

# Active Targeted Nanoparticles for Anti-Cancer Nano Drugs Delivery across the Blood-Brain Barrier for Human Brain Cancer Treatment, Multiple Sclerosis (MS) and Alzheimer's Diseases Using Chemical Modifications of Anti-Cancer Nano Drugs or Drug-Nanoparticles through Zika Virus (ZIKV) Nanocarriers under Synchrotron Radiation

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## Short Communication

The demand for active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation has been significantly increasing in the world market due to their increased applications for various end uses<sup>[1-42]</sup>. The high crystalline nature of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation and physically hydrophobic nature serves as barrier for easy processing. Active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV)

nanocarriers under synchrotron radiation is usually treated with caustic to make them hydrophilic but they lead to decrease in strength but lipase treatment limited only to surface of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation as the enzymes are bulky in nature they cannot penetrate into the polymeric chain of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation and their strength is not reduced. An attempt has been made to make the fiber hydrophilic in nature. This short communication gives the process of treating active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases us-



ing chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation with ester cleaving enzyme lipase from bacterial species bacillus sp. As a result of lipase treatment, it is observed that their hydrophilic property is improved which is tested by capillary rise wicking test and drop dissipations test. The increase in the number of hydrophilic groups like -COOH and -OH due to the cleavage of polyethylene terephthalate ester may be the reason for improved hydrophilicity. The increase in presence of -COOH and -OH is confirmed by treatment of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation with basic dye and reactive remazol dyes, respectively. There is a reduction in pilling of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation after lipase treatment. It is founded that it may be an economical method of treatment for active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation and its blends to improve the comfort properties.

Active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation is a novel immunosuppressant for using in auto-immuno diseases and transplantation. This synthetic analogue of myriocin reduces the number of blood lymphocytes by redirecting theme to the lymph node. Active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation is the first Sphingosin-1-Phosphate (S1P) receptor modulator. In Multiple Sclerosis (MS) and Alzheimer's diseases, lymphocytes that circulate in the central nervous system (e.g. the brain and spinal cord) attack myelin sheath that surrounds and protect nerve fibers (Axons). Active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation inhibits lymphocytes (T, B cells) recirculating. Clinical results after using active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under

synchrotron radiation showed that fingolimode reduced the rate of relapses more than 75% and inflammatory diseases activity as measured by Magnetic Resonance Imaging (MRI) up to 85%. In this short communication, derivative of active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation such as H-d-Pro-FTY720, Boc-d-Pro-FTY720, H-d-Ala-FTY720, Boc-d-Ala-FTY72, for studies further pharmaceutical and neurological effect, were synthesized<sup>[43-50]</sup>.

Over the past decade, there has been an increasing interest in using active targeted nanoparticles for anti-cancer Nano drugs delivery across the blood-brain barrier for human brain cancer treatment, Multiple Sclerosis (MS) and Alzheimer's diseases using chemical modifications of anti-cancer Nano drugs or drug-nanoparticles through Zika Virus (ZIKV) nanocarriers under synchrotron radiation for therapeutic goals in particular cancer therapy. The development of smart targeted nanoparticles (NPs) that can direct anti-cancer Nano drugs at a sustained rate to human cancer stem cells may cause better efficacy and lower toxicity for treating primary and advanced metastatic tumors. Furthermore, over the past decade, a wide variety of antibody-based targeting nanomolecules have been assessed for their potential application in cancer therapy. A novel class of nanomolecules, referred to as nucleic acid ligands (aptamers), has been developed that may rival antibodies in its potential for therapeutic and diagnostic applications. Aptamers are DNA or RNA oligonucleotides or modified DNA or RNA oligonucleotides that fold by intramolecular interaction into unique conformations with ligand-binding characteristics. Alireza Heidari and his co-workers at the BioSpectroscopy Core Research Laboratory at Faculty of Chemistry, California South University (CSU), Irvine, California, USA reported the synthesis and characterization of untrafine particles of some selected anti-cancer Nano drugs by sonochemical method via controlling the synthesized condition, reaction temperature and surfactant concentration were found to be central factor in controlling production morphology and no fundamental bonding change in the anti-cancer nanomolecules after preparation<sup>[51-73]</sup>.

