

Supporting Information

Large-area Luminescent Downshifting Layer containing Eu³⁺ Complex for Crystalline Silicon Solar Cells

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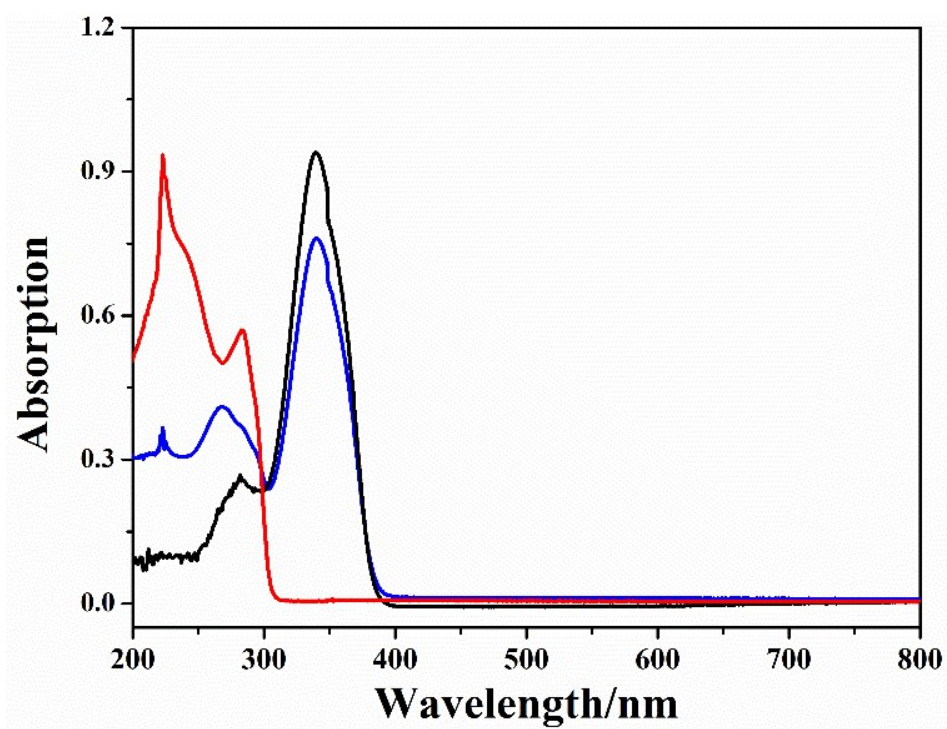


Figure S1. UV-vis absorption spectra of Eu(tta)₃·2H₂O (black); ligand pybox (red) and Eu(tta)₃pybox (blue).

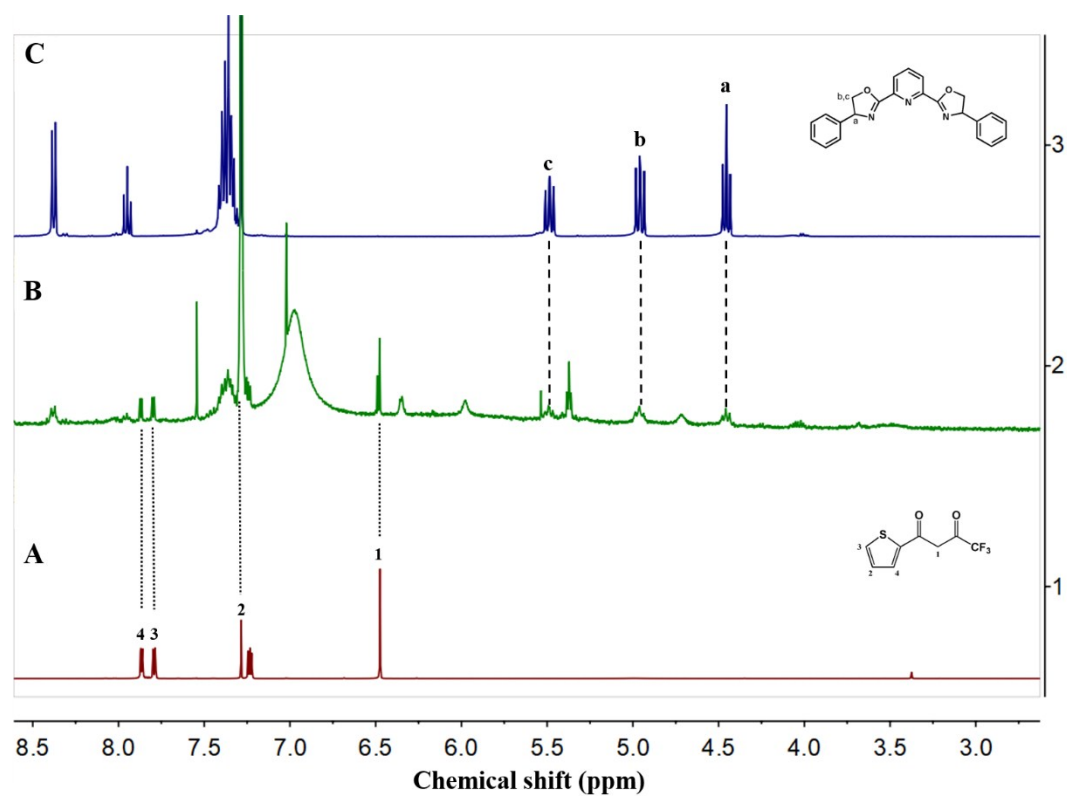


Figure S2. Partial ¹H NMR spectra of A) tta; B) Eu(tta)₃pybox and C) pybox in CDCl₃ at 25 °C.

