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Sensing aspartic chiral using Cd-based nanoparticles coated \(\beta\)-cyclodextrine

Bui The Huy, Salah M Tawfik, Da Seul Paeng, Thu Thuy T Nguyen and Yong-III Lee Changwon National University, Republic of Korea

A simple optical sensor for D/L aspartic chiral using Cd-based nanoparticles coated by β - cyclodextrine is presented. β -cyclodextrine modified Cd-based Nanoparticles (CNP) were synthesized by a simple sono-chemical technique. The characterizations of CNP were investigated by FT-IR, transmission electron microscope and fluorescence spectroscopy. CNP sensor works based on the selective host-guest interaction between aspartic and β -cyclodextrine combined with the quenching effect of photoluminescence of Cd-based nano-particles. The results show the quench accorded with the Sternm-Volmer equation. The mechanism of sensor is discussed. The novel, simple and rapid sensing method exhibits an exceptionally limit of detection at 19 ng/mL of D-aspartic form.

buithehuy.nt@gmail.com