DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Instant Journal of Hematology and Oncology

Research Article **Open Access**

Removal Role, Application and Effect of Nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) Thin Films Delivery in DNA/RNA of Cancer Cells under Synchrotron and Synchrocyclotron Radiations

Alireza Heidari[1,2,3,4*], Margaret Hotz[1,2,3], Nancy MacDonald[1,2,3], Victoria Peterson[1,2,3], Angela Caissutti[1,2,3], Elizabeth Besana[1,2,3], Jennifer Esposito[1,2,3], Katrina Schmitt[1,2,3], Ling-Yu Chan[1,2,3], Francesca Sherwood[1,2,3], Maria Henderson[1,2,3] and Jimmy Kimmel[1,2,3]

[1]Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA
[2]BioSpectroscopy Core Research Laboratory, California South University, 14731 Comet St. Irvine, CA 92604, USA
[3]Cancer Research Institute (CRI), California South University, 14731 Comet St. Irvine, CA 92604, USA
[4]American International Standards Institute, Irvine, CA 3800, USA

***Corresponding Author:** Alireza Heidari, Faculty of Chemistry, California South University, 14731 Comet St. Irvine, CA 92604, USA, Email: Scholar.Researcher.Scientist@gmail.com; Alireza.Heidari@calsu.us; Central@aisi-usa.org

Received Date: *Jul 26, 2021 /* ***Accepted Date:*** *Aug 04, 2021 /* ***Published Date:*** *Aug 09, 2021*

Abstract

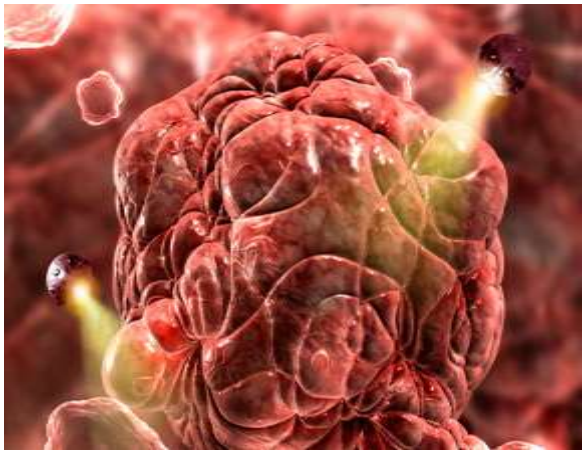
In the current research, removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations is investigated. The calculation of thickness and optical constants of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations produced using sol-gel method over glassy medium through a single reflection spectrum is presented. To obtain an appropriate fit for reflection spectrum, the classic Dude-Lorentz model for parametric di-electric function is used. The best fitting parameters are determined to simulate the reflection spectrum using Levenberg-Marquardt optimization method. The simulated reflectivity from the derived optical constants and thickness are in good agreement with experimental results.

Keywords: Removal; Nanocluster Rhenium (IV) Oxide (ReO_2); Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7); Thin Films, Delivery; DNA/RNA; Cancer Cells; Synchrotron and Synchrocyclotron Radiations

Removal Role, Application and Effect of Nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) Thin Films Delivery in DNA/RNA of Cancer Cells under Synchrotron and Synchrocyclotron Radiations

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Cite this article as: Alireza Heidari, Margaret Hotz, Nancy MacDonald, et al. 2021. Removal Role, Application and Effect of Nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) Thin Films Delivery in DNA/RNA of Cancer Cells under Synchrotron and Synchrocyclotron Radiations. Int J Hematol Oncol. 4: 150-194.



Removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations.

Introduction

Removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations is investigated. Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) is a semi-conductor of type in which its 3d level is filling up [1-67] and it belongs to a group of smart materials that reacts to variations of temperature, electrical or magnetic fields and pressure. This oxide can be used as thin films for a wide range of applications including electrical and or optical-thermal switching tools and energy storing covers [67-103]. Therefore, determining optical constants (refractive coefficient, n, and extinction coefficient, k) of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films is essential for designing optoelectronic and optical tools for producing optical covers and similar tools such as multilayer covers and filters [104-184]. The measured experimental parameters including optical reflectivity are used as a function of wavelength to determine optical parameters of thin layers [185-257]. For determining optical parameters, various physical models such as Kuschi, Frouhi-Blumber and Taw-Lorentz have been suggested to calculate refractive coefficient, n, and extinction coefficient, k. for any thin layer, an appropriate optical model should be selected and used for estimation of real and imaginary di-electric function according to its physical condition [258-313]. To do this, an initial guess is needed for parameters of di-electric function and thickness which is defined as a range regarding physical characteristics of thin film and the available results in the literature. Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7)-removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations are produced over glassy medium in sol-gel laboratory, Faculty of Chemistry, Bio

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Spectroscopy Core Research Laboratory and Cancer Research Institute (CRI) at California South University, Irvine, California, USA, under similar conditions. Measurement of thin films are performed on four samples of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) as removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations with mole ratio of 0.5, 1 and 1.5% of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) [314-467]. Simulation of experimental spectra are performed using a single reflection spectrum of thin films and through Dude-Lorentz physical model in optimization process of Levenberg-Marquardt. Optical constants such as reflection coefficient, n, extinction coefficient, k, and layer thickness are simultaneously determined at wavelength of 400-1100 (nm).

Modeling, Simulation and Calculation Method

A usual method for describing optical constants of thin films is utilizing classic dispersion relationships based on di-electric function. One of the oldest and most applicable dispersion relationships is Drude-Lorentz di-electric equation which is based on the interaction between light and material. This relationship is shown in Eq. (1):

$$\varepsilon = \varepsilon_\infty + \sum_{j=1}^{n} \frac{f_j E_{0j}^2}{E_{0j}^2 - E^2 + i\Gamma_j E} + \frac{E_P^2}{E^2 + iE_\tau E} \quad (1)$$

where ε_∞, f_j, E_0 and Γ_j are di-electric constant at high frequencies, resonance amplitude, power and resonance width-band which are recognized as the reason for damping. Damping is due to absorption process which includes transition between two states. The third term is related to Dude model. E_p is density of Plasma energy and E_r is incident energy [4]. The complex di-electric function as $\varepsilon=\varepsilon_1 + i\varepsilon_2$ which describes the reaction of material with electromagnetic waves as a function of photon energy, E, or wavelength, λ, has a real part ε_1 and an imaginary part ε_2. Real and imaginary parts of complex reflection coefficient, namely $n(\lambda)$ and $k(\lambda)$ are related to di-electric function as Eq. (2) [5]:

$$n(\lambda) = \left(\frac{\varepsilon_1 + \left(\varepsilon_1^2 + \varepsilon_2^2\right)^{1/2}}{2} \right)^{1/2}$$
$$k(\lambda) = \left(\frac{-\varepsilon_1 + \left(\varepsilon_1^2 + \varepsilon_2^2\right)^{1/2}}{2} \right)^{1/2} \quad (2)$$

Reflection spectrum (R) of samples for normal incident is a function of film thickness d, medium reflection coefficient S, incident light wavelength λ, reflection coefficient $n(\lambda)$ and extinction coefficient $k(\lambda)$.

Simulation of the measured reflection data using optimization of objective function, which is the square of difference between the measured reflection spectrum and the calculated one, is defined as:

$$O = \left(\varepsilon_\infty, f, \Gamma, E_0, E_P, E_\tau, d\right) = \sum \left(R_{meas} - R_{calc}\right)^2 \quad (3)$$

where, R_{meas} and R_{calc} are the measured and theoretical reflection spectrum, respectively. using the fitting parameters obtained from minimization of objective function, dispersion curves of reflection and extinction coefficients can be estimated.

Results and Discussion

The measured and simulated reflection spectra with fitting parameters of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7)-removal role, application and effect of nanocluster Rhenium

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

(IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations at various concentrations of 0.5, 1 and 1.5%, named as a, b, and c, and removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations sample, named as p, are shown in Figure (1) in wavelength range of 400-1100 (nm) (visible regions close to infrared) using Dude-Lorentz model for air, film, medium, air system.

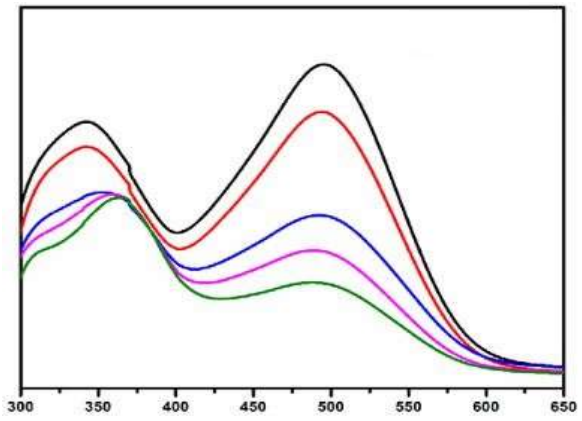


Figure 1: Results of simulating the reflection spectrum for Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7)-removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations at concentrations of (a) 0.5%, (b) 1%, (c) 1.5% and (p) non-doped. Comparison of the results were shown that the sample containing 0.5% of Re (sample a) has shown more reflectivity than samples containing 1% and 1.5% of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) (samples b and c). As can be seen in Figure (1), the reflection of thin films is decreased by increase in mole concentration of Re to Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7). This reduction can be attributed to various reasons such as increasing roughness, increasing thickness and increasing the concentration of contaminant. The results of investigation about surface roughness using AFM method confirms the increasing of roughness by increasing the concentration of Re. Therefore, dispersion of incident light is increased in thin films. Variation of thickness of thin film by increasing the percentage of Re is effective in variation of reflectivity of thin films which is due to sol viscosity. Changing the crystalline structure and chemical composition of thin films induced by penetration of Re ions into the crystalline lattice of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) is another effective factor which leads to changing the reflection spectrum. The results of structural analysis using XRD confirms the tendency to be amorphous by increasing the concentration of contaminant. The best fitting parameters obtained from optimization process and experimental data fitting are listed in Table (1).

Table 1: Fitting parameters of di-electric function of DL model.

Parameter	Pure	% 0.5 Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rheniu	1% 1 Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rheniu	% 1.5 Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rheniu

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

		m (VII) Oxide (Re_2O_7)	m (VII) Oxide (Re_2O_7)	m (VII) Oxide (Re_2O_7)
ε_∞	6.5	5.5	4.5	3.5
E_P	3.85	3.75	3.65	3.55
E_τ	3.45	3.4	3.35	3.25
f	4.35	4.25	4.15	4.05
E_0	6.5	6.4	6.3	6.2
Γ	7.5	7.4	7.3	7.2
$d\,(nm)$	250	350	450	550

As cab be seen in Table (1), more increase in Re leads to increase in Γ, *f*, E_0 and d and decrease in other parameters as crystalline structure and inter-atom distance changes in lattice of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin film. According to [7], E0 in the range of 2.9-3.1 (eV) shows optical transition capacity band to displaced state of conducting band which according to the data of Table (1), it can be concluded that optical transition energy (gaff energy) increases with increase in Re concentration. The calculation results of optical constants including reflection coefficient and extinction coefficient using the parameters of obtained di-electric function from the optimization process of thin films at various concentrations of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) as 0.5% (sample a), 1% (sample b) and 1.5% (sample c) are shown in Figures (2) and (3), respectively.

