



Luis Gómez-Hortigüela (Ed.)

Insights into the Chemistry of Organic Structure-Directing Agents in the Synthesis of Zeolitic Materials

Series: Structure and Bonding

- Enables readers to gain an overview of recent advances in the use of organic molecules as structure-directing agents for the synthesis of zeolites
- Multi-authored volume with contributions from experts in the field
- Provides introduction to the main concepts of host-guest chemistry in structure-directed synthesis

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This edited volume focuses on the host-guest chemistry of organic molecules and inorganic systems during synthesis (structure-direction). Organic molecules have been used for many years in the synthesis of zeolitic nanoporous frameworks. The addition of these organic molecules to the zeolite synthesis mixtures provokes a particular ordering of the inorganic units around them that directs the crystallization pathway towards a particular framework type; hence they are called structure-directing agents. Their use has allowed the discovery of an extremely large number of new zeolite frameworks and compositions. This volume covers the main aspects of the use of organic molecules as structure-directing agents for the synthesis of zeolites, including first an introduction of the main concepts, then two chapters covering state-of-the-art techniques currently used to understand the structure-directing phenomenon (location of molecules by XRD and molecular modeling techniques).

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