

Electronic Supplementary Information for: Template-free facile solution synthesis and optical properties of ZnO mesocrystals

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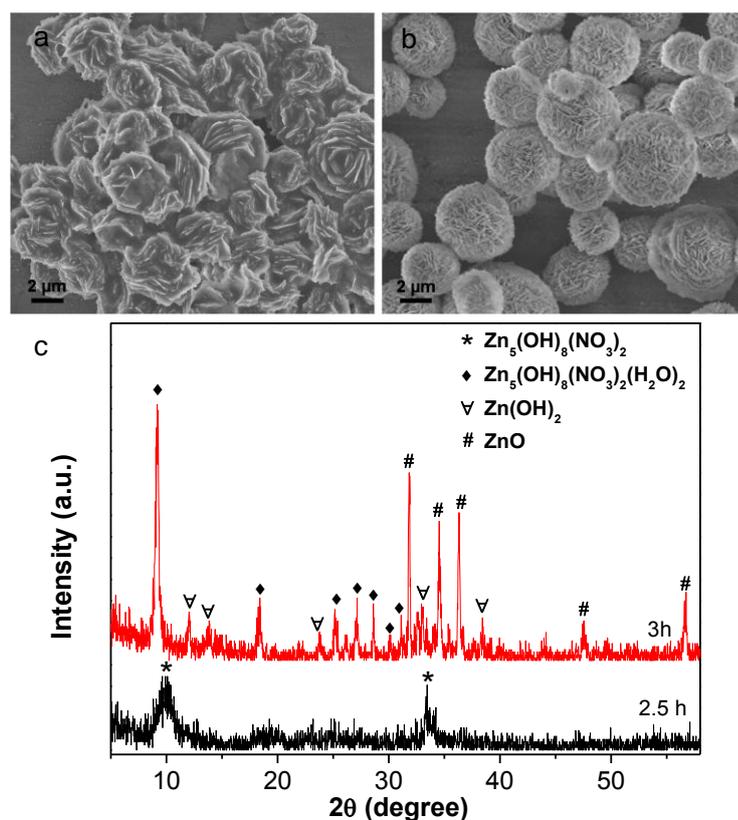


Figure S1. (a, b) SEM images of the products reaction for (a) 2.5 h; (b) 3 h at 120 °C. (c) The corresponding XRD patterns.

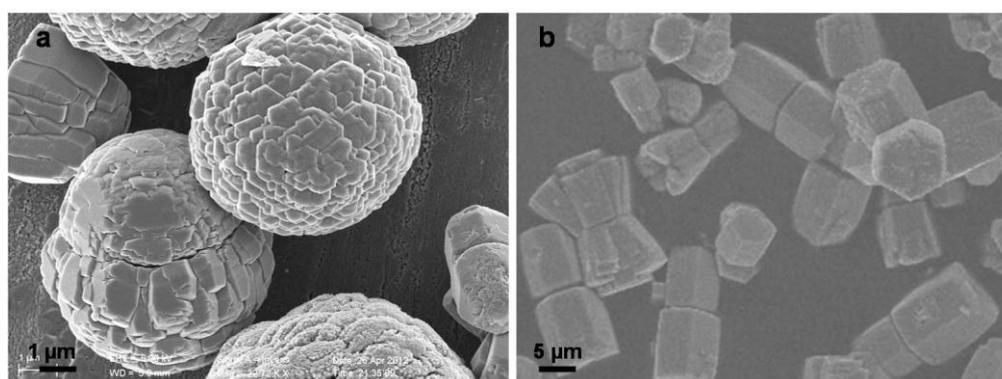


Figure S2. SEM images of the products formed at different temperatures for 12 h: (a) 130 °C; (b) 180 °C.

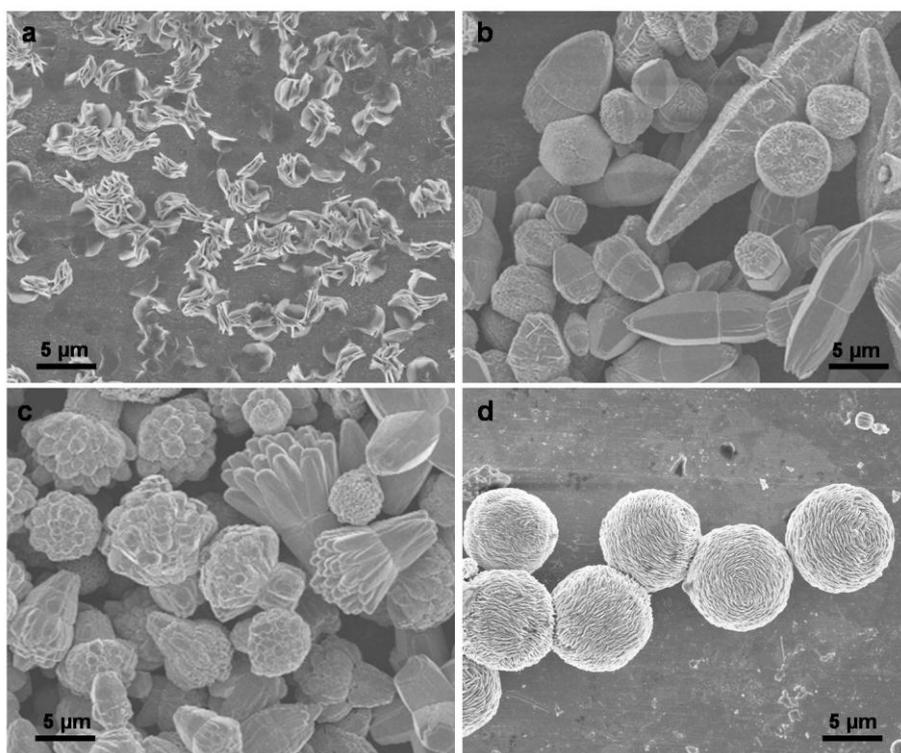


Figure S3. SEM images of the samples formed at 120 °C for 12 h with different reaction solvents: (a) methanol; (b) ethanol; (c) isopropanol; (d) butanol.