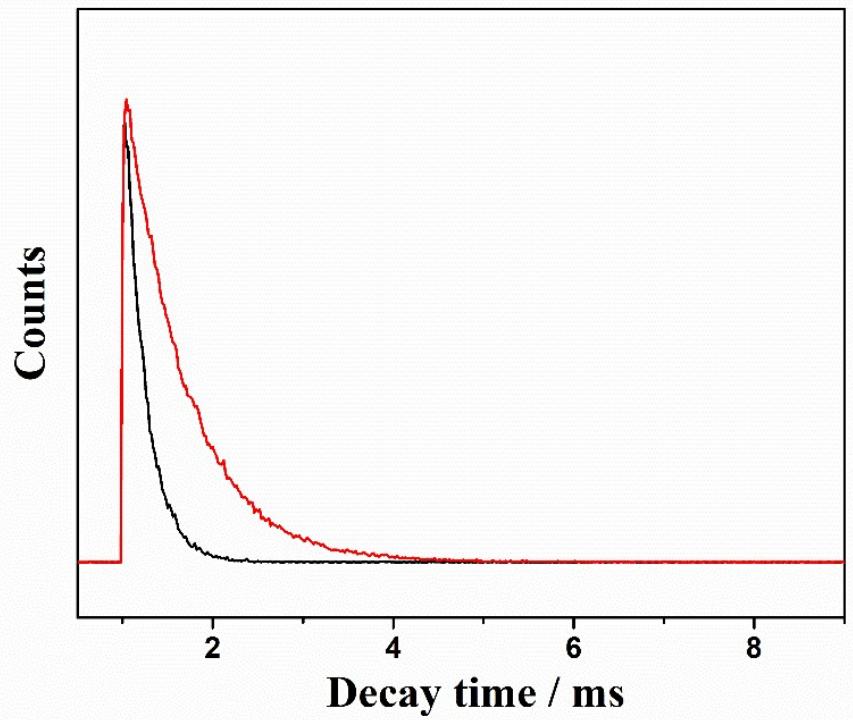


Figure S3. The decay curves of Eu(tta)₃·2H₂O (black) and Eu(tta)₃pybox (red).

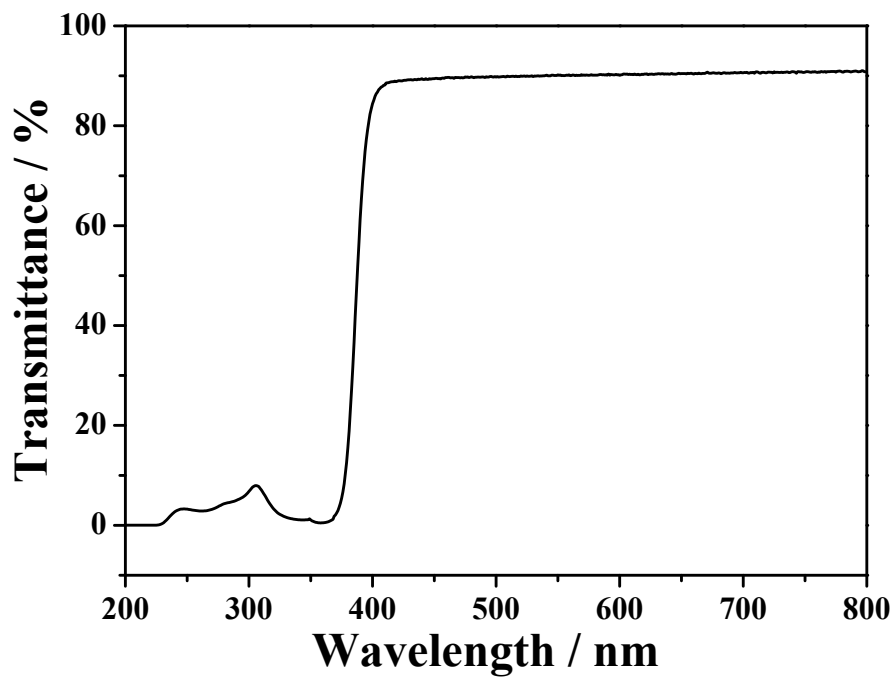


Figure S4. Ultraviolet-visible (UV-Vis) transmittance spectra of thin film containing Eu(tta)₃pybox.

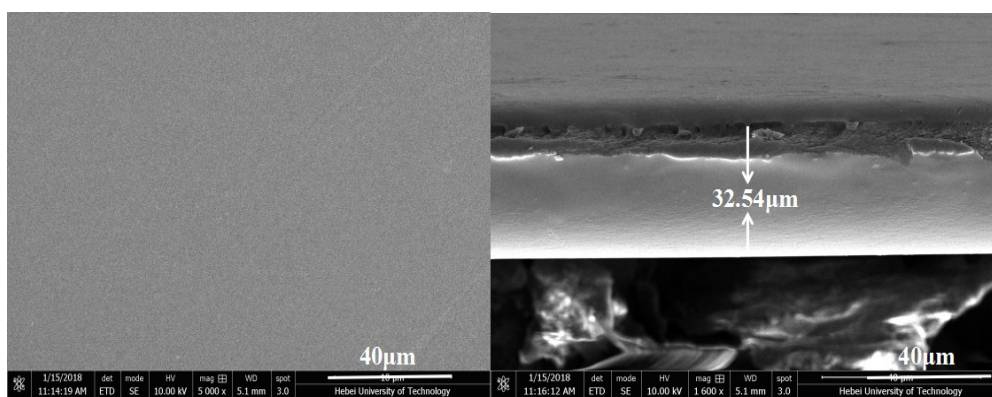


Figure S5. SEM images of the $\text{Eu}(\text{tta})_3\text{pybox}$ -containing thin film (up: surface; bottom: cross section).