

Supplementary Material (ESI) for Journal of Materials Chemistry
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Supporting Information for

Pyrolyzed graphene oxide/resorcinol-formaldehyde resin composites as high-performance supercapacitor electrodes

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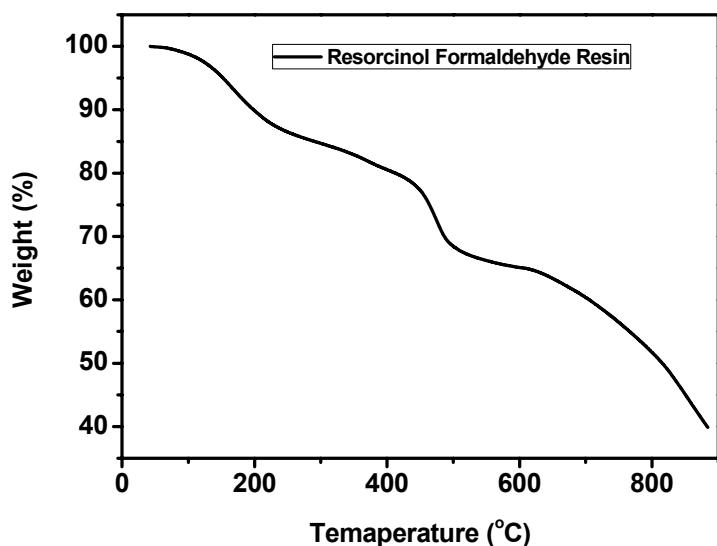


Figure S1. TGA curve of Resorcinol Formaldehyde Resin

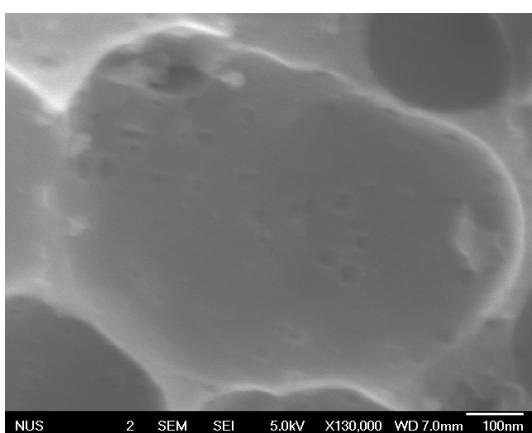


Figure S2. SEM image of R.

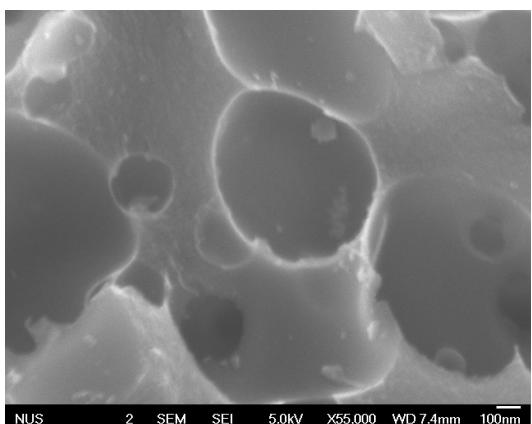


Figure S3. SEM image of RG1.

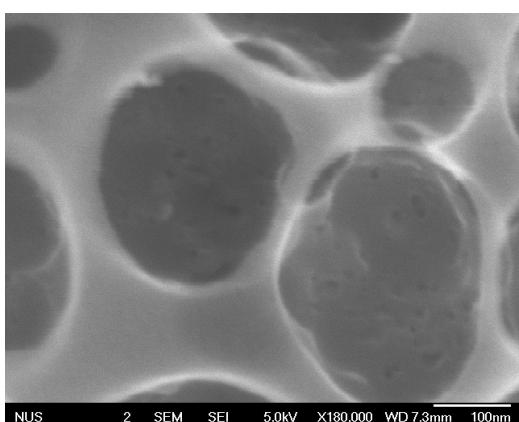


Figure S4. SEM image of RG3.

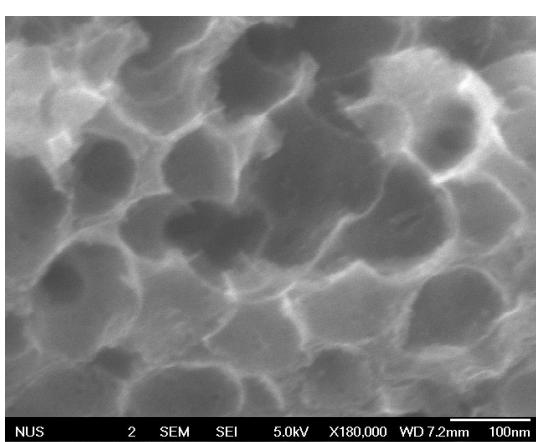


Figure S5. SEM image of RG5.

