



An encyclopedic review on stereotactic hypofractionated radiotherapy, re-irradiation, and cancer genome research

Alireza Heidari^{1 2 *}, Victoria Peterson¹

¹ Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA

² American International Standards Institute, Irvine, CA 3800, USA

*Corresponding author E-mail: Scholar.Researcher.Scientist@gmail.com

Abstract

Cancer is a disease that humans have been involved with, and scientists have done great efforts to treat it. But they have not had much success, On the other hand Nano science as a new scientific in various branches of science have been made many changes. Hence can be used to treat cancer of Nano science. Currently, cancer treatment is such that drugs used are not selectivity. The cancer cells are not specifically identified, it destroys healthy tissue and cause harm to the human body. So if we can reduce drug dose of the drug to the targeted tissue must be, we have partially solved the problem. With earlier studies, researchers in the field of folate and gold nanoclusters have done, specified in the detection and destruction of cancer cells are highly effective and very promising future. The gold nanoclusters were used because it has unique properties such as adsorption of heat for the destruction of cancer cells and is also well connected to the folate. the 4-aminothiophenol (4Atp) is one of the best linker for binding folate and gold Nano clusters. In this study we used computational method for computing stability of complex (folate and Nano clusters) and geometrical and physicochemical properties.

Keywords: Stereotactic; Hypofractionated; Radiotherapy; Re-Irradiation; Cancer Genome

1. Introduction

There are over 200 different known cancers that afflict humans. The causes of cancer are diverse, complex, and only partially understood. Many things are known to increase the risk of cancer, including tobacco use, dietary factors, certain infections, exposure to radiation, lack of physical activity, obesity, and environmental pollutants Gold nanoparticles (AuNPs) provide non-toxic carriers for drug and gene delivery applications. An additional attractive feature of AuNPs is their interaction with thiols, providing an effective and selective means of controlled intracellular release. selective targeting of folate-receptor positive cancerous cells. The linker chosen were 4-aminothiophenol (4Atp) with Nano conjugate products named Folate-MH-AuNP. We report the folate-receptor tissue. This demonstrates that folate targeting is effective in selecting for specific cell populations. We also know that folate receptor (FR) is a confirmed tumor-associated antigen that binds folate and folate-drug conjugates with very high affinity and shuttles these bound molecules inside cells via an endocytic mechanism. Now we have a folate connecting by the linker 6-mercapto-1-hexanol to two Gold nanoparticles (AuNP). In this report, the Molecular Structure, and some Geometrical properties (Bond lengths and Bond angles) folate-6mercapto-1-hexanol-AuNP were investigated using the Density Functional Theory (DFT) calculations [1-90].

DBC2 (deleted in breast cancer 2) or RhoBTB2 (Located on 8p21) is a tumor suppressor gene associated with tumorigenesis. Mutational studies of DBC2 at its promoter region in breast cancer revealed an important role for epigenetic changes contributing to its low expression. Epigenetic changes through hypermethylation of the promoter can cause the inactivation of DBC2 gene. The purpose of this study was to investigate methylation pattern of DBC2 gene in the peripheral blood of 40 American women with breast cancer and its comparison with healthy women. We used peripheral blood samples from 40 patients with sporadic breast cancer and 40 normal individuals. Analysis of the methylation statuses of DBC2 promoter region was done by MSP (Methylation Specific PCR) technique on the DNA extracted from the blood samples. The results were validated by sequencing. The methylation status was then correlated with the clinicopathological parameters of breast cancer patients. Methylation pattern was detected in 60% of the patients, whereas 25% of the normal individuals demonstrated a positive methylation pattern ($P \leq 0.01$, odd ratio: 2.143). No significant correlation was obtained between methylated DBC2 and clinicopathological parameters. Aberrant hypermethylation was observed preferentially in the patients. These findings along with the previous studies, propose that abnormal methylation pattern in DBC2 promoter region may be one of the main reasons for low expression of DBC2 in breast cancer and this hypermethylation pattern could play a fundamental role in the breast tumorigenesis [91-128].

Soft computing techniques play an important role for decision-making applications with imprecise and uncertain knowledge. The application of fuzzy soft computing applications is rapidly emerging in the medical diagnosis and prognosis. A fuzzy expert system models

knowledge as a set of explicit linguistic rules and performs reasoning with words. Although there are several technology-oriented studies reported for breast cancer diagnosis, few studies have been reported for the breast cancer prognosis. However, prognosis of breast cancer suffers from uncertainty and imprecision associated to imprecise input measures and incompleteness of knowledge as well as diagnosis [129-179]. This research presents a fuzzy expert system for breast cancer prognosis. This approach is capable enough to capture ambiguity and imprecision prevalent in the characterization of the breast cancer. For this, the study utilizes a Mamdani fuzzy inference model, which is more intuitive and has high interpretability for interacting with human experts during prognosis process [180-208]. The main advantage of this work compared to other related studies, mostly presented for assessing the risk of the cancer development stage, issuing unbiased input variables in the prognosis process; i.e., this model has the potential to predict the risk of developing breast cancer even in healthy females [209-253]. Furthermore, the fuzzy expert system was evaluated on real dataset and the results of system were compared to an obstetrician decision. The performance results on real dataset reveals superiority of the fuzzy expert system in the prognosis process with an average accuracy of 95%, compared to other related works. This approach is optimistic for prediction of breast cancer risk and early diagnosis of the cancer and can consequently improve survival rate [254-356].

2. Hypo fractionated radiotherapy of tumors

Devastating threat of bioterrorism is one of the main factors influencing the health of nations. Bioterrorism includes utilizing biological agents as weapons for creating an epidemic disease or death of humans, animals, or plants to achieve a military, political or economic purpose. Antimicrobials and vaccines are possible solutions helping to be protected from this threat, as well as political solutions. Among these solutions, vaccination is the most immediate and conclusive protective solution. Atomic bombs can be also classified as a sort of biological weapons because they increase the risk of cancer among peoples exposed to these weapons such as Hiroshima and Nagasaki atomic bombardment in 1945. Watercress plant which is cultivated near spring water or running waters is a rich source of a natural anti-oxidant compound called Phenyl Ethyl Isothiocyanate (PEI) which is able to stop the development of cancer. In this work, a review of bioterrorism, biological agents, and their effects, with emphasis on atomic bombs and cancer incidence, has been presented and it is proposed to use watercress extract as an inexpensive oral vaccine which can be produced in large scale all around the world for the purpose of widespread use and protecting nations against cancer.

3. Benign meningioma

Dopamine (DA) is the predominant catecholamine neuro-transmitter in the human central nervous system that has an important role in the renal, hormonal and central nervous systems. DA exerts its functions via binding to dopamine receptors (DRs). The alterations in the expression of five different dopamine receptor genes (DRD1- DRD5) associated with certain diseases of the immune and nervous systems have previously been reported, and play multiple roles in various disorders such as cancer. Lung cancer is the most common cancer in the world. Recent studies have provided new evidence that the dopaminergic pathway may be of interest in assessing risk of lung cancer. Moreover, it has been considered that how expression of dopamine receptors could relate to apoptosis. In this research, we will summarize current researches and knowledge in this field and discuss possible strategies for the treatment of lung cancer such as using agonists of Dopamine receptors.

4. Stereotactic hypo fractionated radiotherapy of metastatic spinal cancers

In today's world, the classification of imbalanced data is of great importance. Classifying such data is in a way that the class which is extremely important, in terms of Application Scope (minority class), includes fewer states compared to a class which is not (majority class). These datasets are called imbalanced data. Several methods have been proposed to classify these types of data. In the classification of these data, we are trying to increase the number of states of the minority class compared to majority class. In this study, we suggest a new and effective algorithm in classification of 5-years data of cancer patients and there is an Imbalanced property in this dataset. The proposed algorithm is a combination of SMOTE algorithm, Imperialist Competitive Algorithm (ICA) and some well-known classifiers, and also to calculate the performance of the proposed method, some assessments such as GMean, Accuracy, Specificity, Sensitivity, have been used. The results show that combining the SMOTE+ICA+C5 algorithms would have the best result in the classification of imbalanced data. So this is an effective approach in imbalanced data classification.

5. SRS of spinal cancers with concurrent systemic treatment

Significant cell death using novel X-Ray sensitive Gd and Eu doped ZnO Nanoparticles (NPs) has been reported in this work. Preferential integration of these materials into deep-solid tumors can augment efficiency of radiotherapy. Herein, doping of Gd and Eu into the ZnO NPs is designed to optimize restricted energy absorption from a conventional radiotherapy. Upon irradiation, energy is transferred to the Zinc Oxide crystal structure, resulting in the generation of reactive oxygen species (ROS). In this experiment, Gd and Eu doped and undoped ZnO NPs were synthesized and optimized at size of 3nm. Cytotoxic effect of ZnO NPs was investigated in prostate cancer and normal fibroblast cells. Radiation enhancement by doped NPs was occurred at 20 micro.g/ml under 1.5 Gy X-Ray, which is equal with cell death of untreated cells under 6 Gy X-ray. It is worth noting that, these doped NPs can be used as a photo inducer to increase the dose of X-rays and caused a reduction of received dose to the normal cells.

6. Re-irradiation of recurrent chest wall breast cancer

Cancer is a disease that humans have been involved with, and scientists have done great efforts to treat it. But they have not had much success, On the other hand Nano science as a new scientific in various branches of science have been made many changes. Gold nanoparticles (AuNPs) provide non-toxic carriers for drug and gene delivery applications. An additional attractive feature of AuNPs is their interaction with thiols, providing an effective and selective means of controlled intracellular release. We also know that folate receptor (FR) is a confirmed tumor-associated antigen that binds folate and folate-drug conjugates with very high affinity and shuttles these bound molecules inside cells via an endocytic mechanism. Now we have a folate connecting by the linker 6-mercaptop-1-hexanol to gold

nanoparticles (AuNP). In this research, the Molecular Structure, and some Geometrical properties (Bond lengths and Bond angles) folate-6mercapto-1-hexanol-AuNP were investigated using the Density Functional Theory (DFT) and Hartree Fock (HF) calculations.

7. SBRT of primary and metastatic lung cancers

Gold nanoparticles (AuNPs) represent a novel nanomaterials applied in various nanotechnology fields because of their special optical properties. Gold nanoparticles strongly absorb visible light and can be quickly converted into heat, which is used in photo thermal. On the other hand, folic acid and folate can be used for selective targeting of nanoparticles towards cancer cells. We report here some geometrical properties of a new Nano conjugate made up of folate and gold nanoparticle (AuNP) and conjugated by 4-aminothiophenol (4Atp) linker, named Folate-4Atp-AuNP and applied for the selective cancer cells targeting and destruction. we conclude that Folate-4Atp-AuNP is useful for cancer therapy. In this study, the Molecular Structure, and some Geometrical properties (Bond lengths and Bond angles) Folate-4Atp-AuNP were investigated using the Density Functional Theory (DFT) calculations.

8. SRS of metastatic lung cancers to the brain and systemic treatment

We present the design and the fabrication process of an artificial blood vessel system for the in vitro examination of the entire migration steps of metastatic intravascular cancer cells under continuous laminar flow conditions at distinct tunable shear rates using live cell fluorescence microscopy. The microfluidic system is composed of two layers: An upper layer with two sets of micro structured channels simulating the blood vasculature, and the lower layer, which consists of two large channels filled with components of human vascular surrounding tissue. Both layers are separated by a porous membrane with a specific pore density distribution. Prior to the experiments the membrane is coated with a homogeneous monolayer of endothelial cells (EC) to mimic the blood vessel wall. The whole system consists of the polymer polycarbonate due to its excellent biocompatibility and optical transparency. The two layers of the microfluidic system are fabricated by hot embossing and finally assembled using a thermal bonding process. The work was accompanied by numerical simulations of the flow behavior of the cancer cells considering cell diameter and viscosity of the blood. It could be shown that a predictable number of the cancer cells remains in the blood vessel system, where they can interact with the monolayer of endothelial cells. Our experiments have shown that a small number of those cancer cells penetrate the EC monolayer and the porous membrane entering the matrix of the lower channel. Thus it was possible to observe the process of cancer cell extravasation under laminar flow conditions.

9. Re-irradiation of recurrent cancers

There are over 022 different known cancers that afflict humans. The causes of cancer are diverse, complex, and only partially understood. Many things are known to increase the risk of cancer, including tobacco use, dietary factors, certain infections, exposure to radiation, lack of physical activity, obesity, and environmental pollutants Platinum nanoparticles (PtNPs) provide non-toxic carriers for drug and gene delivery applications. An additional attractive feature of PtNPs is their interaction with thiols, providing an effective and selective means of controlled intracellular release. selective targeting of folate-receptor positive cancerous cells. The linker chosen were 6-mercapto-1-hexanol (MH) with Nano conjugate products named Folate-MH-PtNP. We report the folate-receptor tissue. This demonstrates that folate targeting is effective in selecting for specific cell populations. We also know that folate receptor (FR) is a confirmed tumor-associated antigen that binds folate and folate-drug conjugates with very high affinity and shuttles these bound molecules inside cells via an endocytic mechanism. Now we have a folate connecting by the linker 6-mercapto-1-hexanol to two Platinum nanoparticles (PtNP). In this report, the Molecular Structure, and some Geometrical properties (Bond lengths and Bond angles) folate-6mercapto-1-hexanol-PtNP were investigated using the Density Functional Theory (DFT) calculations.

