SELECTED PUBLICATIONS LIST

Dr. Cristina M. Muntean

ARTICLES IN ISI JOURNALS

1. **C. M. Muntean**, N. E. Dina, I. Bratu, C. Tripon, S. Nițu (Năstase) and A. Coste (2021) "Acidic pH-responsive changes of DNA structure and surface dynamics as probed with ultrasensitive Raman spectroscopy", Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 258, 119866.

2. **C. M. Muntean**, N. E. Dina, I. Bratu, A. Fălămaş, S. Nițu (Năstase), A. Halmagyi and A. Coste (2021) "Effects of femtosecond UV laser pulses on the structure and surface dynamics of medicinal plants DNA, monitored by surface-enhanced Raman spectroscopy", Journal of Molecular Structure 1239, 130482.

3. **C. M. Muntean**, N. E. Dina, A. Tăbăran, A. M. R. Gherman, A. Fălămaş, L. E. Olar, L. M. Colobățiu and R. Ştefan (2021) "Identification of *Salmonella* serovars before and after ultraviolet light irradiation by Fourier transform infrared (FT-IR) spectroscopy and chemometrics", Analytical Letters, 54 (1-2), 150-172.

4. **C. M. Muntean**, N. E. Dina, T.-L. Biter, I. Bratu, M. Coroş, C. Socaci and A. Coste (2020) „Surface dynamics of genomic DNAs upon lowering the pH, in the presence of graphene/AgNPs-based SERS detection platform", Journal of Molecular Modeling, 26 (8): 211 (p. 1-9).

5. M. Hârța, O. Borsai, **C. M. Muntean**, N. E. Dina, A. Fălămaş, L. E. Olar, K. Szabo, D. Pamfil and R. Ştefan (2020) „Assessment of genetic relationships between *Streptocarpus x hybridus* V. parents and F1 progenies using SRAP markers and FT-IR spectroscopy", Plants (Basel), 9 (2), 160.

6. **C. M. Muntean**, N. E. Dina, M. Coroş, N. Toşa, A. I. Turza and M. Dan (2019) "Graphene/silver nanoparticles-based surface-enhanced Raman spectroscopy detection platforms: Application in the study of DNA molecules at low pH", Journal of Raman Spectroscopy, 50 (12), 1849-1860.

7. **C. M. Muntean**, T.-L. Biter, I. Bratu, N. Toşa (2019) "Metallic surface dynamics of genomic DNA and its nitrogenous bases: SERS assessment and theoretical considerations", Journal of Molecular Modeling, 25 (6): 162.

8. **C. M. Muntean**, I. Bratu, C. Tripon, K. Nalpantidis, M. A. P. Purcaru, V. Deckert (2017) "Molecular relaxation processes in nucleic acids components as probed with Raman spectroscopy", Revista de Chimie (Bucharest), 68 (10) 2471-2476.

9. C. Tripon, **C. M. Muntean**, I. Bratu, K. Nalpantidis, V. Deckert (2017) "(Sub)picosecond processes in DNA and RNA constituents: a Raman spectroscopic assessment", Polymer Bulletin, 74, 4087-4100.

10. **C. M. Muntean**, I. Bratu, A. Hernanz (2017) "Vibrational relaxation of the backbone and base modes in LacDNA complexes by UV resonance Raman spectroscopy", Journal of Physical Chemistry B, 121 (28), 6909-6918.

11. N. E. Dina, **C. M. Muntean**, N. Leopold, A. Fălămas, A. Halmagyi, A. Coste (2016) "Structural changes induced in grapevine (*Vitis vinifera* L.) DNA by femtosecond IR laser pulses: A surface-enhanced Raman spectroscopic study", Nanomaterials, Special Issue "DNA-Based Nanotechnology", Vol. 6, Nr. 6, 96.

12. C. Tripon, **C. M. Muntean**, E. Surducan, I. Bratu, A. Halmagyi, A. Coste (2016) "Structural response of genomic DNA from grapevine (*Vitis vinifera* L.) varieties to microwaves irradiation: a Fourier transform infrared spectroscopy assessment", Biomedical Spectroscopy and Imaging, Vol. 5, Nr. 3, 295-312.

13. **C. M. Muntean**, N. Leopold, C. Tripon, A. Coste, A. Halmagyi (2015) "Surface-enhanced Raman spectroscopy of genomic DNA from *in vitro* grown tomato (*Lycopersicon esculentum* Mill.) cultivars before and after plant cryopreservation", Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, Vol. 144, 107-114.

14. **C. M. Muntean**, I. Bratu, N. Leopold, C. Morari, L. Buimaga-Iarinca, M. A. P. Purcaru (2015) "Subpicosecond surface dynamics in genomic DNA from *in vitro*-grown plant species: A SERS assessment", Physical Chemistry Chemical Physics, Vol. 17, 21323 - 21330.

15. C. Tripon, **C. M. Muntean**, L. Buimaga-Iarinca, A. Calborean (2015) "DFT investigation of the vibrational properties of AT base pairs in the presence of Ca^{2+} and Mn^{2+} ions", Biomedical Spectroscopy and Imaging, Vol. 4, Nr. 2, 189-196.

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17. C. Morari, **C. M. Muntean**, C. Tripon, L. Buimaga-Iarinca, A. Calborean (2014) "DFT investigation of the vibrational properties of GC Watson-Crick and Hoogsteen base pairs in the presence of Mg^{2+}, Ca^{2+} and Cu^{2+} ions", Journal of Molecular Modeling, Vol. 20, Nr. 4, Article Nr. 2220, 1-7.

