

Electronic Supplementary Information (ESI)

**Zwitterionic Surfactant Micelle-Directed Self-Assembly of Eu-Containing
Polyoxometalate into Organized Nanobelts with Improved Emission and pH
Responsiveness**

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1. The photophysical properties of EuW₁₀ and C₁₄DMAO/EuW₁₀ solutions

Table S1. The Photophysical Properties of EuW₁₀ and C₁₄DMAO/EuW₁₀ Solutions

samples	τ (μ s)	Q_{abs} (%)
EuW ₁₀ (0.05 mM)	240.7	2.0
C ₁₄ DMAO/EuW ₁₀	1094.5	13.3

2. Isothermal titration calorimetry (ITC) results of C₁₄DMAO/EuW₁₀ solutions

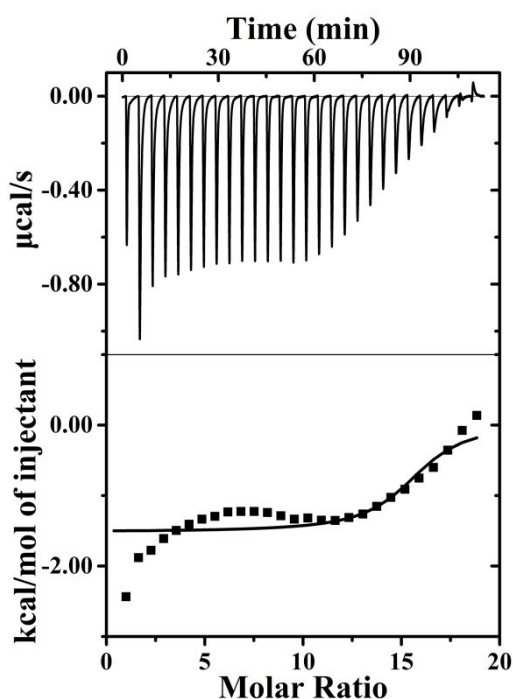


Figure S1. ITC results of C₁₄DMAO (1.8 mM) being titrated into EuW₁₀ aqueous solution (0.02 mM) recorded at 25 °C.

3. Structural characterizations of C₁₄DMAO/EuW₁₀ aggregates

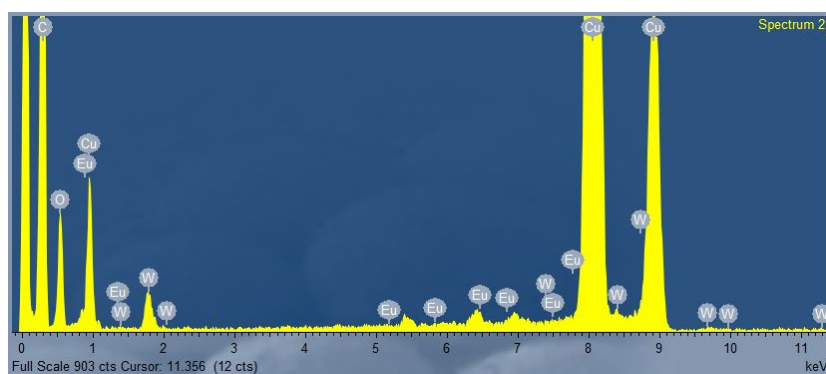


Figure S2. EDX spectrum for C₁₄DMAO/EuW₁₀ spheres at *R* value of 4.

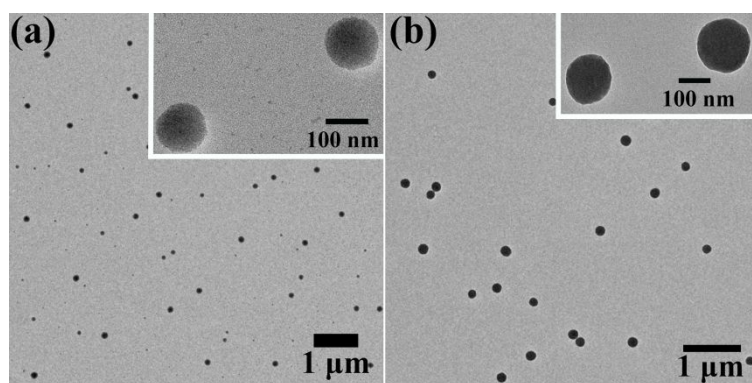


Figure S3. TEM images for $C_{14}DMAO/EuW_{10}$ spheres at R values of 3 (a) and 2 (b).

