**Electronic Supplementary Information (ESI) for**

**Lactam-Mediated Synthesis of Inorganic Nanoparticles and Their Size-Dependent Properties: A Case Study on Zinc Oxide**

Housheng Xia,1 Guisheng Yang,*1,2

1 Department of Polymer Science and Engineering, Zhejiang University, 38 Zheda Road, Hangzhou 31027, People’s Republic of China

2 Shanghai Genius Advanced Materials Co. Ltd., Shanghai, 201109, People’s Republic of China

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**Figure S1.** Low (left) and high (right) magnified TEM images of Fe3O4 NPs synthesized in a) γ-butyrolactam, b) δ-valeroalctam and c) ε-caprolactam.

* Correspondence to: G. Yang (ygs@geniuscn.com).
Figure S2. FT-IR spectra of pure lactams: a) γ-butyrolactam, b) δ-valeroalctam and c) ε-caprolactam.
Figure S3. TGA curves of a) ZnO-BL, b) ZnO-VL and c) ZnO-CL NPs.