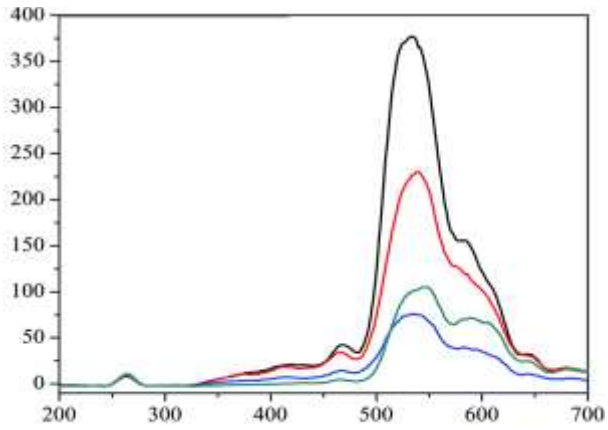


Figure 2: Reflection coefficient of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films with Re concentrations of (a) 0.5%, (b) 1%, (c) 1.5% and (p) pure sample.

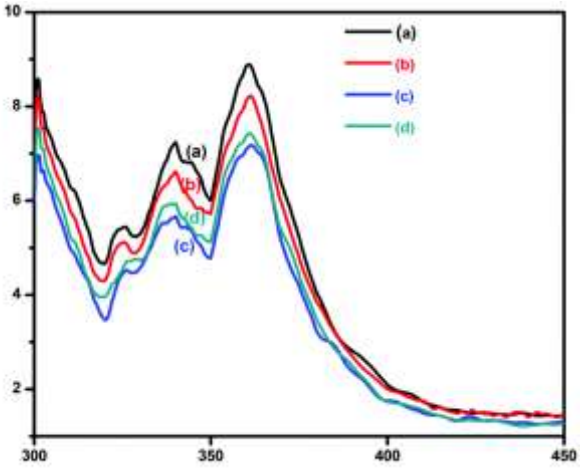


Figure 3: Extinction coefficient of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films with Re concentrations of (a) 0.5%, (b) 1%, (c) 1.5% and (p) pure sample.

As can be seen in Figure (2), reflection coefficient of samples at 500-1100 (nm) are the same and are decreased by increasing wavelength. By increasing the concentration of

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Re, reflection coefficient is totally reduced which is in good agreement with the results related to variations of reflectivity in Figure (1) in which, increasing roughness leads to increase in dispersion and hence, reducing the amount of reflection spectrum. It can be seen in Figure (3) that k(λ) for two samples of p and a are of increasing rate at wavelength range of 400-500 (nm). Further, all samples are of decreasing rate at the range of 500-800 (nm). Totally, k(λ) is reduced by increase in Re concentration. In other words, optical absorption is reduced in this range and the emerged peaks at extinction coefficient are in agreement with parameters of Dude-Lorentz obtained from the optimization algorithm.

Conclusions, Summary, Recommendations, Perspectives, Useful Suggestions and Future Studies

The results of optimization algorithm of Levenberg-Marquardt with physical model of Dude-Lorentz for determining optical constants of Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7)-removal role, application and effect of nanocluster Rhenium (IV) Oxide (ReO_2), Rhenium Trioxide (ReO_3) and Rhenium (VII) Oxide (Re_2O_7) thin films delivery in DNA/RNA of cancer cells under synchrotron and synchrocyclotron radiations produced using sol-gel method through a single reflection spectrum show that higher doping leads to lower reflectivity and reflection coefficient and also, leads to increase in thickness of thin layer.

Acknowledgement

This study was supported by the Cancer Research Institute (CRI) Project of Scientific Instrument and Equipment Development, the National Natural Science Foundation of the United Sates, the International Joint BioSpectroscopy Core Research Laboratory Program supported by the California South University (CSU), and the Key project supported by the American International Standards Institute (AISI), Irvine, California, USA.

References

1. Heidari A, Brown C. 2015. Study of Composition and Morphology of Cadmium Oxide (CdO) Nanoparticles for Eliminating Cancer Cells. J Nanomed Res. 5: 20.
2. Heidari A, Brown C. 2015. Study of Surface Morphological, Phytochemical and Structural Characteristics of Rhodium (III) Oxide (Rh2O3) Nanoparticles. International Journal of Pharmacology, Phytochemistry and Ethnomedicine, Volume. 1: 15-19.
3. Heidari A. 2016. An Experimental Biospectroscopic Study on Seminal Plasma in Determination of Semen Quality for Evaluation of Male Infertility. Int J Adv Technol. 7: 7.
4. Heidari A. 2016. 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: 103.
5. Heidari A. 2016. A Thermodynamic Study on Hydration and Dehydration of DNA and RNA-Amphiphile Complexes. J Bioeng Biomed Sci S. 006.
6. Heidari A. 2016. Computational Studies on Molecular Structures and Carbonyl and Ketene Groups' Effects of Singlet and Triplet Energies of Azidoketene O=C=CH-NNN and Isocyanatoketene O=C=CH-N=C=O. J Appl Computat Math. 5: 142.
7. Heidari A. 2016. 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: 146.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

8. Heidari A. 2016. Future Prospects of Point Fluorescence Spectroscopy, Fluorescence Imaging and Fluorescence Endoscopy in Photodynamic Therapy (PDT) for Cancer Cells. J Bioanal Biomed. 8: 135.
9. Heidari A. 2016. A Bio-Spectroscopic Study of DNA Density and Color Role as Determining Factor for Absorbed Irradiation in Cancer Cells. Adv Cancer Prev. 1: 102.
10. Heidari A. 2016. Manufacturing Process of Solar Cells Using Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh2O3) Nanoparticles. J Biotechnol Biomater. 6: 125.
11. Heidari A. 2016. A Novel Experimental and Computational Approach to Photobiosimulation of Telomeric DNA/RNA: A Biospectroscopic and Photobiological Study. J Res Development. 4: 144.
12. Heidari A. 2016. Biochemical and Pharmacodynamical Study of Microporous Molecularly Imprinted Polymer Selective for Vancomycin, Teicoplanin, Oritavancin, Telavancin and Dalbavancin Binding. Biochem Physiol. 5: 146.
13. Heidari A. 2016. 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.
14. Heidari A. 2016. 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.
15. Heidari A. 2016. Simulation of Temperature Distribution of DNA/RNA of Human Cancer Cells Using Time-Dependent Bi-Heat Equation and Nd: YAG Lasers. Arch Cancer Res. 4: 2.
16. Heidari A. 2016. 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.
17. Heidari A. 2016. Biomedical Study of Cancer Cells DNA Therapy Using Laser Irradiations at Presence of Intelligent Nanoparticles.J Biomedical Sci. 5: 2.
18. Heidari A, 2016. 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.
19. Heidari A. 2016. 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: 112.
20. Heidari A. 2016. 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: 129.
21. Heidari A. 2016. 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.
22. Heidari A. 2016. A Combined Computational and QM/MM Molecular Dynamics Study on Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (a-BNNTs) and Hexagonal Boron Nitride Nanotubes (h-BNNTs) as Hydrogen Storage. Struct Chem Crystallogr Commun. 2: 1.
23. Heidari A. 2016. Pharmaceutical and Analytical Chemistry Study of Cadmium Oxide (CdO) Nanoparticles Synthesis Methods and Properties as Anti-Cancer Drug and its

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Effect on Human Cancer Cell. Pharm Anal Chem Open Access. 2: 113.

24. Heidari A. 2016. A Chemotherapeutic and Biospectroscopic Investigation of the Interaction of Double-Standard DNA/RNA-Binding Molecules with Cadmium Oxide (CdO) and Rhodium (III) Oxide (Rh2O3) Nanoparticles as Anti-Cancer Drugs for Cancer Cells' Treatment. Chemo Open Access. 5: 129.
25. Heidari A. 2016. Pharmacokinetics and Experimental Therapeutic Study of DNA and Other Biomolecules Using Lasers: Advantages and Applications. J Pharmacokinet Exp Ther. 1: 005.
26. HeidariA. 2016. 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.
27. Heidari A. 2016. 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.
28. Heidari A. 2016. 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.
29. Heidari A. 2016. A Translational Biomedical Approach to Structural Arrangement of Amino Acids' Complexes: A Combined Theoretical and Computational Study. Transl Biomed. 7: 2.
30. Heidari A. 2016. 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 Nanomedine Biotherapeutic Discov. 6: 144.
31. Heidari A. 2016. 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: 111.
32. Heidari A. 2016. 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: 138.
33. Heidari A. 2016. Nitrogen, Oxygen, Phosphorus and Sulphur Heterocyclic Anti-Cancer Nano Drugs Separation in the Supercritical Fluid of Ozone (O3) Using Soave-Redlich-Kwong (SRK) and Pang-Robinson (PR) Equations. Electronic J Biol. 12: 4.
34. Heidari A. 2016. An Analytical and Computational Infrared Spectroscopic Review of Vibrational Modes in Nucleic Acids", Austin J Anal Pharm Chem. 3: 1058.
35. Heidari A, Brown C. 2016. Phase, Composition and Morphology Study and Analysis of Os-Pd/HfC Nanocomposites. Nano Res Appl. 2: 1.
36. Heidari A, Brown C. 2016. Vibrational Spectroscopic Study of Intensities and Shifts of Symmetric Vibration Modes of Ozone Diluted by Cumene. International Journal of Advanced Chemistry. 4: 5-9.
37. Heidar i A. 2016. 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.
38. Heidari A. 2016. 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: 125

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

39. Heidari A. 2016. 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: 153.
40. Heidari A. 2016. 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.
41. Heidari A. 2016. 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.
42. Heidari A. 2016. 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.
43. Heidari A. 2016. Linear and Non-Linear Quantitative Structure-Anti-Cancer-Activity Relationship (QSACAR) Study of Hydrous Ruthenium (IV) Oxide (RuO2) Nanoparticles as Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) and Anti-Cancer Nano Drugs. J Integr Oncol 5: 110.
44. Heidari A. 2016. 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: 101.
45. Heidari A. 2016. 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.
46. Heidari A. 2016. 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: 161.
47. Heidari A. 2016. Nanotechnology in Preparation of Semipermeable Polymers. J Adv Chem Eng. 6: 157.
48. Heidari A. 2016. 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: 119.
49. Heidari A. 2016. DNA/RNA Fragmentation and Cytolysis in Human Cancer Cells Treated with Diphthamide Nano Particles Derivatives. Biomedical Data Mining. 5: 102.
50. Heidari A. 2016. 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.
51. Heidari A. 2016. Computational Study on Molecular Structures of C20, C60, C240, C540, C960, C2160 and C3840 Fullerene Nano Molecules under Synchrotron Radiations Using Fuzzy Logic. J Material Sci Eng. 5: 282.
52. Heidari A. 2016. Graph Theoretical Analysis of Zigzag Polyhexamethylene Biguanide, Polyhexamethylene Adipamide, Polyhexamethylene Biguanide Gauze and Polyhexamethylene Biguanide Hydrochloride (PHMB) Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (a-BNNTs) and Hexagonal Boron Nitride Nanotubes (h-BNNTs). J Appl Computat Math 5: 143.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