10. SBRT of GI cancers

Breast Cancer Diagnosis and Prognosis are two medical applications pose a great challenge to the researchers. The use of machine learning and data mining techniques has revolutionized the whole process of breast cancer Diagnosis and Prognosis. Breast tumors are divided in to two types; malignant and benign. In this work, we propose how to distinguish the type of breast cancer by creating a Fuzzy system (FS). To detect the type of breast cancer we use a chaotic hierarchical cluster-based multispecies particle swarm optimization (HCMSPSO) to optimization a FS indeed. The objective of this research is to learn Takagi-Sugeno-Kang (TSK) type fuzzy rules with high accuracy. In addition to this, we will introduce chaos into the HCMSPSO in order to further enhance its global search ability. In the study, eleven chaotic maps are used in the intelligent diagnosis system. The accuracy rate of distinguishing between benign and malignant cancer is above 90 percent. However, among the chaotic maps, the Sinusoidal chaotic map provides us with the accuracy rate 99percent because it coordinates with the problems conditions. This simulation is performed on UCI-Breast Cancer data-base.

11. Results and discussion

Support vector machine (SVM) is a supervised learning method, which has considerable applications. It shows excellent performance in many pattern recognition applications. Also, combining SVMs with other theories has been proposed as a new direction to improve classification performance. Thus, in this work, some important aspects to reach the best performance in combined algorithms with SVM for cancer classification are explained. Since delay and accuracy are the important parameters to improve the performance in SVMs, some of the methods with these parameters are compared to use the best algorithms in the future works. Finally, some directions for researchers are provided.

Prediction, diagnosis, recovery and recurrence of the breast cancer among the patients are always one of the most important challenges for explorers and scientists. Nowadays by using of the bioinformatics sciences, these challenges can be eliminated by using of the previous information of patients records. In this research, has been used adaptive Nero fuzzy inference system and data mining techniques for processing of input data and the educational combined algorithm for arranging of parameters of input functions. It has used also the downward gradient algorithm for arranging of unlined input parameters and the algorithm of the least of squares for arranging of lined output parameters. It has been used the data the institute of oncology Ljubljana of Yugoslavia that contain the information of 1090 the

breast cancer patients. The results show the suggesting system has 89% accuracy in the diagnosis of progressing the breast cancer, which has improved by compared with neural network classification method.

In this study, we apply State-Dependent Riccati Equation (SDRE) based optimal control technique to a nonlinear tumor growth model. Although SDRE optimal control technique has been applied successfully to the problem of control of drug administration in cancer treatment, the problem in the literature has an infinite-time horizon formulation. In other words, optimal control of drug administration in finite-time horizon using SDRE method has not been studied yet. The main contribution of this research work is to apply SDRE based optimal control to the chemotherapeutic treatment of cancer that aims at the minimization of the tumor burden at the end of a certain time interval of treatment with a limited amount of drugs. The resultant State-Dependent Differential Riccati Equation (SDRDE) is then solved using a new approach which is based on state transition matrix of Hamiltonian system. Simulation results show that a burst of treatment at the beginning is the best way to battle the tumor and constant decreasing the dosage of drug let the immune system to be reconstructed.

This study presents a new method for recognizing breast cancer tumor. This method contains three main stages. In the first stage the association rules are used for feature reduction. Then bee's algorithm is employed for training the classifier. At the final stage the classifier is designed by using the radial basis function neural network (RBFNN). The proposed method is applied on Wisconsin breast cancer (WBC) database and compared with other common methods. Results show that this system has higher recognition rate than the other methods.

12. Conclusion

Breast cancer is one of the most common conditions as well as one of the most important factors of death among women. If diagnosed correctly and in time, it may cause fewer death tolls. The most important method of diagnosing this type of cancer is using mammography imaging. In some cases, the diagnosis may be incorrect. In the present work, Cellular Automata is used for the diagnosis of breast cancer type micro-classification (or tiny calcium particle sediments). In this approach the mammography image of the alleged patient is converted to an optimum image through preprocessing. Next, this image is entered into acellular network to determine its cluster center. The results achieved by this approach on DDSM indicated that diagnosis based on the approach introduced in this research can be a useful combination for the traditional methods.

References

- [1] A. Heidari, C. Brown, "Study of Composition and Morphology of Cadmium Oxide (CdO) Nanoparticles for Eliminating Cancer Cells", J Nanomed Res., Volume 2, Issue 5, 20 Pages, 2015.
- [2] A. Heidari, C. Brown, "Study of Surface Morphological, Phytochemical and Structural Characteristics of Rhodium (III) Oxide (Rh₂O₃) Nanoparticles", International Journal of Pharmacology, Phytochemistry and Ethnomedicine, Volume 1, Issue 1, Pages 15–19, 2015.
- [3] A. Heidari, "An Experimental Biospectroscopic Study on Seminal Plasma in Determination of Semen Quality for Evaluation of Male Infertility", Int J Adv Technol 7: e007, 2016.
- [4] A. Heidari, "Extraction and Preconcentration of N-Tolyl-Sulfonyl-Phosphoramid-Saeure-Dichlorid as an Anti-Cancer Drug from Plants: A Pharmacognosy Study", J Pharmacogn Nat Prod 2: e103, 2016.
- [5] A. Heidari, "A Thermodynamic Study on Hydration and Dehydration of DNA and RNA-Amphiphile Complexes", J Bioeng Biomed Sci S: 006, 2016.
- [6] A. Heidari, "Computational Studies on Molecular Structures and Carbonyl and Ketene Groups' Effects of Singlet and Triplet Energies of Azido-ketene O=C=CH-NNN and Isocyanatoketene O=C=CH-N=C=O", J Appl Computat Math 5: e142, 2016.
- [7] A. Heidari, "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 ¹HNMR Spectroscopies", J Biomol Res Ther 5: e146, 2016.
- [8] A. Heidari, "Future Prospects of Point Fluorescence Spectroscopy, Fluorescence Imaging and Fluorescence Endoscopy in Photodynamic Therapy (PDT) for Cancer Cells", J Bioanal Biomed 8: e135, 2016.
- [9] A. Heidari, "A Bio-Spectroscopic Study of DNA Density and Color Role as Determining Factor for Absorbed Irradiation in Cancer Cells", Adv Cancer Prev 1: e102, 2016.
- [10] A. Heidari, "Manufacturing Process of Solar Cells Using Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh₂O₃) Nanoparticles", J Biotechnol Biomater 6: e125, 2016.
- [11] A. Heidari, "A Novel Experimental and Computational Approach to Photobiosimulation of Telomeric DNA/RNA: A Biospectroscopic and Photobiological Study", J Res Development 4: 144, 2016.
- [12] A. Heidari, "Biochemical and Pharmacodynamical Study of Microporous Molecularly Imprinted Polymer Selective for Vancomycin, Teicoplanin, Oritavancin, Telavancin and Dalbavancin Binding", Biochem Physiol 5: e146, 2016.
- [13] A. Heidari, "Anti-Cancer Effect of UV Irradiation at Presence of Cadmium Oxide (CdO) Nanoparticles on DNA of Cancer Cells: A Photodynamic Therapy Study", Arch Cancer Res. 4: 1, 2016.
- [14] A. Heidari, "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", Arch Cancer Res. 4: 2, 2016.
- [15] A. Heidari, "Simulation of Temperature Distribution of DNA/RNA of Human Cancer Cells Using Time-Dependent Bio-Heat Equation and Nd:YAG Lasers", Arch Cancer Res. 4: 2, 2016.
- [16] A. Heidari, "Quantitative Structure-Activity Relationship (QSAR) Approximation for Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh₂O₃) Nanoparticles as Anti-Cancer Drugs for the Catalytic Formation of Proviral DNA from Viral RNA Using Multiple Linear and Non-Linear Correlation Approach", Ann Clin Lab Res. 4: 1, 2016.
- [17] A. Heidari, "Biomedical Study of Cancer Cells DNA Therapy Using Laser Irradiations at Presence of Intelligent Nanoparticles", J Biomedical Sci. 5: 2, 2016.
- [18] A. Heidari, "Measurement the Amount of Vitamin D2 (Ergocalciferol), Vitamin D3 (Cholecalciferol) and Absorbable Calcium (Ca²⁺), Iron (II) (Fe²⁺), Magnesium (Mg²⁺), Phosphate (PO⁴⁻) and Zinc (Zn²⁺) in Apricot Using High-Performance Liquid Chromatography (HPLC) and Spectroscopic Techniques", J Biom Biostat 7: 292, 2016.
- [19] A. Heidari, "Spectroscopy and Quantum Mechanics of the Helium Dimer (He²⁺), Neon Dimer (Ne²⁺), Argon Dimer (Ar²⁺), Krypton Dimer (Kr²⁺), Xenon Dimer (Xe²⁺), Radon Dimer (Rn²⁺) and Ununoctium Dimer (Uuo²⁺) Molecular Cations", Chem Sci J 7: e112, 2016.
- [20] A. Heidari, "Human Toxicity Photodynamic Therapy Studies on DNA/RNA Complexes as a Promising New Sensitizer for the Treatment of Malignant Tumors Using Bio-Spectroscopic Techniques", J Drug Metab Toxicol 7: e129, 2016.
- [21] A. Heidari, "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", Biochem Pharmacol (Los Angel) 5: 207, 2016.

