

## Iron-Doped Graphitic Carbon Nitride on Nickel foam as Highly Efficient Electrocatalysts for Oxygen Evolution Reaction

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Efficient electrochemical water splitting to hydrogen and oxygen is considered a promising technology to overcome environmental problems resulted from fossil fuel energy consumption. Graphitic carbon nitride ( $g\text{-C}_3\text{N}_4$ ) is one of the most stable allotrope in ambient conditions, and it has very attractive properties for catalysts such as high chemical stability behavior. By introducing metal ions (e.g.,  $\text{Fe}^{3+}$ ,  $\text{Zn}^{2+}$ ) into  $g\text{-C}_3\text{N}_4$ , electronic structures of  $g\text{-C}_3\text{N}_4$  can be modified and provide way to tune catalytic properties. In this work, Fe-doped  $g\text{-C}_3\text{N}_4$  on Ni foam was prepared and studied its catalytic performances for OER. The catalyst exhibits very low overpotential ( $\sim 230$  mV) to achieve a current density of  $10 \text{ mA cm}^{-2}$  for OER and good stability in alkaline solution.