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High-performance bifunctional oxygen electrocatalyst derived from iron and nickel substituted perfluorosulfonic acid/polytetrafluoroethylene copolymer

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ABSTRACT:

Heteroatom-doped carbon materials and 3d transition metals have shown high activity and durability for oxygen reduction reaction (ORR) and oxygen evolution reaction (OER), respectively, but poor bifunctionality. Herein, we use iron and nickel substituted perfluorosulfonic acid/polytetrafluoroethylene copolymer with uniform distribution and conveniently adjustable ratios of metal ions as the pyrolysis precursor to synthesize nitrogen and

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