Electronic Supplementary Information

Facile electrochemical preparation of a composite film of ruthenium dioxide and carboxylated graphene for high performance supercapacitor

Yue Meng, Linping Wang, Hongbo Xiao, Yixuan Ma, Long Chao, Qingji Xie*

Key Laboratory of Chemical Biology and Traditional Chinese Medicine Research (Ministry of Education of China), National & Local Joint Engineering Laboratory for New Petro– chemical Materials and Fine Utilization of Resources, College of Chemistry and Chemical Engineering, Hunan Normal University, Changsha 410081, China

^{*}Corresponding authors. Tel./Fax: +86 731 88865515.

E-mail: xieqj@hunnu.edu.cn.



Figure S1. Optimization of magnetically stirring rotation speed in the process of Ru-CG composite electrodeposition.



Figure S2. CV responses of RuO₂-CG in 0.5 (black and blue) or 1.0 (red and cyan) M aqueous H₂SO₄. Black and red curves: from Ru-CG electrodeposited at -0.25 V in 0.6 mM RuCl₃ + 1 mg mL⁻¹ CG + 0.1 M H₂SO₄ dispersion; blue and cyan curves: from Ru-CG electrodeposited at -0.25 V in 0.6 mM RuCl₃ + 1 mg mL⁻¹ CG + 0.5 M H₂SO₄ dispersion.



Figure S3. XRD patterns of Ru and RuO₂.



Figure S4. CV responses on RuO₂/QCM Au electrode at different scan rates.