

Supporting Information

High yield and packing density activated carbon by one-step molecular level activation of hydrophilic pomelo peel for supercapacitors

Yisen Li,^{1,=} Zishu Sun,^{1,=} Lu Zhang,^{1,=} Yongshun Zou,¹ Niumeng Yao,² Wen Lei,¹
Tingting Jiang,¹ Yao Chen,^{1,z} George Zheng Chen^{1,3,4,*}

¹ The State Key Laboratory of Refractories and Metallurgy, College of Materials and Metallurgy, Wuhan University of Science and Technology, Wuhan, 430081, China

² Library, Wuhan University of Science and Technology, Wuhan, 430081, China

³ Department of Chemical and Environmental Engineering, Faculty of Engineering, University of Nottingham, Nottingham, NG2 7RD, United Kingdom

⁴ Department of Chemical and Environmental Engineering, Faculty of Science and Engineering, University of Nottingham, Ningbo China, Ningbo 315100, China

⁼Y. Li, Z. Sun and L. Zhang contributed equally.

^{*}Electrochemical Society Member.

^zEmail: y.chen@wust.edu.cn (Y. Chen)

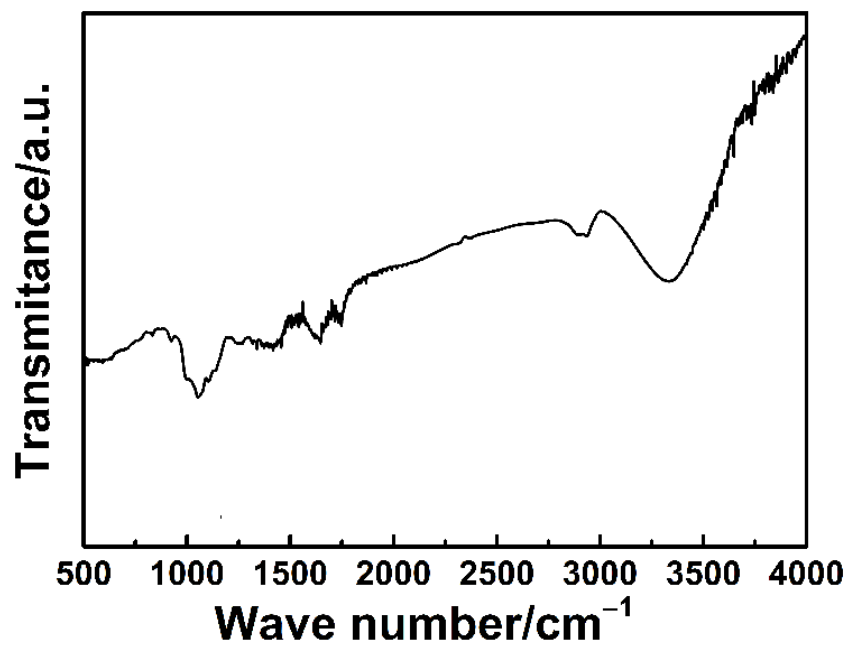


Figure S1. IR spectrum of pomelo peel.

