

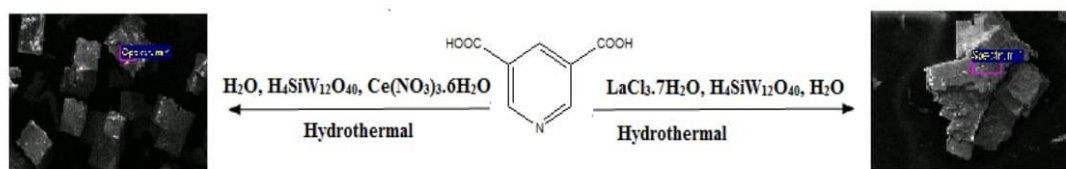


Hydrothermal synthesis of two inorganic–organic hybrids supported by Keggin type polyoxometalates and pyridine-3,5-dicarboxylic acid

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ABSTRACT

With the rapid development of science and technology and the trend of multidisciplinary pervasion, inorganic-organic hybrids based polyoxometalate (POM), has developed one of the most rapidly growing and challengeable areas of inorganic chemistry due to their effective structural diversities, various chemical compositions, and potential applications in magnetism, optics, electrochemistry, electrocatalysis, and materials science. Over the past several years, continuous interest and persisting efforts have been dedicated to prepare and explore of POM-based hybrids. In this context, here we describe the syntheses of two hybrids based on silicotungstate, $[\text{SiW}_{12}\text{O}_{40}]^{4-}$, anions *via* hydrothermal method and which were characterized by physico-chemical approaches including elemental analysis (CHN), IR spectroscopy, and energy dispersive X-ray spectroscopy analysis (EDS). Based on the energy dispersive X-ray spectroscopy analysis, elemental composition of the synthesized hybrids were confirmed. Also, observed chemical shifts of the related bands of carboxylate groups indicate that these hybrids were formed.



Keywords: Polyoxometalate, Keggin, Hybrid inorganic-organic, Hydrothermal.

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