Electronic Supplementary Material (ESI) for Soft Matter.

Supporting information for:

Interfacial assembly and hydrolysis for synthesizing TiO_2/metal-organic framework composite

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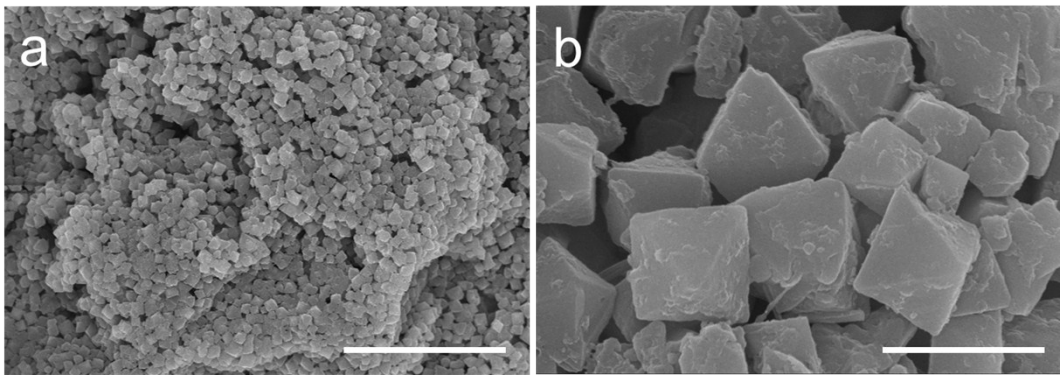
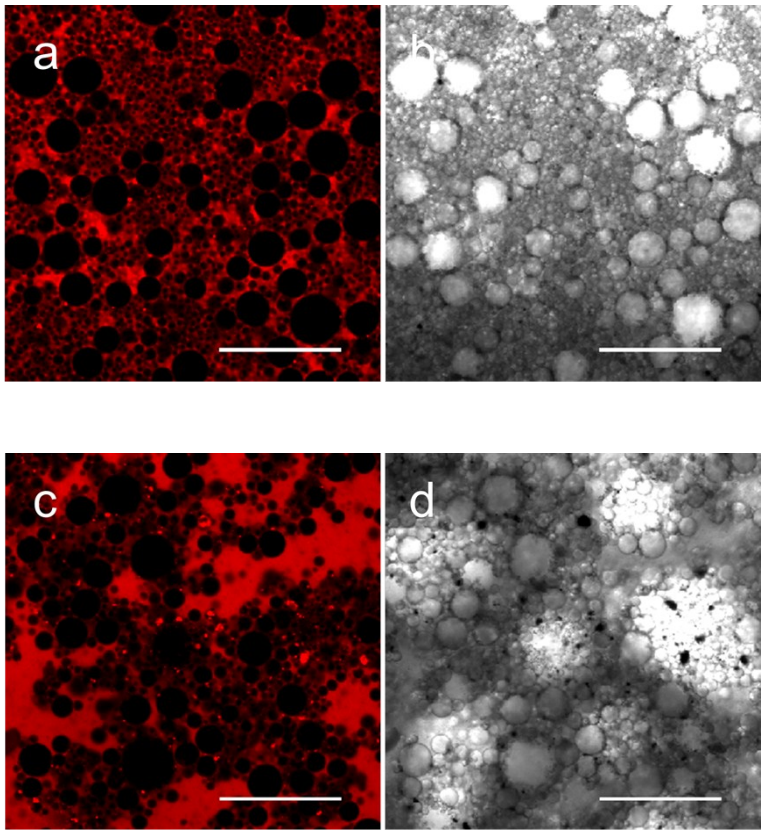


Figure S1. SEM images of the pristine UiO-67. Scale bars, 20 μm in a, 2 μm in b.