## References

- Heidari, A., Brown, C. Study of Composition and Morphology of Cadmium Oxide (CdO) Nanoparticles for Eliminating Cancer Cells. (2015) *Journal of Nanomedicine Research* 2(5): 20.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A., Brown, C. Study of Surface Morphological, Phytochemical and Structural Characteristics of Rhodium (III) Oxide (Rh<sub>2</sub>O<sub>3</sub>) Nanoparticles. (2015) *International Journal of Pharmacology, Phytochemistry and Ethnomedicine* 1: 15–19.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. An Experimental Biospectroscopic Study on Seminal Plasma in Determination of Semen Quality for Evaluation of Male Infertility. (2016) *Int J Adv Technol* 7: e007.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Extraction and Preconcentration of N-Tolyl-Sulfonyl-Phosphoramid-Saeure-Dichlorid as an Anti-Cancer Drug from Plants: A Pharmacognosy Study. (2016) *J Pharmacogn Nat Prod* 2: e103.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. A Thermodynamic Study on Hydration and Dehydration of DNA and RNA-Amphiphile Complexes. (2016) *J Bioeng Biomed Sci* 5: 006.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Computational Studies on Molecular Structures and Carbonyl and Ketene Group's Effects of Singlet and Triplet Energies of Azidoketene O=C=CH-NNN and Isocyanatoketene O=C=CH-N=C=O. (2016) *J Appl Computat Math* 5: e142.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Study of Irradiations to Enhance the Induces the Dissociation of Hydrogen Bonds between Peptide Chains and Transition from Helix Structure to Random Coil Structure Using ATR-FTIR, Raman and <sup>1</sup>HNMR Spectroscopies. (2016) *J Biomol Res Ther* 5: e146.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Future Prospects of Point Fluorescence Spectroscopy, Fluorescence Imaging and Fluorescence Endoscopy in Photodynamic Therapy (PDT) for Cancer Cells. (2016) *J Bioanal Biomed* 8: e135.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Bio-Spectroscopic Study of DNA Density and Color Role as Determining Factor for Absorbed. Irradiation in Cancer Cells. (2016) *Adv Cancer Prev* 1: e102.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Manufacturing Process of Solar Cells Using Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh<sub>2</sub>O<sub>3</sub>) Nanoparticles. (2016) *J Biotechnol Biomater* 6: e125.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. A Novel Experimental and Computational Approach to Photobiosimulation of Telomeric DNA/RNA: A Biospectroscopic and Photobiological Study. (2016) *J Res Development* 4: 144.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Biochemical and Pharmacodynamical Study of Microporous Molecularly Imprinted Polymer Selective for Vancomycin, Teicoplanin, Oritavancin, Telavancin and Dalbavancin Binding. (2016) *Biochem Physiol* 5: e146.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Anti-Cancer Effect of UV Irradiation at Presence of Cadmium Oxide (CdO) Nanoparticles on DNA of Cancer Cells: A Photodynamic Therapy Study. (2016) *Arch Cancer Res* 4: 1.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Biospectroscopic Study on Multi-Component Reactions (MCRs) in Two A-Type and B-Type Conformations of Nucleic Acids to Determine Ligand Binding Modes, Binding Constant and Stability of Nucleic Acids in Cadmium Oxide (CdO) Nanoparticles-Nucleic Acids Complexes as Anti-Cancer Drugs. (2016) *Arch Cancer Res* 4: 2.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. "Simulation of Temperature Distribution of DNA/RNA of Human Cancer Cells Using Time-Dependent Bio-Heat Equation and Nd: YAG Lasers". (2016) *Arch Cancer Res* 4: 2.