Electronic Supplementary Material (ESI) for Inorganic Chemistry Frontiers.

Supplementary Information

Extremely rapid engineering of zinc oxide nanoaggregates with structure-dependent catalysis capability towards removal of ciprofloxacin antibiotic

Jinyan Xiong [a, d], Wei Li [a, *], Yixin Gan [b], Yi Wei [b], Gang Cheng [b, *], Shixue Dou [d], Zhen Li [c, d *]

[a] College of Chemistry and Chemical Engineering, Hubei Key Laboratory of Biomass Fibers and Eco-dyeing & Finishing , Wuhan Textile University, Wuhan 430073, China

[b] School of Chemistry and Environmental Engineering, Wuhan Institute of Technology, Xiongchu Avenue, Wuhan 430073, PR China

[c] State Key Laboratory of Radiation Medicine and Protection, School of Radiation Medicine and Radiation Protection, Collaborative Innovation Center of Radiation Medicine of Jiangsu Higher Education Institutions, Soochow University, 199 Ren Ai Road, Suzhou Industrial Park, Suzhou 215123, China.

[d] Institute for Superconducting & Electronic Materials, The University of Wollongong, NSW 2500, Australia.

Figure S1

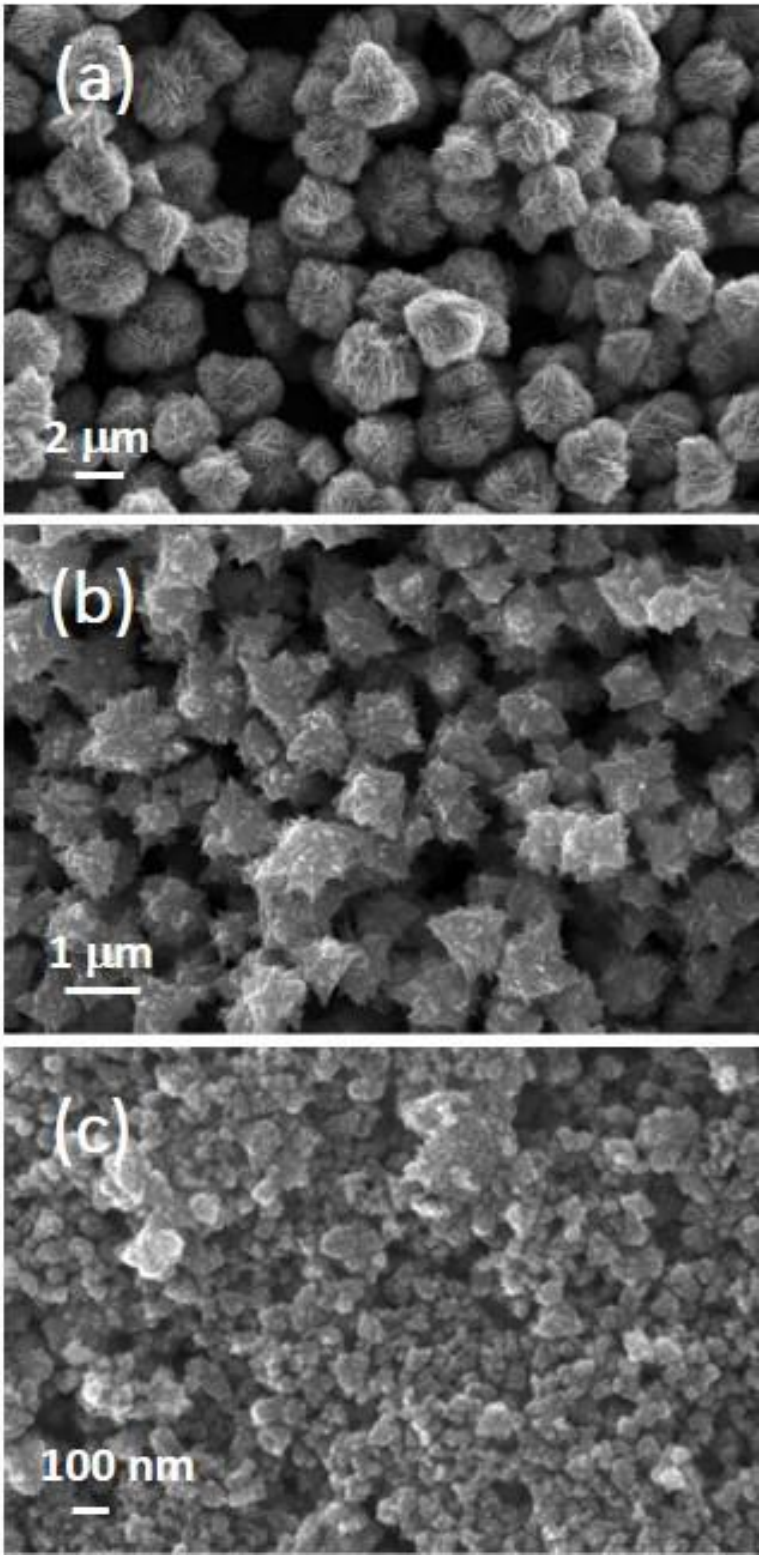

Figure S1. Low magnification SEM images of the as-synthesized products in EG-H_2O with different volume ration: (b) 10:30, (c) 20:20, (d) 30:10.

Figure S2

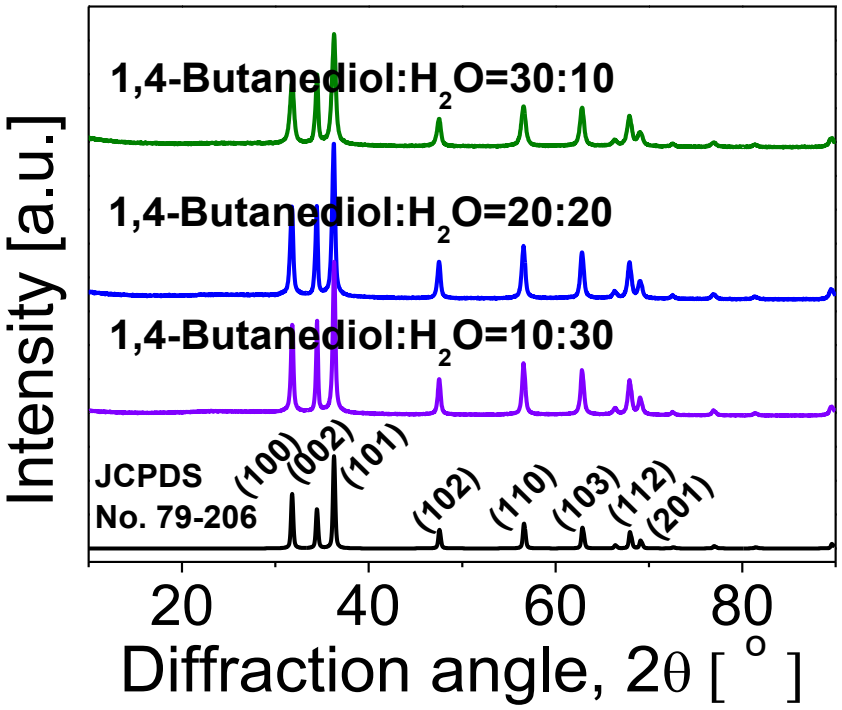

Figure S2. XRD patterns of the as-synthesized products in 1,4-Butanediol-H_2O with different volume ratios.

