

Abstract Submitted
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Electron impact total cross sections for components of DNA and RNA molecules¹ MINAXI VINODKUMAR, V.P. & R.P.T.P. Science College, CHETAN LIMBACHIYA, P.S. Science & H.D.Patel Arts College, KADI, MAYURI BAROT, AVANI BAROT, V.P. & R.P.T.P. Science College, MOHIT SWADIA, P.S. Science & H.D.Patel Arts College, KADI — Biomolecules, in particular DNA/RNA components are prone to high energy radiation damage which can occur due to primary, secondary or reactive processes [1]. We report electron impact total cross sections (Q_T), total elastic cross sections (Q_{el}) and total inelastic cross sections (Q_{inel}) for components of DNA and RNA molecules from threshold to 2000 eV. These components include Uracil ($C_4H_4N_2O_2$), Thymine ($C_5H_6N_2O_2$), Cytosine ($C_4H_5N_3O$), Adenine ($C_5H_5N_5$), Guanine ($C_5H_5N_5O$) and Phosphoric acid (H_3PO_4). We have employed Spherical Complex Optical Potential (SCOP) formalism [2] to calculate the total elastic cross sections, total inelastic cross sections and total cross sections.

[1] L. Sanche “Radical and Radical Ion Reactivity in Nucleic Acid Chemistry (Greenberg, M. ed.), John Wiley & Sons, Inc. 239 (2009)

[2] Minaxi Vinodkumar and Chetan Limbachiya, Molecular Physics **111** 213(2013)

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