Electronic Supplementary Material (ESI) for RSC Advances

Supplementary Information

Efficient synthesis of graphene-based powder *via* in-situ spray pyrolysis and its application in Lithium ion batteries

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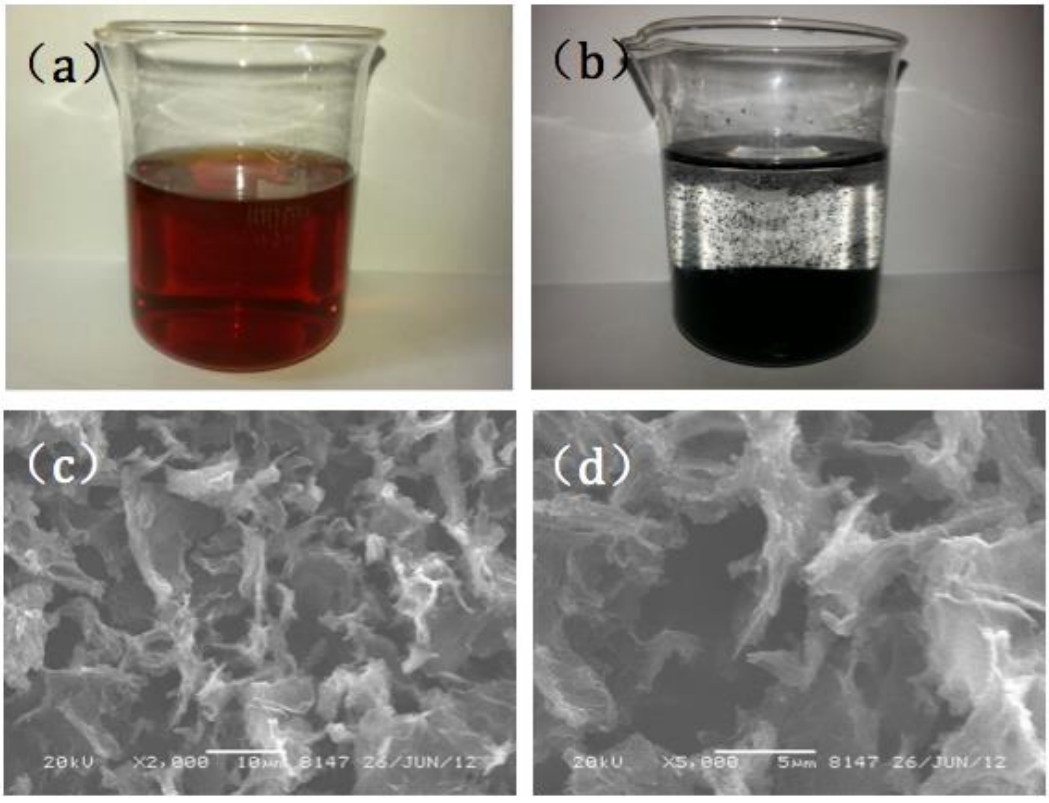

Fig.S1 Photograph of (a) a suspension of as-prepared GO and (b) reduced graphene precipitated in water, (c,d) SEM images of rGO-C powder.

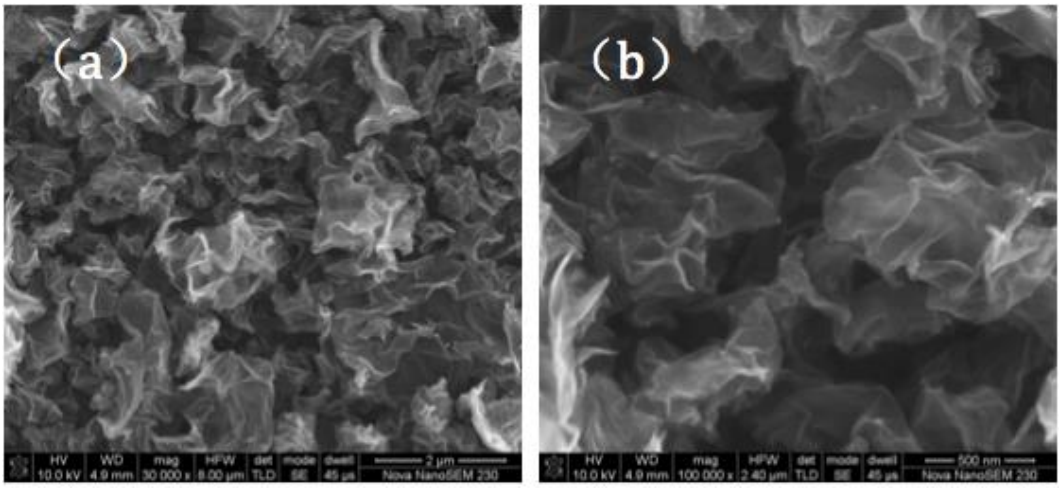

Fig.S2 FESEM images of rGO-P.

