

Ultra-Lightweight Strain-Responsive 3D Graphene Network

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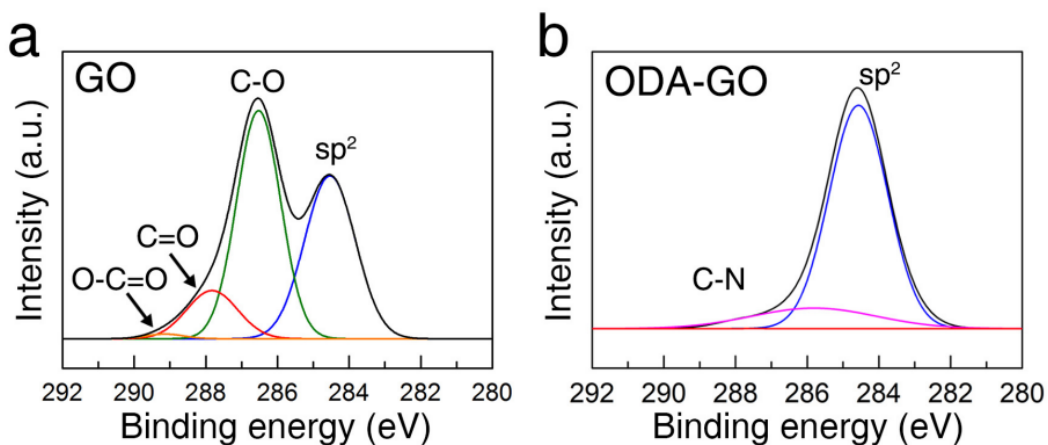
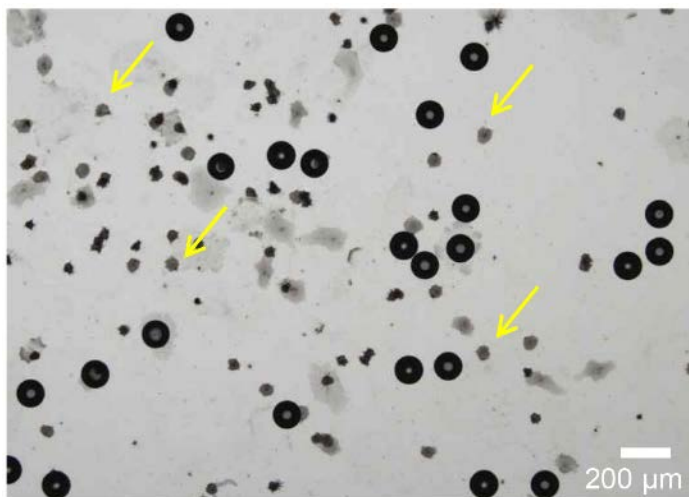
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Table S1. XPS results of GO and ODA-GO

	C (conc %)	O (conc %)	N (conc %)	C/O ratio	C/N ratio	O/N ratio
GO	67.0	32.8	0.2	2.0	-	-
ODA-GO	94.0	3.3	2.7	28.7	34.6	1.2

**Figure S1.** Deconvoluted XPS spectra of the C1s orbitals of (a) GO and (b) ODA-GO.**Figure S2.** Optical microscopy image showing the instability of bubble resulted from ultrathin-shelled spherical bubble with low concentration of ODA-GO nanosheets in toluene. The flow rates of the middle and outer phases were set at 1500 μl/h and 90 ml/h, respectively.

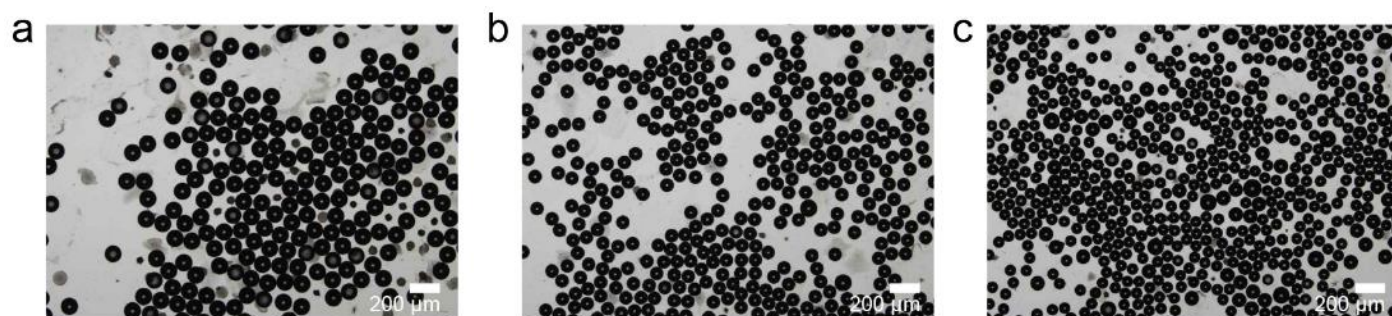


Figure S3. Optical microscopy images of the ODA-GO-shelled bubbles prepared at different outer flow rates (90 ml/h (a), 140 ml/h (b), and 180 ml/h (c)) with constant middle flow rate of 3000 $\mu\text{l/h}$.

