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Measurement of Mass and Linear Attenuation Coefficients of Gamma-Rays of L Arginine LR from 122 to 1330 Kev Photons

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ABSTRACT

Gamma –ray transmission methods have been used accurately for the study of the properties of biological sample such as L Arginine LR. In this study mass and linear attenuation coefficients of gamma-rays of L Arginine LR from 122 to 1330 keV photons are determined by using NaI (Tl) scintillation detector. The radioactive sources used in the experiment were Co^{57},Ba^{133},Na^{22},Cs^{137} and Co^{60}. Mass (μ/ρ) and linear attenuation coefficients (μ) of L Arginine LR have been measured for gamma-rays from 122 to 1330 keV photons using the well-type scintillation spectrometer. Measurements have been made to determine gamma ray attenuation coefficients very accurately by using a narrow-collimated-beam method which effectively excluded corrections due to small-angle and multiple scattering of photons. The values of μ and μ/ρ thus obtained are found to be in good agreement with the theory.

Keywords: Mass attenuation coefficients, Linear attenuation coefficients, Gamma-rays, L-Arginine LR.