Figure S3

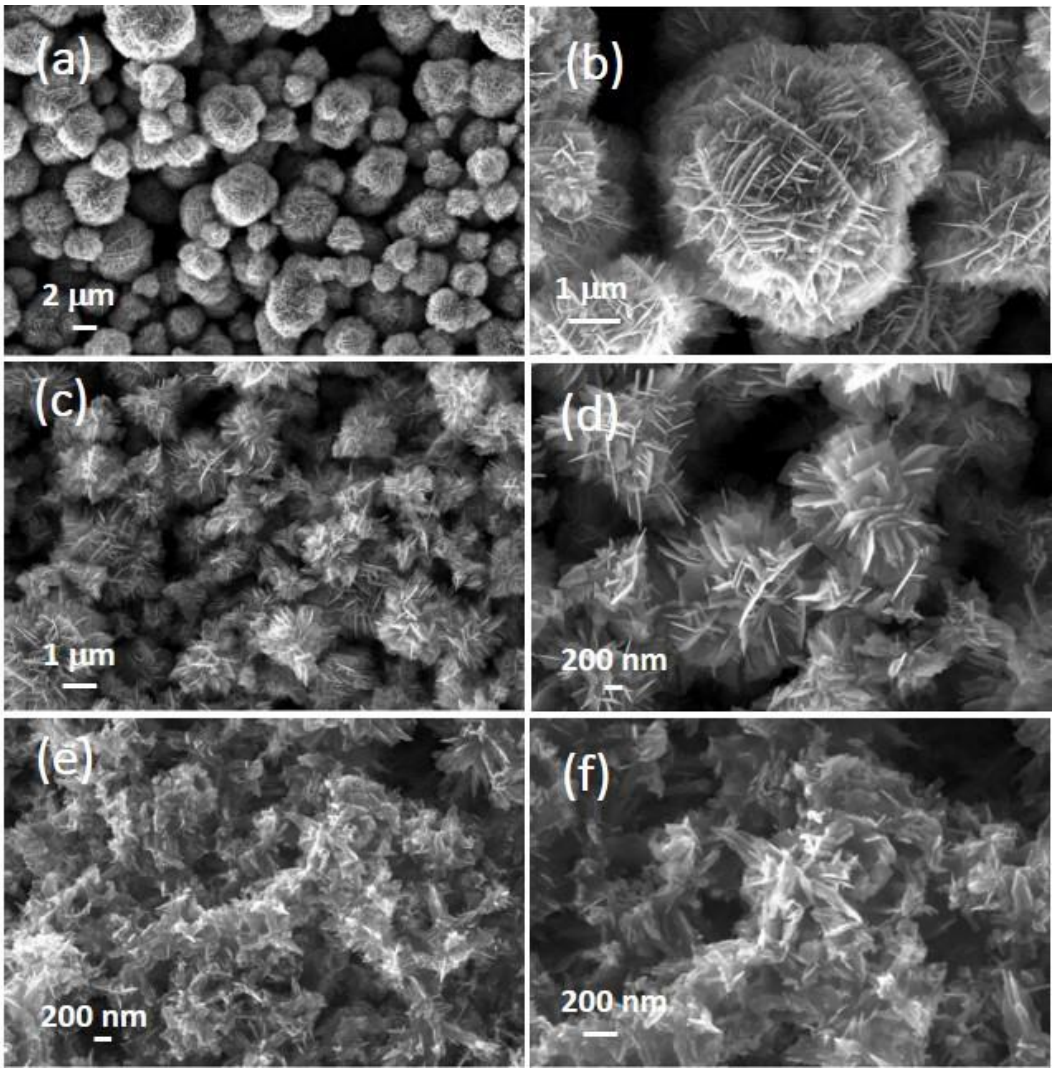

Figure S3. SEM images of the as-synthesized products in 1,4-Butanediol-H_2O with different volume ratios: (a-b) 10:30, (c-d) 20:20, (e-f) 30:10.

Figure S4

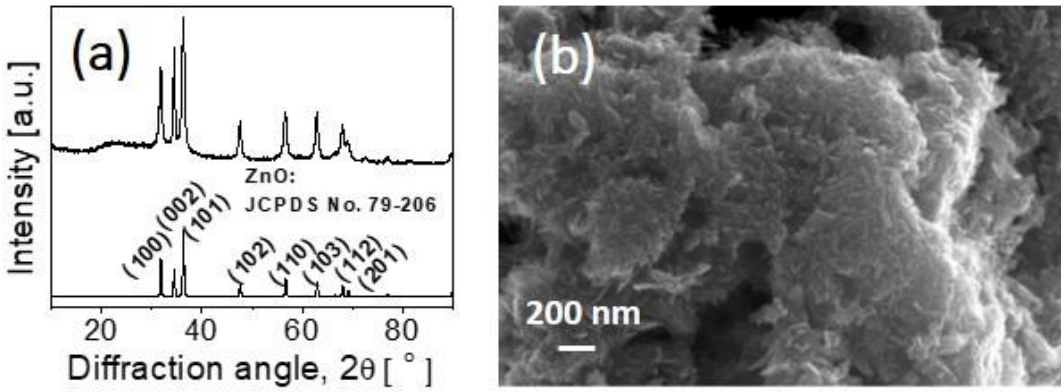

Figure S4. (a) XRD pattern and (b) SEM images of the as-synthesized products in dimethyl sulfoxide (DMSO)-H_2O with volume ratio of 20:20.

