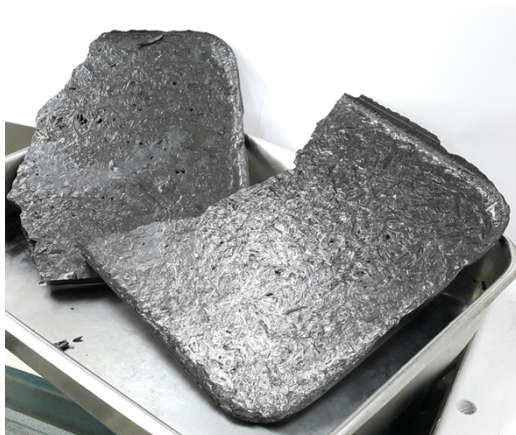
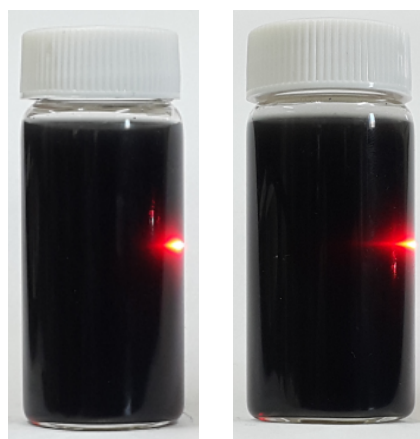


### Supplementary information



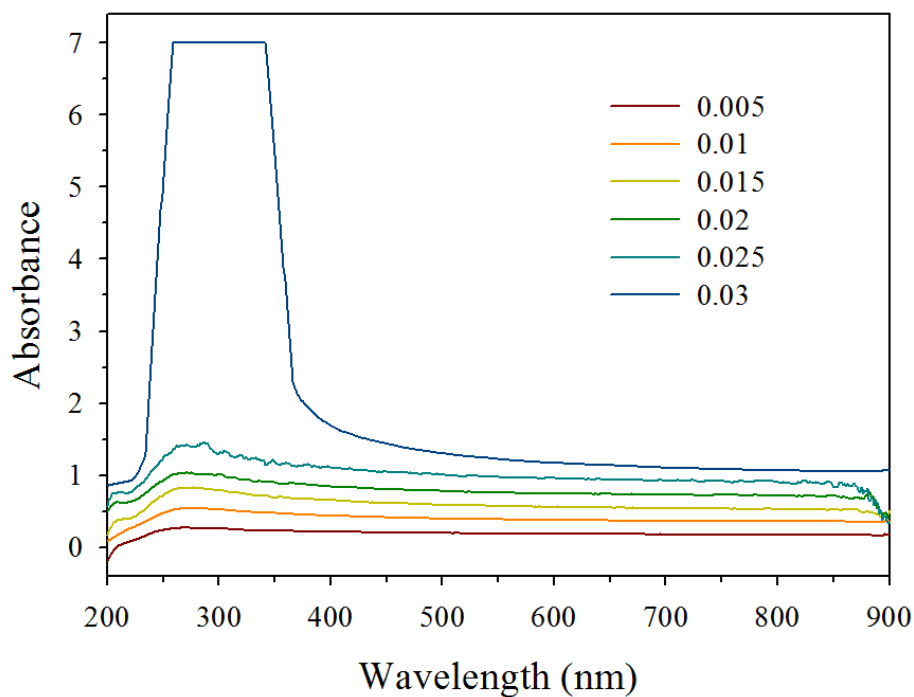
**Figure SI 1.** Solidified graphene mixture with NMMO<sub>m</sub> at room temperature after one month later.



