

N-Doping Holey Graphene TiO₂-Pt Composite as Efficient Electrocatalyst for Methanol Oxidation

Rongli Cui,^{a, ‡} Shuaichao Liu,^{b, ‡} Xihong Guo,^a Huan Huang,^a Jiahao Wang,^a Bing Liu,^a Ying Li,^a Dangui Zhao,^a Jinquan Dong,^a and Baoyun Sun^{, a}*

^a *CAS Key Laboratory for Biomedical Effects of Nanomaterial & Nanosafety, Institute of High Energy Physics, Chinese Academy of Science (CAS), Beijing 100049, China*

^b *College of Chemistry and Chemical Engineering, Inner Mongolia University, Huhhot, 010021, China*

[‡] These authors contributed equally to this work.

Address correspondence to Baoyun Sun, sunby@ihep.ac.cn

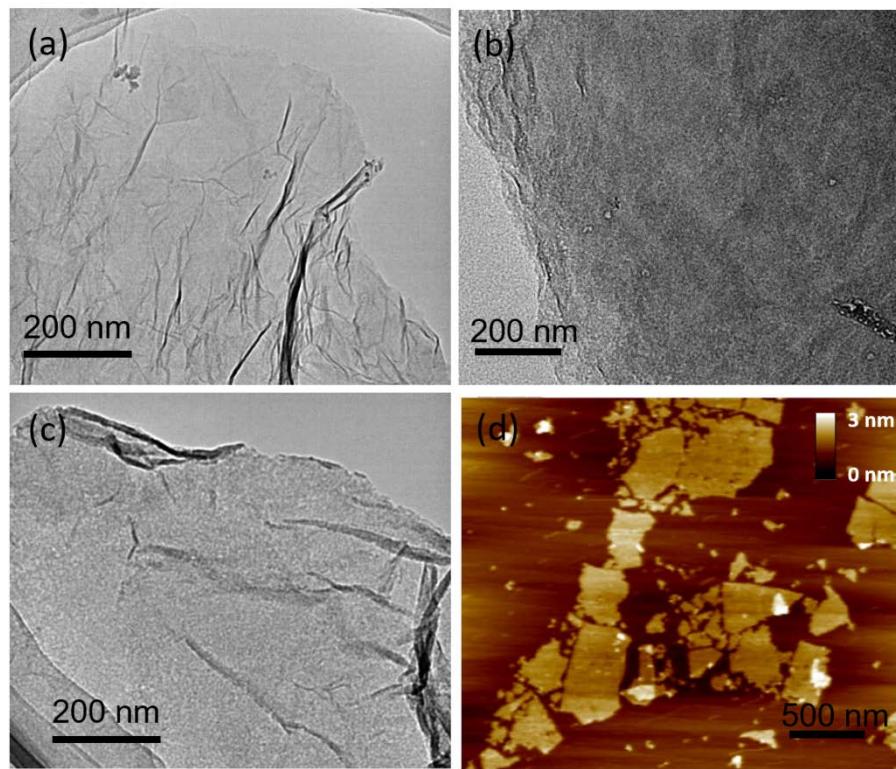


Figure S1. TEM images of GO (a), NHGO (b), HGO (c), and AFM image of HGO (d)

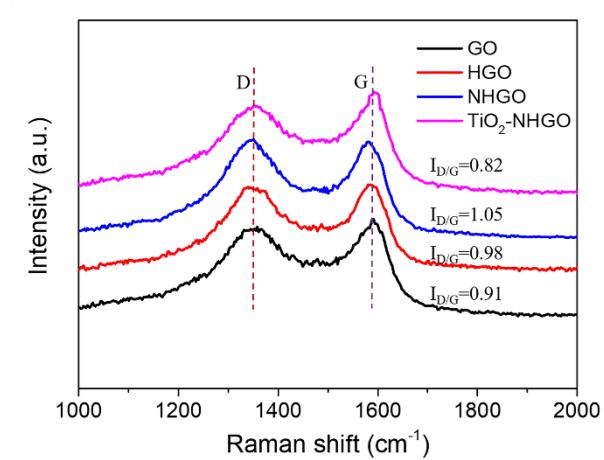


Figure S2. Raman spectra of GO, HGO, NHGO, and TiO_2 -NHGO

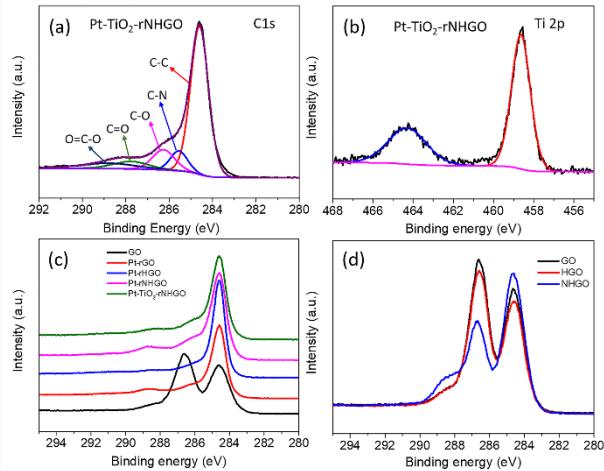


Figure S3. XPS spectra of C1s (a), Ti 2p (b) of Pt-TiO₂-rNHGO, C1s comparison of GO, Pt-rGO, Pt-rHGO, Pt-rNHGO and Pt-TiO₂-rNHGO (c), and GO, HGO and NHGO (d).

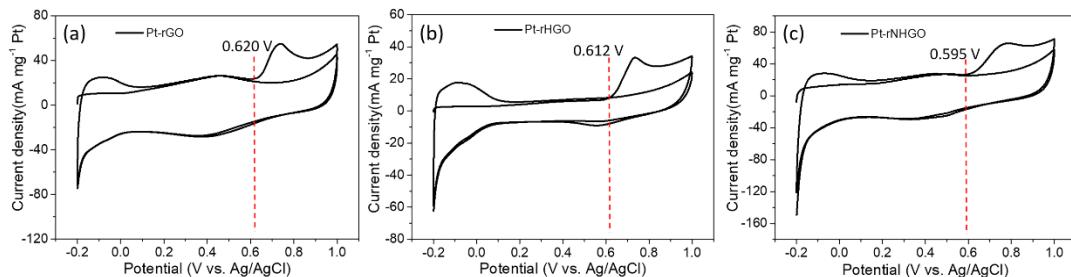


Figure S4. CO-stripping CVs of Pt-rGO (a), Pt-rHGO (b), and Pt-rNHGO (c) catalysts in a solution of 0.5 M H₂SO₄ at a scan rate of 50 mVs⁻¹.