Abstract:DNA computing is a branch of biomolecular computing using the physical and chemical properties of deoxyribonucleic acid or DNA. It is a fast-developing interdisciplinary research area consisting of nano-biotechnology, computer science and biochemistry. DNA computing is widely used now-a-days for logic design, biomarker, cryptography, disease detection etc. In recent years, carbon nanotube or CNT research has reached a new peak with its various applications including nano-biocomputing. DNA plays a pivotal role in biology and CNT is considered as a wonder material of this century in nanoscience. This chapter combines these two promising research areas including CNT and DNA to form CNT-DNA based nanostructured system and its applications in diverse fields like electronics, biomedical engineering, drug delivery, gene therapy, biosensor technology etc. CNT-DNA hybrid and its various suitable combinations open up a new dimension called CNT-DNA computing. Multi-walled carbon-nanotubes are considered as promising drug-delivery tool for their unique physicochemical properties. The aim of our study is to assess the biological impact of pristine MWCNT in an in vivo model using *Caenorhabditis elegans* since it shares 60-80% homologous genes with human genome. The toxicity of MWCNT was determined by evaluating survival assay and motility of *C. elegans*. Gradual increase in the concentration of pristine MWCNT imparted adverse effects on survival potential and motility of *C. elegans* gradually. Death rate of worms increased from 7%-17% after 24 hours and from 14%-23% after 48 hours with increasing concentrations of MWCNT treatment.