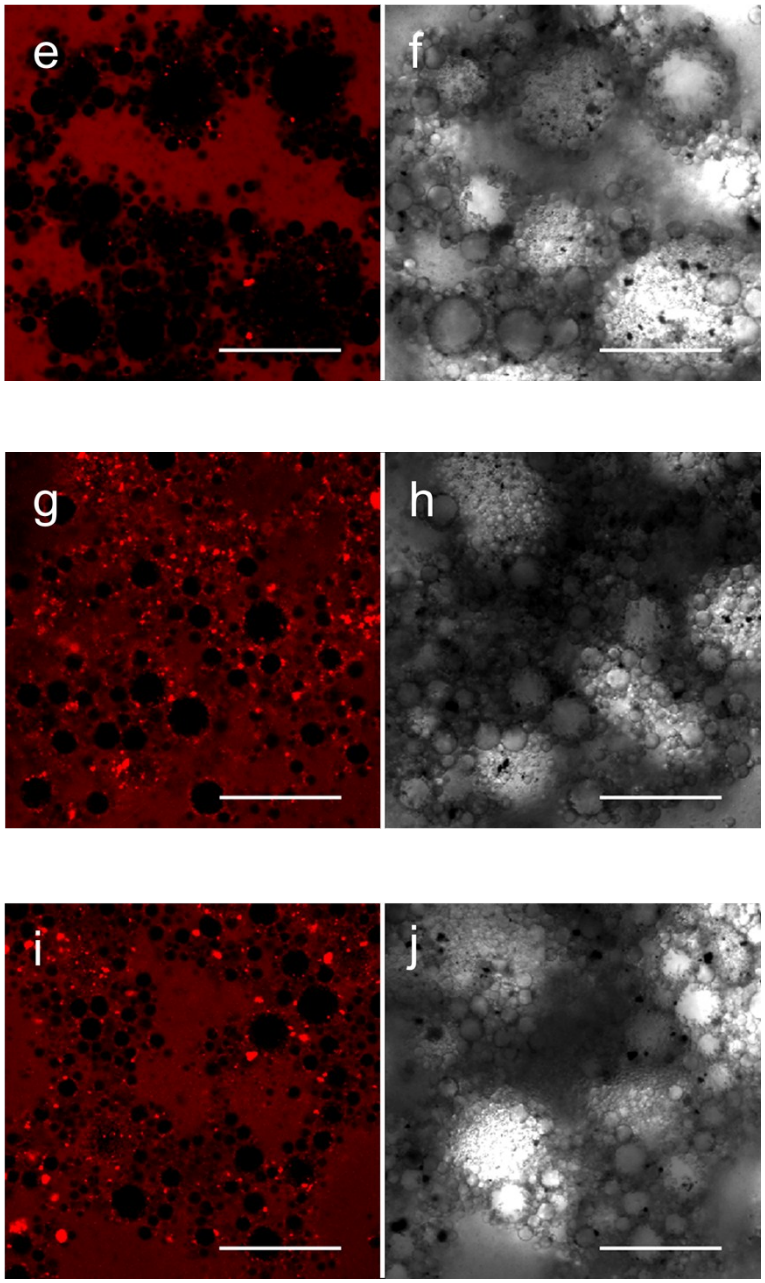


Figure S2. CLSM images of the emulsions with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 0 (a, b), 2.5 μL mL^{-1} (c, d), 3.8 μL mL^{-1} (e, f), 6.3 μL mL^{-1} (g, h), 12.5 μL mL^{-1} (i, j), respectively. Scale bars: 100 μm.

