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Andromachi Tzani, Spyridon Koutsoukos, Dimitrios Koukouzelis, Anastasia Detsi



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# Synthesis and Characterization of Silver Nanoparticles using Biodegradable Protic Ionic Liquids

*Andromachi Tzani, Spyridon Koutsoukos, Dimitrios Koukouzelis and Anastasia Detsi\**

Laboratory of Organic Chemistry, Department of Chemical Sciences, School of Chemical Engineering, National Technical University of Athens, Heroon Polytechniou 9, Zografou Campus, 15780 Athens, Greece.

Corresponding Author:

\*E-mail: [adetsi@chemeng.ntua.gr](mailto:adetsi@chemeng.ntua.gr). Tel +30 2107724126. Fax: +302107723072.

**KEYWORDS** Protic Ionic Liquids, Phenolic Acids, Silver Nanoparticles, Biodegradability

## **ABSTRACT**

In this work we present a green approach for the synthesis of silver nanoparticles' (AgNPs) using three biodegradable protic ionic liquids (PILs) as both reducing and capping agents. On treating aqueous  $\text{AgNO}_3$  solution with the PILs, the reduction of silver ions was observed leading to the formation of highly stable, narrow-dispersed, crystalline AgNPs ranging in size from 63 to 108 nm, depending on the used PIL. A plausible explanation of the AgNPs formation mechanism is proposed based on

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