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Influence of Moringa Leaves Extract on the Response of Hb Molecule to Dose Rates' Changes: II. Relaxation Time and Its Thermodynamic Driven State Functions

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Abstract : Irradiation deposits energy through ionisation changing the bio-system’s net dipole, allowing the use of dielectric parameters and thermodynamic state functions related to these parameters as biophysical detectors to electrical inhomogeneity within the biosystem. This part is concerned with the effect of Moringa leaves extract, natural supplement, on the response of the biosystem to two different dose rates of irradiation. Having Hb molecule as a representative to the biosystem to be least invasive to the biosystem, dielectric measurements were used to extract the relaxation time of certain process found in the Hb spectrum within the indicated frequency window and the interrelated thermodynamic state functions were calculated from the deduced relaxation time. The results showed that relaxation time was decreased for both dose rates indicating a strong influence of Moringa on the response of biosystem and consequently Hb molecule. This influence was presented in the relaxation time and other parameters as well.

Keywords : activation energy, DC conductivity, dielectric relaxation, enthalpy change, Moringa leaves extract, relaxation time
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