

# **Nickel Copper Alloy Nanoparticles Embedded 3D Carbon Matrix for Electrochemical Energy Storage**

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Facile and low-cost synthesis routes of highly efficient electrode materials for applications in electrochemical energy storage devices are imperative. In this work we constructed nickel-copper alloy nanoparticles through decomposition of metal-organic frameworks (MOFs) at an elevated temperature under nitrogen atmosphere. Our method includes NiCu bimetallic nanoparticles embedded carbon matrix rejected from 1,3,5-tricarboxylic acid as an organic molecule. Owing to higher porosity and a greater specific surface area, NiCu@C shows high capacitance and longer life in a supercapacitor. Such materials provide binary active sites and an ability to mass transfer rapidly. Consequently, we suppose that this work would provide an insights and designed into low cost synthesis method of 3D structured MOFs for electrochemical energy storage electrode materials.