Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Self-assembly and Controllable Synthesis of Graphene Hydrogel Adsorbents with Enhanced Removal of Ciprofloxacin from Aqueous Solutions

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Table S1. XRD patterns and related data of the GHs.

Parameters	Adsorbent	2θ (°)	Interlayer spacing (nm)
-	Graphite	26.5	0.345
-	GO	11.0	0.807
Reductant	GSSG-G	23	0.394
	GSH-G	24.6	0.370
Capping reagent	GSH-G	24.6	0.370
	VC-G-1	25	0.364
Temperature	VC-G-2	24	0.379
	VC-G-3	25.5	0.358
pH	VC-G-3	25.5	0.358
	VC-Na-G	23	0.394

Table S2. BET surface area and related data for the GHs.

Parameters	Adsorbent	SSA (m^2/g)	Pore volume (cm^2/g)	Average pore size (nm)
Reductant	GSSG-G	72.81	0.101	3.22
	GSH-G	372.94	0.634	3.82
Capping reagent	GSH-G	372.94	0.634	3.82
	VC-G-1	508.56	1.367	10.75
Temperature	VC-G-2	385.61	1.127	11.69
	VC-G-3	504.66	1.169	9.27
pH	VC-G-3	504.66	1.169	9.27
	VC-Na-G	180.44	0.429	9.51

Table S3. XPS peaks and relevant information about the GHs.

Parameters	Adsorbent	Element (atomic %)				C/O	Content of –COOH (%)
		C	O	N	S	(atom)	
Reductant	GSSG-G	71.89	22.16	4.47	1.48	3.24	17.87
	GSH-G	76.78	15.71	5.64	1.87	4.89	15.42
Capping regent	GSH-G	76.78	15.71	5.64	1.87	4.89	15.42
	VC-G-1	82.14	17.86	-	-	4.60	12.81
Temperature	VC-G-2	86.48	13.52	-	-	6.40	11.85
	VC-G-3	87.6	12.4	-	-	7.06	10.68
pH	VC-G-3	87.6	12.4	-	-	7.06	10.68
	VC-Na-G	86.18	13.82	-	-	6.24	7.96