Assoc. Prof. EMRULLAH GÖRKEM GÜNBAŞ

Personal Information

Email: ggunbas@metu.edu.tr
Web: https://avesis.metu.edu.tr/ggunbas

International Researcher IDs
ScholarID: pY_yNyoAAAAJ
ORCID: 0000-0003-2279-3032
Publons / Web Of Science ResearcherID: I-8975-2016
ScopusID: 57194534895
Yoksis Researcher ID: 164882

Education Information

Doctorate, University of California, Davis, United States Of America 2008 - 2013
Postgraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, Turkey 2006 - 2007
Undergraduate, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, Turkey 2003 - 2006

Dissertations

Doctorate, Using the Heterotriquinane Molecular Framework to Test the Limits of Bonding and Reactivity, University Of California, Davis, 2014
Postgraduate, Novel donor-acceptor type polymers towards excellent neutral state green polymeric materials for realization of RGB based electrochromic device applications, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2007

Research Areas

Chemistry, Physical Chemistry, Polymeric Materials, Organic Chemistry, Chemistry of Dyes and Pigments, Chemistry of Heterocyclic Compounds, Natural Sciences

Academic Titles / Tasks

Associate Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2018 - Continues
Assistant Professor, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2015 - 2018
Lecturer, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2014 - 2015
Research Assistant, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2006 - 2014

Academic and Administrative Experience

BAP Scientific Commissioner, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2019 - 2022
Uygulama ve Araştırma Merkezi Yönetim Kurulu Üyesi, Middle East Technical University, Faculty of Arts and Sciences, Department of Chemistry, 2017 - 2021

Courses

Reaction Mechanisms in Organic Chemistry, Undergraduate, 2018 - 2019
Organic Chemistry Lab. II, Undergraduate, 2018 - 2019

Advising Theses

GÜNBAŞ E. G., Efforts towards synthesis of hydrogen sulfide activated BODIPY based PDT agent, Postgraduate, M.CANYURT(Student), 2022
GÜNBAŞ E. G., Interface passivation of perovskite solar cells with novel cations, Postgraduate, G.BENSU(Student), 2022
GÜNBAŞ E. G., Interface engineering with a thienothiophene-based ammonium salt for realization of semitransparent perovskite solar cells with enhanced efficiency and improved stability, Postgraduate, Ü.GÜNEŞ(Student), 2021
GÜNBAŞ E. G., Design & synthesis of rhodanine flanked benzodithiophene and benzothiadiazole containing small molecule non-fullerene acceptors for organic solar cells, Postgraduate, D.KARDELEN(Student), 2021
Günbaş E. G., Synthesis, structural characterization and chemistry of tribenzoheterotriquinane based molecular structures., Postgraduate, D.KEPİL(Student), 2020
Yerci S., Günbaş E. G., Manganese doped solution processed nickel oxide hole transport layer for perovskite solar cells, Postgraduate, M.DERYA(Student), 2019
GÜNBAŞ E. G., ÖZÇUBUKÇU S., Synthesis of dioxin & tetra aryl pyrazine derivatives and their applications, Postgraduate, B.OKYAR(Student), 2019
Günbaş E. G., Turan R., Optimization of laser processing for PERC type c-Ci solar cells, Postgraduate, E.GENÇ(Student), 2019
GÜNBAŞ E. G., Synthesis and in vitro studies of selenophene containingbodipy derivatives as mitochondria targetedphotodynamic therapy agents, Postgraduate, O.KARAMAN(Student), 2019
GÜNBAŞ E. G., Advanced conjugated systems towards realization ofstable n-type materials and high-performanceelectrochromic polymers, Postgraduate, K.GHASEMIAHANGARANFARAHANI(Student), 2018
GÜNBAŞ E. G., Synthesis and characterization of novel quinoxalinebased and thieno[3,4-c]pyrrole-4,6-dione-based conjugated polymers and their applications in organic electronics, Postgraduate, A.KARABAĞ(Student), 2017
GÜNBAŞ E. G., Synthesis of novel diketopyrrole and selenophene containing nir absorbing polymers and their application in bulk-heterojunction solar cells, Postgraduate, G.ÖKLEM(Student), 2017
GÜNBAŞ E. G., From supramolecular chemistry to fundamental organic chemistry: Bis-rosette nanotubes and novel molecular frameworks, Postgraduate, C.İĞCİ(Student), 2017
GÜNBAŞ E. G., Syntheses of functional materials for organic photovoltaic and electrochromic device applications, Postgraduate, F.VARLIOĞLU(Student), 2017
GÜNBAŞ E. G., Novel phenanthrocarbazole containing conjugated polymers as high performance electrochromic materials, Postgraduate, G.ATAKAN(Student), 2016

