Raman study on dispersion of carbon nanotube in organic solvent as the preparation of conductive nano-ink

ABSTRACT

Carbon nanomaterials have been magnificently high demand in the development of nano-electronic technologies since the past few years because of the splendid performance in electrical, mechanical and physical properties. This research is to prepare the dispersion of functionalized carbon nanotube in six different types of organic solvent as the pre-preparation of conductive carbon nanotube nano-ink. The focus of this research is in the study of the morphology of dispersion sample by Raman Spectroscopy data analysis, discussing on conductivity and physical properties of dried samples. From this study, it shown that dispersion with methanol and propanol are stable compared to other samples. The morphology of dispersed functionalized carbon nanotube plays an important role in the quality and performance of the nano-ink in the production of sensing material of flexible biosensors and electronics circuit for biomedical and other potential applications. Therefore, it shows that the organic solvents are suitable in dispersion of MWCNT as preparation of conductive nano-ink.