Electronic Supplementary Material (ESI) for RSC Advances.

Gelatin Assisted Wet Chemistry Synthesis of High Quality *β*-FeOOH Nanorods Anchored on Graphene Nanosheets with Superior Lithium-ion Battery Application†

Xinyu Zhang and Yaping Du*

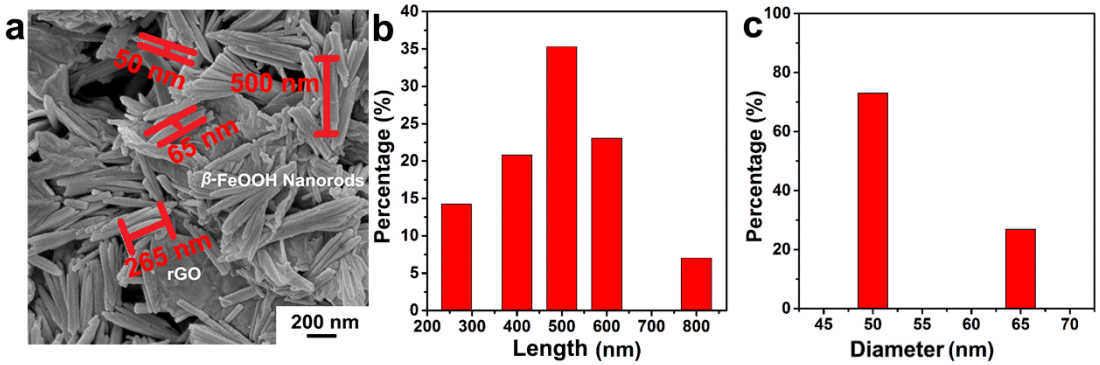

Fig. S1 (a) SEM image of the *β*-FeOOH nanorods; (b) Length and (c) Diameter distribution histogram of the *β*-FeOOH nanorods.

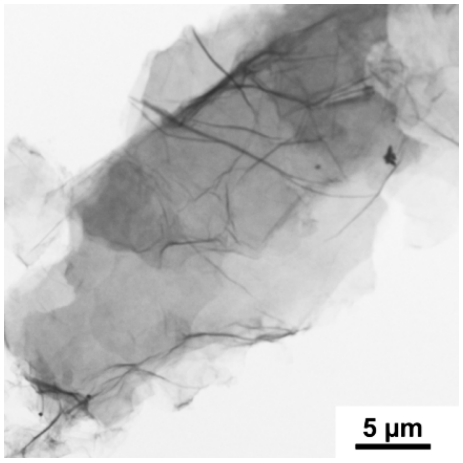

Fig. S2 TEM image of pure graphene oxides (GO).

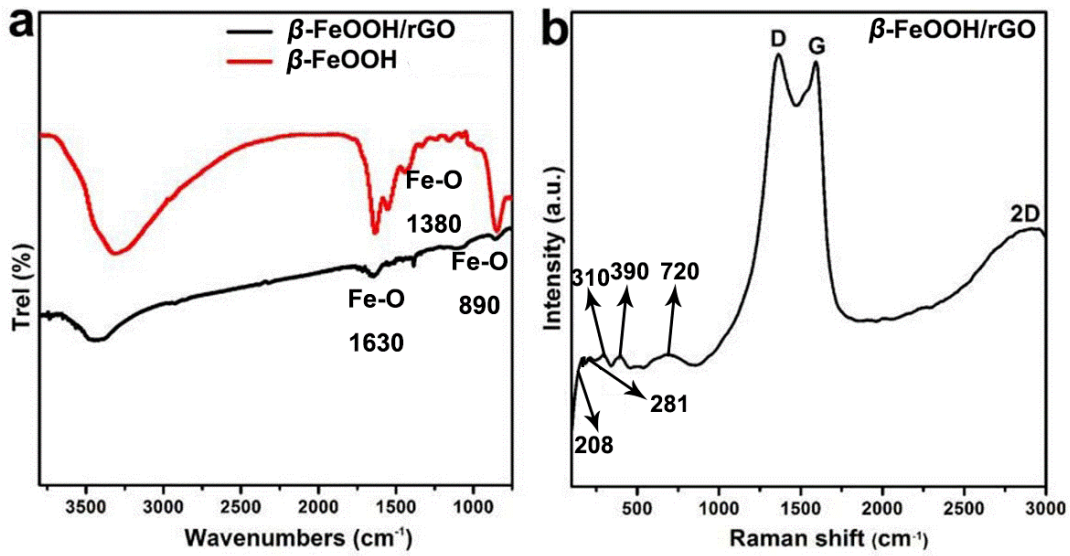

Fig. S3 (a) FTIR and (b) Raman spectra of *β*-FeOOH nanorods and *β*-FeOOH/rGO hybrid nanostructures.

