Mg–Al Layered Double Hydroxides: Synthesis, Structure, and Catalytic Potential in Condensation of Cyclohexanone with Acetonitrile

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Abstract—Basic properties of synthetic Mg–Al layered double hydroxides were studied. It was shown that these properties strongly depend on the chemical composition and calcination temperature and are of key importance for determining the activity of catalysts based on these compounds. A relationship was found between the basic properties of these materials and the selectivity of conversion of the starting reagents to *N*-cyclohexylideneacetonitrile in condensation of cyclohexanone with acetonitrile.

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