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역마이셀과 졸-겔 공정을 이용한 은 첨가 Na₂O-SiO₂
나노 분말의 합성 및 미세구조

Synthesis and Microstructure of Ag doped Na₂O-SiO₂ nanoparticles by a
reverse micelle and sol-gel processing

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Ag doped Na₂O-SiO₂ nanoparticles have been synthesized using a reverse micelle technique combined with metal alkoxide hydrolysis and condensation. The size of the particles and the thickness of the coating can be controlled by manipulating the relative rates of the hydrolysis and condensation reaction of TEOS within the micro-emulsion. The average size of synthesized Ag doped Na₂O-SiO₂ nanoparticles was about in the size range of 25-35 nm and Ag particles 1-5 nm. The effects of synthesis parameters, such as the molar ratio of water to TEOS and the molar ratio of water to surfactant, are discussed.