DETERMINATION OF THE SORPTION EFFICIENCY OF POLY(VINYL ALCOHOL)/SCLEROGLOCAN CRYOGELS, AGAINST Cu$^{2+}$ IONS

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Abstract

The purpose of this research was to investigate the efficiency of the sorption of copper (II) ions on biopolymeric materials. Blends between poly (vinyl alcohol) [PVA] (DH=98%, DP=900) as a synthetic polymer and scleroglucan (Sclg) as a natural biopolymer have been prepared by repeated freezing-thawing cycles. The sorption capacity of the cryogel against Cu$^{2+}$ ions has been determined by VIS Spectroscopy. The alteration of the PVA cryogel properties by Sclg addition and by Cu$^{2+}$ ions sorption has been investigated by FTIR Spectroscopy. The highest efficiency in Cu$^{2+}$ ions sorption has been obtained for cryogels containing scleroglucan (Sclg) and poly(vinyl alcohol) (PVA) in 1:9 weight ratio by comparing to pure PVA cryogels.

Key words: cryogel, FTIR, poly (vinyl alcohol), scleroglucan, VIS spectroscopy

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