Abstract

Zeolites are materials with a large variety of applications in industry. They are able to catalyze many types of reactions and can be used as molecular sieves or adsorbents. Tailored design of zeolites is an important goal for chemists as the full control over zeolite porosity and composition can lead to optimal materials for industrial purposes.

Recently, a new strategy for the zeolite synthesis was proposed and successfully applied for several systems. This strategy, called ADOR, can lead to synthesis of many new materials with a defined structure and porosity. The synthesis of new zeolites from lamellar precursors, which is in the heart of the ADOR process, may become widely used technique in the near future. In this work we focus on hypothetical products of the ADOR process and address the relationship between their structure and feasibility of their synthesis.

Keywords: ADOR process, hypothetical zeolites, in silico investigation