53. Heidari A. 2016. The Impact of High-Resolution Imaging on Diagnosis. Int J Clin Med Imaging 3: 101.
54. Heidari A. 2016. A Comparative Study of Conformational Behavior of Isotretinoin (13-Cis Retinoic Acid) and Tretinoin (All-Trans Retinoic Acid (ATRA)) Nano Particles as Anti-Cancer Nano Drugs under Synchrotron Radiations Using Hartree-Fock (HF) and Density Functional Theory (DFT) Methods. Insights in Biomed. 1: 2.
55. Heidari A. 2016. Advances in Logic, Operations and Computational Mathematics. J Appl Computat Math. 5: 5.
56. Heidari A. 2016. Mathematical Equations in Predicting Physical Behavior. J Appl Computat Math 5: 5.
57. Heidari A. 2016. Chemotherapy a Last Resort for Cancer Treatment. Chemo Open Access. 5: 4.
58. Heidari A. 2016. 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: 101.
59. Heidari A. 2016. 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.
60. Heidari A. 2016. 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. Heidari A. A Novel Approach to Biology. Electronic J Biol. 12: 4.
62. Heidari A. 2016. Innovative Biomedical Equipment's for Diagnosis and Treatment. J Bioengineer & Biomedical Sci. 6: 2.
63. Heidari A. 2016. 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.
64. Heidari A. 2016. 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.
65. Heidari A. 2017. 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.
66. Heidari A. 2017. 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.
67. Heidari A. 2017. 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.
68. Heidari A. 2017. 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.
69. Heidari A. 2017. Polymorphism in Nano-Sized Graphene Ligand-Induced Transformation of

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Au38-xAgx/xCux(SPh-tBu)24 to Au36-xAgx/xCux(SPh-tBu)24 (x = 1-12) Nanomolecules for Synthesis of Au144-xAgx/xCux[(SR)60, (SC4)60, (SC6)60, (SC12)60, (PET)60, (p-MBA)60, (F)60, (Cl)60, (Br)60, (I)60, (At)60, (Uus)60 and (SC6H13)60] Nano Clusters as Anti-Cancer Nano Drugs. J Nanomater Mol Nanotechnol. 6: 3.

70. Heidari A. 2017. 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: 103.
71. Heidari A. 2017. 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 Synchrotorn Radiation. J Dev Drugs. 6: 154.
72. Heidari A. 2017. 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: 127.
73. Heidari A. 2017. Opinion on Computational Fluid Dynamics (CFD) Technique. Fluid Mech Open Acc. 4: 157.
74. Heidari A. 2017. Concurrent Diagnosis of Oncology Influence Outcomes in Emergency General Surgery for Colorectal Cancer and Multiple Sclerosis (MS) Treatment Using Magnetic Resonance Imaging (MRI) and Au329(SR)84, Au329-xAgx(SR)84, Au144(SR)60, Au68(SR)36, Au30(SR)18, Au102(SPh)44, Au38(SPh)24, Au38(SC2H4Ph)24, Au21S(SAdm)15, Au36(pMBA)24 and Au25(pMBA)18 Nano Clusters. J Surgery Emerg Med. 1: 21.
75. Heidari A. 2017. 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.
76. Heidari A. 2017. 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.
77. Heidari A. 2017. 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, Alguronic Acid and Sodium Hyaluronate as Anti-Cancer Nano Drugs and Nucleic Acids Delivery under Synchrotron Radiation. Am J Drug Deliv. 5: 2.
78. Heidari A. 2017. 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: 103.
79. Heidari A. 2017. 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.
80. Heidari A. 2017. Integrative Approach to Biological Networks for Emerging Roles of Proteomics, Genomics and Transcriptomics in

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

the Discovery and Validation of Human Colorectal Cancer Biomarkers from DNA/RNA Sequencing Data under Synchrotron Radiation. Transcriptomics. 5: 117.

81. Heidari A. 2017. 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: 1-4.
82. Heidari A. 2017. 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: 16.
83. Heidari A. 2017. 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.
84. Heidari A. 2017. 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.
85. Heidari A. 2017. Non-Linear Compact Proton Synchrotrons to Improve Human Cancer Cells and Tissues Treatments and Diagnostics through Particle Therapy Accelerators with Monochromatic Microbeams. J Cell Biol Mol Sci. 2: 1-5.
86. Heidari A. 2017. 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: 1-5.
87. Gobato R, Heidari A. 2017. Calculations Using Quantum Chemistry for Inorganic Molecule Simulation BeLi2SeSi. Science Journal of Analytical Chemistry. 5: 76-85.
88. Heidari A. 2017. 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. 1: 1.
89. Heidari A. 2017. 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. 1: 10.
90. Heidari A. 2017. 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: 1-5.
91. Heidari A. 2017. 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). 12.
92. Heidari A. 2017. A Comparative Computational and Experimental Study on

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

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: 014-020.

93. Heidari A. 2017. 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.
94. Heidari A. 2017. 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.
95. Heidari A. 2017. 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 Enzymol. 6: 1.
96. Heidari A. 2017. 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: 1-5.
97. Heidari A, Brown C. 2017. 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: 061-069.
98. Heidari A. 2017. High-Resolution Simulations of Human Brain Cancer Translational Nano Drugs Delivery Treatment Process under Synchrotron Radiation. J Transl Res. 1: 1-3.
99. Heidari A. 2017. 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: 36-41.
100. Heidari A. 2017. 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: 067-0100.
101. Heidari A. 2017. Visualizing Metabolic Changes in Probing Human Cancer Cells and Tissues Metabolism Using Vivo 1H or Proton NMR, 13C NMR, 15N NMR and 31P NMR Spectroscopy and Self-Organizing Maps under Synchrotron Radiation. SOJ Mater Sci Eng. 5: 1-6.
102. Heidari A. 2017. 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: 001.
103. Heidari A. 2017. 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: 079-084.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

104. Heidari A. 2017. 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: 001.
105. Heidari A. 2017. 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: 021-026.
106. Heidari A. 2017. 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: 1091.
107. Heidari A. 2017. 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: 77-83.
108. Heidari A. 2017. A Consensus and Prospective Study on Restoring Cadmium Oxide (CdO) Nano particles 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: 001.
109. Heidari A. 2017. 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: 1-8.
110. Heidari A. 2017. 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: 12-17.
111. Heidari A. 2017. 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: 335-340.
112. Heidari A. 2017. 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: 239-246.
113. Heidari A. 2017. 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: 045-052.
114. Heidari A. 2017. J-Spectroscopy, Exchange Spectroscopy (EXSY), Nucle¬ar 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: 006-013.
115. Heidari A. 2017. Neutron Spin Echo Spectroscopy and Spin Noise Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Passage of Time under Synchrotron Radiation. Int J Biopharm Sci. 1: 103-107.

116. Heidari A. 2017. 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: 41-46.
117. Heidari A. 2018. 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: 101.
118. Heidari A. 2018. 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. 3: 1-6.
119. Heidari A. 2018. 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: 1011.
120. Heidari A. 2017. 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: 18-24.
121. Heidari A. 2018. 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: 00026-00032.
122. Gobato MRR, Gobato R, Heidari A. 2018. Planting of Jaboticaba Trees for Landscape Repair of Degraded Area. Landscape Architecture and Regional Planning. 3: 1-9.
123. Heidari A. 2018. 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: 1018.
124. Heidari A. 2018. 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: 1-14.
125. Heidari A. 2018. 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: 1-14.
126. Heidari A. 2018. Correlation Two-Dimensional Nuclear Magnetic Reso¬nance (NMR) (2D-NMR) (COSY) Imaging and Spectrosco¬py Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. EMS Can Sci. 1-1-001.
127. Heidari A. 2018. Thermal Spectroscopy, Photothermal Spectroscopy, Thermal Microspectroscopy, Photothermal Microspectroscopy, Thermal Macrospectroscopy and Photothermal Macrospectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues with the Passage of Time under Synchrotron Radiation. SM J Biometrics Biostat. 3: 1024.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

128. Heidari A. 2018. 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.
129. Heidari A. 2018. 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: 555603.
130. Heidari A. 2018. 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: 1-5.
131. Heidari A. 2018. 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: 514-519.
132. Heidari A. 2018. 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: 2-8.
133. Heidari A. 2018. 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: 8.
134. Heidari A. 2018. Investigation of Cancer Types Using Synchrotron Technology for Proton Beam Therapy: An Experimental Biospectroscopic Comparative Study. European Modern Studies Journal. 2: 13-29.
135. Heidari A. 2018. 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: 001-007.
136. Heidari A. 2018. 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: 1-6.
137. Heidari A. 2018. 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.
138. Heidari A. 2018. 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

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

and Tissues under Synchrotron Radiation with the Passage of Time. International Journal of Chemistry Papers. 2: 1-12.

139. Heidari A. 2018. Mössbauer Spectroscopy, Mössbauer Emission Spectroscopy and 57Fe Mössbauer Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. Acta Scientific Cancer Biology 2. 3: 17-20.
140. Heidari A. 2018. Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation with the Passage of Time. Organic & Medicinal Chem IJ. 6: 555676.
141. Heidari A. 2018. 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: 001-007.
142. Heidari A. 2018. 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: 001-009.
143. Heidari A. 2018. Vivo 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", Ann Biomet Biostat. 1: 1001.
144. Heidari A. 2018. 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: 1006.
145. Heidari A. 2018. Adsorption Isotherms and Kinetics of Multi-Walled Carbon Nanotubes (MWCNTs), Boron Nitride Nanotubes (BNNTs), Amorphous Boron Nitride Nanotubes (a-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.
146. Heidari A. 2018. 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.
147. Heidari A. 2018. 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. 1: 1-10.
148. Heidari A. 2018. Pump-Probe Spectroscopy and Transient Grating Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

and Tissues with the Passage of Time under Synchrotron Radiation. Adv Material Sci Engg. 2: 1-7.

149. Heidari A. 2018. 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: 1-8.
150. Heidari A. 2018. 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: 1-9.
151. Heidari A. 2018. 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: 138.
152. Heidari A. 2018. 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: 1024.
153. Heidari A. 2018. 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: 142-148.
154. Heidari A. 2018. Time-Dependent Vibrational Spectral Analysis of Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. J Cancer Oncol. 2: 124.
155. Heidari A. 2018. 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.
156. Gobato R, Heidari A. 2018. Infrared Spectrum and Sites of Action of Sanguinarine by Molecular Mechanics and ab initio Methods. International Journal of Atmospheric and Oceanic Sciences. 2: 1-9.
157. Heidari A. 2018. 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: 111.
158. Heidari A. 2018. 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 Hespertin, 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: 007-014.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

159. Heidari A. 2018. 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: 1-14.

160. Heidari A. 2018. 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.

161. HeidariA. 2018. 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.

162. Heidari A. 2018. 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.

163. Heidari A. 2018. 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. 4: 1-19.

164. Heidari A, Gobato R. 2018. Putrescine, Cadaverine, Spermine and Spermidine-Enhance d Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules. Parana Journal of Science and Education. 5: 1.

