



# Performance of SS304 Modified by Silver Micro/Nano-Dendrite Coating with Hot-Water Super-Repellency in Simulated PEMFC Cathode Environment

Junji Xuan <sup>1,2</sup>, Bingzhi Li <sup>2</sup>, Likun Xu <sup>1,2,\*</sup>, Zhaoqi Zhang <sup>2,\*</sup>, Yonglei Xin <sup>2</sup>, Lili Xue <sup>1</sup> and Li Li <sup>1</sup>

<sup>1</sup> College of Materials Science and Chemical Engineering, Harbin Engineering University, Harbin 150001, China; xuanjunji@gmail.com (J.X.); xuelili@hrbeu.edu.cn (L.X.); lili\_heu@hrbeu.edu.cn (L.L.)

<sup>2</sup> State Key Laboratory for Marine Corrosion and Protection, Luoyang Ship Material Research Institute, Qingdao 266237, China; lbz11666888@163.com (B.L.); xinyi@sunrui.net (Y.X.)

\* Correspondence: xulk@sunrui.net (L.X.); zhangzhaoqi527@163.com (Z.Z.)

**Table S1.** The information and content of possible impurities in reagents and solvents, the horizontal line (-) in the table represents unknown.

Impurities	H <sub>2</sub> SO <sub>4</sub>	HF	Ethanol	Acetone	NH <sub>4</sub> OH	n-Dodecyl mercaptan	AgNO <sub>3</sub>
Burning/evaporation residue	≤ 0.001	≤ 0.002	≤ 0.001	-	≤ 0.002	-	-
Chloride (Cl <sup>-</sup> )	≤ 0.00003	≤ 0.001	-	-	≤ 0.00005	-	≤ 0.001
Nitrate (NO <sub>3</sub> <sup>-</sup> )	≤ 0.00005	-	-	-	-	-	-
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	≤ 0.002	≤ 0.002	-	-	≤ 0.0002	-	≤ 0.004
Phosphate (PO <sub>4</sub> <sup>3-</sup> )	-	≤ 0.0002	-	-	≤ 0.0001	-	-
Fluosilicate (SiF <sub>6</sub> <sup>2-</sup> )	-	≤ 0.04	-	-	-	-	-
Carbonate (CO <sub>3</sub> <sup>2-</sup> )	-	-	-	-	≤ 0.001	-	-
Sulfide (S <sup>2-</sup> )	-	-	-	-	≤ 0.00002	-	-
Amine salt (NH <sub>4</sub> <sup>+</sup> )	≤ 0.0002	-	-	-	-	-	-
Na	-	-	-	-	≤ 0.0005	-	-
K	-	-	-	-	≤ 0.0001	-	-
Mg	-	-	-	-	≤ 0.0001	-	-
Ca	-	-	-	-	≤ 0.0001	-	-
Fe	≤ 0.00005	≤ 0.0001	-	-	≤ 0.00002	-	≤ 0.0002
Cu	≤ 0.00001	-	-	-	≤ 0.00001	-	≤ 0.0007
As	≤ 0.000003	-	-	-	-	-	-
Pb	≤ 0.00001	≤ 0.0005	-	-	≤ 0.00005	-	≤ 0.0007
Potassium permanganate-reducing (SO <sub>2</sub> )	≤ 0.0005	-	-	-	-	-	-
Potassium permanganate-reducing (O)	-	-	≤ 0.00025	-	≤ 0.0008	-	-
Water	-	-	≤ 0.3	≤ 0.3	-	-	-
Ethanol	-	-	-	≤ 0.05	-	-	-
Methanol	-	-	≤ 0.05	≤ 0.05	-	-	-
Isopropyl alcohol	-	-	≤ 0.01	-	-	-	-