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Education Information

Doctorate, Gebze Technical University, Institute Of Science, Turkey 2005 - 2010

Postgraduate, Gebze Technical University, Institute Of Science, Turkey 2002 - 2005

Undergraduate, Kocaeli University, Turkey 1997 - 2002

Dissertations

Doctorate, Novel n-bridged diiron phthalocyanine complexes: Synthesis, characterization and application in oxidation, Gebze Technical University, Institute Of Science, 2010

Research Areas

Material science and engineering, Chemistry, Coordination Chemistry, Organometallics, Catalysis, Engineering and Technology

Academic Titles / Tasks

Professor, Marmara University, Faculty of Technology, Metallurgical and Materials Engineering, 2023 - Continues

Advising Theses

İşci Ü., FONKSİYONEL GRUP İÇEREN Mü- NİTRİDO PORFİRİNLER, Doctorate, O.EREN(Student), 2023

İşci Ü., Monomerik ve dimerik suda çözünen demir ftalosiyanınlar, Postgraduate, D.AYDIN(Student), 2022

İşci Ü., Mü- nitrido porfirinoidler: Sentezi, karakterizasyonu ve uygulamaları, Doctorate, Ç.YÜCEEL(Student), 2022

Published journal articles indexed by SCI, SSCI, and AHCI

- Nanoencapsulation of a Far-Red Absorbing Phthalocyanine into Poly(benzylmalate) Biopolymers and Modulation of Their Photodynamic Efficiency**

ŞAHİN Z., Önal E., Ali L. M. A., Durand D., EMAMI A., Touré M., İŞCİ Ü., Gary-Bobo M., Cammas-Marion S., DUMOULIN

F.

Biomacromolecules, vol.25, no.6, pp.3261-3270, 2024 (SCI-Expanded)

- II. **Phthalocyanine vs porphyrin: Experimental and theoretical comparison of the catalytic activity of N-bridged diiron tetrapyrrolic complexes for alcohols oxidation**
ŞAHİN Z., Yüceel Ç., Yildiz D. B., DEDE Y., DUMOULIN F., İŞCİ Ü.
Molecular Catalysis, vol.559, 2024 (SCI-Expanded)
- III. **Near infrared-absorbing self-encapsulated phthalocyanine-cored polycaprolactone star polymeric nanoparticles**
Yaseen A. N., Emami A., Aziza H. B., Doganci M. D., İŞCİ Ü., Gürek A. G., DOĞANCI E., Dumoulin F.
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- IV. **Amphiphilic Single-Chain Polymer Nanoparticles as Imaging and Far-Red Photokilling Agents for Photodynamic Therapy in Zebrafish Embryo Xenografts**
Arena D., Nguyen C., Ali L. M. A., Verde-Sesto E., Iturrospe A., Arbe A., İŞCİ Ü., ŞAHİN Z., DUMOULIN F., Gary-Bobo M., et al.
Advanced Healthcare Materials, 2024 (SCI-Expanded)
- V. **Multifunctional Photovoltaic Window Layers for Solar-Driven Catalytic Conversion of CO₂: The Case of CIGS Solar Cells**
Guerrero J., Bajard E., Schneider N., DUMOULIN F., Lincot D., İŞCİ Ü., Robert M., Naghavi N.
ACS Energy Letters, vol.8, no.8, pp.3488-3493, 2023 (SCI-Expanded)
- VI. **Comparing PVP and Polymeric Micellar Formulations of a PEGylated Photosensitizing Phthalocyanine by NMR and Optical Techniques**
Gergely L. P., Yüceel Ç., İsci Ü., Spadin F. S., Schneider L., Spingler B., Frenz M., DUMOULIN F., Vermathen M.
Molecular pharmaceutics, vol.20, no.8, pp.4165-4183, 2023 (SCI-Expanded)
- VII. **Transparent Porous ZnO|Metal Complex Nanostructured Materials: Application to Electrocatalytic CO₂Reduction**
Guerrero J., Schneider N., DUMOULIN F., Lincot D., İŞCİ Ü., Naghavi N., Robert M.
ACS Applied Nano Materials, vol.6, no.12, pp.10626-10635, 2023 (SCI-Expanded)
- VIII. **Phthalocyanines prepared from 4,5-dihexylthiophthalonitrile, a popular building block**
TOPKAYA TAŞKIRAN D., ŞAHİN Z., İŞCİ Ü., DUMOULIN F.
Turkish Journal of Chemistry, vol.47, no.5, pp.814-836, 2023 (SCI-Expanded)
- IX. **Tetra vs. octa-How it affects the photophysical, photochemical, physicochemical and biological properties of mercaptophenol-substituted Zn phthalocyanines**
TOPKAYA TAŞKIRAN D., Aydin D., Ben Aziza H., ŞAHİN Z., İŞCİ Ü., Durand D., TAZEBAY U. H., Gary-Bobo M., DUMOULIN F.
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.26, no.11, pp.701-707, 2022 (SCI-Expanded)
- X. **Far-red triplet sensitized Z-to-E photoswitching of azobenzene in bioplastics**
Bharmoria P., Ghasemi S., Edhborg F., Losantos R., Wang Z., Martensson A., Morikawa M., Kimizuka N., Isci Ü., DUMOULIN F., et al.
CHEMICAL SCIENCE, vol.13, no.40, pp.11904-11911, 2022 (SCI-Expanded)
- XI. **Nanoscaled PAMAM Dendrimer Spacer Improved the Photothermal-Photodynamic Treatment Efficiency of Photosensitizer-Decorated Confeito-Like Gold Nanoparticles for Cancer Therapy**
Saw W. S., Anasamy T., Thu Thi Anh Do T. T. A. D., Lee H. B., Chee C. F., Isci Ü., Misran M., DUMOULIN F., Chong W. Y., Kiew L. V., et al.
MACROMOLECULAR BIOSCIENCE, vol.22, no.8, 2022 (SCI-Expanded)
- XII. **Substituent effect on iron phthalocyanines as cyclohexene oxidation catalysts**
Yüceel Ç., Şahin Z., İsci Ü.
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.26, no.06N07, pp.452-457, 2022 (SCI-Expanded)
- XIII. **Tuning of organic heterojunction conductivity by the substituents' electronic effects in phthalocyanines for ambipolar gas sensors**
Sahin Z., Meunier-Prest R., DUMOULIN F., Kumar A., Isci Ü., Bouvet M.
SENSORS AND ACTUATORS B-CHEMICAL, vol.332, 2021 (SCI-Expanded)

