Contribution ID: **259** Type: **Talk**

【617】Decomposition of the RRx-001 radiosensitizer by low-energy electrons

Friday, September 3, 2021 12:45 PM (15 minutes)

Electron capture by molecules leads to the formation of transient negative ions, which may dissociate through dissociative electron attachment (DEA). DEA to the 1-bromoacetyl-3,3-dinitroazetidin (RRx-001) molecule in the gas phase has been studied utilizing a crossed electron-molecular beam setup combined with a quadrupole mass spectrometer. RRx-001 has been proposed as a radiosensitizer. We observed 11 fragment anions, which indicate that low-energy electrons with kinetic energies ranging from 0 to 14 eV strongly decompose the molecule. The results indicate efficient formation of NO2–and Br–upon DEA to RRx-001.

Primary authors: Mr IZADI, Farhad (1. Institute for Ion Physics and Applied Physics, University of Innsbruck); Mr ARTHUR-BAIDOO, Eugene (Institute for Ion Physics and Applied Physics, University of Innsbruck,); Prof. DENIFL, Stephan (Institute for Ion Physics and Applied Physics, University of Innsbruck, Technikerstrasse 25, 6020 Innsbruck, Austria.)

Presenter: Mr IZADI, Farhad (1. Institute for Ion Physics and Applied Physics, University of Innsbruck)

Session Classification: Applied Physics and Plasma Physics

Track Classification: Applied Physics and Plasma Physics