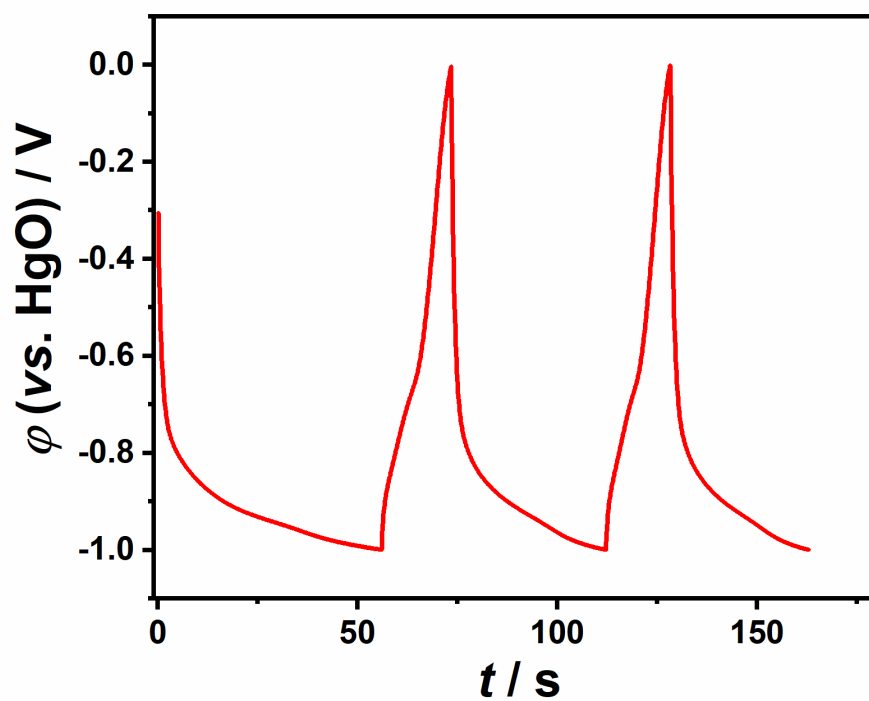


Figure S2. GCD curve of commercial Ni(OH)₂ at 1 A g⁻¹.

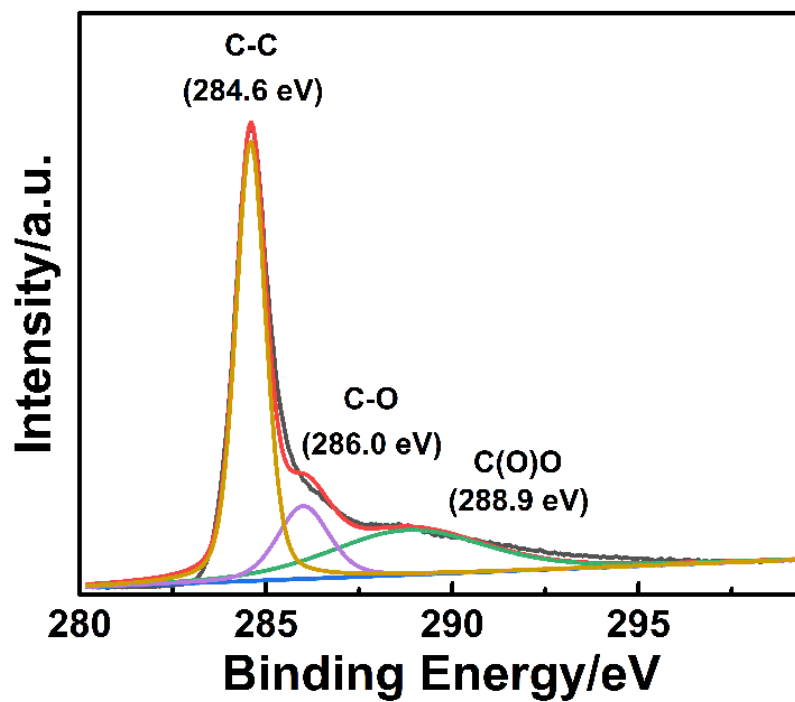


Figure S3. XPS spectrum of CAC-1.

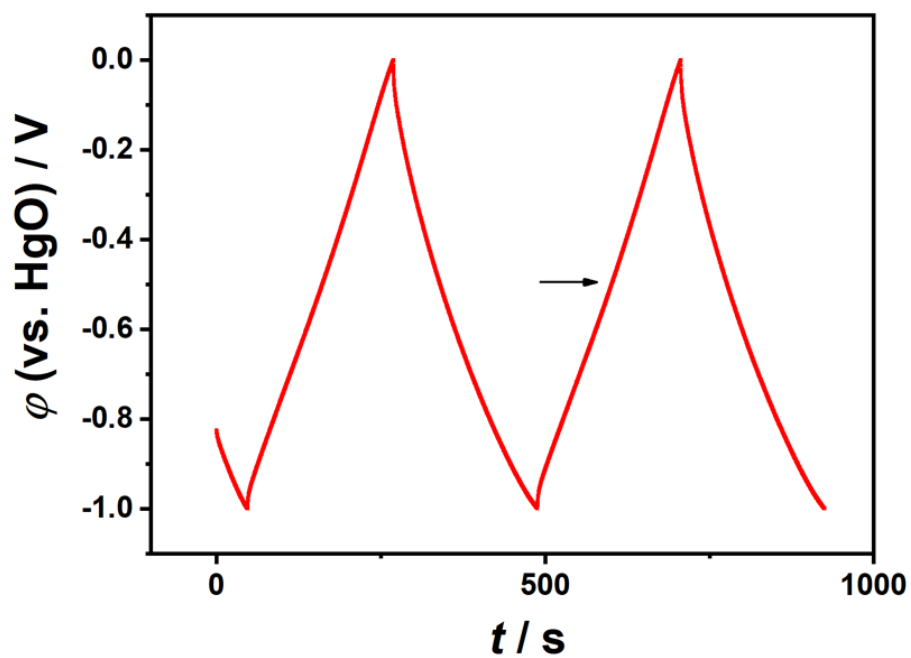


Figure S4. GCD curve of CAC-1 at 1 A g⁻¹.