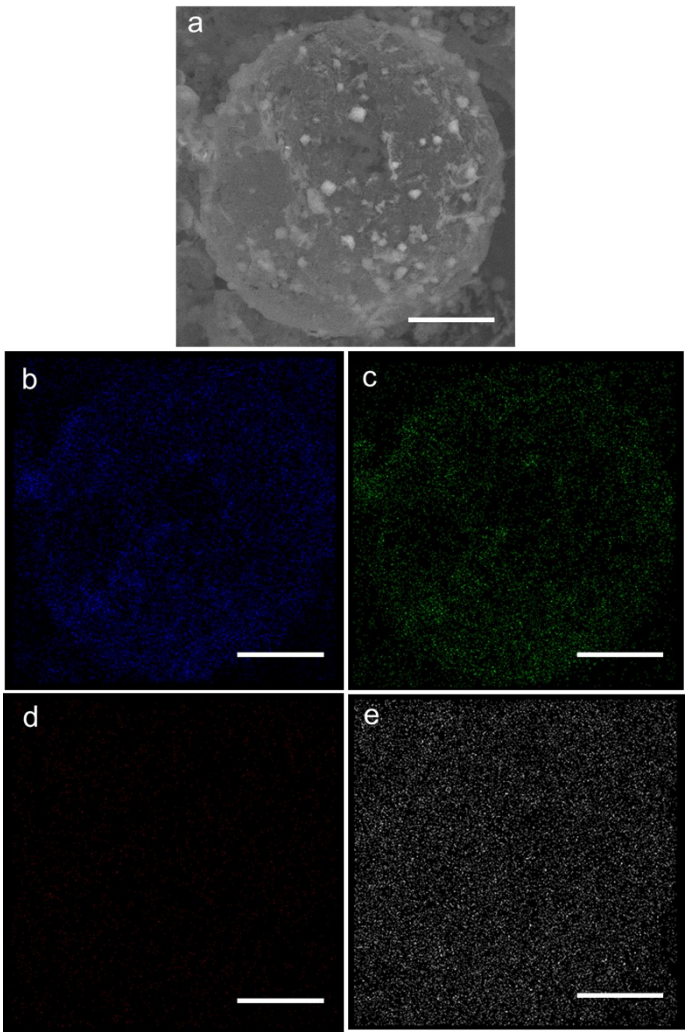


Figure S3. Elemental analysis of TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 2.5 μL mL^{-1}. SEM image (a) and corresponding elemental mappings of C (b), O (c), Ti (d) and Zr (e). There is a uniform distribution of the Ti and Zr atoms throughout the composite structure. The atomic percent of Ti and Zr atoms is 0.98% and 2.23% respectively. The relative content of Ti and Zr atoms is 0.439. Scale bars: 10 μm.

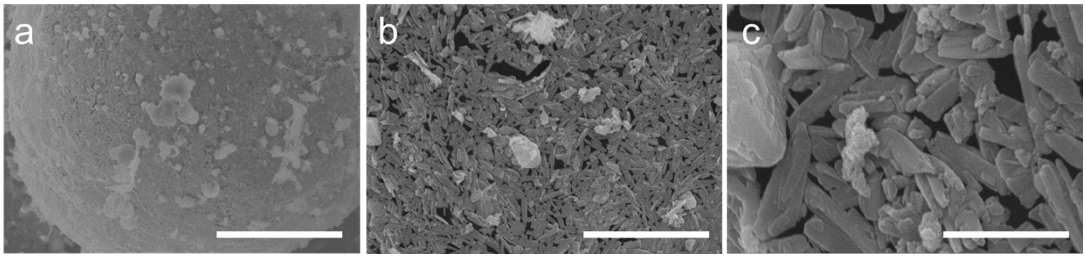


Figure S4. SEM images of TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 2.5 μL mL^{-1}. Scale bars, 20 μm in a, 5 μm in b, 1 μm in c.

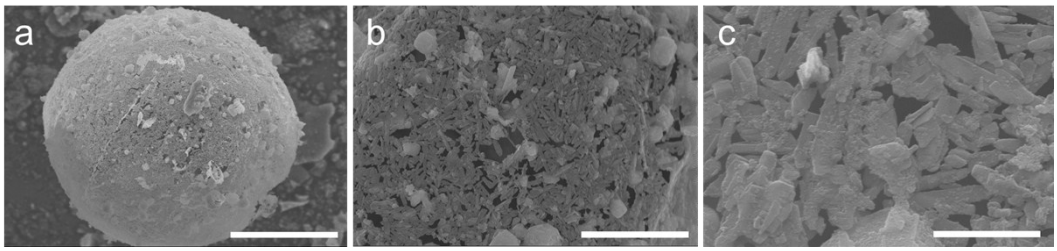


Figure S5. SEM images of TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 3.8 μL mL^{-1}. Scale bars, 20 μm in a, 5 μm in b, 1 μm in c.

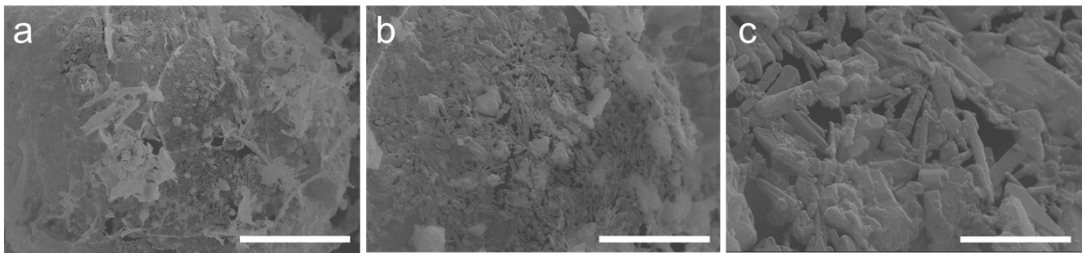


Figure S6. SEM images of TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 6.3 μL mL^{-1}. Scale bars, 20 μm in a, 5 μm in b, 1 μm in c.

