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TI Electron spectroscopy in proton collisions with dry gas-phase uracil base
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DT Article
ID MONTE-CARLO-SIMULATION; CROSS-SECTIONS; STRAND BREAKS; DNA;
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AB We have investigated the electron emission by the RNA uracil base (C₄H₄N₂O₂) due to collisions with protons in the 25 keV-100 keV energy range. Electron spectroscopy was performed at 35 degrees with respect to the beam direction and absolute values for the double-differential cross section were obtained. Our results show preferential emission of low-energy electrons that are responsible for damage in biological material through dissociative electron attachment [Boudaiffa , Science 287, 1658 (2000)]. Experimental results are compared to calculations that used the classical trajectory Monte Carlo method, and a reasonable agreement is obtained.
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