

It is widely accepted that it is possible to use FT-IR for probing the absence or presence of the IR active functional groups in an MOF. Hence, upon the exposure of a molecule to the radiations generated by thermal emission of a hot source (e.g., IR energy), it is absorbed merely at the frequencies relative to its molecular mode of vibration in an area of electromagnetic spectra between the short waves (micro-waves) and visible (red); therefore, variations in the vibrational motion result in the bands in the vibrational spectra so that all of them would be characterized by amplitude and its frequency [68,69]. Due to the instability of several MOFs against mechanical stress, the sample must be ground carefully