Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information

Ternary Fe_3O_4/reduced graphene oxide /phytic acid doped polyaniline hybrid based supercapacitive electrode with high capacitance retention and good cycling stability

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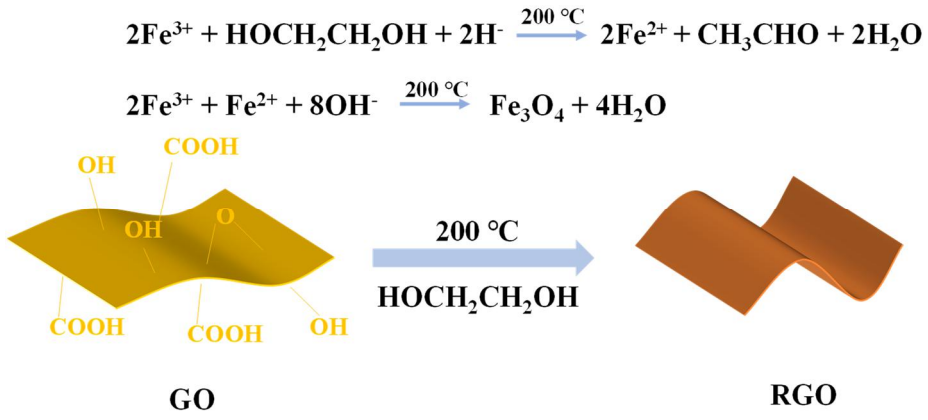

Figure S1 Synthesis mechanism of.Fe_3O_4 and RGO.

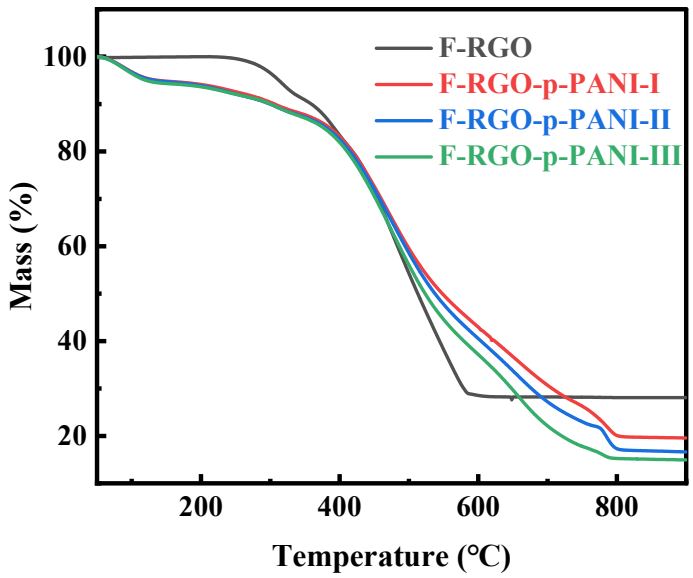

Figure S2 (a) TGA curves of F-RGO, F-RGO-p-PANI-I, F-RGO-p-PANI-II and F-RGO-p-PANI-III hybrids.

From the TGA curve (Figure S2), it could be confirmed the mass ratio of RGO to Fe_3O_4 is 71.92 wt.%: 28.08 wt.%, in which RGO was totally degraded and Fe_3O_4 was entirely oxidized to Fe_2O_3.[1-4] Thus from the TGA curve with F-RGO, F-RGO-p-PANI-I, F-RGO-p-PANI-II and F-RGO-p-PANI-III hybrids, it could define the Fe_3O_4 content was 18.91 wt.%, 16.06 wt.% and 14.44 wt.%. Therefore, the RGO mass ratios should be 50.77 wt.%, 43.12 wt.% and 38.76 wt.%, respectively. Furthermore, the PANI content within different RGO-p-PANI hybrids was also calculated as 30.32 wt.%, 40.82 wt.% and 46.80 wt.%.

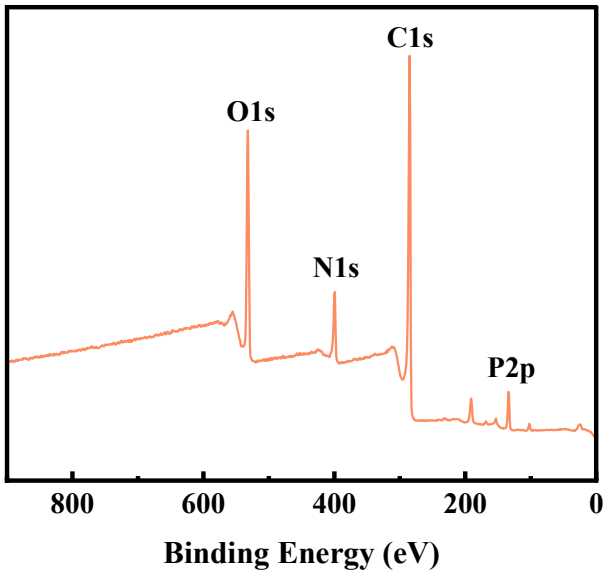

Figure S3 XPS spectra of F-RGO-PANI-II hybrid.

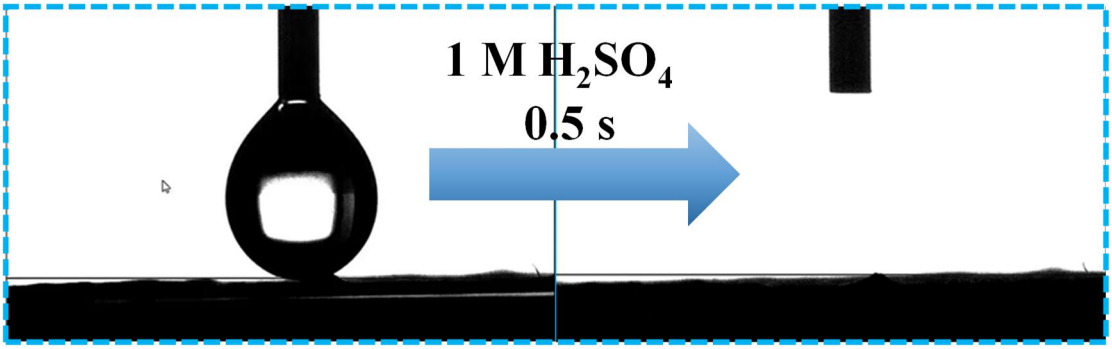

Figure S4 Optical photograph of dynamic variations of electrolyte droplets (1 M H_2SO_4) droplets spread on F-RGO-p-PANI hybrid.

From the Figure S4, it could be found that the contact angle of electrolyte (1 M H_2SO_4) was 0°, in which the electrolyte droplet could spread the our samples within 0.5 s， directly confirming the superwetting performance of our sample.

References:

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