Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information (SI) on

Tuning chemistry of graphene oxides by sonochemical approach:

Application on electrochemistry and adsorption properties

SEM images

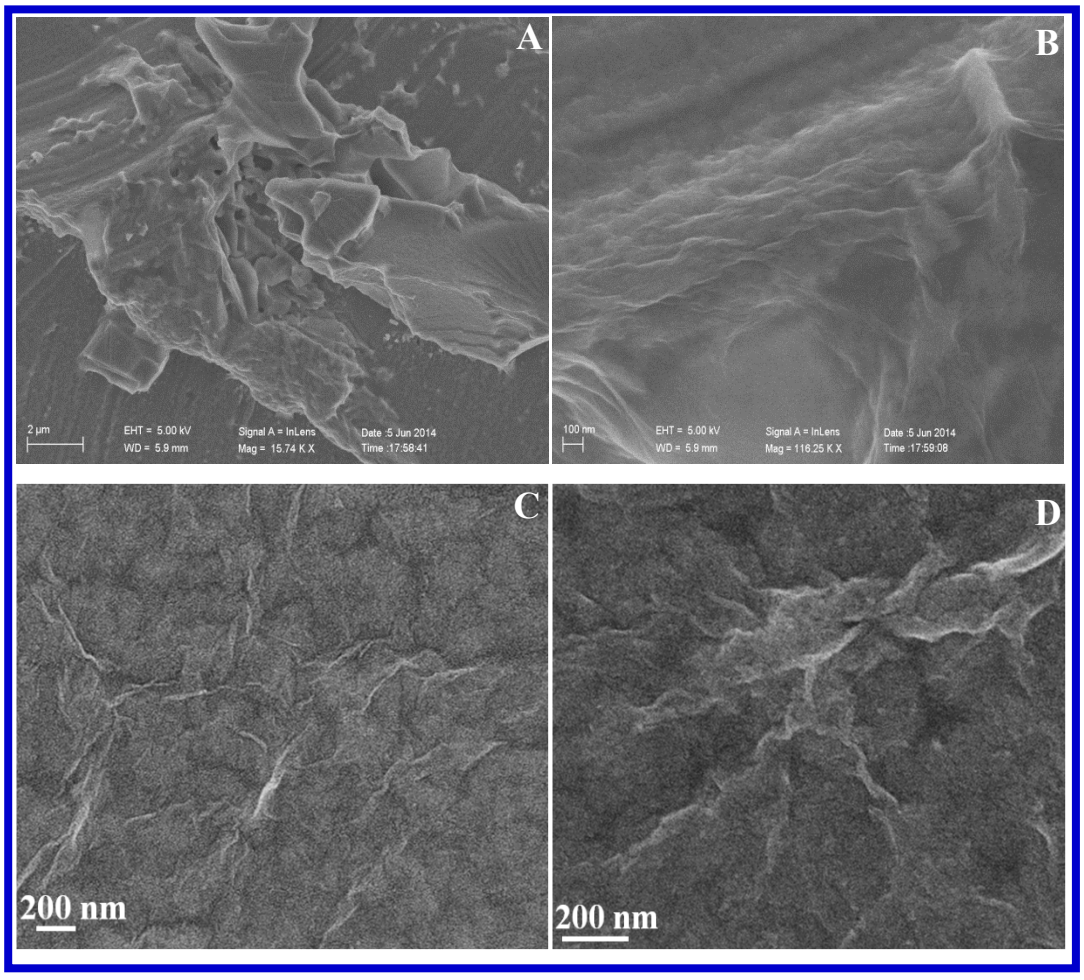

Figure S1 The SEM images of GO0 (A), GO1 (B), GO2(C) and GO3 (4).

