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Complexes of anionic polysaccharides with metal salts. Part IV. λ -Carrageenan

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Abstract

Properties of λ -carrageenan complexes with paramagnetic transition metal cations [Co (II), Cu (II), Fe(III), Mn (II) and Ni (II)] were evaluated using the EPR spectrometry, conductivity measurements, thermogravimetric (TG), and differential scanning calorimetric (DSC) studies as well as computations with involvement of the ZINDO-1 method. The formation of the Werner-type complexes with metal central atom and polysaccharide as the ligand was proven. Ligation of the central atom involved lone electron pairs of the polysaccharide hydroxyl groups and the SO_3 - groups of carrageenan.

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Computations, Electron paramagnetic resonance, Differential scanning, Calorimetry, Metal complexes, Thermogravimetry, Werner complexes

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