Supplementary Information

Gold Nanoframe Array Electrode for Straightforward Detection of Hydrogen Peroxide

Agnes Purwidyantri [1,2], Ya-Chung Tian [3], Gardin Muhammad Andika Saputra [4], Briliant Adhi Prabowo [1,5], Hui-Ling Liu [6], Chia-Ming Yang [6,7,8,9,*] and Chao-Sung Lai [3,6,8,10,11,*]

[1]International Iberian Nanotechnology Laboratory, Braga 4715-330, Portugal; agnes.purwidyantri@inl.int (A.P), briliant.prabowo@inl.int (B.A.P.)

[2]Research Unit for Clean Technology, Indonesian Institute of Sciences, Bandung 40135, Indonesia

[3]Department of Nephrology, Chang Gung Memorial Hospital, Linkou 33305, Taiwan; dryctian@adm.cgmh.org.tw (Y.C.T.)

[4]Materials Engineering Department, Faculty of Mechanical and Aerospace Engineering, Bandung Institute of Technology, Bandung 40135, Indonesia; gardin.mas@gmail.com (G.M.A.S.)

[5]Research Center for Electronics and Telecommunications, Indonesian Institute of Sciences, Bandung 40135, Indonesia

[6]Department of Electronic Engineering, Chang-Gung University, Taoyuan 30002, Taiwan; cslai@mail.cgu.edu.tw (C.S.L.), hll20121219@gmail.com (H.L.L.)

[7]Institute of Electro-Optical Engineering, Chang Gung University, Taoyuan 33302, Taiwan; cmyang@mail.cgu.edu.tw (C.M.Y.)

[8]Biosensor Group, Biomedical Engineering Research Center, Chang Gung University, Taoyuan 33302, Taiwan

[9]Department of General Surgery, Chang Gung Memorial Hospital, Linkou 33305, Taiwan

[10]Department of Materials Engineering, Ming-Chi University of Technology, New Taipei City 24301, Taiwan

[11]Artificial Intelligence Research Center, Chang-Gung University, Taoyuan 30002, Taiwan

*Correspondence: cmyang@mail.cgu.edu.tw (C.M.Y.) and cslai@mail.cgu.edu.tw (C.S.L.)

The reproducibility of the surface nanostructuring to produce BGN and GNA electrodes is shown in Figure S1. The FE-SEM graphs were taken after the production of both nanostructures in two different batches. Taken with the identical magnification power, the surface coverage of both nanostructures was considerably in the same range of surface area.

