A dicyanoisophorone-based highly sensitive and selective nearinfrared fluorescent probe for sensing thiophenol in water samples and living cells

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ABSTRACT: Alzheimer's disease (AD), as the most common progressive neurodegenerative disorder, is pathologically characterized by deposition of extracellular plaque composed of amyloid-β peptide (Aβ). Therefore, the development of reliable assays for Aβ (both monomers and oligomers) are important for the early differential diagnosis of dementia, predicting the progression of AD, as well as monitoring the effectiveness of novel anti-Aβ drugs for AD. Recently, our group has constructed several analytical assays for sensing Aβ (both monomers and oligomers): by using aptamer- and thioninemodified gold nanoparticles (aptamer-Au-Th) as the signing probe, we fabricated an antibody-aptamer sandwich assay for electrochemical evaluation of levels of β-amyloid oligomers; based on metal–organic frameworks as electrochemical signal probes, we developed a sensitive aptasensor for the detection of β-amyloid oligomers; based on the target-mediate aggreation of gold nanoparticle, we constructed a sensitive colorimetric assay for β-amyloid oligomers; based on the specific binding between Cu2+ and Aβ1β40, we proposed a colorimetric assay as well as a fluorescent assay for Aβ1β40 monomer..

Biography:-

Yuanqiang Hao has completed his PhD at the age of 29 years from Central South University. He is currently an associate professor at Shangqiu Normal University. He has published more than 30 papers in reputed journals.

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