

Supporting Information

Hydrogel Microcapsules with Photocatalytic
Nanoparticles for Removal of Organic
Pollutants

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1. Optical microscopy and SEM images of HHP.

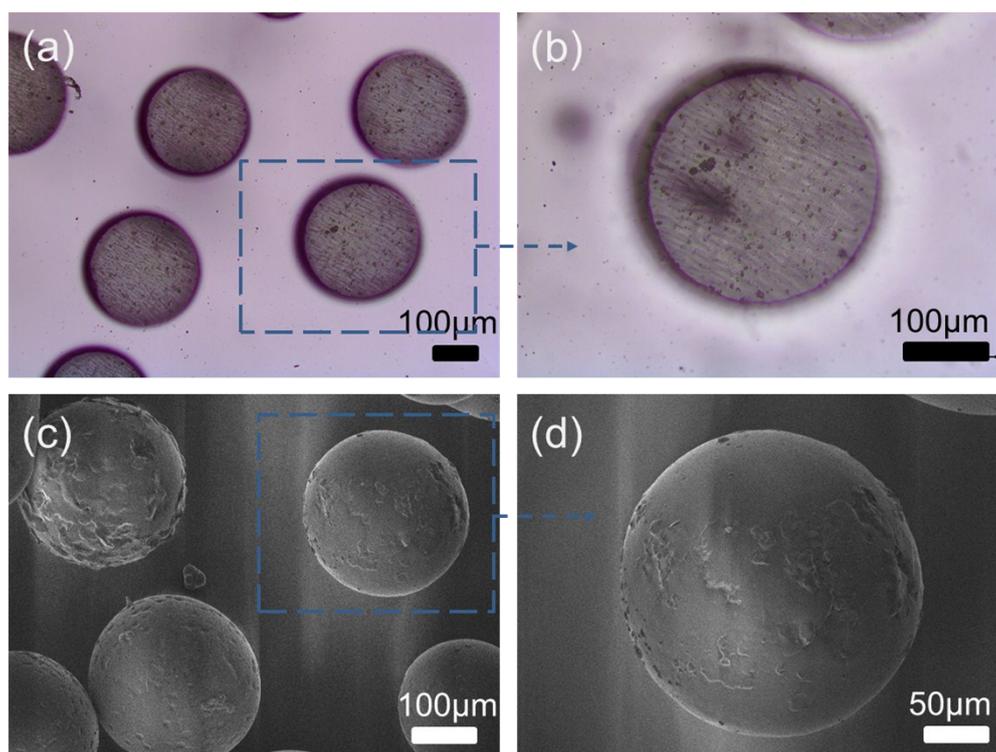


Figure S1. Optical microscopy and SEM images of HHP

2. To test the stability in salts we inserted microcapsules in 1M NaCl and 1 M K₂SO₄ aqueous solution for 7 days, as shown in Figure S2. A degradation of capsules was not observed during this time. Salts can diffuse into microcapsules without shape changing: during the process microcapsules remain in a spherical shape.

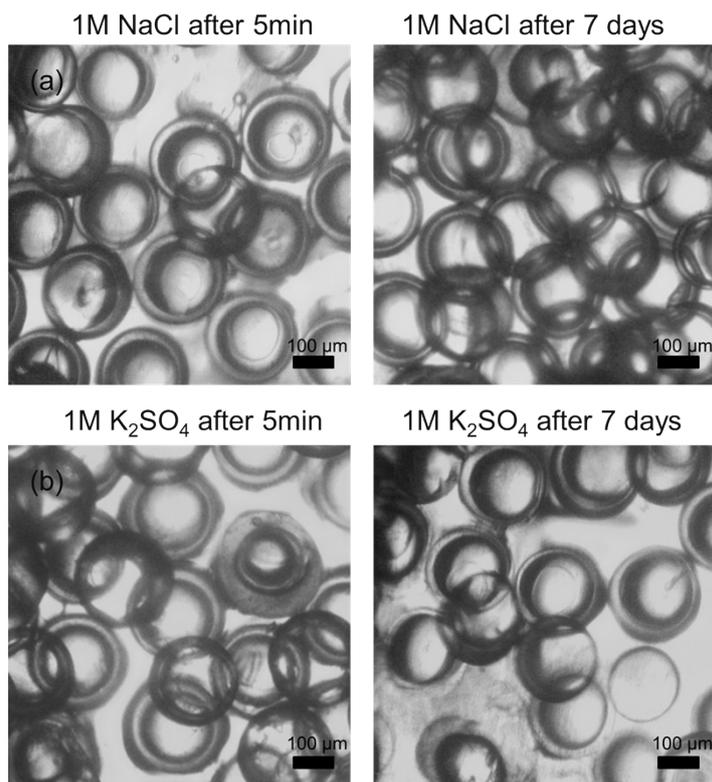


Figure S2. Optical micrographs of poly(methacrylic acid-co-ethylene glycol methacrylate) (P(MAA-EGDMA)) microcapsules under (a) 1 M NaCl and (b) 1 M K₂SO₄ conditions for 5 min and 7 days.