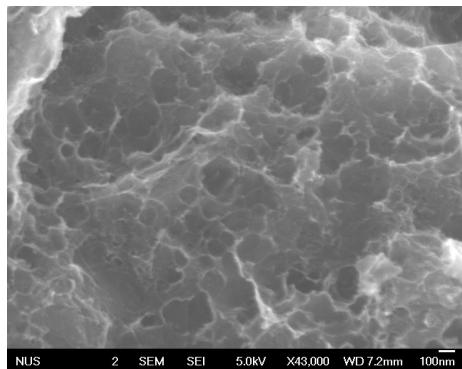


Figure S6. SEM image of RG10.

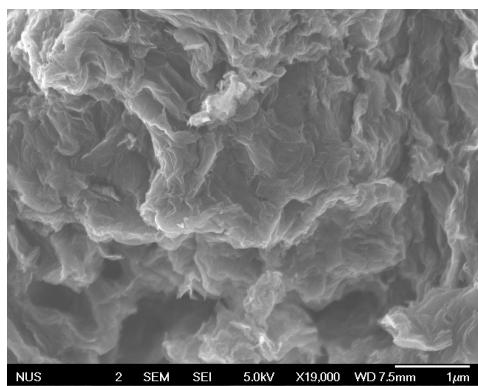


Figure S7. SEM image of G.

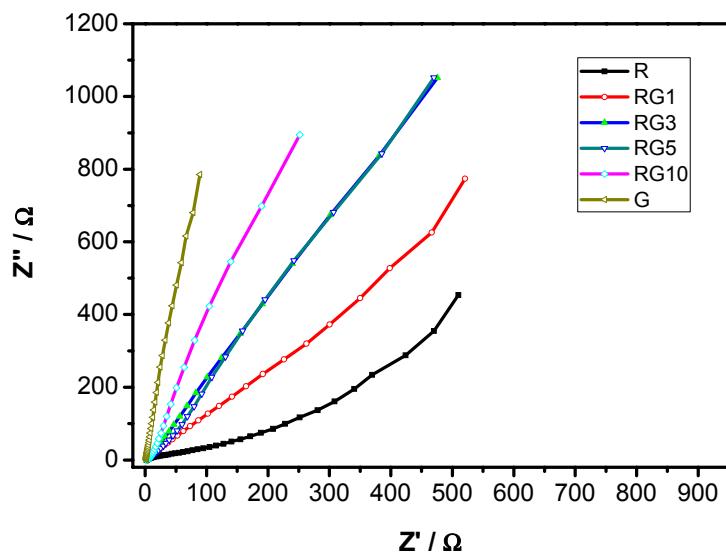


Figure S8. Nyquist plots of different ACs electrodes.

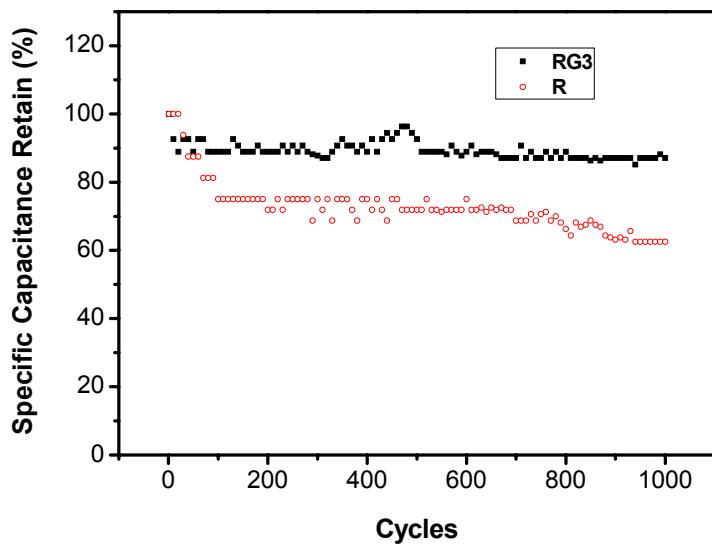


Figure S9. Cycling stabilities of **R** and **RG3**.

