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Publons / Web Of Science ResearcherID: JZE-5362-2024

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Education Information

Doctorate, Karadeniz Technical University, Fen Fakültesi, Kimya, Turkey 2017 - 2023

Postgraduate, Karadeniz Technical University, Fen Fakültesi, Kimya, Turkey 2013 - 2016

Undergraduate, Karadeniz Technical University, Fen Fakültesi, Kimya, Turkey 2008 - 2013

Foreign Languages

English, B2 Upper Intermediate

Dissertations

Doctorate, SUDA ÇÖZÜNEBİLEN YENİ SİLİSYUM FTALOSİYANİNLERİN SENTEZİ VE MEME, MELANOMA, PROSTAT, KARACİĞER, AKCİĞER KANSER HÜCRE HATLARI ÜZERİNE ANTİKANSER İLAÇ POTANSİYELLERİNİN ARAŞTIRILMASI, Karadeniz Technical University, Fen Fakültesi, Kimya, 2023

Postgraduate, AKSİYAL SÜBSTİTÜE YENİ SİLİSYUM FTALOSİYANİNLERİN SENTEZİ, KARAKTERİZASYONU VE ELEKTROKİMYASAL ÖZELLİKLERİNİN İNCELENMESİ, Karadeniz Technical University, Fen Fakültesi, Kimya, 2016

Research Areas

Chemistry, Inorganic Chemistry, Bioinorganic Chemistry, Boron Chemistry, Transition Metals, Inorganic Ring Compounds, Coordination Chemistry, Organometallic Chemistry, Novel Ligands, Natural Sciences

Academic Titles / Tasks

Medical Doctor, Karadeniz Technical University, Fen Fakültesi, Kimya, 2024 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Non-peripheral octasubstituted zinc(II) phthalocyanines bearing pyridinepropoxy substituents - Antibacterial, anticancer photodynamic and sonodynamic activity**
Wysocki M., Ziental D., BIYIKLIOĞLU Z., Jozkowiak M., Bas H., Długaszewska J., Piotrowska-Kempisty H., Guezal E., Sobotta L.
JOURNAL OF INORGANIC BIOCHEMISTRY, vol.262, 2025 (SCI-Expanded)
- II. **Non-aggregated and water soluble non-peripherally octa substituted Co(II) and Cu(II) phthalocyanines: Synthesis and α -glucosidase inhibitory effects**
BIYIKLIOĞLU Z., Bas H., SEYHAN G., BARUT B.
JOURNAL OF INORGANIC BIOCHEMISTRY, vol.257, 2024 (SCI-Expanded)
- III. **Two-dimensional phthalocyanine-based molecular additives realize efficient hole transport and enhanced ion immobilization for durable perovskite solar cells**
Liao Z., BIYIKLIOĞLU Z., Yang L., Baş H., Dong P., Hu J., Deng J., Li X., Gao Y., Güzel E., et al.
CHEMICAL ENGINEERING JOURNAL, vol.492, 2024 (SCI-Expanded)
- IV. **New fluorescent manganese(III) phthalocyanines bearing non-peripherally octa-(3-pyridin-3-ylpropoxy) and (4-pyridin-3-ylpropoxy) for the sensitive determination of Pd²⁺ in real water samples**
