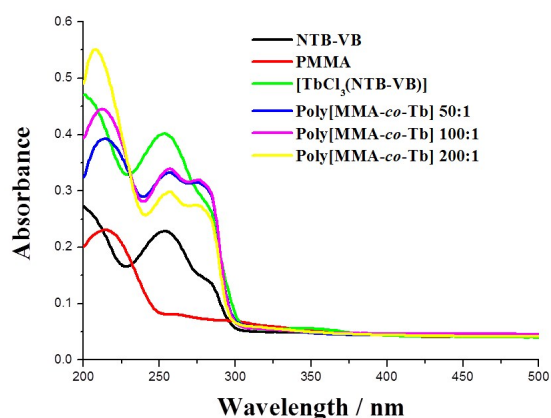


Fig. S6 UV-visible absorption spectra of the Poly[MMA-co-Tb] metallopolymer compared with the ligand, PMMA and monomeric complex in the solid state at room temperature.

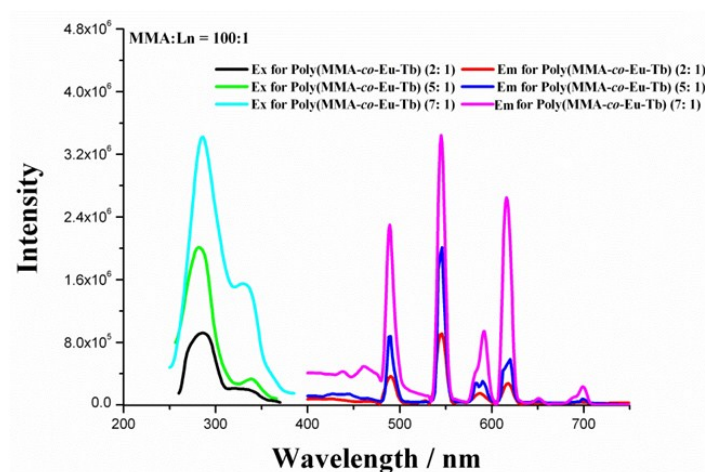


Fig. S7 Excitation ($\lambda_{\text{em}} = 545 \text{ nm}$) and emission ($\lambda_{\text{ex}} = 270 \text{ nm}$) spectra of **Poly(MMA-co-Eu-Tb)** metallopolymers (Eu/Tb = 2:1, 5:1 or 7:1; MMA: Ln = 100:1).

Table S1 GPC data of the samples **PMMA** and **Poly(MMA-co-Ln)**.

Sample	Monomers	Mn ^a /g mol ⁻¹	PDI ^b
PMMA	MMA	45255	1.15
Poly(MMA-co-Eu) (100:1)	MMA and Poly(MMA-co-Eu)	78149	1.07
Poly(MMA-co-Tb) (100:1)	MMA and Poly(MMA-co-Eu)	54391	1.03
Poly(MMA-co-Eu-Tb) (100:1, 7:1)	MMA and Poly(MMA-co-Eu-Tb)	62153	1.06

^a M_n is the number average molecular weight.

^b PDI = M_w/M_n , where M_w is the weight average molecular weight.

Table S2 Selected bond lengths (Å) and bond angles (°) for complex **2-Eu·2EtOH**.

Bond lengths (Å)		Bond angles (°)	
Eu(1)-N(1)	2.671(5)	N(1)-Eu(1)-N(2)	64.31(16)
Eu(1)-N(2)	2.515(5)	N(1)-Eu(1)-N(3)	63.20(18)
Eu(1)-N(3)	2.520(6)	N(1)-Eu(1)-N(4)	63.55(16)
Eu(1)-N(4)	2.546(6)	Cl(1)-Eu(1)-Cl(2)	90.26(6)
Eu(1)-Cl(1)	2.641(2)	Cl(1)-Eu(1)-Cl(3)	97.82(7)
Eu(1)-Cl(2)	2.6671(15)		
Eu(1)-Cl(3)	2.6821(17)		