

Electronic Supplementary Information (ESI) for

Green and facile synthesis of Fe₃O₄ and graphene nanocomposites with
enhanced rate capability and cycling stability for lithium ion batteries

Yucheng Dong,^{a,b} Zhenyu Zhang,^a Yang Xia,^a Ying-San Chui,^a Jong-Min Lee,^{b*} Juan

Antonio Zapien^{a*}

^a *Center of super-Diamond and Advanced Films (COSDAF), City University of
Hong Kong, 83 Tat Chee Avenue, Hong Kong SAR, PR China*

^b *School of Chemical & Biomedical Engineering, Nanyang Technological
University, 62 Nanyang Drive, Singapore*

E-mail: jmlee@ntu.edu.sg, apjazzs@cityu.edu.hk

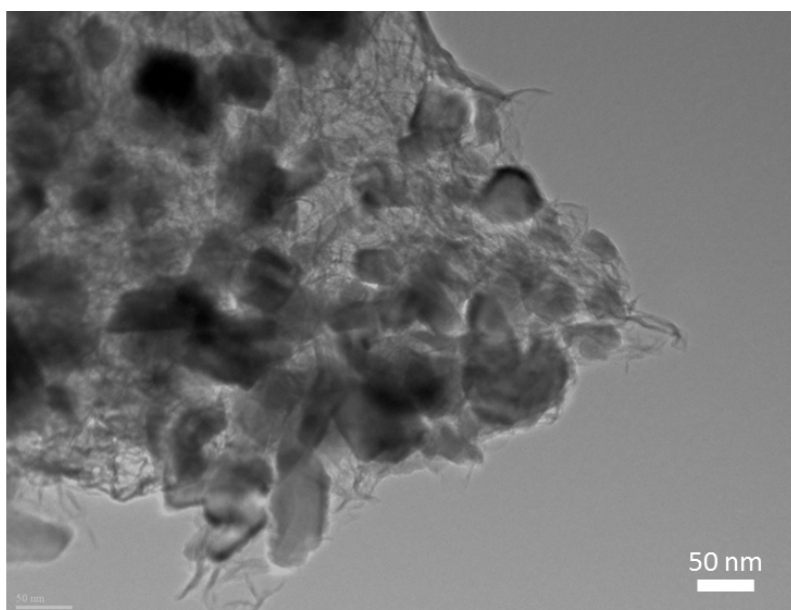


Figure S1. TEM image of $\text{Fe}_3\text{O}_4/\text{G}$ nanocomposites.

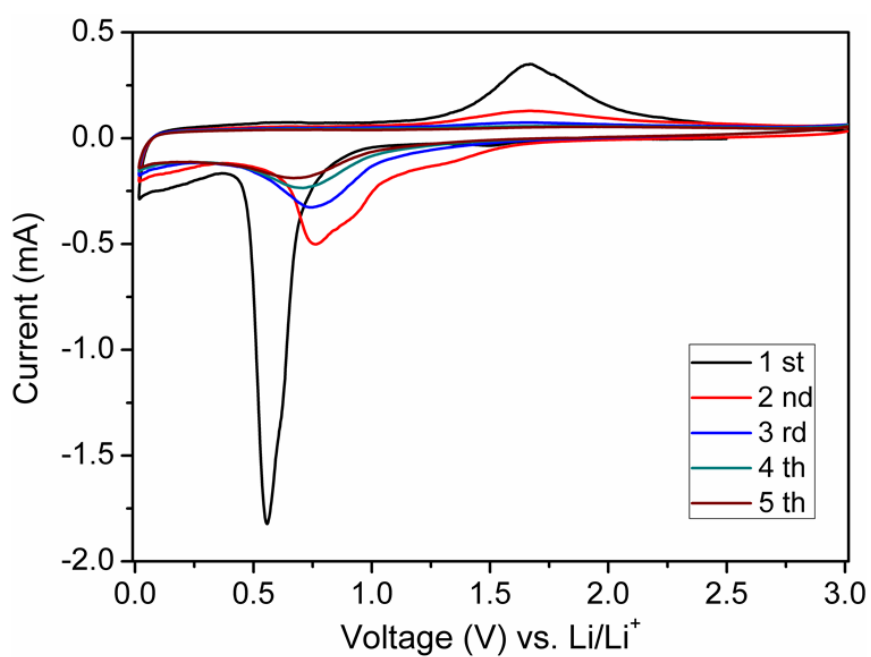


Figure S2. Cyclic voltammograms characteristics of Fe_3O_4 electrode for the first five cycles in a voltage range of 0.01-3.0 V at a scanning rate of 0.2 mV s^{-1} .

