

# Curriculum Vitae

Dr. Niki Tzioumaki  
PhD Chemist

## Education

- 2011 **PhD-Thesis in chemistry (mark: excellent)**  
Institute of Organic Chemistry (Department of Biochemistry and Biotechnology of the University of Thessaly/Greece), on the subject: Synthesis of new series of keto and exomethylene pyranonucleosides as antiviral and cytotoxic agents
- 2005 **Diploma in chemistry**  
Institute of Molecular Biophysics (Johannes Gutenberg University, Mainz/Germany), on the subject: Components of red wines and interaction with the tyrosinase (factor in the shaping of melanine)
- 1999 **European exchange program**  
Nottingham Trent University, Nottingham/England  
Analytic, inorganic chemistry on the subject:  
Apatite formation on coatings of silica gel, titanium and Teflon surfaces

## Professional experience

- 2015, 2017: **Institute of Organic Chemistry (Department of Biochemistry and Biotechnology of the University of Thessaly/Greece)**  
Lecturer (PD 407/80)  
Bioorganic Chemistry Laboratory Course
- 2012–2013: **College of Thessaly**  
**Department of medicine labs (TEI Larissa/Greece)**  
Lecturer  
Biochemistry II Laboratory Course
- 2011–2012: **College of Thessaly**  
**Department of medicine labs (TEI Larissa/Greece)**  
Lecturer  
Clinical Chemistry Laboratory Course
- 2006–2011: **Institute of Organic Chemistry (Department of Biochemistry and Biotechnology of the University of Thessaly/Greece)**  
Supervision in theoretical, experimental and writing of graduate Diploma Theses  
Bioorganic Chemistry

**Institute of Organic Chemistry (Department of Biochemistry and Biotechnology of the University of Thessaly/Greece)**

2006–2011: Supervision in theoretical, experimental and writing of Master Theses  
Bioorganic Chemistry

**Institute of Molecular Biophysics  
(Johannes Gutenberg University, Mainz/Germany)**

2005: Teaching assistant  
F1-Laboratory exercise (kinetic of enzymes)

## Publications in Journals

1. N. Tzioumaki, S. Manta, E. Tsoukala, J.V. Voorde, S. Liekens, D. Komiotis, J. Balzarini, *Synthesis and biological evaluation of unsaturated keto and exomethylene d-arabinopyranonucleoside analogs: Novel 5-fluorouracil analogs that target thymidylate synthase*, European Journal of Medicinal Chemistry, 46, 2011, 993-1005.
2. N. Tzioumaki, E. Tsoukala, S. Manta, C. Kiritsis, J. Balzarini, D. Komiotis, *Efficient synthesis of exomethylene- and keto-exomethylene-d-glucopyranosyl nucleoside analogs as potential cytotoxic agents*, Carbohydrate Research, 346, 2011, 328-333.
3. E. Tsoukala, S. Manta, N. Tzioumaki, C. Kiritsis, D. Komiotis, *Keto-fluorothiopyranosyl nucleosides: a convenient synthesis of 2- and 4-keto-3-fluoro-5-thioxylopyranosyl thymine analogs*, Carbohydrate Research, 346, 2011, 2011-2015.
4. C. Spanou, N. Tzioumaki, S. Manta, P. Margaritis, D. Kouretas, D. Komiotis, K. Liadaki, *Unsaturated keto and exomethylene pyranonucleoside analogues of thymine and uracil exhibit potent antioxidant properties*, Pharmacology and Pharmacy, 2011, 122-126.
5. E. Tsoukala, N. Tzioumaki, S. Manta, A. Riga, J. Balzarini, D. Komiotis, *Synthesis of 3-fluoro-6-S-(2-S-pyridyl) nucleosides as potential lead cytostatic agents*, Bioorganic Chemistry, 2010, 285-293.
6. S. Manta, E. Tsoukala, N. Tzioumaki, C. Kiritsis, J. Balzarini, D. Komiotis, *Synthesis of 4,6-dideoxy-3-fluoro-2-keto-β-d-glucopyranosyl analogues of 5-fluorouracil, N6-benzoyl adenine, uracil, thymine, N4-benzoyl cytosine and evaluation of their antitumor activities*, Bioorganic Chemistry, 38, 2010, 48-55.
7. N. Tzioumaki, E. Tsoukala, S. Manta, G. Agelis, J. Balzarini, D. Komiotis, *Synthesis, Antiviral and Cytostatic Evaluation of Unsaturated Exomethylene and Keto D-Lyxopyranonucleoside Analogues*, Archiv der Pharmazie, 342, 2009, 353-360.
8. S. Manta, N. Tzioumaki, E. Tsoukala, A. Panagiotopoulou, M. Pelecanou, J. Balzarini, D. Komiotis, *Unsaturated dideoxy fluoro-ketopyranosyl nucleosides as new cytostatic agents: A convenient synthesis of 2,6-dideoxy-3-fluoro-4-keto-β-d-glucopyranosyl analogues of uracil, 5-fluorouracil, thymine, N4-benzoyl cytosine and N6-benzoyl adenine*, European Journal of Medicinal Chemistry, 44, 2009, 4764-4771.

