

Supplementary Information for:

Microwave-assisted rapid synthesis of water-soluble graphene

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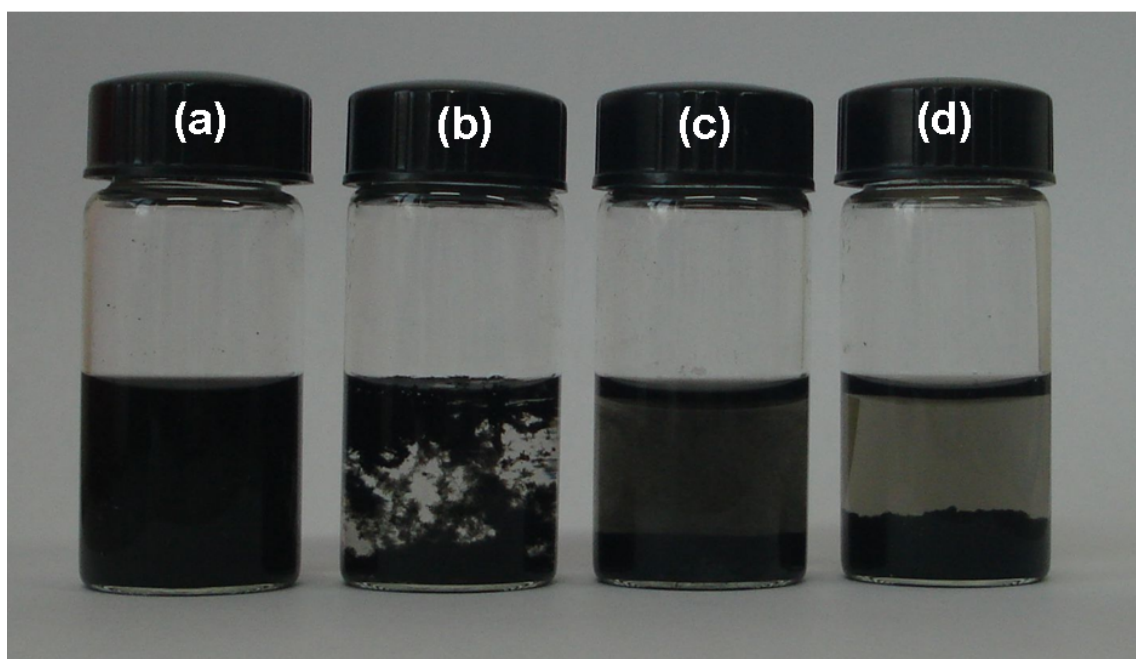


Fig. S1. Water dispersions of (a) mGS with pre-reduction, (b) mGS without pre-reduction, (c) mGS prepared by using KPS as the initiator in grafting and (d) product from mixing-and-reducing of pre-reduced GO and PAM.

Calculation on the relative composition of the mGS:

According to the TGA data, after temperature rose to 600 °C, the remained weight ratio of PAM and rGO are about 13.87 % and 84.17%, respectively. We define the weight of PAM and graphene (rGO) in the mGS as “x” and “y” respectively to facilitate our calculation on the relative composition of the mGS. Following the equation below, we can deduce that the weight ratio of the graphene sheets to the PAM was about 1: 0.75.

$13.87\% x + 84.17\% y = 53.94\% (x + y)$, (53.94% is the remained weight ratio of mGS at 600°C).