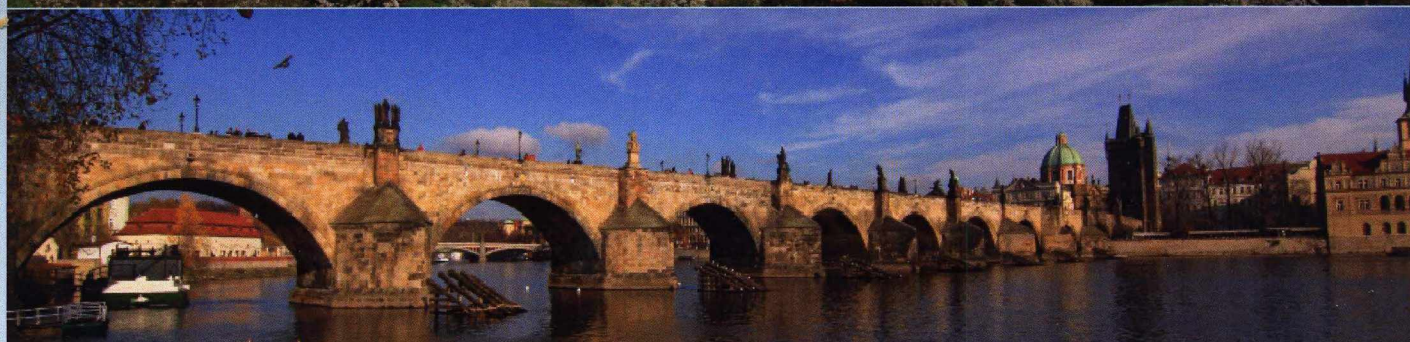


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4th XLIC General Meeting COST Action CM1204

14 - 16 March 2017

Prague, Czech Republic



BOOK OF ABSTRACTS



4th XLIC GENERAL MEETING

14 – 16 March 2017

Organised by: J. Heyrovský Institute of Physical Chemistry of the CAS, v.v.i.
Dolejškova 2155/3
182 23 Prague 8

Venue

The Conference will be hosted by Hotel Pyramida (Bělohorská 24, 169 01 Prague 6). The hotel is located near the Prague Castle, which is only one tram stop away, and other touristic attractions as well, e.g. Strahov Monastery, Petřín Hill, the Lesser Town of Prague, etc.

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“Position” does matter: The photofragmentation of the nitroimidazole isomers

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Radiotherapy is one of main techniques used in cancer treatment and radiosensitizers are drugs used to selectively improve its effectiveness against tumor cells. Misonidazole and Nimorazole are two radiosensitizers with similar chemical structure. However clinical trials have shown that they have different efficiency in the tumor treatment. In order to understand why this happens we have studied the photo-fragmentation of 2-nitroimidazole and 4(5)-nitroimidazole, which are the “building blocks” of Misonidazole and Nimorazole, respectively. Time of Flight Mass spectrometry (fig 1) shows important differences in their fragmentation, which can be linked with medical applications. To have a better knowledge of these processes we have also measured Appearance Energy (AE) and Photoelectron-Photoion Coincidences (PEPICO) with Synchrotron Light (Elettra, Trieste), and performed theoretical calculations Ref. 1.

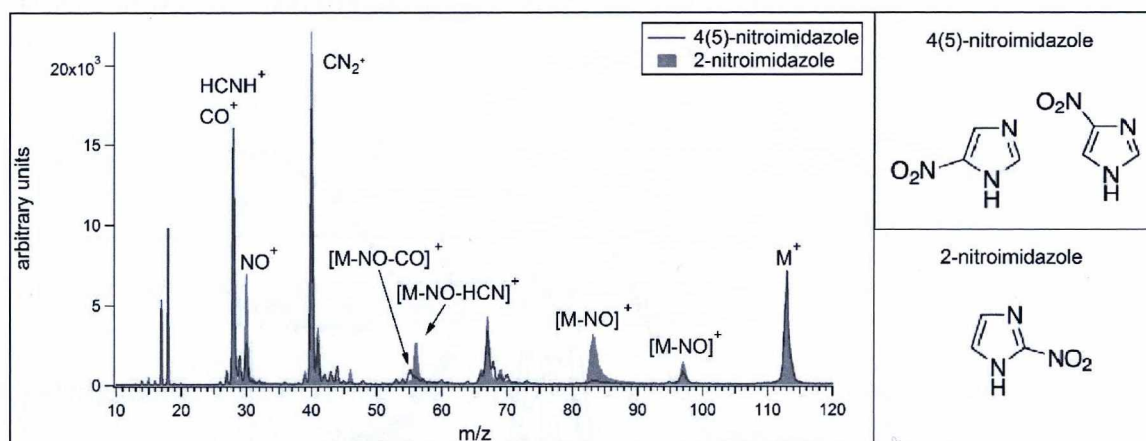


Figure 1: Time of Flight Mass Spectrum (TOF-MS).

Acknowledgments: This work is partially supported by the XLIC COST Action M1204 via the STSM program and the Serbia–Italy Joint Research Project “Nanoscale Insight in the Radiation Damage”.

References

[1] P. Bolognesi et al. J Chem Phys Comm. 145, 191102 (2016)

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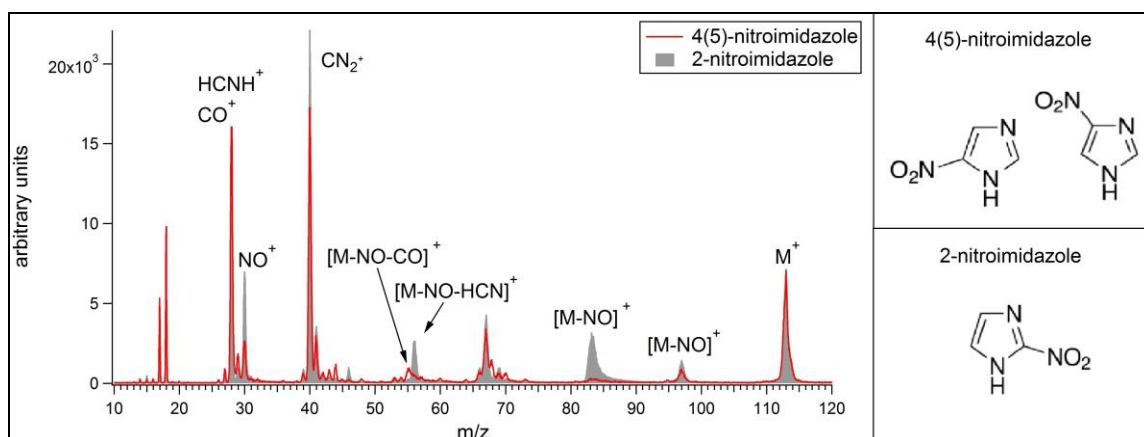


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