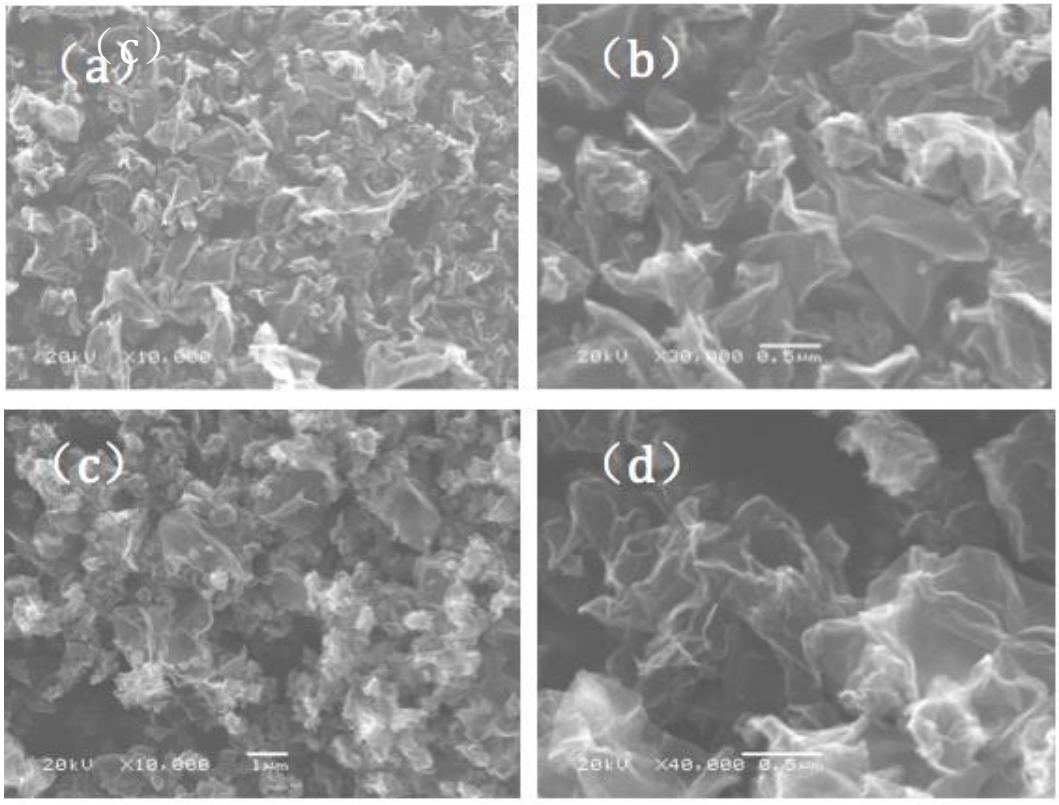

Fig.S3 SEM images of PrGO-500 obtained from spray precursor solutions with different GO concentrations: (a,b) 1.5g/L, (c,d) 0.6g/L.

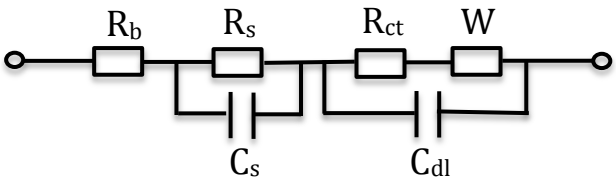

Fig.S4 Randles equivalence circuit used to fit EIS

Table S1 Chemical contents on samples via XPS

Samples	Estimated wt%		C/O ratio
	C 1s	O 1s	
PrGO-200	68.72	31.28	2.20
PrGO-500	82.91	17.09	4.85
PrGO-800	88.88	11.12	7.99
rGO-P	97.40	2.60	37.46

Table S2 Fitting results of the equivalent circuit

Samples	Cycle number	R_b	R_s	R_{ct}
rGO-C	1 st	3.5	70.4	57.7
rGO-C	50 th	4.1	11.1	45.5
rGO-P	1 st	4.2	36.4	41.5
rGO-P	50 th	4.0	13.4	17.4