

Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

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Extra-large pore zeolites - challenges and prospects

The lecture is devoted to the pore system in zeolitic materials. A brief introduction of zeolite molecular sieves and their incremental development through the years, from the early 60ies to nowdays, will be presented first. Then, different types of channel systems in term of pore size (small, medium, and large) will be revised and related to the respective industrial applications. At present the extra-large pore molecular sieves remain underdeveloped, and no industrial application is reported yet. Thus, the main focus of the lecture is the development of extra-large pore zeolites. The recent advances in synthesizing extra-large pore zeolites will be presented and discussed in depth. The physicochemical properties of the most promising members of this sub-class of molecular sieves will be discussed. Finally, the possibility of bridging the gap between conventional zeolites with pores below 10 Å and mesoporous materials with pores larger than 20 Å will be addressed.

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