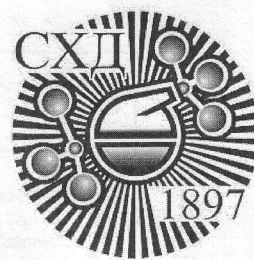
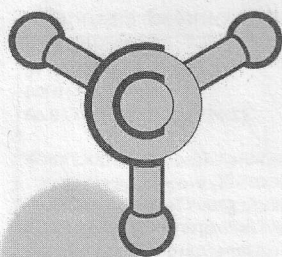


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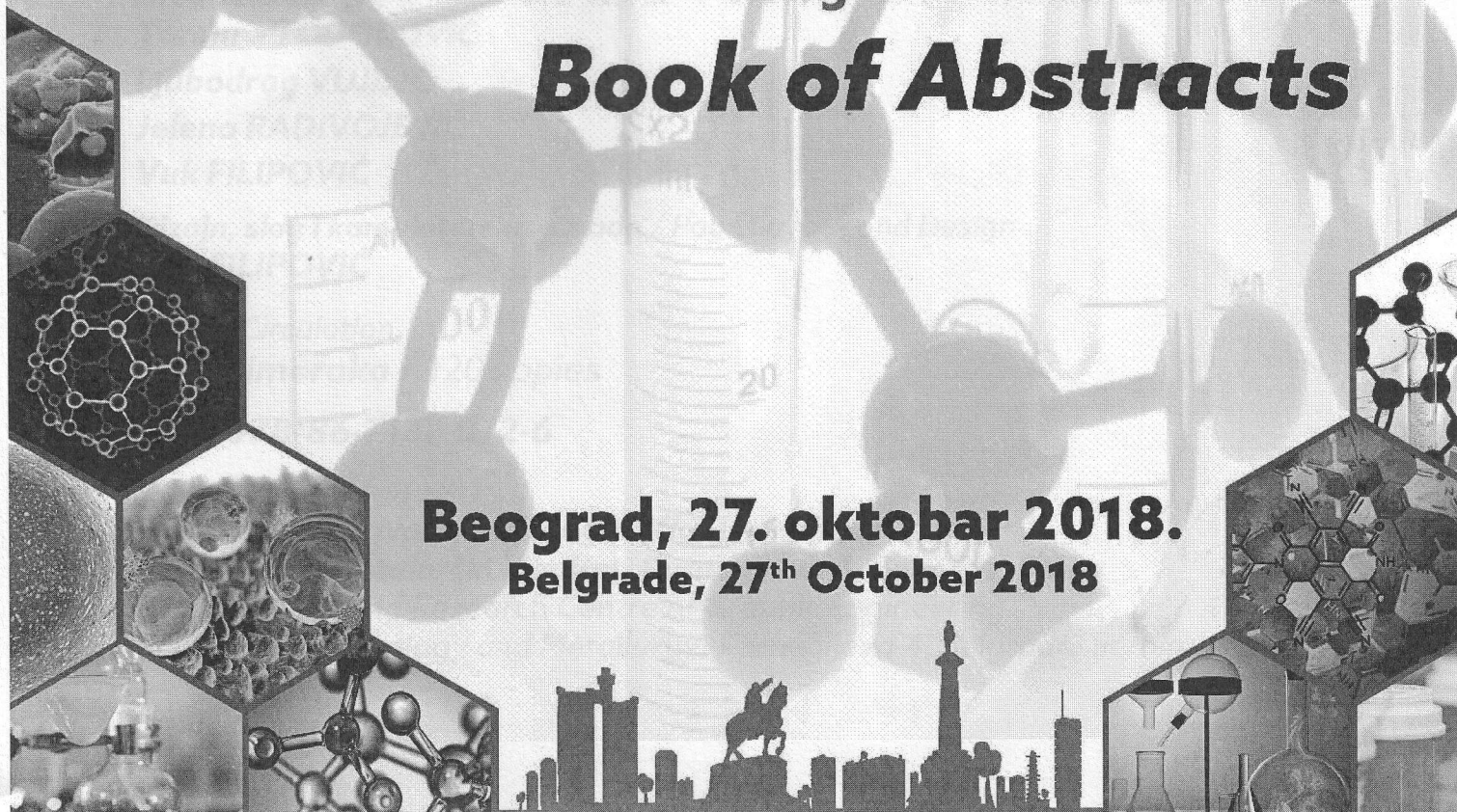


Šesta konferencija
mladih hemičara Srbije

Kratki izvodi radova

Sixth Conference
of the Young Chemists of Serbia
Book of Abstracts

Beograd, 27. oktobar 2018.
Belgrade, 27th October 2018



CIP - Каталогizacija u publikaciji
Narodna biblioteka Srbije, Beograd

54(048)(0.034.2)
577.1(048)(0.034.2)
60(048)(0.034.2)
66.017/.018(048)(0.034.2)

KONFERENCIJA mladih hemičara Srbije (6 ; 2018 ; Beograd)

Kratki izvodi radova [Elektronski izvor] = Book of Abstracts / Šestakonferencija mladih hemičara Srbije, Beograd, 27. oktobar 2018. = Sixth Conference of Young Chemists of Serbia, Belgrade, 27th October 2018 ; [organizatori Klub mladih hemičara Srbije [i] Srpsko hemijsko društvo = organizers Serbian Young Chemists' Club [and] Serbian Chemical Society] ; [urednici, editors Tamara Todorović ... et al.]. - Beograd : Srpskohemijsko društvo = Serbian Chemical Society, 2018 (Beograd : Razvojno-istraživački centar grafičkog inženjerstva TMF = Belgrade : Development and Research Centre of Graphic Engineering Faculty of Technology and Metallurgy). - 1 elektronski optički disk (CD-ROM) : tekst ; 12 cm

Sistemski zahtevi: Nisu navedeni. - Apstrakti na engl. jeziku. - Nasl. sa naslovne strane dokumenta. - Tiraž 120. - Bibliografija uz većinu apstrakata. - Registar.

