

Supplementary Information

Spontaneous Reduction and Dispersion of Graphene Nano-Platelets with *In-Situ* Synthesized Hydrazine Assisted by Hexamethyldisilazane

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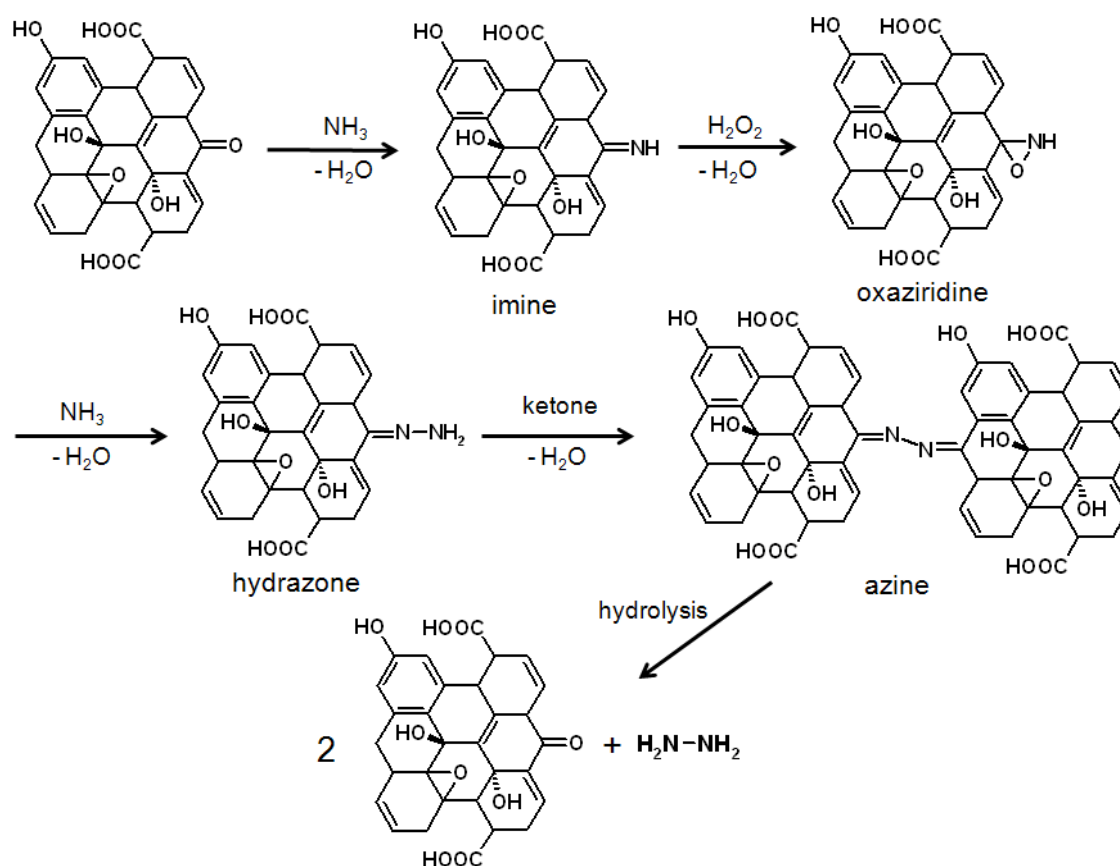


Figure S1. Synthesis scheme of hydrazine in graphene oxide, ammonia, hydrogen peroxide mixture solution.

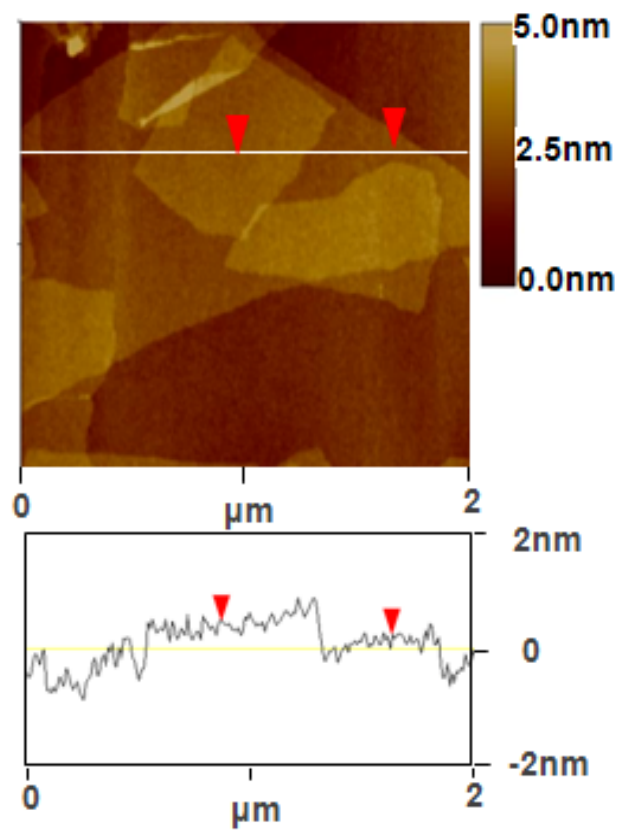


Figure S2. AFM image and height profile of graphene oxide nanosheets.