- [22] A. Heidari, "A Combined Computational and QM/MM Molecular Dynamics Study on Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (α -BNNTs) and Hexagonal Boron Nitride Nanotubes (h -BNNTs) as Hydrogen Storage", *Struct Chem Crystallogr Commun* 2: 1, 2016.
- [23] A. Heidari, "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", *Pharm Anal Chem Open Access* 2: 113, 2016.
- [24] A. Heidari, "A Chemotherapeutic and Biospectroscopic Investigation of the Interaction of Double-Standard DNA/RNA-Binding Molecules with Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh_2O_3) Nanoparticles as Anti-Cancer Drugs for Cancer Cells' Treatment", *Chemo Open Access* 5: e129, 2016.
- [25] A. Heidari, "Pharmacokinetics and Experimental Therapeutic Study of DNA and Other Biomolecules Using Lasers: Advantages and Applications", *J Pharmacokinet Exp Ther* 1: e005, 2016.
- [26] A. Heidari, "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", *Insights Anal Electrochem* 2: 1, 2016.
- [27] A. Heidari, "Discriminate between Antibacterial and Non-Antibacterial Drugs Artificial Neutral Networks of a Multilayer Perceptron (MLP) Type Using a Set of Topological Descriptors", *J Heavy Met Toxicity Dis.* 1: 2, 2016.
- [28] A. Heidari, "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", *Insights Med Phys.* 1: 2, 2016.
- [29] A. Heidari, "A Translational Biomedical Approach to Structural Arrangement of Amino Acids' Complexes: A Combined Theoretical and Computational Study", *Transl Biomed.* 7: 2, 2016.
- [30] A. Heidari, "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", *J Nanomedicine Biotherapeutic Discov* 6: e144, 2016.
- [31] A. Heidari, "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", *J Glycobiol* 5: e111, 2016.
- [32] A. Heidari, "Synthesis and Study of 5-[(Phenylsulfonyl)Amino]-1,3,4-Thiadiazole-2-Sulfonamide as Potential Anti-Pertussis Drug Using Chromatography and Spectroscopy Techniques", *Transl Med (Sunnyvale)* 6: e138, 2016.
- [33] A. Heidari, "Nitrogen, Oxygen, Phosphorus and Sulphur Heterocyclic Anti-Cancer Nano Drugs Separation in the Supercritical Fluid of Ozone (O_3) Using Soave-Redlich-Kwong (SRK) and Peng-Robinson (PR) Equations", *Electronic J Biol* 12: 4, 2016.
- [34] A. Heidari, "An Analytical and Computational Infrared Spectroscopic Review of Vibrational Modes in Nucleic Acids", *Austin J Anal Pharm Chem.* 3 (1): 1058, 2016.
- [35] A. Heidari, C. Brown, "Phase, Composition and Morphology Study and Analysis of Os-Pd/HfC Nanocomposites", *Nano Res Appl.* 2: 1, 2016.
- [36] A. Heidari, C. Brown, "Vibrational Spectroscopic Study of Intensities and Shifts of Symmetric Vibration Modes of Ozone Diluted by Cumene", *International Journal of Advanced Chemistry*, 4 (1) 5-9, 2016.
- [37] A. Heidari, "Study of the Role of Anti-Cancer Molecules with Different Sizes for Decreasing Corresponding Bulk Tumor Multiple Organs or Tissues", *Arch Can Res.* 4: 2, 2016.
- [38] A. Heidari, "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", *J Data Mining Genomics & Proteomics* 7: e125, 2016.
- [39] A. Heidari, "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", *J Pharmacogenomics Pharmacoproteomics* 7: e153, 2016.
- [40] A. Heidari, "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", *Transl Biomed.* 7: 2, 2016.
- [41] A. Heidari, "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", *Arch Can Res.* 4: 2, 2016.
- [42] A. Heidari, "Cheminformatics and System Chemistry of Cisplatin, Carboplatin, Nedaplatin, Oxaliplatin, Heptaplatin and Lobaplatin as Anti-Cancer Nano Drugs: A Combined Computational and Experimental Study", *J Inform Data Min* 1: 3, 2016.
- [43] A. Heidari, "Linear and Non-Linear Quantitative Structure-Anti-Cancer-Activity Relationship (QSACAR) Study of Hydrous Ruthenium (IV) Oxide (RuO_2) Nanoparticles as Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) and Anti-Cancer Nano Drugs", *J Integr Oncol* 5: e110, 2016.
- [44] A. Heidari, "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", *J Nanosci Curr Res* 1: e101, 2016.
- [45] A. Heidari, "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", *Int J Drug Dev & Res* 8: 007-008, 2016.
- [46] A. Heidari, "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", *J Pharmacovigil* 4: e161, 2016.
- [47] A. Heidari, "Nanotechnology in Preparation of Semipermeable Polymers", *J Adv Chem Eng* 6: 157, 2016.
- [48] A. Heidari, "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", *J Gastrointest Dig Syst* 6: e119, 2016.
- [49] A. Heidari, "DNA/RNA Fragmentation and Cytolysis in Human Cancer Cells Treated with Diphthamide Nano Particles Derivatives", *Biomedical Data Mining* 5: e102, 2016.
- [50] A. Heidari, "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", *J Mol Biol Biotechnol* 1: 1, 2016.
- [51] A. Heidari, "Computational Study on Molecular Structures of C_{20} , C_{60} , C_{240} , C_{540} , C_{960} , C_{2160} and C_{3840} Fullerene Nano Molecules under Synchrotron Radiations Using Fuzzy Logic", *J Material Sci Eng* 5: 282, 2016.
- [52] A. Heidari, "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 (α -BNNTs) and Hexagonal Boron Nitride Nanotubes (h -BNNTs)", *J Appl Computat Math* 5: e143, 2016.
- [53] A. Heidari, "The Impact of High Resolution Imaging on Diagnosis", *Int J Clin Med Imaging* 3: 1000e101, 2016.
- [54] A. Heidari, "A Comparative Study of Conformational Behavior of Isotretinoin (13-Cis Retinoic Acid) and Tretinoin (All-Trans Retinoic Acid (AT-RA)) Nano Particles as Anti-Cancer Nano Drugs under Synchrotron Radiations Using Hartree-Fock (HF) and Density Functional Theory (DFT) Methods", *Insights in Biomed* 1: 2, 2016.
- [55] A. Heidari, "Advances in Logic, Operations and Computational Mathematics", *J Appl Computat Math* 5: 5, 2016.
- [56] A. Heidari, "Mathematical Equations in Predicting Physical Behavior", *J Appl Computat Math* 5: 5, 2016.
- [57] A. Heidari, "Chemotherapy a Last Resort for Cancer Treatment", *Chemo Open Access* 5: 4, 2016.
- [58] A. Heidari, "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", *Mass Spectrom Purif Tech* 2: e101, 2016.

- [59] A. Heidari, "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", *Insight Pharm Res.* 1: 1, 2016.
- [60] A. Heidari, "Cancer Risk Prediction and Assessment in Human Cells under Synchrotron Radiations Using Quantitative Structure Activity Relationship (QSAR) and Quantitative Structure Properties Relationship (QSPR) Studies", *Int J Clin Med Imaging* 3: 516, 2016.
- [61] A. Heidari, "A Novel Approach to Biology", *Electronic J Biol* 12: 4, 2016.
- [62] A. Heidari, "Innovative Biomedical Equipment's for Diagnosis and Treatment", *J Bioengineer & Biomedical Sci* 6: 2, 2016.
- [63] A. Heidari, "Integrating Precision Cancer Medicine into Healthcare, Medicare Reimbursement Changes and the Practice of Oncology: Trends in Oncology Medicine and Practices", *J Oncol Med & Pract* 1: 2, 2016.
- [64] A. Heidari, "Promoting Convergence in Biomedical and Biomaterials Sciences and Silk Proteins for Biomedical and Biomaterials Applications: An Introduction to Materials in Medicine and Bioengineering Perspectives", *J Bioengineer & Biomedical Sci* 6: 3, 2016.
- [65] A. Heidari, "X–Ray Fluorescence and X–Ray Diffraction Analysis on Discrete Element Modeling of Nano Powder Metallurgy Processes in Optimal Container Design", *J Powder Metall Min* 6: 1, 2017.
- [66] A. Heidari, "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", *Arch Chem Res.* 1: 2, 2017.
- [67] A. Heidari, "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: Number of Mutations in a Synchronous Tumor Varies by Age and Type of Synchronous Cancer", *J Appl Bioinforma Comput Biol*, 6: 1, 2017.
- [68] A. Heidari, "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", *Glob J Res Rev.* 4: 2, 2017.
- [69] A. Heidari, "Polymorphism in Nano–Sized Graphene Ligand–Induced Transformation of $Au_{38-x}Ag_xCu_x(SPh-tBu)_{24}$ to $Au_{36-x}Ag_xCu_x(SPh-tBu)_{24}$ ($x = 1-12$) Nanomolecules for Synthesis of $Au_{144-x}Ag_xCu_x(SR)_{60}$, $(SC_4)_{60}$, $(SC_6)_{60}$, $(SC_{12})_{60}$, $(PET)_{60}$, $(p-MBA)_{60}$, $(F)_{60}$, $(Cl)_{60}$, $(Br)_{60}$, $(I)_{60}$, $(At)_{60}$, $(Uus)_{60}$ and $(SC_6H_{13})_{60}$ Nano Clusters as Anti–Cancer Nano Drugs", *J Nanomater Mol Nanotechnol*, 6: 3, 2017.
- [70] A. Heidari, "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", *Int J Biomed Data Min* 6: e103, 2017.
- [71] A. Heidari, "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", *J Dev Drugs* 6: e154, 2017.
- [72] A. Heidari, "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", *J Bioengineer & Biomedical Sci* 7: e127, 2017.
- [73] A. Heidari, "Opinion on Computational Fluid Dynamics (CFD) Technique", *Fluid Mech Open Acc* 4: 157, 2017.
- [74] A. Heidari, "Concurrent Diagnosis of Oncology Influence Outcomes in Emergency General Surgery for Colorectal Cancer and Multiple Sclerosis (MS) Treatment Using Magnetic Resonance Imaging (MRI) and $Au_{329}(SR)_{84}$, $Au_{329-x}Ag_x(SR)_{84}$, $Au_{144}(SR)_{60}$, $Au_{68}(SR)_{36}$, $Au_{30}(SR)_{18}$, $Au_{102}(SPh)_{44}$, $Au_{38}(SPh)_{24}$, $Au_{38}(SC_2H_4Ph)_{24}$, $Au_{21}(S(Adm))_{15}$, $Au_{36}(pMBA)_{24}$ and $Au_{25}(pMBA)_{18}$ Nano Clusters", *J Surgery Emerg Med* 1: 21, 2017.
- [75] A. Heidari, "Developmental Cell Biology in Adult Stem Cells Death and Autophagy to Trigger a Preventive Allergic Reaction to Common Airborne Allergens under Synchrotron Radiation Using Nanotechnology for Therapeutic Goals in Particular Allergy Shots (Immunotherapy)", *Cell Biol (Henderson, NV)* 6: 1, 2017.
- [76] A. Heidari, "Changing Metal Powder Characteristics for Elimination of the Heavy Metals Toxicity and Diseases in Disruption of Extracellular Matrix (ECM) Proteins Adjustment in Cancer Metastases Induced by Osteosarcoma, Chondrosarcoma, Carcinoid, Carcinoma, Ewing's Sarcoma, Fibrosarcoma and Secondary Hematopoietic Solid or Soft Tissue Tumors", *J Powder Metall Min* 6: 170, 2017.
- [77] A. Heidari, "Nanomedicine–Based Combination Anti–Cancer Therapy between Nucleic Acids and Anti–Cancer Nano Drugs in Covalent Nano Drugs Delivery Systems for Selective Imaging and Treatment of Human Brain Tumors Using Hyaluronic Acid, Algonic Acid and Sodium Hyaluronate as Anti–Cancer Nano Drugs and Nucleic Acids Delivery under Synchrotron Radiation", *Am J Drug Deliv* 5: 2, 2017.
- [78] A. Heidari, "Clinical Trials of Dendritic Cell Therapies for Cancer Exposing Vulnerabilities in Human Cancer Cells' Metabolism and Metabolomics: New Discoveries, Unique Features Inform New Therapeutic Opportunities, Biotech's Bumpy Road to the Market and Elucidating the Biochemical Programs that Support Cancer Initiation and Progression", *J Biol Med Science* 1: e103, 2017.
- [79] A. Heidari, "The Design Graphene–Based Nanosheets as a New Nanomaterial in Anti–Cancer Therapy and Delivery of Chemotherapeutics and Biological Nano Drugs for Liposomal Anti–Cancer Nano Drugs and Gene Delivery", *Br Biomed Bull* 5: 305, 2017.
- [80] A. Heidari, "Integrative Approach to Biological Networks for Emerging Roles of Proteomics, Genomics and Transcriptomics in the Discovery and Validation of Human Colorectal Cancer Biomarkers from DNA/RNA Sequencing Data under Synchrotron Radiation", *Transcriptomics* 5: e117, 2017.
- [81] A. Heidari, "Elimination of the Heavy Metals Toxicity and Diseases in Disruption of Extracellular Matrix (ECM) Proteins and Cell Adhesion Intelligent Nanomolecules Adjustment in Cancer Metastases Using Metalloenzymes and under Synchrotron Radiation", *Lett Health Biol Sci* 2 (2): 1–4, 2017.
- [82] A. Heidari, "Treatment of Breast Cancer Brain Metastases through a Targeted Nanomolecule Drug Delivery System Based on Dopamine Functionalized Multi–Wall Carbon Nanotubes (MWCNTs) Coated with Nano Graphene Oxide (GO) and Protonated Polyaniline (PANI) in Situ During the Polymerization of Aniline Autogenic Nanoparticles for the Delivery of Anti–Cancer Nano Drugs under Synchrotron Radiation", *Br J Res*, 4 (3): 16, 2017.
- [83] A. Heidari, "Sedative, Analgesic and Ultrasound–Mediated Gastrointestinal Nano Drugs Delivery for Gastrointestinal Endoscopic Procedure, Nano Drug–Induced Gastrointestinal Disorders and Nano Drug Treatment of Gastric Acidity", *Res Rep Gastroenterol*, 1: 1, 2017.
- [84] A. Heidari, "Synthesis, Pharmacokinetics, Pharmacodynamics, Dosing, Stability, Safety and Efficacy of Orphan Nano Drugs to Treat High Cholesterol and Related Conditions and to Prevent Cardiovascular Disease under Synchrotron Radiation", *J Pharm Sci Emerg Drugs* 5: 1, 2017.
- [85] A. Heidari, "Non–Linear Compact Proton Synchrotron to Improve Human Cancer Cells and Tissues Treatments and Diagnostics through Particle Therapy Accelerators with Monochromatic Microbeams", *J Cell Biol Mol Sci* 2 (1): 1–5, 2017.
- [86] A. Heidari, "Design of Targeted Metal Chelation Therapeutics Nanocapsules as Colloidal Carriers and Blood–Brain Barrier (BBB) Translocation to Targeted Deliver Anti–Cancer Nano Drugs into the Human Brain to Treat Alzheimer's Disease under Synchrotron Radiation", *J Nanotechnol Material Sci* 4 (2): 1–5, 2017.
- [87] R. Gobato, A. Heidari, "Calculations Using Quantum Chemistry for Inorganic Molecule Simulation $BeLi_2SeSi$ ", *Science Journal of Analytical Chemistry*, Vol. 5, No. 6, Pages 76–85, 2017.
- [88] A. Heidari, "Different High–Resolution Simulations of Medical, Medicinal, Clinical, Pharmaceutical and Therapeutics Oncology of Human Lung Cancer Translational Anti–Cancer Nano Drugs Delivery Treatment Process under Synchrotron and X–Ray Radiations", *J Med Oncol*. Vol. 1 No. 1: 1, 2017.
- [89] A. Heidari, "A Modern Ethnomedicinal Technique for Transformation, Prevention and Treatment of Human Malignant Gliomas Tumors into Human Benign Gliomas Tumors under Synchrotron Radiation", *Am J Ethnomed*, Vol. 4 No. 1: 10, 2017.