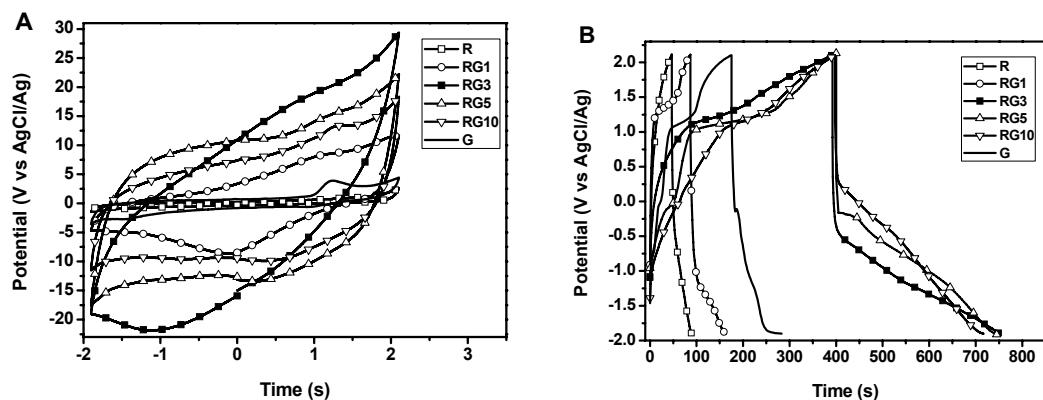


Figure S10. (A) CV in ionic liquid of ACs samples at scan rate of 100 mV/s, and (B) charge/discharge curves of ACs samples at a current density of 1 A/g.

Table S1. The specific capacitance (F/g) of ACs samples at different current loadings.

| | KOH | | | | | | H ₂ SO ₄ | | | | | |
|-------------|----------|------------|----------|------------|----------|------------|--------------------------------|------------|----------|------------|----------|------------|
| | 0.5 A/g | | 1 A/g | | 10 A/g | | 0.5 A/g | | 1 A/g | | 10 A/g | |
| | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg |
| R | 200 | 27.8 | 178 | 24.7 | 180 | 25 | 420 | 58.3 | 190 | 26.4 | 130 | 18.1 |
| RG1 | 342 | 47.5 | 299 | 41.5 | 260 | 36.1 | 469 | 65.2 | 284 | 39.4 | 260 | 36.1 |
| RG3 | 437 | 60.7 | 397 | 55.1 | 380 | 52.8 | 478 | 66.4 | 316 | 43.9 | 280 | 38.9 |
| RG5 | 422 | 58.6 | 382 | 53.1 | 360 | 50 | 433 | 60.1 | 288 | 40 | 270 | 37.5 |
| RG10 | 310 | 43.1 | 230 | 31.9 | 190 | 26.4 | 480 | 66.7 | 268 | 37.2 | 220 | 30.6 |
| G | 32 | 4.4 | 28 | 3.9 | 16 | 2.2 | 23 | 3.2 | 18 | 2.5 | 19 | 2.6 |

Table S2. The specific capacitance (F/g) of RG3 and RG5 in ionic liquid electrolyte at different current loadings.

| | 0.5 A/g | | 1 A/g | | 3 A/g | | 5 A/g | | |
|------------|----------|------------|----------|------------|----------|------------|----------|------------|-------|
| | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg | C F/g | E Wh/kg | |
| | | | | | | | | | |
| RG3 | 90 °C | 287 | 639 | 90.3 | 201 | 22.5 | 50 | 12.5 | 27.8 |
| | 60 °C | 279 | 619 | 50 | 111 | 11.3 | 25.1 | 6.3 | 14 |
| | 30 °C | 65 | 144 | 37.5 | 83.3 | 9.8 | 21.8 | 5 | 11.1 |
| RG5 | 90 °C | 179 | 398 | 87.5 | 194 | 57 | 126.7 | 46.3 | 102.9 |
| | 60 °C | 125 | 278 | 84 | 187 | 18 | 40 | 10 | 22.2 |
| | 30 °C | 115 | 255 | 64.5 | 143 | 17.3 | 38.3 | 10.6 | 23.6 |

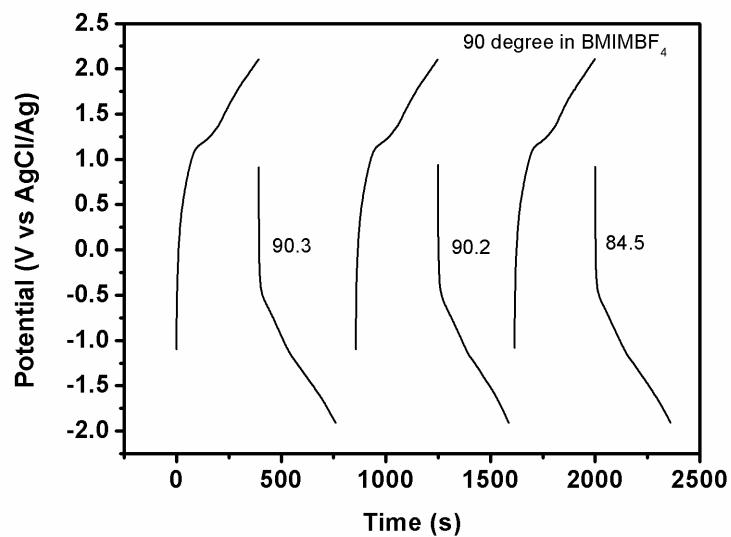


Figure S11. Cycling stabilities of **RG3** in BMIMBF₄.