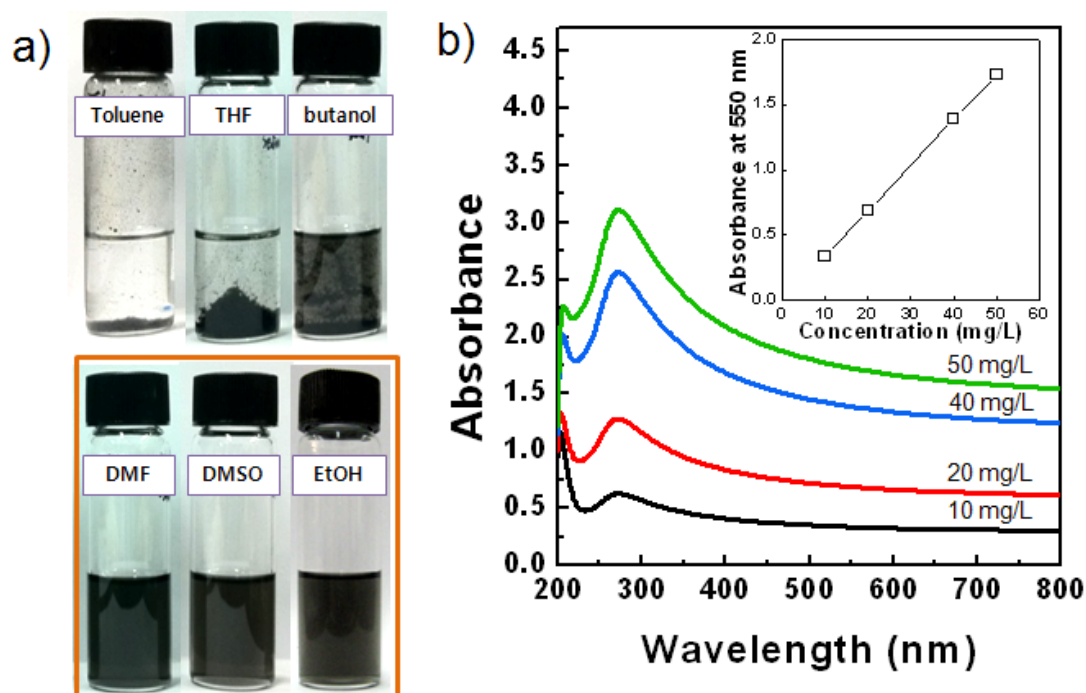


Figure S3. Dispersion of RGO nanosheets in organic solvents. (a) Photographs of vials containing the RGO dispersions in organic solvents with different polarities, including toluene, tetrahydrofuran (THF), butanol, dimethylformamide (DMF), dimethylsulfoxide (DMSO), and ethanol (EtOH). The RGO suspensions containing trimethylsilanol molecules were easily dispersed, even in EtOH. (b) UV absorbance spectra of RGO dispersion in EtOH as a function of the concentration. The inset plot shows the absorbance data at 550 nm as a function of the RGO concentration.