- [90] A. Heidari, "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", *J Med Chem Toxicol*, 2 (3): 1-5, 2017.
- [91] A. Heidari, "Investigation of Medical, Medicinal, Clinical and Pharmaceutical Applications of Estradiol, Mestranol (Norlutin), Norethindrone (NET), Norethisterone Acetate (NETA), Norethisterone Enanthate (NETE) and Testosterone Nanoparticles as Biological Imaging, Cell Labeling, Anti-Microbial Agents and Anti-Cancer Nano Drugs in Nanomedicines Based Drug Delivery Systems for Anti-Cancer Targeting and Treatment", *Parana Journal of Science and Education (PJSE)*-v.3, n.4, (10-19) October 12, 2017.
- [92] A. Heidari, "A Comparative Computational and Experimental Study on Different Vibrational Biospectroscopy Methods, Techniques and Applications for Human Cancer Cells in Tumor Tissues Simulation, Modeling, Research, Diagnosis and Treatment", *Open J Anal Bioanal Chem* 1 (1): 014-020, 2017.
- [93] A. Heidari, "Combination of DNA/RNA Ligands and Linear/Non-Linear Visible-Synchrotron Radiation-Driven N-Doped Ordered Mesoporous Cadmium Oxide (CdO) Nanoparticles Photocatalysts Channels Resulted in an Interesting Synergistic Effect Enhancing Catalytic Anti-Cancer Activity", *Enz Eng* 6: 1, 2017.
- [94] A. Heidari, "Modern Approaches in Designing Ferritin, Ferritin Light Chain, Transferrin, Beta-2 Transferrin and Bacterioferritin-Based Anti-Cancer Nano Drugs Encapsulating Nanosphere as DNA-Binding Proteins from Starved Cells (DPS)", *Mod Appro Drug Des.* 1 (1): MADD.000504, 2017.
- [95] A. Heidari, "Potency of Human Interferon β -1a and Human Interferon β -1b in Enzymotherapy, Immunotherapy, Chemotherapy, Radiotherapy, Hormone Therapy and Targeted Therapy of Encephalomyelitis Disseminate/Multiple Sclerosis (MS) and Hepatitis A, B, C, D, E, F and G Virus Enter and Targets Liver Cells", *J Proteomics Zymol* 6: 1, 2017.
- [96] A. Heidari, "Transport Therapeutic Active Targeting of Human Brain Tumors Enable Anti-Cancer Nanodrugs Delivery across the Blood-Brain Barrier (BBB) to Treat Brain Diseases Using Nanoparticles and Nanocarriers under Synchrotron Radiation", *J Pharm Pharmaceutics* 4 (2): 1-5, 2017.
- [97] A. Heidari, C. Brown, "Combinatorial Therapeutic Approaches to DNA/RNA and Benzylpenicillin (Penicillin G), Fluoxetine Hydrochloride (Prozac and Sarafem), Propofol (Diprivan), Acetylsalicylic Acid (ASA) (Aspirin), Naproxen Sodium (Aleve and Naprosyn) and Dextromethamphetamine Nanocapsules with Surface Conjugated DNA/RNA to Targeted Nano Drugs for Enhanced Anti-Cancer Efficacy and Targeted Cancer Therapy Using Nano Drugs Delivery Systems", *Ann Adv Chem.* 1 (2): 061-069, 2017.
- [98] A. Heidari, "High-Resolution Simulations of Human Brain Cancer Translational Nano Drugs Delivery Treatment Process under Synchrotron Radiation", *J Transl Res.* 1 (1): 1-3, 2017.
- [99] A. Heidari, "Investigation of Anti-Cancer Nano Drugs' Effects' Trend on Human Pancreas Cancer Cells and Tissues Prevention, Diagnosis and Treatment Process under Synchrotron and X-Ray Radiations with the Passage of Time Using Mathematica", *Current Trends Anal Bioanal Chem*, 1 (1): 36-41, 2017.
- [100] A. Heidari, "Pros and Cons Controversy on Molecular Imaging and Dynamics of Double-Standard DNA/RNA of Human Preserving Stem Cells-Binding Nano Molecules with Androgens/Anabolic Steroids (AAS) or Testosterone Derivatives through Tracking of Helium-4 Nucleus (Alpha Particle) Using Synchrotron Radiation", *Arch Biotechnol Biomed.* 1 (1): 067-0100, 2017.
- [101] A. Heidari, "Visualizing Metabolic Changes in Probing Human Cancer Cells and Tissues Metabolism Using Vivo ^1H or Proton NMR, ^{13}C NMR, ^{15}N NMR and ^{31}P NMR Spectroscopy and Self-Organizing Maps under Synchrotron Radiation", *SOJ Mater Sci Eng* 5 (2): 1-6, 2017.
- [102] A. Heidari, "Cavity Ring-Down Spectroscopy (CRDS), Circular Dichroism Spectroscopy, Cold Vapour Atomic Fluorescence Spectroscopy and Correlation Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Enliven: Challenges Cancer Detect Ther* 4 (2): e001, 2017.
- [103] A. Heidari, "Laser Spectroscopy, Laser-Induced Breakdown Spectroscopy and Laser-Induced Plasma Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Int J Hepatol Gastroenterol*, 3 (4): 079-084, 2017.
- [104] A. Heidari, "Time-Resolved Spectroscopy and Time-Stretch Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Enliven: Pharmacovigilance and Drug Safety* 4 (2): e001, 2017.
- [105] A. Heidari, "Overview of the Role of Vitamins in Reducing Negative Effect of Decapeptyl (Triptorelin Acetate or Pamoate Salts) on Prostate Cancer Cells and Tissues in Prostate Cancer Treatment Process through Transformation of Malignant Prostate Tumors into Benign Prostate Tumors under Synchrotron Radiation", *Open J Anal Bioanal Chem* 1 (1): 021-026, 2017.
- [106] A. Heidari, "Electron Phenomenological Spectroscopy, Electron Paramagnetic Resonance (EPR) Spectroscopy and Electron Spin Resonance (ESR) Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Austin J Anal Pharm Chem.* 4 (3): 1091, 2017.
- [107] A. Heidari, "Therapeutic Nanomedicine Different High-Resolution Experimental Images and Computational Simulations for Human Brain Cancer Cells and Tissues Using Nanocarriers Deliver DNA/RNA to Brain Tumors under Synchrotron Radiation with the Passage of Time Using Mathematica and MATLAB", *Madridge J Nano Tech. Sci.* 2 (2): 77-83, 2017.
- [108] A. Heidari, "A Consensus and Prospective Study on Restoring Cadmium Oxide (CdO) Nanoparticles Sensitivity in Recurrent Ovarian Cancer by Extending the Cadmium Oxide (CdO) Nanoparticles-Free Interval Using Synchrotron Radiation Therapy as Antibody-Drug Conjugate for the Treatment of Limited-Stage Small Cell Diverse Epithelial Cancers", *Cancer Clin Res Rep*, 1: 2, e001, 2017.
- [109] A. Heidari, "A Novel and Modern Experimental Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under White Synchrotron Radiation", *Cancer Sci Res Open Access* 4 (2): 1-8, 2017.
- [110] A. Heidari, "Different High-Resolution Simulations of Medical, Medicinal, Clinical, Pharmaceutical and Therapeutics Oncology of Human Breast Cancer Translational Nano Drugs Delivery Treatment Process under Synchrotron and X-Ray Radiations", *J Oral Cancer Res* 1 (1): 12-17, 2017.
- [111] A. Heidari, "Vibrational Decihertz (dHz), Centihertz (cHz), Millihertz (mHz), Microhertz (μHz), Nanohertz (nHz), Picohertz (pHz), Femtohertz (fHz), Attohertz (aHz), Zeptohertz (zHz) and Yoctohertz (yHz) Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *International Journal of Biomedicine*, 7 (4), 335-340, 2017.
- [112] A. Heidari, "Force Spectroscopy and Fluorescence Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *EC Cancer*, 2 (5), 239-246, 2017.
- [113] A. Heidari, "Photoacoustic Spectroscopy, Photoemission Spectroscopy and Photothermal Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *BAOJ Cancer Res Ther*, 3: 3, 045-052, 2017.
- [114] A. Heidari, "J-Spectroscopy, Exchange Spectroscopy (EXSY), Nuclear Overhauser Effect Spectroscopy (NOESY) and Total Correlation Spectroscopy (TOCSY) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *EMS Eng Sci J*, 1 (2): 006-013, 2017.
- [115] A. Heidari, "Neutron Spin Echo Spectroscopy and Spin Noise Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Int J Biopharm Sci*, 1: 103-107, 2017.
- [116] A. Heidari, "Vibrational Decahertz (daHz), Hectohertz (hHz), Kilohertz (kHz), Megahertz (MHz), Gigahertz (GHz), Terahertz (THz), Petahertz (PHz), Exahertz (EHZ), Zettahertz (ZHZ) and Yottahertz (YHZ) Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Madridge J Anal Sci Instrum*, 2 (1): 41-46, 2017.
- [117] A. Heidari, "Two-Dimensional Infrared Correlation Spectroscopy, Linear Two-Dimensional Infrared Spectroscopy and Non-Linear Two-Dimensional Infrared Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *J Mater Sci Nanotechnol* 6 (1): 101, 2018.

