

VOLUME | ISSUE | YEAR  
47 | 6 | 2023  
ISSN 1300-0527 • E-ISSN 1303-6130

TURKISH JOURNAL OF  
**CHEMISTRY**

<http://journals.tubitak.gov.tr/chem/>



Published by the Scientific and  
Technological Research Council of Türkiye

**TÜBİTAK**

# TURKISH JOURNAL OF CHEMISTRY

## Editor-in-Chief

Ahmet GÜL, İstanbul Technical University, Türkiye

## Associate Editors in Chief

Mustafa Kemal SEZGİNTÜRK, Çanakkale Onsekiz Mart University, Türkiye

Nurettin Mengeş, Necmettin Erbakan University, Türkiye

Önder Metin, Koç University, Türkiye

VOLUME 47 • ISSUE 6 • 2023

ISSN 1300-0527 • E-ISSN 1303-6130

## SCOPE

- The Turkish Journal of Chemistry is a bimonthly multidisciplinary journal published by the Scientific and Technological Research Council of Turkey (TÜBİTAK).
- The journal is dedicated to dissemination of knowledge in all disciplines of chemistry (organic, inorganic, physical, polymeric, technical, theoretical and analytical chemistry) as well as research at the interface with other sciences especially in chemical engineering where molecular aspects are key to the findings.
- The journal accepts English-language original manuscripts and contribution is open to researchers of all nationalities.
- The journal publishes refereed original papers, reviews, letters to editor and issues devoted to special fields.
- All manuscripts are peer-reviewed and electronic processing ensures accurate reproduction of text and data, plus publication times as short as possible.

