

## Synthesis of Silver Nanoparticles Exhibiting Antimicrobial Properties via Self-Regulated Reduction by Alcohol Ionic Liquids

차종호, 김기섭, 최숙정, 이 혼\*  
한국과학기술원  
(h\_lee@kaist.ac.kr\*)

Silver nanoparticles exhibiting antimicrobial properties via self-regulated reduction were successfully prepared using hydroxylated ionic liquids in an aqueous phase without additives. A new water-phase synthesis of silver nanoparticles using 1-(2-hydroxyethyl)-3-methylimidazolium tetrafluoroborate ([HEMIm][BF<sub>4</sub>]) and 1-(2'-hydroxyethyl)-2-methyl-3-dodecylimidazolium chloride ([C12HEMIm][Cl]) was described. 1-(2-hydroxyethyl)-3-methylimidazolium tetrafluoroborate serves as both a reductant and a stabilizer in this fabrication. Furthermore, we present the antimicrobial properties of the resulting silver nanoparticles through the minimal inhibitory concentrations (MIC) test.