

1. Synthesis and characterization of porous materials: catalysts and adsorbents

OBJECTIVES

Development of porous materials, crystalline and amorphous, with potential applications in heterogeneous catalytic processes within the frame of green chemistry (mild operational conditions and environmentally friendly) and/or in pollutant removal from industrial effluents or mixtures separation by selective adsorption processes.

The materials that are being used are mainly zeolites (LTA, FAU, MFI, BETA,...) and zeolite-type (ALPO, SBA, MCM) micro and mesoporous, modified in order to enhance their acid-basic properties and/or bifunctional and carbon materials as carbon nanotubes, carbon nanofibers and active carbon modified their textural properties (surface area, hydrophilicity,...) for their specific application. The modification is carried out during the synthesis or by post-synthesis methods. Amorphous metal-silicates have been prepared by sol-gel technique.