Published journal articles indexed by SCI, SSCI, and AHCI

I. **Tuning 2D Perovskite Passivation: Impact of Electronic and Steric Effects on the Performance of 3D/2D Perovskite Solar Cells**
Gozukara Karabag Z., Karabag A., Gunes U., Gao X., Syzgenteva O. A., Syzgenteva M. A., Varlioglu Yaylali F., Shibayama N., Kanda H., Rafieh A. I., et al.

Advanced Energy Materials, vol.13, no.45, 2023 (SCI-Expanded)

II. **Efficient and Stable Inverted Wide-Bandgap Perovskite Solar Cells and Modules Enabled by Hybrid Evaporation-Solution Method**
Afshord A. Z., Uzuner B. E., Soltanpoor W., Sedani S. H., Aernouts T., GÜNBAŞ E. G., Kuang Y., YERCİ S.
Advanced Functional Materials, vol.33, no.31, 2023 (SCI-Expanded)

III. **Building Block Engineering toward Realizing High-Performance Electrochromic Materials and Glucose Biosensing Platform**
Karabag A., Soyler D., UDUM Y., TOPPARE L. K., GÜNBAŞ E. G., Soylemez S.
Biosensors, vol.13, no.7, 2023 (SCI-Expanded)

IV. **Drastic influence of substituent position on orientation of 2D layers enables efficient and stable 3D/2D perovskite solar cells**
Gunes U., Yaylali F. V., Gozukara Karabag Z., Gao X., Syzgantseva O. A., Karabag A., Yildirim G. B., Tsoi K., Shibayama N., Kanda H., et al.
Cell Reports Physical Science, vol.4, no.5, 2023 (SCI-Expanded)

V. **Selective monitoring and treatment of neuroblastoma cells with hydrogen sulfide activatable phototheranostic agent**
Dirak M., Kepil D., Almammadov T., Elmazoglu Z., Cetin S., Ozogul N., GÜNBAŞ E. G., Kolemen S.
Dyes and Pigments, vol.210, 2023 (SCI-Expanded)

VI. **Xanthene dyes for cancer imaging and treatment: A material odyssey**
Karaman O., Alkan G., Kizilenis C., Akgul C. C., Gunbas G.
COORDINATION CHEMISTRY REVIEWS, vol.475, 2023 (SCI-Expanded)

VII. **Rational Molecular Design Enables Efficient Blue TADF—OLEDs with Flexible Graphene Substrate**
Sharif P., Alemdar E., Ozturk S., Caylan O., Haciefendioglu T., Buke G., Aydemir M., Danos A., Monkman A. P., Yıldırım E., et al.
Advanced Functional Materials, vol.32, no.47, 2022 (SCI-Expanded)

VIII. **Superior Photodynamic Therapy of Colon Cancer Cells by Selenophene-BODIPY-Loaded Superparamagnetic Iron Oxide Nanoparticles**
Ozvural Sertcelik K. N., Karaman O., Almammadov T., Günbaş E. G., Kolemen S., Yagci Acar H., Onbasli K.
ChemPhotoChem, vol.6, no.10, 2022 (SCI-Expanded)

