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Functionalization of Carboxylated Single-Walled Carbon Nanotubes with 2-En 4-Hydroxy Cyclo 1-Octanon and Toxicity Investigation

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Abstract : Carbon nanotubes were used in medical sciences especially in drug delivery system and cancer therapy. In this study, we functionalized carboxylated single-wall carbon nanotubes (SWNT-COOH) with 2-en 4-hydroxy cyclo 1-octanon. Synthesized sample was characterized by FT-IR, Raman spectroscopy, SEM, TGA and cellular investigations. The results showed well formation of SWNT-Ester. Cell viability assay results and microscopic observations demonstrated that cancerous cells were killed in the sample. The synthesized sample can be used as a toxic material for cancer therapy.

Keywords : MWNT-COOH, functionalization, phenylisocyanate, phenylisothiocyanate, 1, 4-phenylendiamine, toxicity investigation
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