- [118] A. Heidari, "Fourier Transform Infrared (FTIR) Spectroscopy, Near-Infrared Spectroscopy (NIRS) and Mid-Infrared Spectroscopy (MIRS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Int J Nanotechnol Nanomed*, Volume 3, Issue 1, Pages 1–6, 2018.
- [119] A. Heidari, "Infrared Photo Dissociation Spectroscopy and Infrared Correlation Table Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Austin Pharmacol Pharm*, 3 (1): 1011, 2018.
- [120] A. Heidari, "Novel and Transcendental Prevention, Diagnosis and Treatment Strategies for Investigation of Interaction among Human Blood Cancer Cells, Tissues, Tumors and Metastases with Synchrotron Radiation under Anti-Cancer Nano Drugs Delivery Efficacy Using MATLAB Modeling and Simulation", *Madridge J Nov Drug Res*, 1 (1): 18–24, 2017.
- [121] A. Heidari, "Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Open Access J Trans Med Res*, 2 (1): 00026–00032, 2018.
- [122] M. R. R. Gobato, R. Gobato, A. Heidari, "Planting of *Jaboticaba* Trees for Landscape Repair of Degraded Area", *Landscape Architecture and Regional Planning*, Vol. 3, No. 1, 2018, Pages 1–9, 2018.
- [123] A. Heidari, "Fluorescence Spectroscopy, Phosphorescence Spectroscopy and Luminescence Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *SM J Clin. Med. Imaging*, 4 (1): 1018, 2018.
- [124] A. Heidari, "Nuclear Inelastic Scattering Spectroscopy (NISS) and Nuclear Inelastic Absorption Spectroscopy (NIAS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Int J Pharm Sci*, 2 (1): 1–14, 2018.
- [125] A. Heidari, "X-Ray Diffraction (XRD), Powder X-Ray Diffraction (PXRD) and Energy-Dispersive X-Ray Diffraction (EDXRD) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *J Oncol Res*; 2 (1): 1–14, 2018.
- [126] A. Heidari, "Correlation Two-Dimensional Nuclear Magnetic Resonance (NMR) (2D-NMR) (COSY) Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *EMS Can Sci*, 1–1–001, 2018.
- [127] A. Heidari, "Thermal Spectroscopy, Photothermal Spectroscopy, Thermal Microspectroscopy, Photothermal Microspectroscopy, Thermal Macro-spectroscopy and Photothermal Macro-spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *SM J Biometrics Biostat*, 3 (1): 1024, 2018.
- [128] A. Heidari, "A Modern and Comprehensive Experimental Biospectroscopic Comparative Study on Human Common Cancers' Cells, Tissues and Tumors before and after Synchrotron Radiation Therapy", *Open Acc J Oncol Med*. 1 (1), 2018.
- [129] A. Heidari, "Heteronuclear Correlation Experiments such as Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC), Heteronuclear Multiple-Quantum Correlation Spectroscopy (HMQC) and Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Endocrinology and Thyroid Cancer Cells and Tissues under Synchrotron Radiation", *J Endocrinol Thyroid Res*, 3 (1): 555603, 2018.
- [130] A. Heidari, "Nuclear Resonance Vibrational Spectroscopy (NRVS), Nuclear Inelastic Scattering Spectroscopy (NISS), Nuclear Inelastic Absorption Spectroscopy (NIAS) and Nuclear Resonant Inelastic X-Ray Scattering Spectroscopy (NRIXSS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Int J Bioorg Chem Mol Biol*. 6 (1e): 1–5, 2018.
- [131] A. Heidari, "A Novel and Modern Experimental Approach to Vibrational Circular Dichroism Spectroscopy and Video Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under White and Monochromatic Synchrotron Radiation", *Glob J Endocrinol Metab*. 1 (3). GJEM. 000514–000519, 2018.
- [132] A. Heidari, "Pros and Cons Controversy on Heteronuclear Correlation Experiments such as Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC), Heteronuclear Multiple-Quantum Correlation Spectroscopy (HMQC) and Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *EMS Pharma J*. 1 (1): 002–008, 2018.
- [133] A. Heidari, "A Modern Comparative and Comprehensive Experimental Biospectroscopic Study on Different Types of Infrared Spectroscopy of Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *J Analyt Molecul Tech*. 3 (1): 8, 2018.
- [134] A. Heidari, "Investigation of Cancer Types Using Synchrotron Technology for Proton Beam Therapy: An Experimental Biospectroscopic Comparative Study", *European Modern Studies Journal*, Vol. 2, No. 1, 13–29, 2018.
- [135] A. Heidari, "Saturated Spectroscopy and Unsaturated Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Imaging J Clin Medical Sci*. 5 (1): 001–007, 2018.
- [136] A. Heidari, "Small-Angle Neutron Scattering (SANS) and Wide-Angle X-Ray Diffraction (WAXD) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Int J Bioorg Chem Mol Biol*. 6 (2e): 1–6, 2018.
- [137] A. Heidari, "Investigation of Bladder Cancer, Breast Cancer, Colorectal Cancer, Endometrial Cancer, Kidney Cancer, Leukemia, Liver, Lung Cancer, Melanoma, Non-Hodgkin Lymphoma, Pancreatic Cancer, Prostate Cancer, Thyroid Cancer and Non-Melanoma Skin Cancer Using Synchrotron Technology for Proton Beam Therapy: An Experimental Biospectroscopic Comparative Study", *Ther Res Skin Dis* 1 (1), 2018.
- [138] A. Heidari, "Attenuated Total Reflectance Fourier Transform Infrared (ATR-FTIR) Spectroscopy, Micro-Attenuated Total Reflectance Fourier Transform Infrared (Micro-ATR-FTIR) Spectroscopy and Macro-Attenuated Total Reflectance Fourier Transform Infrared (Macro-ATR-FTIR) Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *International Journal of Chemistry Papers*, 2 (1): 1–12, 2018.
- [139] A. Heidari, "Mössbauer Spectroscopy, Mössbauer Emission Spectroscopy and ^{57}Fe Mössbauer Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Acta Scientific Cancer Biology* 2.3: 17–20, 2018.
- [140] A. Heidari, "Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Organic & Medicinal Chem J*. 6 (1): 555676, 2018.
- [141] A. Heidari, "Correlation Spectroscopy, Exclusive Correlation Spectroscopy and Total Correlation Spectroscopy Comparative Study on Malignant and Benign Human AIDS-Related Cancers Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Int J Bioanal Biomed*. 2 (1): 001–007, 2018.
- [142] A. Heidari, "Biomedical Instrumentation and Applications of Biospectroscopic Methods and Techniques in Malignant and Benign Human Cancer Cells and Tissues Studies under Synchrotron Radiation and Anti-Cancer Nano Drugs Delivery", *Am J Nanotechnol Nanomed*. 1 (1): 001–009, 2018.
- [143] A. Heidari, "Vivo ^1H or Proton NMR, ^{13}C NMR, ^{15}N NMR and ^{31}P NMR Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Ann Biomet Biostat*. 1 (1): 1001, 2018.
- [144] A. Heidari, "Grazing-Incidence Small-Angle Neutron Scattering (GISANS) and Grazing-Incidence X-Ray Diffraction (GIXD) Comparative Study on Malignant and Benign Human Cancer Cells, Tissues and Tumors under Synchrotron Radiation", *Ann Cardiovasc Surg*. 1 (2): 1006, 2018.
- [145] A. Heidari, "Adsorption Isotherms and Kinetics of Multi-Walled Carbon Nanotubes (MWCNTs), Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (α -BNNTs) and Hexagonal Boron Nitride Nanotubes (h -BNNTs) for Eliminating Carcinoma, Sarcoma, Lymphoma, Leukemia, Germ Cell Tumor and Blastoma Cancer Cells and Tissues", *Clin Med Rev Case Rep* 5: 201, 2018.
- [146] A. Heidari, "Correlation Spectroscopy (COSY), Exclusive Correlation Spectroscopy (ECOSY), Total Correlation Spectroscopy (TOCSY), Incredible Natural-Abundance Double-Quantum Transfer Experiment (INADEQUATE), Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC), Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC), Nuclear Overhauser Effect Spectroscopy (NOESY) and Rotating Frame Nuclear Overhauser Effect Spectroscopy (ROESY) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Acta Scientific Pharmaceutical Sciences* 2.5: 30–35, 2018.
- [147] A. Heidari, "Small-Angle X-Ray Scattering (SAXS), Ultra-Small Angle X-Ray Scattering (USAXS), Fluctuation X-Ray Scattering (FXS), Wide-Angle X-Ray Scattering (WAXS), Grazing-Incidence Small-Angle X-Ray Scattering (GISAXS), Grazing-Incidence Wide-Angle X-Ray Scattering

- (GIWAXS), Small-Angle Neutron Scattering (SANS), Grazing-Incidence Small-Angle Neutron Scattering (GISANS), X-Ray Diffraction (XRD), Powder X-Ray Diffraction (PXRD), Wide-Angle X-Ray Diffraction (WAXD), Grazing-Incidence X-Ray Diffraction (GIXD) and Energy-Dispersive X-Ray Diffraction (EDXRD) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Oncol Res Rev*, Volume 1 (1): 1–10, 2018.
- [148] A. Heidari, "Pump-Probe Spectroscopy and Transient Grating Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Adv Material Sci Engg*, Volume 2, Issue 1, Pages 1–7, 2018.
- [149] A. Heidari, "Grazing-Incidence Small-Angle X-Ray Scattering (GISAXS) and Grazing-Incidence Wide-Angle X-Ray Scattering (GIWAXS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Insights Pharmacol Pharm Sci* 1 (1): 1–8, 2018.
- [150] A. Heidari, "Acoustic Spectroscopy, Acoustic Resonance Spectroscopy and Auger Spectroscopy Comparative Study on Anti-Cancer Nano Drugs Delivery in Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Nanosci Technol* 5 (1): 1–9, 2018.
- [151] A. Heidari, "Niobium, Technetium, Ruthenium, Rhodium, Hafnium, Rhenium, Osmium and Iridium Ions Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Nanomed Nanotechnol*, 3 (2): 000138, 2018.
- [152] A. Heidari, "Homonuclear Correlation Experiments such as Homonuclear Single-Quantum Correlation Spectroscopy (HSQC), Homonuclear Multiple-Quantum Correlation Spectroscopy (HMQC) and Homonuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Austin J Proteomics Bioinform & Genomics*, 5 (1): 1024, 2018.
- [153] A. Heidari, "Atomic Force Microscopy Based Infrared (AFM-IR) Spectroscopy and Nuclear Resonance Vibrational Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *J Appl Biotechnol Bioeng*, 5 (3): 142–148, 2018.
- [154] A. Heidari, "Time-Dependent Vibrational Spectral Analysis of Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *J Cancer Oncol*, 2 (2): 000124, 2018.
- [155] A. Heidari, "Palauamine and Olympiadane Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Arc Org Inorg Chem Sci* 3 (1), 2018.
- [156] R. Gobato, A. Heidari, "Infrared Spectrum and Sites of Action of Sanguinarine by Molecular Mechanics and *ab initio* Methods", *International Journal of Atmospheric and Oceanic Sciences*, Vol. 2, No. 1, pp. 1–9, 2018.
- [157] A. Heidari, "Angelic Acid, Diabolic Acids, Draculin and Miraculin Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment Under Synchrotron and Synchrocyclotron Radiations", *Med & Analy Chem Int J*, 2 (1): 000111, 2018.
- [158] A. Heidari, "Gamma Linolenic Methyl Ester, 5-Heptadeca-5,8,11-Trienyl 1,3,4-Oxadiazole-2-Thiol, Sulphoquinovosyl Diacyl Glycerol, Ruscogenin, Nocturnoside B, Protodioscine B, Parquisoside-B, Leiocarposide, Narangenin, 7-Methoxy Hesperitin, Lupeol, Rosemariquinone, Rosmanol and Rosemadiol Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Int J Pharma Anal Acta*, 2 (1): 007–014, 2018.
- [159] A. Heidari, "Fourier Transform Infrared (FTIR) Spectroscopy, Attenuated Total Reflectance Fourier Transform Infrared (ATR-FTIR) Spectroscopy, Micro-Attenuated Total Reflectance Fourier Transform Infrared (Micro-ATR-FTIR) Spectroscopy, Macro-Attenuated Total Reflectance Fourier Transform Infrared (Macro-ATR-FTIR) Spectroscopy, Two-Dimensional Infrared Correlation Spectroscopy, Linear Two-Dimensional Infrared Spectroscopy, Non-Linear Two-Dimensional Infrared Spectroscopy, Atomic Force Microscopy Based Infrared (AFM-IR) Spectroscopy, Infrared Photodissociation Spectroscopy, Infrared Correlation Table Spectroscopy, Near-Infrared Spectroscopy (NIRS), Mid-Infrared Spectroscopy (MIRS), Nuclear Resonance Vibrational Spectroscopy, Thermal Infrared Spectroscopy and Photothermal Infrared Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Glob Imaging Insights*, Volume 3 (2): 1–14, 2018.
- [160] A. Heidari, "Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC) and Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Cancer Cells, Tissues and Tumors under Synchrotron and Synchrocyclotron Radiations", *Chronicle of Medicine and Surgery* 2.3: 144–156, 2018.
- [161] A. Heidari, "Tetrakis [3, 5-bis (Trifluoromethyl) Phenyl] Borate (BARF)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Medical Research and Clinical Case Reports* 2.1: 113–126, 2018.
- [162] A. Heidari, "Sydnone, Münchnone, Montréalone, Mogone, Montelukast, Quebecol and Palau'amine-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Sur Cas Stud Op Acc J*, 1 (3), 2018.
- [163] A. Heidari, "Fornacite, Orotic Acid, Rhamnetin, Sodium Ethyl Xanthate (SEX) and Spermine (Spermidine or Polyamine) Nanomolecules Incorporation into the Nanopolymeric Matrix (NPM)", *International Journal of Biochemistry and Biomolecules*, Vol. 4: Issue 1, Pages 1–19, 2018.
- [164] A. Heidari, R. Gobato, "Putrescine, Cadaverine, Spermine and Spermidine-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Parana Journal of Science and Education (PJSE)-v.4, n.5, (1–14) July 1, 2018.*
- [165] A. Heidari, "Cadaverine (1,5-Pentanediamine or Pentamethylenediamine), Diethyl Azodicarboxylate (DEAD or DEADCAT) and Putrescine (Tetramethylenediamine) Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Hiv and Sexual Health Open Access Open Journal*, 1 (1): 4–11, 2018.
- [166] A. Heidari, "Improving the Performance of Nano-Endofullerenes in Polyaniline Nanostructure-Based Biosensors by Covering Californium Colloidal Nanoparticles with Multi-Walled Carbon Nanotubes", *Journal of Advances in Nanomaterials*, Vol. 3, No. 1, Pages 1–28, 2018.
- [167] R. Gobato, A. Heidari, "Molecular Mechanics and Quantum Chemical Study on Sites of Action of Sanguinarine Using Vibrational Spectroscopy Based on Molecular Mechanics and Quantum Chemical Calculations", *Malaysian Journal of Chemistry*, Vol. 20 (1), 1–23, 2018.
- [168] A. Heidari, "Vibrational Biospectroscopic Studies on Anti-cancer Nanopharmaceuticals (Part I)", *Malaysian Journal of Chemistry*, Vol. 20 (1), 33–73, 2018.
- [169] A. Heidari, "Vibrational Biospectroscopic Studies on Anti-cancer Nanopharmaceuticals (Part II)", *Malaysian Journal of Chemistry*, Vol. 20 (1), 74–117, 2018.
- [170] A. Heidari, "Uranocene ($U(C_8H_8)_2$) and Bis(Cyclooctatetraene)Iron ($Fe(C_8H_8)_2$ or $Fe(COT)_2$)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Chemistry Reports*, Vol. 1, Iss. 2, Pages 1–16, 2018.
- [171] A. Heidari, "Biomedical Systematic and Emerging Technological Study on Human Malignant and Benign Cancer Cells and Tissues Biospectroscopic Analysis under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (3): 1–7, 2018.
- [172] A. Heidari, "Deep-Level Transient Spectroscopy and X-Ray Photoelectron Spectroscopy (XPS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Res Dev Material Sci*, 7(2). RDMS.000659, 2018.
- [173] A. Heidari, "C70-Carboxyfullerenes Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Glob Imaging Insights*, Volume 3 (3): 1–7, 2018.
- [174] A. Heidari, "The Effect of Temperature on Cadmium Oxide (CdO) Nanoparticles Produced by Synchrotron Radiation in the Human Cancer Cells, Tissues and Tumors", *International Journal of Advanced Chemistry*, 6 (2) 140–156, 2018.