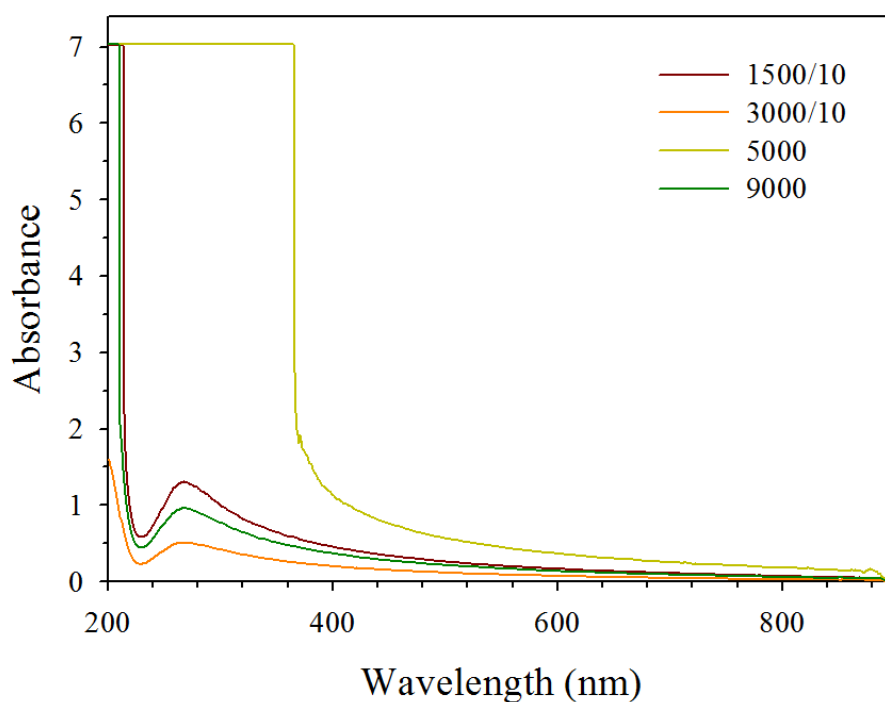
(a)

(b)

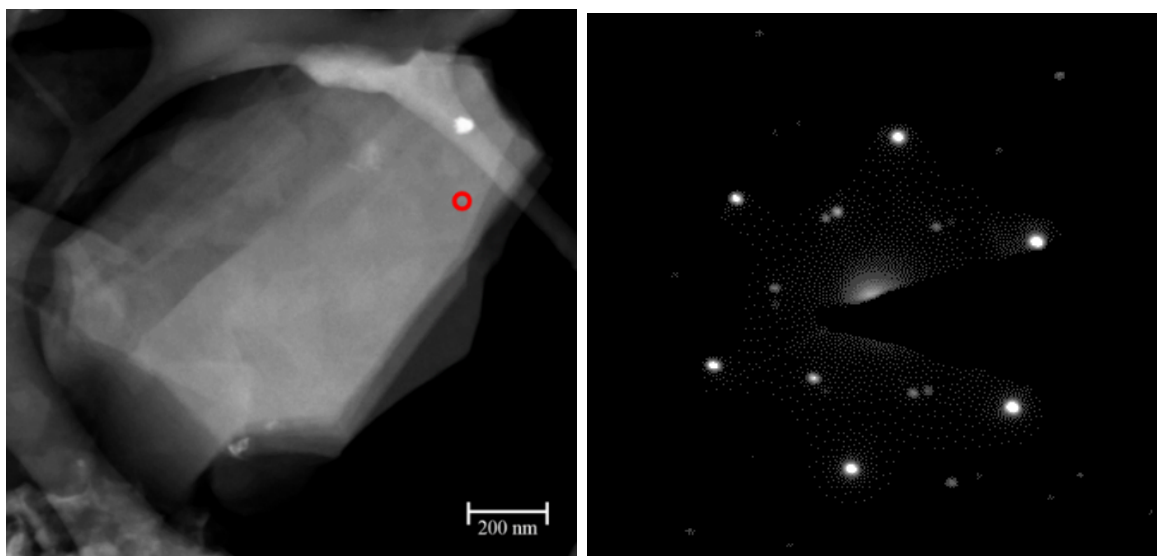
**Figure SI 2.** Photographs of the GPN dispersion in water at  $C_{\text{GPN}} = 1 \text{ mg/mL}$ : (a) immediately and (b) 3 months after sonication for 2 h; the laser beams in the vials are to used to observe the Tyndall effect.



**Figure SI 3.** UV-Vis spectra with different  $C_{\text{GPNs}}$  in the range of 0.005 to 0.03 mg/mL.



**Figure SI 4.** UV-Vis spectra after centrifugation of the 5 mg/mL GPN solution at 1,500, 3,000, 5,000, and 9,000 rpm; the absorbance at 1,500 and 3,000 rpm were obtained from  $\times 10$  dilution with water after centrifugation.



(a)

(b)

**Figure SI 5.** (a) STEM image and (b) SAED pattern of the multi-layered graphene in the circled area in (a).