ISBN 978-86-7132-072-6

1. Klub mladih hemičara Srbije (Beograd) 2. Srpsko hemijsko društvo (Beograd)

a) Хемија - Апстракти b) Биохемија - Апстракти c) Биотехнологија - Апстракти d) Наука о материјалима - Апстракти
COBISS.SR-ID 269395724

6. KONFERENCIJA MLADIH HEMIČARA SRBIJE

6th CONFERENCE OF THE YOUNG CHEMISTS OF SERBIA

Beograd, 27. oktobar 2018. / BELGRADE, 27th OCTOBER 2018

KRATKI IZVODI RADOVA / BOOK OF ABSTRACTS

Izdaje / Published by

Srpsko hemijsko društvo / Serbian Chemical Society

Karnegijeva 4/III, 11000 Beograd, Srbija

Tel./fax: +381 11 3370 467; www.shd.org.rs; office@shd.org.rs

Za izdavača / For Publisher

Vesna MIŠKOVIĆ-STANKOVIĆ, predsednica Društva / President

Urednici / Editors

Tamara TODOROVIĆ

Ljubodrag VUJISIĆ

Jelena RADIVOJEVIĆ

Vuk FILIPOVIĆ

Dizajn, slog i kompjuterska obrada / Page Layout and Design

Vuk FILIPOVIĆ

Tiraž / Circulation

120 primeraka / 120 copies

ISBN 978-86-7132-072-6

Umnožavanje / Copying

Razvojno-istraživački centar grafičkog inženjerstva,

Tehnološko-metalurški fakultet, Karnegijeva 4, Beograd, Srbija

Development and Research Centre of Graphic Engineering

Faculty of Technology and Metallurgy, Karnegijeva 4, Belgrade, Serbia

MH14 PE 12

Antimicrobial activities of two copper(II) complexes with 4-(diethylamino)salicylaldehyde and α -diimine

Snežana Selaković¹, Teodora S. Dimitrijević¹, Irena T. Novaković²,
Maja T. Šumar-Ristović¹

¹University of Belgrade - Faculty of Chemistry, Studentski trg 12-16, 11000 Belgrade

²Innovation Center, Faculty of Chemistry, University of Belgrade, Serbia

Two novel copper(II) complexes (Fig. 1) with 4-(diethylamino)salicylaldehyde as ligand (HL) and α -diimine - 2,2'-bipyridine (bipy) or 1,10-phenanthroline (phen) with potentially antimicrobial activity are described. Complex **1** is a mononuclear copper(II) complex, $[\text{Cu}(\text{bipy})(\text{L})]\text{BF}_4 \cdot \text{H}_2\text{O}$, whereas complex **2** is a binuclear $[\text{Cu}(\text{phen})(\text{L})]_2(\text{BF}_4)_2$. Antimicrobial activities of those complexes, corresponding Cu(II) salt, α -diimines (phen and bipy) and ligand HL were studied by examining the minimum inhibitory concentration (MIC) on four Gram-positive and four Gram-negative bacterial species and three fungal strains. Amikacin and fluconazole were used as the standard drugs for the comparison of the MIC values. Cu(II) complexes **1** and **2** demonstrated significantly stronger antibacterial activities than parent ligands (α -diimines and HL) or starting Cu(II) salt. Complex **2** is the most active of all examined compounds. The activity of this complex against *E. coli* is comparable to the activity of the standard antibiotic amikacin. Unlike increasing antibacterial activity of complexes **1** and **2** in regard to all coordinated ligands, antifungal activities showed the opposite trend.

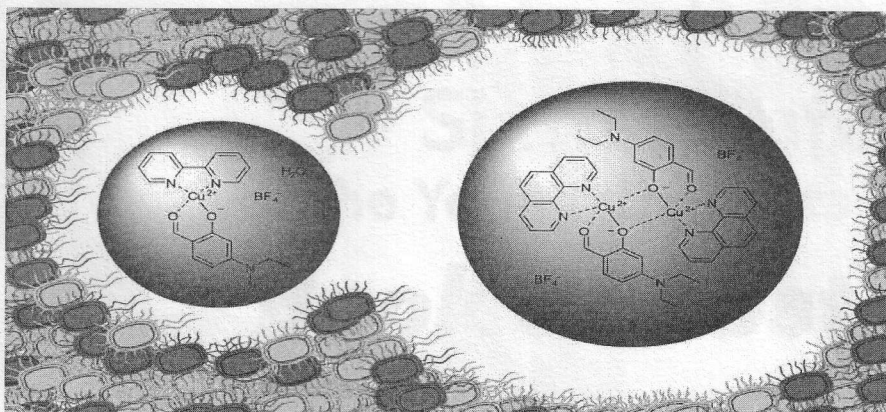


Figure 1. Complexes $[\text{Cu}(\text{bipy})(\text{L})]\text{BF}_4 \cdot \text{H}_2\text{O}$ (left) and $[\text{Cu}(\text{phen})(\text{L})]_2(\text{BF}_4)_2$ (right)

Acknowledgement

This work was supported by the Ministry of Education, Science and Technological development of the Republic of Serbia (Grant OI 172055).