

Colorimetric discrimination of dihydroxybenzene isomers using catalytic activity of amine modified gold nanoparticles

최 훈, 이강택^{1,*}

연세대학교; ¹연세대학교 화공생명공학과
(ktnlee@yonsei.ac.kr*)

Hydroquinone, resorcinol and catechol are famous dihydroxybenzene isomers. These isomers are widely used in industrial fields but it has been reported that these isomers are harmful and toxic to our environment and human body. Therefore, many detection methods for these isomers are developed. However, most of detection used electrochemical method that required specific equipment and complicated experimental sequence. Herein, we introduce simple colorimetric detection method of dihydroxybenzene isomers, especially for the hydroquinone. Our method able to be confirmed by naked eye use surface plasmon resonance (SPR) when silver ions deposited onto amine modified gold nanoparticles. Amine modified gold nanoparticles are used as catalysts and also substrates. The color change of solution can be quantitatively detected by UV-VIS spectra.

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