

Supporting Information

Co MOF Derived Flower-like CoS@S,N-doped Carbon Matrix for Highly Efficient Overall Water Splitting

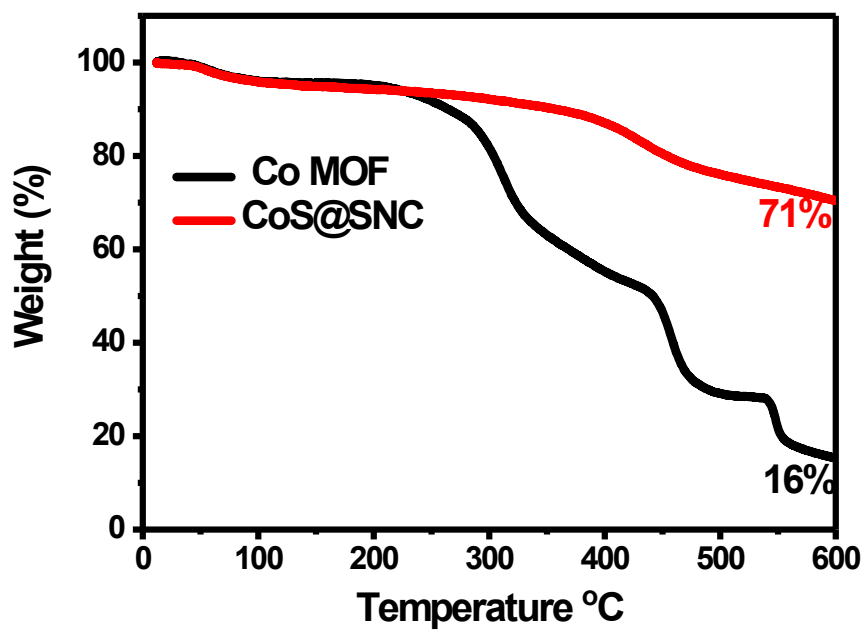
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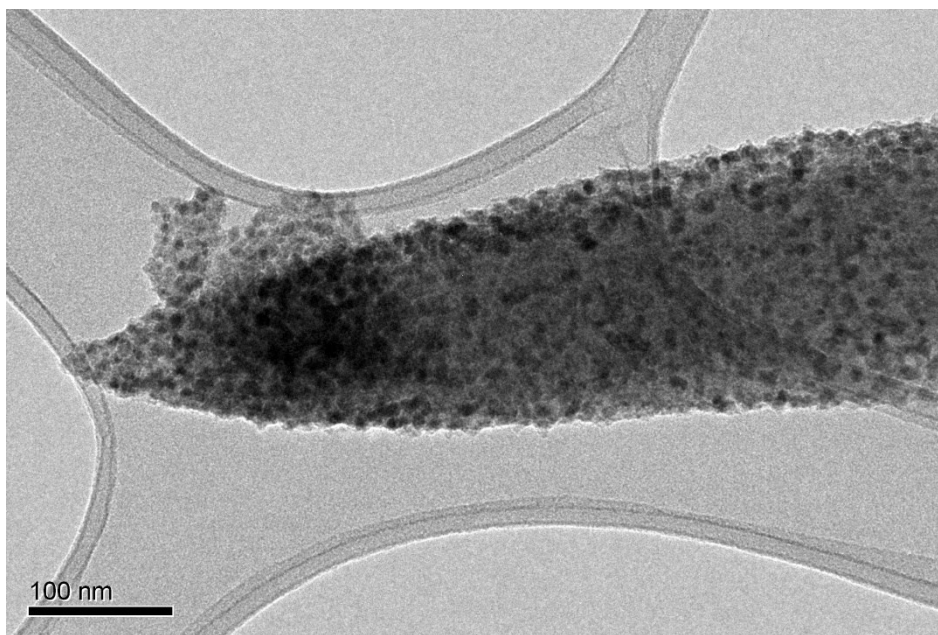
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SI-1

Fig. S1 TGA images of CoS@SNC and Co MOF



SI-2

Fig. S2 TEM images of CoS@SNC after 5000 cycles

Catalysts	Electrolyte	η (mV)	Tafel slope (mV dec ⁻¹)	Reference
Plasma-engraved Co₃O₄	0.1 M KOH	300	68	Angew. Chem., Int. Ed. 2016, 55 (17), 5277–5281.
N-Co₉S₈/G	0.1 M KOH	409	82.7	Energy Environ. Sci. 2016, 9 (4), 1320–1326.
R-CoP_x/rGO(O)	1 M KOH	268	108	J. Mater. Chem. A 2018, 6 (30), 14939–14948
Co_{0.68}Fe_{0.32}P	1 M KOH	289	66	Small 2017, 13 (40), 1701167
CuCo₂S₄	1.0 M KOH	310	86	ACS Catal. 2017, 7, 5871–5879
CoS@NF	1.0 M KOH	297	106	J. Alloys and Compounds 723 (2017) 772-778
CoS₂-IL-45	0.1 M KOH	310	115.1	Chem. Commun., 2018, 54, 8765--8768
MOF-driven CoS₂	1.0 M KOH	298	94	Scientific Reports 2019, 9, 19539
CoS@SNC	0.1M KOH	265	59.8	This work

Table S1. Comparison of the CoS@SNC catalyst for OER activity with reported electrocatalysts.

Table S2. Comparison of the CoS@SNC catalyst for HER activity with reported electrocatalysts.

Catalysts	Electrolyte	η (mV)	Tafel slope (mV dec ⁻¹)	Reference
CoS	0.5 H ₂ SO ₄	59	56.2	J. Mater.Chem.A. 2015, 3,13066-13071
N-CoS ₂ NW/CC	0.5 H ₂ SO ₄	152	58	Acc. Catal, 2017, 7, 7405-7411
Co@N-carbon	0.5 H ₂ SO ₄	305	107	Chem. Asian J. 2018, 13,1485 –1491
Co-Bi-Ru	1 M KOH	145	65.6	Adv. Energy Mater. 2019, 9, 1901130
Co@N,S co-doped CNT	0.5 H ₂ SO ₄	-123	89	Electrochimica Acta 247 (2017) 736–744
	1 M KOH	-196		
CoPS/N-C	0.5 H ₂ SO ₄	-80	68	Nanoscale, 2018, 10,7291
	1M KOH	-148	78	
Co-P-B	0.5 H ₂ SO ₄	200	62-68	J. Mater. Chem. A, 2018, 6, 6282–6288
CoMo/CFP	1 M KOH	148	124	Applied Surface Science, 541, 2021, 148518
MF Co 800 (N doped Co)	0.5 H ₂ SO ₄	-166	88.1	Journal of Colloid and Interface Science 514 (2018) 281–288
	1M KOH	-203	69.8	
CoS@SNC	0.1M KOH	-65	47	This work