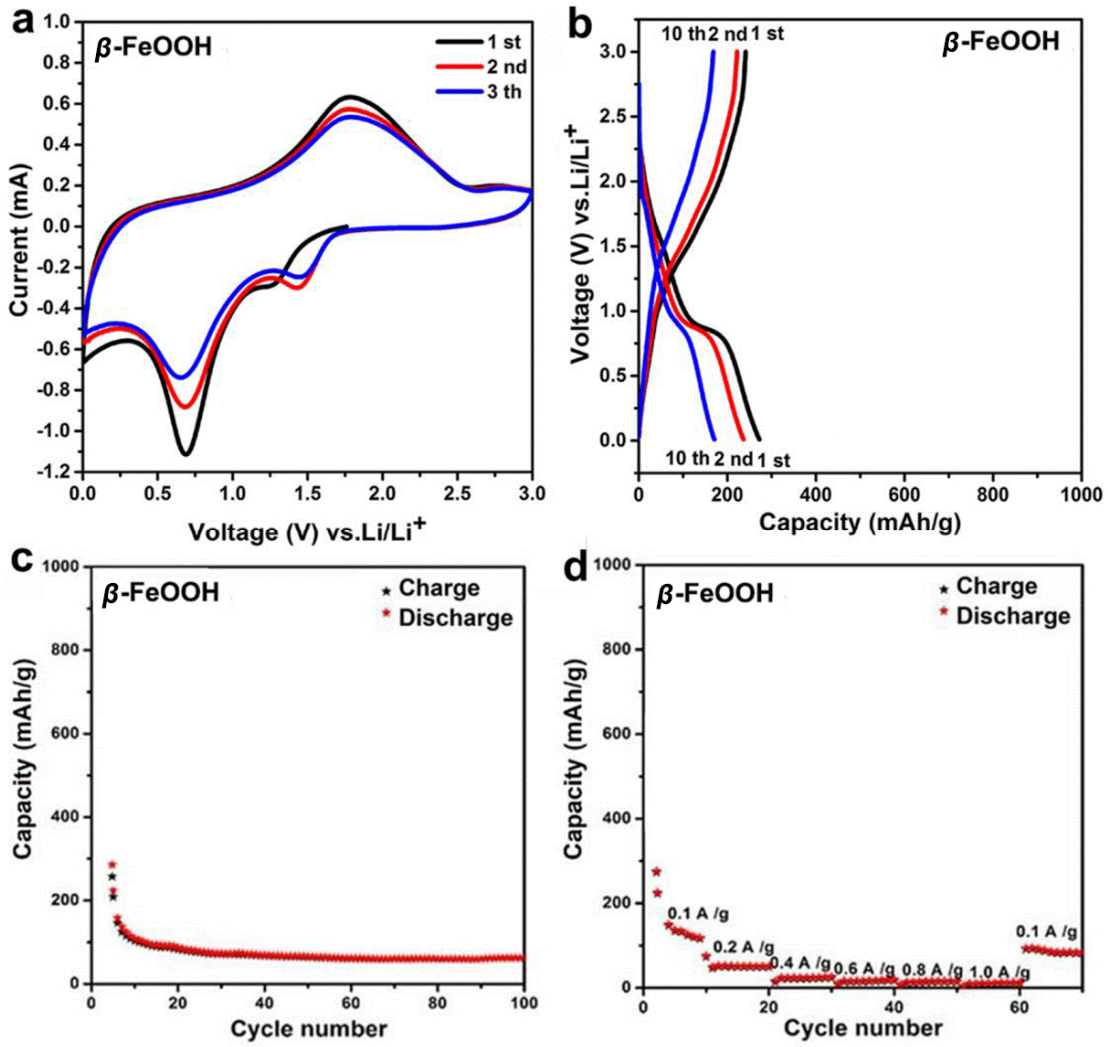

Fig. S4 Electrochemical performance of pure *β*-FeOOH nanorods for lithium ion battery application. (a) CV curves at a scan rate of 0.50 mV/s; (b) Charge/discharge curves cycling at a current density of 0.10 A/g; (c) Cycling performance at a current density of 0.10 A/g; (d) Rate ability at different current densities.

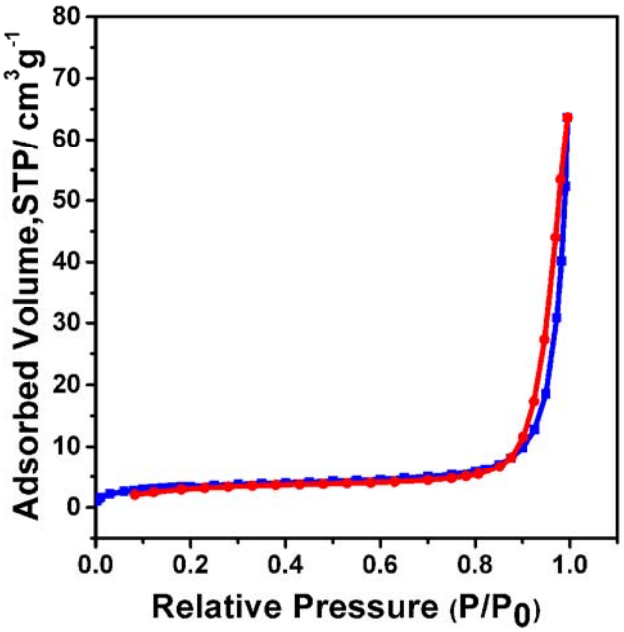

Fig. S5 Nitrogen adsorption-desorption isotherm for β-FeOOH/rGO hybrid nanostructures. The surface area for β-FeOOH/rGO is calculated to ~88.48 m^2/g.

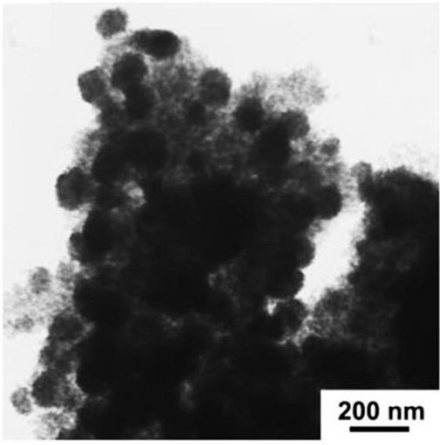

Fig. S6 TEM image of the β-FeOOH/rGO sample after 100 cycles at 0.1 A/g.