BIYIKLIOĞLU Z., Çekirge E., Baş H., ÖZBEK N., Ocak Ü., OCAK M.
INORGANIC CHEMISTRY COMMUNICATIONS, vol.159, 2024 (SCI-Expanded)
- V. **Highly water soluble axial disubstituted silicon(IV) phthalocyanine, naphthalocyanine: Synthesis, DNA interaction and anticancer effects against human lung (A549), liver (SNU-398), melanoma (SK-MEL128), prostate (DU-145), breast (BT-20) cell lines**
Baş H., Biyiklioğlu Z., Barut B., Yalçın C. Ö., Özel A.
INORGANIC CHEMISTRY COMMUNICATIONS, vol.156, 2023 (SCI-Expanded)
- VI. **Evaluation of photodynamic therapy effects of novel zinc (II) phthalocyanine through a possible interaction with toll-like receptor signaling pathway**
Barut B., Yalçın C. Ö., Altun Y., Akkaya D., Barut E. N., Baş H., Biyiklioğlu Z.
APPLIED ORGANOMETALLIC CHEMISTRY, vol.37, no.4, 2023 (SCI-Expanded)
- VII. **DNA interaction, cytotoxic and phototoxic properties of new water-soluble zinc (II) phthalocyanines**
BIYIKLIOĞLU Z., Bas H., ALTUN ALI Y., YALÇIN C. Ö., BARUT B.
APPLIED ORGANOMETALLIC CHEMISTRY, no.12, 2022 (SCI-Expanded)
- VIII. **Non-aggregated and water soluble axially disubstituted silicon phthalocyanines: Synthesis and inhibitory effect on acetylcholinesterase enzyme**
BIYIKLIOĞLU Z., BaS H., Sahin H.
APPLIED ORGANOMETALLIC CHEMISTRY, no.6, 2022 (SCI-Expanded)
- IX. **Synthesis and biological evaluation of peripherally tetra-({6-[3-(dimethylamino)phenoxy]hexyl}oxy) substituted water-soluble phthalocyanines as cholinesterases inhibitors**
BIYIKLIOĞLU Z., Bas H., AKKAYA D., BARUT B.
APPLIED ORGANOMETALLIC CHEMISTRY, no.4, 2022 (SCI-Expanded)
- X. **Dye-sensitized solar cells using silicon phthalocyanine photosensitizers with pyridine anchor: Preparation, evaluation of photophysical, electrochemical, and photovoltaic properties**
Güzel E., Baş H., BIYIKLIOĞLU Z., Şişman İ.
APPLIED ORGANOMETALLIC CHEMISTRY, no.6, 2021 (SCI-Expanded)
- XI. **Pyridine substituted BODIPYs: synthesis, characterization and cholinesterase, α -glucosidase inhibitory, DNA hydrolytic cleavage effects**
BARUT B., BAŞ H., BIYIKLIOĞLU Z.
TURKISH JOURNAL OF CHEMISTRY, vol.45, no.5, pp.1567-1575, 2021 (SCI-Expanded)
- XII. **Synthesis of axially disubstituted quaternized silicon phthalocyanines as a promising photosensitizer for the photodynamic treatment of HCT-116, A549 and SH-SY5Y cancer cell lines**
YALÇIN C. Ö., Bas H., Barut B., ÖZEL A., BIYIKLIOĞLU Z.
DALTON TRANSACTIONS, no.15, pp.4927-4934, 2020 (SCI-Expanded)
- XIII. **Synthesis, DNA interaction, *in vitro*/*in silico* topoisomerase II inhibition and**