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Quantitative Structure-Activity Relationship (QSAR) Approximation for Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh<sub>2</sub>O<sub>3</sub>) Nanoparticles as Anti-Cancer Drugs for the Catalytic Formation of Proviral DNA from Viral RNA Using Multiple Linear and Non-Linear Correlation Approach. (2016) *Ann Clin Lab Res* 4: 1.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Biomedical Study of Cancer Cells DNA Therapy Using Laser Irradiations at Presence of Intelligent Nanoparticles. (2016) *J Biomedical Sci* 5: 2.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Measurement the Amount of Vitamin D2 (Ergocalciferol), Vitamin D3 (Cholecalciferol) and Absorbable Calcium (Ca<sup>2+</sup>), Iron (II) (Fe<sup>2+</sup>), Magnesium (Mg<sup>2+</sup>), Phosphate (PO<sup>4-</sup>) and Zinc (Zn<sup>2+</sup>) in Apricot Using High-Performance Liquid Chromatography (HPLC) and Spectroscopic Techniques. (2016) *J Biom Biostat* 7: 292.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Spectroscopy and Quantum Mechanics of the Helium Dimer (He<sup>2+</sup>), Neon Dimer (Ne<sup>2+</sup>), Argon Dimer (Ar<sup>2+</sup>), Krypton Dimer (Kr<sup>2+</sup>), Xenon Dimer (Xe<sup>2+</sup>), Radon Dimer (Rn<sup>2+</sup>) and Ununoctium Dimer (Uuo<sup>2+</sup>) Molecular Cations. (2016) *J Chem Sci* 7: e112.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Human Toxicity Photodynamic Therapy Studies on DNA/RNA Complexes as a Promising New Sensitizer for the Treatment of Malignant Tumors Using Bio-Spectroscopic Techniques. (2016) *J Drug Metab Toxicol* (2016) 7: e129.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. 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. (2016) *Biochem Pharmacol* (Los Angel) 5: 207.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. A Combined Computational and QM/MM Molecular Dynamics Study on Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (a-BNNTs) and Hexagonal Boron Nitride Nanotubes (h-BNNTs) as Hydrogen Storage. (2016) *Struct Chem Crystallogr Comm* 2: 1.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Pharmaceutical and Analytical Chemistry Study of Cadmium Oxide (CdO) Nanoparticles Synthesis Methods and Properties as Anti-Cancer Drug and its Effect on Human Cancer Cells. (2016) *Pharm Anal Chem Open Access* 2: 113.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. A Chemotherapeutic and Biospectroscopic Investigation of the Interaction of Double-Standard DNA/RNA-Binding Molecules with Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh<sub>2</sub>O<sub>3</sub>) Nanoparticles as Anti-Cancer Drugs for Cancer Cells' Treatment. (2016) *Chemo Open Access* 5: e129.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Pharmacokinetics and Experimental Therapeutic Study of DNA and Other Biomolecules Using Lasers: Advantages and Applications. (2016) *J Pharmacokinet Exp Ther* 1: e005.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Determination of Ratio and Stability Constant of DNA/RNA in Human Cancer Cells and Cadmium Oxide (CdO) Nanoparticles Complexes Using Analytical Electrochemical and Spectroscopic Techniques. (2016) *Insights Anal Electrochem* 2: 1.  
[Pubmed](#) | [Crossref](#) | [Others](#)
- Heidari, A. Discriminate between Antibacterial and Non-Antibacterial Drugs Artificial Neutral Networks of a Multilayer Perceptron (MLP) Type Using a Set of Topological Descriptors. (2016) *J Heavy Met Toxicity Dis.* 1: 2.  
[Pubmed](#) | [Crossref](#) | [Others](#)



28. Heidari, A. Combined Theoretical and Computational Study of the Belousov-Zhabotinsky Chaotic Reaction and Curtius Rearrangement for Synthesis of Mechlorethamine, Cisplatin, Streptozotocin, Cyclophosphamide, Melphalan, Busulphan and BCNU as Anti-Cancer Drugs. (2016) *Insights Med Phys* 1: 2.  
Pubmed | Crossref | [Others](#)
29. Heidari, A. A Translational Biomedical Approach to Structural Arrangement of Amino Acids' Complexes: A Combined Theoretical and Computational Study. (2016) *Transl Biomed* 7: 2.  
