ACADEMIA ROMÂNĂ
SCOSAAR

Anexa nr.3

AVIZAT,

Director ȘCOALA DOCTORALĂ

Dr. Marcela Mihai

1. Îndeplinirea standardelor IOSUD superioare standardelor minimale naţionale* [ ] DA| [ ] | NU

2. Îndeplinirea standardelor IOSUD egale standardelor minimale naţionale* [X] DA| [ ] | NU

FIŞA DE ÎNDEPLINIRE A STANDARDELOR IOSUD

(Standarde minimale pentru conferirea gradelor profesionale de cercetare dezvoltare)

Categorie	N_{max}	FIC	FIC_D	FIC_{AP}	FIC_{AC}	H index
Habilitare *(standarde minimale necesare si obligatorii)*	50	100	70	50	25	13
Punctaj candidat	40	298,7	271,5	133,8	47,1	17

N_{max} – Primele maxim N lucrari, organizate in ordinea descrescatoare a factorilor de impact a revistelor in care au fost publicate.
FI – Factorul de impact al revistelor in care s-au publicat lucrarile in cauza.
FIC – Factorul de impact cumulat minimal al revistelor in care s-au publicat lucrarile in cauza.
FIC_D – Factorul de impact cumulat minimal din publicatiile in domeniile de cercetare declarate.
FIC_{AP} – Factorul de impact cumulat minimal din publicatiile in calitate de autor principal (prim-autor si autor de corespondenta).
FIC_{AC} – Factorul de impact cumulat minimal din publicatiile in calitate de autor de corespondenta.
H index – Indicele Hirsch.

Candidat: Dr. Alexandru Rotaru

Data: 04.03.2025

Semnătura:

ACADEMIA ROMÂNĂ
SCOSAAR

FIŞA DE VERIFICARE

a îndeplinirii standardelor IOSUD

Lista cu 40 de lucrari indexate ISI WEB of Science

Nr.	Articol	FIC	FIC$_D$	FIC$_{AP}$	FIC$_{AC}$
1	N. V. Voigt, T. Tørring, **A. Rotaru**, M. F. Jacobsen, J. B. Ravnsbæk, R. Subramani, W. Mamdouh, J. Kjems, A. Mokhir, F. Besenbacher, K. V. Gothelf. Single molecule chemical reactions on DNA origami. *Nature Nanotechnology, 5,* 200, (**2010**).	38,1	38,1		
2	**A. Rotaru**, K. V. Gothelf. Steps towards automated synthesis. *Nature Nanotechnology, 5*, 760-761, (**2010**).	38,1	38,1	38,1	
3	Z. Sun, M. Barboiu, Y. M. Legrand, E. Petit, **A. Rotaru**. Highly selective artificial cholesteryl crown ether K^+-channels. *Angewandte Chemie Int. Ed., 48*, 14681, (**2015**).	16,1	16,1		
4	**A. Rotaru**, S. Dutta, E. Jentzsch, K. V. Gothelf, A. Mokhir. Selective dsDNA-templated formation of copper nanoparticles in solution. *Angewandte Chemie Int. Ed.*, *49*, 5665, (**2010**).	16,1	16,1	16,1	
5	**A. Rotaru**, A. Mokhir. "Caged" nucleic acid binders, which can be activated by green or red light. *Angewandte Chemie Int. Ed., 119(32)*, 6293, (**2007**).	16,1	16,1	16,1	
6	S. Helmig, **A. Rotaru**, D. Arian, J. Arnbjerg, P. Ogilby, J. Kjems, A. Mokhir, F. Besenbacher, K. V. Gothelf. Single molecule AFM studies of photosensitized singlet oxygen behavior on a DNA origami template. *ACS Nano*, *4(12)*, 7475, (**2010**).	15,8	15,8		
7	R. Subramani, S. Juul, **A. Rotaru**, F. Andersen, K. Gothelf, W. Mamdouh, F. Besenbacher, M. Dong, B. Knudsen. A novel secondary DNA binding site in human topoisomerase i unraveled by using a 2d DNA origami platform. *ACS Nano*, *4(10)*, 5969, (**2010**).	15,8	15,8		
8	A. Keller, I. Bald, **A. Rotaru**, E. Cauet, K. V. Gothelf, F. Besenbacher. Probing electron-enduced bond cleavage at the single-molecule level using DNA origami template. *ACS Nano*, *6*, 4392, (**2012**).	15,8	15,8		
9	I. Klemt, O. Varzatskii, R. Selin, S. Vakarov, V. Kovalska, G. Bila, R. Bilyy, Y. Voloshin, I. Cossío Cuartero, A. Hidalgo, B. Frey, I. Becker, B. Friedrich, R. Tietze, R. P. Friedrich, C. Alexiou, E.-L. Ursu, **A. Rotaru**, I. Solymosi, M. E. Pérez-Ojeda, A. Mokhir. 3D-Shaped Binders of Unfolded Proteins Inducing Cancer Cell-Specific Endoplasmic Reticulum Stress *In Vitro* and *In Vivo*. *Journal of the American Chemical Society* 145, 40, 22252-22264 (**2023**).	14,4	14,4		
10	E. L. Ursu, G. Gavril, S. Morariu. M. Pinteala, M. Barboiu, **A. Rotaru.** Single-walled carbon nanotubes–G-	8,1		8,1	8,1

