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(57) Abstract :

7. ABSTRACT OF THE INVENTION: Title Electrochemical synthesis of stable imine based Cu-CAMD-MOF for improved electrocatalytic properties and the method thereof The present invention relates to the chemical synthesis of novel Schiff-base based 4,4—((1l_3,1'E)- ((5-carboxy-1,3-phenylene) bis (azanylylidene)) bis (methanylylidcne)) dibenzoic acid (CAMD), linker, having a chemical formula of nnNzog. More specifically, a new imine-bésed tri-benzene carboxylic acid linker was synthesized and, applied for the preparation of new imine-based Cu-CAMD-MOF through greener, and facile electrochemical émodic dissolution method: The use of the present invention is to control the synthesis of imine-based Cu-CAMD-MOF which ensures the synthesized thin-layered highly porous material with improved electrocatalytic properties. By employing the method as per the present invention, a unique 4,4-((1E,1'E)- ((5-carboxy-1,3-phiefylene) bis (azanylylidene)) bis (methanylylidenej) dibenzoic acid (CAMD), the organic linker facilitates the production of a new porous, and crystalline Cu-CAMD-MOF thin film. The present invention eliminates the need for pH, temperature, or specific modulator 6ptimizati6n and yields a highly efficient MOF thin film with superior electrocatalytic properties.

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