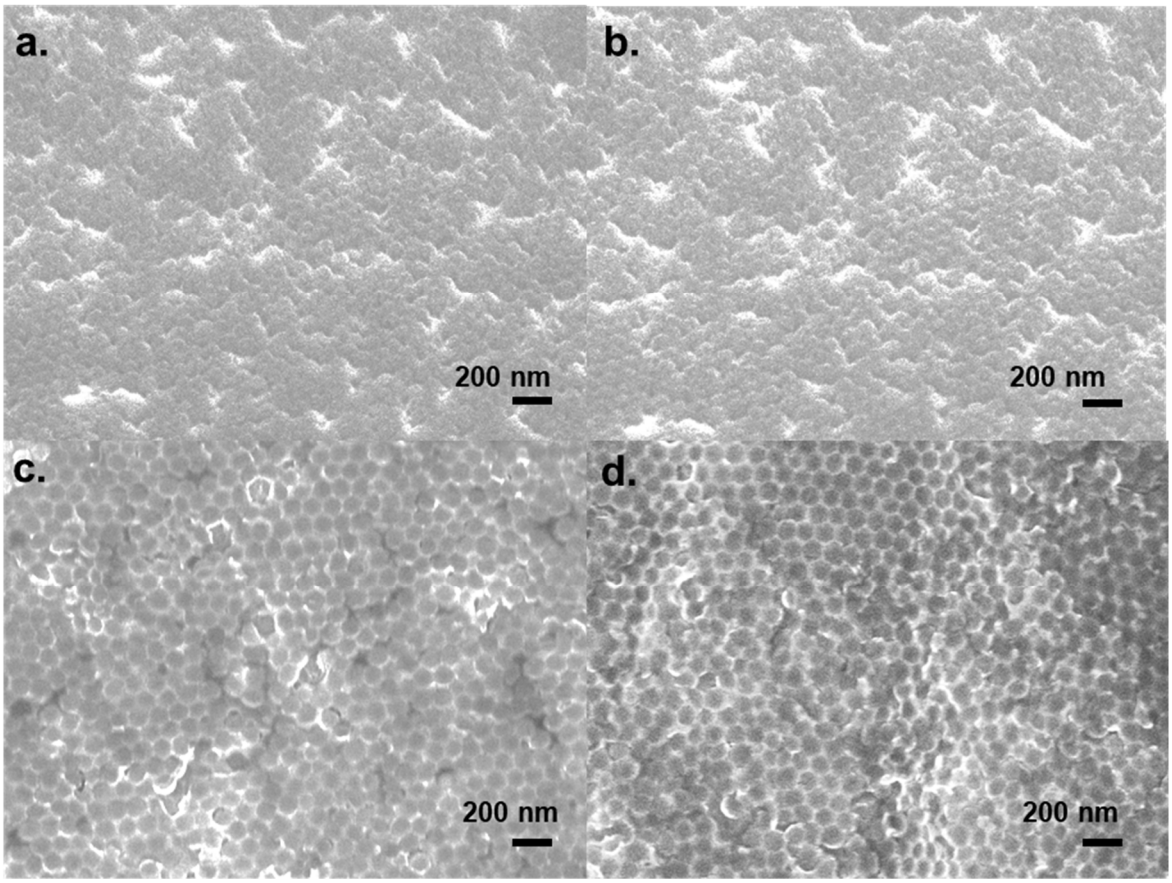
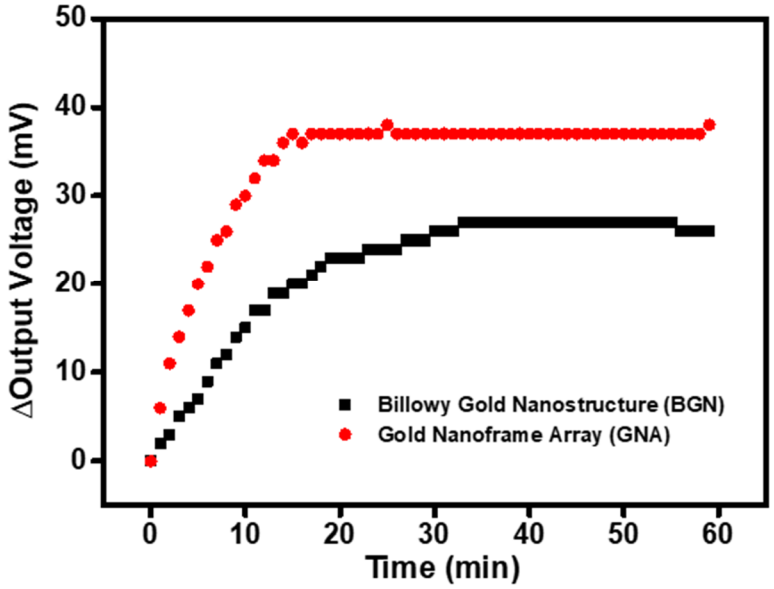


Figure S1. The FESEM graphs showing the reproducibility of the fabricated electrodes with BGN structure from production in a. batch 1 and b. batch 2, in tilting position; and GNA structure from production in c. batch 1 d. and batch 2, captured in the same magnification.



~~Figure S2. A one-hour measurement of using 10 μM H_2O_2 in pH 7.40 using BGN and GNA electrodes performed by a portable CVCC circuit.~~

Figure S2. A one-hour measurement of using 10 μM H_2O_2 in pH 7.40 using BGN and GNA electrodes performed by a portable CVCC circuit.