

## Supplementary Information

### **Multicompartment-like aggregates formed by a redox-responsive surfactant encapsulated polyoxometalate in DMF/Butanol mixed solvent**

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## 1. Elemental Analysis

Anal. Calc. for SEC ( $C_{132}H_{204}N_3Fe_6O_{40}W_{12}P$ , 5045.54): C 31.01%, H 3.99%, N 0.80%. Found: C 31.41%, H 4.05%, N 0.83%.

## 2. Sample Appearance Pictures



Fig. S1 Appearance pictures of yellow BFDMA (a) and greyish-green SEC (b).

## 3. FTIR Spectra

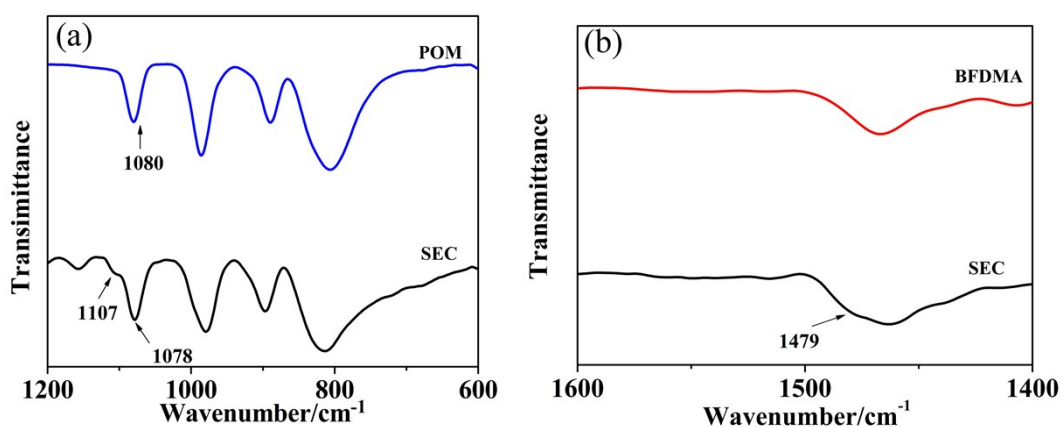
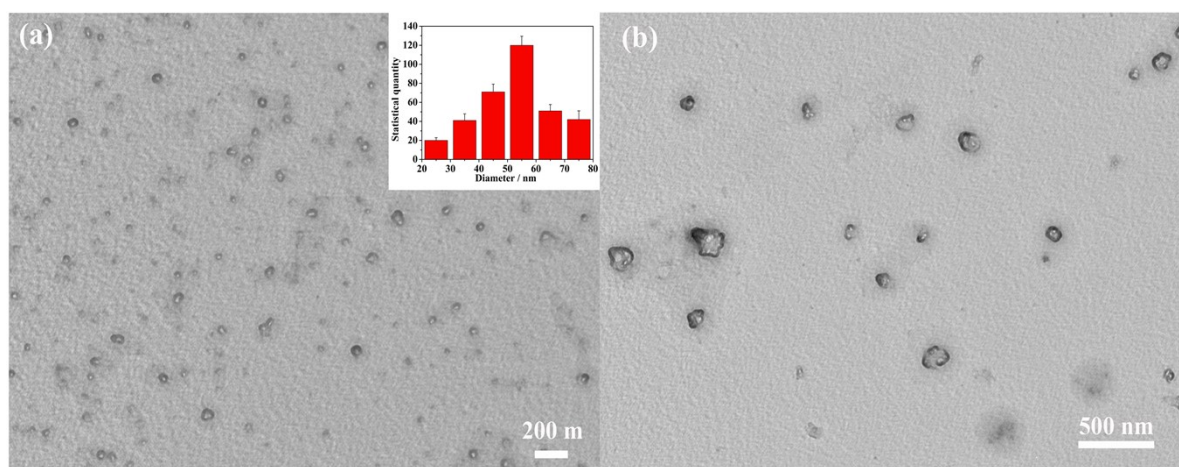
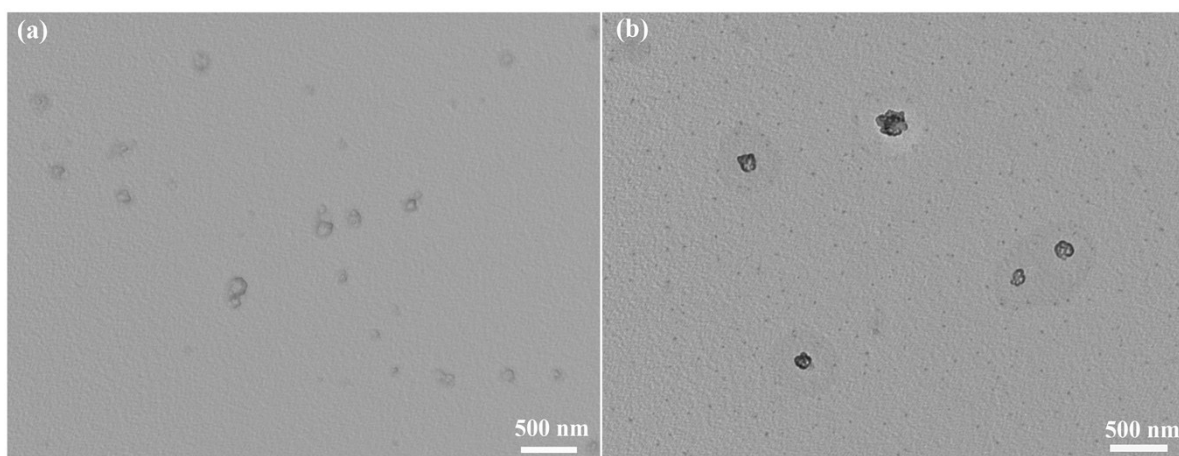


Fig. S2 Magnified FT-IR spectra around 1000  $cm^{-1}$  (a) and 1400  $cm^{-1}$  (b).

#### 4. TEM Image and Size Distribution.



**Fig. S3** TEM images of SEC spherical aggregates with an inset of size distribution statistics (a) and SEC multicompartment-like aggregates (b).



**Fig. S4** TEM images of multicompartment-like aggregates: (a) initially formed; (b) re-reduced.