Supporting Information

MOF-derived $ZnCo_2O_4$ porous micro-rices with enhanced electrocatalytic activity for oxygen evolution reaction and glucose oxidation

Daojun Zhang,[a,b]* Zimo Wang,[a] Jiakai Li,[a] Chengming Hu,[a] Xiaobei Zhang,[b] Bei Jiang,[a] Zhi Cao, [a] Jingchao Zhang, [a] Renchun Zhang [a]

[a] Henan Key Laboratory of New Optoelectronic Functional Materials, College of Chemistry and Chemical Engineering, Anyang Normal University, Anyang 455000, Henan, China

[b] College of Chemistry and Molecular Engineering, Zhengzhou University, 100 Science Road, Zhengzhou 450001, P. R. China

* Corresponding author. Tel.: +86 372 2900040.

E-mail: zhangdj0410@sohu.com

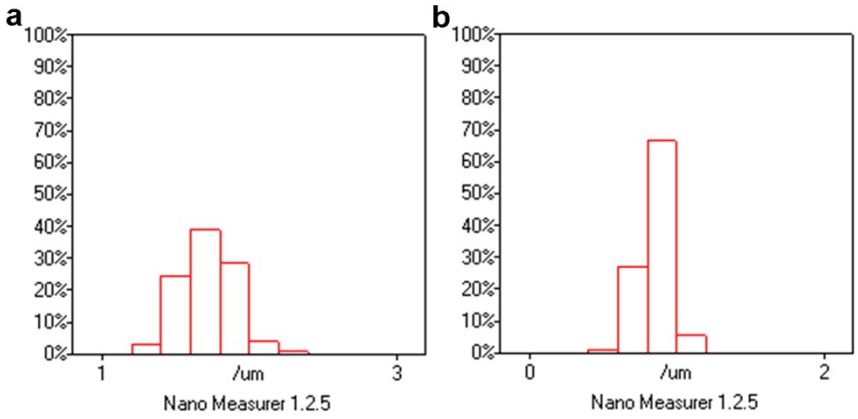

Fig.S1 The size distribution of micro-rice like $ZnCo_2O_4$ precursors: (a) the length, (b) the width.

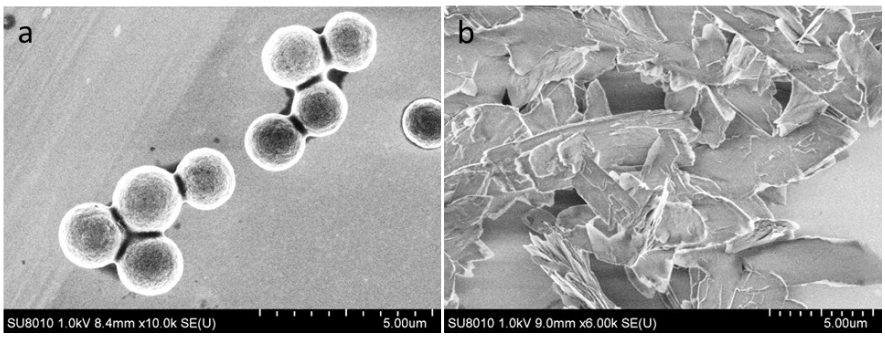

Fig.S2 The SEM image of product obtained with different Zn/Co ratio: (a) 0.09 mmol of $Zn(NO_3)_2 \cdot 6H_2O$ (Zn/Co=1:0) , (b) 0.03 mmol of $Zn(NO_3)_2 \cdot 6H_2O$ and 0.27 mmol of $Co(NO_3)_2 \cdot 6H_2O$ (Zn/Co=1:9).

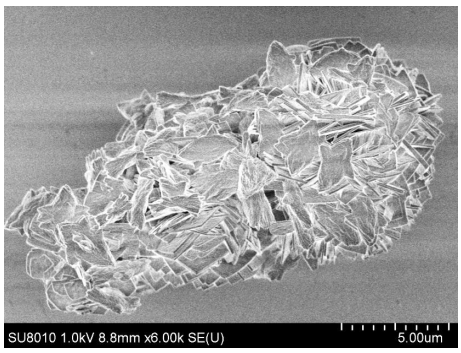

Fig.S3 The SEM image of product obtained by using 0.035 mmol p-phthalic acid (half of the initial dosage) and with other reaction parameters unchanged.

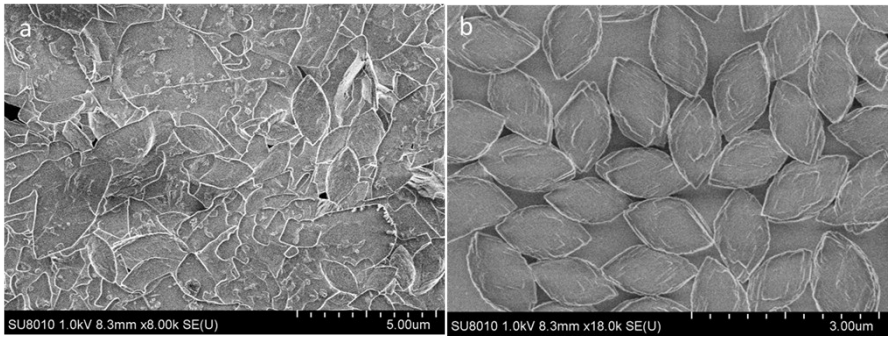

Fig.S4 The SEM image of samples obtained by different DMF and ethanol ratio: (a) 4 mL of DMF and 4 mL of ethanol, (b) 5 mL of DMF and 3 mL of ethanol.

