Supplementary Information

Synthesis, characterization, photoluminescence and intensity parameters of high quantum efficiency pure-red emitting Eu (III) fluorinated β-diketone complexes.

Shabir Ahmad Bhat and Khalid Iftikhar*
Lanthanide Research Laboratory, Department of Chemistry,
Jamia Millia Islamia, New-Delhi 110025, India.
*corresponding Author kiftikhar@jmi.ac.in
Fig. S1. IR spectra of the complexes 1 - 3.
Fig. S2. IR spectra of the ligands.
Fig. S3. $^1$H NMR spectra of [La(fod)$_3$impy] in CDCl$_3$. 

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Fig. S4. $^1$H NMR spectra of [Eu(fod)$_3$impy] (2) in CDCl$_3$. *some impurities.
Fig. S5. $^1$H NMR spectra of [La(fod)$_3$tptz] in CDCl$_3$.

Fig. S6. $^1$H NMR spectra of [Eu(fod)$_3$tptz] (3) in CDCl$_3$. 
Fig. S7. TGA-DTA plot of [Eu(fod)$_3$impy] (2).

Fig. S8. TGA-DTA plot of [Eu(fod)$_3$tpTZ] (3).
Fig. S9. Absorption spectra of the ligands in chloroform.
Fig. S10. CIE chromaticity diagram of the complexes 1 – 3 chloroform solution and solid phase.

Fig. S11. Emission decay curves of [Eu(fod)3impy] (2) in chloroform and solid state.

Fig. S12. Emission decay curves of [Eu(fod)3tptz] (3) in chloroform and solid state.