Pubmed | Crossref | [Others](#)
30. Heidari, A. Ab Initio and Density Functional Theory (DFT) Studies of Dynamic NMR Shielding Tensors and Vibrational Frequencies of DNA/RNA and Cadmium Oxide (CdO) Nanoparticles Complexes in Human Cancer Cells. (2016) *J Nanomedicine Biotherapeutic Discov* 6: e144.  
Pubmed | [Crossref](#) | [Others](#)
31. Heidari, A. Molecular Dynamics and Monte-Carlo Simulations for Replacement Sugars in Insulin Resistance, Obesity, LDL Cholesterol, Triglycerides, Metabolic Syndrome, Type 2 Diabetes and Cardiovascular Disease: A Glycobiological Study. (2016) *J Glycobiol* 5: e111.  
Pubmed | [Crossref](#) | [Others](#)
32. Heidari, A. Synthesis and Study of 5-(Phenylsulfonyl) Amino-1,3,4-Thiadiazole-2-Sulfonamide as Potential Anti-Pertussis Drug Using Chromatography and Spectroscopy Techniques. (2016) *Transl Med (Sunnyvale)* 6: e138.  
Pubmed | [Crossref](#) | [Others](#)
33. Heidari, A. Nitrogen, Oxygen, Phosphorus and Sulphur Heterocyclic Anti-Cancer Nano Drugs Separation in the Supercritical Fluid of Ozone (O<sub>3</sub>) Using Soave-Redlich-Kwong (SRK) and Peng-Robinson (PR) Equations. (2016) *Electronic J Biol* 12: 4.  
Pubmed | Crossref | [Others](#)
34. Heidari, A. An Analytical and Computational Infrared Spectroscopic Review of Vibrational Modes in Nucleic Acids. (2016) *Austin J Anal Pharm Chem* 3(1): 1058.  
Pubmed | Crossref | [Others](#)
35. Heidari, A., Brown, C. Phase, Composition and Morphology Study and Analysis of Os-Pd/HfC Nanocomposites. (2016) *Nano Res Appl* 2: 1.  
Pubmed | Crossref | [Others](#)
36. Heidari, A., Brown, C. Vibrational Spectroscopic Study of Intensities and Shifts of Symmetric Vibration Modes of Ozone Diluted by Cumene. (2016) *International Journal of Advanced Chemistry* 4(1): 5-9.  
Pubmed | [Crossref](#) | [Others](#)
37. Heidari, A. Study of the Role of Anti-Cancer Molecules with Different Sizes for Decreasing Corresponding Bulk Tumor Multiple Organs or Tissues. (2016) *Arch Can Res* 4: 2.  
Pubmed | Crossref | [Others](#)
38. Heidari, A. Genomics and Proteomics Studies of Zolpidem, Necopidem, Alpidem, Saripidem, Miroprofen, Zolimidine, Olprinone and Abafungin as Anti-Tumor, Peptide Antibiotics, Antiviral and Central Nervous System (CNS) Drugs. (2016) *J Data Mining Genomics & Proteomics* 7: e125.  
Pubmed | [Crossref](#) | [Others](#)
39. Heidari, A. Pharmacogenomics and Pharmacoproteomics Studies of Phosphodiesterase-5 (PDE5) Inhibitors and Paclitaxel Albumin-Stabilized Nanoparticles as Sandwiched Anti-Cancer Nano Drugs between Two DNA/RNA Molecules of Human Cancer Cells. (2016) *J Pharmacogenomics Pharmacoproteomics* 7: e153.  
Pubmed | [Crossref](#) | [Others](#)
40. Heidari, A. Biotranslational Medical and Biospectroscopic Studies of Cadmium Oxide (CdO) Nanoparticles-DNA/RNA Straight and Cycle Chain Complexes as Potent Anti-Viral, Anti-Tumor and Anti-Microbial Drugs: A Clinical Approach. (2016) *Transl Biomed* 7: 2.  
