

Supporting information

Gas Barrier Performance of Hexagonal Boron Nitride Monolayers Grown on Copper Foils with Electrochemical Polishing

Chil-Hyoung Lee ^{1,†}, Go-Bong Choi ^{2,†}, Eun-Mi Kim ^{1,3}, Jongho Lee ¹, Jaegun Lee ⁴, Hi-Gyu Moon ⁵, Myung-Jong Kim ⁶, Yoong-Ahm Kim ^{2,*} and Tae-Hoon Seo ^{1,*}

Smart Energy & Nano Convergence Research Group, Korea Institute of Industrial Technology,
Gwangju 61012, Korea; chlee0901@kitech.re.kr (C.-H.L.); kimeunmi@kitech.re.kr (E.M.K.); jholee@kitech.re.kr (J.L.)

² Department of Polymer Engineering, Graduate School, Alan G. MacDiarmid Energy Research Institute & School of Polymer Science and Engineering, Chonnam National University, Gwangju 61186, Korea; uppermost.peak@gmail.com (G.B.C.)

³ School of Materials Science & Engineering, Chonnam National University, 77 Yongbong-ro, Buk-gu, Gwangju 61186, Korea

⁴ Department of Organic Material Science and Engineering, Pusan National University, 2, Busandaehak-ro 63 beon-gil, Geumjeong-gu, Busan 46241, Korea; jglee@pusan.ac.kr

⁵ Department of Inhalation Toxicology Research Center, Korea Institute of Toxicology, Jeongeup 56212, Korea; higyu.moon@kitox.re.kr

⁶ Department of Chemistry, Gachon University, 1342 Seongnam-daero, Sujeong-gu, Seongnam-si, Gyeonggi-do 13120, Korea; myungjongkim@gachon.ac.kr

* Correspondence: yak@chonnam.ac.kr, thseo@kitech.re.kr

† These authors contributed equally to this work.

Keywords: two-dimensional, h-BN, gas barrier, electrochemical polishing,

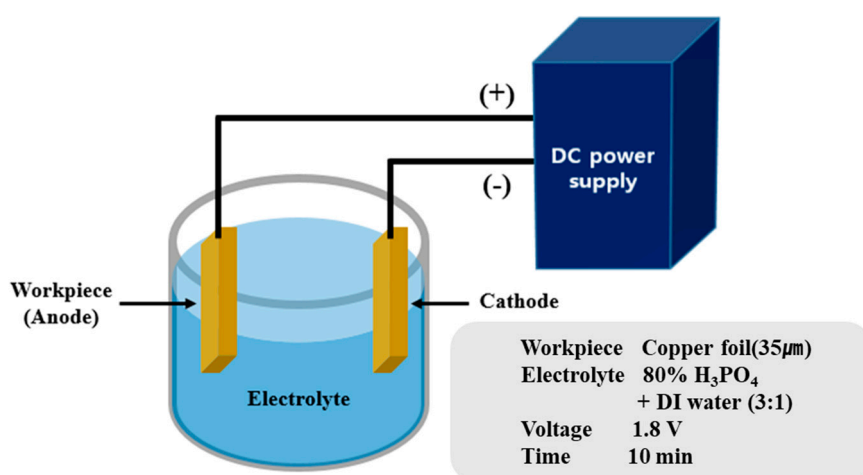


Figure S1. Schematics and experimental conditions of electrochemical polishing for Cu foils.

