The aim of the research was to obtain silver nanoparticles and to study of its antibacterial activity against pathogenic cultures *Escherichia coli* ATCC11229 and *Staphylococcus aureus* ATCC6538.
Obtained complex was characterized by UV-Vis spectroscopy, X-ray diffraction (XRD) and transmission electron microscopy (TEM). Colloid solutions of the complex absorbed radiation in the visible regions of 420–460 nm, which confirmed the formation of silver nanoparticles. The size of synthesized SNP varied from 6 to 50 nm. There has been confirmed presence in them of atomic silver. Obtained compound possessed antibacterial activity against pathogens, such as *Escherichia coli* ATCC11229 and *Staphylococcus aureus* ATCC6538.

**Key words:** silver nanoparticles, *Bradyrhizobium japonicum* 36 strain exopolysaccharide.

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cytotoxicity assessment and ROS-inducing potential.

Polymer.
http://dx.doi.org/10.1016/j.polymer.2012.04.057

http://dx.doi.org/10.1016/j.jnoncrysol.2009.11.021

http://dx.doi.org/10.1021/jp964087f

2013, N 92, P. 407–413.
http://dx.doi.org/10.1016/j.carbpol.2012.08.094


http://dx.doi.org/10.1016/j.carbpol.2012.03.089


Carbohydr. Pol
. 2014, N 102, P. 238–245.