- [175] A. Heidari, "A Clinical and Molecular Pathology Investigation of Correlation Spectroscopy (COSY), Exclusive Correlation Spectroscopy (ECO-SY), Total Correlation Spectroscopy (TOCSY), Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC) and Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Cancer Cells, Tissues and Tumors under Synchrotron and Synchrocyclotron Radiations Using Cyclotron versus Synchrotron, Synchrocyclotron and the Large Hadron Collider (LHC) for Delivery of Proton and Helium Ion (Charged Particle) Beams for Oncology Radiotherapy", *European Journal of Advances in Engineering and Technology*, 5 (7): 414–426, 2018.
- [176] A. Heidari, "Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *J Oncol Res*; 1 (1): 1–20, 2018.
- [177] A. Heidari, "Use of Molecular Enzymes in the Treatment of Chronic Disorders", *Canc Oncol Open Access J*. 1 (1): 12–15, 2018.
- [178] A. Heidari, "Vibrational Biospectroscopic Study and Chemical Structure Analysis of Unsaturated Polyamides Nanoparticles as Anti-Cancer Polymeric Nanomedicines Using Synchrotron Radiation", *International Journal of Advanced Chemistry*, 6 (2), 167–189, 2018.
- [179] A. Heidari, "Adamantane, Irene, Naftazone and Pyridine-Enhanced Precatalyst Preparation Stabilization and Initiation (PEPPSI) Nano Molecules", *Madridge J Nov Drug Res*. 2 (1): 61–67, 2018.
- [180] A. Heidari, "Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC) and Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Madridge J Nov Drug Res*, 2 (1): 68–74, 2018.
- [181] A. Heidari, R. Gobato, "A Novel Approach to Reduce Toxicities and to Improve Bioavailabilities of DNA/RNA of Human Cancer Cells-Containing Cocaine (Coke), Lysergide (Lysergic Acid Diethyl Amide or LSD), Δ^9 -Tetrahydrocannabinol (THC) [(–)-trans- Δ^9 -Tetrahydrocannabinol], Theobromine (Xanthose), Caffeine, Aspartame (APM) (NutraSweet) and Zidovudine (ZDV) [Azidothymidine (AZT)] as Anti-Cancer Nano Drugs by Coassembly of Dual Anti-Cancer Nano Drugs to Inhibit DNA/RNA of Human Cancer Cells Drug Resistance", *Parana Journal of Science and Education*, v. 4, n. 6, pp. 1–17, 2018.
- [182] A. Heidari, R. Gobato, "Ultraviolet Photoelectron Spectroscopy (UPS) and Ultraviolet-Visible (UV-Vis) Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Parana Journal of Science and Education*, v. 4, n. 6, pp. 18–33, 2018.
- [183] R. Gobato, A. Heidari, A. Mitra, "The Creation of $C_{13}H_{20}BeLi_2SeSi$. The Proposal of a Bio-Inorganic Molecule, Using Ab Initio Methods for the Genesis of a Nano Membrane", *Arc Org Inorg Chem Sci* 3 (4). AOICS.MS.ID.000167, 2018.
- [184] R. Gobato, A. Heidari, A. Mitra, "Using the Quantum Chemistry for Genesis of a Nano Biomembrane with a Combination of the Elements Be, Li, Se, Si, C and H", *ResearchGate*, See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/326201181>, 2018.
- [185] R. Gobato, A. Heidari, "Using the Quantum Chemistry for Genesis of a Nano Biomembrane with a Combination of the Elements Be, Li, Se, Si, C and H", *J Nanomed Res*. 7 (4): 241–252, 2018.
- [186] A. Heidari, "Bastadins and Bastaranes-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Glob Imaging Insights*, Volume 3 (4): 1–7, 2018.
- [187] A. Heidari, "Fucitol, Pterodactyladiene, DEAD or DEADCAT (DiEthyl AzoDiCarboxylaTe), Skatole, the NanoPutians, Thebacon, Pikachurin, Tie Fighter, Spermidine and Mirasorvone Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Glob Imaging Insights*, Volume 3 (4): 1–8, 2018.
- [188] E. Dadvar, A. Heidari, "A Review on Separation Techniques of Graphene Oxide (GO)/Base on Hybrid Polymer Membranes for Eradication of Dyes and Oil Compounds: Recent Progress in Graphene Oxide (GO)/Base on Polymer Membranes-Related Nanotechnologies", *Clin Med Rev Case Rep* 5: 228, 2018.
- [189] A. Heidari, R. Gobato, "First-Time Simulation of Deoxyuridine Monophosphate (dUMP) (Deoxyuridylic Acid or Deoxyuridylate) and Vomitoxin (Deoxynivalenol (DON)) ((3a,7a)-3,7,15-Trihydroxy-12,13-Epoxytrichothec-9-En-8-One)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Parana Journal of Science and Education*, Vol. 4, No. 6, pp. 46–67, 2018.
- [190] A. Heidari, "Buckminsterfullerene (Fullerene), Bullvalene, Dickite and Josiphos Ligands Nano Molecules Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Hematology and Thromboembolic Diseases Prevention, Diagnosis and Treatment under Synchrotron and Synchrocyclotron Radiations", *Glob Imaging Insights*, Volume 3 (4): 1–7, 2018.
- [191] A. Heidari, "Fluctuation X-Ray Scattering (FXS) and Wide-Angle X-Ray Scattering (WAXS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (4): 1–7, 2018.
- [192] A. Heidari, "A Novel Approach to Correlation Spectroscopy (COSY), Exclusive Correlation Spectroscopy (ECOSY), Total Correlation Spectroscopy (TOCSY), Incredible Natural-Abundance Double-Quantum Transfer Experiment (INADEQUATE), Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC), Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC), Nuclear Overhauser Effect Spectroscopy (NOESY) and Rotating Frame Nuclear Overhauser Effect Spectroscopy (ROESY) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (5): 1–9, 2018.
- [193] A. Heidari, "Terphenyl-Based Reversible Receptor with Rhodamine, Rhodamine-Based Molecular Probe, Rhodamine-Based Using the Spirolactam Ring Opening, Rhodamine B with Ferrocene Substituent, Calix[4]Arene-Based Receptor, Thioether + Aniline-Derived Ligand Framework Linked to a Fluorescein Platform, Mercuryfluor-1 (Flourescent Probe), N,N'-Dibenzyl-1,4,10,13-Tetraraoxa-7,16-Diazacyclooctadecane and Terphenyl-Based Reversible Receptor with Pyrene and Quinoline as the Fluorophores-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Glob Imaging Insights*, Volume 3 (5): 1–9, 2018.
- [194] A. Heidari, "Small-Angle X-Ray Scattering (SAXS), Ultra-Small Angle X-Ray Scattering (USAXS), Fluctuation X-Ray Scattering (FXS), Wide-Angle X-Ray Scattering (WAXS), Grazing-Incidence Small-Angle X-Ray Scattering (GISAXS), Grazing-Incidence Wide-Angle X-Ray Scattering (GIWAXS), Small-Angle Neutron Scattering (SANS), Grazing-Incidence Small-Angle Neutron Scattering (GISANS), X-Ray Diffraction (XRD), Powder X-Ray Diffraction (PXRD), Wide-Angle X-Ray Diffraction (WAXD), Grazing-Incidence X-Ray Diffraction (GIXD) and Energy-Dispersive X-Ray Diffraction (EDXRD) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (5): 1–10, 2018.
- [195] A. Heidari, "Nuclear Resonant Inelastic X-Ray Scattering Spectroscopy (NRIXSS) and Nuclear Resonance Vibrational Spectroscopy (NRVS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (5): 1–7, 2018.
- [196] A. Heidari, "Small-Angle X-Ray Scattering (SAXS) and Ultra-Small Angle X-Ray Scattering (USAXS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (5): 1–7, 2018.
- [197] A. Heidari, "Curious Chloride ($CmCl_3$) and Titanic Chloride ($TiCl_4$)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules for Cancer Treatment and Cellular Therapeutics", *J. Cancer Research and Therapeutic Interventions*, Volume 1, Issue 1, Pages 01–10, 2018.
- [198] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Spectroscopy and Dipole Moment of the Molecule $C_{13}H_{20}BeLi_2SeSi$ via Quantum Chemistry Using Ab Initio, Hartree-Fock Method in the Base Set CC-pVTZ and 6-311G** (3df, 3pd)", *Arc Org Inorg Chem Sci* 3 (5), Pages 402–409, 2018.

