

Organic-inorganic gels on the basis of thermodynamically incompatible oligomers

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Abstract

On the basis of tetraethoxysilane and thermodynamically incompatible oligomers, such as oligooxyethyleneglycol and oligodimethylsiloxane, organic-inorganic gels were developed. It was shown that as a result of the hydrolysis of tetraethoxysilane and subsequent polycondensation process clusters of silica are formed in the volume of oligomeric matrix, forming associates of potassium siloxanolate groups at the interface of thermodynamically incompatible oligomers. Due to the lability of association bonds organic-inorganic gel is able to dissolve in the polymers melt or reactive oligomers.