

Foreword

Catalysis inside functional synthetic resins: the issue of catalyst accessibility and stability

Functional synthetic resins have proven their value as supports for a wide spectrum of catalysts. Strong acid exchange resins were employed as the first heterogenized homogeneous catalysts to be used in industrial practice and organic macromolecular materials are also used as supports for other types of catalytic centers such as zero-valent metal nanoclusters or even biocatalysts. Heterogeneous catalysis has been traditionally connected with inorganic materials in which the catalytic reaction proceeds on the surface of pore walls. Catalytic centers supported on functional synthetic resins do work in the environment of swollen polymer gel, that is an environment very different from the surface of conventional solid catalysts or the free solution environment of homogeneously catalyzed reactions. Research and development of this type of catalysts have shown that dealing with these materials

requires considering specific features of the milieu located inside the polymer matrixes and its influence on the accessibility and stability of the catalytic centers. The project of this special issue is intended as a contribution to information on the contemporary state of knowledge in this field. We hope it will be useful for the catalysis community and will promote further research and development in polymer-based catalysis.

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