	quadruple hydrogel nanocompositematrixes for cell support applications. *Materials Science & Engineering C*, *111*, 110800, (**2020**).				
11	**A. Rotaru**, C. Cojocaru, I. Cretescu, M. Pinteala, D. Timpu, L. Sacarescu, V. Harabagiu. Performances of clay aerogel polymer composites for oil spill sorption: Experimental design and modelling. *Separation and Purification Technology*, *133*, 260, (**2014**).	8,1		8,1	
12	M. C. Sardaru, I. Rosca, S. Morariu, E. L. Ursu, R. Ghiarasim, **A. Rotaru**. Injectable Thixotropic β–Cyclodextrin–functionalized Hydrogels Based on Guanosine Quartet Assembly. *International Journal of Molecular Sciences, 22,* 9179, (**2021**).	4,9	4,9	4,9	4,9
13	T. Vasiliu, C. Cojocaru, **A. Rotaru**, G. Pricope, M. Pinteala, L. Clima. Optimization of polyplex formation between DNA oligonucleotide and poly(L-Lysine): experimental study and modeling approach. *International Journal of Molecular Sciences*, *18*, 1291, (**2017**).	4,9	4,9		
14	L. G. Bahrin, I. Rosca, L. Clima, S. Shova, D. Bejan, A. Nicolescu, N. L. Marangoci, M. C. Sardaru, V. Lozan, **A. Rotaru**. Zinc(II) coordination polymer on the base of 3'-(1H-tetrazol-5-yl)-[1,1'-biphenyl]-4-carboxylic acid: Synthesis, crystal structure and antimicrobial properties. *Inorganic Chemistry Communications*, *92*, 60, (**2018**).	4,4	4,4	4,4	4,4
15	M. C. Sardaru, S. Morariu, O. E. Carp, E. L. Ursu, **A. Rotaru,** M. Barboiu. Dynameric G-quadruplex-dextran hydrogels for cell growth applications. *Chemical Communications*, *59*, 3134, (**2023**).	4,3	4,3	4,3	4,3
16	**A. Rotaru**, G. Pricope, T. Planck, L. Clima, E. L. Ursu, M. Pinteala, J. Davis, M. Barboiu. G-quartet hydrogels for effective cell growth applications. *Chemical Communications*, *53*, 12668, (**2017**).	4,3	4,3	4,3	
17	I. Kocsis, **A. Rotaru**, Y. M. Legrand, I. Grosu, M. Barboiu. Supramolecular rulers enabling selective detection of pure short ssDNA via chiral self-assembly. *Chemical Communications*, *52*, 386, (**2016**).	4,3	4,3		
18	R. Catana, M. Barboiu, I. Moleavin, L. Clima, **A. Rotaru**, L. E. Ursu, M. Pinteala. Dynamic constitutional frameworks for DNA biomimetic recognition. *Chemical Communications, 51(11)*, 2021, (**2015**).	4,3	4,3		
19	K. Busuttil, **A. Rotaru**, M. Dong, F. Besenbacher, K. V. Gothelf. Transfer of protein pattern from self-assembled DNA origami to a functionalized substrate. *Chemical Communications*, *49*, 1927, (**2013**).	4,3	4,3		
20	A. M. Craciun, **A. Rotaru**, C. Cojocaru, I. I. Mangalagiu, R. Danac. New 2,9-disubstituted-1,10-phenanthroline derivatives with anticancer activity by selective targeting	4,3			