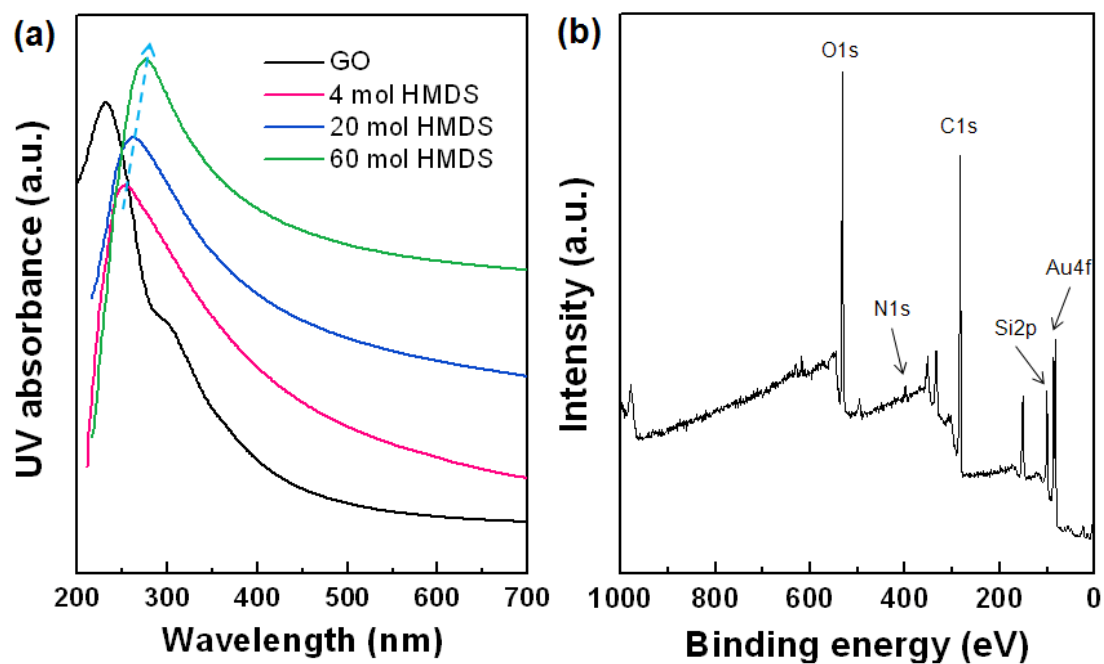


Figure S4. (a) UV absorbance of GO and RGO solution by adding more HMDS molecules.
(b) XPS survey spectrum of RGO film prepared on Au sputtered wafer with RGO solution dispersed by trimethylsilanol from HMDS.

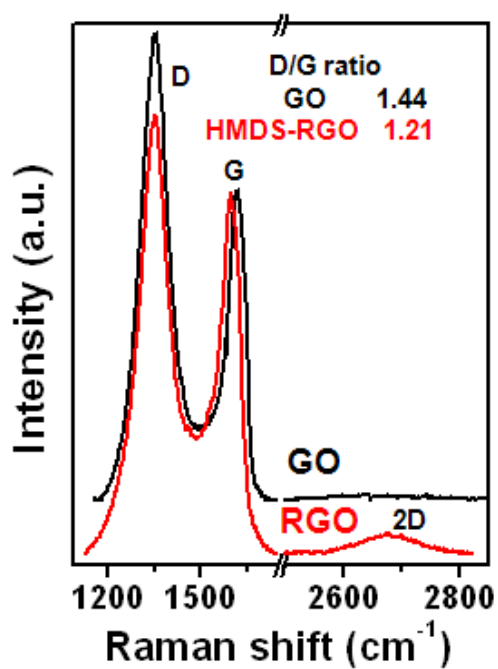


Figure S5. Raman spectra of the GO and RGO reduced by hydrazine molecules synthesized *in-situ* in a GO solution in the presence of ammonia (generated from hexamethyldisilazane) and hydrogen peroxide.

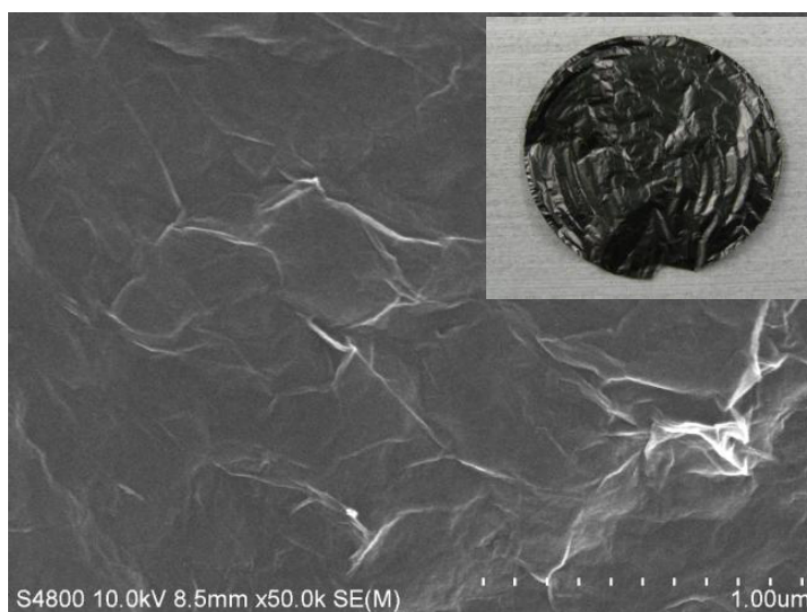


Figure S6. FE-SEM image of HMDS-RGO film prepared by filtration on AAO membrane.