165. Heidari A. 2018. 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: 4-11.

166. Heidari A. 2018. 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. 3: 1-28.

167. Gobato R. Heidari A. 2018. 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. 20: 1-23.

168. Heidari A. 2018. Vibrational Biospectroscopic Studies on Anti-cancer Nanopharmaceuticals (Part I). Malaysian Journal of Chemistr. 20: 33-73.

169. Heidari A. Vibrational Biospectroscopic Studies on Anti-cancer

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Nanopharmaceuticals (Part II). Malaysian Journal of Chemistry. 20: 74-117.

170. Heidari A. 2018. Uranocene (U(C8H8)2) and Bis (Cyclooctatetraene)Iron (Fe(C8H8)2 or Fe (COT)2)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules. Chemistry Reports. 1: Pages 1-16.
171. Heidari A. 2018. Biomedical Systematic and Emerging Technological Study on Human Malignant and Benign Cancer Cells and Tissues Biospectroscopic Analysis under Synchrotron Radiation. Glob Imaging Insights. 3: 1-7.
172. Heidari A. 2018. 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: 659.
173. Heidari A. 2018. 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. 3: 1-7.
174. Heidari A. 2018. 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: 140-156.
175. Heidari A. 2018. A Clinical and Molecular Pathology Investigation of Correlation Spectroscopy (COSY), Exclusive Correlation Spectroscopy (ECOSY), 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: 414-426.
176. Heidari A. 2018. 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: 1-20.
177. Heidari A. 2018. Use of Molecular Enzymes in the Treatment of Chronic Disorders. Canc Oncol Open Access J. 1: 12-15.
178. Heidari A. 2018. 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: 167-189s.
179. Heidari A. 2018. Adamantane, Irene, Naftazone and Pyridine-Enhanced Precatalyst Preparation Stabilization and Initiation (PEPPSI) Nano Molecules. Madridge J Nov Drug Res. 2: 61-67.
180. Heidari A. 2018. 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: 68-74.
181. Heidari A, Gobato R. 2018. 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) [(-)-

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

trans-Δ⁹-Tetrahydrocannabinol], Theobromine (Xantheose), 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. 4: 1-17.

182. Heidari A, Gobato R. 2018. 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. 6: 18-33.

183. Gobato R, Heidari A, Mitra A. 2018. The Creation of C13H20BeLi2SeSi. The Proposal of a Bio-Inorganic Molecule, Using Ab Initio Methods for the Genesis of a Nano Membrane. Arc Org Inorg Chem Sci 3: 167.

184. Gobato R, Heidari A. 2018. 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: 241-252.

185. Heidari A. 2018. Bastadins and Bastaranes-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules. Glob Imaging Insights, Volume 3: 1-7.

186. Heidari A. 2018. 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: 1-8.

187. Dadvar E, Heidari A. 2018. 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.

188. Heidari A, Gobato R. 2018. First-Time Simulation of Deoxyuridine Monophosphate (dUMP) (Deoxyuridylic Acid or Deoxyuridylate) and Vomitoxin (Deoxynivalenol (DON)) ((3α,7α)-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. 6: 46-67.

189. Heidari A. 2018. 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: 1-7.

190. Heidari A. 2018. 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. 3: 1-7.

191. Heidari A. 2018. 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-

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

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. 3: 1-9.

192. Heidari A. 2018. 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: 1-9.
193. Heidari A. 2018. 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. 3: 1-10.
194. Heidari A. 2018. 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. 3: 1-7.
195. Heidari A. 2018. 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. 3: 1-7.
196. Heidari A. 2018. Curious Chloride (CmCl3) and Titanic Chloride (TiCl4)-Enhanced Precatalyst Preparation Stabilization and Initiation (EPPSI) Nano Molecules for Cancer Treatment and Cellular Therapeutics. J. Cancer Research and Therapeutic Interventions. 1: 01-10.
197. Gobato R, Gobato MRR, Heidari A. 2018. 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). Arc Org Inorg Chem Sci. 3: 402-409.
198. Heidari A. 2018. 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. 5: 1-8.
199. Heidari A. 2018. 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. 3: 1-8.
200. Heidari A. 2018. 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

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Time under Synchrotron Radiation. Glob Imaging Insights. 3: 1-8.

201. Heidari A. 2018. 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. 3: 1-8.
202. Heidari A. 2018. 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. 3: 1-8.
203. Heidari A. 2018. 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. 3: 1-8.
204. Heidari A. 2018. 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. 3: 1-9.
205. Gobato R, Gobato MRR, Heidari A, et al. 2018. 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. 2: 9-17.
206. Heidari A. 2018. 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: 022-034.
207. Heidari A. 2018. 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: 012-025.
208. Heidari A. 2018. 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: 1-13.
209. Heidari A. 2018. 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. 5: 1-8.
210. Heidari A. 2018. Hadron Spectroscopy, Baryon Spectroscopy and Meson Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. Integr Mol Med. 5: 1-8.
211. Gobato R, Gobato MRR, Heidari A. 2019. 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. 7: 14-35.
212. Heidari A, Gobato R. 2019. 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. 2: 1-8.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

213. Heidari A, Gobato R. 2019. 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. 2: 1-8.
214. Heidari A, R. Gobato R. 2019. 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. 2: 1-8, 2019.
215. Heidari A, R. Gobato R. 2019. 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. 2: 1-8.
216. Heidari A, Gobato R. 2019. 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. 2: 1-8.
217. Heidari A, Gobato R. 2019. High-Resolution Mapping of DNA/RNA Hypermethylation and Hypomethylation Process in Human Cancer Cells, Tissues and Tumors under Synchrotron Radiation. Trends in Res. 2: 1-9.
218. Heidari A. 2019. A Novel and Comprehensive Study on Manufacturing and Fabrication Nanoparticles Methods and Techniques for Processing Cadmium Oxide (CdO) Nanoparticles Colloidal Solution. Glob Imaging Insights. 4: 1-8.
219. Heidari A. 2019. 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. 4: 1-8.
220. Heidari A. 2019. Novel Experimental and Three-Dimensional (3D) Multiphysics Computational Framework of Michaelis-Menten Kinetics for Catalyst Processes Innovation, Characterization and Carrier Applications. Glob Imaging Insights. 4: 1-8.
221. Heidari A. 2019. 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. 4: 1-8.
222. Heidari A. 2019. 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. 4: 1-8.
223. Heidari A. 2019. 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. 4: 1-9.
224. Gobato R, Gobato MRR, A. Heidari A. 2019. Storm Vortex in the Center of Paraná State on June 6, 2017: A Case Study. Sumerianz Journal of Scientific Research. 2: 24-31.
225. Gobato R, Gobato MRR, Heidari A. 2019. 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. 2: 1-26.
226. Heidari A. 2019. Three-Dimensional (3D) Imaging Spectroscopy of Carcinoma,

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

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: 01-17.

227. Gobato R, Gobato MRR, Heidari A, et al. 2019. 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: 1-6.
228. Heidari A, Esposito J, Caissutti A. 2019. The Importance of Attenuated Total Reflectance Fourier Transform Infrared (ATR-FTIR) and Raman Bio¬spectroscopy 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: 1-21.
229. Heidari A. 2019. Mechanism of Action and Their Side Effects at a Glance Prevention, Treatment and Management of Immune System and Human Cancer Nano Chemotherapy. Nanosci Technol. 6: 1-4.
230. Heidari A, Esposito J, Caissutti A. 2019. The Quantum Entanglement Dynamics Induced by Non-Linear Interaction between a Moving Nano Molecule and a Two-Mode Field with Two-Photon Transitions Using Reduced von Neumann Entropy and Jaynes-Cummings Model for Human Cancer Cells, Tissues and Tumors Diagnosis. Int J Crit Care Emerg Med. 5: 71-84.
231. Heidari A, Esposito J, Caissutti A. 2019. Palytoxin 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 Pharm Drug Res. 3: 150-170.
232. Heidari A, Esposito J, Caissutti A. 2019. Aplysiatoxin 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 Chem Sci Eng. 2: 70-89.
233. Heidari A, Esposito J, Caissutti A. 2019. Cyanotoxin 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. Br J Med Health Res. 6: 21-60.
234. Heidari A. 2019. Potential and Theranostics Applications of Novel Anti-Cancer Nano Drugs Delivery Systems in Preparing for Clinical Trials of Synchrotron Microbeam Radiation Therapy (SMRT) and Synchrotron Stereotactic Radiotherapy (SSRT) for Treatment of Human Cancer Cells, Tissues and Tumors Using Image Guided Synchrotron Radiotherapy (IGSR). Ann Nanosci Nanotechnol. 3: 1006-1019.
235. Heidari A, Esposito J, Caissutti A. 2019. Study of Anti-Cancer Properties of Thin Layers of Cadmium Oxide (CdO) Nanostructure. Int J Analyt Bioanalyt Methods 1: 3-22.
236. Heidari A, Esposito J, Caissutti A. 2019. Alpha-Conotoxin, Omega-Conotoxin and Mu-Conotoxin 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. International Journal of Advanced Chemistry. 7: 52-66.
237. Heidari A. 2019. Clinical and Medical Pros and Cons of Human Cancer Cells' Enzymotherapy, Immunotherapy, Chemotherapy, Radiotherapy, Hormone Therapy and Targeted Therapy Process under Synchrotron Radiation: A Case Study on Mechanism of Action and Their Side Effects. Parana Journal of Science and Education (PJSE). 5: 1-23.
238. Heidari A. 2019. The Importance of the Power in CMOS Inverter Circuit of Synchrotron and Synchrocyclotron Radiations

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Using 50 (nm) and 100 (nm) Technologies and Reducing the Voltage of Power Supply. Radiother Oncol Int. 1: 1002-1015.

239. Heidari, J. Esposito, A. Caissutti, "The Importance of Quantum Hydrodynamics (QHD) Approach to Single-Walled Carbon Nanotubes (SWCNT) and Multi-Walled Carbon Nanotubes (MWCNT) in Genetic Science", SCIOL Genet Sci. 2 (1): 113-129, 2019.
240. Heidari A, Esposito J, Caissutti A. 2019. Anatoxin-a and Anatoxin-a(s) 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. Saudi J Biomed Res. 4: 174-194.
241. Gobato R, Gobato MRR, Heidari A, 2019. Evidence of Tornado Storm Hit the Counties of Rio Branco do Ivaí and Rosario de Ivaí, Southern Brazil. Sci Lett. 7: 32-40.
242. Jeyaraj M, Mahalingam V, Indhuleka A, et al. 2019. Chemical Analysis of Surface Water Quality of River Noyyal Connected Tank in Tirupur District, Tamil Nadu, India. Water and Energy International. 62: 63-68.
243. Heidari A, Esposito J, Caissutti A. 2019. 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-ol 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. Adv. Phys. Chem. 1: 1-6.
244. Heidari A, Esposito J, Caissutti A. 2019. Shiga Toxin and Shiga-Like Toxin (SLT) 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. Annal Biostat & Biomed Appli. 2: 1-4.
245. Heidari A, Esposito J, Caissutti A. 2019. Alpha-Bungarotoxin, Beta-Bungarotoxin and Kappa-Bungarotoxin 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. Archives of Pharmacology and Pharmaceutical Sciences, ReDelve. 1: 1-24.
246. Heidari A, Esposito J, Caissutti A. 2019. Okadaic 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. Int J Analyt Bioanalyt Methods. 1: 1-19.
247. Heidari A. 2019. Investigation of the Processes of Absorption, Distribution, Metabolism and Elimination (ADME) as Vital and Important Factors for Modulating Drug Action and Toxicity. Open Access J Oncol. 2: 180010-180012.
248. Heidari A, Esposito J, Caissutti A. 2019. Pertussis 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. Chemistry Reports. 1: 1-5.
249. Gobato R, Gobato MRR, Heidari A. 2019. Rhodochrosite as Crystal Oscillator. Am J Biomed Sci & Res. 3: 187.
250. Heidari A, Esposito J, Caissutti A. 2019. Tetrodotoxin (TTX) 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. Journal of New Developments in Chemistry. 3: 26-48.
251. Heidari A, Esposito J, Caissutti A. 2019. The Importance of Analysis of

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Vibronic-Mode Coupling Structure in Vibrational Spectra of Supramolecular Aggregates of (CA*M) Cyanuric Acid (CA) and Melamine (M) beyond the Franck-Condon Approximation", Journal of Clinical and Medical Images. 2: 1-20.

