

## Accepted Manuscript

Title: Chemical Synthesis of Copper Nanoparticles in Aqueous Solutions in the Presence of Anionic Surfactant Sodium Dodecyl Sulfate

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PII: S0927-7757(18)30383-2  
DOI: <https://doi.org/10.1016/j.colsurfa.2018.05.023>  
Reference: COLSUA 22490

To appear in: *Colloids and Surfaces A: Physicochem. Eng. Aspects*

Received date: 5-2-2018  
Revised date: 8-5-2018  
Accepted date: 8-5-2018

Please cite this article as: Begletsova N, Selifonova E, Chumakov A, Al-Alwani A, Zakharevich A, Chernova R, Glukhovskoy E, Chemical Synthesis of Copper Nanoparticles in Aqueous Solutions in the Presence of Anionic Surfactant Sodium Dodecyl Sulfate, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* (2018), <https://doi.org/10.1016/j.colsurfa.2018.05.023>

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## Chemical Synthesis of Copper Nanoparticles in Aqueous Solutions in the Presence of Anionic Surfactant Sodium Dodecyl Sulfate

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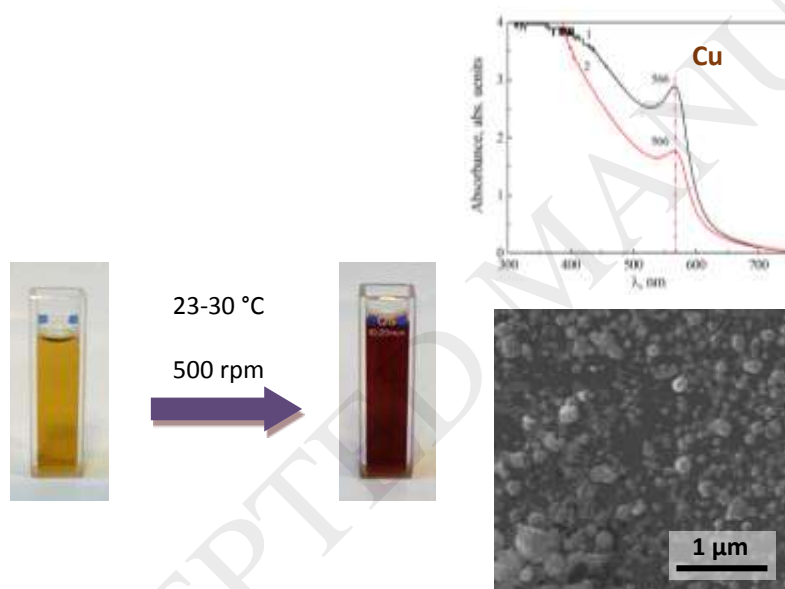
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### Graphical abstract



### Abstract

Well dispersed copper particles with size from 15 to 100 nm and their aggregates up to 320 nm were obtained by chemical reduction in the presence of anionic surfactant sodium dodecyl sulfate. As a reducing agent hydrazine hydrate of various volumes (1, 3 and 6 ml) was used with a fixed volume of solvent (40 ml), a sample of the copper (II) chloride salt and at pH = 11 of the reaction mixture. The formation of copper nanoparticles and their stability over time were controlled by UV-visible spectroscopy for two weeks. The morphology of the surface and the elemental (chemical) composition of films with copper nanoparticles were characterized by a scanning electron microscope.

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