- [199] A. Heidari, "C₆₀ and C₇₀-Encapsulating Carbon Nanotubes Incorporation into the Nano Polymeric Matrix (NPM) by Immersion of the Nano Polymeric Modified Electrode (NPME) as Molecular Enzymes and Drug Targets for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron and Synchrocyclotron Radiations", *Integr Mol Med*, Volume 5 (3): 1–8, 2018.
- [200] A. Heidari, "Two-Dimensional (2D) ¹H or Proton NMR, ¹³C NMR, ¹⁵N NMR and ³¹P NMR Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Glob Imaging Insights*, Volume 3 (6): 1–8, 2018.
- [201] A. Heidari, "FT-Raman Spectroscopy, Coherent Anti-Stokes Raman Spectroscopy (CARS) and Raman Optical Activity Spectroscopy (ROAS) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (6): 1–8, 2018.
- [202] A. Heidari, "A Modern and Comprehensive Investigation of Inelastic Electron Tunneling Spectroscopy (IETS) and Scanning Tunneling Spectroscopy on Malignant and Benign Human Cancer Cells, Tissues and Tumors through Optimizing Synchrotron Microbeam Radiotherapy for Human Cancer Treatments and Diagnostics: An Experimental Biospectroscopic Comparative Study", *Glob Imaging Insights*, Volume 3 (6): 1–8, 2018.
- [203] A. Heidari, "A Hypertension Approach to Thermal Infrared Spectroscopy and Photothermal Infrared Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time", *Glob Imaging Insights*, Volume 3 (6): 1–8, 2018.
- [204] A. Heidari, "Incredible Natural-Abundance Double-Quantum Transfer Experiment (INADEQUATE), Nuclear Overhauser Effect Spectroscopy (NOESY) and Rotating Frame Nuclear Overhauser Effect Spectroscopy (ROESY) Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Glob Imaging Insights*, Volume 3 (6): 1–8, 2018.
- [205] A. Heidari, "2-Amino-9-((1S, 3R, 4R)-4-Hydroxy-3-(Hydroxymethyl)-2-Methylenecyclopentyl)-1H-Purin-6(9H)-One, 2-Amino-9-((1R, 3R, 4R)-4-Hydroxy-3-(Hydroxymethyl)-2-Methylenecyclopentyl)-1H-Purin-6(9H)-One, 2-Amino-9-((1R, 3R, 4S)-4-Hydroxy-3-(Hydroxymethyl)-2-Methylenecyclopentyl)-1H-Purin-6(9H)-One and 2-Amino-9-((1S, 3R, 4S)-4-Hydroxy-3-(Hydroxymethyl)-2-Methylenecyclopentyl)-1H-Purin-6(9H)-One-Enhanced Precatalyst Preparation Stabilization and Initiation Nano Molecules", *Glob Imaging Insights*, Volume 3 (6): 1–9, 2018.
- [206] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Spectroscopy and Dipole Moment of the Molecule C₁₃H₂₀BeLi₂SeSi via Quantum Chemistry Using Ab Initio, Hartree-Fock Method in the Base Set CC-pVTZ and 6-311G**(3df, 3pd)", *American Journal of Quantum Chemistry and Molecular Spectroscopy*, Vol. 2, No. 1, pp. 9–17, 2018.
- [207] A. Heidari, "Production of Electrochemiluminescence (ECL) Biosensor Using Os-Pd/HfC Nanocomposites for Detecting and Tracking of Human Gastroenterological Cancer Cells, Tissues and Tumors", *Int J Med Nano Res* 5: 1, 022–034, 2018.
- [208] A. Heidari, "Enhancing the Raman Scattering for Diagnosis and Treatment of Human Cancer Cells, Tissues and Tumors Using Cadmium Oxide (CdO) Nanoparticles", *J Toxicol Risk Assess* 4: 1, 012–025, 2018.
- [209] A. Heidari, "Human Malignant and Benign Human Cancer Cells and Tissues Biospectroscopic Analysis under Synchrotron Radiation Using Anti-Cancer Nano Drugs Delivery", *Integr Mol Med*, Volume 5 (5): 1–13, 2018.
- [210] A. Heidari, "Analogous Nano Compounds of the Form M(C₈H₈)₂ Exist for M = (Nd, Tb, Pu, Pa, Np, Th, and Yb)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules", *Integr Mol Med*, Volume 5 (5): 1–8, 2018.
- [211] A. Heidari, "Hadron Spectroscopy, Baryon Spectroscopy and Meson Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation", *Integr Mol Med*, Volume 5 (5): 1–8, 2018.
- [212] R. Gobato, M. R. R. Gobato, A. Heidari, "Raman Spectroscopy Study of the Nano Molecule C₁₃H₂₀BeLi₂SeSi Using ab initio and Hartree-Fock Methods in the Basis Set CC-pVTZ and 6-311G**(3df, 3pd)", *International Journal of Advanced Engineering and Science*, Volume 7, Number 1, Pages 14–35, 2019.
- [213] A. Heidari, R. Gobato, "Evaluating the Effect of Anti-Cancer Nano Drugs Dosage and Reduced Leukemia and Polycythemia Vera Levels on Trend of the Human Blood and Bone Marrow Cancers under Synchrotron Radiation", *Trends in Res*, Volume 2 (1): 1–8, 2019.
- [214] A. Heidari, R. Gobato, "Assessing the Variety of Synchrotron, Synchrocyclotron and LASER Radiations and Their Roles and Applications in Human Cancer Cells, Tissues and Tumors Diagnosis and Treatment", *Trends in Res*, Volume 2 (1): 1–8, 2019.
- [215] A. Heidari, R. Gobato, "Pros and Cons Controversy on Malignant Human Cancer Cells, Tissues and Tumors Transformation Process to Benign Human Cancer Cells, Tissues and Tumors", *Trends in Res*, Volume 2 (1): 1–8, 2019.
- [216] A. Heidari, R. Gobato, "Three-Dimensional (3D) Simulations of Human Cancer Cells, Tissues and Tumors for Using in Human Cancer Cells, Tissues and Tumors Diagnosis and Treatment as a Powerful Tool in Human Cancer Cells, Tissues and Tumors Research and Anti-Cancer Nano Drugs Sensitivity and Delivery Area Discovery and Evaluation", *Trends in Res*, Volume 2 (1): 1–8, 2019.
- [217] A. Heidari, R. Gobato, "Investigation of Energy Production by Synchrotron, Synchrocyclotron and LASER Radiations in Human Cancer Cells, Tissues and Tumors and Evaluation of Their Effective on Human Cancer Cells, Tissues and Tumors Treatment Trend", *Trends in Res*, Volume 2 (1): 1–8, 2019.
- [218] A. Heidari, R. Gobato, "High-Resolution Mapping of DNA/RNA Hypermethylation and Hypomethylation Process in Human Cancer Cells, Tissues and Tumors under Synchrotron Radiation", *Trends in Res*, Volume 2 (2): 1–9, 2019.
- [219] A. Heidari, "A Novel and Comprehensive Study on Manufacturing and Fabrication Nanoparticles Methods and Techniques for Processing Cadmium Oxide (CdO) Nanoparticles Colloidal Solution", *Glob Imaging Insights*, Volume 4 (1): 1–8, 2019.
- [220] A. Heidari, "A Combined Experimental and Computational Study on the Catalytic Effect of Aluminum Nitride Nanocrystal (AlN) on the Polymerization of Benzene, Naphthalene, Anthracene, Phenanthrene, Chrysene and Tetracene", *Glob Imaging Insights*, Volume 4 (1): 1–8, 2019.
- [221] A. Heidari, "Novel Experimental and Three-Dimensional (3D) Multiphysics Computational Framework of Michaelis-Menten Kinetics for Catalyst Processes Innovation, Characterization and Carrier Applications", *Glob Imaging Insights*, Volume 4 (1): 1–8, 2019.
- [222] A. Heidari, "The Hydrolysis Constants of Copper (I) (Cu⁺) and Copper (II) (Cu²⁺) in Aqueous Solution as a Function of pH Using a Combination of pH Measurement and Biospectroscopic Methods and Techniques", *Glob Imaging Insights*, Volume 4 (1): 1–8, 2019.
- [223] A. Heidari, "Vibrational Biospectroscopic Study of Ginormous Virus-Sized Macromolecule and Polypeptide Macromolecule as Mega Macromolecules Using Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR) Spectroscopy and Mathematica 11.3", *Glob Imaging Insights*, Volume 4 (1): 1–8, 2019.
- [224] A. Heidari, "Three-Dimensional (3D) Imaging Spectroscopy of Carcinoma, Sarcoma, Leukemia, Lymphoma, Multiple Myeloma, Melanoma, Brain and Spinal Cord Tumors, Germ Cell Tumors, Neuroendocrine Tumors and Carcinoid Tumors under Synchrotron Radiation", *Glob Imaging Insights*, Volume 4 (1): 1–9, 2019.
- [225] R. Gobato, M. R. R. Gobato, A. Heidari, "Storm Vortex in the Center of Paraná State on June 6, 2017: A Case Study", *Sumerianz Journal of Scientific Research*, Vol. 2, No. 2, Pages 24–31, 2019.
- [226] R. Gobato, M. R. R. Gobato, A. Heidari, "Attenuated Total Reflection-Fourier Transform Infrared (ATR-FTIR) Spectroscopy Study of the Nano Molecule C₁₃H₂₀BeLi₂SeSi Using ab initio and Hartree-Fock Methods in the Basis Set RHF/CC-pVTZ and RHF/6-311G**(3df, 3pd): An Experimental Challenge to Chemists", *Chemistry Reports*, Vol. 2, No. 1, Pages 1–26, 2019.
- [227] A. Heidari, "Three-Dimensional (3D) Imaging Spectroscopy of Carcinoma, Sarcoma, Leukemia, Lymphoma, Multiple Myeloma, Melanoma, Brain and Spinal Cord Tumors, Germ Cell Tumors, Neuroendocrine Tumors and Carcinoid Tumors under Synchrocyclotron Radiation", *Res Adv Biomed Sci Technol* 1 (1): 01–17, 2019.
- [228] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "New Nano-Molecule Kurumi-C₁₃H₂₀BeLi₂SeSi/C₁₃H₁₉BeLi₂SeSi, and Raman Spectroscopy Using ab initio, Hartree-Fock Method in the Base Set CC-pVTZ and 6-311G**(3df, 3pd)", *J Anal Pharm Res*. 8 (1): 1–6, 2019.
- [229] A. Heidari, J. Esposito, A. Caissutti, "The Importance of Attenuated Total Reflectance Fourier Transform Infrared (ATR-FTIR) and Raman Biospectroscopy of Single-Walled Carbon Nanotubes (SWCNT) and Multi-Walled Carbon Nanotubes (MWCNT) in Interpreting Infrared and Raman Spectra of Human Cancer Cells, Tissues and Tumors", *Oncogen* 2 (2): 1–21, 2019.

- [259] A. Heidari, J. Esposito, A. Caissutti, "Gonyautoxin (GTX) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Clinical Oncology Journal* 1. 2: 24-28, 2019.
- [260] A. Heidari, J. Esposito, A. Caissutti, "Hislricotxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 1: 01-06, 2019.
- [261] A. Heidari, J. Esposito, A. Caissutti, "Dihydrokainic Acid Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 1: 07-12, 2019.
- [262] A. Heidari, J. Esposito, A. Caissutti, "Aflatoxin B1 (AFB1), B2 (AFB2), G1 (AFG1), G2 (AFG2), M1 (AFM1), M2 (AFM2), Q1 (AFQ1) and P1 (AFP1) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 1: 25-32, 2019.
- [263] A. Heidari, J. Esposito, A. Caissutti, "Mycotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 1: 13-18, 2019.
- [264] A. Heidari, J. Esposito, A. Caissutti, "Bufotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 1: 19-24, 2019.
- [265] A. Heidari, J. Esposito, A. Caissutti, "Kainic Acid (Kainite) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Journal of Neurology* 1. 2: 02-07, 2019.
- [266] A. Heidari, J. Esposito, A. Caissutti, "Nereistoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Journal of Neurology* 1. 2: 19-24, 2019.
- [267] A. Heidari, J. Esposito, A. Caissutti, "Spider Toxin and Raventoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Parana Journal of Science and Education*. Vol. 5, No. 4, pp. 1-28, 2019.
- [268] A. Heidari, J. Esposito, A. Caissutti, "Ochratoxin A, Ochratoxin B, Ochratoxin C, Ochratoxin α and Ochratoxin TA Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 2: 03-10, 2019.
- [269] A. Heidari, J. Esposito, A. Caissutti, "Brevetoxin A and B Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 2: 11-16, 2019.
- [270] A. Heidari, J. Esposito, A. Caissutti, "Lyngbyatoxin-a Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Drug Delivery Research* 1. 2: 23-28, 2019.
- [271] A. Heidari, J. Esposito, A. Caissutti, "Balraechotoxin (BTX) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Cientific Journal of Neurology* 1. 3: 01-05, 2019.
- [272] A. Heidari, J. Esposito, A. Caissutti, "Hanatoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Int. J. Pharm. Sci. Rev. Res.*, 57 (1), Pages: 21-32, 2019.
- [273] A. Heidari, J. Esposito, A. Caissutti, "Neurotoxin and Alpha-Neurotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *J Biomed Sci & Res.* 3 (6), 550-563, 2019.
- [274] A. Heidari, J. Esposito, A. Caissutti, "Antillatoxin (ATX) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure", *American Journal of Optics and Photonics*. Vol. 7, No. 1, pp. 18-27, 2019.
- [275] R. Gobato, M. R. R. Gobato, A. Heidari, "Calculation by UFF Method of Frequencies and Vibrational Temperatures of the Unit Cell of the Rhodochrosite Crystal", *International Journal of Advanced Chemistry*, 7 (2) 77-81, 2019.
- [276] A. Heidari, J. Esposito, A. Caissutti, "Analysis of Vibronic-Mode Coupling Structure in Vibrational Spectra of Fuzeon as a 36 Amino Acid Peptide for HIV Therapy beyond the Multi-Dimensional Franck-Condon Integrals Approximation", *International Journal of Advanced Chemistry*, 7 (2) 82-96, 2019.
- [277] A. Heidari, J. Esposito, A. Caissutti, "Debromoaphysiatoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Applied Chemistry*, 2 (1) 17-54, 2019.
- [278] A. Heidari, J. Esposito, A. Caissutti, "Enterotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *JRL J Sci Technol*. vol1-iss2: jst1001, 1-16, 2019.
- [279] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Rhodochrosite Optical Indicatrix", *Peer Res Nest*. 1 (3) 1-2, 2019.
- [280] A. Heidari, J. Esposito, A. Caissutti, "Anthrax Toxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Research & Reviews: Journal of Computational Biology*. 8 (2): 23-51, 2019.
- [281] A. Heidari, J. Esposito, A. Caissutti, "Kalkitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Can J Biomed Res & Tech*. 2 (1): 1-21, 2019.
- [282] A. Heidari, J. Esposito, A. Caissutti, "Neosaxitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Clin Case Studie Rep*, Volume 2 (3): 1-14, 2019.
- [283] A. Heidari, J. Esposito, A. Caissutti, "6-Methoxy-8-[[6-Methoxy-8-[[6-Methoxy-2-Methyl-1-(2-Methylpropyl)-3,4-Dihydro-1H-Isoquinolin-7-yl]Oxy]-2-Methyl-1-(2-Methylpropyl)-3,4-Dihydro-1H-Isoquinolin-7-yl]Oxy]-2-Methyl-1-(2-Methylpropyl)-3,4-Dihydro-1H-Isoquinolin-7-yl Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Clin Case Studie Rep*, Volume 2 (3): 1-14, 2019.
- [284] A. Heidari, "Comparison of Synchrotron Radiation and Synchrotron Radiation Performance in Monitoring of Human Cancer Cells, Tissues and Tumors", *Clin Case Studie Rep*, Volume 2 (3): 1-12, 2019.
- [285] A. Heidari, J. Esposito, A. Caissutti, "Kalkitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Clin Case Studie Rep*, Volume 2 (3): 1-14, 2019.

