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Synthesis and characterization of new copper-based metal-organic frameworks

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Metal-organic frameworks are structures that consist of metal ions or clusters coordinated with organic ligands. They have a high surface area, tunable pore size, and customizable properties that make them attractive for a wide range of applications. Some of the applications of MOFs include: the production of implants, drug delivery systems, medical imaging, Sensor, Energy storage systems, Gas storage, Building materials, Catalysis and Electrocatalysis [1-5]. In this study, the solvothermal synthesis of a new metal-organic framework based on copper is reported. The structure of the obtained product was identified by FT-IR, CHN, BET and PXRD analyses. The results confirmed the successful fabrication of Cu-MOF nanoparticles.

Keywords: Metal-Organic Frameworks (MOF), Synthesis, Characterization, Solvothermal

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