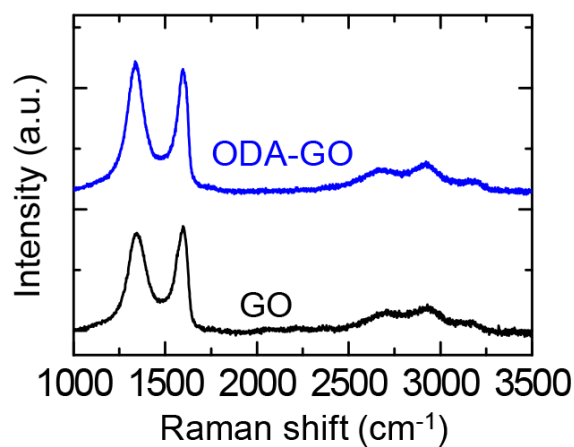


Figure S4. Raman spectra of GO and ODA-GO.

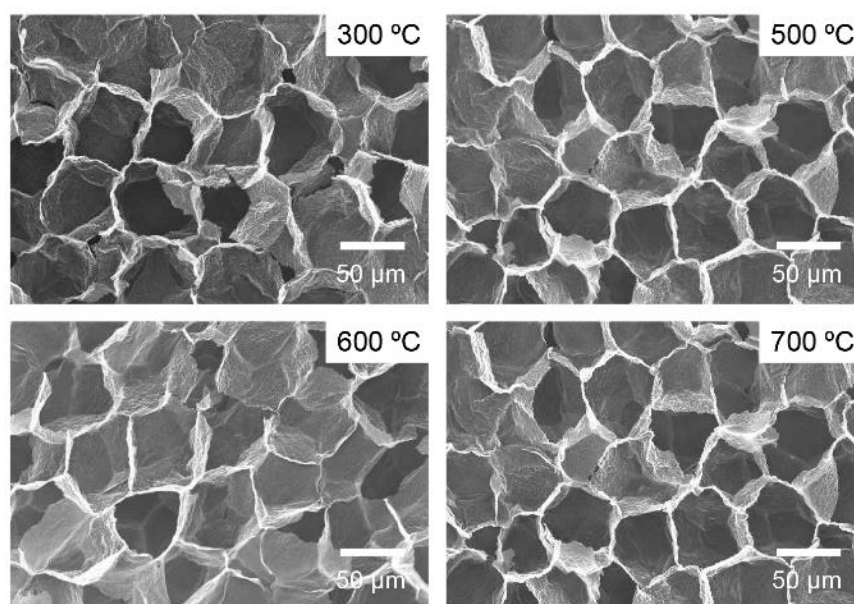


Figure S5. Scanning electron microscopy images of the 3D RDH structure reduced at 300, 500, 600, and 700°C.

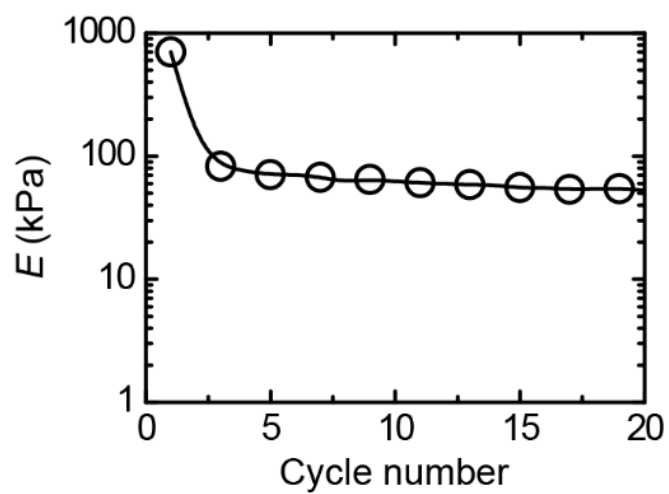


Figure S6. Young's modulus of the 3D RDH structure reduced at 700°C as a function of cycle number