Pubmed | Crossref | [Others](#)
41. Heidari, A. A Comparative Study on Simultaneous Determination and Separation of Adsorbed Cadmium Oxide (CdO) Nanoparticles on DNA/RNA of Human Cancer Cells Using Biospectroscopic Techniques and Dielectrophoresis (DEP) Method. (2016) *Arch Can Res* 4: 2.  
Pubmed | Crossref | [Others](#)
42. Heidari, A. Cheminformatics and System Chemistry of Cisplatin, Carboplatin, Nedaplatin, Oxaliplatin, Heptaplatin and Lobaplatin as Anti-Cancer Nano Drugs: A Combined Computational and Experimental Study. (2016) *J Inform Data Min* 1: 3.  
Pubmed | [Crossref](#) | [Others](#)
43. Heidari, A. Linear and Non-Linear Quantitative Structure-Anti-Cancer-Activity Relationship (QSACAR) Study of Hydrrous Ruthenium (IV) Oxide (RuO<sub>2</sub>) Nanoparticles as Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) and Anti-Cancer Nano Drugs. (2016) *J Integr Oncol* 5: e110.  
Pubmed | [Crossref](#) | [Others](#)
44. Heidari, A. Synthesis, Characterization and Biospectroscopic Studies of Cadmium Oxide (CdO) Nanoparticles-Nucleic Acids Complexes Absence of Soluble Polymer as a Protective Agent Using Nucleic Acids Condensation and Solution Reduction Method. (2016) *J Nanosci Curr Res* 1: e101.  
Pubmed | Crossref | [Others](#)
45. Heidari, A. Coplanarity and Collinearity of 4'-Dinonyl-2,2'-Bithiazole in One Domain of Bleomycin and Pingyangmycin to be Responsible for Binding of Cadmium Oxide (CdO) Nanoparticles to DNA/RNA Bidentate Ligands as Anti-Tumor Nano Drug. (2016) *Int J Drug Dev & Res* 8: 007-008.  
Pubmed | Crossref | [Others](#)
46. Heidari, A. A Pharmacovigilance Study on Linear and Non-Linear Quantitative Structure (Chromatographic) Retention Relationships (QSRR) Models for the Prediction of Retention Time of Anti-Cancer Nano Drugs under Synchrotron Radiations. (2016) *J Pharmacovigil* 4: e161.  
Pubmed | [Crossref](#) | [Others](#)
47. Heidari, A. Nanotechnology in Preparation of Semipermeable Polymers. (2016) *J Adv Chem Eng* 6: 157.  
Pubmed | Crossref | [Others](#)
48. Heidari, A. A Gastrointestinal Study on Linear and Non-Linear Quantitative Structure (Chromatographic) Retention Relationships (QSRR) Models for Analysis 5-Aminosalicylates Nano Particles as Digestive System Nano Drugs under Synchrotron Radiations. (2016) *J Gastrointest Dig Syst* 6: e119.  
Pubmed | Crossref | [Others](#)
49. Heidari, A. DNA/RNA Fragmentation and Cytolysis in Human Cancer Cells Treated with Diphthamide Nano Particles Derivatives. (2016) *Biomedical Data Mining* 5: e102.  
Pubmed | [Crossref](#) | [Others](#)
50. Heidari, A. A Successful Strategy for the Prediction of Solubility in the Construction of Quantitative Structure-Activity Relationship (QSAR) and Quantitative Structure-Property Relationship (QSPR) under Synchrotron Radiations Using Genetic Function Approximation (GFA) Algorithm. (2016) *J Mol Biol Biotechnol* 1: 1.  
Pubmed | Crossref | [Others](#)
51. Heidari, A. Computational Study on Molecular Structures of C<sub>20</sub>, C<sub>60</sub>, C<sub>240</sub>, C<sub>540</sub>, C<sub>960</sub>, C<sub>2160</sub> and C<sub>3840</sub> Fullerene Nano Molecules under Synchrotron Radiations Using Fuzzy Logic. (2016) *J Material Sci Eng* 5: 282.  