Figure S5

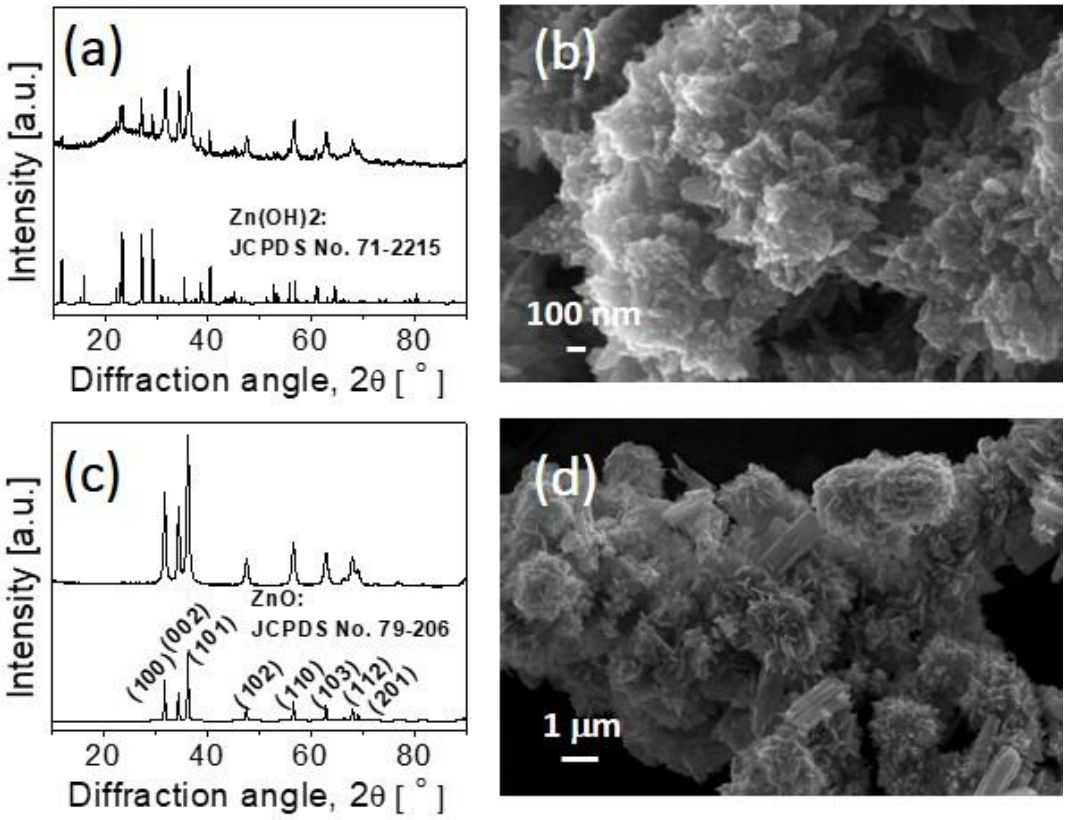

Figure S5. (a) XRD pattern and (b) SEM images of the as-synthesized products in acetone-H_2O with volume ratio of 20:20; (c) XRD pattern and (d) SEM images of the products through calcination treatment (at 450 °C for 2h) with the sample prepared in in acetone-H_2O with volume ratio of 20:20.