IX. **Selenophene-Modified Boron Dipyrromethene-Based Photosensitizers Exhibit Photodynamic Inhibition on a Broad Range of Bacteria**
ÖZKETEN A. Ç., KARAMAN O., Ozdemir A., Soysal I., KIZILENİŞ Ç., Chatzioglou A. N., ÇİÇEK Y. A., Kolemen S., GÜNBAŞ E. G.
ACS OMEGA, vol.7, pp.33916-33925, 2022 (SCI-Expanded)

X. **A Nonionic Alcohol Soluble Polymer Cathode Interlayer Enables Efficient Organic and Perovskite Solar Cells**
Sharma A., Singh S., Song X., Rosas Villalva D., Troughton J., Corzo D., Toppare L. K., GÜNBAŞ E. G., Schroeder B. C., Baran D.
CHEMISTRY OF MATERIALS, vol.33, no.22, pp.8602-8611, 2021 (SCI-Expanded)

XI. **A Thienothiophene-Based Cation Treatment Allows Semitransparent Perovskite Solar Cells with Improved Efficiency and Stability**
Gunes U., Bag Celik E., Akgül C., Koc M., Ameri M., Uzuner B. E., Ghasemi M., Şahiner M. C., Yıldız I., Kaya H. Z., et al.
ADVANCED FUNCTIONAL MATERIALS, vol.31, no.42, 2021 (SCI-Expanded)

XII. **Balanced Intersystem Crossing in Iodinated Silicon-Fluoresceins Allows New Class of Red Shifted Theranostic Agents.**
Cetin S., Elmazoglu Z., Karaman O., Gunduz H., Günbaş E. G., Kolemen S.
ACS medicinal chemistry letters, vol.12, pp.752-757, 2021 (SCI-Expanded)

XIII. **ProTOT: Synthesis of the missing member of the 3,4-chalcogen substituted bridged thiophenes and its utilization in donor-acceptor polymers**
Yaylali F. V., Ozel H., UDUM Y., TOPPARE L. K., Soylemez S., GÜNBAŞ E. G.
Polymer, vol.212, 2021 (SCI-Expanded)

XIV. **Resorufin Enters the Photodynamic Therapy Arena: A Monoamine Oxidase Activatable Agent for Selective Cytotoxicity**
Almammadov T., ATAKAN G., Leylek O., Ozcan G., Gunbas G., Kolemen S.
ACS MEDICINAL CHEMISTRY LETTERS, vol.11, no.12, pp.2491-2496, 2020 (SCI-Expanded)

XV. **Hybrid Vapor-Solution Sequentially Deposited Mixed-Halide Perovskite Solar Cells**
Soltanpoor W., Dreessen C., ŞAHİNER M. C., Susic I., Afshord A. Z., Chirvony V. S., Boix P. P., Gunbas G., YERCİ S., Bolink H. J.
ACS APPLIED ENERGY MATERIALS, vol.3, no.9, pp.8257-8265, 2020 (SCI-Expanded)

XVI. **Mitochondria-Targeting Selenophene-Modified BODIPY-Based Photosensitizers for the Treatment of Hypoxic Cancer Cells**
Karaman O., Almammadov T., Gedik M. E., GÜNAYDIN G., Kolemen S., Gunbas G.
CHEMMEDCHEM, vol.14, no.22, pp.1879-1886, 2019 (SCI-Expanded)

XVII. **Synthesis of N-Bridged Pyrido[4,3-d]pyrimidines and Self-Assembly into Twin Rosette Cages and Nanotubes in Organic Media**
Igci C., Karaman O., Fan Y., Gonzales A. A., Fenniri H., GÜNBAŞ E. G.
SCIENTIFIC REPORTS, vol.8, 2018 (SCI-Expanded)

XVIII. **A new NIR absorbing DPP-based polymer for thick organic solar cells**
Oklem G., Song X., Toppare L., Baran D., GÜNBAŞ E. G.
JOURNAL OF MATERIALS CHEMISTRY C, vol.6, no.12, pp.2957-2961, 2018 (SCI-Expanded)

