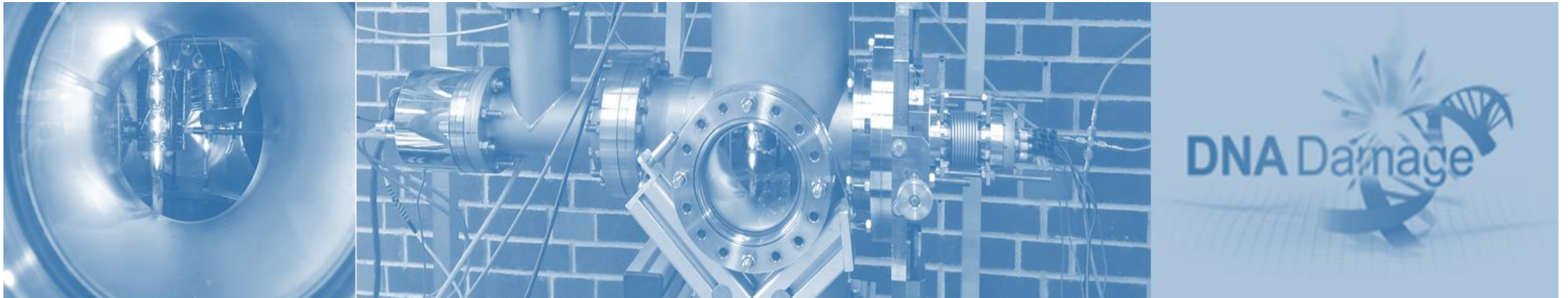


Inelastic Electron Scattering – WG Denifl



Vy Nguyen



About the Inelastic Electron Scattering Group

The Group

- 2 PhD Students and 2 student co-workers.

Research fields

Single molecule studies

- Low-energy electron ($E_{\text{kin}} < 100 \text{ eV}$) interaction with biomolecules, radiosensitisers and polymeric compounds

Clusters

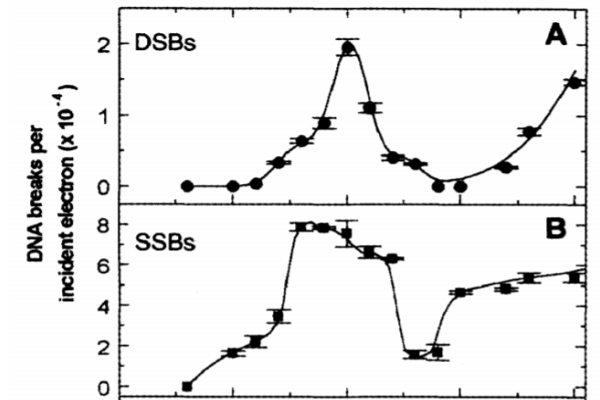
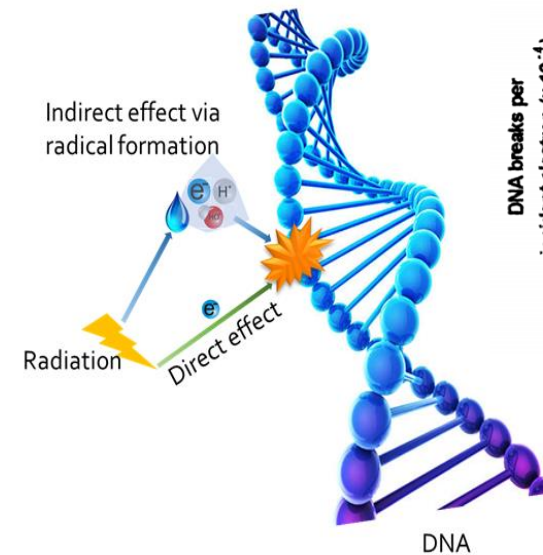
- Electron collisions with (heterogeneous) molecular clusters