Figure S6

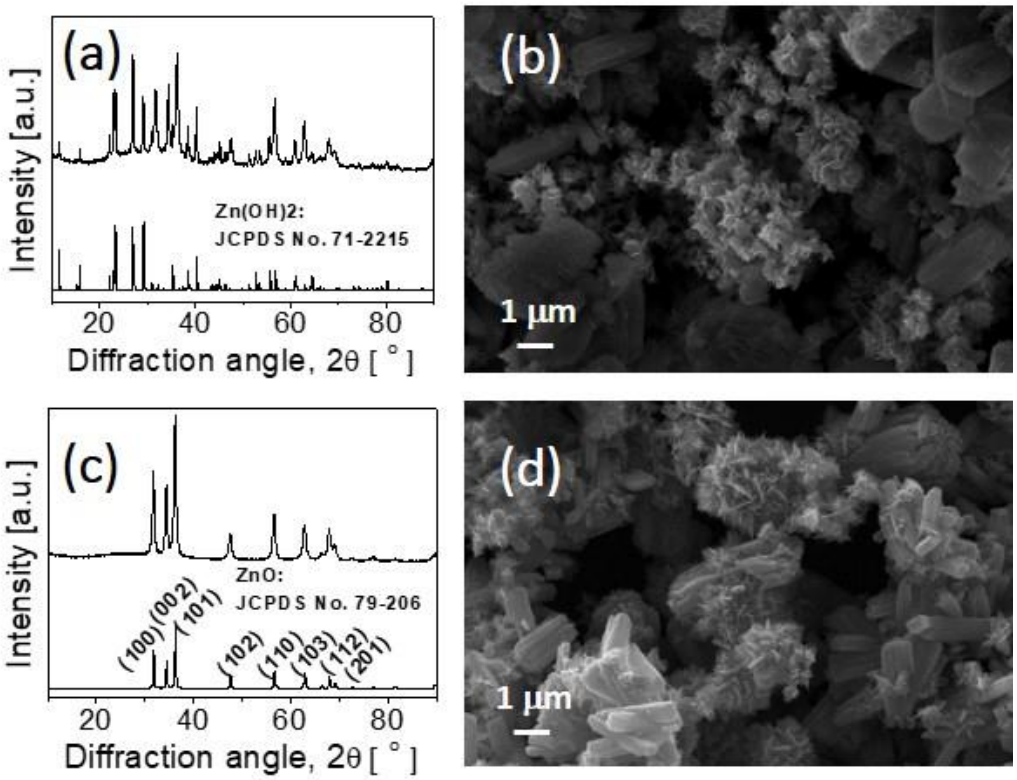

Figure S6. (a) XRD pattern and (b) SEM images of the as-synthesized products in propanol-H_2O with volume ratio of 20:20; (c) XRD pattern and (d) SEM images of the products through calcination treatment (at 450 °C for 2h) with the sample prepared in in propanol-H_2O with volume ratio of 20:20.

