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A Calcium-based Microporous Metal-Organic Framework for Efficient Adsorption Separation of Light Hydrocarbons

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Abstract

Ideal metal-organic frameworks (MOFs) are those have not only significant adsorption separation performances but also excellent vapor and/or thermal stability. In this work, a calcium-based metal-organic framework with high vapor-stability and thermostability, Ca(squarate), was prepared using readily available precursor (CaCO_3) and squaric acid as starting materials by hydrothermal method. Characterization techniques including PXRD, TGA and BET surface area analysis reveal that this MOF remain stable no matter whether it was soaked in water or exposed to air for as long as 2 weeks. Moreover, the studied MOF material is

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