Electronic Supplementary Material (ESI) for Industrial Chemistry & Materials.

Investigation on Electrocatalytic Performance and Material Degradation of N-doped Graphene-MOF Nanocatalyst in Emulated Electrochemical Environments

Niladri Talukder,[a] Yudong Wang, [a] Bharath Babu Nunna,[b] Xiao Tong,[c] Jorge Anibal Boscoboinik,[c] and Eon Soo Lee *[a]

[a] Advanced Energy Systems and Microdevices Laboratory, Department of Mechanical and Industrial Engineering, New Jersey Institute of Technology, Newark, NJ, 07102, United States.

[b] Department of Mechanical Engineering, Weber State University, Ogden, Utah, 84408, United States.

[c] The Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, New York 11973, United States.

* Corresponding Author: eonsoo.lee@njit.edu

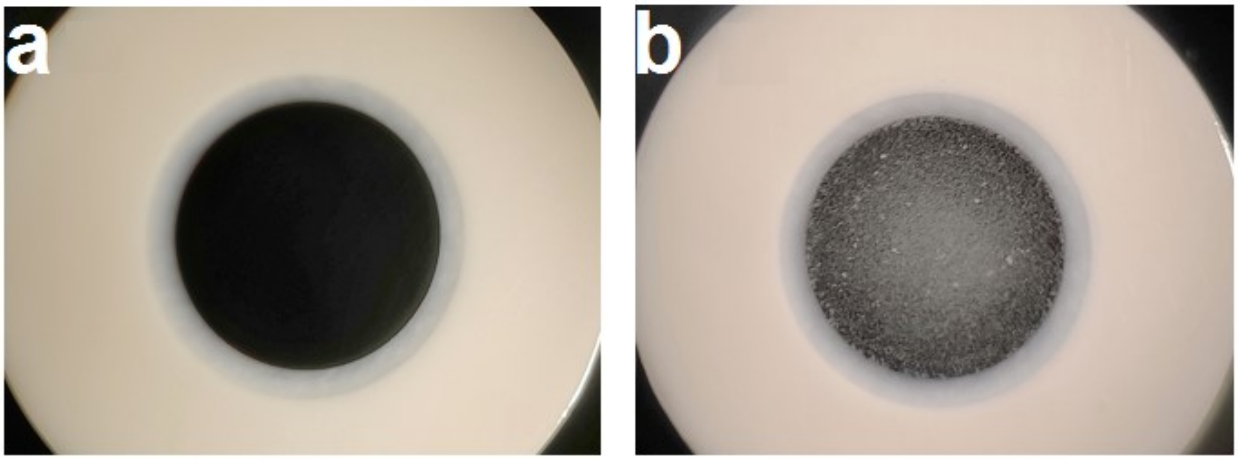

Fig. S-1: (a) uncoated working electrode surface; (b) N-G/MOF catalyst coated working electrode surface.

Table SD-1: Averaged relative ratios of the elements of N-G/MOF nanocatalyst samples obtained by multiple UHV-XPS Survey Scan.

	H_2O_2 Concentration	Oxygen, O %	Carbon, C %	Nitrogen, N %	Zirconium, Zr %	Zinc, Zn%	Iron, Fe%
Fresh N-G/MOF	0.00	46.86	36.06	7.17	5.36	2.06	2.49
0.01 M H_2O_2 Treated N-G/MOF	0.01	46.15	38.12	8.84	4.19	1.79	0.93
0.1 M H_2O_2 Treated N-G/MOF	0.1	52.51	31.93	5.03	5.68	2.79	2.06
0.5 M H_2O_2 Treated N-G/MOF	0.5	54.29	26.32	5.16	7.59	3.29	3.35
1 M H_2O_2 Treated N-G/MOF	1	53.52	28.44	5.55	6.78	2.88	2.83
5 M H_2O_2 Treated N-G/MOF	5	59.28	24.35	3.45	7.13	2.89	2.91