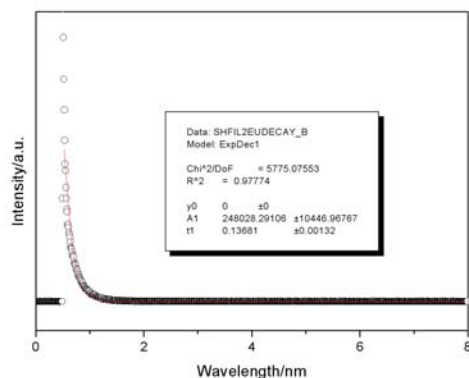
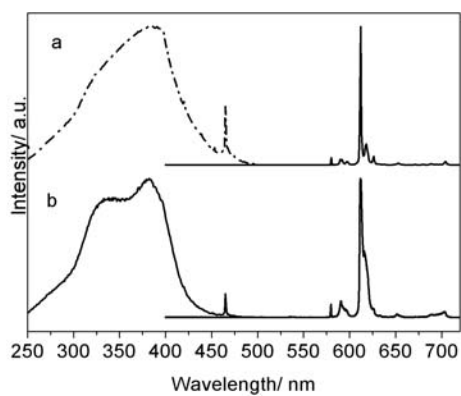


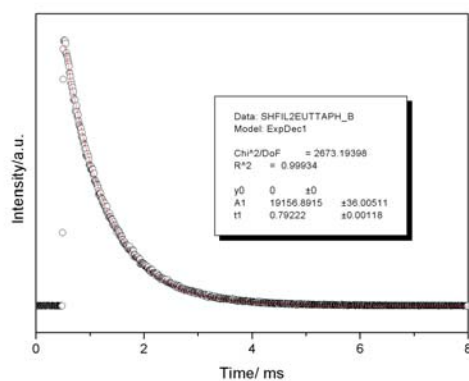
Electronic support information



ESL Decay curve of IL-Eu, measured at room temperature using an excitation wavelength of 395nm and monitored around the most intense emission line at 613nm. (open circle:experimental data; solid line: fitted according to $I=I_0+A\exp[-(t-t_0)/\tau]$)



ESI2 Excitation (dash dot line) and emission (solid line) spectra of a) ternary complex $(Eu(TTA)_3Phen)$ in solid state, and b) dissolved in IL (0.5mol%)



ESI3 Decay curve of IL-Eu-TTa-Phen, measured at room temperature using an excitation wavelength of 350nm and monitored around the most intense emission line at 612nm. (open circle:experimental data; solid line: fitted according to $I=I_0+A\exp[-(t-t_0)/\tau]$)