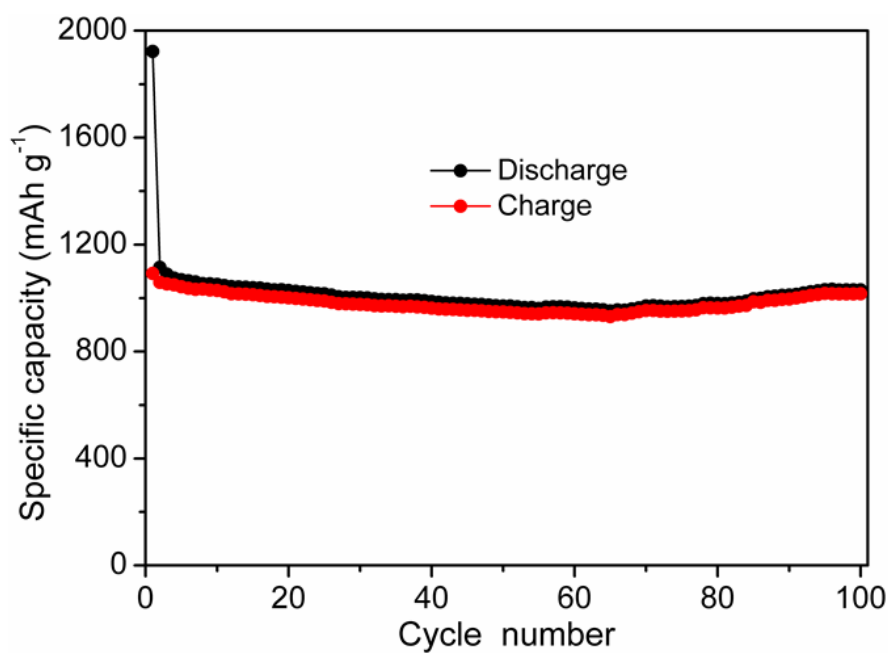


Figure S3. Cycling performance of $\text{Fe}_3\text{O}_4/\text{G-2}$ nanocomposites at a current density of 200 mA g^{-1} and for 100 cycles.

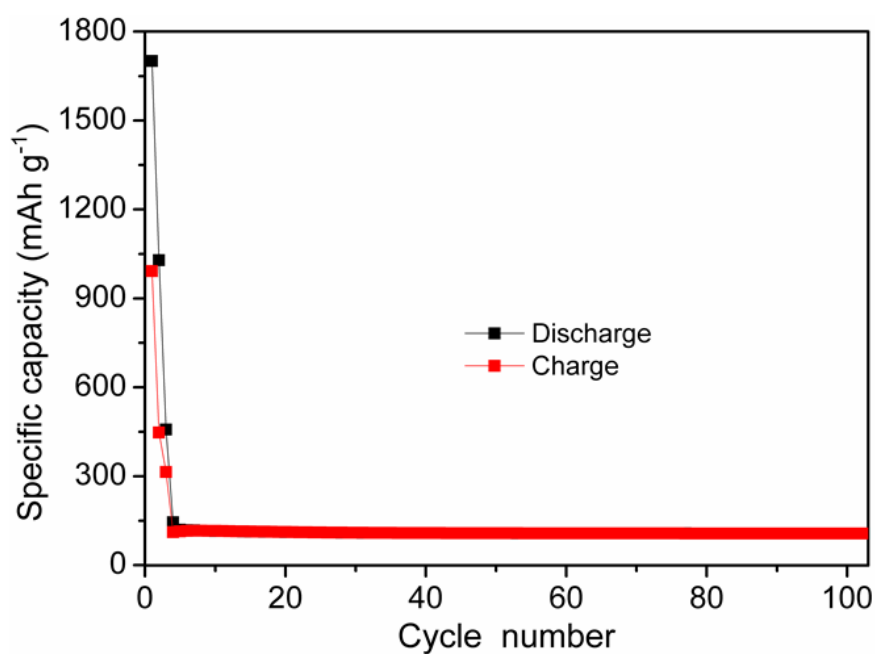


Figure S4. Cycling performance of pure Fe_3O_4 nanoparticles at a current density of 1000 mA g^{-1} and for 100 cycles after activation for three cycles at 200 mA g^{-1} .