Supporting Information

Supporting Information

Surface modification of carbon catalysts for efficient production of H₂O₂ in bioelectrochemical systems

Hyunji Eom¹,²†, Eunjin Jwa†, Yoon-Cheul Jeung¹, Kyo Sik Hwang¹, Namjo Jeong¹, Youngsun Mok²*, Joo-Youn Nam¹*

¹Marine Energy Convergence and Integration Research Team, Jeju Global Research Center, Korea Institute of Energy Research, 200 Haemajihaean-ro, Gujwa-eup, Jeju, 63357, Korea
²Department of Chemical & Biological Engineering, Jeju National University, 102 Jejudaehak-ro, Jeju 63243, Korea

†Both authors are contributed equally to this work.
*Corresponding Author

Phone: +82-64-800-2255, Fax: +82-64-805-2204, E-mail: jynam@kier.re.kr

Phone: +82-64-754-3682, Fax: +82-64-755-3670, E-mail: smokie@jejunu.ac.kr
Figure S1. Images of experimental set-up (A) abiotic half-cell reactors, (B) Anode chamber of BES (C) Cathode chamber of BES
**Figure S2.** Comparison of differently modified carbon powders for \( \text{H}_2\text{O}_2 \) production (A) cathode potentials at – 3mA (B) \( \text{H}_2\text{O}_2 \) production rates
Figure S3. The calculated number of transferred electrons via RRDE measurement
Figure S4. (A) Cathode potentials during $\text{H}_2\text{O}_2$ production (B) $\text{H}_2\text{O}_2$ production rates in continuous-flow BES (C) COD removal efficiency