

## Iron oxide/graphene composites as negative-electrode materials for lithium ion batteries – optimum particle size for stable performance

Qian Sun,<sup>a</sup> Xiang Liu,<sup>a</sup> Aleksandra B. Djurišić,<sup>a</sup> Tik Lun Leung,<sup>b</sup> Maohai Xie,<sup>a</sup> Alan M. C. Ng,<sup>c,a</sup> Hang Kong Li,<sup>d</sup> Zhaofeng Deng,<sup>b</sup> and Kaimin Shih<sup>d</sup>

<sup>a</sup>Department of Physics, University of Hong Kong, Pokfulam Road, Hong Kong.

<sup>b</sup>Department of Chemistry, University of Hong Kong, Pokfulam Road, Hong Kong.

<sup>c</sup>Department of Physics, South University of Science and Technology of China, Shenzhen, China.

<sup>d</sup>Department of Civil Engineering, the University of Hong Kong, Pokfulam Road, Hong Kong.

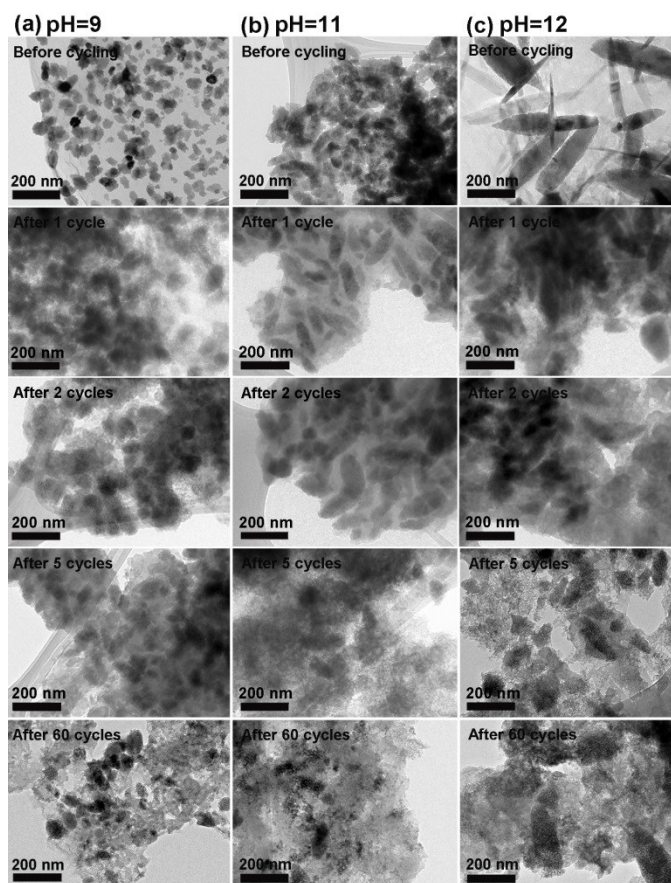


Figure 1, TEM images of Fe<sub>2</sub>O<sub>3</sub>/ graphene composites prepared at pH=9, pH=11 and pH=12: initial, after 1 cycle, after 2 cycles, after 5 cycles, and after 60 cycles.