252. Heidari A, Esposito J, Caissutti A. 2019. Microcystin-LR 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. Malaysian Journal of Chemistry. 21: 70-95.
253. Heidari A, Esposito J, Caissutti A. 2019. Botulinum 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. Journal of Mechanical Design and Vibration. 1: 1-15.
254. Heidari A, Esposito J, Caissutti A. 2019. Domoic Acid (DA) 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. 2: 03-07.
255. Heidari A, Esposito J, Caissutti A. 2019. Surugatoxin (SGTX) 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. 2: 14-18.
256. Heidari A, Esposito J, Caissutti A. 2019. Decarbamoylsaxitoxin 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: 19-23.
257. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 24-28.
258. Heidari A, Esposito J, Caissutti A. 2019. Hislrionicotoxin 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: 01-06.
259. Heidari A, Esposito J, Caissutti A. 2019. 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: 07-12.
260. Heidari A, Esposito J, Caissutti A. 2019. 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: 25-32.
261. Heidari A, Esposito J, Caissutti A. 2019. 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: 13-18.
262. Heidari A, Esposito J, Caissutti A. 2019. Bufotoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Theory (DFT) Investigation of Vibronic-Mode Coupling Structure in Vibrational Spectra Analysis. Cientific Drug Delivery Research. 1: 19-24.

263. Heidari A, Esposito J, Caissutti A. 2019. 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.

264. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 19-24.

265. Heidari A, Esposito J, Caissutti A. 2019. 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. 5: 1-28.

266. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 03-10.

267. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 11-16.

268. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 23-28.

269. Heidari A, Esposito J, Caissutti A. 2019. 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.

270. Heidari A, Esposito J, Caissutti A. 2019. 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. 57: 21-32.

271. Heidari A, Esposito J, Caissutti A. 2019. 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: 550-563.

272. Heidari A, Esposito J, Caissutti A. 2019. 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. 7: 18-27.

273. Gobato R, Gobato MRR, Heidari A. 2019. Calculation by UFF Method of Frequencies and Vibrational Temperatures of the Unit Cell of the Rhodochrosite Crystal. International Journal of Advanced Chemistry. 7: 77-81.

274. Heidari A, Esposito J, Caissutti A. 2019. Analysis of Vibronic-Mode Coupling

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

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: 82-96.

275. Heidari A, Esposito J, Caissutti A. 2019. Debromoaplysiatoxin 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: 17-54.
276. Heidari A, Esposito J, Caissutti A. 2019. 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.
277. Gobato R, Gobato MRR, Heidari A, et al. 2019. Rhodochrosite Optical Indicatrix. Peer Res Nest. 1: 1-2.
278. Heidari A, Esposito J, Caissutti A. 2019. 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: 23-51.
279. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-21.
280. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 1-14.
281. Heidari A, Esposito J, Caissutti A. 2019. 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-ol 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. 2: 1-14.
282. Heidari A. 2019. Comparison of Synchrotron Radiation and Synchrocyclotron Radiation Performance in Monitoring of Human Cancer Cells, Tissues and Tumors. Clin Case Studie Rep. 2: 1-12.
283. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 1-14.
284. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 1-14.
285. Heidari A, Esposito J, Caissutti A. 2019. 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. 2: 1-14.
286. Heidari A, Esposito J, Caissutti A. 2019. Saxitoxin Time-Resolved Absorption and Resonance FT-IR and Raman Biospectroscopy and Density Functional Theory Investigation of Vibronic-Mode

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Coupling Structure in Vibrational Spectra Analysis. Am J Exp Clin Res. 6: 364-377.

287. Gobato R, Gobato MRR, A. Heidari A, et al. 2019. Hartree-Fock Methods Analysis Protonated Rhodochrosite Crystal and Potential in the Elimination of Cancer Cells through Synchrotron Radiation", Radiation Science and Technology. 5: 27-36.
288. Gobato R, Dosh IKK, Heidari A. et al. 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: 1-2.
289. Gobato R, Gobato MRR, Heidari A. et al. 2019. Unrestricted Hartree-Fock Computational Simulation in a Protonated Rhodochrosite Crystal. Phys Astron Int J. 3: 220-228.
290. Heidari A, Schmitt K, Henderson M, et al. 2019. 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. 2: 46-73.
291. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 17-44.
292. Heidari A, Schmitt K, Henderson M, et al. 2019. Investigation of Interaction between Synchrotron Radiation and Thulium Nanoparticles for Human Cancer Cells, Tissues and Tumors Treatment", European Journal of Scientific Exploration. 2: 1-8.
293. Heidari A, Schmitt K, Henderson M, et al. 2020. The Effectiveness of the Treatment Human Cancer Cells, Tissues and Tumors Using Darmstadtium Nanoparticles and Synchrotron Radiation. International Journal of Advanced Engineering and Science. 9: 9-39.
294. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 1-6.
295. Heidari A, Schmitt K, Henderson M, et al. 2019. A New Approach to Interaction between Beam Energy and Erbium Nanoparticles. Saudi J Biomed Res. 4: 372-396.
296. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 885-908.
297. Heidari A, Schmitt K, Henderson M, et al. 2019. An Outlook on Optothermal Human Cancer Cells, Tissues and Tumors Treatment Using Lanthanum Nanoparticles under Synchrotron Radiation. Journal of Materials Physics and Chemistry. 7: 29-45.
298. Heidari A, Schmitt K, Henderson M, et al. 2019. Effectiveness of Einsteinium Nanoparticles in Optothermal Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Journal of Analytical Oncology. 8: 43-62.
299. Heidari A, Schmitt K, Henderson M, et al. 2019. Study of Relation between Synchrotron Radiation and Dubnium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment Process. Int. Res. J. Applied Sci. 4: 1-20.
300. Heidari A, Schmitt K, Henderson M, et al. 2019. A Novel Prospect on Interaction of Synchrotron Radiation Emission and Europium Nanoparticles for Human Cancer

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Cells, Tissues and Tumors Treatment. European Modern Studies Journal. 3: 11-24.

301. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 119-135.
302. Heidari A, Schmitt K, Henderson M, et al. 2019. Role and Applications of Promethium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment. Scientific Modelling and Research. 4: 8-14.
303. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-13.
304. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
305. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
306. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
307. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
308. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-13.
309. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
310. Heidari A, Esposito J, Caissutti A. 2019. 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. Cientific Drug Delivery Research. 1: 11-16.
311. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-13.
312. Heidari A, Esposito J, Caissutti A. 2019. 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: 1-14.
313. Heidari A, Esposito J, Caissutti A. 2019. Anthrax Toxin Time-Resolved

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

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: 1-14.

314. Heidari A, Schmitt K, Henderson M, et al. 2019. Investigation of Moscovium Nanoparticles as Anti-Cancer Nano Drugs for Human Cancer Cells, Tissues and Tumors Treatment. Elixir Appl. Chem. 137: 53943-53963.
315. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 34-62.
316. Heidari A, Schmitt K, Henderson M, et al. 2019. Human Cancer Cells, Tissues and Tumors Treatment Using Dysprosium Nanoparticles. Asian J. Mat. Chem. 4: 47-51.
317. Heidari A, Schmitt K, Henderson M, et al. 2019. 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. 2: 1-19.
318. Heidari A, Schmitt K, Henderson M, et al. 2019. Study of Gadolinium Nanoparticles Delivery Effect on Human Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Applied Chemistry, 2: 55-97.
319. Heidari A, Schmitt K, Henderson M, et al. 2020. 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: 1-31.
320. Gobato R, Gobato MRR, Heidari A, et al. 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: 18843-18848.
321. Heidari A, Schmitt K, Henderson M, et al. 2019. Simulation of Interaction between Ytterbium Nanoparticles and Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.
322. Heidari A, Schmitt K, Henderson M, et al. 2019. Modelling of Interaction between Curium Nanoparticles and Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.
323. Heidari A, Schmitt K, Henderson M, et al. 2019. Study of Berkelium Nanoparticles Delivery Effectiveness and Efficiency on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.
324. Heidari A, Schmitt K, Henderson M, et al. 2019. Fermium Nanoparticles Delivery Mechanism in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-17.
325. Heidari A, Schmitt K, Henderson M, et al. 2019. Advantages of Lawrencium Nanoparticles for Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac. 5: 1-18.
326. Heidari A, Schmitt K, Henderson M, et al. 2019. Pros and Cons of the Roentgenium Nanoparticles for Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-17.
327. Heidari A, Schmitt K, Henderson M, et al. 2019. Imagery of Flerovium Nanoparticles Delivery Process in Human Gum Cancer Cells, Tissues and Tumors

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.