3. SEM images of TiO₂ nanoparticles, ZnO nanoparticles, TiO₂ nanoparticles in microcapsule, ZnO nanoparticles in microcapsule, and the corresponding elemental mapping images of element C, O, Ti, and Zn are shown in Figure S3.

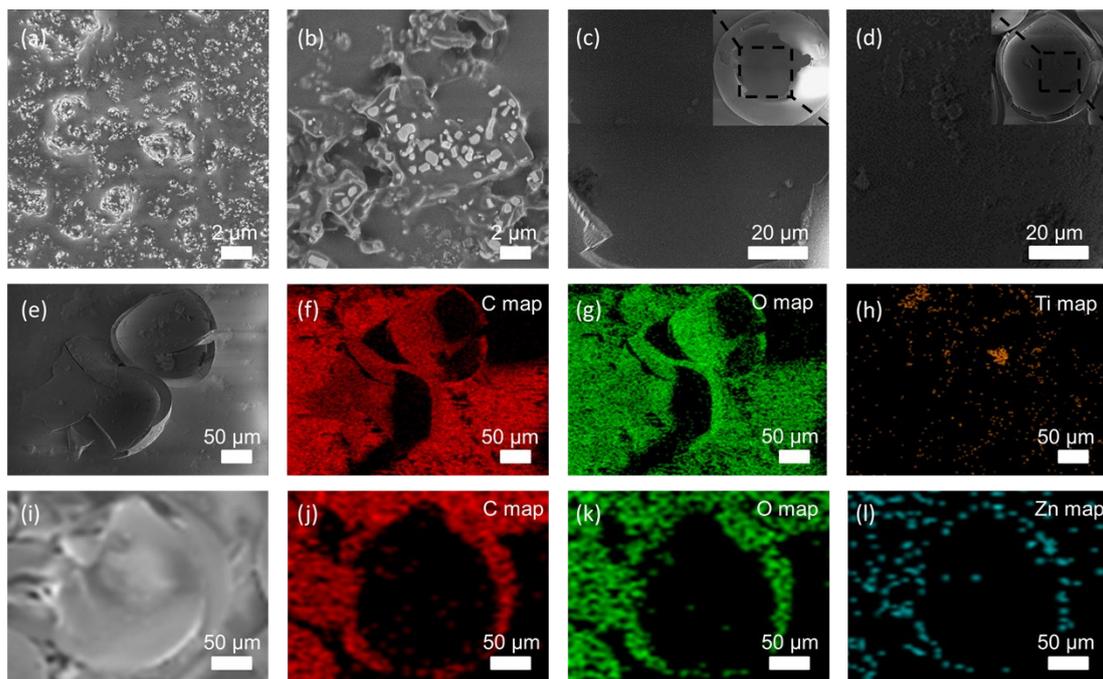


Figure S3. (a) SEM images of TiO₂ nanoparticles, (b) ZnO nanoparticles, (c) TiO₂ nanoparticles in a broken microcapsule, (d) ZnO nanoparticles in a broken microcapsule. (e) SEM images of TiO₂ in microcapsules, (i) ZnO in capsules and the corresponding elemental mapping images of elements C (f, j), O (g, k), Ti (h), and Zn (l).

4. Particle size distribution of TiO₂ and ZnO

The photocatalysts' particle sizes were measured by laser particle analyzer (Nano ZS90, Malvern, UK), the results are shown in **Figure S4**. The particle size indicates that the average size of TiO₂ and ZnO nanoparticles are 259 nm and 456 nm, respectively.

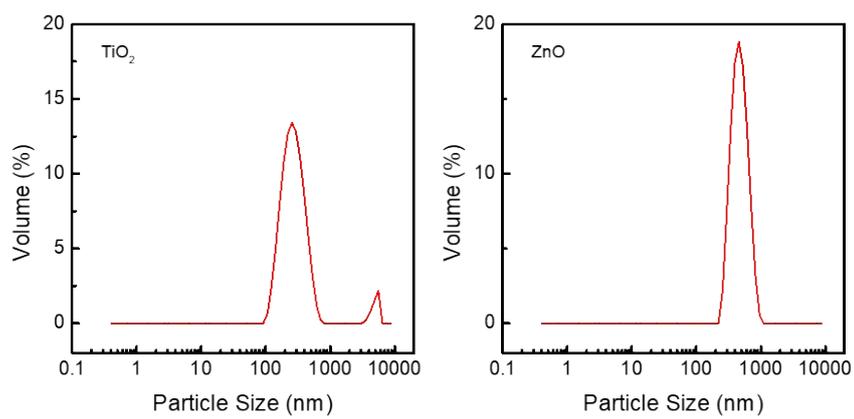


Figure S4. Distribution of particle size consisted of TiO₂ and ZnO.