Pubmed | [Crossref](#) | [Others](#)
52. Heidari, A. Graph Theoretical Analysis of Zigzag Polyhexamethylene Biguanide, Polyhexamethylene Adipamide, Polyhexamethylene Biguanide Gauze and Polyhexamethylene Biguanide Hydrochloride (PHMB) Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (a-BNNTs) and Hexagonal Boron Nitride Nanotubes (h-BNNTs). (2016) *J Appl Computat Math* 5: e143.  
Pubmed | [Crossref](#) | [Others](#)

53. Heidari, A. The Impact of High Resolution Imaging on Diagnosis. (2016) *Int J Clin Med Imaging* 3: 1000e101.  
Pubmed | [Crossref](#) | [Others](#)
54. Heidari, A. A Comparative Study of Conformational Behavior of Isotretinoin (13-Cis Retinoic Acid) and Tretinoin (All-Trans Retinoic Acid (ATRA)) Nano Particles as Anti-Cancer Nano Drugs under Synchrotron Radiations Using Hartree-Fock (HF) and Density Functional Theory (DFT) Methods. (2016) *Insights in Biomed* 1: 2.  
Pubmed | [Crossref](#) | [Others](#)
55. Heidari, A. Advances in Logic, Operations and Computational Mathematics. (2016) *J Appl Computat Math* 5: 5.  
Pubmed | [Crossref](#) | [Others](#)
56. A. Heidari, Mathematical Equations in Predicting Physical Behavior. (2016) *J Appl Computat Math* 5: 5.  
Pubmed | [Crossref](#) | [Others](#)
57. Heidari, A. Chemotherapy a Last Resort for Cancer Treatment. (2016) *Chemo Open Access* 5: 4.  
Pubmed | [Crossref](#) | [Others](#)
58. Heidari, A. Separation and Pre-Concentration of Metal Cations-DNA/RNA Chelates Using Molecular Beam Mass Spectrometry with Tunable Vacuum Ultraviolet (VUV) Synchrotron Radiation and Various Analytical Methods. (2016) *Mass Spectrom Purif Tech* 2: e101.  
Pubmed | [Crossref](#) | [Others](#)
59. Heidari, A. Yoctosecond Quantitative Structure-Activity Relationship (QSAR) and Quantitative Structure-Property Relationship (QSPR) under Synchrotron Radiations Studies for Prediction of Solubility of Anti-Cancer Nano Drugs in Aqueous Solutions Using Genetic Function Approximation (GFA) Algorithm. (2016) *Insight Pharm Res.* 1: 1.  
Pubmed | [Crossref](#) | [Others](#)
60. Heidari, A. Cancer Risk Prediction and Assessment in Human Cells under Synchrotron Radiations Using Quantitative Structure Activity Relationship (QSAR) and Quantitative Structure Properties Relationship (QSPR) Studies. (2016) *Int J Clin Med Imaging* 3: 516.  
Pubmed | [Crossref](#) | [Others](#)
61. Heidari, A. A Novel Approach to Biology, Electronic. (2016) *J Biol* 12: 4.  
Pubmed | [Crossref](#) | [Others](#)
62. Heidari, A. Innovative Biomedical Equipment's for Diagnosis and Treatment. (2016) *J Bioengineer & Biomedical Sci* 6: 2.  
Pubmed | [Crossref](#) | [Others](#)
63. Heidari, A. Integrating Precision Cancer Medicine into Healthcare, Medicare Reimbursement Changes and the Practice of Oncology. *Trends in Oncology Medicine and Practices.* (2016) *J Oncol Med & Pract* 1: 2.  
Pubmed | [Crossref](#) | [Others](#)
64. Heidari, A. Promoting Convergence in Biomedical and Biomaterials Sciences and Silk Proteins for Biomedical and Biomaterials Applications: An Introduction to Materials in Medicine and Bioengineering Perspectives. (2016) *J Bioengineer & Biomedical Sci* 6: 3.  