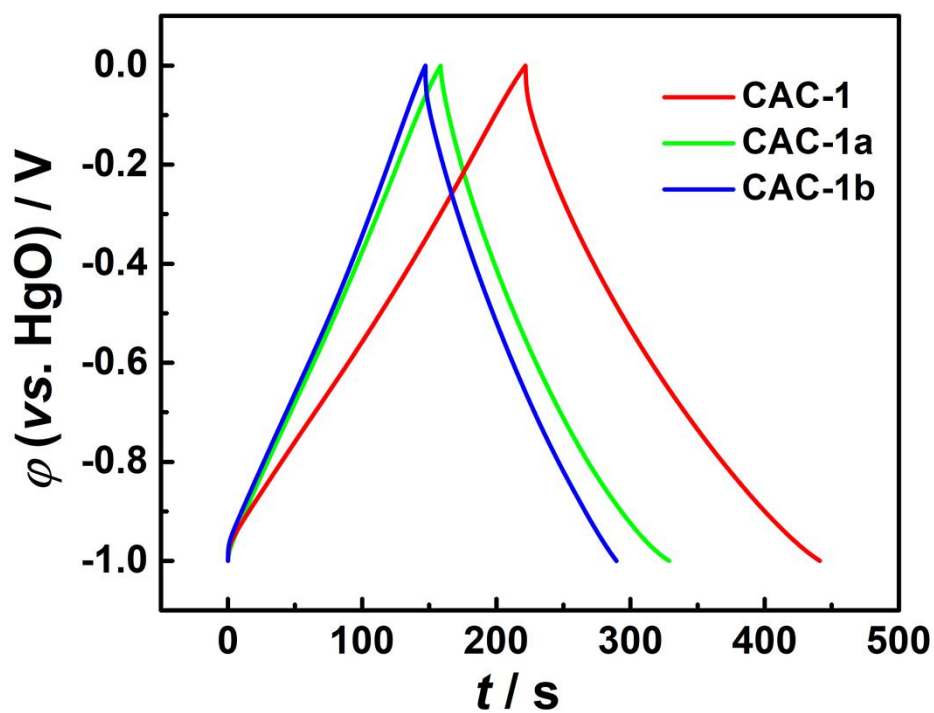


Figure S5. GCD curves of CAC-1, CAC-1a and CAC-1b at 1 A g^{-1} .



Figure S6. Digital photo of CAC-1 electrode with PTFE binder.

