

Curriculum Vitae

PERSONAL DATA

Name and surname	Marijana Hranjec
Academic title	PhD, associate professor
Year and institution of PhD obtained	2007 Faculty of Chemical Engineering and Technology, University of Zagreb
Address	Marulićev trg 19
Phone	+385 1 4597 245
Fax	+385 1 4597 250
E-mail	mhranjec@fkit.hr
Personal web page	-
Citizenship	Croatian
Date and place of birth	07.10.1977. Čakovec

WORK EXPERIENCE

Date (from – until)	27.12.2012 - today
Institution	Faculty of Chemical Engineering and Technology
Position	Associate professor
Work field	Organic and medicinal chemistry
Date (from – until)	01.09.2008 – 27.12.2012
Institution	Faculty of Chemical Engineering and Technology
Position	Assistant professor
Work field	Organic and medicinal chemistry
Date (from – until)	01.09.2001 – 01.09.2008
Institution	Faculty of Chemical Engineering and Technology
Position	Scientific novice, assistant
Work field	Organic and medicinal chemistry

EDUCATION

Date	2001-2007
Place	Zagreb
Institution	Faculty of Chemical Engineering and Technology
Title of qualification awarded	PhD in natural science
Date	1996-2001
Place	Zagreb
Institution	Faculty of Chemical Engineering and Technology
Title of qualification awarded	Bachelor's degree in chemistry
Date	1992-1996
Place	Čakovec
Institution	Gymnasium High school
Title of qualification awarded	

LANGUAGES

MOTHER TONGUE	croatian
ENGLISH LANGUAGE	yes
Speaking	Very good
Writing	Very good
Reading	Very good

Language	german
Speaking	good
Writing	Very good
Reading	Very good

RESEARCH AND OTHER PROJECTS

2002 – 2006 collaborator on the project *New Heterocyclic Compounds; Synthesis, Antiinfective and Antitumor Activity* Financed by Ministry of Science, Education and Sport of the Republic of Croatia; (No. 125005)

2007 – 30.10.2011. collaborator on the project *Novel heterocycles as antitumor and antiviral “smart” drugs* Financed by Ministry of Science, Education and Sport of the Republic of Croatia; (No. 125-0982464-1356)

2011 – 2012 leader of the project *Synthesis, photochemical synthesis, DNA binding, antitumor activity and QSAR analyses of novel condensed quinolones and quiniolines* (Cogito Partnership Hubert Curien za 2011./2012, Croatian-French project)

30.10.2011 - today leader of the project *Novel heterocycles as antitumor and antiviral “smart” drugs* Financed by Ministry of Science, Education and Sport of the Republic of Croatia; (No. 125-0982464-1356)

2014 - 2017 collaborator on the project *Synthesis and cytostatic evaluations of novel nitrogen heterocycles library*, Croatian science foundation

TEACHING

Undergraduate study:

-2008/2009 teaching of course Biochemistry, laboratory practice of courses Chemistry of natural and synthetic polymers, Planning of organic chemistry and Chemical-technology practice

-2009/2010 teaching of courses Biochemistry and Planning of organic chemistry, laboratory practice of course Chemical-technology practice

-2010/2011 teaching of courses Biochemistry, Chemistry of natural and synthetic polymers and Planning of organic chemistry

-2011/2012 teaching of courses Biochemistry, Chemistry of natural and synthetic polymers, Planning of organic chemistry and Chemistry of heterocycles

-2012/2013 teaching of courses Biochemistry, Chemistry of natural and synthetic polymers and Planning of organic chemistry

-2013/2014 teaching of courses Organic chemistry, Biochemistry and Chemistry of natural and synthetic polymers

Graduate study:

-2009/2010 teaching of courses Microwave assisted synthesis, Heterocyclic antitumor drugs and Planning of organic chemistry

-2010/2011 teaching of courses Microwave assisted synthesis and Heterocyclic antitumor drugs

2011/2012 teaching of courses Microwave assisted synthesis, Heterocyclic antitumor drugs and Planning of organic chemistry

-2012/2013 teaching of courses Microwave assisted synthesis, Heterocyclic antitumor drugs and Planning of organic chemistry

