Supplementary Information

Rice-shaped porous $ZnMn_2O_4$ microparticles as advanced anode materials for lithium ion batteries

Sheng Chen,[a] Xuejiao Feng,[b] Mengya Yao,[a] Yanming Wang [a], Fei Wang,*[a] Yongxing Zhang*[a]

a Anhui Key Laboratory of Energetic Materials, Information College, Huaibei Normal University, Huaibei, Anhui 235000, China

b Institute of Science and Technology Strategy, Jiangxi Academy of Sciences, Nanchang 330096, China

Email: wangfeichem@126.com (F. Wang), zyx07157@mail.ustc.edu.cn(Y. Zhang);

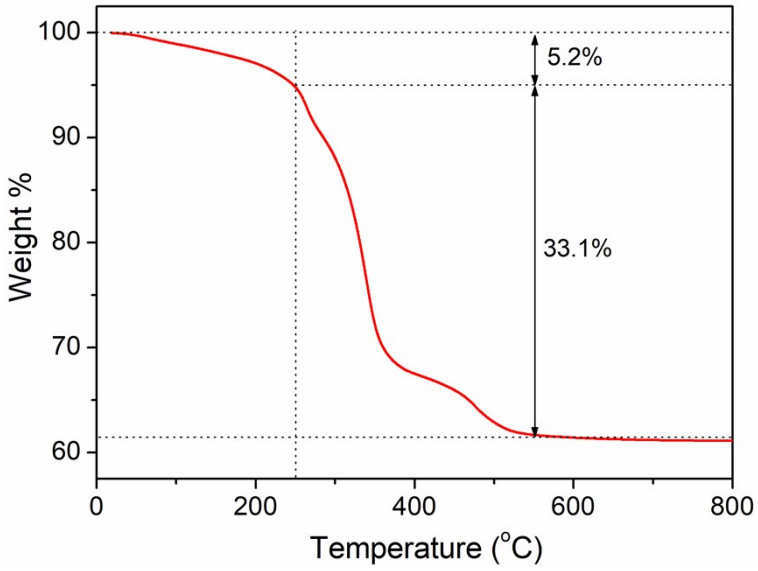

Fig. S1 TG curve of the $Zn_{0.33}Mn_{0.67}CO_3$ precursors in flowing air.

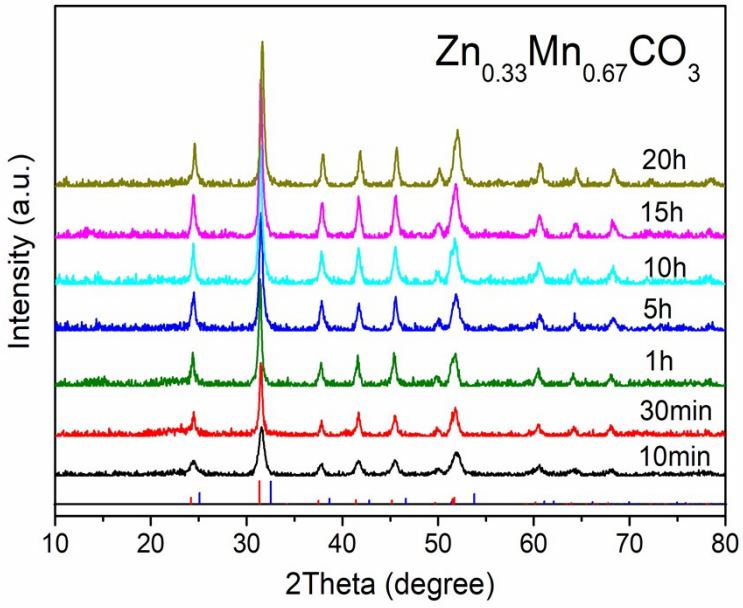

Fig. S2 XRD patterns of the $Zn_{0.33}Mn_{0.67}CO_3$ precursors with different reaction times.

