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Synthesis of porphyrin-based two-dimensional metal-organic framework nanodisk with small size and less layers

Yuewu Zhao, Ling Jiang, Li Shangguan, Li Mi, Anran Liu, Songqin Liu*

Key Laboratory of Environmental Medicine Engineering, Ministry of Education, Jiangsu Engineering Laboratory of Smart Carbon-Rich Materials and Device, School of Chemistry and Chemical Engineering, Southeast University, Nanjing, 211189, China

* Corresponding authors: liusq@seu.edu.cn. fax: 86-25-52090613, tel: 86-25-52090613.

Figure S1

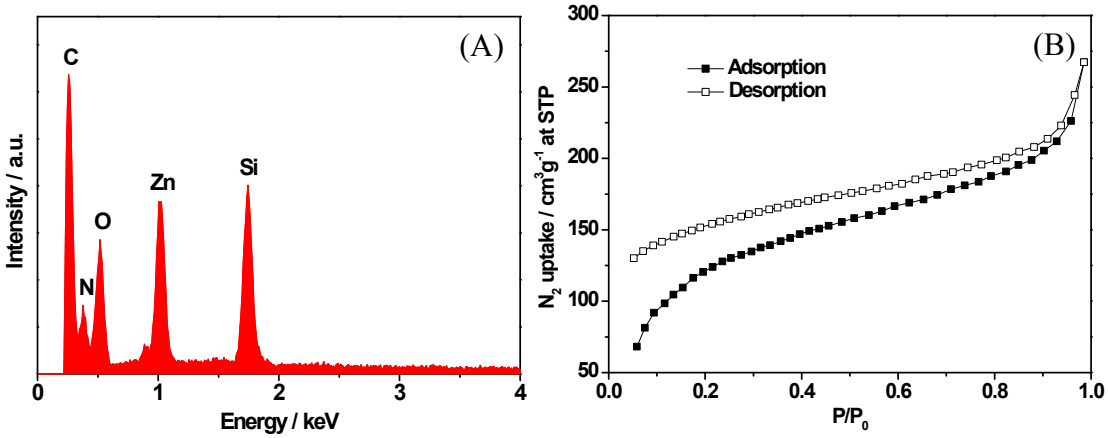

Figure S1. (A) EDS spectrum of the Zn-TCPP(BP) nanodisk. The Si peak in the EDS spectrum was come from the substrate for the sample characterization. (B) N_2 adsorption-desorption isotherms of the Zn-TCPP(BP) nanodisk. The prepared Zn-TCPP(BP) nanodisk showed an approximate type I Langmuir isotherms with a Brunauer-Emmett-Teller surface area of 483 m^2 g^{-1}.

Figure S2

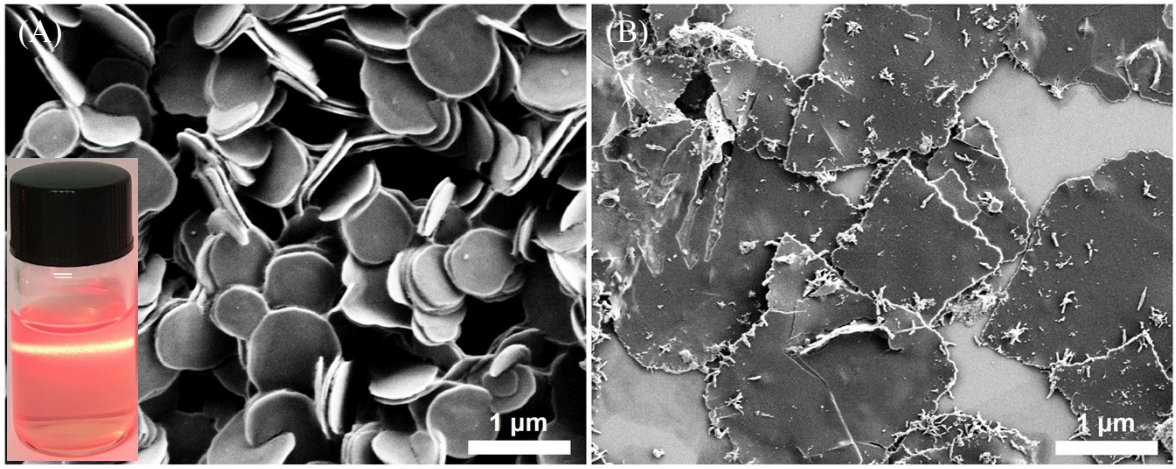

Figure S2. (A) The obtained Zn-TCPP(BP) nanodisk when N, N-dimethylformamide (DMF) was used as reaction medium. The clear Tyndall light scattering was found in the prepared Zn-TCPP(BP) nanodisk confirms their colloidal structure. (B) The introduction of deionized water instead of N, N-dimethylformamide (DMF) as reaction medium led to the formation of Zn-TCPP MOF with irregular shape and rough surface.