	of telomeric G-quadruplex DNA. *Spectrochimica Acta – Part A: Molecular and Biomolecular Spectroscopy.* (249), 119318, (**2021**).				
21	L. Leontie, I. Druta, **A. Rotaru**, C. Podaru, G. Rusu. On the electronic transport properties of 4,4'-bipyridinium dibromides in thin films. *Materials Chemistry and Physics, 97(2-3)*, 476, (**2006**).	4,3			
22	M. C. Sardaru, O. Carp, E. Ursu, A. Craciun, C. Cojocaru, M. Silion, V. Kovalska, I. Mangalagiu, R. Danac, **A. Rotaru**. Cyclodextrin encapsulated pH sensitive dyes as fluorescent cellular probes: self-aggregation and in vitro assessments; *Molecules*, *25(19)*, 4397, (**2020**).	4,2	4,2	4,2	4,2
23	G. Pricope, M. Sardaru, E. L. Ursu, C. Cojocaru, L. Clima, N. Marangoci, R. Danac, I. Mangalagiu, B. C. Simionescu, M. Pinteala, **A. Rotaru**. Novel pH-sensitive supramolecular host-guest assembly for staining cell acidic organelles. *Polymer Chemistry*, *9*, 968, (**2018**).	4,1	4,1	4,1	4,1
24	L. Leontie, I. Druta, **A. Rotaru**, N. Apetroaei, G. I. Rusu. Electronic transport properties of some new monoquaternary salts of 4,4-bipyridine in thin films. *Synthetic Metals, 159*, 642, (**2009**).	4,0	4,0		
25	C. Cojocaru, **A. Rotaru**, V. Harabagiu, L. Sacarescu. Molecular structure and electronic properties of pyridylindolizine derivative containing phenyl and phenacyl groups: Comparison between semi-empirical calculations and experimental studies. *Journal of Molecular Structure*, *1034*, 162, (**2013**).	4,0	4,0		
26	Keller, J. Rackwitz, W. Cauet, J. Lievin, T. Korzdorfer, **A. Rotaru**, K. V. Gothelf, F. Besenbacher, I. Bald. Sequence dependence of electron-induced DNA strand breakage revealed by DNA nanoarrays. *Scientific Reports*. *4*, 7391, (**2014**).	3,8	3,8		
27	M. C. Sardaru, I. Rosca, C. Ursu, A. I. Dascalu, E. L. Ursu, S. Morariu, **A. Rotaru.** Photothermal Hydrogel Composites Featuring G4-Carbon Nanomaterial Networks for Staphylococcus aureus Inhibition. *ACS Omega*, 9(14) 15833-15844 (**2024**).	3,7	3,7	3,7	3,7
28	L. Clima, E. L. Ursu, C. Cojocaru, **A. Rotaru**, M. Barboiu, M. Pinteala. Experimental design, modeling and optimization of polyplex formation between DNA oligonucleotide and branched polyethylenimine. *Organic & Biomolecular Chemistry*. *13*, 9445, (**2015**).	2,9	2,9	2,9	2,9
29	L. G. Bahrin, L. Clima, S. Shova, I. Rosca, C. Cojocaru, D. Bejan, M. C. Sardaru, N. Marangoci, V. Lozan, **A. Rotaru**. Synthesis, structure, computational modeling and biological activity of two novel bimesitylene derivatives. *Research on Chemical Intermediates*, *45(2)*, 453-469,	2,8	2,8	2,8	2,8