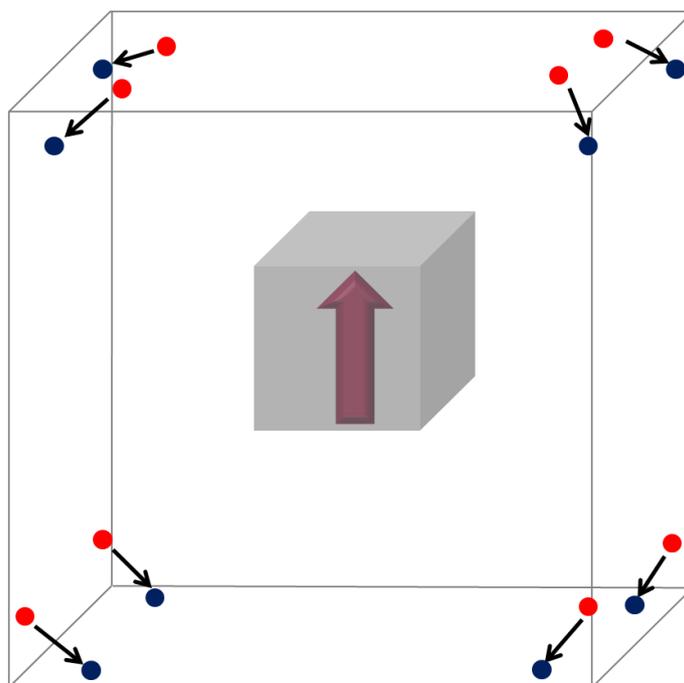


Figure S4. We numerically simulated our material using the Mathematica 7 software. Our model employs eight symmetric electrical dipoles, and each occupies a vertex of the cuboids. These dipoles stand for the nanoplatelets surrounding the mesocrystal spheres. We use

this model to illustrate how the dipole-dipole interactions between the nanoplatelets and the electric field generated from ZnO mesocrystal microspheres.

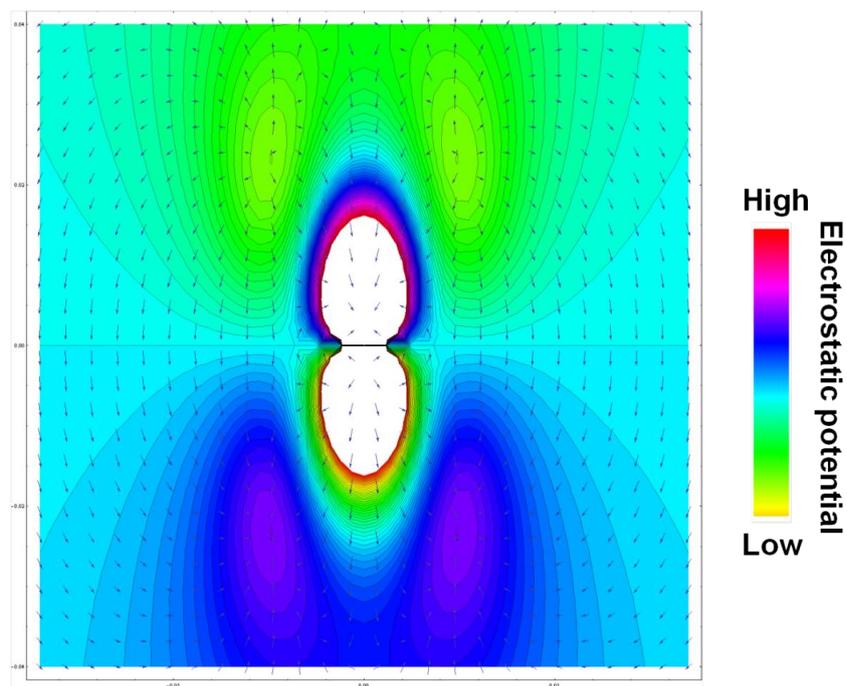


Figure S5. The simulated electric field (gray arrows) and electric potential (color lines) distributions of the core model prism.

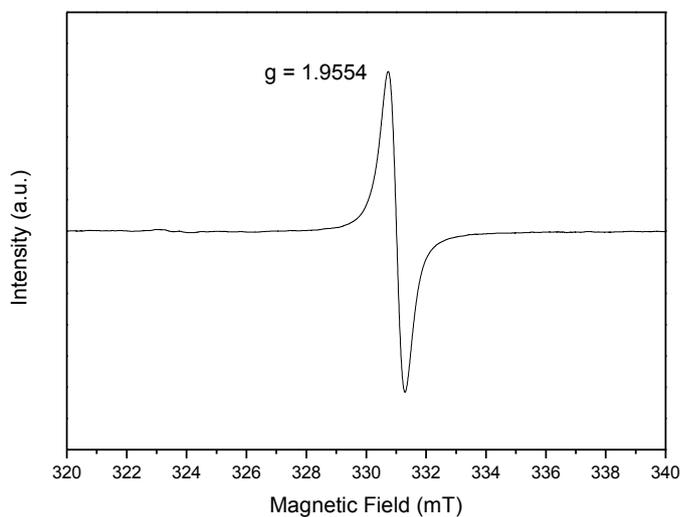


Figure S6. EPR spectrum of ZnO microspheres recorded at room temperature.