

Novel and Stable Modifications of Intelligent Cadmium Oxide (CdO) Nanoparticles as Anti-Cancer Drug in Formation of Nucleic Acids Complexes for Human Cancer Cells' Treatment

A Heidari*

Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA

Modern science is based on interaction among disciplines. Biochemistry and pharmaceutical chemistry have transformed the nano-materials of everyday life, but this is merely a quick look of the future of pharmaceutical nano-compounds such as intelligent nanoparticles that behave as a sensor, anti-cancer drugs, self-reproducing pharmaceutical nano-compounds, molecules that work nano-engineering and even molecules that think may transform our world in ways not yet imagined. These advancements and developments are the result of cooperation among biochemists, pharmaceutical chemists, medicinal chemists, computer experts, materials engineers, organic chemists, physicists, pharmacists and many other researchers and scientists in all over the world. The most dramatic advancements and developments at the beginning of the twenty-first century are novel methods and techniques in biochemistry and pharmacology from collaborations among biochemists and pharmaceutical chemists [1-21].

On the other hand, intelligent Cadmium Oxide (CdO) nanoparticles as anti-cancer drug have been investigated to effect very impressive chemo-, region- and stereo-selective intelligent nano-compound in several nucleic acids complexes substrates. In this regard, intelligent Cadmium Oxide (CdO) nanoparticles have been fabricated more than regular agents in laboratories, probably for the sake of non-availability as a commercial reagent, being freshly prepared solution only prior to use and restriction to handling and storage. To overcome these restrictions the stable modifications of intelligent Cadmium Oxide (CdO) nanoparticles as the form of nucleic acids complexes have been manufactured (Figures 1 and 2). Furthermore, in this opinion, the stability ease of preference, performance and storage of the reagent, mild formation conditions and perfect chemo-selectivity, region-selectivity and stereo-selectivity are the advantages which make novel modified intelligent Cadmium Oxide (CdO) nanoparticles as anti-cancer drug. In addition, the Scanning Electron Microscope (SEM) and also Transmission Electron Microscope (TEM) images show that with the knowledge of the structure based on intelligent Cadmium Oxide (CdO) nanoparticles can increase the accuracy of human cancer cells' treatment and achieve more favorable results (Figures 1 and 2).

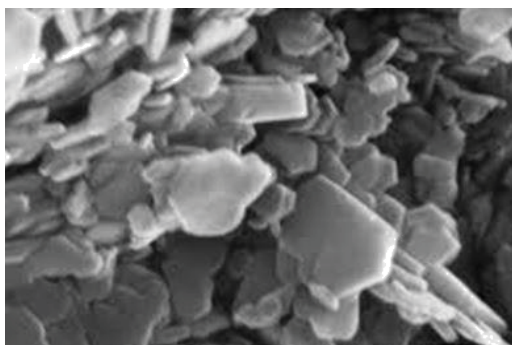


Figure 1: Scanning Electron Microscope (SEM) image of Cadmium Oxide (CdO) nanoparticles complex with 150000X zoom.

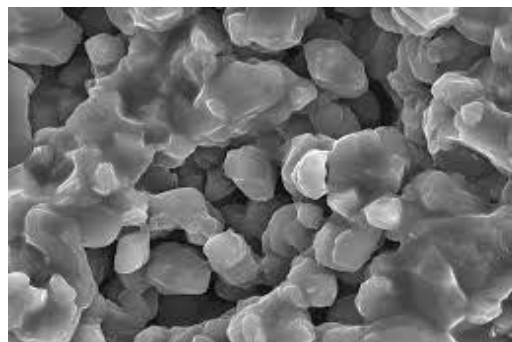


Figure 2: Transmission Electron Microscope (TEM) image of Cadmium Oxide (CdO) nanoparticles complex with 150000X zoom.

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*Corresponding author: A Heidari, Faculty of Chemistry, California South University (CSU), 14731 Comet St. Irvine, CA 92604, USA, Tel: 1-775-410-4974; E-mail: Scholar.Researcher.Scientist@gmail.com

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