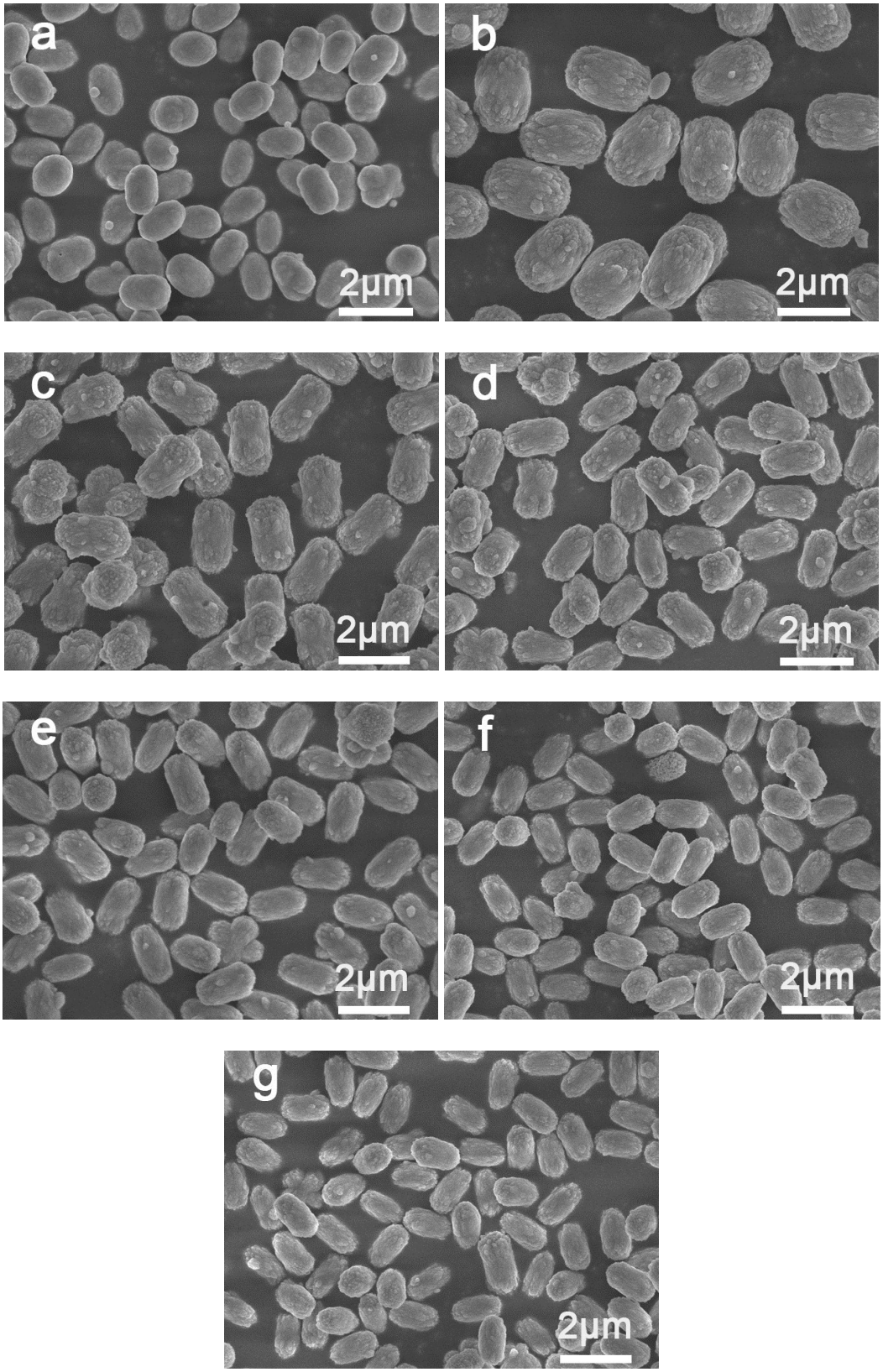

Fig. S3 SEM images of the $Zn_{0.33}Mn_{0.67}CO_3$ precursors with different reaction times: (a) 10 min; (b) 30 min; (c) 1 h; (d) 5 h; (e) 10 h; (f) 15 h; (g) 20 h.

