

Electronic Supplementary Information

High-Pressure Hydrogenation of Graphene: Towards Graphane

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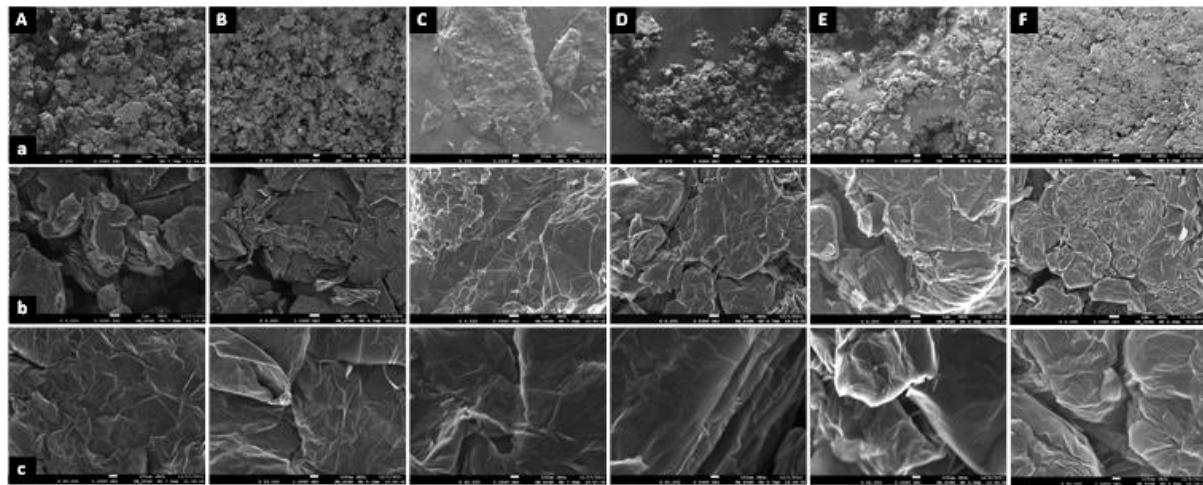


Figure S1. SEM micrographs of (A) G-H: [60 bar/220 °C], (B) G-H: [100 bar/200 °C], (C) G-H: [150 bar/220 °C], (D) G-H: [100 bar/350 °C], (E) G-H: [100 bar/500 °C] and (F) G-Ar: [100 bar/350 °C]. Scale bars (a) 10 μ m, (b) 1 μ m and (c) 100 nm.

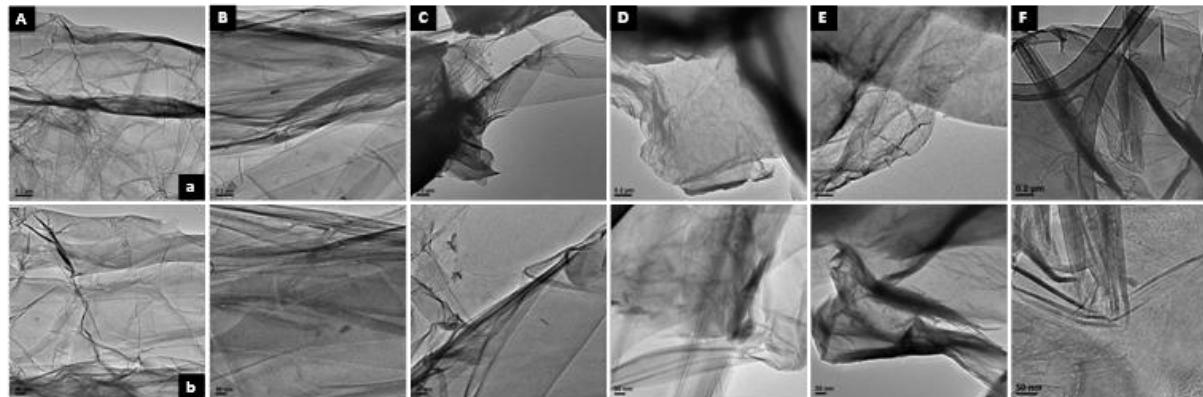


Figure S2. TEM images of (A) G-H: [60 bar/220 °C], (B) G-H: [100 bar/200 °C], (C) G-H: [150 bar/220 °C], (D) G-H: [100 bar/350 °C], (E) G-H: [100 bar/500 °C] and (F) G-Ar: [100 bar/350 °C]. Scale bars (a) 200 nm, (b) 50 nm.

