

### Synthesis and antimicrobial properties of ionic liquids

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

For the purpose of developing new disinfectants and antiseptics, we searched for compounds having high bactericidal activity against gram-positive bacteria, gram-negative bacteria, and fungi. Three different series of quaternary imidazolium and pyrrolidinium salts were synthesized.

These three series were tested to evaluate their antibacterial and antifungal properties for the first time. Seven microbial strains were used in the study.

The antimicrobial efficiency was measured by bacterial and fungal growth inhibition expressed as minimal inhibitory concentration (MIC) values.

Among the synthesized quaternary imidazolium and pyrrolidinium salts, the imidazolium salts containing a long alkyl chain and the introduction of a hydroxyethyl chain and methyl group into the imidazolium ring structure leads to broad spectrum active antimicrobial agents which not only have bacteriostatic properties but could be powerful bactericides.