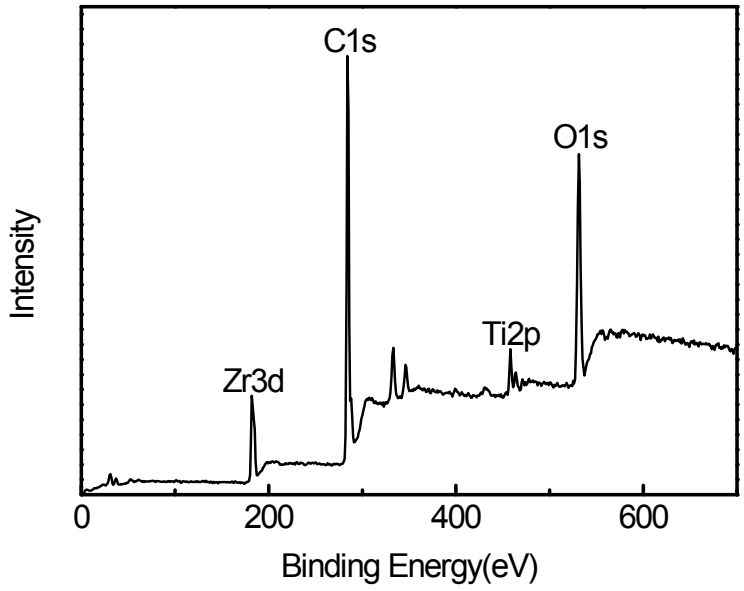


Figure S7. XPS spectrum of the TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 12.5 μL mL^{-1}.

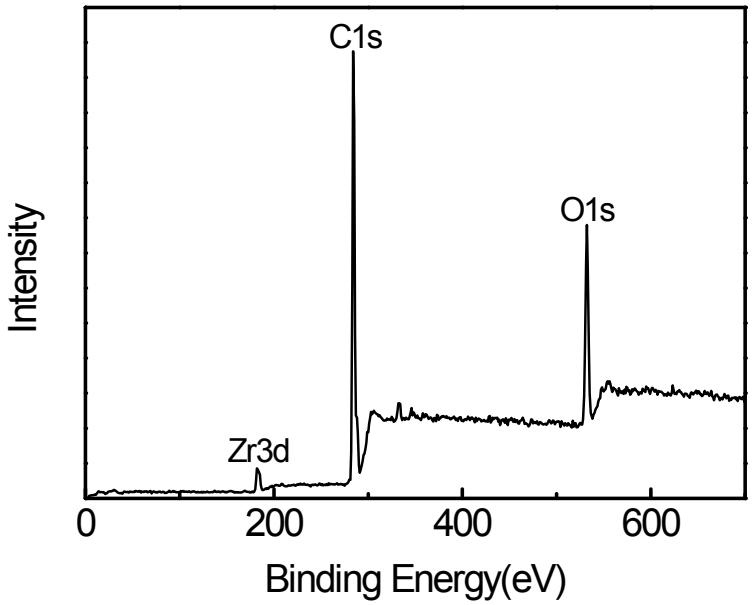


Figure S8. XPS spectrum of the pristine UiO-67.

