



28th Summer School and International Symposium on the Physics of Ionized Gases

Aug. 29 - Sep. 2, 2016, Belgrade, Serbia

CONTRIBUTED PAPERS

&

ABSTRACTS OF INVITED LECTURES,
TOPICAL INVITED LECTURES, PROGRESS REPORTS
AND WORKSHOP LECTURES

Editors:

Dragana Marić, Aleksandar Milosavljević,
Bratislav Obradović and Goran Poparić



University of Belgrade,
Faculty of Physics



Serbian Academy
of Sciences and Arts

CONTRIBUTED PAPERS & ABSTRACTS OF INVITED
LECTURES, TOPICAL INVITED LECTURES, PROGRESS
REPORTS AND WORKSHOP LECTURES

of the 28th Summer School and International Symposium on
the Physics of Ionized Gases

August 29 – September 2, 2016, Belgrade, Serbia

Editors:

Dragana Marić, Aleksandar Milosavljević,
Bratislav Obradović and Goran Poparić

Publisher:

University of Belgrade, Faculty of Physics,
Belgrade
Studentski trg 12, P. O. Box 44
11000 Belgrade, Serbia

Computer processing:

Tatjana Milovanov

Printed by

Skripta Internacional, Mike Alasa 54, Beograd

Number of copies

200

ISBN 978-86-84539-14-6

©2016 by University of Belgrade, Faculty of Physics

All rights reserved. No part of this book may be reproduced, stored or
transmitted in any manner without the written permission of the Publisher.

SPIG 2016

SCIENTIFIC COMMITTEE

D. Marić, Serbia (Co-Chair), Serbia
A. R. Milosavljević (Co-Chair), Serbia
D. Borka, Serbia
S. Buckman, Australia
J. Burgdörfer, Austria
J. Cvetić, Serbia
M. Danezis, Greece
Z. Donko, Hungary
V. Guerra, Portugal
D. Ilić, Serbia
M. Ivković, Serbia
D. Jovanović, Serbia
K. Lieb, Germany
I. Mančev, Serbia
N. J. Mason, UK
K. Mima, Japan
Z. Mišković, Canada
L. Nahon, France
B. Obradović, Serbia
G. Poparić, Serbia
P. Roncin, France
I. Savić, Serbia
Y. Serruys, France
N. Simonović, Serbia
M. Škorić, Japan
M. Trtica, Serbia

ADVISORY COMMITTEE

D. Belić
N. Bibić
M. S. Dimitrijević
S. Đurović
N. Konjević
M. Kuraica
J. Labat
G. Malović
B. P. Marinković
Z. Mijatović
M. Milosavljević
Z. L.J. Petrović
L. Popović
J. Purić
B. Stanić

ORGANIZING COMMITTEE

Faculty of Physics Belgrade
Serbian Academy of Sciences and Arts

G. Poparić (Co-chair)
B. Obradović (Co-chair)

M. Ristić (Co-Secretary)
M. Vojnović (Co-Secretary)

N. Konjević
M. Vičić
N. Cvetanović
G. Sretenović
V. Kovačević
I. Krstić

**The Workshop on X-ray
Interaction with Biomolecules in
Gas Phase (XiBiGP)**

FRAGMENTATION OF HALOTHANE MOLECULE BY SYNCHROTRON RADIATION

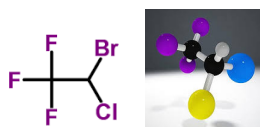
S. D. Tošić¹, P. Bolognesi², L. Avaldi², R. Richter³ and B. P. Marinković¹

¹ *Institute of Physics Belgrade, University of Belgrade, Pregrevica 118, 11080 Belgrade, Serbia*

² *CNR-Istituto di Struttura della Materia, Area della Ricerca di Roma1, Monterotondo Scalo, Italy*

³ *Elettra-Sincrotrone Trieste, Area Science Park, I-34012 Basovizza, Trieste, Italy*

Halothane (C₂HBrClF₃, 2-bromo-2-chloro-1,1,1-trifluoroethane) is one of the most extensively used halogenated anesthetics in medicine and the only one containing Br. It has a structure of a polyhalogenated organic molecule where the two carbon atoms experience very different chemical environments due to the bonding to different halogen atoms.



The fragmentation of C₂HBrClF₃ by high energy photons and electron beams has been studied by De Souza et al. [1], while recently, Ferreira da Silva et al. [2] investigated theoretically and experimentally the VUV photoabsorption spectrum. Maljković et al. [3] reported the differential cross sections for elastic electron scattering by halothane at 100 eV in a combined experimental and theoretical work. Here we present the results of the photofragmentation study of the halothane molecule obtained at Gas phase beamline of Elettra. NEXAFS as well as mass spectra were measured at different photon energies across C 1s, Cl 2p, Cl 2s, Br 3d, Br 3p, Br 3s and F 1s ionization edges.

Acknowledgements: This work is supported by Ministry of Education, Science and Technological Development of Republic of Serbia (Project No. OI 171020) and by the Serbia – Italy Joint Research Project “A nanoview of radiation-biomatter interaction”.

REFERENCES

- [1] G. G. B. de Souza et al. *Quim. Nova*, 24 (3), 311 (2001).
- [2] F. Ferreira da Silva et al. *J. Phys. Chem. A* 119, 8503 (2015).
- [3] J. Maljković et al. *Publ. Astron. Obs. Belgrade* No. 89, 33, (2010).

CIP - Каталогизација у публикацији
Народна библиотека Србије, Београд

537.56(082)

539.186.2(082)

539.121.7(082)

533.9(082)

SUMMER School and International Symposium on the Physics of Ionized Gases
(28 ; 2016 ; Beograd)

Contributed Papers & Abstracts of Invited Lectures, Topical Invited Lectures, Progress Reports and Workshop Lectures / 28th Summer School and International Symposium on the Physics of Ionized Gases - SPIG 2016, [August 29 - September 2], 2016, Belgrade ; editors Dragana Marić ... [et al.]. - Belgrade : University of Belgrade, Faculty of Physics, 2016 (Beograd : Skripta Internacional). - 474 str. : ilustr. ; 24 cm

Tiraž 200. - Str. 5: Preface / editors Dragana Marić ... [et al.]. -
Napomene i bibliografske reference uz tekst. - Bibliografija uz svaki rad.
- Registar.

ISBN 978-86-84539-14-6

1. Marić, Dragana, 1973- [уредник] [аутор додатног текста]

а) Јонизовани гасови - Зборници б) Атоми - Интеракција - Зборници

с) Плазма - Зборници

COBISS.SR-ID 225356044