



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA
ТЕХНОЛОШКИ ФАКУЛТЕТ
FACULTY OF TECHNOLOGY



XIII CONFERENCE OF CHEMISTS, TECHNOLOGISTS AND
ENVIRONMENTALISTS OF REPUBLIC OF SRPSKA

THE BOOK OF ABSTRACTS & CONFERENCE PROGRAM

Banja Luka, October 30th 2020
REPUBLIC OF SRPSKA, B&H

XIII CONFERENCE OF CHEMISTS, TECHNOLOGISTS AND ENVIRONMENTALISTS OF REPUBLIC OF SRPSKA

BOOK OF ABSTRACTS

Publisher:

University in Banjaluka, Faculty of Technology

Editorial board:

Borislav Malinović, PhD, dean

Design and computer processing

Msc Maja Stojković

Goran Vučić, PhD

Msc Đorđe Vujčić

Website: <https://savjetovanje.tf.unibl.org/>

CIP - Каталогизација у публикацији
Народна и универзитетска библиотека
Републике Српске, Бања Лука

66(048.3)(0.034.2)
661:663/664(048.3)(0.034.2)
677(048.3)(0.034.2)
655(048.3)(0.034.2)
502(048.3)(0.034.2)

CONFERENCE of Chemists, Technologists and Environmentalists of Republic of Srpska (13 ; Banja Luka ; 2020)

Book of Abstracts & Conference Program [Elektronski izvor] / XIII Conference of Chemists, Technologists and Environmentalists of Republic of Srpska, Banja Luka, October 30th 2020 ; [[editorial board Borislav Malinović]. - Onlajn izd. - El. zbornik. - Banja Luka : University in Banjaluka, Faculty of Technology = Tehnološki fakultet, 2020

Sistemski zahtjevi: Nisu navedeni. - Način pristupa (URL): <https://savjetovanje.tf.unibl.org/>. - El. publikacija u PDF formatu opsega 78 str. - Nasl. sa naslovnog ekrana. - Opis izvora dana 17.11.2020.

ISBN 978-99938-54-86-9

COBISS.RS-ID 129947649

Organizing Committee:

Goran Vučić, PhD, President, Aleksandar Savić, PhD, Secretary General, MSc Maja Stojković, Secretary, Danica Savanović, PhD, member; Branka Ružičić dipl. eng., member; MSc Đorđe Vujčić, member; Dajana Dragić dipl. eng., member; Ivana Dojčinović dipl. eng., member; MSc Marina Rakanović, member; MSc Maja Katić, member, MSc Nebojša Gorgi, member; Biljana Vasić dipl. lawyer, member; Nada Radusin, member; Sanja Novaković dipl. ec., member; MSc Jovanka Kotur, member;

Students: Vladimir Ivković; Goran Popović, Srđan Ristić, Mirjana Brkljača, Maja Šipovac, Ana Petković

Scientific Committee:

Borislav Malinović, PhD, University of Banja Luka, B&H, President;
Nada Štrbac, PhD, University of Belgrade, Serbia, co-president;
Vlada Veljković, PhD, Academician University of Niš, Serbia, Member;
Todor Vasiljević, PhD, Victoria, University of Melbourne Australia, Member;
Sanja Mahovic-Poljačak, PhD, University of Zagreb, Croatia, Member;
Csaba Horvath, PhD, University Obuda Budapest, Hungary, Member;
Mihail Kochubovski, PhD, University of Skopje, Macedonia, Member;
Radovan Kukobat, PhD, Shinshu University, Japan, Member;
Massimiliano Fenice, PhD, University Della Tuscia, Italy, Member;
George Petriaszwili, PhD, Warsaw, University of Technology, Poland, Member;
Mira Vukčević, PhD, University of Montenegro, Montenegro, Member;
Ondrej Panák, PhD, University of Pardubice, Czech Republic, Member;
Pospiech Matej, PhD, University of Veterinary and Pharmaceutical Sciences, Brno, Czech Republic, Member;
Dani Djordjevic, PhD, University of Veterinary and Pharmaceutical Sciences, Brno, Czech Republic, Member;
Iskren Spiridonov, PhD, University of Chemical Technology and Metallurgy, Bulgaria, Member;
Laura Benea, PhD, West University of Timisoara, Romania, Member;
Savvas G. Vassiliadis, PhD, University of Piraeus, Greece, Member;
Helena Prosen, PhD, University of Ljubljana, Slovenia, Member;
Srećko Stopić, PhD, RWTH University Aachen, Germany, Member;
Maria Iosune Cantalejo, PhD, UPNA Pamplona, Spain, Member;
Helga Medić, PhD, University of Zagreb, Croatia, Member;
Jurislav Babić, PhD, University of Osijek, Croatia, Member;
Svetozar Milosavić, PhD, University of Kosovska Mitrovica, Serbia, Member;
Petar Uskoković, PhD, University of Belgrade, Serbia, Member;
Mitja Kolar, PhD, University of Ljubljana, Slovenia, Member;
Jovana Milanović, PhD, University of Belgrade, Serbia, Member;
Ljubiša Nikolić, PhD, University of Niš, Serbia, Member;
Dragan Vujadinović, PhD, University of East Sarajevo, BiH, Member;
Miomir Pavlović, PhD, University of East Sarajevo, BiH, Member;
Biljana Pajin, PhD, University of Novi Sad, Serbia, Member;
Vladimir Tomović, PhD, University of Novi Sad, Serbia, Member;
Sead Čatić, PhD, University of Tuzla, B&H, Member;
Husein Vilić, PhD, University of Bihac, B&H, Member;