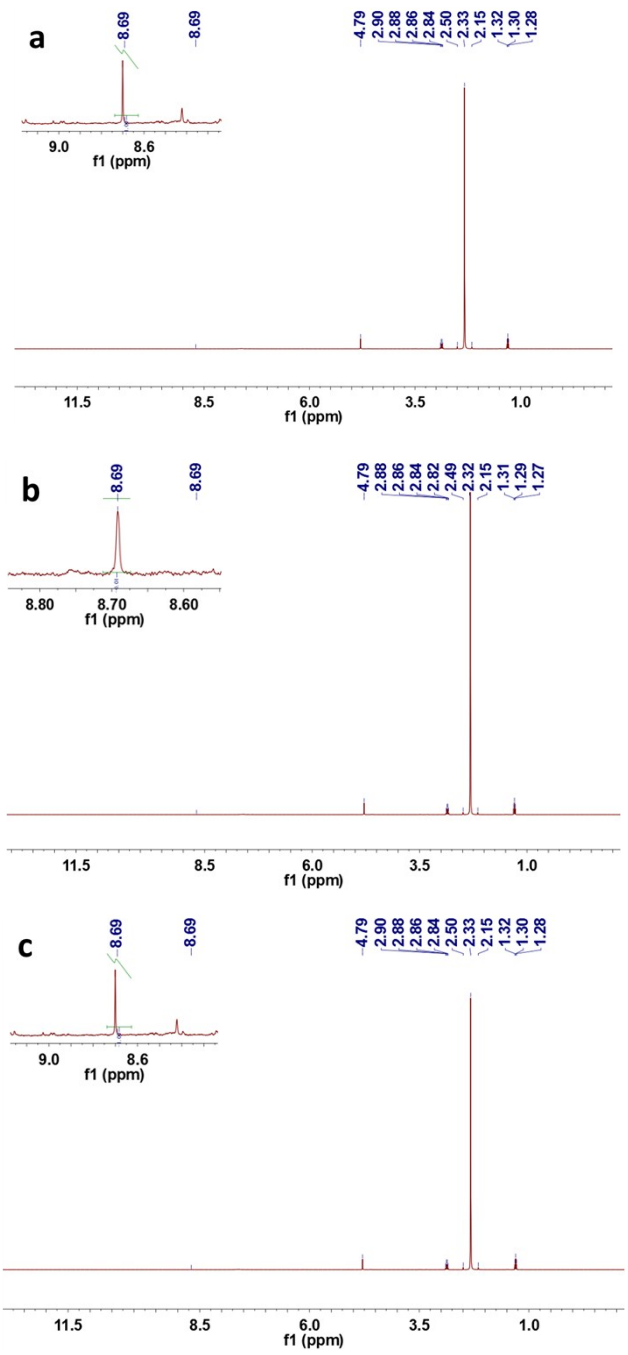


Figure S9. The ^{1}H NMR spectra for the following samples using D_2O as nuclear magnetism reagent in a NMR tube: HCOOH and CH_3CN (a); product (b); product and HCOOH (c). A singlet was observed at 8.69 ppm, which was assigned to the inactive hydrogen of HCOOH.

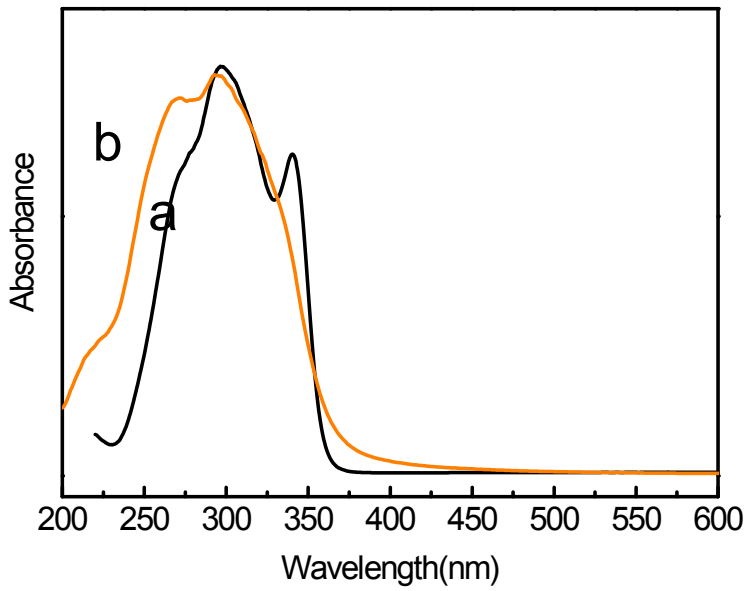


Figure S10. Diffuse-reflectance spectra of the pristine UiO-67 (a) and the TiO_2/UiO-67 composite obtained from the emulsion with UiO-67 concentration of 10 mg mL^{-1} and TBT concentration of 12.5 μL mL^{-1} (b).