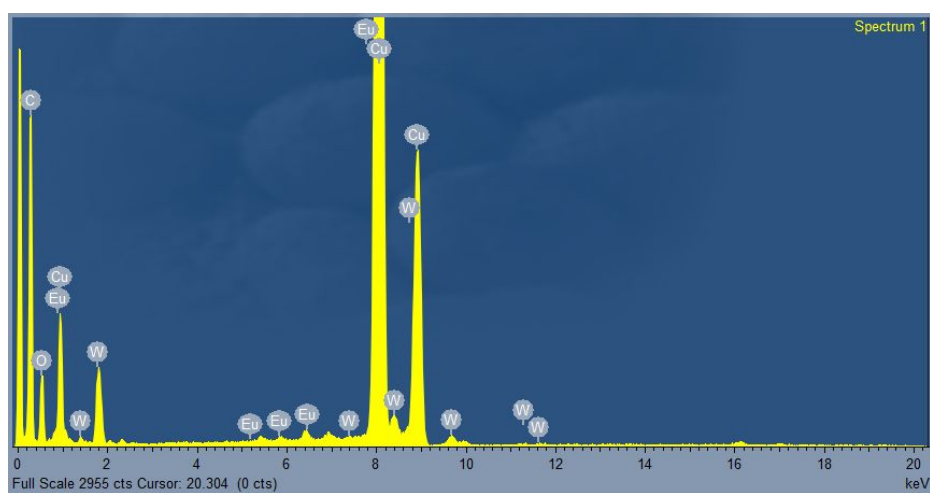


Figure S4. EDX spectrum for $C_{14}DMAO/EuW_{10}$ nanobelts at R value of 20.

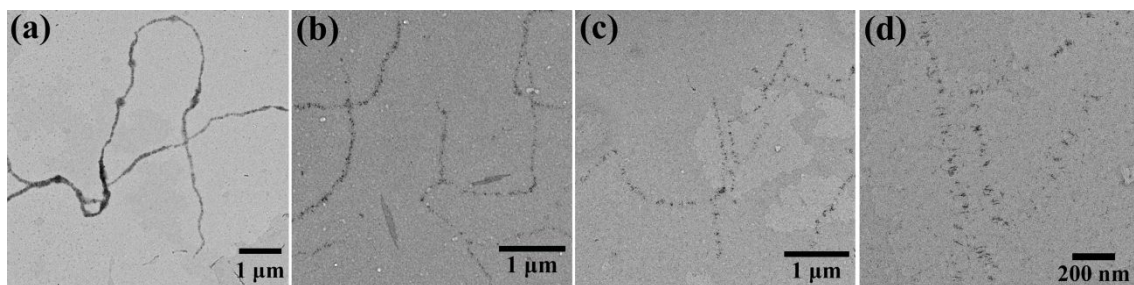


Figure S5. TEM images for $C_{14}DMAO/EuW_{10}$ nanobelts at R values of 13 (a), 30 (b), and 40 (c)&(d).

4. TEM images and FT-IR spectra for C₁₄DMAO/EuW₁₀ aggregates at different pH values

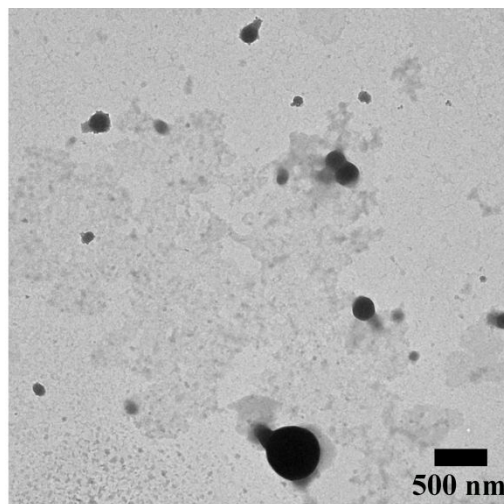


Figure S6. TEM image for C₁₄DMAO/EuW₁₀ aggregates at pH values of 2.5 through direct addition of HCl.