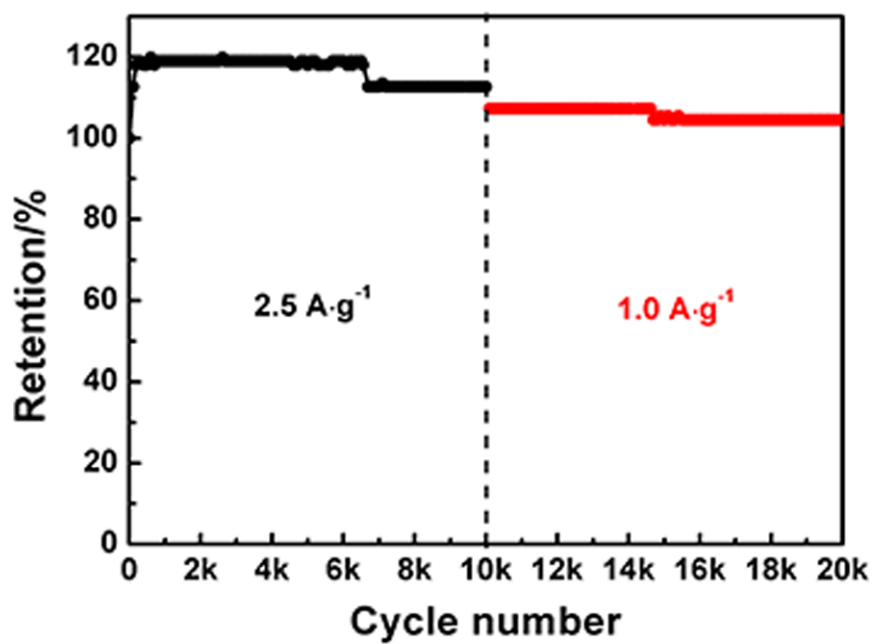


Figure S7. Cyclic performance of CAC-1 supercapacitor with thin electrodes at 2.5 and 1 A g⁻¹.

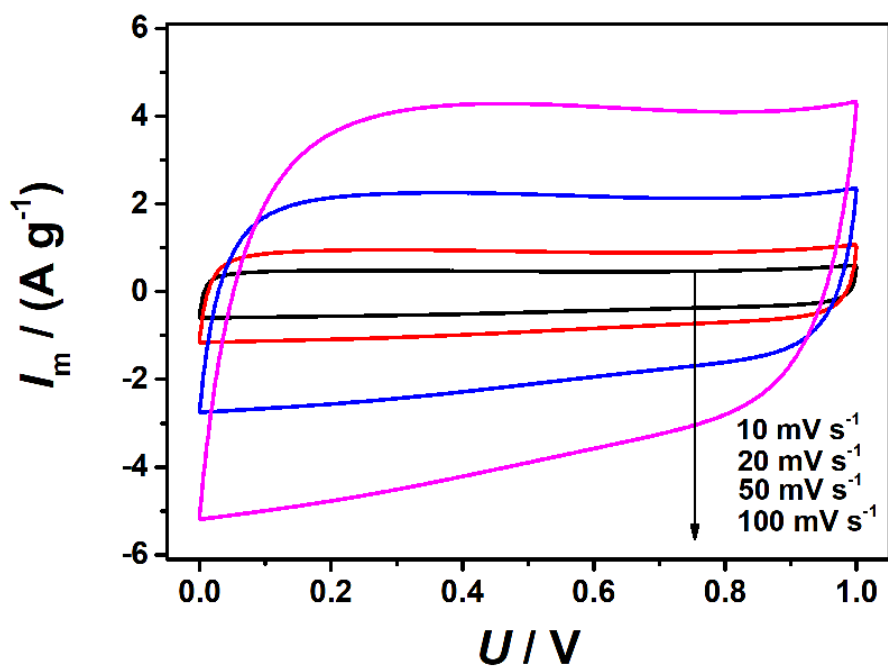


Figure S8. CVs of CAC-1 supercapacitor with thick electrodes in KOH electrolyte.

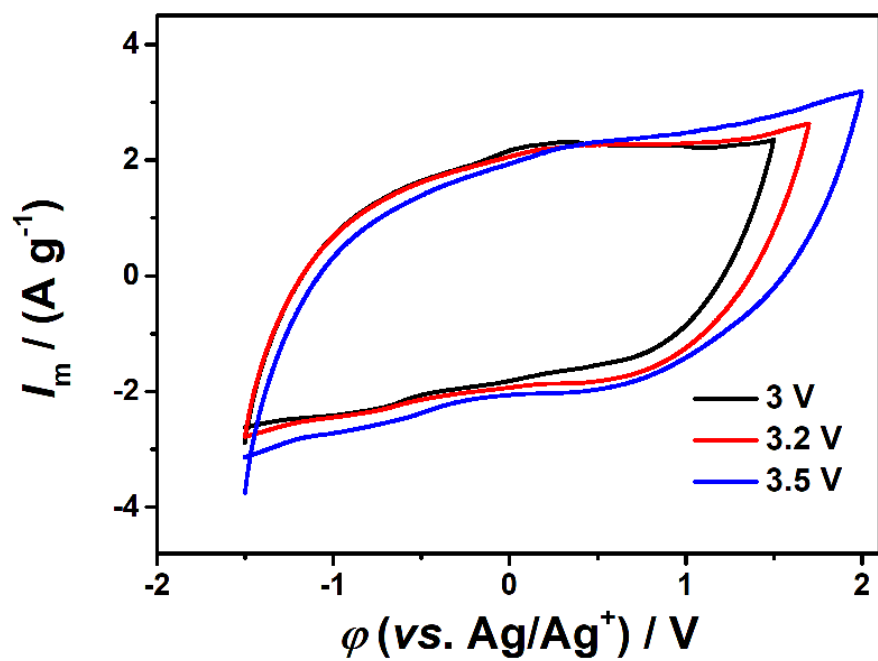


Figure S9. CVs of CAC-1 in EMIMBF₄ in three-electrode cell at 10 mV s⁻¹.

