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Dissociative electron attachment to the monocyclic azines pyrimidine, pyridazine, pyrazine and 1,3,5-triazine THOMAS GILMORE, THOMAS FIELD, NATHAN AGNEW, Centre for Plasma Physics, Queen's University Belfast, BT71NN, Northern Ireland, ANDREAS MAURACHER, SAMUEL ZÖTTL, Institute of Ion Physics and Applied Physics, University of Innsbruck, Technikerstrasse 25, A-6020 Innsbruck, Austria, EWELINA SZYMANSKA, Department of Physics and Astronomy, The Open University, Walton Hall, MK76aA, United Kingdom — Observations of dissociative electron attachment to Pyrimidine, Pyrazine, Pyridazine ($C_4H_4N_2$) and 1,3,5-Triazine ($C_3H_3N_3$) are reported in the electron energy range 0-12eV. Pyrimidine is the building block of the nucleobases Cytosine, Thymine and Uracil. Dissociation of the nucleobases caused by low energy electrons, eg. released by the Auger effect in radiation therapy, has been studied over the last decade. Resonances presented here will be compared to those observed in nucleobase experiments. CN- is identified as the main product of dissociative electron attachment to the azine molecules. Resonances occur near 5.1eV and 8.2eV for all molecules. A comparison to R-matrix calculations by Masin and Gorfinkiel show reasonable agreement to experiment. Absolute cross sections for dissociative electron attachment have been estimated: pyrimidine has a maximum negative ion formation cross section of 8 x 10^{-3} Å^2 at 5.1 $\pm$ 0.2eV. The cross sections on resonance for negative ion formation in dissociative electron attachment to the other molecules are all within a factor of two of this peak value for pyrimidine.The absence of hydrogen fragments,reported as dominant in nucleobase studies,is also investigated.

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