- XIV. **Alkylthio-tetrasubstituted mu-Nitrido Diiron Phthalocyanines: Spectroelectrochemistry, Electrical Properties, and Heterojunctions for Ammonia Sensing**
Sahin Z., Meunier-Prest R., DUMOULIN F., Isci Ü., Bouvet M.
INORGANIC CHEMISTRY, vol.59, no.2, pp.1057-1067, 2020 (SCI-Expanded)
- XV. **Phthalocyanine-based mesoporous organosilica nanoparticles: NIR photodynamic efficiency and siRNA photochemical internalization**
Ekineker G., Nguyen C., Bayir S., Dominguez Gil S., Isci Ü., Daurat M., Godefroy A., Raehm L., Charnay C., Oliviero E., et al.
CHEMICAL COMMUNICATIONS, vol.55, no.77, pp.11619-11622, 2019 (SCI-Expanded)
- XVI. **CO₂ electrochemical catalytic reduction with a highly active cobalt phthalocyanine**
Wang M., Torbensen K., Salvatore D., Ren S., Joulie D., DUMOULIN F., Mendoza D., Lassalle-Kaiser B., Isci Ü., Berlinguette C. P., et al.
NATURE COMMUNICATIONS, vol.10, 2019 (SCI-Expanded)
- XVII. **Cobalt phthalocyanine-TiO₂ nanocomposites for photocatalytic remediation of textile dyes under visible light irradiation**
Dindas G. B., Sahin Z., Yatmaz H. C., Isci Ü.
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.23, no.4-5, pp.561-568, 2019 (SCI-Expanded)
- XVIII. **A Noble-Metal-Free Heterogeneous Photosensitizer-Relay Catalyst Triad That Catalyzes Water Oxidation under Visible Light**
Ghobadi T. G. U., Yildiz E. A., BÜYÜKTEMİZ M., Akbari S. S., TOPKAYA TAŞKIRAN D., Isci Ü., DEDE Y., YAĞLIOĞLU H. G., Karadas F.
ANGEWANDTE CHEMIE-INTERNATIONAL EDITION, vol.57, no.52, pp.17173-17177, 2018 (SCI-Expanded)
- XIX. **Triphenylphosphonium-substituted phthalocyanine: Design, synthetic strategy, photoproperties and photodynamic activity**
Tarhouni M., Durand D., Onal E., Aggad D., Isci Ü., Ekineker G., Bregier F., Jamoussi B., Sol V., Gary-Bobo M., et al.
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.22, no.7, pp.552-561, 2018 (SCI-Expanded)
- XX. **Photophysical properties of palladium/platinum tetrasulfonyl phthalocyanines and their application in triplet-triplet annihilation upconversion**
Che Y., Yang W., Tang G., DUMOULIN F., Zhao J., Liu L., Isci Ü.
JOURNAL OF MATERIALS CHEMISTRY C, vol.6, no.21, pp.5785-5793, 2018 (SCI-Expanded)
- XXI. **Sulfanyl vs sulfonyl, 4,5-vs 3,6-position. How structural variations in phthalonitrile substitution affect their infra-red, crystallographic and Hirshfeld surface analyses**
Onal E., Okyay T. M., Ekineker G., Isci Ü., Ahsen V., Berber S., Zorlu Y., DUMOULIN F.
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- XXII. **Cyclotriphosphazene, a scaffold for F-19 MRI contrast agents**
Onal E., Zhang C., Davarci D., Isci Ü., Pilet G., Whittaker A. K., DUMOULIN F.
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- XXIII. **Synthesis and characterization of a new meso-tetra-dihydro benzocyclobutenaphthylene free-base porphyrin**
Isci Ü., Topal S. Z., Onal E., Fidan I., Berber S., Ahsen V., Parejo C., Sastre-Santos A., DUMOULIN F.
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- XXIV. **Subtle variations of the behavior of a silylated tetraethylene glycol-substituted Zn phthalocyanine towards acids**
Onal E., Topal S. Z., Tarhouni M., Isci Ü., Bassem J., Ahsen V., DUMOULIN F.
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- XXV. **Covalent or supramolecular combinations of resorcinarenes and porphyrinoids**
DUMOULIN F., TOPKAYA TAŞKIRAN D., Yasar S., Ahsen V., Isci Ü.
JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.20, no.5, pp.671-681, 2016 (SCI-Expanded)
- XXVI. **Methylsulfonyl Zn phthalocyanine: A polyvalent and powerful hydrophobic photosensitizer with a wide spectrum of photodynamic applications**
Isci Ü., Beyreis M., Tortik N., Topal S. Z., Glueck M., Ahsen V., DUMOULIN F., Kiesslich T., Plaetzer K.