XIX. **A Novel Blue to Transparent Polymer for Electrochromic Supercapacitor Electrodes**
YUKSEL R., EKBER A., TURAN J., ALPUGAN E., HACIOGLU S. O., TOPPARE L. K., ÇIRPAN A., GUNBAS G., ÜNALAN H. E.
ELECTROANALYSIS, vol.30, no.2, pp.266-273, 2018 (SCI-Expanded)

XX. **A New High-Performance Blue to Transmissive Electrochromic Material and Use of Silver Nanowire Network Electrodes as Substrates**
YÜKSEL R., ATAOGLU E., TURAN J., ALPUGAN E., HACIOGLU S. O., TOPPARE L., ÇIRPAN A., ÜNALAN H. E., GUNBAS G.
JOURNAL OF POLYMER SCIENCE PART A-POLYMER CHEMISTRY, vol.55, no.10, pp.1680-1686, 2017 (SCI-Expanded)

XXI. **ABE Condensation over Monometallic Catalysts: Catalyst Characterization and Kinetics**
GOULAS K. A., Gunbas G., DİETRİCH P. J., SREEKUMAR S., GRİPPO A., CHEN J. P., GOKHALE A. A., TOSTE F. D.
CHEMCATCHEM, vol.9, no.4, pp.677-684, 2017 (SCI-Expanded)

XXII. **Silver Nanowire/Conducting Polymer Nanocomposite Electrochromic Supercapacitor Electrodes**
YÜKSEL R., COŞKUN S., GUNBAS G., ÇIRPAN A., TOPPARE L., ÜNALAN H. E.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.164, no.4, 2017 (SCI-Expanded)

XXIII. **Synergistic Effects in Bimetallic Palladium-Copper Catalysts Improve Selectivity in Oxygenate Coupling Reactions**
Goulas K. A., SREEKUMAR S., Song Y., Kharidehal P., Gunbas G., Dietrich P. J., Johnson G. R., Wang Y. C., Grippo A. M., Grabow L. C., et al.
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.138, no.21, pp.6805-6812, 2016 (SCI-Expanded)

XXIV. **A Novel Acetylcholinesterase Biosensor: Core-Shell Magnetic Nanoparticles Incorporating a Conjugated Polymer for the Detection of Organophosphorus Pesticides**
Cancar H. D., SÖYLEMEZ S., AKPINAR Y., KESİK M., Goker S., Gunbas G., VOLKAN M., Toppare L.
ACS APPLIED MATERIALS & INTERFACES, vol.8, no.12, pp.8058-8067, 2016 (SCI-Expanded)

XXV. **A novel red to transmissive electrochromic polymer based on phenanthrocarbazole**
ATAKAN G., Gunbas G.
RSC ADVANCES, vol.6, no.30, pp.25620-25623, 2016 (SCI-Expanded)

XXVI. **Novel pathways for fuels and lubricants from biomass optimized using life-cycle greenhouse gas assessment**
Balakrishnan M., Sacia E. R., Sreekumar S., Gunbas G., Gokhale A. A., Scown C. D., Toste F. D., Bell A. T.
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol.112, no.25, pp.7645-7649, 2015 (SCI-Expanded)

XXVII. **Production of an acetone-butanol-ethanol mixture from Clostridium acetobutylicum and its**

conversion to high-value biofuels
Sreekumar S., Baer Z. C., Pazhamalai A., Gunbas G., Grippo A., Blanch H. W., Clark D. S., Toste F. D.
NATURE PROTOCOLS, vol.10, no.3, 2015 (SCI-Expanded)

XXVIII. **Upgrading Lignocellulosic Products to Drop-In Biofuels via Dehydrogenative Cross-Coupling and Hydrodeoxygenation Sequence**
SREEKUMAR S., BALAKRİSHNAN M., GOULAS K., GÜNBAŞ E. G., GOKHALE A., LOUİE L., GRİPPO A., SCOWN C., BELL A., TOSTE D.
CHEMSUSCHEM, vol.8, no.16, pp.2609-2614, 2015 (SCI-Expanded)

