RICCCE 21

21st Romanian International Conference on Chemistry and Chemical Engineering

Constanta - Mamaia
ROMANIA

September 4-7
2019

PROGRAM

IAKI Hotel Conference Center, Mamaia, ROMANIA

riccce[at]chimie.upb.ro

riccce21.chimie.upb.ro

Friday 6 September 2019 – Afternoon parralel sessions

Advances in Organic and Inorganic Chemistry & Catalysis

Section 1

***Time**: 15:00 – 17:00*

Chaired by: ***Matei Raicopol*** *and* ***Florina Dumitru***

15:00 to 15:20 keynote

Raluca Stan (University Politehnica of Bucharest, Romania), Brindusa Balanuca

Vegetable Oils as Valuable Feedstock for Performant Materials

15:20 to 15:40 keynote

Sylvain Routier (University of Orleans, France), Johnny Vercouillie, Franck Suzenet, Frédéric Buron, Sylvie Chalon

Design of novel alpha7-nAchR ligands: from an idea to in rodent results for Alzheimer [^{18}F] TEP imaging

15:40 to 15:50

Vasilichia Antoci ("Al. I. Cuza" University, Faculty of Chemistry, Iasi, Romania), Dorina Amariucai-Mantu, Dumitrela Cucu, Violeta Mangalagiu, Phillipe M. Loiseau, Sandrine Cojean, Catalina Ciobanu, Gheorghita Zbancioc, Ionel I. Mangalagiu

New PyrroloBenzoQuinonePhthalazines and PyrroloBenzoQuinonePyridazines: Synthesis, Structure and Anti-leishmaniasis Activity

15:50 to 16:00

Karen Plé (Institute of Organic and Analytical Chemistry, University of Orléans, France), Kossi Efouako Soklou, Hamid Marzag, Sylvain Routier

Gold catalyzed synthesis of spirocycles

16:00 to 16:10

Frédéric Buron (Institute of Organic and Analytical Chemistry, University of Orléans, France), Matthieu Place, Chloé Copin, Stéphane Bourg, Pascal Bonnet, Sylvain Routier

Efficient functionalization of Imidazo[2,1-b][1,3,4]thiadiazoles, access to new kinases inhibitors.

16:10 to 16:20

Robert-Andrei Tincu (Organic Chemistry Center "C. D. Nenitescu", Bucharest, Romania), Constantin Draghici, Andrei Slabu, Monica Duldner, Alina Elena Coman, Emeric Bartha

5-Hydroxymethylfurfural Synthesis in Biphasic Solvent Systems

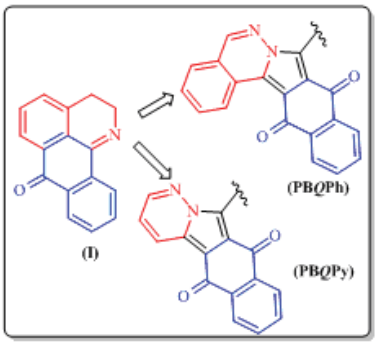
New PyrroloBenzoQuinonePhthalazines and PyrroloBenzoQuinonePyridazines: Synthesis, Structure and Anti-leishmaniasis Activity

Vasilichia Antoci[1], Dorina Amăriucăi-Mantu[1], Dumitrela Cucu[1], Violeta Mangalagiu[2], Phillipe M. Loiseau[3], Sandrine Cojean[3], Cătălina Ciobanu[4], Gheorghiţă Zbancioc[1], Ionel I. Mangalagiu[1]

[1] *"Al. I. Cuza" University, Faculty of Chemistry, 11 Carol I Bd., 700506 Iasi, Romania*
[2] *"Al. I. Cuza" University, CERNESIM Research Center, 11 Carol I Bd., 700506 Iasi, Romania*
[3] *Université Paris-Sud 11, Department UMR 8076 CNRS BioCIS, Orsay, France*
[4] *"Al. I. Cuza" University, Department of Research, 11 Carol I Bd., 700506 Iasi, Romania*
vasilichia.antoci@uaic.ro

Leishmaniasis is an infectious disease caused by various species of protozoan parasite known as *Leishmania*. This disease is transmitted by the bite of infected female sandflies, being closely associated with the poor countries. Annually is estimated 2 million new cases (1.5 million cases of cutaneous leishmaniasis and 500,000 of visceral leishmaniasis), and about 12 million people are currently infected. A limited number of drugs are currently available for the treatment of leishmaniasis in its visceral and cutaneous forms, and for patients with HIV co-infection, such as pentavalent antimonials, paromomycin, amphotericin, miltefosine and pentamidine [1,2]. Also, in the literature are reported the oxoisoaporphine derivatives (**I**), like new drugs candidate for leishmaniasis, being from 2-4 times more active than miltefosine [3].

However, there is a continuing needed to develop new anti-leishmania candidates, to prevent the problems of existing drugs such as toxic side effects, route of administration, long treatment and the appears of the drugs resistance. Having in view these considerations, our main objective was to design, synthesize, characterize and testing of anti-leishmaniasis activity of novel PyrroloBenzoQuinonePhthalazines (**PBQPh**) and PyrroloBenzoQuinonePyridazines (**PBQPy**), analogues to oxoisoaporphine derivatives (**I**).



The synthesis strategies of novel **PBQPh** and **PBQPy** involved only two steps: quaternization (step I) and cycloaddition reactions (step II), also these steps were done using classical methods and unconventional methods (ultrasounds and microwave irradiations)[3,4]. The structures of new compounds were proved using NMR experiments (^{1}H, ^{13}C, 2D-correlations). The anti-leishmaniasis activity of novel **PBQPh** and **PBQPy** were done.

Acknowledgements
Authors are thankful to CNCS Bucharest, Romania, project CNFIS-FDI-2019-CED-Antim and project PN-III-P1-1.1-TE-2016-1205 for financial support. We also thanks to the POSCCE-O 2.2.1, SMIS-CSNR 13984-901, No. 257/28.09.2010 Project, CERNESIM, for NMR measurements.

References

1. Rivas, L.; Gil, C.: *Drug Discovery for Leishmaniasis*, in *Drug Discovery Series No. 60*, Editor Thurston, D.; Ed. The Royal Society of Chemistry, 2018.
2. Kapil, S.; Singh, P. K.; Silakari, O., *Eur. J. Med. Chem.*, 157, 339-367, 2018.
3. Sobarzo-Sanchez, E; Bilbao-Ramos,P.; Dea-Ayuela, M. *et al.*, *Plos One*, 8(10), E77560, 2013.
4. Bejan, V.; Mantu, D.; Mangalagiu, I.I., *Ultrason. Sonochem.*, 19, 999-1002, 2012.
5. Antoci, V.; Mantu, D.; Cozma, D.G.; Usru, C.; Mangalagiu, I I., *Medical Hypotheses*, 82 (1), 11-15, 2014.