

Supporting materials:

Fabrication of high density graphene aerogel-gold nanostars hybrid and application for electrochemical detection of hydroquinone and o-dihydroxybenzene

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Experimental detail

The resistance measurement

The resistance of graphene aerogel material was measured using a digital multimeter. For the measurement, two electrodes of the multimeter were inserted into the graphene aerogel and the distance between two electrodes keep at 1cm.

Maximum bearing weight measurement

The cylindrical graphene aerogel was vertically placed on the desktop. Then, put a beaker on top of the aerogel. Add dry quartz sand into the beaker until the aerogel appears an obvious deformation. Finally, mass of the sand added was weighted to calculate the maximum bearing weight.

Absorption spectra of the GNS solution

Absorption spectrum of the GNS solution was measured UV-2550 spectrometer (Shimadzu, Japan).

Data analysis

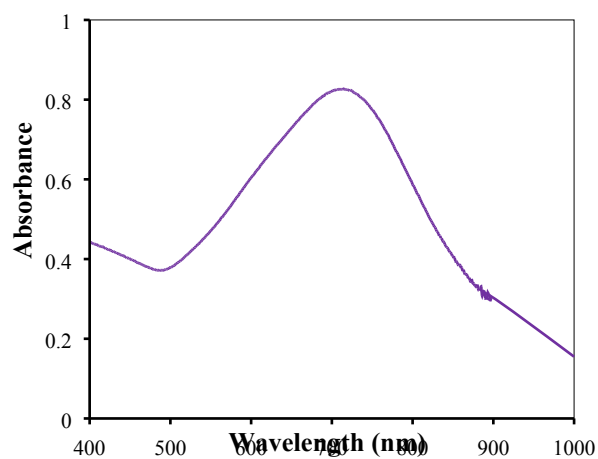


Fig.s1 Absorption spectrum of the GNS solution

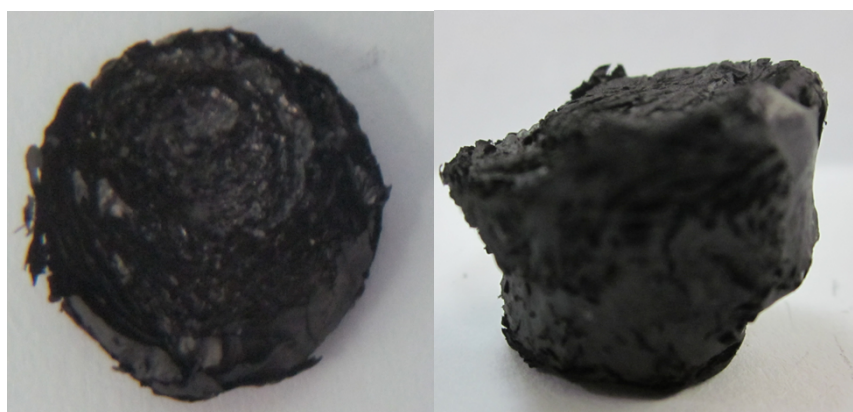


Fig.s2 The optical photograph of graphene aerogel samples prepared using a relatively big volume of vial with (left) and without (right) picking hole.

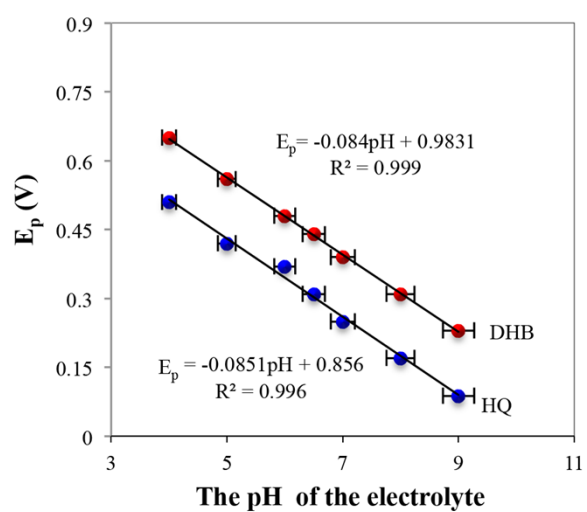


Fig.s3 Influences of pH on the oxidation peak potentials. Scan rate: 100 mV s^{-1} ; The concentration of HQ and DHB: $5 \times 10^{-4} \text{ M}$.