

CURRICULUM VITAE

Alexandru Rotaru, PhD



Personal data

Nationality: Romanian, Moldavian
Date and place of birth: 12.05.1977, Republic of Moldova
Address: Str. Ciurchi 134, sc.A, ap.1, 700358 Iasi, Romania
Tel.: +40 751563076
E-mail: rotaru.alexandru@icmpp.ro
rotaru_a@yahoo.com
Marital status: Married, one child (Stefan, three years old).

Professional Experience

- 02/2012 – present Scientific researcher at *Centre of Advanced Research in Bionanoconjugates and Biopolymers* within Institute of Macromolecular Chemistry "P. Poni", Iasi, Romania.
- 01/2008 – 12/2011 Postdoctoral position in the group of professor Kurt V. Gothelf, Center for DNA Nanotechnology (CDNA) within the *iNANO* Center at Aarhus University, Denmark:
- Design and preparation of DNA nanostructures.
 - Optimization of DNA nanostructures' purification methods.
 - Experience and characterization of nanostructures and various nanoparticles (AFM, TEM, SEM).
 - Automated DNA synthesis.
 - Interdisciplinary collaborations with Departments of Physics and Molecular Biology.
 - Documentation of scientific results and writing of publications and reports
 - Supervision of students.
- 01/2006 – 01/2008 Postdoctoral position in the group of professor Roland Krämer, Inorganic Chemistry Institute, Ruprecht-Karls University of Heidelberg, Germany:
- Preparation and purification of heavily modified DNA.
 - Mass spectrometry (MALDI-ToF) of DNA and DNA conjugates.
 - Study and optimization of photochemical reactions on DNA.
 - UV-Vis and Fluorescence studies of DNA conjugates
 - Planning, developing and implementation of research projects
 - Supervision of students.
- 06/2004 – 05/2005 Scholarship from German Academic Exchange Office (DAAD) in the group of professor Thomas J. J. Müller, Organic Chemistry Institute, Ruprecht-Karls University of Heidelberg, Germany.
- Organic synthesis including air sensitive compounds.
 - Standard characterization of small organic molecules (NMR, IR, MS).
 - Fluorescence microscopy in organic solvents and water.

Professional skills:

- Extensive experience in preparation and purification of heavily modified DNA. Handling of gold nanoparticles and nanoparticles' conjugates with different modifications.
- Gel electrophoresis, column chromatography, UV/Vis and fluorescence measurements, HPLC.
- Organic synthesis including air-sensitive compounds (Schlenk-technique). Characterization of small molecules, bioconjugates and bio-nanostructures.
- Teaching, students' supervision, scientific papers and projects writing.
- Working both individually or in collaboration with other group members from different departments.
- Excellent communication and oral presentation skills.
- Experience of multiple national and international conference presentations (both posters and oral presentations).

Instrumental Experience

HPLC (analytical and preparative on RP, SEC or IE columns) – routine daily use.

MALDI-ToF Mass Spectrometer (Bruker AutoFlex) – routine daily use.

Gel Electrophoresis (PAGE and Agarose) – routine use.

AFM (liquid, Agilent 5500 SPM system) – routine use.

NMR, IR – routine use.

UV-Vis (Cary 100 Bio, NanoDrop) and Florescence measurements – routine use.

TEM and SEM – basic training and knowledge.

Education

- 11/2000 – 10/2005 PhD in the group of professor Ioan Druta, Department of Organic Chemistry and Biochemistry, University “Al. I. Cuza”, Iasi, Romania (qualification: very good).
- 1999 – 2000: Master thesis in Organic Chemistry, Moldova State University, Chisinau, Rep. Moldova (Average: 9.25 out of 10).
- 1994 – 1999: Faculty of Chemistry, Department of Industrial and Environmental Chemistry, Moldova State University, Chisinau, Rep. Moldova (Average: 8.63 out of 10, final examination grade: 8.67 out of 10).

Computer Skills

OS Windows, MS Office, Chem Office, SciFinder

Languages

Romanian (native language),

Russian (native language),

English (Reading, Writing, Speaking: fluent),

German (good),