

Supplementary material (ESI) for Journal of Materials Chemistry
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Electronic Supplementary Information

Lanthanopolyoxotungstates in silica nanoparticles: multi-wavelength photoluminescent core/shell materials

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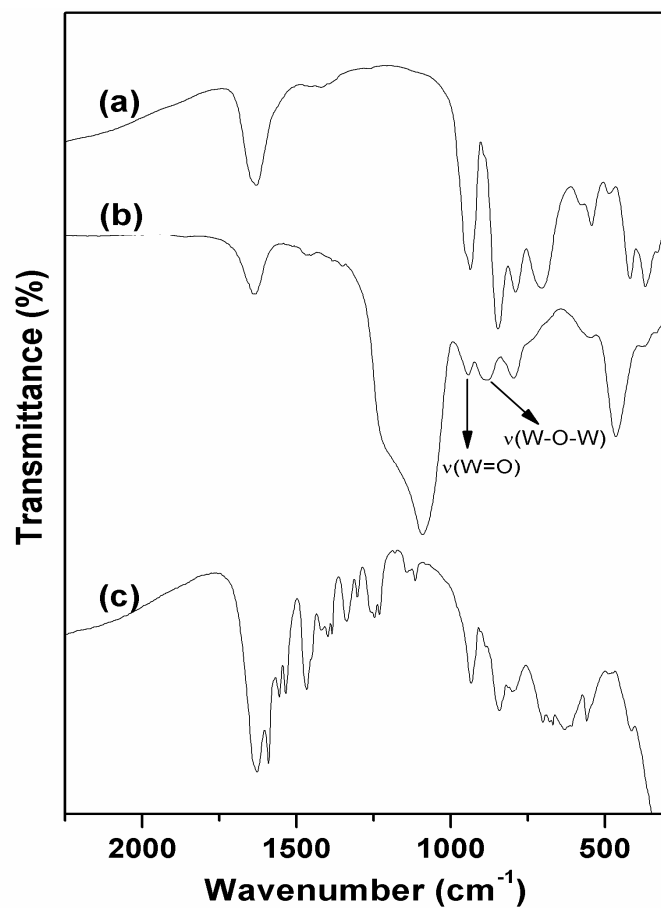


Fig. S1 FT-IR spectra of (a) $\text{Na}_9[\text{Eu}(\text{W}_5\text{O}_{18})_2] \cdot 14\text{H}_2\text{O}$, (b) $[\text{Eu}(\text{W}_5\text{O}_{18})_2]/\text{SiO}_2$ (**1**) and (c) $\text{Na}_{13}[\text{Eu}(\text{W}_5\text{O}_{18})_2(\text{picOH})_4] \cdot 15\text{H}_2\text{O}$.

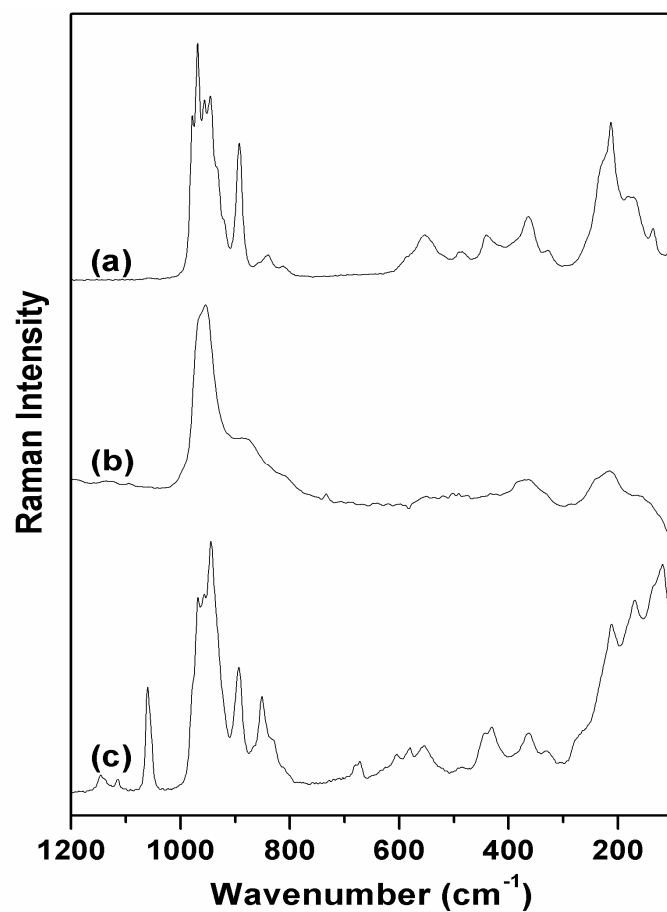


Fig. S2 FT-Raman spectra of (a) $\text{Na}_9[\text{Eu}(\text{W}_5\text{O}_{18})_2] \cdot 14\text{H}_2\text{O}$, (b) $[\text{Eu}(\text{W}_5\text{O}_{18})_2]/\text{SiO}_2$ (**1**) and (c) $\text{Na}_{13}[\text{Eu}(\text{W}_5\text{O}_{18})_2(\text{picOH})_4] \cdot 15\text{H}_2\text{O}$.