-2013/2014 teaching of courses Microwave assisted synthesis, Heterocyclic antitumor drugs and Organic chemistry in drug development

Postgraduate study:

Heterocycles in biomolecules and industry; Chemistry of nucleoside antineoplastics

MENTORSHIPS OF DOCTORAL AND MASTER DISSERTATIONS AND TRAINING OF YOUNG RESEARCHERS AND SCIENTISTS

- supervisor of 9 Bachelor's degree works, supervisor of 8 Final master works, self-actuated supervisor of several Bachelor's degree works

- supervisor of 4 scientific works awarded by rector of University of Zagreb

- mentorship of doctoral dissertation of scientific novice Nataša Perin

AWARDS AND RECOGNITIONS

In 2008 *Annual award for young scientists and artists* established by The society of university teachers, scholars and other scientists in Zagreb for scientific work entitled „Novel Cyano- and Amidino-Substituted Derivatives of Styryl-2-Benzimidazoles and Benzimidazo[1,2-a]Quinolines Synthesis, Photochemical Synthesis, DNA Binding and Antitumor Evaluation, Part. 3.“ *Journal of Medicinal Chemistry* **50** (2007) 5696-5711.

In 2012 *The prize for organic chemistry Vladimir Prelog* established by Croatian chemical society for successful scientific work in the field of synthetic organic and medicinal chemistry with the accent on photochemical synthesis and spectroscopic characterization of novel heterocyclic compounds as potential antitumor agents.

MEMBERSHIP IN SCIENCE ORGANIZATIONS AND BODIES

Croatian Chemical Society (HKD), AMACIZ

COMMISSIONS, COMMITTEES, BOARDS AND WORK GROUPS

Head of the Department of Organic Chemistry (2009/2010-2010/2011)

PAPERS

22 CC scientific papers

3 other scientific papers

2 international CC conference proceeding

36 international and domestic conferences with poster presentation

2 invited lectures

List of CC publications

No	Reference	IF	Cit ^a	Q ^b
1.	M. Hranjec , K. Starčević, B. Zamola, S. Mutak, M. Đerek, G. Karminski-Zamola, New Amidino-benzimidazolyl Derivatives of Tylosin and Desmocosin. <i>Journal of Antibiotics</i> 55 (2002) 308-314.	1.382	12	N/A
2.	D. Agić, M. Hranjec , N. Jajčanin, K. Starčević, G. Karminski-Zamola, M. Abramić, Novel amidino-substituted benzimidazoles: Synthesis of compounds and inhibition of dipeptidyl peptidase III. <i>Bioorg. Chem.</i> 35 (2007) 153-169.	2.125	9	Q2
3.	M. Hranjec , G. Karminski-Zamola, Synthesis of Novel Benzimidazolyl-substituted Acrylonitriles and Amidino-substituted Benzimidazo[1,2- <i>a</i>] Quinolines. <i>Molecules</i> 12 (2007) 1817-1828.	0.940	12	Q3
4.	M. Hranjec , G. Pavlović, G. Karminski-Zamola, Spectroscopic characterization, crystal structure determination and interaction with DNA of novel cyano substituted benzimidazole derivative. <i>Struct. Chem.</i> 18 (2007) 943-949.	0.888	1	Q3
5.	M. Hranjec , M. Kralj, I. Piantanida, M. Sedić, L. Šuman, K. Pavelić, G. Karminski-Zamola, Novel Cyano- and Amidino-Substituted Derivatives of Styryl-2-Benzimidazoles and Benzimidazo[1,2- <i>a</i>]quinolines. Synthesis, Photochemical Synthesis, DNA binding and Antitumor Evaluation, Part 3. <i>J. Med. Chem.</i> 50 (2007) 5696-5711.	4.895	69	Q1
6.	K. Starčević, M. Hranjec , D. Carić, G. Karminski-Zamola, Synthesis and spectroscopic properties of new furyl-phenyl-acrylates and naphthofurans and their interaction with ct-DNA. <i>Monatshefte für Chemie-Chemical Monthly</i> 139 (2008) 975-983.	1.426	1	Q2
7.	M. Hranjec , G. Pavlović, M. Marinović, G. Karminski-Zamola, Synthesis, Spectroscopic properties and crystal structure determination of 2-(2-pyridin-4-yl-vinyl)-1 <i>H</i> -benzimidazole derivatives. <i>Struct. Chem.</i> 19 (2008) 353-359.	1.433	3	Q2
8.	M. Hranjec , K. Starčević, I. Piantanida, M. Kralj, M. Marjanović, M. Hasani, G. Westman, G. Karminski-Zamola, Synthesis, antitumor evaluation and DNA binding studies of novel amidino-benzimidazolyl substituted derivatives of furyl-phenyl and thienyl-phenyl-acrylates, naphthofurans and naphthothiophenes. <i>Eur. J. Med. Chem.</i> 43 (2008) 2877-2890.	2.882	17	Q2
9.	M. Sedić, M. Poznić, P. Gehrig, M. Scott, R. Schlapbach, M. Hranjec , G. Karminski Zamola, K. Pavelić, S. Kraljević Pavelić, Differential anti-proliferative mechanisms of novel derivative of <i>N</i> -amidino-substituted benzimidazo[1,2- <i>a</i>]quinoline in colon cancer cells depending upon their functional p53 status. <i>Mol. Canc. Ther.</i> 7 (2008) 2121-2132.	5.003	13	Q1

