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## Image Article

# 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 -

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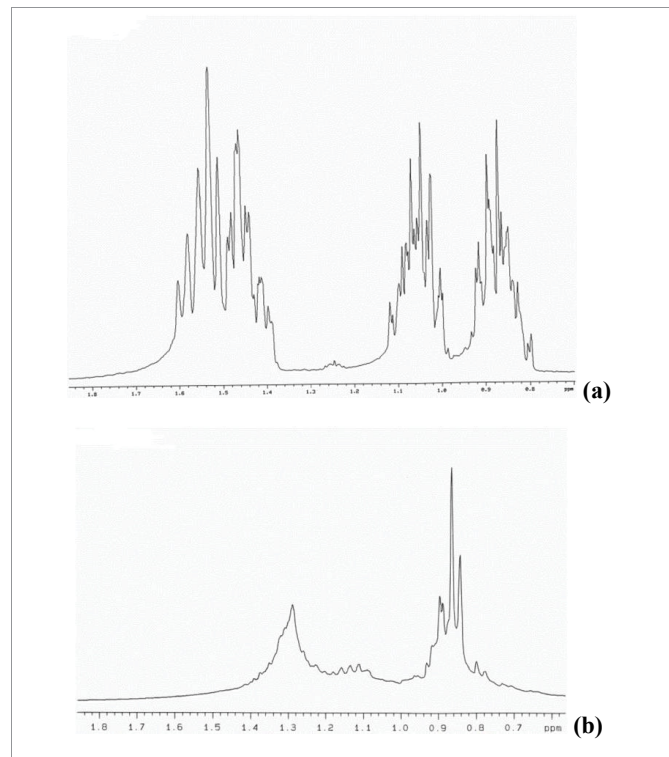
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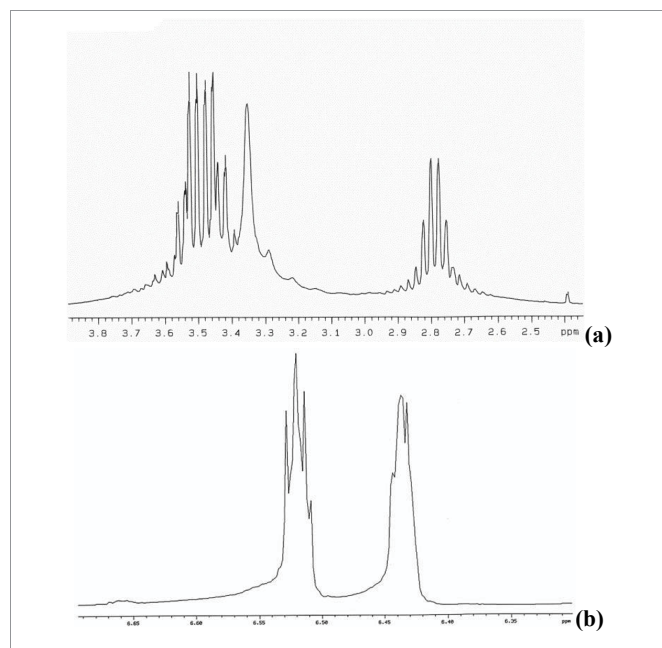
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## IMAGE ARTICLE

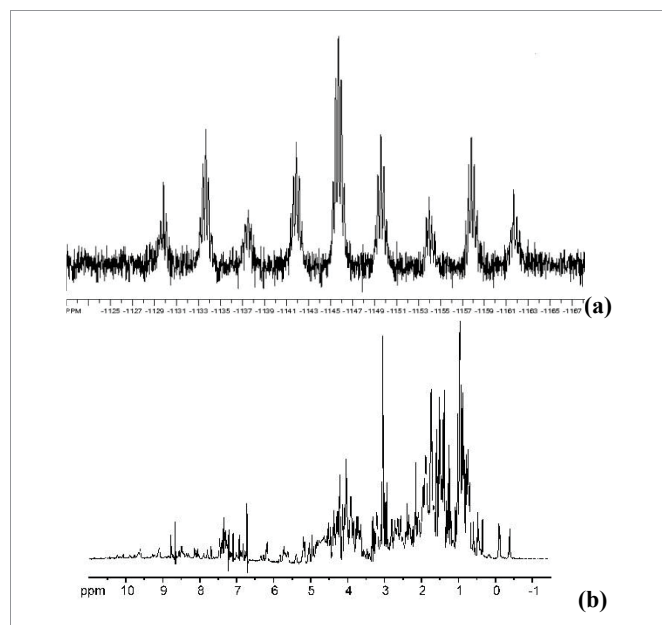
Biospectroscopic methods and techniques were carried out to study the effect of synchrotron radiation with different electronic properties on malignant and benign human cancer cells and tissues with the passage of time in the three primary steps include oxidative addition, transmetalation and reductive elimination of malignant human cancer cells and tissues cross- coupling reactions. The spectra show that the strong  $\pi$ -accepting L-type ligands are capable decreasing barriers for each step, facilitating the coupling process. The reasons for why the strong  $\pi$ -accepting L-type ligands are able to accelerate the synchrotron radiation processes with the passage of time will be the subject of this study. In the other words, in the current work, we have experimentally and comparatively studied and compared malignant human cancer cells and tissues before and after irradiating of synchrotron radiation using Correlation Spectroscopy (COSY), Exclusive Correlation Spectroscopy (ECOSY) and Total Correlation Spectroscopy (TOCSY). It is clear that malignant human cancer cells and tissues have frequently transformed to benign human cancer cells and tissues with the passage of time under synchrotron radiation (Figures 1-3) [1-139]. It should be noted that in all of the figures y-axis shows intensity and also x-axis shows energy (keV). In addition, in the current work, we have comparatively and experimentally studied AIDS-Related Cancers include Kaposi Sarcoma (Soft Tissue Sarcoma), AIDS-Related Lymphoma (Lymphoma) and Primary CNS Lymphoma (Lymphoma) human cancer cells and tissues. Furthermore, all of human cancer cells and tissues have been studied before and after irradiating of synchrotron radiation in 30 days as synchrotron radiation period time.



**Figure 1:** Correlation Spectroscopy (COSY) 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 [1-139]. It should be noted that y-axis shows intensity and also x-axis shows energy (keV).



**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 [1-139]. It should be noted that y-axis shows intensity and also x-axis shows energy (keV).



**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 [1-139]. It should be noted that y-axis shows intensity and also x-axis shows energy (keV).

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