## **Supporting Information**

## Preparation of Highly Conductive Graphene Hydrogels for Fabricating Supercapacitors with High Rate Capability

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**Table S1.** Elemental analysis results of GHs.

GH	C wt.%	H wt.%	N wt.%	O wt.%
GH-H	78.06	0.64	0.27	21.03
GH-HI3	80.27	0.56	0.26	16.35
GH-Hz3	78.46	0.67	2.99	17.88
GH-HI8	81.05	0.58	0.31	16.12
GH-Hz8	79.32	0.76	2.54	17.38

2μm
2.96
[nm]
0.61

Figure S1. AFM image of GO sheets on mica.

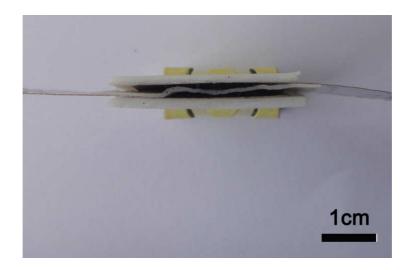
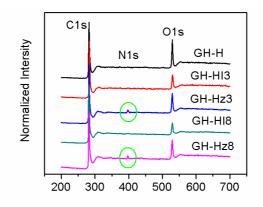


Figure S2. Photograph of a two-electrode test cell.



**Figure S3.** Survey scanned XPS spectra of GHs with a pass energy of 200 eV. The N1s peaks at 397 eV are shown in the spectra of Hz-reduced samples.