

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

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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 Nuclear Resonance Vibrational Spectroscopy (NRVS), Nuclear Inelastic Scattering Spectroscopy (NISS), Nuclear Inelastic Absorption Spectroscopy (NIAS) and Nuclear Resonant Inelastic X-Ray Scattering Spectroscopy (NRIXSS). 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 passing of time (Figures 1-4) [1-119].

Figure 1. Nuclear Resonance Vibrational Spectroscopy (NRVS) 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 passing of time [1-119].

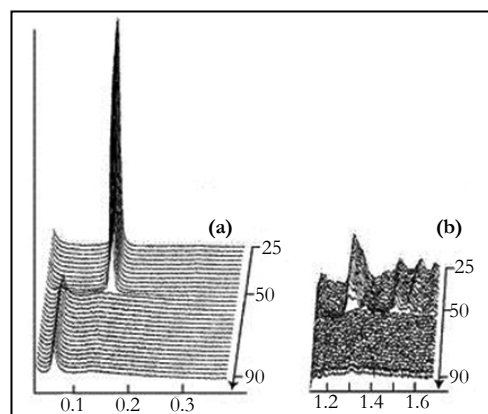
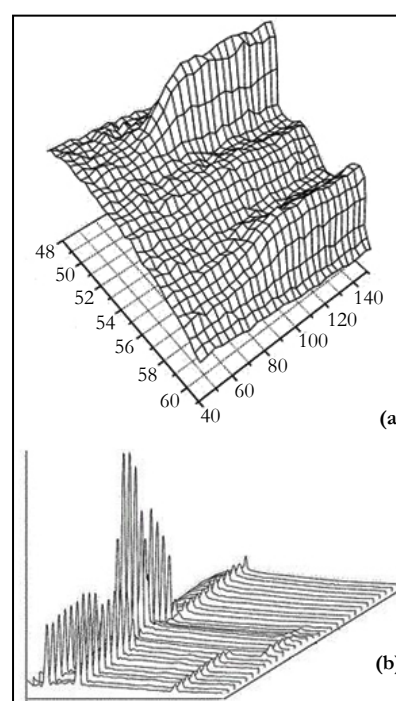


Figure 2. Nuclear Inelastic Scattering Spectroscopy (NISS) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passing of time [1-119].



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Figure 3. Nuclear Inelastic Absorption Spectroscopy (NIAS) 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 passing of time [1-119].

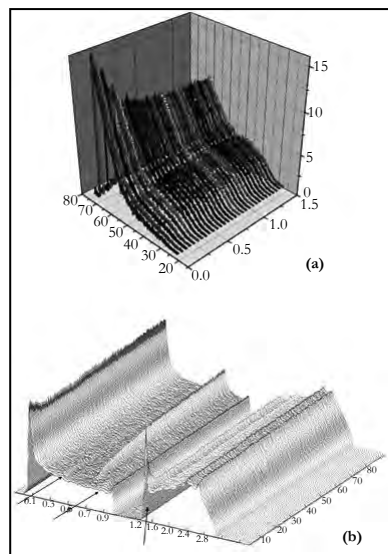
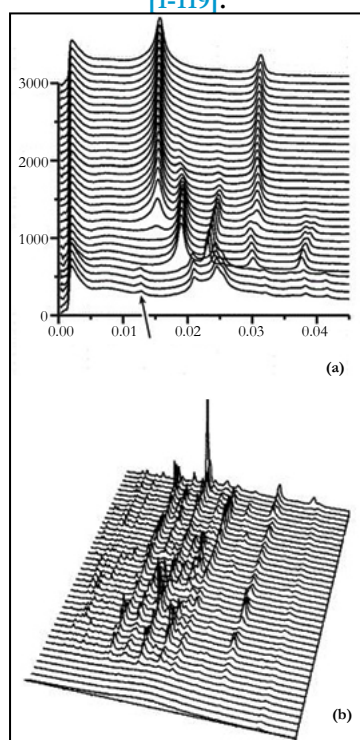


Figure 4. Nuclear Resonant Inelastic X-Ray Scattering Spectroscopy (NRIXSS) analysis of malignant human cancer cells and tissues (a) before and (b) after irradiating of synchrotron radiation in transformation process to benign human cancer cells and tissues with the passing of time [1-119].



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 passing of time (Figures 1-4) [1-119].

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