ICNTC E-CONFERENCE

INTERNATIONAL CONFERENCE ON NEW TRENDS IN CHEMISTRY

7th INTERNATIONAL CONFERENCE ON NEW TRENDS IN CHEMISTRY

25 - 26 SEPTEMBER 2021

7th ICNTC BOOK OF ABSTRACTS

ICNTC E-CONFERENCE

INTERNATIONAL CONFERENCE ON NEW TRENDS IN CHEMISTRY

7th INTERNATIONAL CONFERENCE ON NEW TRENDS IN CHEMISTRY

25 – 26 SEPTEMBER 2021

http://www.icntcconference.com/

ICNTC E- Conference 2021

7th International Conference on New Trends in Chemistry

Published by the ICNTC Secretariat
Editor:
Assoc. Prof. Dr. Dolunay ŞAKAR DAŞDAN

ICNTC Secretariat
Büyükdere Cad. Ecza sok. Pol Center 4/1 Levent-İstanbul
E-mail: icntcconference@gmail.com
http://www.icntcconference.com

Conference organised in collaboration with Monre Academy

ISBN: 978-605-67476-7-0

SCINTIFIC COMMITTEE

ORGANIZATION COMMITTEE

Assoc. Prof. Dr. Dolunay Sakar Dasdan
Yıldız Technical University – Turkey
Conference Chair

Prof. Dr. Yelda Yalcin Gurkan
Namik Kemal University – Turkey
Chemistry Department

Dear Colleagues,

I am honoured to invite and send you this call for papers on behalf of Conference Organisation Board of "**7th International Conference on New Trends in Chemistry**", to be held as based on Online Presentations dates between September 25-26, 2021

Limited number of Papers and Posters with the below mentioned topics will be accepted for our conference:

- Polymer Chemistry and Applications
- Pharmaceutical Chemsitry
- Computational Chemistry
- Bio Chemistry
- Physical Chemistry
- Analytical Chemistry
- Inorganic Chemistry
- Organic Chemistry
- Material Chemistry
- Environmental Chemistry
- Food Chemistry

The selected papers which are presented as oral in the conference will be published in a international peer-reviewed journal which is scanned by SCOPUS as Q4. Each manuscript will have doi Numbers.

We kindly wait for your attendance to our online conference to be held on 25 –26th of September 2021,

All informations are available in conference web site. For more information please do not hesitate to contact us. info@icntcconference.com

Respectfully Yours,

On Behalf of the Organization Committee of ICNTC Conference

Assoc. Prof. Dr. Dolunay SAKAR DASDAN
7th ICNTC 2021 | Conference Chair
Yıldız Technical University – Istanbul / Turkey
Chemistry Department

NEW APPROACHES IN GREEN CHEMISTRY: VANILINE BASED IMIN SYNTHESIS AND WOUND DRESSING PRODUCTION BY NANOTECHNOLOGY

Yesim Muge SAHIN[1,2*], Erdi BULUS[2], Demet Sezgin MANSUROGLU[2,3], Bahadir BOZKURT[2,4], Hatice Dilara SARAC[1], Funda OZKOK[5], Nihal ONUL[5], Tatyana TISHAKOVA[6], Gulru OZAY[7]

[1]Istanbul Arel University, Faculty of Engineering and Architecture, Department of Biomedical Engineering Istanbul, Turkey, ymugesahin@arel.edu.tr

[2*]Istanbul Arel University, ArelPOTKAM (Polymer Technology and Composite Application and Research Center), Istanbul, Turkey, erdibulus@arel.edu.tr

[3]Istanbul Cerrahpasa University, Institute of Science, Chemistry Program, Istanbul, Turkey, sezgindemet82@gmail.com

[4]Istanbul Cerrahpasa University, Institute of Science, Department of Mechanical Engineering, Istanbul, Turkey, bahadirbozkurt@arel.edu.tr

[5]Istanbul University, Faculty of Engineering, Department of Chemistry, Istanbul, Turkey, ozkok@iuc.edu.tr, nihalonul@iuc.edu.tr

[6]Kharkiv National Medical University, 4 Nauky Avenue, Kharkiv, Ukraine, ttishakova@ukr.net

[7]Yildiz Technical University, Faculty of Arts and Sciences, Department of Chemistry, Istanbul, Turkey, gulruozay@gmail.com

Abstract

Wound dressings provide quick healing of wounds. Commercially wound dressings have several different types such as transparent film covers, hydrocolloid covers, polymer foam covers, hydrogels, hydrophilic covers, alginate covers, antibacterial covers, honey covers and biological dressings equivalent to skin structure.

In order to produce such nanotechnological membranes, electrospinning method have been utilized and polycaprolactone (PCL) is used as a composite matrix. The synthetic polymer PCL, can find applications in biological and medical fields due to their biocompatible and biodegradable properties unlike other polyesters Vanillin is a fragrant substance known as 4-hydroxy-3-methoxybenzaldehyde and naturally found as glycosylated forms of the fruit of vanilla. This aromatic compound is in the form of needle crystals, colorless, soluble in alcohol and in oily solvents even in cold. This will provide an easy and efficient production of polymeric solutions for electrospinning method. On the other hand, vaniline and its derivatives present different biological properties such as antibacterial, antifungal and anticancer. In the present study owing to these valuable properties of vaniline, a novel imine molecule have been synthesized from N-(2-Hydroxy ethylene diamine). Subsequently, the synthesized imine and PCL have been used to form nanocomposite membranes for biomedical applications [1,2]. Process optimization have been conducted during electrospinning method. The obtained imine molecule evaluated thermally by DSC (Differential Scanning Calorimeter), structurally by FTIR (Fourier Exchange Infrared Spectrophotometer) while nanocomposite membranes have been evaluated morphologically by FEGSEM (Field Emission Gun Scanning Electron Microscope) and structurally by FTIR.

These study is valuable not only for the synthesized novel imine molecule but also its nanocomposite forms for biomedical applications.

Key Words: Biomaterials, wound healing material, vanilline, amine, nanocomposite

References

[1] Duymaz, BT, Erdiler, FB, Alan, T, Aydogdu, MO, Inan, AT, Ekren, N., ... & Gunduz, O (2019) European Polymer Journal 119:426-437.

[2] Şahin, Y M (2018) Journal of the Turkish Chemical Society Section A: Chemistry 5(3):1119-1134.