XXIX. **Chemocatalytic Upgrading of Tailored Fermentation Products Toward Biodiesel**
SREEKUMAR S., Baer Z. C., GROSS E., Padmanaban S., GOULAS K., Gunbas G., ALAYOGLU S., Blanch H. W., Clark D. S., Toste F. D.
CHEMSUSCHEM, vol.7, no.9, pp.2445-2448, 2014 (SCI-Expanded)

XXX. **Synthesis of N-substituted Pyrido[4,3-d]pyrimidines for the Large-Scale Production of Self-Assembled Rosettes and Nanotubes**
DURMUS A., Gunbas G., Farmer S. C., Ohnstead M. M., MASCAL M., Legese B., Cho J., Beingessner R. L., Yamazaki T., Fenniri H.
JOURNAL OF ORGANIC CHEMISTRY, vol.78, no.22, pp.11421-11426, 2013 (SCI-Expanded)

XXXI. **Extraordinary Modes of Bonding Enabled by the Triquinane Framework**
Gunbas G., MASCAL M.
JOURNAL OF ORGANIC CHEMISTRY, vol.78, no.19, pp.9579-9583, 2013 (SCI-Expanded)

XXXII. **Extreme Oxatriquinanes: Structural Characterization of alpha-Oxyoxonium Species with Extraordinarily Long Carbon-Oxygen Bonds**
Gunbas G., Sheppard W. L., Fettinger J. C., Olmstead M. M., MASCAL M.
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.135, no.22, pp.8173-8176, 2013 (SCI-Expanded)

XXXIII. **Extreme oxatriquinanes and a record C-O bond length**
Gunbas G., HAFEZİ N., Sheppard W. L., Olmstead M. M., Stoyanova I. V., Tham F. S., Meyer M. P., MASCAL M.
NATURE CHEMISTRY, vol.4, no.12, pp.1018-1023, 2012 (SCI-Expanded)

XXXIV. **The R3O+center dot center dot center dot H+ Hydrogen Bond: Toward a Tetracoordinate Oxadionium(2+) Ion**
Stoyanov E. S., Gunbas G., HAFEZİ N., MASCAL M., Stoyanova I. V., Tham F. S., Reed C. A.
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol.134, no.1, pp.707-714, 2012 (SCI-Expanded)

XXXV. **Electrochromic conjugated polyheterocycles and derivatives-highlights from the last decade towards realization of long lived aspirations**
Gunbas G., Toppare L.
CHEMICAL COMMUNICATIONS, vol.48, no.8, pp.1083-1101, 2012 (SCI-Expanded)

XXXVI. **A green neutral state donor-acceptor copolymer for organic solar cells**
GÜNEŞ S., Baran D., Gunbas G., Durmus A., Fuchsbauer A., Sariciftci N. S., Toppare L.
POLYMER CHEMISTRY, vol.1, no.8, pp.1245-1251, 2010 (SCI-Expanded)

XXXVII. **A low-band gap conductive copolymer of bis-3-hexylthiophene substituted 4-tert-butylphenyl quinoxaline and 3,4-ethylenedioxythiophene**
Ozyurt F., Durmus A., GÜNBAŞ E. G., TOPPARE L. K.
JOURNAL OF SOLID STATE ELECTROCHEMISTRY, vol.14, no.2, pp.279-283, 2010 (SCI-Expanded)

XXXVIII. **Highly Conjugated Thiophene Derivatives as New Visible Light Sensitive Photoinitiators for Cationic Polymerization**
Aydogan B., Gunbas G. E., Durmus A., Toppare L., Yağcı Y.
MACROMOLECULES, vol.43, no.1, pp.101-106, 2010 (SCI-Expanded)