Applications

- Radiation chemistry, astrochemistry, material sciences

Motivation

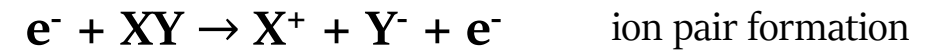
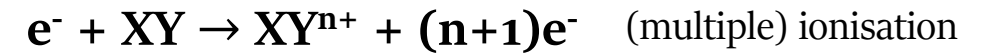
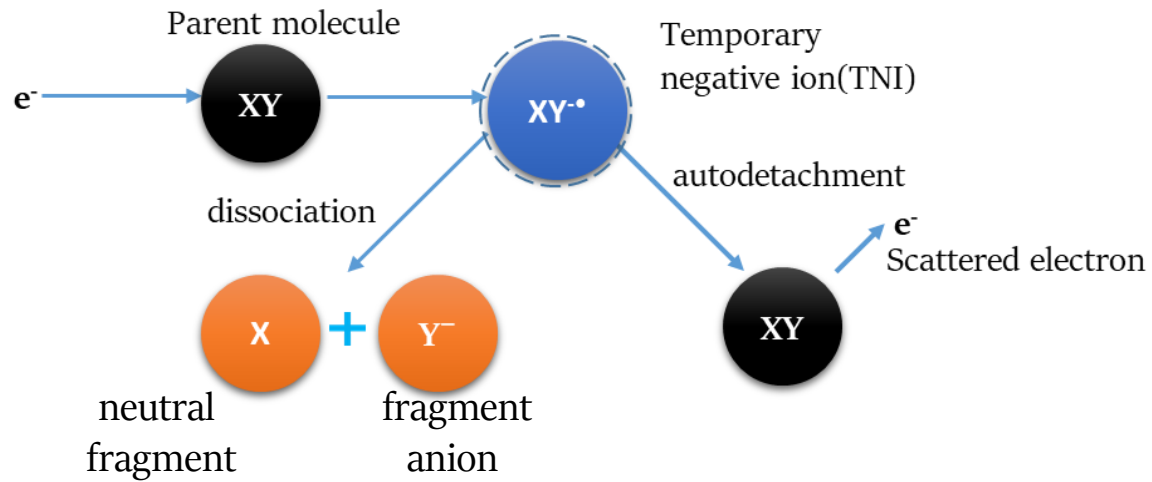
Chemical effect of radiation and low-energy electrons



B. Boudaïffa et al., (2000).

SSB – Single Strand Break
DSB – Double Strand Break

Electron Collisions



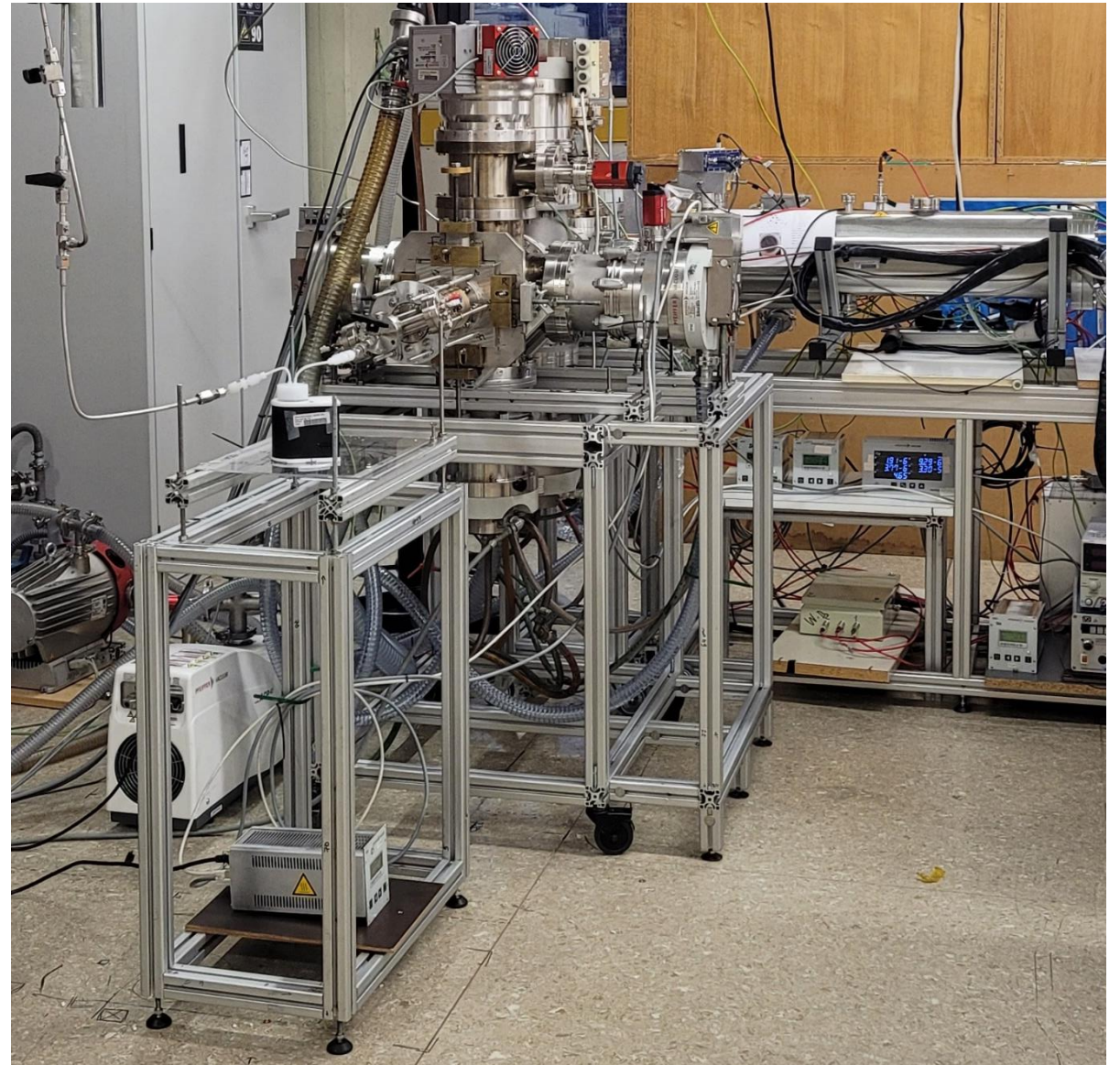
Results in bond cleavages:

