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Grafting amino-acid molecular imprinted polymer on carbon nanotube for sensing

Abstract

Molecular imprinted polymer (MIP) is a good matrix that exhibit satisfactory recognition ability when integrated onto sensing transducer. We report on the preparation of such material by graft-polymerizing MIP on the surface of carbon nanotube (CNT) as using MIP as a probe material for chemical sensor fabrication. The MIP is characterized by Fourier transform infrared analysis and UV-Vis analysis. The batch binding analysis is carried out to analyze selective recognition of MIP towards serine (amino acid). SEM images showed the structure of MIP on CNT surface. The serine-imprinted polymer grafted on CNT possessed higher binding capacity for serine than non-imprinted polymer (NIP) grafted on CNT.

Keywords

Amino acid; Grafted carbon nanotube; Molecular imprinted polymer