Pubmed | [Crossref](#) | [Others](#)
65. Heidari, A. X-Ray Fluorescence and X-Ray Diffraction Analysis on Discrete Element Modeling of Nano Powder Metallurgy Processes in Optimal Container Design. (2017) *J Powder Metall Min* 6: 1.  
Pubmed | [Crossref](#) | [Others](#)
66. Heidari, A. Biomolecular Spectroscopy and Dynamics of Nano-Sized Molecules and Clusters as Cross-Linking-Induced Anti-Cancer and Immune-Oncology Nano Drugs Delivery in DNA/RNA of Human Cancer Cells' Membranes under Synchrotron Radiations: A Payload-Based Perspective. (2017) *Arch Chem Res* 1: 2.  
Pubmed | [Crossref](#) | [Others](#)
67. Heidari, A. Deficiencies in Repair of Double-Standard DNA/RNA-Binding Molecules Identified in Many Types of Solid and Liquid Tumors Oncology in Human Body for Advancing Cancer Immunotherapy Using Computer Simulations and Data Analysis. (2017) *J Appl Bioinforma Comput Biol* 6: 1.  
Pubmed | [Crossref](#) | [Others](#)
68. Heidari, A. Electronic Coupling among the Five Nanomolecules Shuts Down Quantum Tunneling in the Presence and Absence of an Applied Magnetic Field for Indication of the Dimer or other Provide Different Influences on the Magnetic Behavior of Single Molecular Magnets (SMMs) as Qubits for Quantum Computing. (2017) *Glob J Res Rev* 4: 2.  
Pubmed | [Crossref](#) | [Others](#)
69. Heidari, A. Polymorphism in Nano-Sized Graphene Ligand-Induced Transformation of Au<sub>38-xAgx/xCux</sub>(SPh-tBu)<sub>24</sub> to Au<sub>36-xAgx/xCux</sub>(SPh-tBu)<sub>24</sub> (x = 1-12) Nanomolecules for Synthesis of Au<sub>144-xAgx/xCux</sub>(SR)<sub>60</sub>, (SC4)<sub>60</sub>, (SC6)<sub>60</sub>, (SC12)<sub>60</sub>, (PET)<sub>60</sub>, (p-MBA)<sub>60</sub>, (F)<sub>60</sub>, (Cl)<sub>60</sub>, (Br)<sub>60</sub>, (I)<sub>60</sub>, (At)<sub>60</sub>, (Uus)<sub>60</sub> and (SC6H13)<sub>60</sub>. Nano Clusters as Anti-Cancer Nano Drugs. (2017) *J Nanomater Mol Nanotechnol* 6: 3.  
Pubmed | [Crossref](#) | [Others](#)
70. Heidari, A. Biomedical Resource Oncology and Data Mining to Enable Resource Discovery in Medical, Medicinal, Clinical, Pharmaceutical, Chemical and Translational Research and Their Applications in Cancer Research. (2017) *Int J Biomed Data Min* 6: e103.  
Pubmed | [Crossref](#) | [Others](#)
71. Heidari, A. Study of Synthesis, Pharmacokinetics, Pharmacodynamics, Dosing, Stability, Safety and Efficacy of Olympiadane Nanomolecules as Agent for Cancer Enzymotherapy, Immunotherapy, Chemotherapy, Radiotherapy, Hormone Therapy and Targeted Therapy under Synchrotron Radiation. (2017) *J Dev Drugs* 6: e154.  
Pubmed | [Crossref](#) | [Others](#)
72. Heidari, A. A Novel Approach to Future Horizon of Top Seven Biomedical Research Topics to Watch in 2017: Alzheimer's, Ebola, Hypersomnia, Human Immunodeficiency Virus (HIV), Tuberculosis (TB), Microbiome/Antibiotic Resistance and Endovascular Stroke. (2017) *J Bioengineer & Biomedical Sci* 7: e127.  
Pubmed | [Crossref](#) | [Others](#)
73. Heidari, A. Opinion on Computational Fluid Dynamics (CFD) Technique. (2017) *Fluid Mech Open Acc* 4: 157.  
Pubmed | [Crossref](#) | [Others](#)