

Supplementary Information for

The effect of sonication treatment of graphene oxide on the mechanical properties of the assembled films

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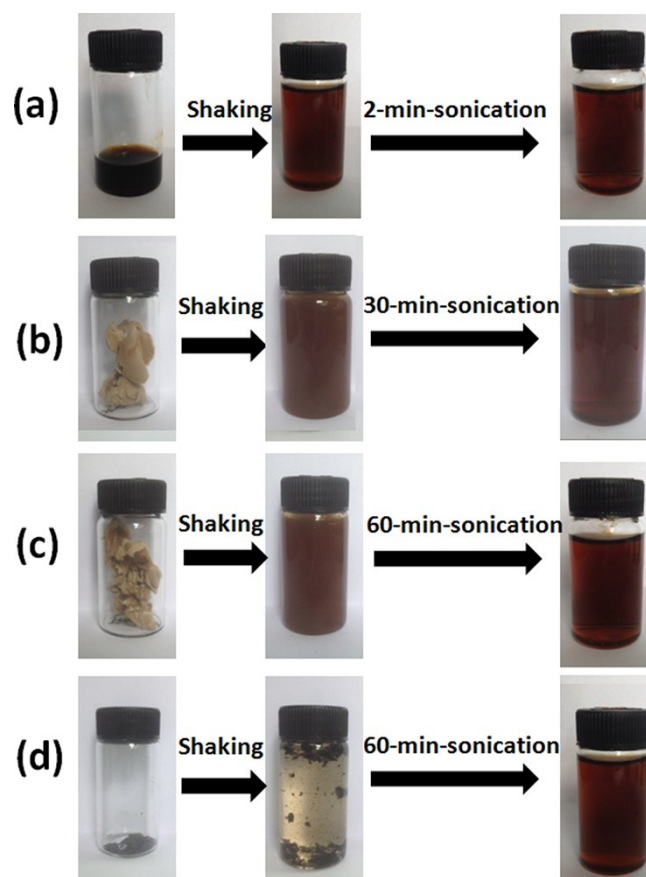


Fig. S1 Photographs showing the dispersion and sonication of GiO in different forms in the aqueous solutions: (a) GiO solution, (b-c) FDGO powder, and (d) VDGO powder.

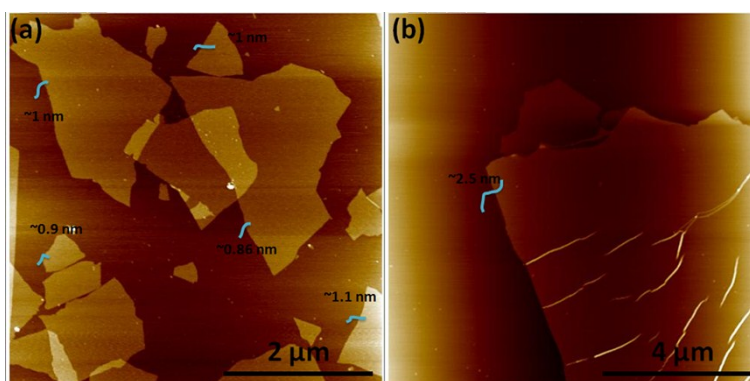


Fig. S2 AFM images of (a) exfoliated GO sheets and (a) incompletely exfoliated GiO flakes.

