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Magnetic nanoparticles with hydrophobicity and hydrophilicity for solid-phase extraction of polycyclic aromatic hydrocarbons from environmental water samples

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Abstract

Magnetic nanoparticles (MNPs) featured with divinylbenzene (DVB) and sulfonate functionalities (Fe_3O_4-DVB-SO_3^-) were prepared via "thiol-ene" click chemistry. The hydrophobic DVB moieties were dedicated for extraction while the hydrophilic sulfonate groups were designed for dispersing the MNPs in aqueous sample solution. Thus, the special designed material could ensure operational convenience and improve