

Effect of shape of silver nanoparticles as a colorimetric sensor for protein conformational changes

박준수, 김대흠, 김영훈*
광운대학교 화학공학과
(korea1@kw.ac.kr*)

Colloidal silver nanoparticles (AgNPs) with various shapes were prepared by the procedures described by Jiang et al. Cytochrome c (Cyt C) is covalently bound to the AgNPs surface by thiol group in the cystein 102 residue as a colorimetric sensor for conformational change. UV-VIS absorption spectroscopy was utilized to identify the changes in the optical properties of silver colloid for pHs, ranging from 2 to 10. And transmission electron microscopy results represented the morphological changes of AgNPs - Cyt C conjugation which was correlated with pHs. For the quantitative analysis, conformational changes of Cyt C on AgNPs surface were measured by atomic force microscopy.