9. S. Manta, E. Tsoukala, N. Tzioumaki, A. Goropevšek, R.T. Pamulapati, A. Cencič, J. Balzarini, D. Komiotis, *Dideoxy fluoro-ketopyranosyl nucleosides as potent antiviral agents: Synthesis and biological evaluation of 2,3- and 3,4-dideoxy-3-fluoro-4- and -2-keto-β-d-glucopyranosyl derivatives of N4-benzoyl cytosine*, *European Journal of Medicinal Chemistry*, 44, 2009, 2696-2704.
10. D. Komiotis, S. Manta, E. Tsoukala, N. Tzioumaki, *Antiviral Unsaturated Nucleosides*, *Anti-Infective Agents in Medicinal Chemistry*, 7, 2008, 219-244.
11. G. Agelis, N. Tzioumaki, T. Tselios, T. Botić, A. Cencič, D. Komiotis, *Synthesis and molecular modelling of unsaturated exomethylene pyranonucleoside analogues with antitumor and antiviral activities*, *European Journal of Medicinal Chemistry*, 43, 2008, 1366-1375.
12. E. Tsoukala, S. Manta, N. Tzioumaki, G. Agelis, D. Komiotis, *A concise synthesis of 3-fluoro-5-thio-xylo- and glucopyranoses, useful precursors towards their corresponding pyranonucleoside derivatives*, *Carbohydrate Research*, 343, 2008, 1099-1103.
13. G. Agelis, N. Tzioumaki, T. Botić, A. Cencič, D. Komiotis, *Exomethylene pyranonucleosides: Efficient synthesis and biological evaluation of 1-(2,3,4-trideoxy-2-methylene-β-d-glycero-hex-3-enopyranosyl)thymine*, *Biorganic and Medicinal Chemistry*, 15, 2007, 5448-5456.
14. D. Komiotis, G. Agelis, S. Manta, N. Tzioumaki, E. Tsoukala, *A Facile, One-Step Conversion of 6-OTrityl and 6-O-TBDMS Monosaccharides into the Corresponding Formate Esters*, *Journal of Carbohydrate Chemistry*, 25, 2006, 441-450.