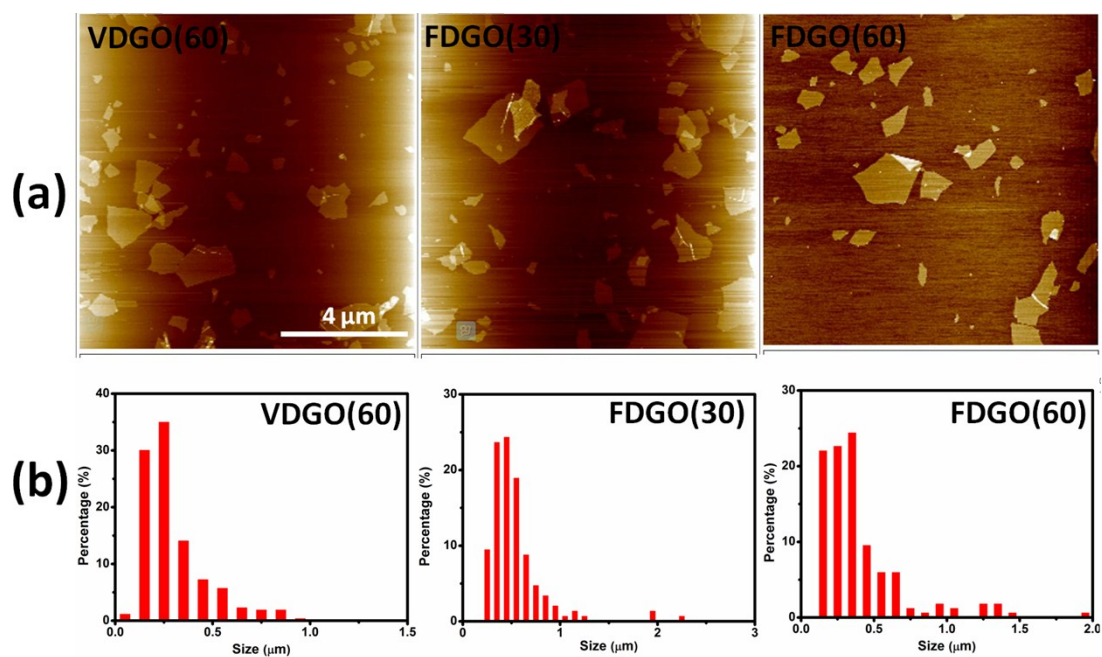


Fig. S3 (a) AFM images and (b) the histograms of size distribution of VDGO(60), FDGO(30), and FDGO(60) sheets.

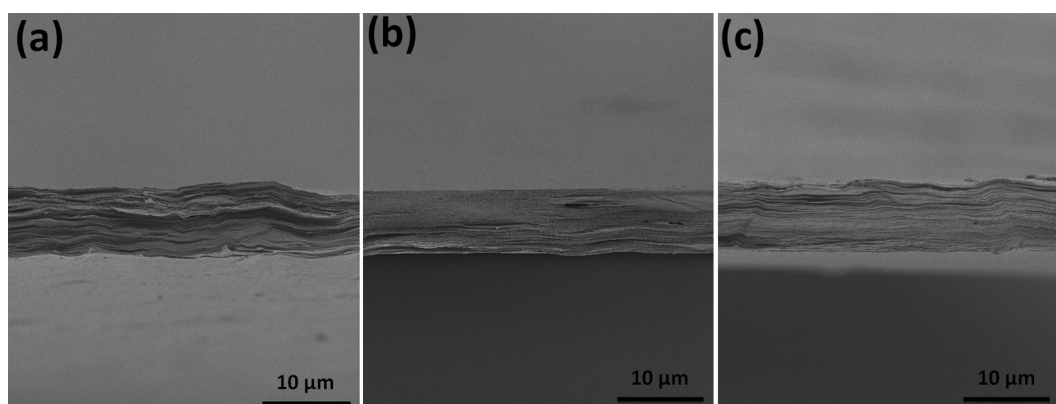


Fig. S4 SEM images of the fracture surfaces of the VDGO(60), FDGO(30), and FDGO(60).

Table S1. Statistical results of the relevant parameters of sonication and the mechanical properties of the final GOFs.

GiO forms	Sonication instruments	Sonication time (min)	Power (W)/ Frequency (kHz)	Tensile strength (Mpa)	Elongation (%)	Ref.
Not Mentioned (NM)	Fisher Scientific FS60	60	150/—	120	0.6	[11]
Solution	Branson Digital Sonifier S450D	30	500/—	150	0.85	[14]
Solution	Fisher Scientific FS60	NM	150/—	81.9	0.4	[13]
Solution	Fisher Scientific FS60	60	150/—	149.4	1.65	[18]
NM	Vibra-Cell VC 505	NM	500/—	130	1.4	[12]
Solution	—	NM	—	62.3	2.3	[37]
Powder	—	30	—	97.4	0.83	[15]
Powder	—	60	—	95.4	0.39	[24]
Solution	—	5-10	—	170.2	0.43	[16]
Solution	—	NM	—	190	1.74	[20]
Solution	—	30	—	34.3	2.61	[21]
Solution	—	NM	—	86.9	0.98	[19]