- PHOTODIAGNOSIS AND PHOTODYNAMIC THERAPY, vol.13, pp.40-47, 2016 (SCI-Expanded)
- XXVII. **A library of dimeric and trimeric phthalonitriles linked by a single aromatic ring: comparative structural and DFT investigations**
Koc M., Zorlu Y., Isci Ü., Berber S., Ahsen V., DUMOULIN F.
CRYSTENGCOMM, vol.18, no.8, pp.1416-1426, 2016 (SCI-Expanded)
- XXVIII. **Synthesis, characterization, and Pb²⁺ ion sensing application of hexa-armed dansyl end-capped poly(epsilon-caprolactone) star polymer with phosphazene core**
Gorur M., DOĞANCI E., Yilmaz F., Isci Ü.
JOURNAL OF APPLIED POLYMER SCIENCE, vol.132, no.32, 2015 (SCI-Expanded)
- XXIX. **Fluorescent mono- and tetra-dansylated cavitands: synthesis and acid sensitivity**
Isci Ü., Zorlu Y., DUMOULIN F.
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- XXX. **Site-selective formation of an iron(IV)-oxo species at the more electron-rich iron atom of heteroleptic mu-nitrido diiron phthalocyanines**
Isci Ü., Faponle A. S., Afanasiev P., Albrieux F., Briois V., Ahsen V., DUMOULIN F., Sorokin A. B., de Visser S. P.
CHEMICAL SCIENCE, vol.6, no.8, pp.5063-5075, 2015 (SCI-Expanded)
- XXXI. **1,4,8,11,15,18,22,25-Alkylsulfanyl phthalocyanines: effect of macrocycle distortion on spectroscopic and packing properties**
Zorlu Y., Kumru U., Isci Ü., Divrik B., Jeanneau E., Albrieux F., DEDE Y., Ahsen V., DUMOULIN F.
CHEMICAL COMMUNICATIONS, vol.51, no.30, pp.6580-6583, 2015 (SCI-Expanded)
- XXXII. **Resorcinarene-mono-benzimidazolium salts as NHC ligands for Suzuki-Miyaura cross-couplings catalysts**
Isci Ü., AYGÜN M., SEVİNÇEK R., Zorlu Y., DUMOULIN F.
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- XXXIII. **Dihydroxylated Alkylsulfanyl Phthalonitriles**
Zorlu Y., Taskiran D. T., Tarakci D. K., Kumru U., Alpugan S., Isci Ü., DUMOULIN F., Ahsen V.
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.44, no.7, pp.337-345, 2014 (SCI-Expanded)
- XXXIV. **Axial binding and host-guest interactions of a phthalocyanine resorcinarene cavitand hybrid**
TOPKAYA TAŞKIRAN D., DUMOULIN F., Ahsen V., Isci Ü.
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- XXXV. **Expeditious selective access to functionalized platforms of A(7)B-type heteroleptic lanthanide double-decker complexes of phthalocyanine**
Alpugan S., Isci Ü., Albrieux F., Hirel C., Gurek A. G., Bretonniere Y., Ahsen V., DUMOULIN F.
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- XXXVI. **Modulation of the electronic and spectroscopic properties of Zn(II) phthalocyanines by their substitution pattern**
Topal S. Z., Isci Ü., Kumru U., Atilla D., Gurek A. G., Hirel C., Durmus M., Tommasino J., Luneau D., Berber S., et al.
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- XXXVII. **Sulfonamide-substituted iron phthalocyanine: design, solubility range, stability and oxidation of olefins**
Isci Ü., Caner C., Zorlu Y., Gurek A. G., DUMOULIN F., Ahsen V.
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- XXXVIII. **N-bridged dimers of tetrapyrroles complexed by transition metals: syntheses, characterization methods, and uses as oxidation catalysts**
Isci Ü., DUMOULIN F., Sorokin A. B., Ahsen V.
TURKISH JOURNAL OF CHEMISTRY, vol.38, no.6, pp.923-949, 2014 (SCI-Expanded)
- XXXIX. **Comparative structural analysis of 4,5- and 3,6-dialkylsulfanylphthalonitriles of different bulkiness**
Zorlu Y., Isci Ü., Un I., Kumru U., DUMOULIN F., Ahsen V.
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- XL. **Preparation of N-bridged diiron phthalocyanines bearing bulky or small electron-withdrawing substituents**