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23. C. Morari, D. Bogdan, **C. M. Muntean** (2012) "Binding effects of Mn^{2+} and Zn^{2+} ions on the vibrational properties of guanine-cytosine base pairs in the Watson-Crick and Hoogsteen configurations", Journal of Molecular Modeling, Vol. 18, Nr. 11, 4781–4786.

24. **C. M. Muntean**, I. Bratu, N. Leopold, M. A. P. Purcaru (2011) "Subpicosecond dynamics in DNA from leaves of *in vitro*-grown apple plants: A SERS study", Spectroscopy-Biomedical Applications, Vol. 26, Nr. 1, 59-68.

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Nr. 5-6, 281-289.

31. **C. M. Muntean**, I. Bratu, K. Nalpantidis, M. A. P. Purcaru (2009) "Subpicosecond dynamics in calf-thymus DNA, in the presence of Zn^{2+} ions: a Raman spectroscopic study", Spectroscopy-An International Journal, Vol. 23, Nr. 3-4, 141-154.

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37. **C. M. Muntean**, R. Misselwitz and H. Welfle (2006) „The influence of Mn^{2+} on DNA structure in the presence of Na^{+} ions: a Raman spectroscopic study", Spectroscopy-An International Journal, Vol. 20, Nr. 5-6, 261-268.

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40. C. I. Morari and **C. M. Muntean** (2003) "Numerical simulations of the Raman spectra of GC Watson-Crick and Hoogsteen base pairs", Biopolymers, Vol. 72, Issue 5, 339-344.

41. **C. M. Muntean,** G. M. J. Segers-Nolten (2003) "Raman microspectroscopic study of effects of Na(I) and Mg(II) ions on low pH induced DNA structural changes", Biopolymers, Vol. 72, Issue 4, 225-229.

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1. **C. M. Muntean**, I. Bratu, B. Walkenfort, M. Salehi, S. A. Purcaru and A. Hernanz (2020) „Vibrational relaxation of functional groups in dAMP molecules probed with UV resonance Raman spectroscopy", Revista de Chimie (Bucharest), 71 (1) 288-297.

2. **C. M. Muntean**, I. Bratu, D. Bogdan (2013) "Subpicosecond Processes in Nucleic Acids Bases Monitored by Raman Spectroscopy", Biomedical Spectroscopy and Imaging, Vol. 2, Nr. 1, 37-49.

BOOKS, BOOK CHAPTER

AUTHOR

1) **Cristina M. Muntean** (2006) "STRUCTURAL AND DYNAMICAL ASPECTS OF DNA MOLECULE PUT INTO EVIDENCE BY SPECTROSCOPIC METHODS", Risoprint Publishing House, Cluj-Napoca, Romania, pp 292 (ISBN: 973-751-217-0, 978-973-751-217-8).

2) **Cristina M. Muntean** (2007) "RAMAN SPECTROSCOPY OF DNA MOLECULE. APPLICATIONS AND PERSPECTIVES", Risoprint Publishing House, Cluj-Napoca, Romania, pp 160 (ISBN: 978-973-751-576-6).

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EDITOR

"INSIGHTS INTO VIBRATIONAL SPECTROSCOPY OF NUCLEIC ACIDS AND THEIR COMPLEXES" (2009) Editors **C. M. Muntean** & I. Bratu, Transworld Research Network Publishers, Trivandrum, Kerala, India, pp 105 (ISBN: 978-81-7895-407-3).

(Parts of) ISI PROCEEDINGS BOOKS

1. N. E. Dina Mircescu, **C.M. Muntean**, N. Leopold (2017) "Discrimination of grapevine genomic DNA using surface-enhanced Raman spectroscopy and PCA", 33rd Course of International School of Atomic and Molecular Spectroscopy on "Nano-optics: Principles enabling basic research and applications", July 4th-July 19th, 2015, Erice, Sicily, Italy. NATO Science for Peace and Security Series B: Physics and Biophysics, Series ISSN 1874-6500, Sub-series "Nano-Optics: Principles Enabling Basic Research and Applications", Baldassare Di Bartolo, John Collins, Luciano Silvestri Eds., Springer, Dordrecht, The Netherlands, pp 499-500, Hardcover ISBN: 978-94-024-0848-5; Softcover ISBN 978-94-024-0869-0, eBook ISBN 978-94-024-0850-8.

2. A. Bende and **C. M. Muntean** (2012) "Solvent effect on the anharmonic vibrational frequencies in guanine-cytosine base pair", AIP Conf. Proc. 1425 (1) 5-8, PROCESSES IN ISOTOPES AND MOLECULES (PIM 2011) (29 September-1 October 2011, Cluj Napoca, Romania) Editor(s): Mihaela D. Lazar (ISBN: 978-0-7354-1005-3).

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5. **C. M. Muntean**, G. Banciu, O. Cozar, A. Ioachim (1999) "Microwave Response of DNA Polymers with Counterion Distribution", in "Spectroscopy of Biological Molecules: New Directions" (8th European Conference on the Spectroscopy of Biological Molecules, 29 August - 2 September 1999, Enschede, The Netherlands), J. Greve, G. J. Puppels and C. Otto Eds., Kluwer Academic Publishers, Dordrecht (1999), The Netherlands, p. 223-224 (ISBN 0-7923-5847-3).

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