- [286] A. Heidari, J. Esposito, A. Caissutti, "Diphtheria Toxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis: A Spectroscopic Study on an Anti-Cancer Drug", Clin Case Studie Rep, Volume 2 (3): 1-14, 2019.
- [287] A. Heidari, J. Esposito, A. Caissutti, "Symbiodinolide Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Clin Case Studie Rep, Volume 2 (3): 1-14, 2019.
- [288] A. Heidari, J. Esposito, A. Caissutti, "Saxitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Am J Exp Clin Res. 6 (4): 364-377, 2019.
- [289] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Hartree-Fock Methods Analysis Protonated Rhodochrosite Crystal and Potential in the Elimination of Cancer Cells through Synchrotron Radiation", Vol. 5, No. 3, pp. 27-36, 2019.
- [290] R. Gobato, I. K. K. Dosh, A. Heidari, A. Mitra, M. R. R. Gobato, "Perspectives on the Elimination of Cancer Cells Using Rhodochrosite Crystal Through Synchrotron Radiation, and Absorption the Tumoral and Non-Tumoral Tissues", Arch Biomed Eng & Biotechnol. 3 (2): 1-2, 2019.
- [291] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Unrestricted Hartree-Fock Computational Simulation in a Protonated Rhodochrosite Crystal", Phys Astron Int J. 3 (6):220-228, 2019.
- [292] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Perspectives on Sub-Nanometer Level of Electronic Structure of the Synchrotron with Mendelevium Nanoparticles for Elimination of Human Cancer Cells, Tissues and Tumors Treatment Using Mathematica 12.0", Journal of Energy Conservation, Volume 1, Issue 2, Pages 46-73, 2019.
- [293] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Simulation of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Bohrium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment", Current Research in Biochemistry and Molecular Biology, 1 (1), 17-44, 2019.
- [294] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Investigation of Interaction between Synchrotron Radiation and Thulium Nanoparticles for Human Cancer Cells, Tissues and Tumors Treatment", European Journal of Scientific Exploration, Volume 2, Issue 3, Pages 1-8, 2019.
- [295] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "The Effectiveness of the Treatment Human Cancer Cells, Tissues and Tumors Using Darmstadtium Nanoparticles and Synchrotron Radiation", International Journal of Advanced Engineering and Science, Volume 9, Number 1, Pages 9-39, 2020.
- [296] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment in Simulation of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Uranium Nanoparticles", Nano Prog., 1 (2), 1-6, 2019.
- [297] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "A New Approach to Interaction between Beam Energy and Erbium Nanoparticles", Saudi J Biomed Res, 4 (11): 372-396, 2019.
- [298] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Consideration of Energy Functions and Wave Functions of the Synchrotron Radiation and Samarium Nanoparticles Interaction During Human Cancer Cells, Tissues and Tumors Treatment Process", Sci. Int. (Lahore), 31 (6), 885-908, 2019.
- [299] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "An Outlook on Optothermal Human Cancer Cells, Tissues and Tumors Treatment Using Lanthanum Nanoparticles under Synchrotron Radiation", Journal of Materials Physics and Chemistry, Vol. 7, No. 1, 29-45, 2019.
- [300] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Effectiveness of Einsteinium Nanoparticles in Optothermal Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", Journal of Analytical Oncology, 8, 1, 43-62, 2019.
- [301] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Study of Relation between Synchrotron Radiation and Dubnium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment Process", Int. Res. J. Applied Sci., Volume 1, Number 4, Pages 1-20, 2019.
- [302] Amir Shahram Yousefi Kashi, Samira Khaledi, Mohammad Houshyari, "CT Simulation to Evaluate of Pelvic Lymph Node Coverage in Conventional Radiotherapy Fields Based on Bone and Vessels Landmarks in Prostate Cancer Patients", Iran J Cancer Prev. 2016; 9 (3): e6233.
- [303] Amir Shahram Yousefi Kashi, Abolfazl Razzaghdoust, Afshin Rakhsha, "A Comparative Study of Treatment Toxicities Between FOLFOX 4 and Modified FOLFOX 6 in Iranian Colorectal Cancer Patients", Iran J Cancer Prev. 2017; 10 (1): e9429.
- [304] Amir Shahram Yousefi Kashi, Sharareh Yazdanfar, Mohammad-Esmaeil Akbari, Afshin Rakhsha, "Triple Negative Breast Cancer in Iranian Women: Clinical Profile and Survival Study", Int J Cancer Manag. 2017; 10 (8): e10471.
- [305] Amir Shahram Y. Kashi, Rezvan Montazeri, Afshin Rakhsha, "Clinical Outcome and Prognostic Factors in Iranian Breast Cancer Patients After Neoadjuvant Chemotherapy: A Comparative Matched Study", Int J Cancer Manag. 2018; 11 (5): e67739.
- [306] Afshin Rakhsha, Amir Anvari, Abolfazl Razzaghdoust, Amir Shahram Yousefi Kashi, "Clinical Outcome and Prognostic Factors for Very Young Patients with Breast Cancer: A Comparative Matched Single Institution Study in Iran", Int J Cancer Manag. 2017; 10 (9): e11772.
- [307] Afshin Rakhsha, Amir Shahram Yousefi Kashi, Seied Mohsen Hoseini, "Evaluation of Survival and Treatment Toxicity with High-Dose-Rate Brachytherapy with Cobalt 60 In Carcinoma of Cervix", Iran J Cancer Preven. 2015; 8 (4): e3573.
- [308] A. Sh. Yousefi Kashi, B. Mofid, H. R. Mirzaei, P. Azadeh, 2010. "Overall Survival and Related Prognostic Factors in Metastatic Brain Tumors Treated with Whole Brain Radiation Therapy", Research Journal of Medical Sciences, Volume: 4, Issue: 3, Page No.: 213-216.
- [309] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "A Novel Prospect on Interaction of Synchrotron Radiation Emission and Europium Nanoparticles for Human Cancer Cells, Tissues and Tumors Treatment", European Modern Studies Journal, 3 (5), 11-24, 2019.
- [310] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Advantages, Effectiveness and Efficiency of Using Neodymium Nanoparticles by 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", International Journal of Advanced Chemistry, 7 (2) 119-135, 2019.
- [311] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Role and Applications of Promethium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment", Scientific Modelling and Research, 4 (1): 8-14, 2019.
- [312] A. Heidari, J. Esposito, A. Caissutti, "Maitotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis: A Spectroscopic Study on an Anti-Cancer Drug", Glob Imaging Insights 4 (2), 1-13, 2019.
- [313] A. Heidari, J. Esposito, A. Caissutti, "Biotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Glob Imaging Insights 4 (2), 1-14, 2019.
- [314] A. Heidari, J. Esposito, A. Caissutti, "Time-Resolved Resonance FT-IR and Raman Spectroscopy and Density Functional Theory Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra of Nanopolypeptide Macromolecule beyond the Multi-Dimensional Franck-Condon Integrals Approximation and Density Matrix Method", Glob Imaging Insights 4 (2), 1-14, 2019.
- [315] A. Heidari, J. Esposito, A. Caissutti, "Cholera Toxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Glob Imaging Insights 4 (2), 1-14, 2019.
- [316] A. Heidari, J. Esposito, A. Caissutti, "Nodularin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Glob Imaging Insights 4 (2), 1-14, 2019.
- [317] A. Heidari, J. Esposito, A. Caissutti, "Cangitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", Glob Imaging Insights 4 (2), 1-13, 2019.

- [318] A. Heidari, J. Esposito, A. Caissutti, "Ciguatoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Glob Imaging Insights* 4 (2), 1-14, 2019.
- [319] A. Heidari, J. Esposito, A. Caissutti, "Brevetoxin (a) and (b) Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis: A Spectroscopic Study on an Anti-HIV Drug", *Scientific Drug Delivery Research* 1 (2), 11-16, 2019.
- [320] A. Heidari, J. Esposito, A. Caissutti, "Cobrotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Trends in Res* 3 (1), 1-13, 2019.
- [321] A. Heidari, J. Esposito, A. Caissutti, "Cylindrospermopsin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Trends in Res* 3 (1), 1-14, 2019.
- [322] A. Heidari, J. Esposito, A. Caissutti, "Anthrax Toxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis", *Trends in Res* 3 (1), 1-14, 2019.
- [323] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Investigation of Moscovium Nanoparticles as Anti-Cancer Nano Drugs for Human Cancer Cells, Tissues and Tumors Treatment", *Elixir Appl. Chem.* 137A, 53943-53963, 2019.
- [324] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Study of Function of the Beam Energy and Holmium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment", *European Journal of Advances in Engineering and Technology*, 6 (12): 34-62, 2019.
- [325] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Human Cancer Cells, Tissues and Tumors Treatment Using Dysprosium Nanoparticles", *Asian J. Mat. Chem.* 4 (3-4), pp. 47-51, 2019.
- [326] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Simulation of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Plutonium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment", *J. Cancer Research and Cellular Therapeutics*, Volume 2 (4), Pages 1-19, 2019.
- [327] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Study of Gadolinium Nanoparticles Delivery Effect on Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Applied Chemistry*, 2 (2) 55-97, 2019.
- [328] A. Heidari, K. Schmitt, M. Henderson, E. Besana, R. Gobato, "Pros and Cons of Livermorium Nanoparticles for Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation Using Mathematica 12.0", *Parana Journal of Science and Education (PJSE)* - v. 6, n. 1, (1-31) January 11, 2020.
- [329] R. Gobato, M. R. R. Gobato, A. Heidari, A. Mitra, "Challenging Giants. Hartree-Fock Methods Analysis Protonated Rhodochrosite Crystal and Potential in the Elimination of Cancer Cells Through Synchrotron Radiation", *Biomed J Sci & Tech Res* 25 (1), pp. 18843-18848, 2020.
- [330] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Simulation of Interaction between Ytterbium Nanoparticles and Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-18, 2019.
- [331] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Modelling of Interaction between Curium Nanoparticles and Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-18, 2019.
- [332] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Study of Berkelium Nanoparticles Delivery Effectiveness and Efficiency on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-18, 2019.
- [333] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Fermium Nanoparticles Delivery Mechanism in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-17, 2019.
- [334] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Advantages of Lawrencium Nanoparticles for Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-18, 2019.
- [335] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Pros and Cons of the Roentgenium Nanoparticles for Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-17, 2019.
- [336] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Imagery of Flerovium Nanoparticles Delivery Process in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-18, 2019.
- [337] A. Heidari, J. Esposito, A. Caissutti, "Maitotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis: A Spectroscopic Study on an Anti-Gum Cancer Drug", *Dent Oral Maxillofac Res*, Volume 5, Issue 5, Pages 1-16, 2019.
- [338] A. Heidari, J. Esposito, A. Caissutti, "Batrachotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis: A Spectroscopic Study on an Anti-Gum Cancer Drug", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-16, 2019.
- [339] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Hafnium Nanoparticles and Their Roles and Applications in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-17, 2019.
- [340] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Dramaturgy of Technetium Nanoparticles Delivery Process in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-19, 2019.
- [341] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Computational Approach to Interaction between Synchrotron Radiation Emission as a Function of the Beam Energy and Ruthenium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-18, 2019.
- [342] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Appearance Check of Rhodium Nanoparticles Delivery Trend in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-19, 2019.
- [343] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Orientation Rhenium Nanoparticles Delivery Target on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-18, 2019.
- [344] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Drug Delivery Systems (DDS) of Osmium Nanoparticles on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-18, 2019.
- [345] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Development of Successful Formulations for Oral Drug Delivery Concepts of Iridium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 5, Issue 6, Pages 1-19, 2019.
- [346] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Classification of Drug Delivery System of Niobium Nanoparticles in Human Gum Cancer Gum Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 6, Issue 1, Pages 1-17, 2020.
- [347] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Types of Drug Delivery System Slideshow of Protactinium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 6, Issue 1, Pages 1-17, 2020.
- [348] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "New Drug Delivery System in Pharmaceuticals of Neptunium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 6, Issue 1, Pages 1-18, 2020.
- [349] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Drug Delivery Describes the Method and Approach to Delivering Drugs or Pharmaceuticals and Other Xenobiotics to Their Site of Action within Radon Nanoparticles Effects on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 6, Issue 1, Pages 1-18, 2020.
- [350] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Applications of Oganesson Nanoparticles in Increasing Rapidly with the Promise of Targeted and Efficient Drug Delivery in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", *Dent Oral Maxillofac Res*, Volume 6, Issue 1, Pages 1-19, 2020.

- [351] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Wheeler–Feynman Time– Symmetric Study of Effectiveness and Efficiency of Terbium Nanoparticles Delivery Mechanism in Human Cancer Cells, Tissues and Tumors under Synchrotron Radiation", *Frontiers Drug Chemistry Clinical Res*, Volume 3, Issue 1, Pages 1–13, 2020.
- [352] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Simulation of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Californium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment", *Oncol Res: Open Acce*. 1 (1): 1–17, 2019.
- [353] A. Heidari, "Market Analysis of Glycobiology and Glycochemistry 2020", *J Genet Disor Genet Rep*. 8: 1, 2019.
- [354] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Synchrotron Radiation Emission as a Function of the Beam Energy and Thorium Nanoparticles", *International Medicine*; 2 (1): 67–73, 2020.
- [355] A. Heidari, K. Schmitt, M. Henderson, E. Besana, "Stochastic Study of Relativistic Lutetium Nanoparticles Moving in a Quantum Field of Synchrotron Radiation Emission When Charged Lutetium Nanoparticles Are Accelerated Radially in Human Cancer Cells, Tissues and Tumors Treatment", *Frontiers Drug Chemistry Clinical Res*, Volume 3, Issue 1, Pages 1–15, 2020.
- [356] A. Heidari, A. Caissutti, M. Henderson, K. Schmitt, E. Besana, J. Esposito, V. Peterson, "Recent New Results and Achievements of California South University (CSU) BioSpectroscopy Core Research Laboratory for COVID–19 or 2019–nCoV Treatment: Diagnosis and Treatment Methodologies of "Coronavirus", *Journal of Current Viruses and Treatment Methodologies*, Vol–1, Issue 1, Pg. no. 3–41, 2020.