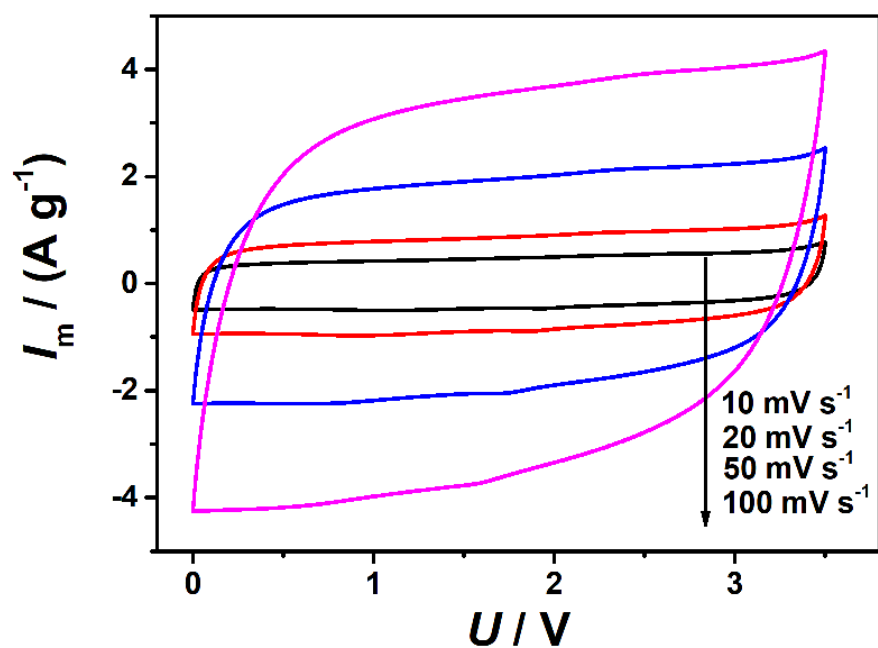


Figure S10. CVs of CAC-1 supercapacitor with thick electrodes in EMIMBF₄ with cell voltage of 3.5 V.

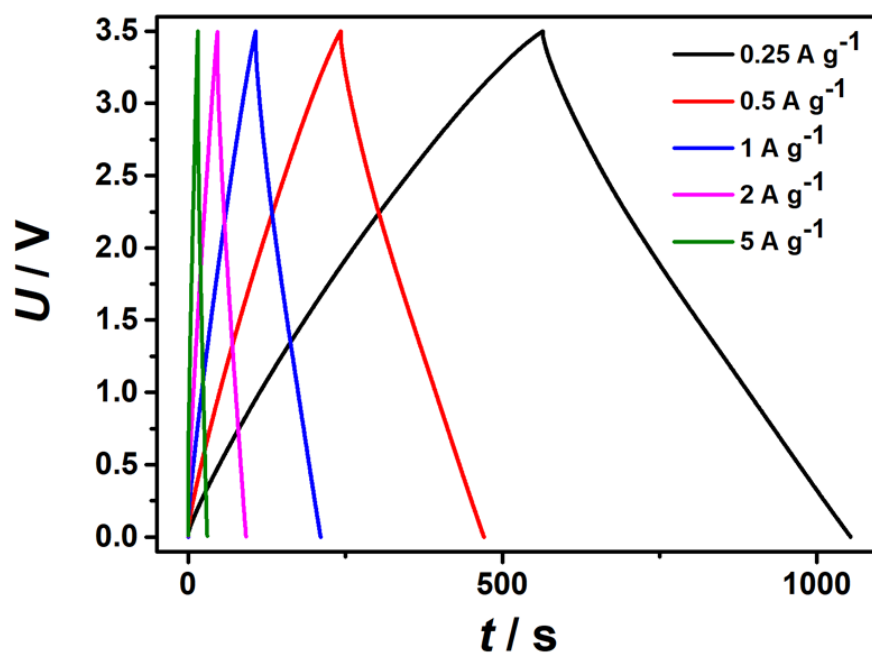


Figure S11. GCD curves of CAC-1 supercapacitor with thick electrodes in EMIMBF₄ with cell voltage of 3.5 V.