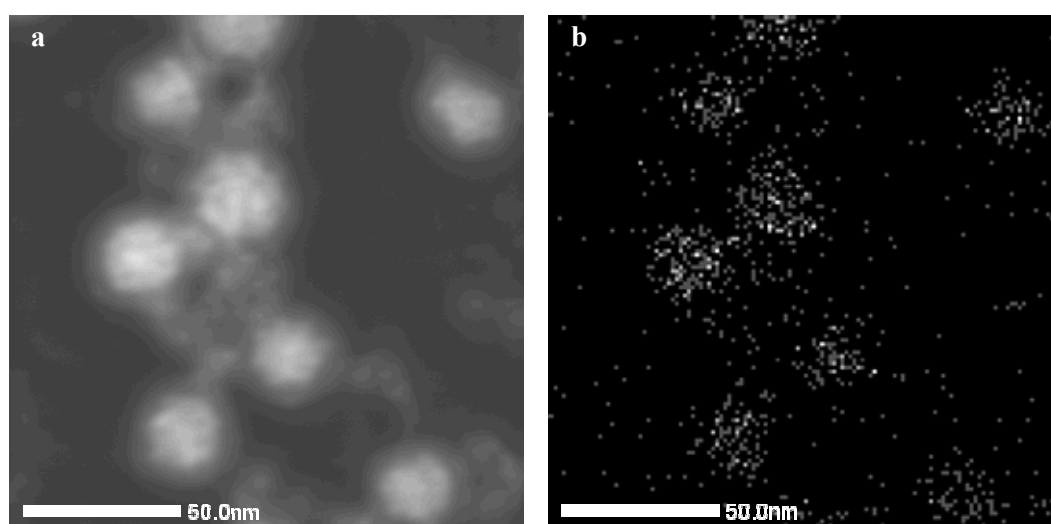


Fig. S3 HRTEM image of $[\text{Tb}(\text{W}_5\text{O}_{18})_2]/\text{SiO}_2$ (**2**) nanocomposite in dark field mode (a) and separated EDX mapping for Tb (b).