photodynamic therapy activities of two cationic BODIPY derivatives

Barut B., COBAN O., YALÇIN C. Ö., Bas H., SARI S., Biyiklioglu Z., Demirbas Ü., ÖZEL A.
DYES AND PIGMENTS, 2020 (SCI-Expanded)

- XIV. **Synthesis and effect of substituent position, metal type on the electrochemical properties of (3-morpholin-4-ylpropoxy) groups substituted cobalt, manganese phthalocyanines**
BIYIKLIOĞLU Z., Bas H.
TURKISH JOURNAL OF CHEMISTRY, vol.44, no.3, pp.687-694, 2020 (SCI-Expanded)
- XV. **Synthesis and electrochemical properties of copper(II), manganese(III) phthalocyanines bearing chalcone groups at peripheral or nonperipheral positions**
Bas H., KAHRİMAN N., BIYIKLIOĞLU Z.
TURKISH JOURNAL OF CHEMISTRY, vol.44, no.6, pp.1549-1555, 2020 (SCI-Expanded)
- XVI. **Design, synthesis, characterization of peripherally tetra-pyridine-triazole-substituted phthalocyanines and their inhibitory effects on cholinesterases (AChE/BChE) and carbonic anhydrases (hCA I, II and IX)**
Arslan T., CEYLAN M. B., Bař H., BIYIKLIOĞLU Z., Senturk M.
DALTON TRANSACTIONS, no.1, pp.203-209, 2020 (SCI-Expanded)
- XVII. **Non-peripherally 4-[(1E)-1-benzothien-2-ylmethylene]amino}phenol substituted zinc(II), manganese(III), cobalt(II) phthalocyanines: Synthesis and electrochemistry**
ÜNVER Y., BAS H., BIYIKLIOĞLU Z.
JOURNAL OF MOLECULAR STRUCTURE, pp.508-513, 2019 (SCI-Expanded)
- XVIII. **Synthesis, DNA interaction, topoisomerase I, II inhibitory and cytotoxic effects of water soluble silicon (IV) phthalocyanine and naphthalocyanines bearing 1-acetylpiperazine units**
BAS H., Barut B., BIYIKLIOĞLU Z., ÖZEL A.
DYES AND PIGMENTS, pp.136-144, 2019 (SCI-Expanded)
- XIX. **Synthesis and electropolymerization properties of axially disubstituted silicon phthalocyanines bearing carbazole units**
Bař H., BIYIKLIOĞLU Z.
INORGANICA CHIMICA ACTA, pp.79-86, 2018 (SCI-Expanded)
- XX. **Synthesis and electropolymerization properties of new axially substituted subphthalocyanines bearing polymerizable 2-[4-((1E)-4-(dimethylamino,diethylamino)phenyl)methylene]amino}phenyl]ethoxy groups**
Bař H., BIYIKLIOĞLU Z.
INORGANICA CHIMICA ACTA, pp.56-61, 2017 (SCI-Expanded)
- XXI. **Non-aggregated axially naphthoxazin group substituted silicon phthalocyanines: Synthesis and electrochemistry**
Bař H., BIYIKLIOĞLU Z.
JOURNAL OF ORGANOMETALLIC CHEMISTRY, pp.238-243, 2015 (SCI-Expanded)
- XXII. **Synthesis and electrochemistry of non-aggregated axially disubstituted silicon phthalocyanines bearing benzoxazin substituents**
BIYIKLIOĞLU Z., Bař H.
INORGANICA CHIMICA ACTA, pp.293-298, 2015 (SCI-Expanded)
- XXIII. **Non-aggregated axially disubstituted silicon phthalocyanines bearing electropolymerizable ligands and their aggregation, electropolymerization and thermal properties**
BIYIKLIOĞLU Z., BAS H., ALP H.
DALTON TRANSACTIONS, no.31, pp.14054-14062, 2015 (SCI-Expanded)

Articles Published in Other Journals

1. **Synthesis of axially di- and peripherally tetra-(4-[(1E)-(4-methoxyphenyl)-methylene]amino}phenoxy) group substituted metallophthalocyanines and their electrochemistry**

Baş H., Bıyıkloğlu Z.

Turkish Journal of Analytical Chemistry (Online), no.2, pp.137-142, 2023 (Peer-Reviewed Journal)

II. Carbonic anhydrase inhibition and antioxidant activity of the axially naphthoxazin group substituted silicon phthalocyanines

Karaçelik A. A., Çakır V., Baş H., Bıyıkloğlu Z.

Gümüşhane Üniversitesi Fen Bilimleri Dergisi, vol.12, no.1, pp.227-234, 2021 (Peer-Reviewed Journal)