XPS analysis

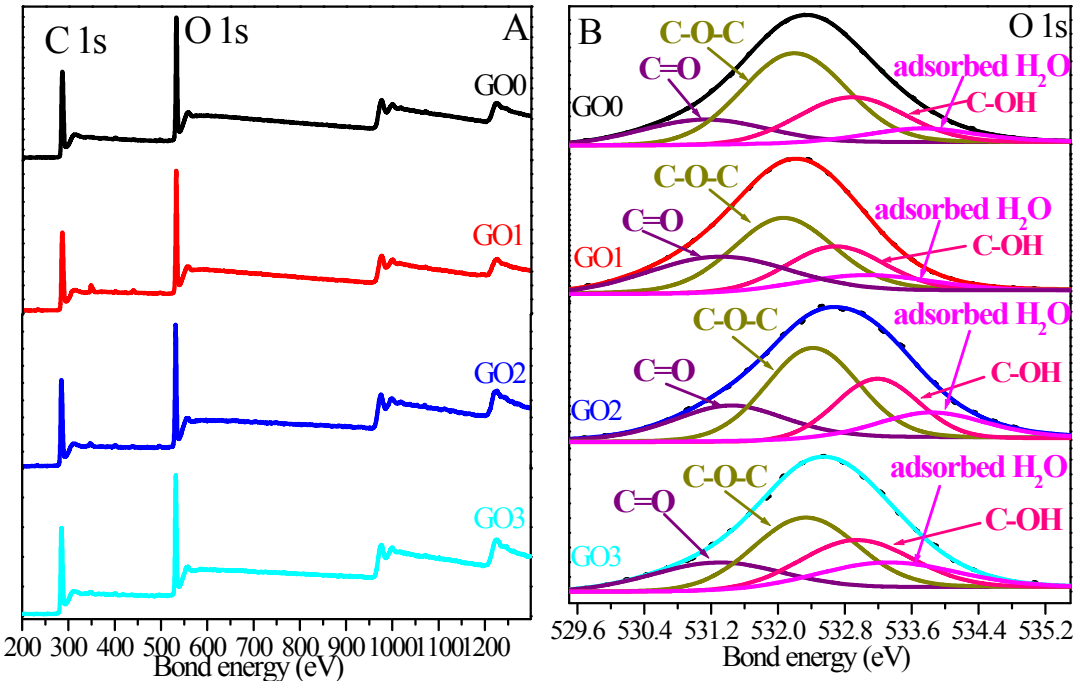

Figure S2 The XPS spectra of GO0, GO1, GO2 and GO3, A: total scans; B: O 1s spectra.

XRD patterns

The samples were characterized by powder XRD using a Rigaku powder diffractomrmeter with Cu Kα radiation with a step size of 0.02°. Figure S1 compared XRD patterns of GO nanosheets after various ultrasonic time. The maximum of main peak at 12.31 ° moved toward the left with increasing ultrasonic time.

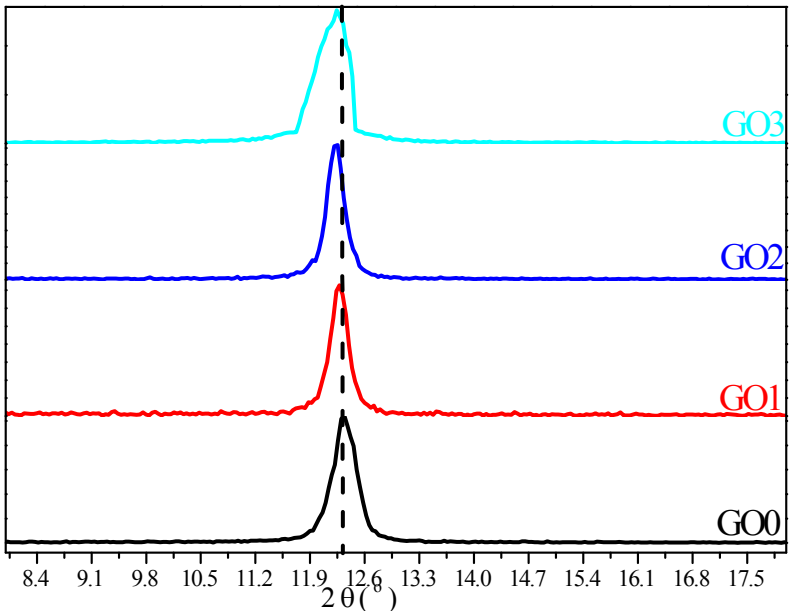

Figure S3. The XRD patterns of GO0, GO1, GO2, GO3.

Langmuir and Freundlich models

Table S1. Parameters of adsorption models for U(VI) on GO0, GO1, GO2 and GO3.

Samples	Langmuir			Freundlich		
	q_{max} (mg/g)	K_a (L/mg)	R^2	$Ln\ K_F$ ($mg^{1-1/n}L^{1/n}\cdot g^{-1}$)	$1/n$	R^2
GO0	102.0408	0.0375	0.9978	2.2673	0.4817	0.9791
GO1	126.5823	0.0356	0.9973	2.3816	0.5003	0.9810
GO2	136.9863	0.0363	0.9989	2.4208	0.5163	0.9872
GO3	151.5152	0.0345	0.9980	2.4331	0.5327	0.9748