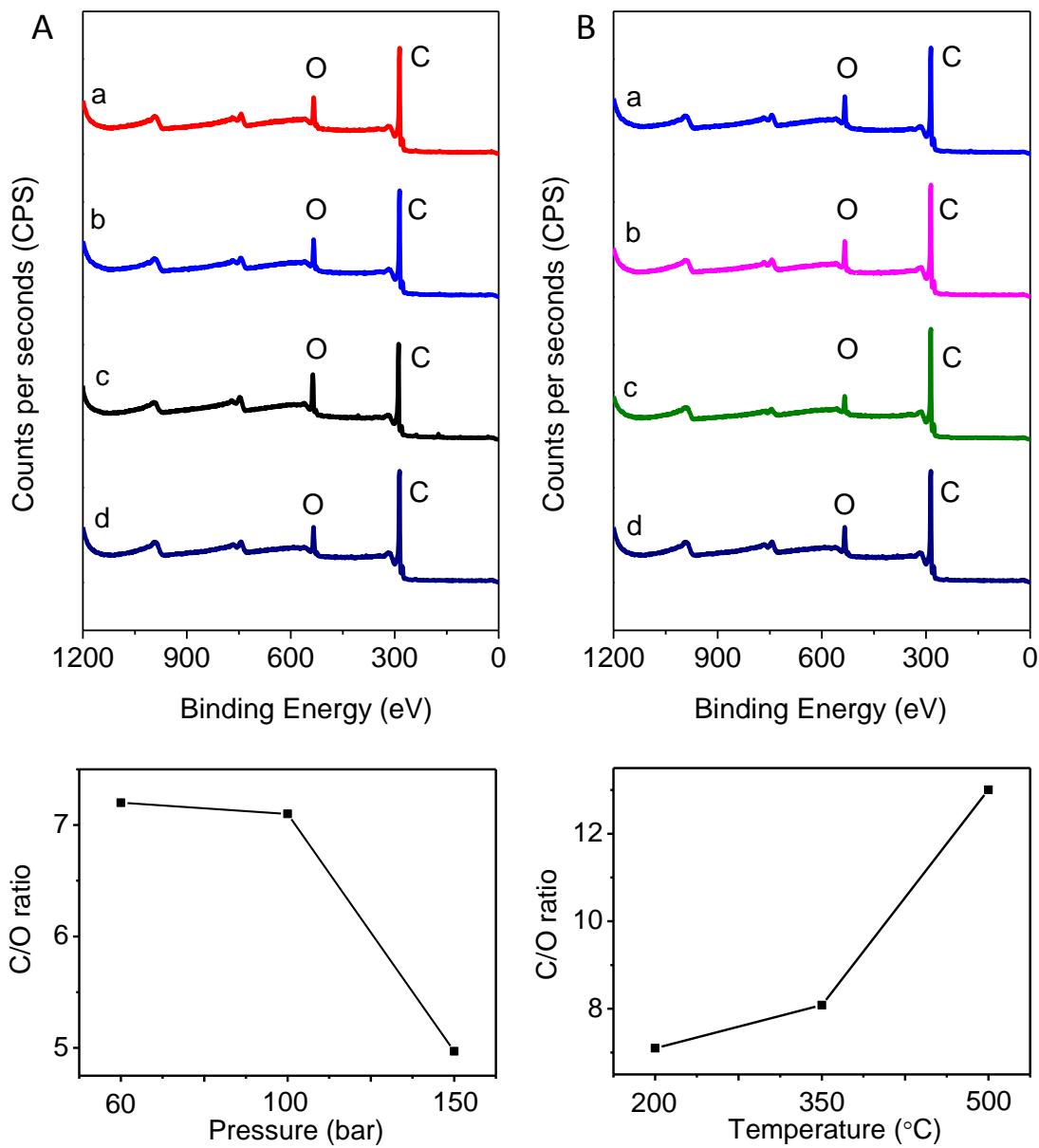


Figure S3. Survey XPS spectra of hydrogenated graphenes under (A) constant temperature of ~220 °C and pressure of (a) 60, (b) 100 and (c) 150 bar and under (B) constant pressure of 100 bar and varying temperature of (a) 200, (b) 350 and (c) 500 °C. Also shown XPS spectra of graphite oxide exfoliated in Ar atmosphere (d).

