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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

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Abstract

In the current study, we have experimentally and comparatively investigated and compared malignant human cancer cells and tissues before and after irradiating of synchrotron radiation using Ultraviolet Photoelectron Spectroscopy (UPS) and Ultraviolet–Visible (UV–Vis) Spectroscopy.

Keywords: Ultraviolet Photoelectron Spectroscopy (UPS), Ultraviolet–Visible (UV–Vis) Spectroscopy, Malignant Human Cancer Cells and Tissues, Benign Human Cancer Cells and Tissues, Synchrotron Radiation.

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1. Introduction

In the current study, we have experimentally and comparatively investigated and compared malignant human cancer cells and tissues before and after irradiating of synchrotron radiation using Ultraviolet Photoelectron Spectroscopy (UPS) and Ultraviolet–Visible (UV–Vis) Spectroscopy. 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) and (2). [1–201]

2. Research Method and Experimental Techniques

In this work, we have used some novel biospectorscopic techniques such as Ultraviolet Photoelectron Spectroscopy (UPS) and Ultraviolet–Visible (UV–Vis) Spectroscopy for investigation of human malignant and benign cells and tissues with the passage of time under synchrotron radiation.

3. Image Results

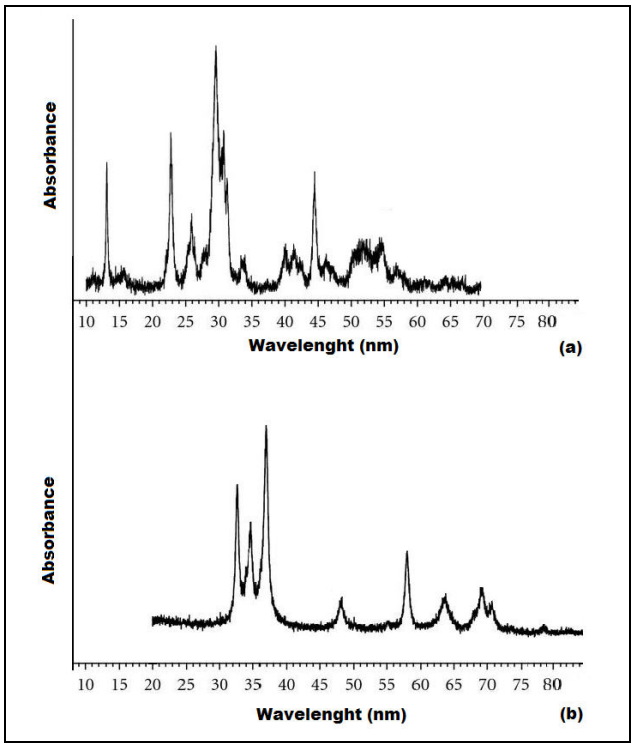

Figure 1: Ultraviolet Photoelectron Spectroscopy (UPS) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time. It should be noted that Y–axis and X–axis show Absorbance and Wavelength (nm), respectively. [1–201]

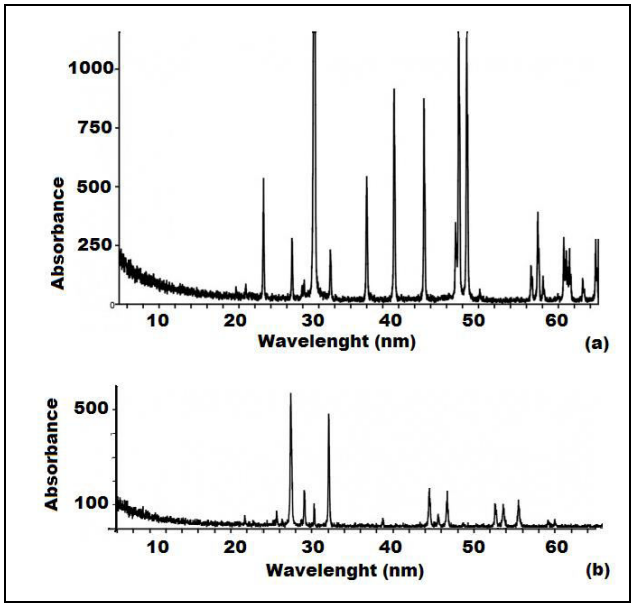

Figure 2: Ultraviolet–Visible (UV–Vis) Spectroscopy analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passage of time. It should be noted that Y–axis and X–axis show Absorbance and Wavelength (nm), respectively. [1–201]

4. Conclusion

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 (1) and (2).

Furthermore, it should be noted that synchrotron and synchrocyclotron radiations possess major impact and important significant on human cancer cells, tissues and tumors' diagnosis and treatment processes, principally and fundamentally.

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