

Research Title: Synthesis and study of kinetic of catalysts for producing fuel alternative energy

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ABSTRACT

This research studies on simple and rapid synthesis and characterization of cobalt (II) hydrogen phosphate hydrate ($\text{CoHPO}_4 \cdot \text{H}_2\text{O}$) and copper (II) hydrogen phosphate hydrate ($\text{CuHPO}_4 \cdot \text{H}_2\text{O}$) at room temperature. Thermal behaviors of the studied materials are carried out by differential scanning calorimetry (DSC) which revealed calcined temperature of cobalt (II) hydrogen phosphate hydrate ($\text{CoHPO}_4 \cdot \text{H}_2\text{O}$) and copper (II) hydrogen phosphate hydrate ($\text{CuHPO}_4 \cdot \text{H}_2\text{O}$) to transform cobalt (II) pyrophosphate ($\text{Co}_2\text{P}_2\text{O}_7$) and copper (II) pyrophosphate ($\text{Cu}_2\text{P}_2\text{O}_7$). Structural synthetic substances ($\text{CoHPO}_4 \cdot \text{H}_2\text{O}$ and $\text{Cu}_2\text{P}_2\text{O}_7$) are characterized by Fourier transform infrared spectroscopy (FTIR) and morphologies of all samples are checked by scanning electron microscopy (SEM).

Keywords : *Metal phosphate, Metal pyrophosphate and Catalyst*