Refereed Congress / Symposium Publications in Proceedings

- I. Baş H., Bıyıkloğlu Z., Seyhan G., Barut B.
9. Ulusal Anorganik Kimya Kongresi, Ankara, Turkey, 16 - 19 May 2024, pp.25
- II. **Synthesis of Water-Soluble Tetra, Octa Substitute Zinc(II) Phthalocyanines and Their Investigation of DNA Interaction, Cytotoxic and Phototoxic Properties**
Baş H., Bıyıkloğlu Z., Altun Y., Yalçın C. Ö., Barut B.
5th International Eurasian Conference on Biological and Chemical Science, Ankara, Turkey, 23 - 25 November 2023, pp.267
- III. **Synthesis and Investigation of Aggregation Properties of Water-Soluble Octa-Substituted Manganese(III) Phthalocyanines Bearing Pyridine Groups**
Baş H., Bıyıkloğlu Z.
6th International Eurasian Conference on Biological and Chemical Science, Ankara, Turkey, 11 - 13 October 2023, pp.123
- IV. **Role Of Toll-Like Receptors In Photodynamic Therapy Of Novel Zn(II) Phtalocyanine Compound On Lung Cancer Cells**
Barut B., Altun Y., Akkaya D., Barut E. N., Baş H., Yalçın C. Ö., Bıyıkloğlu Z.
33. Ulusal Biyokimya Kngresi, İzmir, Turkey, 26 - 30 October 2022, pp.3
- V. **Elektropolimerizasyon Özelliği Gösterebilen 4-(3-Morfolin-4-İlpropoksi) Grupları İçeren Kobalt ve Mangan Ftalosiyanimler**
Baş H., Bıyıkloğlu Z.
7. Ulusal Anorganik Kimya kongresi, Çorum, Turkey, 19 - 22 June 2019, pp.48
- VI. **Synthesis of Water Soluble New Phtalocyanines Bearing Pyridine Ring**
Bıyıkloğlu Z., Arslan T., Baş H.
7th Drug Chemistry Conference: Design, synthesis, Production and Standartization of Drug active Substances, Antalya, Turkey, 14 - 17 March 2019, pp.17
- VII. **Design And Synthesis Of Peripherally Tetra-4-(1-(2-propoxyethyl)-1H-1,2,3-triazol-4-yl)pyridine Substituted New Phtalocyanines**
Arslan T., Baş H., Bıyıkloğlu Z.
7th Drug Chemistry Conference: Design, synthesis, Production and Standartization of Drug active Substances, Antalya, Turkey, 14 - 17 March 2019, pp.1
- VIII. **Cytotoxic Effects of Silicon Phthalocyanine, Naphthalocyanine Bearing Acetyl Piperazine Groups and Their Water Soluble Derivatives**
Baş H., Barut B., Özel A., Bıyıkloğlu Z.
1st Euroasia Biochemical Approaches and Technologies Congress, Antalya, Turkey, 27 - 30 October 2018, pp.75
- IX. **Non-Peripherally 4-[(1E)-1-Benzothien-2-ylmethylene]amino}phenol Substituted Metallophthalocyanines: Synthesis and Electrochemistry**
Bıyıkloğlu Z., Baş H., Ünver Y.
4th Organic Chemistry Congress With International Participation, Antalya, Turkey, 4 - 07 October 2018, pp.105
- X. **Non-Aggregated and Water Soluble Silicon Naphthalocyanine Bearing Acetyl Piperazine Units: Synthesis, DNA Interaction and Topoisomerase Inhibition**
Bıyıkloğlu Z., Özel A., Barut B., Baş H.
4th Organic Chemistry Congress With International Participation, Antalya, Turkey, 4 - 07 October 2018, pp.106

- XI. **Synthesis 1,2,3-Triazole-Substituted New Phthalocyanines Derivatives Using Click Chemistry**
Arslan T., Bıyıklıođlu Z., Bař H.
4th Organic Chemistry Congress With International Participation, Antalya, Turkey, 4 - 07 October 2018, pp.70
- XII. **Synthesis of New Metal-Free and Metallophthalocyanines Containing N,N-Dimethyl-4-(1-(2-propoxyethyl)-1H-1,2,3-triazol-4-yl)aniline Group**
Arslan T., Bıyıklıođlu Z., Bař H.
4th Organic Chemistry Congress With International Participation, Antalya, Turkey, 4 - 07 October 2018, pp.95
- XIII. **Synthesis and Electropolymerization Properties of Axially Disubstituted Silicon Phthalocyanines Bearing Carbazole Units**
Bıyıklıođlu Z., Bař H.
1th International Eurasian Conference on Biological and Chemical Science, Ankara, Turkey, 26 - 27 April 2018, pp.710
- XIV. **Water Soluble Silicon Phthalocyanine Bearing Piperazine Units and Investigation of Its DNA Binding, DNA Photocleavage, Topoisomerase I,II Inhibition**
Bıyıklıođlu Z., Bař H., Özel A., Barut B.
1th International Eurasian Conference on Biological and Chemical Science, Ankara, Turkey, 26 - 27 April 2018, pp.709
- XV. **Elektropolimerizasyon Özelliđi Gösterebilen Aksiyal Disübstitüe Yeni Silisyum Ftalosiyanimler**
Bıyıklıođlu Z., Bař H.
5. Ulusal Anorganik Kimya kongresi, Mersin, Turkey, 22 - 25 April 2015, pp.324
- XVI. **Non-Aggregated Axially (1H-Naphtho[1,2-E][1,3]Oxazin-2(3H)-yl)Group Substituted Silicon Phthalocyanines: Synthesis and Electrochemistry**
Bař H., Bıyıklıođlu Z.
1st International Conference on Organic Electronic Material Technologies, Elazıđ, Turkey, 25 - 28 March 2015, pp.75-76
- XVII. **Aksiyal Sübstitüe Yeni Silisyum Ftalosiyanimlerin Sentezi, Karakterizasyonu ve Elektrokimyasal Özelliklerinin İncelenmesi**
Bıyıklıođlu Z., Bař H.
2. Ulusal Organik Kimya Kongresi, Ankara, Turkey, 24 - 26 September 2014, pp.46-47