10.	M. Hranjec , I. Piantanida, M. Kralj, L. Šuman, K. Pavelić, G. Karminski-Zamola, Novel amidino-substituted thienyl- and furyl-vinyl-benzimidazole derivatives and their photochemical conversion into corresponding diaza-cyclopenta[<i>c</i>]fluorenes. Synthesis, interactions with DNA and RNA and antitumor evaluation. Part 4. <i>J. Med. Chem.</i> 51 (2008) 4899-4910.	4.898	43	Q1
11.	S. Kraljević Pavelić, S. Bratulić, K. Hock, D. Jurišić, M. Hranjec , G. Karminski-Zamola, B. Žinić, M. Bujak, K. Pavelić, Screening of potential prodrugs on cells derived from Dupuytren's Disease patients. <i>Biomedicine & pharmacotherapy</i> 63 (2009) 577-585.	2.238	2	Q2
12.	M. Hranjec , G. Pavlović, G. Karminski-Zamola, Crystal structure and synthesis of benzimidazole substituted acrylonitriles and benzimidazo[1,2- <i>a</i>]quinolines. <i>Struct. Chem.</i> 20 (2009) 91-99.	1.637	5	Q2
13.	K. Ester, M. Hranjec , I. Piantanida, I. Čaleta, J. Ivana, K. Pavelić, M. Kralj, G. Karminski-Zamola, Novel Derivatives of Pyridyl-Benzo[<i>b</i>]thiophene-2-carboxamides and Benzo[<i>b</i>]thieno[2,3- <i>c</i>]naphthyridin-2-ones: Minor Structural Variations Provoke Major Differences of Antitumor Action Mechanisms. <i>J. Med. Chem.</i> 52 (2009) 2482-2492.	4.802	15	Q1
14.	M. Hranjec , G. Pavlović, M. Marjanović, G. Karminski-Zamola, Benzimidazole derivatives related to 2,3-acrylonitriles, benzimidazo[1,2- <i>a</i>]quinolines and fluorenes: Synthesis, Antitumor Evaluation <i>in vitro</i> and Crystal Structure Determination. <i>Eur. J. Med. Chem.</i> 45 (2010) 2405-2417.	3.193	216	Q1
15.	N. Perin, M. Hranjec , G. Pavlović, G. Karminski-Zamola, Novel aminated benzimidazo[1,2- <i>a</i>]quinolines as potential fluorescent probes for DNA detection: microwave-assisted synthesis, spectroscopic characterization and crystal structure determination. <i>Dyes and Pigments</i> 91 (2011) 79-88.	3.126	4	Q1
16.	M. Hranjec , K. Starčević, S. Kraljević Pavelić, P. Lučin, K. Pavelić, G. Karminski-Zamola, Synthesis, spectroscopic characterization and antiproliferative evaluation <i>in vitro</i> of novel Schiff bases related to benzimidazoles. <i>Eur. J. Med. Chem.</i> 46 (2011) 2274-2279.	3.346	18	Q1
17.	M. Hranjec , B. Lučić, I. Ratkaj, S. Kraljević Pavelić, I. Piantanida, K. Pavelić, G. Karminski-Zamola, Novel Imidazo[4, 5- <i>b</i>]Pyridine and Triaza-Benzo[<i>c</i>]Fluorene Derivatives: Synthesis, Antiproliferative Activity and DNA Binding Studies. <i>Eur. J. Med. Chem.</i> 46 (2011) 2748-2758.	3.346	7	Q1
18.	N. Perin, L. Uzelac, I. Piantanida, G. Karminski-Zamola, M. Kralj, M. Hranjec , Novel biologically active nitro and amino substituted benzimidazo[1, 2- <i>a</i>]quinolines. <i>Bioorg. Med. Chem.</i> 19 (2011) 6329-6339.	2.921	8	Q2
19.	M. Hranjec , G. Pavlović, G. Karminski-Zamola, Synthesis, crystal structure determination and antiproliferative activity of novel 2-amino-4-aryl-4, 10-dihydro[1,3,5]triazino[1,2- <i>a</i>]benzimidazoles. <i>J. Mol. Struct.</i> 1007 (2011) 242-251.	1.634	2	Q3
20.	M. Hranjec , E. Horak, M. Tireli, G. Pavlović, G. Karminski-Zamola, Synthesis, crystal structure and spectroscopic study of novel benzimidazoles and benzimidazo[1,2- <i>a</i>]quinolines as potential chemosensors for different cations. <i>Dyes and pigments.</i> 95 (2012) 644-656.	3.433	3	Q1