## Publications in Congresses

1. N. Tzioumaki, S. Manta, E. Tsoukala, C. Kiritsis, D. Komiotis, *Keto unsaturated D-arabinopyranosyl-5-fluorouracil as novel prodrug of 5-fluorouracil that targets thymidylate synthase*, 14th Hellenic Symposium on Medicinal Chemistry, Thessaloniki, Greece, April 23-25 2010.
2. E. Tsoukala, N. Tzioumaki, S. Manta, C. Kiritsis, D. Komiotis, *Synthesis of 3-fluoro-6-S-(2-S-pyridyl) nucleosides as potential lead cytostatic agents*, 14th Hellenic Symposium on Medicinal Chemistry, Thessaloniki, Greece, April 23-25 2010.
3. E. Tsoukala, S. Manta, C. Kiritsis, N. Tzioumaki, D. Komiotis, *Unsaturated dideoxy fluoro-ketopyranosyl nucleosides: A convenient synthesis of 4,6-dideoxy-3-fluoro-2-keto-β-D-glucopyranosyl analogues of 5-fluorouracil, N6-benzoyl adenine, uracil, thymine and N6-benzoyl cytosine as new cytostatic agents*, 3rd Hellenic Symposium of Organic Synthesis, Athens, Greece, October 15-17 2009.
4. N. Tzioumaki, E. Tsoukala, S. Manta, C. Kiritsis, D. Komiotis, *Unsaturated keto & exomethylene D-arabinopyranonucleoside analogues: Synthesis and biological evaluation*, 3rd Hellenic Symposium of Organic Synthesis, Athens, Greece, October 15-17 2009.
5. N. Tzioumaki, G. Agelis, E. Tsoukala, S. Manta, D. Komiotis, *Synthesis and biological evaluation of keto*

*and exomethylene D-lyxopyranonucleoside analogues*, 9th Conference "Medicinal Chemistry: Drug Discovery and Design", Patras, Greece, March 26-28 2008.

6. S. Manta, E. Tsoukala, N. Tzioumaki, D. Komiotis, *Dideoxy fluoro-ketopyranosyl Nucleosides: Synthesis and biological evaluation of 2,3 and 3,4-dideoxy-3-fluoro, 4- and 2-keto-β-D-glucopyranosyl derivatives of N4-benzoyl cytosine*, 13th Hellenic Symposium of Medicinal Chemistry, Athens, Greece, March 14-15 2008.
7. E. Tsoukala, D. Simeonidi, S. Manta, N. Tzioumaki, D. Komiotis, *Synthesis and biological action of 3-fluoro-6-thioglucofuranosyl nucleosides: Structure activity comparison to furanosyl analogues*, 13th Hellenic Symposium of Medicinal Chemistry, Athens, Greece, March 14-15 2008.
8. G. Agelis, N. Tzioumaki, S. Manta, E. Tsoukala, D. Komiotis, *Exomethylene pyranonucleosides: Efficient synthesis and biological evaluation of 1-(2,3,4-trideoxy-2-methylene-β-D-glycero-hex-3-enopyranosyl)thymine*. 10th Conference in Advance Medicinal Chemistry, Thessaloniki, Greece, Mai 25-26 2007.
9. N. Tzioumaki, G. Agelis, T. Tselios, S. Manta, E. Tsoukala, D. Komiotis, *Design, Synthesis and Molecular Modeling of Potent Unsaturated Exomethylene Pyranonucleoside Analogues with Antitumor and Antiviral Activity*, 2nd Greek Symposium Organic Synthesis, Athens, Greece, April 19-21 2007.
10. S. Manta, G. Agelis, E. Tsoukala, N. Tzioumaki, D. Komiotis, *Unsaturated fluoro-ketopyranosyl nucleosides: Synthesis and biological evaluation of 3-fluoro-4-keto-β-D-glucopyranosyl derivatives of N4-benzoyl cytosine and N6-benzoyl adenine*, 88th International Conference of Medicinal Chemistry: Drug Discovery and Design, Patras, Greece, March 15-17 2007.
11. G. Agelis, N. Tzioumaki, S. Manta, J. Dolinšek, T. Botič, A. Cencič, D. Komiotis, *Fluoro-ketopyranosyl nucleosides and Exomethylene pyranonucleosides as potential antitumor and antiviral compounds. Biological Activity in Vitro*, The 4th International Conference On "Tumor Microenvironment: Progression, Therapy and Prevention", Palazzo dei Congressi, Florence, Italy, March 6-10 2007.