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Adsorption of Polar and Nonpolar Vapours on Porous Materials Studied by Inverse Gas Chromatography

Inverse gas chromatography (IGC) is a gas phase method to investigate surface properties of particles, granulates or fibers. This method is able to determine a large number of physico-chemical properties, for example, surface energies, acid/base/polar functionality of surfaces, solubility parameters, diffusion kinetics, surface heterogeneity and phase transition temperatures. The aim of this IGC study was to examine the influence of surface modification by mercaptopropyltrimethoxysilane on the surface energies and the acid-base functionality of porous Vycor glass.