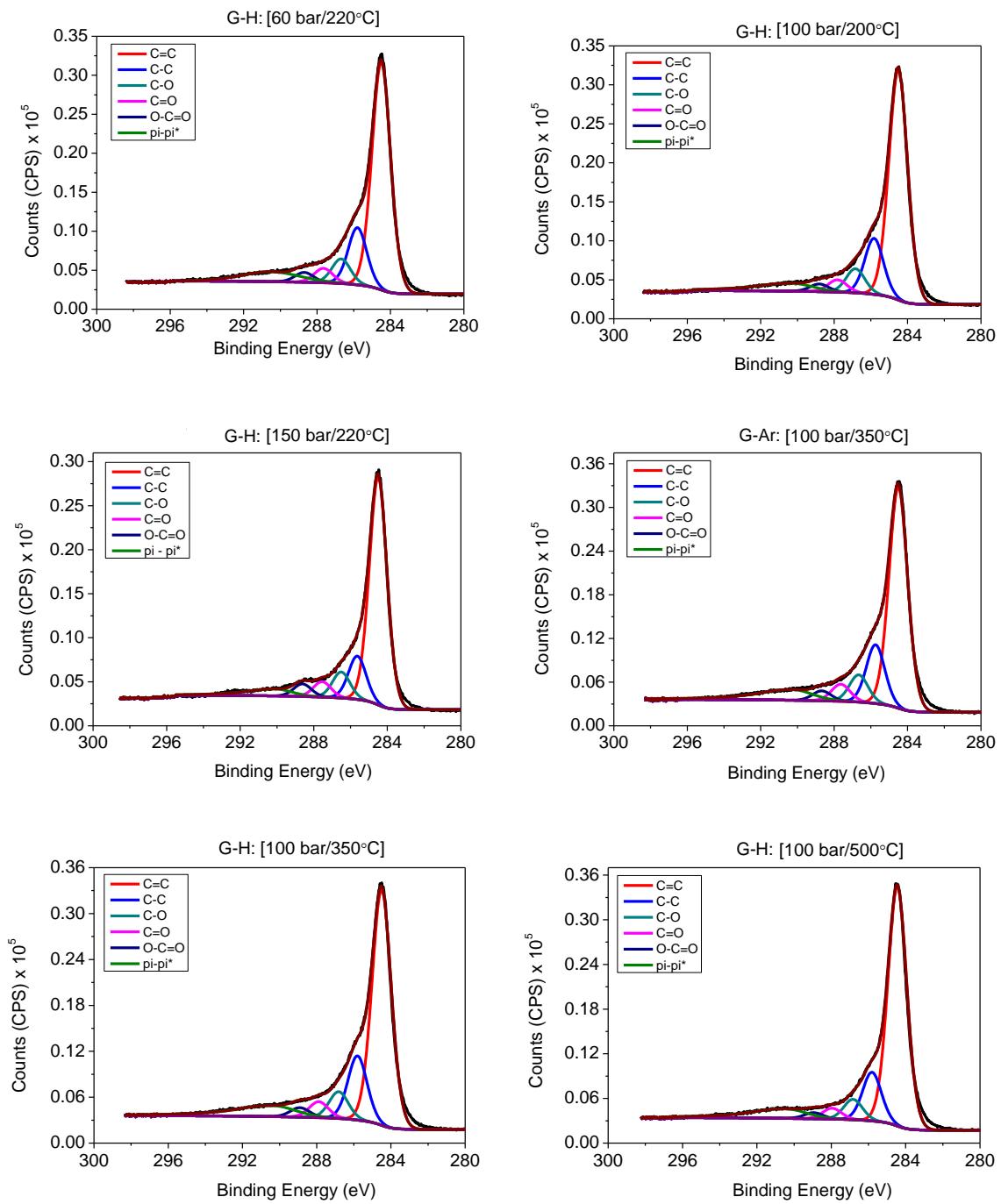


Figure S4. High-resolution XPS of hydrogenated graphene materials.