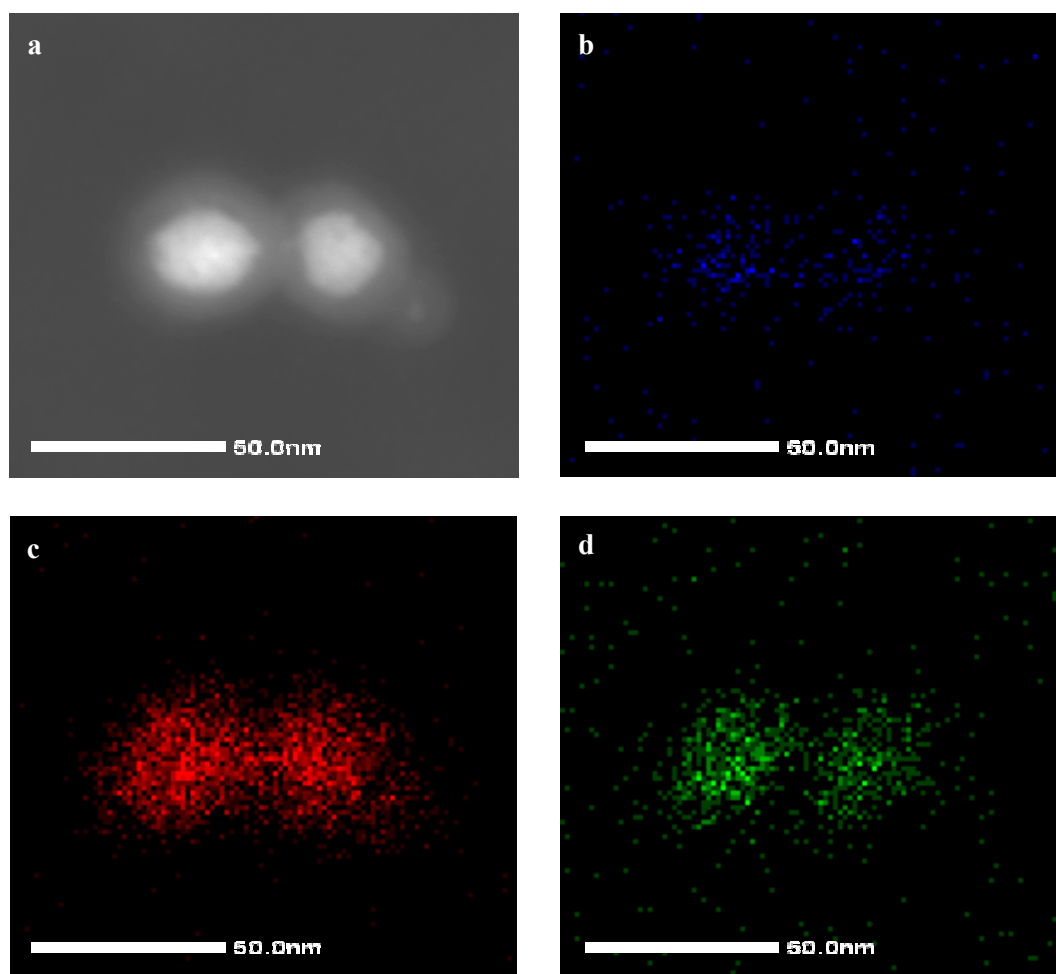


Fig. S4 HRTEM image of [Gd(W₅O₁₈)₂]/SiO₂ (**3**) nanocomposite in dark field mode (a) and separated EDX mapping for Gd (b), Si (c) and W (d).

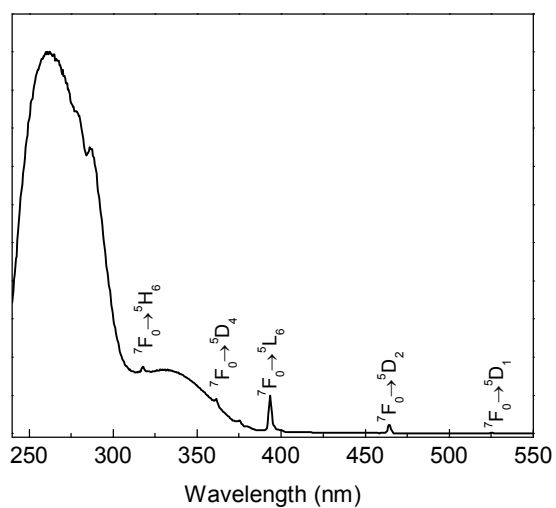


Fig. S5 Low-temperature (12 K) excitation spectrum of [Eu(W₅O₁₈)₂(picOH)₄]/SiO₂ (**6**) monitored at 611 nm.

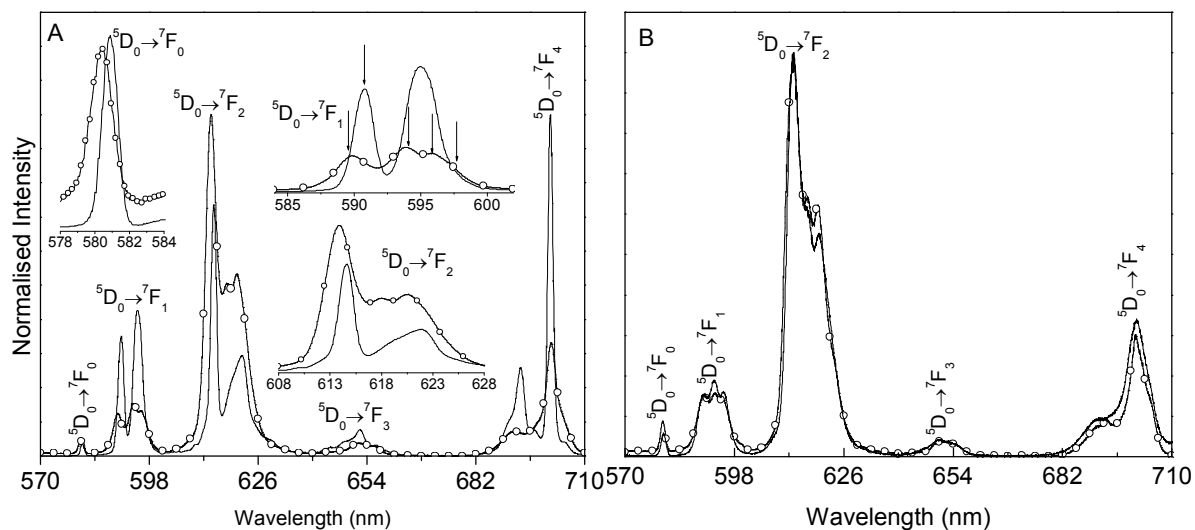


Fig. S6 Emission (12 K) spectra of the A: $[\text{Eu}(\text{W}_5\text{O}_{18})_2]/\text{SiO}_2$ (**1**) excited at 465 nm (solid line) and 330 nm (solid line and circles) and of the B: $[\text{Eu}(\text{W}_5\text{O}_{18})_2(\text{picOH})_4]/\text{SiO}_2$ (**6**) excited at 395 nm (solid line) and 320 nm (solid line and circles).