XXXIX. **A Quinoxaline Derivative as a Long Wavelength Photosensitizer for Diaryliodonium Salts**
Bulut U., Gunbas G. E., Toppare L.
JOURNAL OF POLYMER SCIENCE PART A-POLYMER CHEMISTRY, vol.48, no.1, pp.209-213, 2010 (SCI-Expanded)

XL. **Electrochromic Properties of a Copolymer of 1-4-Di[2,5-di(2-thieny1)-1H-1-pyrroly1]benzene with EDOT**

KİRALP S., ÇAMURLU P., GUNBAS G., TANYELİ C., AKHMEDOV I., Toppare L.
JOURNAL OF APPLIED POLYMER SCIENCE, vol.112, no.2, pp.1082-1087, 2009 (SCI-Expanded)

XLI. **A new p- and n-dopable selenophene derivative and its electrochromic properties**
Cetin G. A., Balan A., Durmus A., Gunbas G., TOPPARE L. K.
ORGANIC ELECTRONICS, vol.10, no.1, pp.34-41, 2009 (SCI-Expanded)

XLII. **One polymer for all: benzotriazole containing donor-acceptor type polymer as a multi-purpose material**
Balan A., Baran D., Gunbas G., Durmus A., Ozyurt F., TOPPARE L. K.
CHEMICAL COMMUNICATIONS, no.44, pp.6768-6770, 2009 (SCI-Expanded)

XLIII. **Donor-Acceptor Polymer with Benzotriazole Moiety: Enhancing the Eleetrochromic Properties of the "Donor Unit"**
Balan A., Gunbas G., Durmus A., Toppare L.
CHEMISTRY OF MATERIALS, vol.20, no.24, pp.7510-7513, 2008 (SCI-Expanded)

XLIV. **Photovoltaic and photophysical properties of a novel bis-3-hexylthiophelle substituted quinoxaline derivative**
GÜNEŞ S., Baran D., Guenbas G., Oezyurt F., Fuchsbauer A., Sariciftci N. S., Toppare L.
SOLAR ENERGY MATERIALS AND SOLAR CELLS, vol.92, no.9, pp.1162-1169, 2008 (SCI-Expanded)

XLV. **Both p- and n-type dopable polymer toward electrochromic applications**
Udum Y. A., Durmus A., Gunbas G. E., Toppare L.
ORGANIC ELECTRONICS, vol.9, no.4, pp.501-506, 2008 (SCI-Expanded)

XLVI. **A unique processable green polymer with a transmissive oxidized state for realization of potential RGB-based electrochromic device applications**
Gunbas G. E., Durmus A., Toppare L.
ADVANCED FUNCTIONAL MATERIALS, vol.18, no.14, pp.2026-2030, 2008 (SCI-Expanded)

XLVII. **Processable and multichromic polymer of bis-3-hexylthiophene substituted 4-tert-butylphenyl quinoxaline**
Ozyurt F., GÜNBAŞ E. G., Durmus A., Toppare L.
ORGANIC ELECTRONICS, vol.9, no.3, pp.296-302, 2008 (SCI-Expanded)

XLVIII. **A new donor-acceptor type polymeric material from a thiophene derivative and its electrochromic properties**
Udum Y. A., Yildiz E., Gunbas G., Toppare L.
JOURNAL OF POLYMER SCIENCE PART A-POLYMER CHEMISTRY, vol.46, no.11, pp.3723-3731, 2008 (SCI-Expanded)

XLIX. **Synthesis, characterization and electrochromic properties of a near infrared active conducting polymer of 1,4-di(selenophen-2-yl)-benzene**
Aydemir K., Tarkuc S., Durmus A., Gunbas G. E., Toppare L.
POLYMER, vol.49, no.8, pp.2029-2032, 2008 (SCI-Expanded)

L. **A fast switching, low band gap, p- and n-dopable, donor-acceptor type polymer**
Gunbas G. E., ÇAMURLU P., Akhmedov I. M., TANYELİ C., ÖNAL A. M., Toppare L.
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol.615, no.1, pp.75-83, 2008 (SCI-Expanded)

