Abstract

The scheme of research work splits into two dimentions. First to synthesize dicarboxylic acid ligand, (E)-2-(3-carboxyacrylamido) benzoic acid. It is a single step reaction in which two precursors' anthranelic acid and maleic anhyderide are mixed at room temperature. Maleic anhydride solution is added with with gentle stirring. This resultant product, organic ligand is further utilized in MOF synthesis. Cu-MOF synthesized from this ligand is used as a catalyst for CO_2 reduction reaction. The spectroscopic techniques such as UV-Visible, FTIR, ^{1}H-NMR and ^{13}C-NMR were applied for structure elucidation of the compounds. The synthesized ligand was used with $Cu(NO_3)_2.3H_2O$ was used for MOF synthesis through solvothermal process and at room temperature in different solvent system. MOF crystals were different collected under different synthesis methods.