

# Supplementary information for

## Synthesis of Nonstoichiometric Zinc Ferrite Nanoparticles with Extraordinary Room Temperature Magnetism and Their Diverse Applications

Yang Yang<sup>a</sup>, Xiaoli Liu<sup>a</sup>, Yong Yang<sup>a</sup>, Wen Xiao<sup>a</sup>, Zhiwei Li<sup>b</sup>, Desheng Xue<sup>b</sup>, Fashen Li<sup>b</sup>, Jun Ding<sup>a\*</sup>

<sup>a</sup>Department of Materials Science & Engineering, National University of Singapore, Singapore 119260

<sup>b</sup>Institute of Applied Magnetics, Key Lab for Magnetism and Magnetic Materials of the Ministry of Education, Lanzhou University, Lanzhou 730000, Gansu, People's Republic of China

Corresponding author: Prof. Dr. J. Ding: [msedingj@nus.edu.sg](mailto:msedingj@nus.edu.sg)

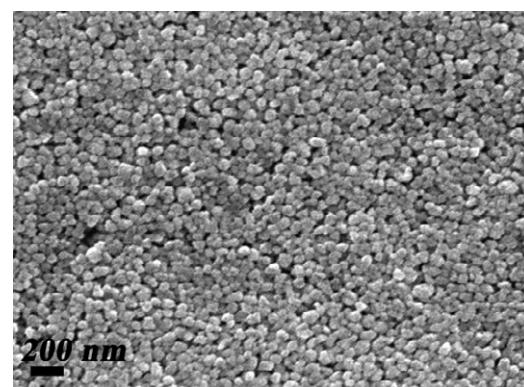


Fig.S1 SEM image of sample ZF7, which are synthesized with using 12 mmol of Fe precursors and 15 mmol of Zn precursors.

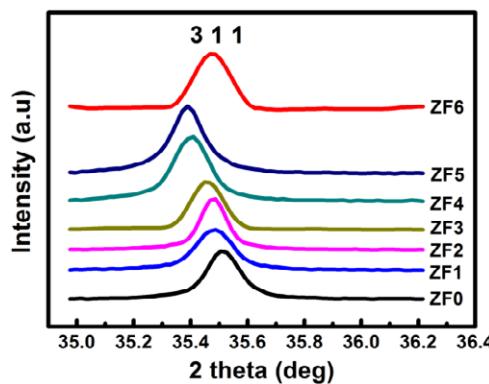


Fig.S2 Characterizations on (311) diffraction peaks of Zn-ferrite samples (ZF0~ZF6).

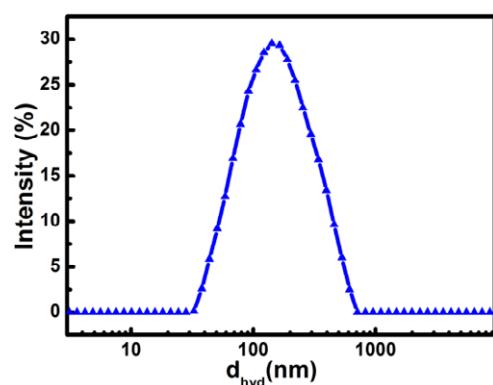


Fig.S3 Dynamic light scattering (DLS) of sample ZF3 (Zn-ferrite with size around 102 nm) dispersed in oleic acid.

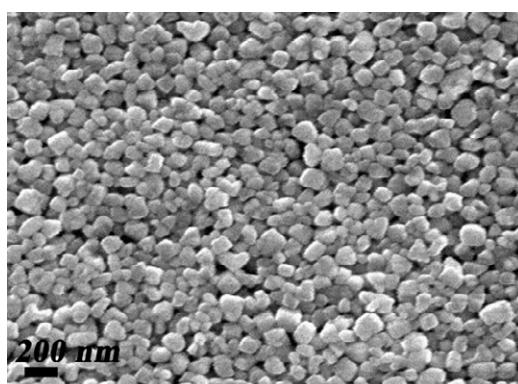


Fig.S4 SEM image of Zn ferrite particles synthesized with using 16 mmol of Fe precursors and 8 mmol of Zn precursors.