Supported Projects

- BIYIKLIOĐLU Z., TUBITAK Project, AKSİYAL SÜBSTİTÜE YENİ SİLİSYUM FTALOSİYANİMLERİN SENTEZİ, KARAKTERİZASYONU ve ELEKTROKİMYASAL ÖZELLİKLERİNİN İNCELENMESİ, 2014 - Continues
Bıyıklıođlu Z., Bař H., Öztürmen B. A., Gültekin B., Güzel E., Koçyigit S., Turgut S. B., Project Supported by Higher Education Institutions, Uzun Süre Kararlı Perovskit Güneř Hücrelerine Yönelik Ftalosiyanim Bazlı Bořluk İletim Malzemelerinin Hazırlanması, 2025 - 2027
- Bıyıklıođlu Z., Bař H., Ünlüer Birinci D., Kadiođlu A., Makbul S., TUBITAK Project, Suda Çözünürlüğü Yüksek Metalli Ftalosiyanimlerin Sentezi, Karakterizasyonu ile Bitkilerde Büyüme Ve Oksidatif Stres Direncine Etkilerinin Arařtırılması, 2024 - 2026
- Bıyıklıođlu Z., Yalçın C. Ö., Bař H., Keleş T., Akkaya D., Altun Y., Project Supported by Higher Education Institutions, Aksiyal Periferal NonPeriferal Antrakinin Sübstitüe Silisyum ve Çinko Ftalosiyanimlerin Sentezi DNA Etkileşimleri ve Akciđer Kolorektal Kanser Hücre Hatlarına Karşı in vitro Sitotoksik ve Fotodinamik Terapi Etkilerinin İncelenmesi, 2023 - 2025
- Bıyıklıođlu Z., Kantekin H., Saka E. T., Kesmez Ö., Bař H., Keleş T., Fazlı H., Yalazan H., Akkol Ç., Öztürmen B. A., Project Supported by Higher Education Institutions, Çevre Dostu Yeni Makromoleküller ve Fotokatalitik Uygulamaları, 2022 - 2024
- Bıyıklıođlu Z., Şahin H., Keleş T., Bař H., Project Supported by Higher Education Institutions, Agregasyon Göstermeyen Yeni Silisyum Ftalosiyanimlerin Kuarternize Türevlerinin Sentezi ve Asetilkolinesteraz Enzim İnhibisyonlarının İncelenmesi, 2020 - 2022
- Özel A., Bıyıklıođlu Z., Barut B., Keleş T., Bař H., Çoban Ö., Yalçın C. Ö., Demirbař Ü., Project Supported by Higher Education

Institutions, Suda Çözünebilen BODIPY Bileşiklerinin Sentezi Fotokimyasal Özelliklerinin ve in vitro Hücresel Etki Mekanizmalarının İncelenmesi, 2019 - 2020

Bıyıklioğlu Z., Baş H., Project Supported by Higher Education Institutions, Periferal, Nonperiferal Tetra Sübstitüe Redoks Aktif Kobalt Ve Mangan Metalli Ftalosiyanimler Ve Elektropolimerizasyon Özellikleri, 2018 - 2019

Bıyıklioğlu Z., Özel A., Barut B., Keleş T., TUBITAK Project, Agregasyon Göstermeyen, Suda Çözünebilen Aksiyal Disüstitüe Yeni Silisyum Ftalosiyanim ve Naftalosiyanimlerin Sentezi, DNA Bağlanma, DNA Kesim, Topoizomeraz İnhibitör Aktivitelerinin ve Bazı İnsan Kanseri Hücrelerine Karşı Sitotoksitelerinin İncelenmesi, 2017 - 2019

Patent

Bıyıklioğlu Z., Özel A., Barut B., Baş H., Water-Soluble, Non-Aggregated Silicon Phtalocyanine Compounds Having In Vitro Anticancer Effect Against Cancer Types of Lung, Liver, Brest And Melanoma, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: WO2020068015 , Standard Registration, 2024

Bıyıklioğlu Z., Baş H., Barut B., Özel A., Dna ile Etkileşebilen, Topoizomeraz İnhibisyonu Gösteren ve Antikanser Etkili Suda Çözünebilen, Agregasyon Göstermeyen Yeni Bir Silisyum Ftalosiyanim Bileşiği ve Sentez Yöntemi, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: 201814010 , Standard Registration, 2021

Metrics

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H-Index (Scopus): 9