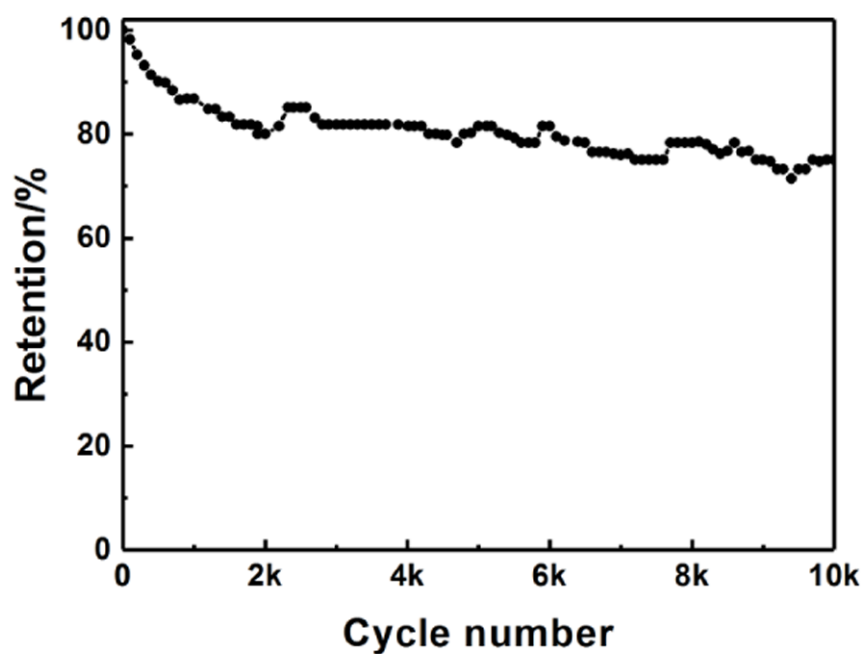


Figure S12. Cyclic performance of CAC-1 supercapacitor with thin electrodes in EMIMBF₄ at 1 A g⁻¹ with cell voltage of 3.5 V.

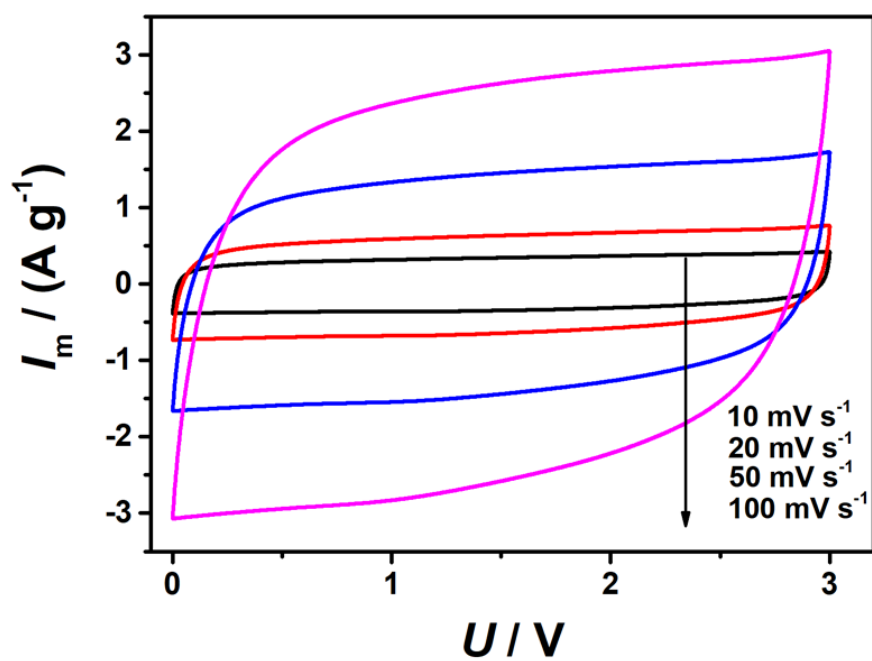


Figure S13. CVs of CAC-1 supercapacitor with thick electrodes in EMIMBF₄ with cell voltage of 3 V.