Figure S7

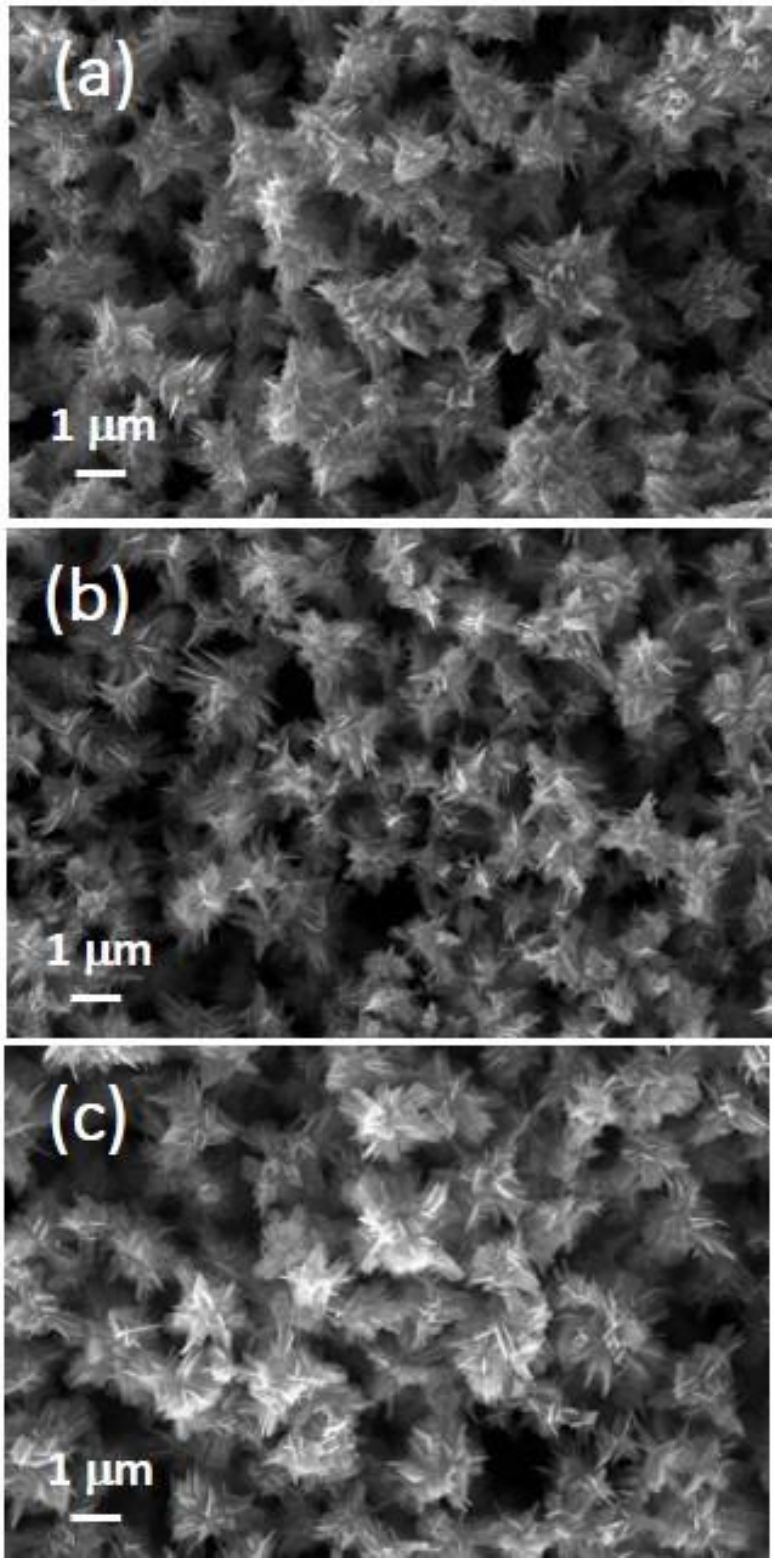

Figure S7. Low magnification SEM images of the as-synthesized products in polyol-H_2O with volume ratio of 20:20: (a) DEG, (b) TEG, and (c) TTEG.

Figure S8

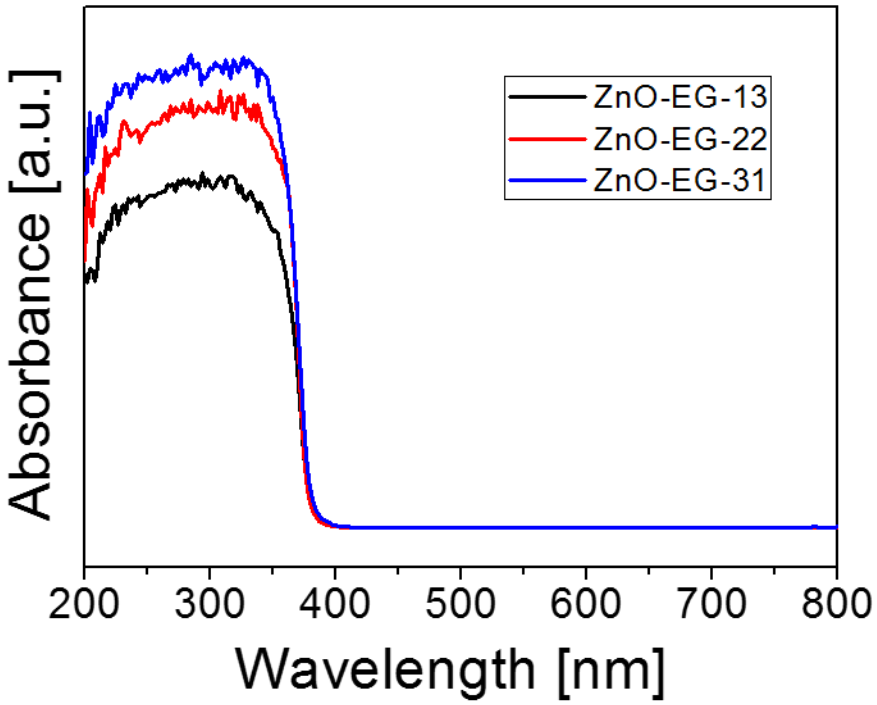

Figure S8. UV-vis diffuse reflectance spectra (DRS) of the as-synthesized products in EG-H_2O with different volume ration: (b) 10:30 (**ZnO-EG-13**), (c) 20:20 (**ZnO-EG-22**), (d) 30:10(**ZnO-EG-31**).