LI. **Could green be greener? Novel donor-acceptor-type electrochromic polymers: Towards excellent neutral green materials with exceptional transmissive oxidized states for completion of RGB color space**
Gunbas G. E., Durmus A., Toppare L.
ADVANCED MATERIALS, vol.20, no.4, pp.691-696, 2008 (SCI-Expanded)

LII. **New, highly stable electrochromic polymers from 3,4-ethylenedioxythiophene-bis-substituted quinoxalines toward green polymeric materials**
Durmus A., Gunbas G. E., Toppare L.
CHEMISTRY OF MATERIALS, vol.19, no.25, pp.6247-6251, 2007 (SCI-Expanded)

LIII. **A neutral state green polymer with a superior transmissive light blue oxidized state**
Durmus A., Gunbas G. E., Camurlu P., Toppare L.

CHEMICAL COMMUNICATIONS, no.31, pp.3246-3248, 2007 (SCI-Expanded)

LIV. **New conjugated materials containing cyano substituents for light-emitting diodes**
Cirpan A., RATHNAYAKE H. P., GUNBAS G., LAHTI P. M., KARASZ F. E.
Synthetic Metals, vol.156, pp.282-286, 2006 (SCI-Expanded)

Articles Published in Other Journals

I. **Locked and Loaded: ?-Galactosidase Activated Photodynamic Therapy Agent Enables Selective Imaging and Targeted Treatment of Glioblastoma Multiforme Cancer Cells**
Almammadov T., Elmazoglu Z., ATAKAN G., Kepil D., Aykent G., Kolemen S., GÜNBAŞ E. G.
ACS APPLIED BIO MATERIALS, vol.5, no.9, pp.4284-4293, 2022 (ESCI)

II. **Activity-Based Photosensitizers with Optimized Triplet State Characteristics Toward Cancer Cell Selective and Image Guided Photodynamic Therapy**
Kilic E., ELMAZOĞLU Z., Almammadov T., KEPİL D., Etienne T., MARION A., GÜNBAŞ E. G., Kolemen S.
ACS Applied Bio Materials, vol.5, no.6, pp.2754-2767, 2022 (ESCI)

Refereed Congress / Symposium Publications in Proceedings

I. **Exceptional surface passivation and carrier transport in pyramidically textured n-type silicon by organic molecules with sulfonic acid head groups and perfluoroalkyl tail groups**
Ghasemi M., Tsoi K., Günbaş E. G., Yerci S.
Materials Research Society Meeting, Massachusetts, United States Of America, 27 November - 02 December 2022

II. **2D Perovskite Layer based on Novel Organic Cation for Increased Efficiency and Stability**
Günbaş E. G., Yerci S., Gunes U.
2nd International Conference on Photovoltaic Science and Technologies, 30 November - 02 December 2020, pp.98

III. **Efficient Green OLEDs based on Thermally Activated Delayed Fluorescence Butterfly-shape Emitter**
Alemdar E., Sharif P., Günbaş E. G., Oral A., Çırpan A.
2nd International Conference on Photovoltaic Science and Technologies, Ankara, Turkey, 30 November - 02 December 2020, pp.55

IV. **Flexible Organic Light Emitting Diodes (OLEDs) with multi-layerGraphene Anode**
Sharif P., ALEMDAR E., GÜNBAŞ E. G., ÇIRPAN A., ORAL A.
Graphene2020 VirtualInternational Conference Expo, 19 - 23 October 2020

V. **New class of red absorbing activatable PDT drugs**
Almammadov T., ATAKAN G., GÜNAYDIN G., Gunbas G., Kolemen S.
257th National Meeting of the American-Chemical-Society (ACS), Florida, United States Of America, 31 March - 04 April 2019, vol.257

VI. **Synthesis and Characterization of Novel TPD-Based Random Copolymer and Its Application in Organic Solar Cells**
Günbaş E. G., Udum Y., Karabağ A., Bağ E.
PVCON 2018 - International Conference on Photovoltaic Science and Technologies, Ankara, Turkey, 4 - 06 July 2018, pp.144