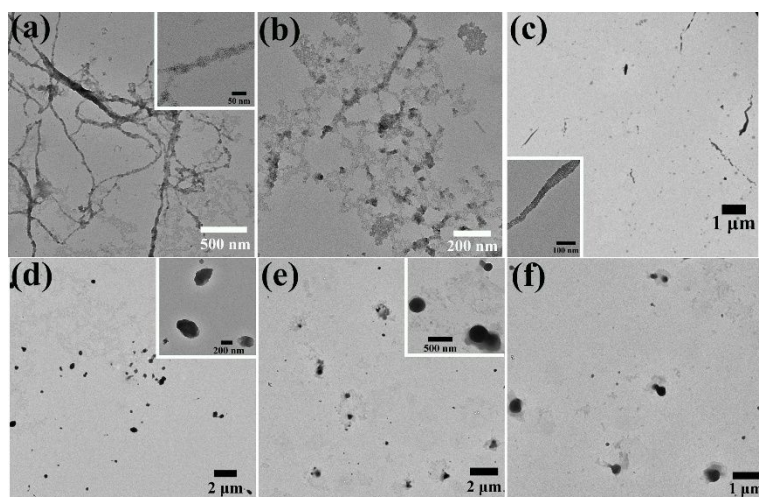


Figure S7. TEM images for C₁₄DMAO/EuW₁₀ aggregates at pH values of 6.5 (a), 7.0 (b), 6.0 (c), 4.8 (d), 3.5 (e) and 2.5 (f).

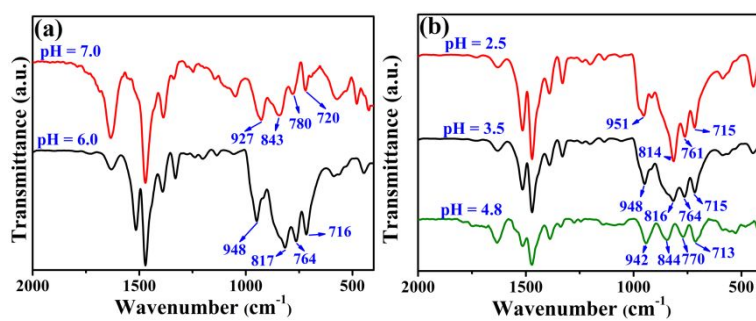


Figure S8. FT-IR spectra for C₁₄DMAO/EuW₁₀ aggregates at different pH values.

5. Control investigations on luminescence spectra and transmittance variations at different pH values for TTAB/EuW₁₀ samples

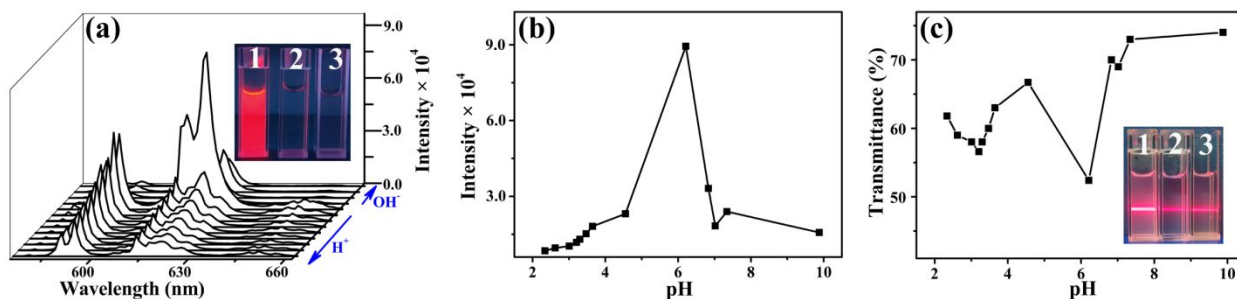


Figure S9. TTAB/EuW₁₀ solution emission spectra (a), corresponding ⁵D₀ → ⁷F₂ transition intensity (b) and transmittance (c) variations at different pH values. Inset photos in (a) and (c) are respectively sample appearances for TTAB/EuW₁₀ solutions at pH values of 6.5 (1), 2.5 (2) and 7.5 (3) under UV irradiation or laser to check the Tyndall effect.

6. TEM image variation for the C₁₄DMAO/EuW₁₀ nanobelt by pH

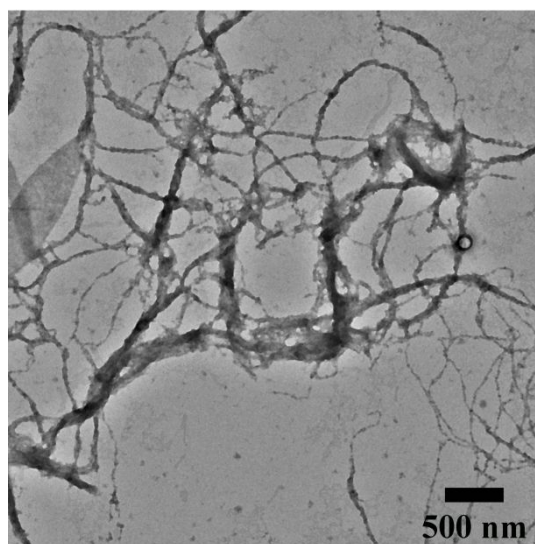


Figure S10. TEM image for C₁₄DMAO/EuW₁₀ nanobelt at the end of the first circle.