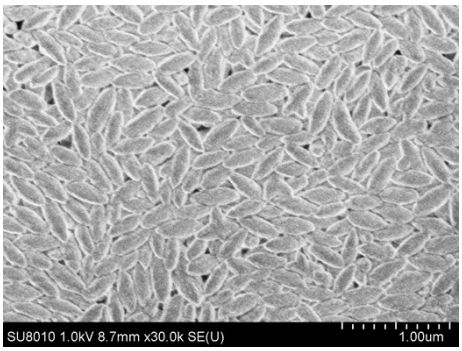

Fig.S5 The SEM image of spindle-like microparticles synthesized by using 5 mL of N, N-dimethylacetamide instead of isometric DMF, and kept other reaction conditions unchanged.

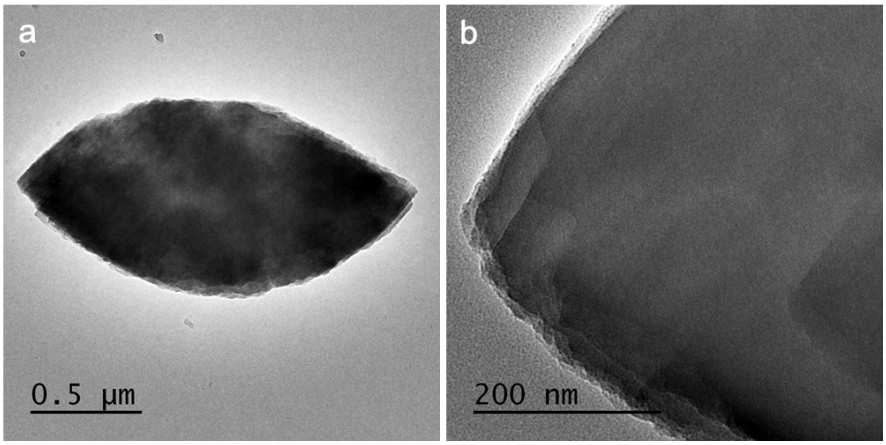

Fig.S6 The TEM images of Zn-Co-based MOF precursors.

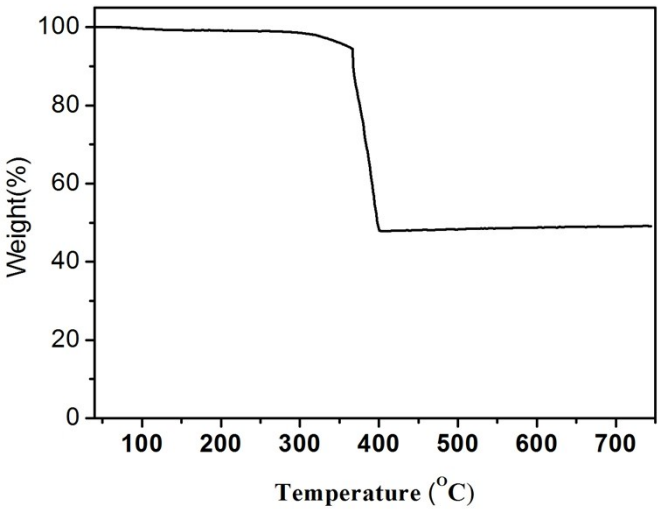

Fig.S7 TGA curve of micro-rice Zn-Co MOF precursors.

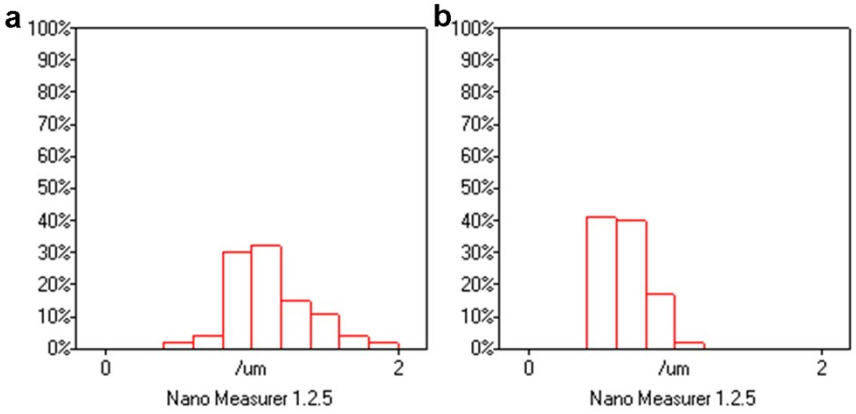

Fig.S8 The size distribution of the porous micro-rice like $ZnCo_2O_4$: (a) the length, (b) the width.