Figure S3

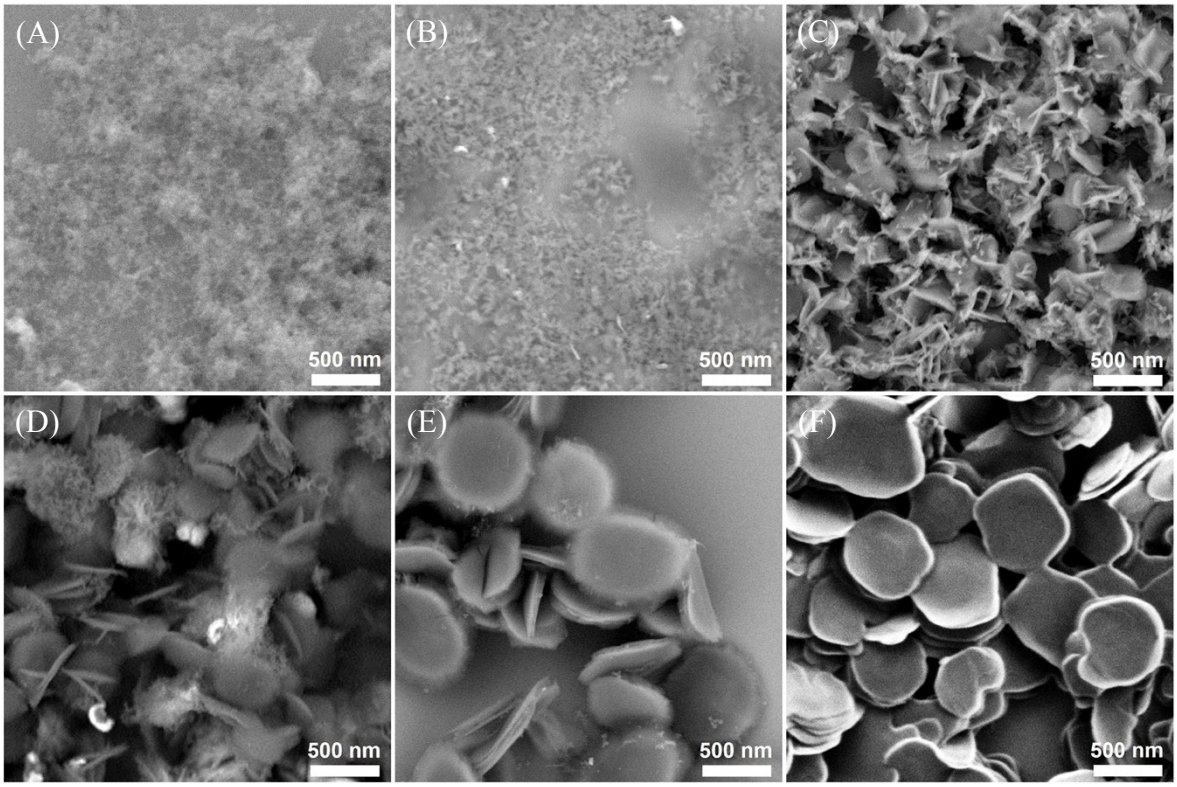

Figure S3. The microstructure of Zn-TCPP(BP) products at (A) 10, (B) 20, (C) 30, (D) 40, (E) 50, and (F) 60 min after the start of the reaction.

Table S1

Table S1. Summary of the electrochemical sensors for the detection of NO_2^-.

Electrodes	Linearity rang (μM)	Sensitivity (μA/mM/cm^2)	LOD (μM)	Ref
GCE	2.5-10	36	0.4	[s1]
Hb/Ag/TiO_2	2000-6000	5.84	34	[s2]
Zr-porphyrin MOF-525	10-800	40.6	0.72	[s3]
Fe(III)-porphyrin/MWCNTs	1-1600	-	0.5	[s4]
Nano-Au/*p*-TA	15.9-277	-	0.89	[s5]
CTAB-GO/MWNT	5-800	-	1.5	[s6]
La/MWCNTs	0.4-71	-	0.013	[s7]
CDP/GS/MWCNTs	5-6750	-	1.65	[s8]
Fe(III)TPyP-Ba	1-250	-	0.5	[s9]
TOAB/ZnP_p-C_{60}	2-164	-	1.44	[s10]
FeT4MPyP/CoTSPc	0.2-8.6	-	0.04	[s11]
CuS-MWCNTs	1-8130	131.2	0.33	[s12]
CR-GO	8.9-167	26.7	1.0	[s13]
Zn-TCPP(BP)	1-1000	158.1	0.26	This work

Table S2

Table S2. The analytical results of NO_2^- in real water samples.

Sample	Added (μM)	Found (μM)	Recovery (%)
Tap water	0	0	
	1.0	1.078	108
	5.0	4.952	99
Drinking bottled water	0	0	
	1.0	1.054	105
	5.0	5.126	103
Jiulong Lake water	0	0.913	
	5.0	6.385	109
	10.0	10.211	93
Xuanwu Lake water	0	0.422	
	5.0	5.749	107
	10.0	10.681	103

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