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

Alireza Heidari*
Faculty of Chemistry, California South University, USA
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*Corresponding author: Alireza Heidari, Faculty of Chemistry, California South University, USA

Abbreviations: COSY: Correlation Spectroscopy; ECOSY: Exclusive Correlation Spectroscopy; TOCSY: Total Correlation Spectroscopy; INADEQUATE: Incredible Natural-Abundance Double-Quantum Transfer Experiment; HSQC: Heteronuclear Single-Quantum Correlation Spectroscopy; HMBC: Heteronuclear Multiple-Bond Correlation Spectroscopy; NOESY: Nuclear Overhauser Effect Spectroscopy; ROESY: Rotating Frame Nuclear Overhauser Effect Spectroscopy

In the current study, we have experimentally and comparatively investigated and compared malignant human cancer cells and tissues such as 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 before and after irradiating of synchrotron radiation for proton beam therapy using 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). It is clear that malignant human cancer cells and tissues have gradually transformed to benign...
human cancer cells and tissues under synchrotron radiation with the passage of time (Figures 1-4) [1-50]. It should be noted that malignant human cancer cells and tissues were exposed under white synchrotron radiation for 30 days. Furthermore, there is a shift of the spectrum in all of spectra after irradiating of synchrotron radiation that it is because of the malignant human cancer cells and tissues shrunk post white synchrotron irradiation with the passage of time. In addition, all of the figures are related to the same human cancer cells and tissues. Moreover, in all of the figures y-axis shows intensity and also x-axis shows energy (keV) [51-100].

**Figure 2:** Exclusive Correlation Spectroscopy (ECOSY) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

**Figure 3:** Total Correlation Spectroscopy (TOCSY) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

**Figure 4:** Incredible Natural-Abundance Double-Quantum Transfer Experiment (INADEQUATE) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

It can be concluded that malignant human cancer cells and tissues have gradually transformed to benign human cancer cells and tissues under synchrotron radiation with the passage of time (Figures 5-8). It should be noted that malignant human cancer cells and tissues were exposed under white synchrotron radiation for 30 days. Furthermore, there is a shift of the spectrum in all of spectra after irradiating of synchrotron radiation that it is because of the malignant human cancer cells and tissues shrunk post white synchrotron irradiation with the passage of time. In addition, all of the figures are related to the same human cancer cells and tissues. Moreover, in all of the figures y-axis shows intensity and also x-axis shows energy (keV) [101-135].
Figure 5: Heteronuclear Single-Quantum Correlation Spectroscopy (HSQC) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

Figure 6: Heteronuclear Multiple-Bond Correlation Spectroscopy (HMBC) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

Figure 7: Nuclear Overhauser Effect Spectroscopy (NOESY) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.

Figure 8: Rotating Frame Nuclear Overhauser Effect Spectroscopy (ROESY) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time.
References


17. Alireza Heidari (2016) Measurement the Amount of Vitamin D2 (Ergocalciferol), Vitamin D3 (Cholecalciferol) and Absorbable Calcium (Ca²⁺), Iron (II) (Fe²⁺), Magnesium (Mg²⁺), Phosphate (PO₄³⁻) and Zinc (Zn²⁺) in Apricot Using High-Performance Liquid Chromatography (HPLC) and Spectroscopic Techniques. J Biom Biostat 7: 292.

18. Alireza Heidari (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: e112.


42. Alireza Heidari (2016) Linear and Non-Linear Quantitative Structure Anti-Cancer-Activity Relationship (QSAR) Study of Hydrosulphur (H2S) Oxide (RuO2) Nanoparticles as Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) and Anti-Cancer Nano Drugs. J Integr Oncol 5: e110.


69. Alireza Heidari (2017) Polymorphism in Nano-Sized Graphene Ligand-Induced Transformation of Au_{xAg}/xCu(SPh-tBu)_{x} to Au_{xAg}/xCu(SPh-tBu)_{x}(x=1-12) Nanomolecules for Synthesis of Au_{xAg}/xCu (SR)_{x} (SC)_{x} (SPh)_{x} (PET)_{x}(p-MBA) (F)_{x}(Cl)_{x} (BO)_{x}(I)_{x}(At)_{x}(Ud)_{x} and (SC H)_{x} Nano Clusters as Anti-Cancer Nano Drugs. J Nanomater Mol Nanotechnol 6: 3.


74. Alireza Heidari (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 Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Au_{xAg}(SR)_{x} Nano Clusters. J Surgery Emerg Med 1: 21.


113. Alireza Heidari (2017) Vibrational Decibert (dHz), Centibert (cHz), Millibert (mHz), Microbert (μHz), Nanobert (nHz), Picoertz (pHz), Femtoertz (fHz), Attoertz (aHz), Zeptoertz (zHz) and Yoctoertz (yHz) Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. International Journal of Biomedicine 7(4): 335-340.


118. Alireza Heidari (2017) Vibrational Decibert (dHz), Centibert (cHz), Millibert (mHz), Microbert (μHz), Nanobert (nHz), Picoertz (pHz), Femtoertz (fHz), Attoertz (aHz), Zeptoertz (zHz) and Yoctoertz (yHz) Imaging and Spectroscopy Comparative Study on Malignant and Benign Human Cancer Cells and Tissues under Synchrotron Radiation. Madridge J Anal Sci Instrum 2(1): 41-46.


121. Alireza Heidari (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(1): 1011.