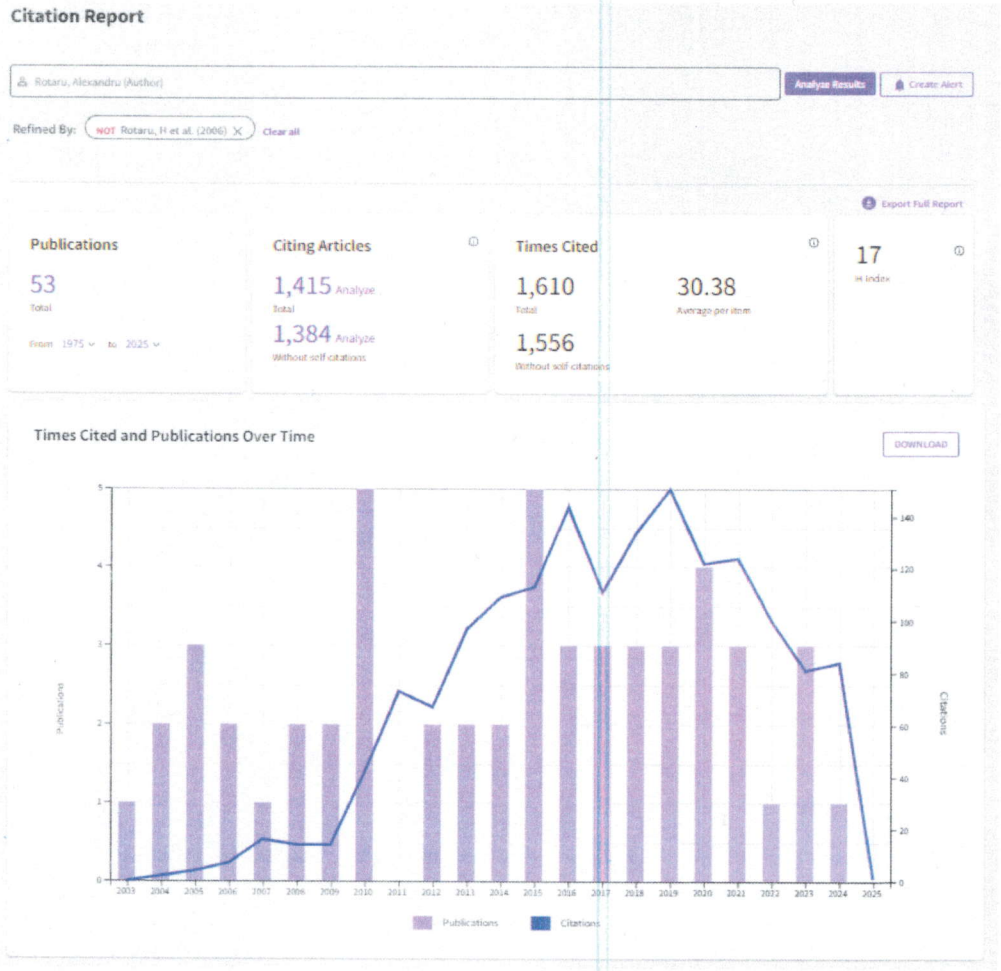
ACADEMIA ROMÂNĂ
SCOSAAR

	(**2019**).				
30	**A. Rotaru**, J. Kovacs, A. Mokhir. Red light activated phosphorothioate oligodeoxyribonucleotides. *Bioorganic & Medicinal Chemistry Letters, 18(15)*, 4336, (**2008**).	2,5	2,5	2,5	
31	D. Aristova, V. Kosach, S. Chernii, Y. Slominsky, A. Balanda, V. Filonenko, S. Yarmoluk, **A. Rotaru**, H. G. Özkan, A. Mokhir, V. Kovalska. Monomethine cyanine probes for visualization of cellular RNA by fluorescence microscopy. *Methods and Applications in Fluorescence* 9, 045002, (**2021**).	2,4			
32	D. Bejan, L. G. Bahrin, C. Cojocaru, A. F. Trandabat, N. L. Marangoci, **A. Rotaru**, S. Shova. The use of C1 symmetry imidazole-carboxylate building block and auxiliary acetate co-ligand for assembly of 2d wave-like zinc(II) coordination polymer: experimental and theoretical study. *Journal of Coordination Chemistry, 73(16)*, 2250-2264, (**2020**).	2,2	2,2		
33	N. L. Marangoci, L. Popovici, E. L. Ursu, R. Danac, L. Clima, C. Cojocaru, A. Coroaba, A. Neamtu, I. Mangalagiu, M. Pinteala, **A. Rotaru**. Pyridyl-indolizine derivatives as DNA binders and pH-sensitive fluorescent dyes. *Tetrahedron, 50*, 8215, (**2016**).	2,1	2,1	2,1	2,1
34	E. L. Ursu, F. Doroftei, D. Peptanariu, M. Pinteala, **A. Rotaru**. DNA-assisted decoration of single-walled carbon nanotubes with gold nanoparticles for applications in surface-enhanced Raman scattering imaging of cells. *Journal of Nanoparticle Research, 19*, 181, (**2017**).	2,1	2,1	2,1	2,1