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- XL1. Preparation of iron phthalocyanine complex bearing four tetraazamacrocycles as a precursor for oxidation catalyst with two catalytic sites**

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JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.13, no.6, pp.747-752, 2009 (SCI-Expanded)

- XLII. Preparation and characterization of mu-nitrido diiron phthalocyanines with electron-withdrawing substituents: application for catalytic aromatic oxidation**

Isci Ü., Afanasiev P., Millet J. M., Kudrik E. V., Ahsen V., Sorokin A. B.

DALTON TRANSACTIONS, no.36, pp.7410-7420, 2009 (SCI-Expanded)

- XLIII. A first ABAC phthalocyanine**

DUMOULIN F., Zorlu Y., Ayhan M. M., Hirel C., Isci Ü., Ahsen V.

JOURNAL OF PORPHYRINS AND PHTHALOCYANINES, vol.13, no.1, pp.161-165, 2009 (SCI-Expanded)

Books & Book Chapters

I. Phthalocyanines and Porphyrines

İŞÇİ Ü., DUMOULIN İSÇİ F. A. C.

in: Fundamentals of Porphyrin Chemistry: A 21st Century Approach, Penelope J. Brothers (Editor), Mathias O. Senge (Editor), Editor, WILEY, pp.241-302, 2022

Supported Projects

İşçi Ü., Gürek A. G., Dumoulin İsci F. A. C., TÜBİTAK International Bilateral Joint Cooperation Program Project, PDT, PTT ya da Işıklı Tetiklenen İlaç Salınımı İçin Tasarlanmış ve Kendiliğinden Düzenlenerek Ortogonal Fonksiyonlanabilen Karışık ya da Saf Ftalozenleri Oluşturabilen Amfifilik Ftalozenleri, 2020 - 2023

İşçi Ü., TÜBİTAK Project, CO₂'nin İndirgenmesi İçin Pacman Ftalozenleri Dimerleri, 2021 - 2022

İşçi Ü., TÜBİTAK Project, Mü-Nitrido Nonhem/Ftalozenleri Demir Kompleks Katalizli C-H Bağ Aktivasyonu, 2018 - 2021

İşçi Ü., TÜBİTAK International Bilateral Joint Cooperation Program Project, Düzenlenebilir Elektronik Özelliklere Sahip Çözünür Ftalozenleri Kullanılarak Ayarlanabilir Arayüzler Ve Modifiye Elektrotlar İle Heteroeklemlerin Optimizasyonu, 2018 - 2020

İşçi Ü., Ahsen V., TÜBİTAK International Bilateral Joint Cooperation Program Project, Ftalozenleri Bazlı Periyodik Mezoporöz Organosilikon Nanopartiküller, 2016 - 2018

İşçi Ü., Topkaya Taşkıran D., İnce Ocakoğlu M., TÜBİTAK - AB COST Project, Süpramoleküler Konuk konak Etkileşimleri ile Fulleren Zn Tetrapirel Arasındaki Enerji ve Elektron Transferinin Optimizasyonu, 2014 - 2018

İşçi Ü., TÜBİTAK Project, Homojen Ftalozenleri Katalizörleri ile Peptit Bağ Oluşumu, 2014 - 2015

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