Supporting Information

Growth of silicon/carbon microrods on graphite microspheres as improved anodes for lithium-ion batteries

Xiaoyi Zhu,^{1,2} Han Chen,² Yanhong Wang,^{2,*} Linhua Xia,¹

Hong Li,³ Ziyi Zhong,⁴ Fabing Su,^{2,*} and X. S. Zhao^{1,5}

¹ College of Chemical and Environmental Engineering, Qingdao University, Qingdao, China 266071,

² State Key Laboratory of Multiphase Complex Systems, Institute of Process Engineering, Chinese Academy of Sciences, Beijing, China 100190,

³ Institute of Physics, Chinese Academy of Sciences, Beijing, China 100190

⁴ Institute of Chemical Engineering and Sciences, A*star, 1 Pesek Road, Jurong Island, Singapore 627833

⁵ School of Chemical Engineering, The University of Queensland, St Lucia, Brisbane, QLD 4072, Australia

*To whom correspondence should be addressed. E-mail address: wangyanhong@mail.ipe.ac.cn (Y. Wang); fbsu@mail.ipe.ac.cn (F. Su), Tel.: +86-10-82544850, Fax: +86-10-82544851.



Figure S1. XRD patterns (a) and TG curves (b) of GMs, Si/C/GM800-5, Si/C/GM1000-3, Si/C/GM1000-5, and Si/C/GM1000-8.



Figure S2. (a) SEM image of Si/C/GM700-5, and (b) TG curves of GMs and Si/C/GM700-5.



Figure S3. SEM images of Si/C/GM800-5 (a), Si/C/GM1000-3 (b), Si/C/GM1000-5 (c), and Si/C/GM1000-8 (d).



Figure S4. SEM images of Si/C microrods grown on Cu substrate (a) and Si/C/GM composite without microrods formed on alumina plate (b) prepared at a CVD temperature of 900 °C for 8 h (insets are their magnified images).



Figure S5. Cycling performance of samples at different current densities.