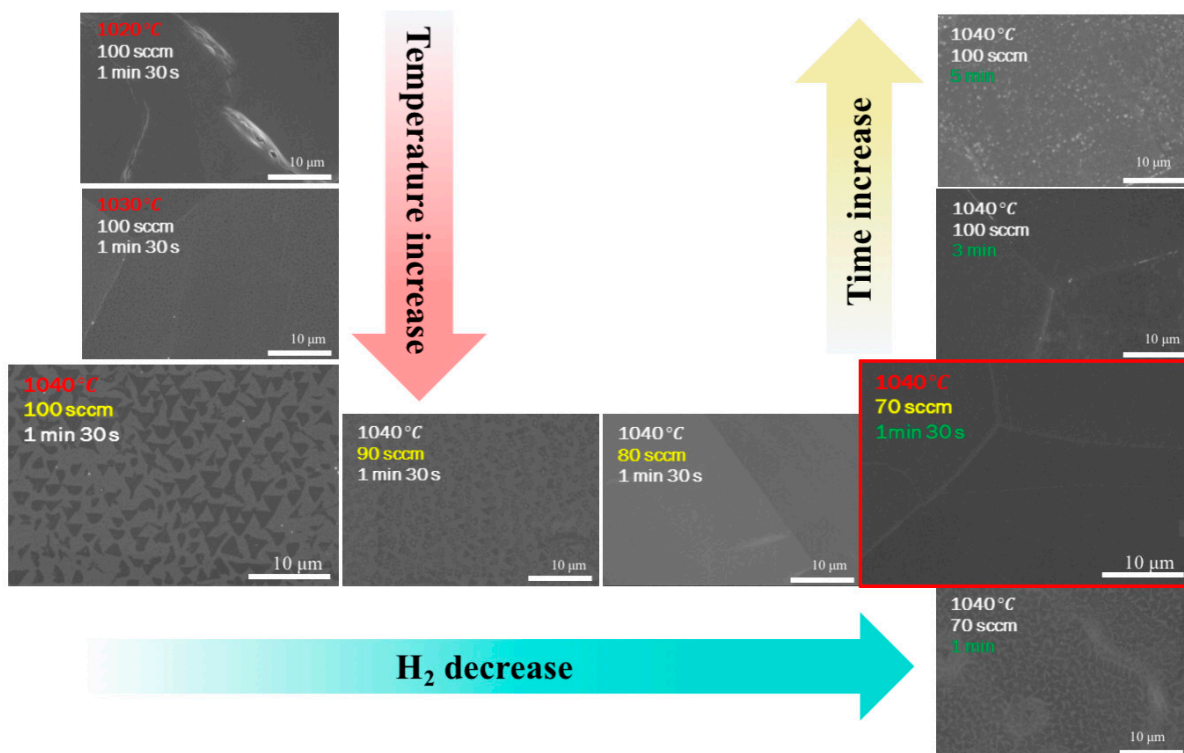


Figure S2. The optimization process of synthesis conditions for high quality and uniform h-BN

(a) Without ECP

(b) With ECP

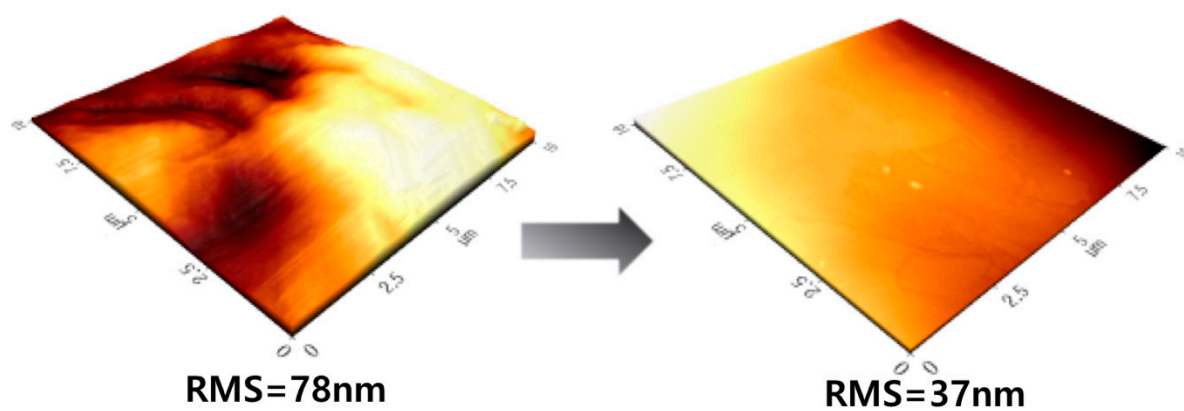


Figure S3. AFM images and RMS roughness of Cu foils (a) without ECP and (b) with ECP, respectively.