

Biochemical activity of metal nanoparticles of hyperbranched polyester polyol composites

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Keywords: *antimycotics, proteinase of Candida albicans, metal nanoparticles, hyperbranched polyester polyols.*

Abstract

Copper and cobalt nanoparticles have been synthesised on the platform of hyperbranched third-generation polyesterpolypropionic acid H30(CH₂CH₂COOH)₂₂ by the method of chemical reduction in the media of stabilizer. According to results of X-Ray phase analysis and transmission electron microscopy it was established that samples of Cu/H30(CH₂CH₂COOH)₂₂ nanoparticles consist of 10±4 nm particles, while Co/H30(CH₂CH₂COOH)₂₂ samples consist of 4±1 nm for metallic cobalt and 2-5 nm for its oxide phase. We estimated and compared antiproteinase activity of stabilizers – hyperbranched polyesterpolyol H30, H30(CH₂CH₂COOH)₂₂ and composition nanoparticles of copper and cobalt on their basis towards secretory aspartic proteinase *Candida albicans*.