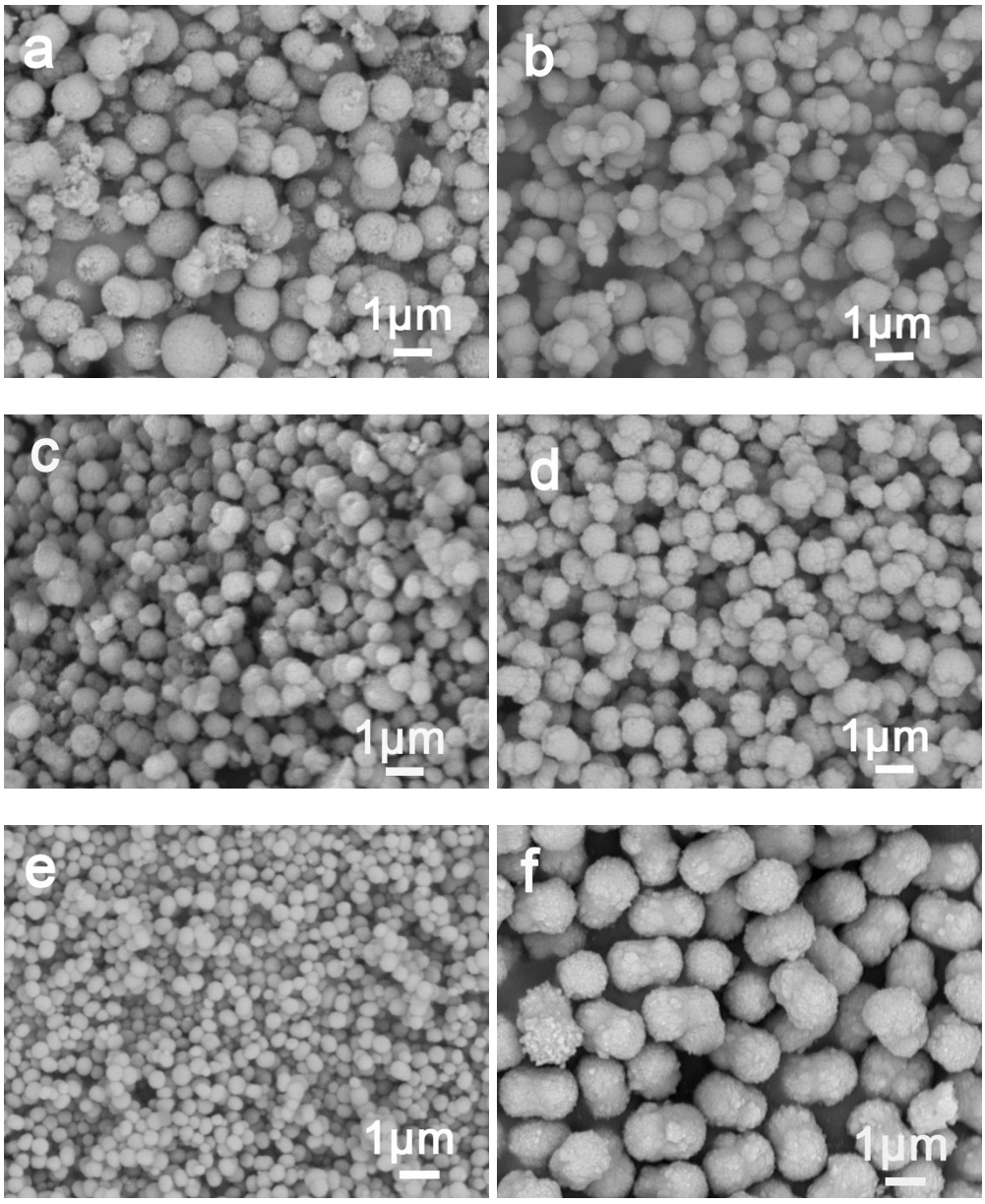

Fig. S4 SEM images of the $Zn_{0.33}Mn_{0.67}CO_3$ precursors obtained in various solvent mediums: (a) H_2O; (b) H_2O-TEA(v/v, 1:3); (c) propanetriol; (d) DEG; (e) EG; (f) EG-TEA(v/v, 3:1).

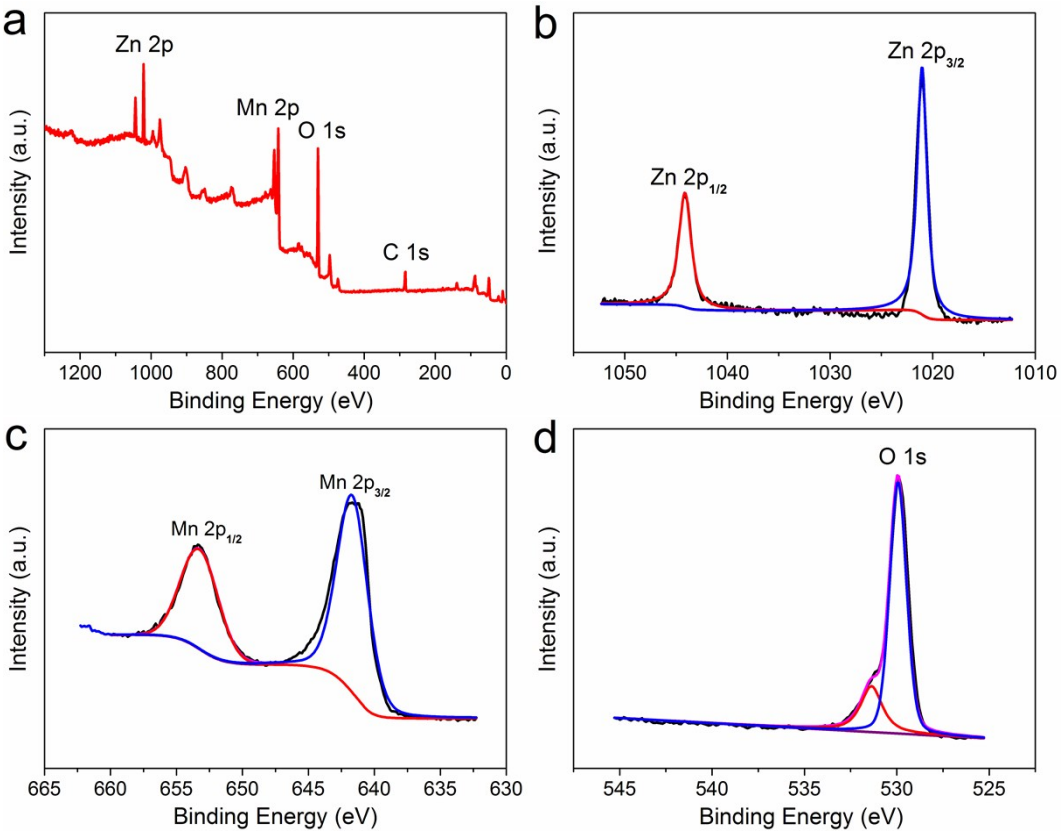

Fig. S5 XPS spectra of $ZnMn_2O_4$: (a) survey spectrum, (b) Zn 2p, (c) Mn 2p, and (d) O 1s.