

PREPARATION METHOD AND APPLICATION OF A METAL NANOCLUSTER MODIFIED FENC CATALYST

ABSTRACT

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The present invention relates to the field of electroreduction catalyst technology, specifically to a preparation method and application of a metal nanocluster modified FeNC catalyst, comprising: thiosemicarbazide coordinating with metal to form a cyanide containing complex, carbonizing to form Prussian blue, and then controlling the acid washing degree. Prussian
10 blue is decomposed into cluster supported single atom catalyst through secondary carbonization; The present invention utilizes the coordination of thiosemicarbazide with metal precursor acetylacetonate iron, and uses $Mg(OH)_2$ produced in situ as a template to form metal intermediate like Prussian blue nanoclusters, which can prepare highly dispersed Fe nanoclusters and form S atom modified Fe single atomic sites. Characterized by speed,
15 simplicity, and high success rate.

FIG.1