328. Heidari A, J. Esposito J, Caissutti A. 2019. 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. 5: 1-16.
329. Heidari A, J. Esposito J, Caissutti A. 2019. 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. 5: 1-16.
330. Heidari A, Schmitt K, Henderson M, et al. 2019. Hafnium Nanoparticles and Their Roles and Applications in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-17.
331. Heidari A, Schmitt K, Henderson M, et al. 2019. Dramaturgy of Technetium Nanoparticles Delivery Process in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation", Dent Oral Maxillofac Res. 5: 1-19.
332. Heidari A, Schmitt K, Henderson M, et al. 2019. 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. 5: 1-18.
333. Heidari A, Schmitt K, Henderson M, et al. 2019. Appearance Check of Rhodium Nanoparticles Delivery Trend in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-19.
334. Heidari A, Schmitt K, Henderson M, et al. 2019. Orientation Rhenium Nanoparticles Delivery Target on Human Gum Cancer Cells, Tissues and Tumors under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.
335. Heidari A, Schmitt K, Henderson M, et al. 2019. Drug Delivery Systems (DDSs) of Osmium Nanoparticles on Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 5: 1-18.
336. Heidari A, Schmitt K, Henderson M, et al. 2019. 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. 5: 1-19.
337. Heidari A, Schmitt K, Henderson M, et al. 2020. 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. 6: 1-17.
338. Heidari A, Schmitt K, Henderson M, et al. 2020. Types of Drug Delivery System Slideshare of Protactinium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6: 1-17.
339. Heidari A, Schmitt K, Henderson M, et al. 2020. New Drug Delivery System in Pharmaceutics of Neptunium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6: 1-18.
340. Heidari A, Schmitt K, Henderson M, et al. 2020. 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. 6: 1-18.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

341. Heidari A, Schmitt K, Henderson M, et al. 2020. 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. 6: 1-19.
342. Heidari A, Schmitt K, Henderson M, et al. 2020. 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.3: 1-13.
343. Heidari A, Schmitt K, Henderson M, et al. 2019. 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: 1-17.
344. Heidari A. 2019. Market Analysis of Glycobiology and Glycochemistry 2020. J Genet Disor Genet Rep. 8: 1.
345. Heidari A, Schmitt K, Henderson M, et al. 2020. Synchrotron Radiation Emission as a Function of the Beam Energy and Thorium Nanoparticles. International Medicine. 2: 67-73.
346. Heidari A, Schmitt K, Henderson M, et al. 2020. 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. 3: 1-15.
347. Heidari A, Schmitt K, Henderson M, et al. 2020. 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. 1: 3-41.
348. Heidari A. 2019. Awards 2020 on Glycobiology. J Mol Biol Methods. 2: 2.
349. Heidari A. 2019. Young Research Forum-Young Scientist Awards at Glycobiology 2020", J Genet Disor Genet Rep. 8: 2.
350. Heidari A. 2019. 2020 Awards on 2nd World Congress on Neurology. J Neurol Neurophysiol. 10: 6.
351. Heidari A. 2019. 2020 Conference Announcement on 2nd World Congress on Neurology. J Neurol Neurophysiol. 10: 6.
352. Heidari A. 2019. Awards for Best Research: Gastroenterology and Digestive Disorders. Med. 10: 2.
353. Heidari A. 2019. Market Analysis: Gastroenterology and Digestive Disorders J. Med. Med. Sci. Vol. 10: 2.
354. Heidari A, Schmitt K, Henderson M, et al. 2020. Study of Human Cancer Cells, Tissues and Tumors Treatment Through Interaction Between Synchrotron Radiation and Cerium Nanoparticles. Sci Lett. 8: 7-17.
355. Heidari A, Schmitt K, Henderson M, et al. 2020. Study of Characteristic Polarization and the Frequencies Generated in Interaction of Synchrotron Radiation Emission and Actinium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment Process. Parana Journal of Science and Education (PJSE)-v. 6: 13-47.
356. Heidari A, Schmitt K, Henderson M, et al. 2020. Californium Nanoparticles and Human Cancer Treatment: Commemorating the 100th (1920-2020) Anniversary of the California South University (CSU). Parana Journal of Science and Education (PJSE)-v. 6: 48-83.
357. Heidari A. 2020 Conference Announcement on Materials Chemistry. J Polym Sci Appl. 3: 1.
358. Heidari A. 2019. Announcement-Materials Chemistry-2020. J Polym Sci Appl. 3: 1.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

359. Heidari A. 2019. Awards 2020 of 19th World Congress on Materials Chemistry. J Polym Sci Appl. 3: 1.
360. Heidari A. 2019. Awards at Materials Chemistry & Science Conference 2020. J Polym Sci Appl. 3: 1.
361. Heidari A. 2019. Market Analysis of 19th World Congress on Materials Chemistry. J Polym Sci Appl. 3: 1.
362. Heidari A. 2019. Past Conference Report on Materials Chemistry. J Polym Sci Appl. 3: 1.
363. Heidari A. 2019. Market Analysis. J Polym Sci Appl. 3: 4.
364. Heidari A. 2019. 17th International Conference Materials Science and Engineering. J Electr Eng Electron Technol. 8: 3.
365. Heidari A. 2019. 16th International Conference on Advance Material & Nanotechnology. J Electr Eng Electron Technol. 8: 4.
366. Heidari A. 2019. Young Research Forum on Laser Advanced Materials Processing. J Electr Eng Electron Technol. 8: 4.
367. Heidari A. 2019. Market Analysis of Materials Science and Engineering. Biomater Med Appl. 3: 1.
368. Heidari A. 2019. Nanotechnology 2020 Conference Announcement: Nanotechnology and Nano Engineering. Biomater Med Appl. 3: 1.
369. Heidari A. 2019. 17th International Conference on Material Science and Engineering. Biomater Med Appl. 3: 2.
370. Heidari A. 2019. Young Scientist Awards of Pharmacovigilance 2020. J Pharm Drug Deliv Res. 8: 1.
371. Heidari A. Awards 2020 on Pharmacovigilence & Drug Safety. J Pharm Drug Deliv Res. 8: 2.
372. Heidari A. 2019. 2020 Conference Announcement of World Congress on Glycobiology & Glycochemistry. J Cell Biol Res Ther. 8: 3.
373. Heidari A, Schmitt K, Henderson M, et al. 2020. A Chemical Review on Cancer Immunology and Immunodeficiency. International Journal of Advanced Chemistry. 8: 27-43.
374. Heidari A, Peterson V. 2020. A Comprehensive Review on Functional Roles of Cancerous Immunoglobulins and Potential Applications in Cancer Immunodiagnostics and Immunotherapy. International Journal of Advanced Chemistry. 8: 44-58.
375. Heidari A, Peterson V. 2020. An Encyclopedic Review on Stereotactic Hypofractionated Radiotherapy, Re-Irradiation, and Cancer Genome Research. International Journal of Advanced Chemistry. 8: 59-74.
376. Heidari A, Peterson V. 2020. A Pervasive Review on Biomarker in Cervical Intraepithelial Lesions and Carcinoma", International Journal of Advanced Chemistry. 8: 75-88, 2020.
377. Heidari A, Schmitt K, Henderson M, et al. 2020. Hereditary Immunity in Cancer. International Journal of Advanced Chemistry. 8: 94-110.
378. Gobato R, Gobato MRR, Heidari A. et al. 2020. Secret Messages in Enigmatic Playful Texts. ABEB. 4: 1-10.
379. Heidari A, Gobato R, Gobato MRR, et al. 2020. Hartree-Fock Methods Analysis Protonated Rhodochrosite Crystal and Potential in the Elimination of Cancer Cells through Synchrotron Radiation Using 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) and Small-Angle Neutron Scattering (SANS). AJAN. 1: 1-8.
380. Heidari A, Gobato R, Dosh IKK, et al. 2020. Single Layer Bioinorganic Membrane Using the Kurumi Molecule. AJAN. 1: 16-20.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

381. Heidari A, Schmitt K, Henderson M, et al. 2020. Study of Pulsed Time Structure of Nobelium Nanoparticles in Human Cancer Cells, Tissues and Tumors Treatment Process Which Covers from Microwaves to Hard X-Rays. Dent Oral Maxillofac Res. 6: 1-17.
382. Heidari A, Schmitt K, Henderson M, et al. 2020. Abraham-Lorentz-Dirac Force Approach to Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Rutherfordium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment. Dent Oral Maxillofac Res. 6: 1-17.
383. Heidari A, Schmitt K, Henderson M, et al. 2020. Liénard-Wiechert Field Study of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Seaborgium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment. Dent Oral Maxillofac Res. 6: 1-17.
384. Heidari A, Schmitt K, Henderson M, et al. 2020. Lorenz Gauge, Electric and Magnetic Fields Study of Interaction of Gravitationally Accelerating Ions through the Super Contorted 'Tubular' Polar Areas of Magnetic Fields and Hassium Nanoparticles. Dent Oral Maxillofac Res. 6: 1-18.
385. Heidari A, Schmitt K, Henderson M, et al. 2020. Scalar Abraham-Lorentz-Dirac-Langevin Equation, Radiation Reaction and Vacuum Fluctuations Simulation of Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Tennessine Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment. Dent Oral Maxillofac Res, Volume 6: 1-17.
386. Heidari A, Schmitt K, Henderson M, et al. 2020. The Dynamics and Quantum Mechanics of an Interaction of Synchrotron Radiation Emission as a Function of the Beam Energy and Meitnerium Nanoparticles Using 3D Finite Element Method (FEM) as an Optothermal Human Cancer Cells, Tissues and Tumors Treatment. Dent Oral Maxillofac Res. 6: 1-17.
387. Heidari A. 2020. Future Advanced Study of Thin Layers of DNA/RNA Hybrid Molecule Nanostructure. J Mol Nanot Nanom. 2: 110-116.
388. Heidari A. 2020. Market Analysis-Artificial Intelligence 2020. J Comput Eng Inf Technol. 8: 4.
389. Heidari A. 2019. Conference Announcement on Artificial Intelligence. J Appl Bioinformat Computat Biol. 8: 2.
390. Heidari A. 2019. Awards on Artificial Intelligence and Cognitive Healthcare. J Appl Bioinformat Computat Biol. 8: 2.
391. Heidari A. 2020. Study of Thin Layers of Cadmium Oxide (CdO) Nanostructure. Nano Prog., 2 (3), 1-10.
392. Heidari A. 2019. Young Researchers Awards: Young Scientist Awards & Best Poster Awards at Environmental Chemistry and Engineering Conference. J Civil Environ Eng. 9: 3.
393. Heidari A. 2019. 2020 Market Analysis of Environmental Chemistry and Engineering Conference August 19-20, 2020 | Paris, France. J Civil Environ Eng. 9: 4.
394. Heidari A. 2019. 2020 Awards for Environmental Chemistry and Engineering Conference August 19-20, 2020 | Paris, France. J Civil Environ Eng. 9: 4.
395. Heidari A. Past Conference Report of Environmental Chemistry and Engineering Conference. J Civil Environ Eng. 9: 4.
396. Heidari A. 2019. Awards Announcement on World Congress on Glycobiology & Glycochemistry. J Appl Microbiol Biochem. 3.
397. Heidari A. 2019. Market Analysis of Glycobiology and Glycochemistry 2020. J Appl Microbiol Biochem. 3: 3.
398. Heidari A. 2019. Young Research Forum-Young Scientist Awards: Geriatric-Health-2020. J Aging Geriatr Med. 3: 3.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

