Tenth Young Researchers' Conference
Materials Science and Engineering

December 21-23, 2011, Belgrade, Serbia
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# Program and the Book of Abstracts

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II/1

## Assessment of the effects of nanoparticles of CP/PLGA on cultures of different cell lines

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The aim of this study was to examine the effects of nanoparticles of calcium phosphate/poly-(DL-lactide-co-glycolide) (NPs-CP/PLGA) on viability and growth of different cell lines *in vitro*. HeLa and MDCK cells were incubated with different concentrations of suspension and extract of NPs-CP/PLGA. Concentrations of suspension were in the range from 1.6 μg/ml to 5000 μg/ml and extract in the range from 2.5% to 50%. After incubation, MTT test was performed. Our results indicate that examined nanomaterial shows different effects depending on type of the cells, applied concentration of nanomaterial as well as whether it is examined suspension or extract.

II/2

## Antibacterial activity of the copper-loaded zeolite

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The aim of this study was to investigate the antibacterial activity of the copper-loaded natural zeolite (from Vranjska Banja deposit) towards Gram-negative (*Escherichia coli*) and Gram-positive (*Staphylococcus aureus*) bacteria present in different water solutions - Luria Bertani (LB) medium, synthetic wastewater and real effluent water. The number of bacteria was measured as colony forming units (CFU) grown on LB agar after 24 h of incubation at 37 °C.

The copper-loaded natural zeolite exhibits an excellent antibacterial activity and therefore could find application as a disinfectant in the final step of wastewater treatment.