

## عنوان مقاله:

A new ultrasound-assisted approach to the synthesis of metalorganic framework structure derived from the Zn–terephthalic acid–DMF system

## محل انتشار:

ششمین کنفرانس بین المللی شیمی و مهندسی شیمی (سال: 1398)

تعداد صفحات اصل مقاله: 5

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## خلاصه مقاله:

In this study a Zinc-based metal-organic framework under ultrasound irradiation has been obtained from the rearrangement of Zn-terephthalic acid –dimethyl formamide system to  $\text{Zn}(\text{C}_8\text{H}_4\text{O}_4)(\text{C}_3\text{H}_7\text{NO})(\text{H}_2\text{O})$ . The title compound was characterized by FT-IR and single-crystal X-ray diffraction analyses. The results showed that the structure of the title compound is the known MOF-2(Zn) compound. To investigate the effect of the preparation method of MOF-2 on the gas adsorption process, the adsorption of hydrogen gas at room temperature is examined. The results showed that the total hydrogen storage under these conditions is about 0.26 wt%. This study demonstrated that the different synthesis methods of MOF under various conditions can affect the adsorption properties in these compounds. Indeed, the preparation method along with the design of metal-organic frameworks .can be an important issue on the absorption of various types of gases

## کلمات کلیدی:

Metal-organic framework, Ultrasound, Adsorption, Hydrogen storage

## لینک ثابت مقاله در پایگاه سیویلیکا:

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