399. Heidari A. 2019. Young Scientist Awards at Tissue Engineering 2020 for the Best Researches in Tissue Engineering & Regenerative Medicine. J Aging Geriatr Med. 3: 3.
400. Heidari A. 2020. Effect of Solvent on Non-Linear Synchrotron Absorption of Multi-Walled Carbon Nanotubes (MWCNTs) with DNA/RNA Function. Sci. Int. (Lahore). 32: 291-315.
401. Heidari A, Schmitt K, Henderson M, et al. 2020. Study of Copernicium Nanoparticles Delivery Process in Human Cancer Cells, Tissues and Tumors Under Gravitationally Accelerating Ions Through the Super Contorted 'Tubular' Polar Areas of Magnetic Fields. Adv. Sci. Eng. Med. 12: 571-575.
402. Heidari A, Schmitt K, Henderson M, et al. 2020. Specific and Selective Targeting Human Cancer Cells, Tissues and Tumors with Seaborgium Nanoparticles as Carriers and Nano-Enhanced Drug Delivery and Therapeutic in Cancer Treatment and Beyond under Synchrotron Radiation. Parana Journal of Science and Education. 6: 8-50.
403. Heidari A. 2020. Enhancement of Visible Synchrotron Absorption in Cadmium Oxide (CdO) Nanoparticles Thin Layer Using Plasmonic Nanostructures: A Two-Dimensional (2D) Simulation. Sci. Int. (Lahore). 32: 329-354.
404. Heidari A, Schmitt K, Henderson M, et al. 2020. Nanomedicines Based Americium Nanoparticles Drug Delivery Systems for Anti-Cancer Targeting and Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6: 1-18.
405. Heidari A, Schmitt K, Henderson M, et al. 2020. Study of Exclusively Focused on Translational Aspects of Praseodymium Nanoparticles Drug Delivery under Super Contorted Tubular Polar Areas of Magnetic Fields as Optothermal Human Gum Cancer Cells, Tissues and Tumors Treatment Technique under Synchrotron Radiation. Dent Oral Maxillofac Res. 6: 1-17.
406. Heidari A, Schmitt K, Henderson M, et al. 2020. Research Activities on Novel Drug Delivery Systems of Astatine Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6:1-17.
407. Heidari A, Schmitt K, Henderson M, et al. 2020. Unprecedented Progresses of Biomedical Nanotechnology during Conventional Smart Drug Delivery Systems (SDDSs) of Francium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6: 1-20.
408. Heidari A, Schmitt K, Henderson M, et al. 2020. Non-Invasive Image-Guided Targeted Drug Delivery of Radium Nanoparticles in Human Gum Cancer Cells, Tissues and Tumors Treatment under Synchrotron Radiation. Dent Oral Maxillofac Res. 6:1-20.
409. Heidari A. 2018. 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), Δ9-Tetrahydrocannabinol (THC) [(-)-trans-Δ^9-Tetrahydrocannabinol], Theobromine (Xantheose), 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. Ely J Mat Sci Tech. 1: 1-2.
410. Heidari A. 2020. Investigation of Prevention, Protection and Treatment of Lopinavir Effectiveness on Coronavirus Disease-2019 (COVID-19) Infection Using Fourier Transform Raman (FT-Raman) Biospectroscopy. AJAN. 1: 36-60.
411. Heidari A. 2020. Stimulated FT-IR Biospectroscopic Study of Lopinavir Protective and Therapeutic Effect as a Potent

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Drug on Coronavirus Disease-2019 (COVID-19) Infection. AJAN. 1: 61-85.

412. Heidari A, Gobato R. 2020. The Comparison of Active Cooperative and Traditional Teaching Methods in Nanoch emistry Students' Satisfaction and Learning of Clinical Nanochemistry. AJAN. 1: 86-112.
413. Heidari A, Gobato R. 2020. Study of Nanochemistry Students' Satisfaction and Learning with Blended Education: An Action Research Study. AJAN. 1: 113-138.
414. Heidari A. 2020. Study of Stimulated Raman Biospectroscopy in Lopinavir as a Potent Drug against Coronavirus Disease-2019 (COVID-19) Infection. AJAN. 1: 139-163.
415. Heidari A. In Situ Monitoring of Ritonavir Protective and Therapeutic Influence as a Potent Drug on Coronavirus Disease-2019 (COVID-19) Infection by Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR Fingerprint) Biospectroscopy. Saudi J Biomed Res. 5: 128-151.
416. Heidari A. 2020. A Stimulated FT-IR Biospectroscopic Study of Ritonavir Protective and Therapeutic Effect as a Potent Drug on Coronavirus Disease-2019 (COVID-19) Infection. Saudi J Biomed Res. 5: 152-174.
417. Heidari A. 2020. Application of Single-Walled Carbon Nanotubes (SWCNT) in the Production of Glucose Biosensors and Improving Their Performance Using Gold Colloidal Nanoparticles and Usage of Polyaniline Nanostructure-Based Biosensors for Detecting Glucose and Cholesterol. Malaysian Journal of Chemistry, Vol. 22: 121-162.
418. Heidari A. 2020. In Situ Monitoring of Lopinavir Protective and Therapeutic Influence as a Potent Drug on Coronavirus Disease-2019 (COVID-19) Infection by Attenuated Total Reflectance-Fourier Transform Infrared (ATR-FTIR Fingerprint) Biospectroscopy. Parana Journal of Science and Education (PJSE). 6: 29-60.
419. Heidari A, Schmitt K, Henderson M, et al. 2020. Modelling and Simulation of Interaction of Magnetobremsstrahlung Radiation and Nihonium Nanoparticles Using Bending Magnets, Undulators and/or Wigglers in Storage Rings for Human Cancer Cells, Tissues and Tumors Treatment. Sci. Int. (Lahore). 32: 361-385.
420. Heidari A. 2020. Oncological Study of Thin Layers of Imatinib Molecule Nanostructure for Chronic Myelogenous Leukemia (CML), Acute Lymphocytic Leukemia (ALL), Philadelphia Chromosome-Positive (Ph+), Gastrointestinal Stromal Tumors (GIST), Hypereosinophilic Syndrome (HES), Chronic Eosinophilic Leukemia (CEL), Systemic Mastocytosis and Myelodysplastic Syndrome Treatment. Adv. Sci. Eng. Med. 12: 753-760.
421. Heidari A. 2019. Infrastructure of Synchrotronic Biosensor Based on Semiconductor Device Fabrication for Tracking, Monitoring, Imaging, Measuring, Di¬agnosing and Detecting Cancer Cells. Semiconductor Science and Information Devices. 2: 29-57.
422. Heidari A. 2020. In Situ Characterization of Lopinavir by ATR-FTIR Biospectroscopy. Comp utational Chemistry. 8: 27-42.
423. Heidari A. 2020. Study of Stimulated Raman Biospectroscopy in Ritonavir as a Potent Drug against Coronavirus Disease-2019 (COVID-19) Infection. Saudi J Biomed Res. 5: 188-211.
424. Heidari A. 2020. Investigation of Prevention, Protection and Treatment of Ritonavir Effectiveness on Coronavirus Disease-2019 (COVID-19) Infection Using Fourier Transform Raman (FT-Raman) Biospectroscopy. Saudi J Biomed Res. 5: 212-235.
425. Gobato R, Heidari A. 2020. Cyclone Bomb Hits Southern Brazil in Mid-Winter 2020. Journal of Atmospheric Science Research. 3: 8-12.
426. Heidari A. 2020. A Biospectroscopic and Bioimaging Analysis of Imatinib

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Nanoparticles Aggregation Linked to DNA/RNA by Bcr-Abl Tyrosine-Kinase Inhibitors (TKI) with Various Chain Length. Sci. Int. (Lahore). 32: 459-482.

427. Heidari A. 2019. Future Perspectives and Shaping Trends in Gastroenterology and Digestive Disorders. J Health Med Res. 1: 47-48.
428. Heidari A. 2020. Latest Research Works and Innovations in the Field of Oncology. J Carcinog Mutagen. 11: 126.
429. Heidari A. 2020. Investigating the Effect of Synchrotron Removal from Raman Spectra for Quantitative Analysis of Cancer Tissues. Current Research in Cytology and Histology. 1: 29-35.
430. Gobato R, Gobato MRR, Heidari A. 2020. Potential in the Elimination of Cancer Cells through Synchrotron Radiation: A Hartree-Fock Methods Analysis Protonated Rhodochrosite Crystal. Dent Oral Maxillofac Res. 6: 1-8.
431. Heidari A, Gobato R. 2020. Infrared Spectrum, Apt Charges and Mulliken of Hartreefock Methods Protonated Rhodochrosite Crystal. Dent Oral Maxillofac Res. 6: 1-8.
432. 432, Gobato R, Dosh IKK, Heidari A, et al. 2020. A Novel and Exquisite Approach to Single Layer Bioinorganic Membranes. Dent Oral Maxillofac Res. 6: 1-4.
433. Heidari A. 2020. Manufacture of Synchrotronic Biosensor Using Os-Pd/HfC Nanocomposite for Tracking, Monitoring, Imaging, Measuring, Diagnosing and Detecting Cancer Cells. Journal of Clinical and Translational Oncology. 1: 20-26.
434. Heidari A. 2020. Role and Applications of Synchrotron Removal from Raman Spectra for Quantitative Analysis of Cancer Tissues. Aswan University Journal of Environmental Studies (AUJES). 1: 57-96.
435. Heidari A. 2020. Investigation of Role and Applications of Polymeric Stimuli-Responsive Nanocomposite Materials as Biomolecules for Cancer Targeted in Anti-Cancer Nano Drugs Delivery Agents and Systems. Parana Journal of Science and Education (PJSE). 6: 39-74.
436. Gobato R, Heidari, A, Mitra A, et al. 2020. Vortex Cotes's Spiral in an Extratropical Cyclone in the Southern Coast of Brazil", Archives in Biomedical Engineering & Biotechnology. 4: 1-4.
437. Gobato R, Heidari A. 2020. Vortex Hits Southern Brazil in 2020. J Cur Tre Phy Res. 2: 109-112.
438. Heidari A. 2020. Synthesis of Fructose Biosensors and Progressing Their Efficiency Using Californium Colloidal Nanoparticles for Detecting Fructose and Triglycerides. Adv. Sci. Eng. Med. 12: 1002-1017.
439. Gobato R, Heidari A, Mitra A, et al. 2019. Cotes's Spiral Vortex in Extratropical Cyclone Bomb South Atlantic Oceans. Aswan University Journal of Environmental Studies (AUJES). 1: 147-156.
440. Heidari A. 2019. Young Researcher Forum for 2nd World Congress on Neurology. J Neurol Neurophysiol. 10: 4.
441. Heidari A. 2020. World Congress on Health and Medical Science", Journal of Emerging Diseases and Preventive Medicine. 3: 1.
442. Heidari A. 2019. Scientific Challenges and Recent Advancements of Dermatology and Cosmetology", J Clin Exp Pathol. 3: 9.
443. Gobato R, Heidari, Mitra A. 2021. Bioinorganic Membrane Using Kurumi, A New Liquid Crystal", Sumerianz Journal of Biotechnology. 4: 4-7.
444. Heidari A. 2021. A Stimulated FT-IR Biospectroscopic Study of Lopinavir Protective and Therapeutic Effect as a Potent Drug on Coronavirus Disease-2019 (COVID-19) Infection. Parana Journal of Science and Education (PJSE)-v. 7: 1-33.
445. Heidari A. 2021. Simulation of the Variations of Surface Synchrotron Resonance Spectrum of Arranged Cadmium Oxide (CdO) Nanoparticles over Cancer Tissues Matrix

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

with Size and Distance. Parana Journal of Science and Education (PJSE)-v. 7: 34-67.

