

Abstract

In this study, a new porphyrin-copper metal-organic framework via a solvothermal method using reaction of $ZrCl_4$ and the synthesized porphyrin-copper is reported. Zr-nodes of the MOF was synthetically modified with copper ions. The MOF was characterized by a variety of techniques, including FT-IR, PXRD, ICP-AES, UV-Vis DRS and BET surface area. The nominal MOF can be a bimetallic heterogeneous catalyst to promote the azide-alkyne cycloaddition from corresponding halogenated compounds and sodium azide. The copper ions efficiently catalyze each step of the reaction as a bimetallic heterogeneous catalyst with excellent yield. This work introduces high yields of products, low loading of catalyst, and environmentally benign procedure.

Keywords: Metal-Organic Frameworks, 1,2,3-triazoles, Porphyrin, Click chemistry,



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Click synthesis of 1,2,3-triazoles catalyzed by a copper porphyrin-based metal-organic framework

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