Sanjin Gutić, PhD, University of Sarajevo B&H, Member;
Goran Trbić, PhD, University of Banja Luka, B&H, Member;
Milica Balaban, PhD, University of Banja Luka, B&H, Member;
Ljiljana Vukić, PhD, University of Banja Luka, B&H, Member;
Ljiljana Topalić-Trivunović, PhD, University of Banja Luka, B&H, Member;
Slavica Sladojević, PhD, University of Banja Luka, B&H, Member;
Pero Dugić, PhD, University of Banja Luka, B&H, Member;
Zoran Kukrić, PhD, University of Banja Luka, B&H, Member;
Slavica Grujić, PhD, University of Banja Luka, B&H, Member;
Milorad Maksimović, PhD, University of Banja Luka, B&H, Member;
Ladislav Vasilišin, PhD, University of Banja Luka, B&H, Member.

NOTE:

The authors have full responsibility for the originality and content of their own papers

INTERNATIONAL SCIENTIFIC CONFERENCE

„XIII CONFERENCE OF CHEMISTS, TECHNOLOGISTS AND ENVIRONMENTALISTS OF REPUBLIC OF SRPSKA“

under auspices of

Ministry of Scientific and Technological Development Higher Education and Information Society of the Republic of Srpska



City Development Agency Banja Luka



Chamber of Commerce and Industry of Banja Luka Region



ПРИВРЕДНА КОМОРА РЕПУБЛИКЕ СРПСКЕ
**ПОДРУЧНА ПРИВРЕДНА
КОМОРА БАЊА ЛУКА**

University of Banja Luka



ANTIOXIDANT AND ANTIMICROBAL ACTIVITY OF SOME TETRADENTATE SCHIFF BASES AND THEIR CU (II) COMPLEXIS

Mijatović A.¹, Nikolić M.², Spasić S.³, Žerađanin A.³, Joksimović K.³, Lolić A.², Baošić R.²

¹University of Belgrade, Faculty of Mining and Geology, Belgrade, Serbia

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

³University of Belgrade, Institute of Chemistry, Technology and Metallurgy – Center for Chemistry, Belgrade, Serbia

Abstract

Schiff bases, and their Cu(II) complexes, are known for their biological activity. In this work, antibacterial activity against Gram-negative strains of *Escherichia coli*, *Pseudomonas aeruginosa* and *Staphylococcus pyogenes*, as well as Gram-positive *Staphylococcus pyogenes* and *Pseudomonas aeruginosa* was studied, together with antifungal activity against *Candida*, *Aspergillus*, and *Mucor* strains. Also, technically simple, and rapid tests like ABTS, HORAC, and ORAC were used to investigate the antioxidant activity in order to compare obtained results with different type of tests. Despite that principle of each group of the antioxidant assay methods is similar, The sensitivity of the antioxidant assay methods applied depends on various factors, such as media pH, the presence of lipophilic and/or hydrophilic part and substituents of the investigated compounds. The studied Cu(II) complexes showed better antimicrobial activity compared to corresponding Schiff bases. The compounds exhibited antioxidant properties of scavenging free radicals. The results from different methods revealed that compounds can donate an electron or hydrogen and subsequently react with free radicals or terminate chain reactions in a dose-dependent pattern.

Keywords: Schiff base, Cu (II) complexes, Antioxidant activity, Antimicrobial activity



УНИВЕРЗИТЕТ У БАЊОЈ ЛУЦИ
UNIVERSITY OF BANJA LUKA

ТЕХНОЛОШКИ ФАКУЛТЕТ
FACULTY OF TECHNOLOGY



University of Banja Luka
Faculty of Technology
Stepe Stepanovića 73
78 000 Banja Luka
Phone: +387 51 465 032
e-mail: info@tfbl.org
web: www.tfbl.org