## EDITORIAL BOARD

- Adem KILIÇ, Gebze Technical University, Türkiye
- Adem TEKİN, İstanbul Technical University, Türkiye
- Ahmet Ceyhan GÖREN, Gebze Technical University, Türkiye
- Ali Hakan GÖKER, Ankara University, Türkiye
- Ali Rehber TÜRKER, Gazi University, Türkiye
- Ali Rıza ÖZKAYA, Marmara University, Türkiye
- Ali SINAĞ, İstanbul Aydın University, Türkiye
- Alireza KHATAEE, University of Tabriz, Iran
- Amitav SANYAL, Boğaziçi University, Türkiye
- Andrea GOTI, University of Florence, Italy
- Antoine MARION, Middle East Technical University, Türkiye
- Arif DAŞTAN, Atatürk University, Türkiye
- Atif KOCA, Marmara University, Türkiye
- Ayşe BAYRAKÇEKEN YURTCAN, Atatürk University, Türkiye
- Bagher EFTEKHARI-SIS, Maragheh University, Iran
- Bekir ÇETİNKAYA, Ege University, Türkiye
- Bekir SALİH, Hacettepe University, Türkiye
- Belkis BİLGİN ERAN, Yıldız Technical University, Türkiye
- Bünyamin KARAGÖZ, İstanbul Technical University, Türkiye
- Cihangir TANYELİ, Middle East Technical University, Türkiye
- Deniz ÜNER, Middle East Technical University, Türkiye
- Emrah ÖZENSÖY, Bilkent University, Türkiye
- Emür HENDEN, Ege University, Türkiye
- Erdal BEDİR, İzmir Institute of Technology, Türkiye
- Erol ERÇAĞ, Tekirdağ Namık Kemal University, Türkiye
- Fabienne DUMOULIN, Acıbadem Mehmet Ali Aydınlar University, Türkiye
- Ferdi KARADAŞ, Bilkent University, Türkiye
- Gülaç TOPCU, Bezmialem Vakıf University, Türkiye
- Gülfeza KARDAŞ, Çukurova University, Türkiye
- Hasan SEÇEN, Atatürk University, Türkiye
- Hilal DEMİR KIVRAK, Eskişehir Osmangazi University, Türkiye
- Hüseyin DELİGÖZ, İstanbul University, Türkiye
- Irishi N. N. NAMBOOTHIRI, Indian Institute of Technology, India
- İhsan ERDEN, San Francisco State University, U.S.A.
- İlkay ORHAN ERDOĞAN, Gazi University, Türkiye
- İlknur TUNÇ, University of Turkish Aeronautical Association, Türkiye
- İmren HATAY PATİR, Selçuk University, Türkiye
- İsmail ÖZDEMİR, İnönü University, Türkiye
- Kadriye Arzum ERDEM GÜRSAN, Ege University, Türkiye
- Karel SMEJKAL, Univ. of Vet. and Pharmaceutical Sci. Brno, Czech Republic
- Levent ARTOK, İzmir Institute of Technology, Türkiye
- Levent Kamil TOPPARE, Middle East Technical University, Türkiye
- Lokman UZUN, Hacettepe University, Türkiye
- Mahammad BABANLY, Baku State University, Azerbaijan
- Marianna TÖRÖK, University of Massachusetts Boston, U.S.A.
- Mehlika Dilek ALTINTOP, Anadolu University, Türkiye
- Mehmet ZAHMAKIRAN, Yüzüncü Yıl University, Türkiye
- Metin BALCI, Middle East Technical University, Türkiye
- Metin ZORA, Middle East Technical University, Türkiye
- Mingwei CHEN, Tohoku University, Japan
- Muhammed Übeydullah KAHVECİ, İstanbul Technical University, Türkiye
- Murat KILIÇ, Ecole Polytechnique Federale de Lausanne, Switzerland
- Mustafa ERSÖZ, Selçuk University, Türkiye
- Mustafa SOYLAĞ, Erciyes University, Türkiye
- Mustafa YILMAZ, Selçuk University, Türkiye
- Mustafa Zafer ÖZEL, University of Hertfordshire, United Kingdom
- Nadège LUBIN-GERMAIN, University of Cergy-Pontoise, France
- Nurettin YAYLI, Karadeniz Technical University, Türkiye
- Oğuz OKAY, İstanbul Technical University, Türkiye
- Okan Zafer YEŞİLEL, Eskişehir Osmangazi University, Türkiye
- Ö. İrfan KÜFREVİOĞLU, Atatürk University, Türkiye
- Ömer ZALİM, Trakya University, Türkiye
- Önder METİN, Ataturk University, Türkiye
- Özlem DEMİRKIRAN, Trakya University, Türkiye
- Ponnadurai RAMASAMI, University of Mauritius, Mauritius
- Qiang XU, National Inst. of Advanced Indust. Sci. and Technology, Japan
- Reşat APAK, İstanbul University, Türkiye
- Safacan KÖLEMEN, Koç University, Türkiye
- Salih ÖZÇUBUKÇU, Middle East Technical University, Türkiye
- Serap EVRAN, Ege University, Türkiye
- Serdar DURDAĞI, Bahçeşehir University, Türkiye
- Sermet KOYUNCU, Çanakkale Onsekiz Mart University, Türkiye
- Sibel Aysıl ÖZKAN, Ankara University, Türkiye
- Siméon ARSENIYADIS, Inst. for the Chem. of Natural Substances, France
- Şefik SÜZER, Bilkent University, Türkiye
- Şeref DEMİRAYAK, Medipol University, Türkiye
- Şule Erten ELA, Ege University, Türkiye
- Thomas MAVROMOUSTAKOS, University of Athens, Greece
- Turan ÖZTÜRK, İstanbul Technical University, Türkiye
- Ufuk ÖZGEN, Karadeniz Technical University, Türkiye
- Uğur BOZKAYA, Hacettepe University, Türkiye
- Vefa AHSEN, Gebze Institute of Technology, Türkiye
- Viktorya AVIYENTE, Boğaziçi University, Türkiye
- Vural BÜTÜN, Eskişehir Osmangazi University, Türkiye
- Yıldırım ERBİL, Gebze Technical University, Türkiye
- Yunus ZORLU, Gebze Technical University, Türkiye
- Yusuke YAMUCHI, National Institute for Materials Science, Japan
- Zehra ALTUNTAŞ BAYIR, İstanbul Technical University, Türkiye

## ABSTRACTED

- Science Citation Index Expanded
- Scopus
- Academic Search Complete
- Chemical Abstracts