446. Heidari A, Gobato R. 2020. Spherical Paramagnetic Contribution to Shielding Tensor Analysis of Nuclear Magnetic Resonance Signals in Gum Cancer Cells, Tissues and Tumors. Dent Oral Maxillofac Res. 6: 1-2.
447. Heidari A, Gobato R. 2020. Exact NMR Simulation of Anti-Cancer Nano Drug-DNA/RNA Complexes in Gum Cancer Cells Spin Systems Using Tensor Train Formalism. Dent Oral Maxillofac Res, Volume. 6: 1-2.
448. Heidari A, Gobato R. The Anti-Cancer Nano Drug Delivery 13C-Edited/13C-Filtered Transferred Dynamic 15N{1H} NOE Measurements for Studying DNA/RNA Interactions with Short Non-Linear Motifs: A Modern Tool for Studying DNA/RNA Dynamics in Gum Cancer Cells. Dent Oral Maxillofac Res. 6: 1-2.
449. Heidari A, Gobato R. 2020. DNA/RNA of Gum Cancer Cells-Anti-Cancer Nano Drugs Ligands Structure Determination with the Two-Dimensional NMR Molecular Line Shape Analysis of Single, Multiple, Zero and Double Quantum Correlation Experiments. Dent Oral Maxillofac Res. 6: 1-3.
450. Heidari A, Gobato R. 2020. Investigation of the Internal Structure and Dynamics of Gum Cancer Cells, Tissues and Tumors by 13C-NMR Spectra of DNA/RNA of Gum Cancer Cells as an Essential Structural Tool for Integrative Studies of Gum Cancer Cells Development. Dent Oral Maxillofac Res. 6: 1-3.
451. Heidari A, Gobato R. 2020. NMR and Molecular Dynamics Studies Combined to Anti-Cancer Nano Drugs and DNA/RNA Interactions in Gum Cancer Cells and Their Modulations with Resistance Mutations. SDent Oral Maxillofac Res. 6: 1-2.
452. Heidari A, Gobato R. 2020. Advanced Isotopic Labeling for the NMR Investigation of Challenging DNA/RNA of Gum Cancer Cells and Anti-Cancer Nano Drugs for Production of Isotope-Labeled DNA/RNA in Gum Cancer Cells for NMR Spectroscopy. Dent Oral Maxillofac Res. 6: 1-3.
453. Heidari A, Gobato R. 2020. Simultaneous Detection of Intra- and Inter-Molecular Paramagnetic Relaxation Enhancements in DNA/RNA of Gum Cancer Cells-Anti-Cancer Nano Drugs Complexes. Dent Oral Maxillofac Res. 6: 1-2.
454. Heidari A, Gobato R. 2020. Impact of DNA/RNA Self-Alignment in a Strong Magnetic Field on the Interpretation of Indirect Spin-Spin Interactions Using NMR Line Shape Analysis of a Multi-State DNA/RNA Ligand Binding Mechanism in Gum Cancer Cells. Dent Oral Maxillofac Res. 6: 1-2.
455. Heidari A, Gobato R. 2020. Application of Anti-Cancer Nano Drugs Particles (ACNDP) to NMR Characterization of Viral Gum Cancer Cell Membrane DNA/RNA Interactions for Extracting DNA/RNA Dynamics Information from Overlapped NMR Signals Using Relaxation Dispersion Difference NMR Spectroscopy. Dent Oral Maxillofac Res. 6: 1-2.
456. Heidari A, Gobato R. 2020. Diagnosis of Gum Cancer Cells from DNA/RNA Us ing Database Mining and Support Vector Regression through High Resolution 4D HPCH Experiment for Sequential Assignment of 13C-Labeled DNAs/RNAs in Gum Cancer Cells. Dent Oral Maxillofac Res. 6: 1-2.
457. Heidari A, Gobato R. 2020. New Opportunities for Tensor-Free Calculations of Residual Dipolar Couplings for the Study of Dynamic Nuclear Polarization of Nucleic Acids with Endogenously Bound Manganese in Gum Cancer Cells. Dent Oral Maxillofac Res. 6: 1-2.
458. Heidari A. 2021. Pros and Cons Controversy on Synchrotronic Biosensor Using Os-Pd/HfC Nanocomposite for Tracking, Monitoring, Imaging, Measuring, Diagnosing and Detecting Cancer Cells,

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Tissues and Tumors. Indones. J. Cancer Chemoprevent. 12: 1-10.

459. Gobato R, Heidari, Valverde LF. 2021. ACTG Based on Silicon Getting News Structures Asi, Csi, Tsi and Gsi. Arch Biomed Eng & Biotechnol. 5: 1-2.

460. Heidari A, Gobato R. 2021. A Biospectroscopic Assignment Technique for Gum Cancer Cell Membrane DNA/RNA Reconstituted in Magnetically Aligned Gum Cancer Cells for Solid-State NMR Analysis of Gum Cancer Cell Membrane DNA/RNA and Nucleic Acids Aggregates by Proton Detected Spectroscopy. Glob Imaging Insights. 6: 1-2.

461. Heidari A, Gobato R. 2021. Integrated Analysis of the Conformation of a DNA/RNA-Linked Spin Label by Combining NMR Ensembles and Molecular Dynamics Simulations Provides More Realistic Models of DNA/RNA Structures in Gum Cancer Cells Using Optimization of NMR Spectroscopy of Encapsulated DNA/RNA Dissolved in Gum Cancer Cells. Glob Imaging Insights. 6: 1-3.

462. Heidari A, Gobato R, Valverde LF. 2021. Modelling and Simulation of 13C, 15N, 17O NMR Chemical Shifts, 17O and 14N Electric Field Gradients and Measurement of 13C and 15N Chemical Shifts in DNA/RNA of Human Gum Cancer Cells, Tissues and Tumors Using NMR Biospectroscopic Profiling for Novel Systems Diagnostics. SGlob Imaging Insights. 6: 1-2.

463. Heidari A, Gobato R, Valverde LF. 2021. Theoretical 13C Chemical Shift, 14N, and 2H Quadrupole Coupling -Constant Studies of Hydrogen Bonding for Measurement and Calculation of 13C and 15N NMR Chemical-Shift Tensors in DNA/RNA of Gum Cancer Cells Identification: A Powerful Alternative. Glob Imaging Insights. 6: 1-2.

464. Heidari A, Gobato R, Valverde LF. 2021. Conformational Study of a Strained DNA/RNA by Dynamic 1H NMR Biospectroscopy and Computational Methods for Molecular Modelling, Simulation and Biopectroscopic Studies of DNA/RNA of Gum Cancer Cells. Dent Oral Maxillofac Res. 7: 1-2.

465. Heidari A, Gobato R, Valverde LF. 2020. Current Advances in the Application of Dynamic NMR Studies of DNA/RNA Intra- and Inter Molecular Effect on Ring Inversion Rate Constants for Molecular Diagnosis of Gum Cancer. Dent Oral Maxillofac Res. 7: 1-2.

466. Heidari A, Gobato R, Valverd LF. 2021. NMR-Based Metabolomics Approach to Target Biomarkers Such as DNA/RNA for New Frontiers of Diagnostic Strategies for Prevention, Prognosis, Diagnosis and Treatment of Gum Caner Tumor Metabolism. Dent Oral Maxillofac Res. 7: 1-2.

467. Heidari A, Gobato R, Valverde LF. 2021. Spherical Tensor Analysis of Nuclear Magnetic Resonance Signals for Understanding Chemical Shielding Tensors of DNA/RNA in Gum Cancer Cells Using Group Theory, MO Analysis, and Modern Density-Functional Theory. Dent Oral Maxillofacial Res. 7: 1-2.

Authors' Brief Biographies

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Prof. Dr. Alireza Heidari, Ph.D., D.Sc. is a Full Distinguished Professor and Academic Tenure of Chemistry and also Enrico Fermi Distinguished Chair in Molecular Spectroscopy at California South University (CSU), Irvine, California, USA. He has got his Ph.D. and D.Sc. degrees from California South University (CSU), Irvine, California, USA. Furthermore, he has double postdocs in Project Management, Oncology, Human Cancer Tissues and Synchrotron Radiation from Monash University, Melbourne, Victoria, Australia and also in Nanochemistry and Modern Molecular Electronic-Structure Computations Theory from California South University (CSU), Irvine, California, USA. His research interests include Biophysical Chemistry, Biomolecular Spectroscopy, Quantum Chemistry, Nanochemistry, Modern Electronic Structure Computations, Theoretical Chemistry, Mathematical Chemistry, Computational Chemistry, Vibrational Spectroscopy, Molecular Modelling, Ab initio & Density Functional Methods, Molecular Structure, Biochemistry, Molecular Simulation, Pharmaceutical Chemistry, Medicinal Chemistry, Oncology, Synchrotron Radiation, Synchrocyclotron Radiation, LASER, Anti-Cancer Nano Drugs, Nano Drugs Delivery, ATR-FTIR Spectroscopy, Raman Spectroscopy, Intelligent Molecules, Molecular Dynamics, Biosensors, Biomarkers, Molecular Diagnostics, Numerical Chemistry, Nucleic Acids, DNA/RNA Monitoring, DNA/RNA Hypermethylation & Hypomethylation, Human Cancer Tissues, Human Cancer Cells, Tumors, Cancer Tissues, Cancer Cells, etc. He has participated at more than five hundred reputed international conferences, seminars, congresses, symposiums and forums around the world as yet. Also, he possesses many published articles in Science Citation Index (SCI)/International Scientific Indexing (ISI), Medline/PubMed and Scopus Journals. It should be noted that he has visited many universities or scientific and academic research institutes in different countries such as United States, United Kingdom, Canada, Australia, New Zealand, Scotland, Ireland, Netherlands, Belgium, Denmark, Luxembourg, Romania, Greece, Russia, Estonia, Ukraine, Turkey, France, Swiss, Germany, Sweden, Norway, Italy, Austria, Czech Republic, Hungary, Poland, South Africa, Egypt, Brazil, Spain, Portugal, Mexico, Japan, Singapore, Malaysia, Indonesia, Thailand, Taiwan, Hong Kong, Philippines, South Korea, China, India, Kingdom of Saudi Arabia, Jordan, Qatar, United Arab Emirates, etc. as research fellow, sabbatical and volunteer researcher or visitor and so on heretofore. He has a history of several years of teaching for college students and various disciplines and trends in different universities. Moreover, he has been a senior advisor in various industry and factories. He is expert in many computer programs and programming languages. Hitherto, he has authored more than twenty books and book chapters in different fields of Chemistry. Syne, he has been awarded more than one thousand reputed international awards, prizes, scholarships and

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

honors. Heretofore, he has multiple editorial duties in many reputed international and peer-reviewed journals, books and publishers. Hitherward, he is a member of more than five hundred reputed international academic-scientific-research institutes around the world. It should be noted that he is currently the President of the American International Standards Institute (AISI), Irvine, California, USA and also Head of Cancer Research Institute (CRI) and Director of the BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Margaret Hotz, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Nancy MacDonald, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Victoria Peterson, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Dr. Angela Caissutti, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Elizabeth Besana, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Jennifer Esposito, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Dr. Katrina Schmitt, Ph.D. is the current Junior Postdoctoral Research Fellows under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

DOI: https://doi.org/10.36811/ijho.2021.110013 **IJHO: August-2021: Page No: 150-194**

Ling-Yu Chan is a Ph.D. Candidate under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Maria Henderson is a Ph.D. Candidate under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Francesca Sherwood is a Ph.D. Candidate under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.

Jimmy Kimmel is a Ph.D. Candidate under the Supervision of Professor Alireza Heidari at Cancer Research Institute (CRI) and BioSpectroscopy Core Research Laboratory at California South University (CSU), Irvine, California, USA.