Single bond, double bond or complex decompositions into multiple fragments

Experimental Setup

Crossed electron-molecular beam setup

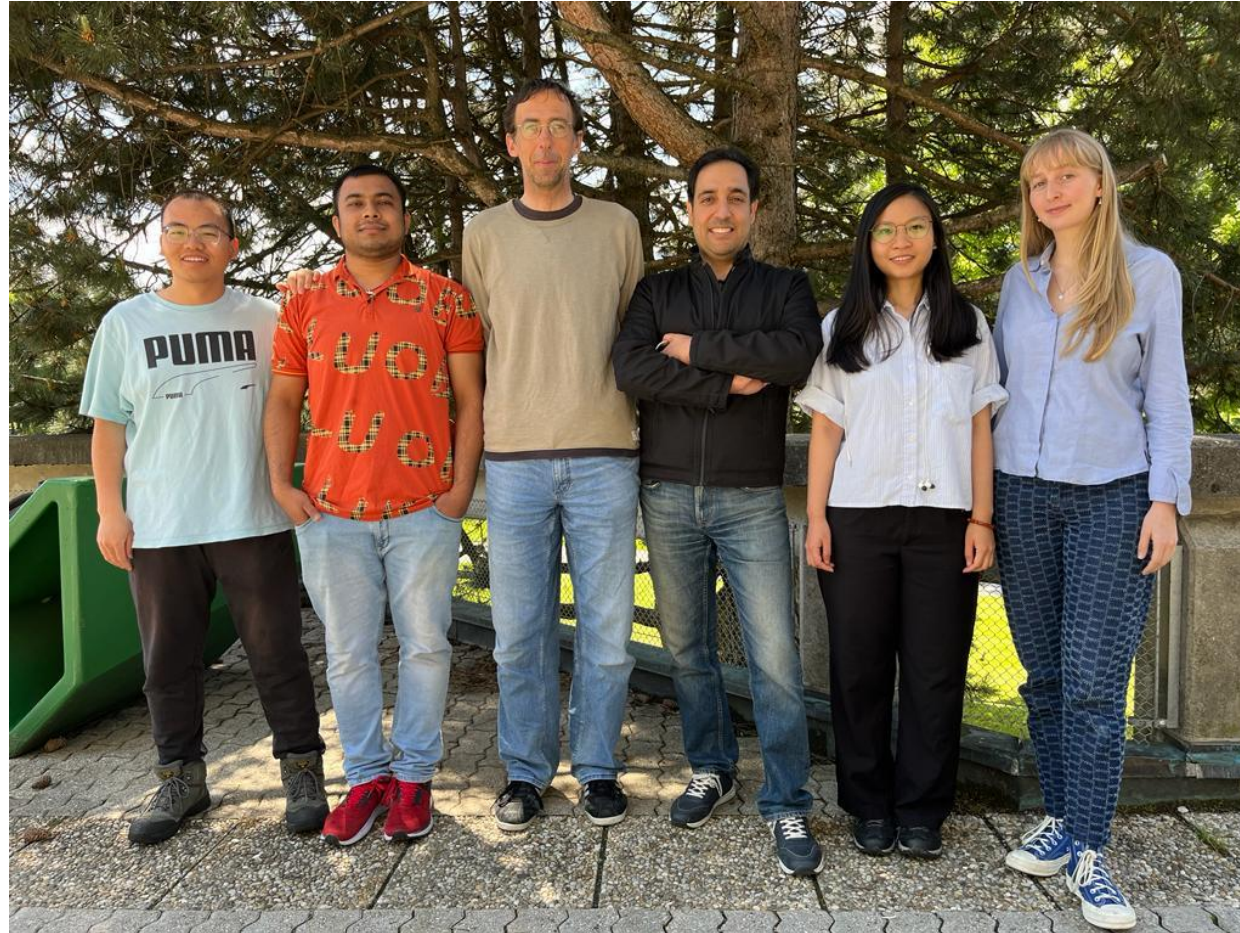
Reflectron time-of-flight mass spectrometer



Possible topics in this year

- Electron collisions to (heavy) water clusters
- Electron collisions to the hydrated clusters of biologically relevant molecules

Acknowledgement



Thank you for your attention! For further information, please contact: Stephan.Denifl@uibk.ac.at