- | | | | | |
|-----|--|-----------------|---|----|
| 21. | M. Hranjec, I. Sović, I. Ratkaj, G. Pavlović, N. Ilić, L. Valjalo, K. Pavelić, S. Kraljević Pavelić, G. Karminski-Zamola, Antiproliferative potency of novel benzofuran-2-carboxamides on tumour cell lines: Cell death mechanisms and determination of crystal structure. <i>Eur. J. Med. Chem.</i> 59 (2013) 111-119. | 3.432 | 3 | Q1 |
| 22. | N. Perin, R. Nhili, K. Ester, W. Laine, G. Karminski-Zamola, M. Kralj, M. H. David-Cordonnier, M. Hranjec, Synthesis, antiproliferative activity and DNA binding properties of novel 5-aminobenzimidazo[1,2- <i>a</i>]quinoline-6-carbonitriles. <i>Eur. J. Med. Chem.</i> 80 (2014) 218-227. | 3.432
(2013) | 0 | Q1 |

a Total citation number (ISI Web of Science, August 2013); b The best Q in corresponding category (*ISI Journal Citation Report*)

OTHER RESEARCH ACTIVITIES

Reviewer for several International and domestic scientific journals (European journal of medicinal chemistry, Bioorganic and medicinal chemistry, Tetrahedron, Croatica Chemica Acta, Monatshefte für Chemie, Chemical papers *etc.*).

COMPUTER SKILLS

Familiar with Windows and MS-DOS operating systems, Proficient in MS Office, CorelDraw, ChemDraw, OriginPro.

OTHER IMPORTANT SKILLS AND COMPETENCES

Instrumentation experience: IR spectroscopy, Ultraviolet and visible absorption spectroscopy, Fluorescence spectroscopy, CD spectrophotometer, GC/MS, microwave oven for organic synthesis.

ADDITIONAL INFORMATION AND NOTES

Field of research work: Design, synthesis, photochemical synthesis and spectroscopic characterization of organic heterocyclic compounds prepared as potential antitumor agents; spectroscopic study of interactions of prepared compounds with biomacromolecules DNA/RNA by means of UV/Vis, fluorescence and CD spectroscopy, thermal melting experiments and viscometry; specific expertise in modern techniques such as photochemical reactions, spectroscopic study of prepared molecules by means of UV/Vis and fluorescence spectroscopy, microwave assisted organic synthesis, retrosynthetic approach in the synthesis of designed molecules and structural characterization of organic compounds by means of ¹H, ¹³C and 2D NMR, IR, UV, CD and fluorescence spectroscopy and mass spectrometry.

Driving licence – B category.

Marijawa Hranjec