35	R. Danac, R. Rusu, **A. Rotaru**, A. Pui, S. Shova. New conjugates of calix[4]arenes bearing dipyridine and indolizine heterocycles. *Supramolecular Chemistry, 6*, 424, (**2012**).	2,1	2,1		
36	**A. Rotaru,** R. Danac, I. Druta. Synthesis of new non-symmetrical substituted 7,7'-bisindolizines by the direct reaction of 4,4'-bipyridinium-ylides with dimethyl acetylenedicarboxylate. *Journal of Heterocyclic Chemistry, 41(6)*, 893, (**2004**).	2,0	2,0	2,0	2,0
37	R. Danac, M. Constantinescu, **A. Rotaru,** C. Ghirvu, I. Druta. Synthesis of novel 4,5-diazafluoren-9-one derivatives and theoretical study of 3+2 cycloaddition reactions. *Journal of Heterocyclic Chemistry, 41(6)*, 983, (**2004**).	2,0	2,0		
38	R. Danac, **A. Rotaru,** G. Drochioiu, I. Druta. Synthesis of novel phenanthroline derivatives by 3+2 dipolar cycloaddition reaction. *Journal of Heterocyclic Chemistry, 40(2)*, 283, (**2004**).	2,0	2,0		
39	E. L. Ursu, L. Clima, C. Hejesen, **A. Rotaru**, M. Pinteala. DNA-mediated copper nanoparticle formation on	1,5	1,5	1,5	1,5

ACADEMIA ROMÂNĂ
SCOSAAR

	dispersed single-walled carbon nanotubes. *Helvetica Chimica Acta, 98(8)*, 1141, (**2015**).				
40	**A. Rotaru**, I. Druta, T. Oeser, T. J.J. Müller. Novel coupling-1,3-dipolar cycloaddition sequence as a three-component approach to highly fluorescent indolizines. *Helvetica Chimica Acta, 88 (7)*, 1798, (**2005**).	1,5	1,5	1,5	
Total		**298,7**	**271,5**	**133,8**	**47,1**

H index (Web of Science) – 17



Candidat: Dr. Alexandru Rotaru

Data: 04.03.2025

Semnătura:

*se va alege una dintre variante