PAPER

Plasmonic behaviour of phenylenediamine functionalised silver nanoparticles

Nurul Akmal Oth Leh1, Mahendran Samykano1, Mohd Rafie Johan2, Nurul Syahirah Othman2, Mohd Mansuri Sean1, Leo Bey Fen2 and Nur Zalikha Khuil2

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Abstract

The surface functionalisation of AgNPs has demonstrated improved capability for various applications by modifying their surface chemical conditions. In this study, AgNPs functionalised with p-phenylenediamine (PPD) ligand were prepared, and the plasmonic effects of the nanocomposites were then investigated. The synthesis and functionalisation of Ag nanocomposites were achieved through chemical modification reaction of naphthalene group through hydrothermal synthesis. The influence of the chemical modification reaction on the plasmonic behaviour and size variation were obtained via optical measurement techniques such as UV–visible spectroscopy (UV–Vis) for absorbance characteristic, phosphorescence for emission resonance and micro-Raman spectroscopy (MRS) for SERS study on the presence of