# CONTENTS

Accelerated iron valence cycling in Fenton system using activated hydrogen enhanced by MIL-100(Fe) modified by nano-Pd0 Particle .....	1307
<b>Yun-Dong WANG, Yi-Jun CHEN, Mei-Na CHENG, Xin LIU</b>	
Synthesis of silane- and quaternary ammonium-bearing copolymers and application as a coating resin on cotton fabric .....	1320
<b>Ayşe MARTİN, Nazgül GÜLER, İlknur YERLİ, Hande HANÇER, Tülin ÖZBEK, Tarık EREN</b>	
Polypyrrole fabricated Laponite RD conductive nanocomposites: influence of grafting efficiency on structural and conductive properties .....	1334
<b>Shafiq Ur REHMAN, Shaista TAIMUR, Asif RAZA, Tariq YASIN</b>	
Phytochemical investigation on the aerial parts of <i>Veratrum versicolor f. viride</i> Nakai and their biological activities ..	1346
<b>Seong Su HONG, Jae Yeon LEE, Yeon Woo JEONG, Ji Eun LEE, Yun-Hyeok CHOI, Wonsik JEONG, Eun-Kyung AHN, Chun Whan CHOI, Il Ho AHN, Joa Sub OH</b>	
Extraction/transportation of Co <sup>2+</sup> metal ions with bis(2-ethylhexyl) phosphate dissolved in kerosene using a multidropped liquid membrane technique .....	1355
<b>Volkan DEMİREL, Ramazan DONAT</b>	
Optimum pyrolysis conditions to prepare the most crystalline boron carbide powder from boric acid-mannitol complex ester .....	1370
<b>Abdullah Devrim PEKDEMİR, Müşerref ÖNAL, Yüksel SARIKAYA</b>	
Sustainable graphitic carbon from biomass to be suitable for technological devices .....	1380
<b>Gökçen AKGÜL</b>	
Poly(vinyl alcohol)/ZSM-5 zeolite mixed matrix membranes for pervaporation dehydration of ethanol and n-propanol .....	1389
<b>Ji-Ting WANG, Zhen HUANG, Ya-Tong ZHU, Si Ning WANG</b>	
Exploring the photocatalytic and photodynamic effects of BODIPY-linked titanium dioxide nanoparticles .....	1407
<b>Seda DEMİREL TOPEL</b>	
Scope and limitations of the preparation of xanthenes using Eaton's reagent .....	1420
<b>Johann BOSSON</b>	
Comparison of metal-carbenoid reactions of $\beta$ -2-five-membered heteroaryl substituted $\alpha,\beta$ -unsaturated ketones .....	1429
<b>Kumsal EROĞLU, Olcay ANAÇ, Füsun Şeyma KIŞKAN</b>	
Photophysical, thermal, and DFT studies on a tetraaryl-azadipyrromethene ligand and its zinc(II) complex .....	1438
<b>GÖKHAN SEVİNÇ</b>	
Synthesis and singlet oxygen generation of boron- 2-(4,5-dibromo-1H-imidazole-2-yl)-3,5-dipyrazolopyridine complex for antimicrobial photodynamic therapy .....	1452
<b>Zeynep EKMEKÇİ, Seda KARAOĞLU</b>	
Bromination and conversion of tetrahydro-1H-indene to bisoxirane with a new approach: synthesis, structural characterization by spectroscopic and theoretical methods, and biological analysis supported by DFT and docking .....	1459
<b>Raşit Fikret YILMAZ, Sultan ERKAN, Salih ÖKTEN, Ahmet TUTAR, Ertan ŞAHİN</b>	

---

Removal of toxic Cr(VI) from aqueous medium with effective magnetic carbon-based nanocomposites .....	1479
<b>Ferda CİVAN ÇAVUŞOĞLU, Gülsüm ÖZCELİK, Şahika Sena BAYAZİT</b>	
Intercalation of pyrazolone-based oxalamide metal complexes into Na-montmorillonite for catalytic liquid-phase oxidation of phenol using H <sub>2</sub> O <sub>2</sub> .....	1497
<b>Serhat UZAN, Eyüp BAŞARAN</b>	
Production of gelatin fibrous mats using different nanofiber production methods for medical applications and comparison of their properties .....	1508
<b>Melike GÜNGÖR, Kevser SAĞLAMKOL, Zeynep Yağmur BAYDEMİR, Ali KILIÇ</b>	
pH responsive curcumin released from urea-amine group functionalized mesoporous organosilica nanoparticles .....	1518
<b>Osman Tayyar ARLI, Yaşar GÖK, Halil Zeki GÖK</b>	
Quaternized chitosan/PVA/natural bioactive agent electrospun wound scaffolds: production, characterization, and investigation of release kinetics .....	1529
<b>Ezgi EREN BELGİN, Cankız Gizem DELİBALTA</b>	