VII. **BENZODITHIOPHENE AND SELENOPHENE BEARING POLYMER FOR INVERTED ORGANIC SOLAR CELL APPLICATIONS**
Toppare L. K., Hizalan G., Yaşa M., Göker S., Udum Y., Günbaş E. G., Çırpan A.
International Conference on Photovoltaic Science and Technologies, Ankara, Turkey, 4 - 06 July 2018, pp.1-2

VIII. **New DPP and Selenophene based NIR Absorbing Polymers for Organic Solar Cell Applications**
Günbaş E. G., Toppare L. K., Baran D., Song,Song X., Oklem G.
PVCON 2018 - International Conference on Photovoltaic Science and Technologies, Ankara, Turkey, 4 - 06 July 2018, pp.31

IX. **Silver Nanowire Networks as Transparent Electrodes for Organic Photovoltaics and Light Emitting Diodes**
alpugan e., hızalan g., GÜNBAŞ E. G., ÇIRPAN A., TOPPARE L. K., ÜNALAN H. E.
MRS Fall Meeting 2017, 26 November 2017

X. **silver nanowire networks as transparent electrodes for organic photovoltaics and light emiiting diodes**
Alpugan E., HIZALAN ÖZSOY G., GÜNBAŞ E. G., ÇIRPAN A., TOPPARE L. K., ÜNALAN H. E.
MRS 2017, 26 November - 01 December 2017

XI. **Supramoleküler Kimya ile Homojen ve Heterojen Kataliz Arasında Köprü Kurmak**
karaman O., iğci C., GÜNBAŞ E. G.
29. Ulusal Kimya Kongresi, Turkey, 10 - 14 September 2017

XII. **Synthesis, Electrochemical and Spectroelectrochemical Characterization of Quinoxaline-Based Conjugated Polymers for Organic Photovoltaics**
Yaşa M., GÖKER S., UDUM Y., GÜNBAŞ E. G., TOPPARE L. K.
253rd American Chemical Society National Meeting Exposition, 2 - 06 April 2017

XIII. **Synthesis of self-assembled bisrosette supramolecules**
Igci C., Fan Y., Gonzales A., Temburnikar K., Fenniri H., Gunbas G.
253rd National Meeting of the American-Chemical-Society (ACS) on Advanced Materials, Technologies, Systems, and Processes, San-Francisco, Costa Rica, 2 - 06 April 2017, vol.253

XIV. **New design principles for realization of high performance electrochromic materials**
GÜNBAŞ E. G.
253rd National Meeting of the American-Chemical-Society (ACS) on Advanced Materials, Technologies, Systems, and Processes, San-Francisco, Costa Rica, 2 - 06 April 2017, vol.253

XV. **Syntheses, electrochemical and spectroelectrochemical characterizations of quinoxaline-based conjugated polymers for organic photovoltaics**
Yasa M., Goker S., Udum Y. A., Gunbas G., Toppare L.
253rd National Meeting of the American-Chemical-Society (ACS) on Advanced Materials, Technologies, Systems, and Processes, San-Francisco, Costa Rica, 2 - 06 April 2017, vol.253

XVI. **High performance electrochromic material shows voltage-dependent fluorescence change**
ATAKAN G., Udum Y. A., Gunbas G.
253rd National Meeting of the American-Chemical-Society (ACS) on Advanced Materials, Technologies, Systems, and Processes, San-Francisco, Costa Rica, 2 - 06 April 2017, vol.253

XVII. **Novel Bifunctional Polymer as High Performance Electrochromic Material**
ATAKAN G., UDUM Y., GÜNBAŞ E. G.
253rd American Chemical Society National Meeting Exposition, 2 - 06 April 2017

XVIII. **Development of Novel Catalysts for Upgrading Biomass to Renewable Diesel Range Fuels and Lubricants**
GÜNBAŞ E. G.
12th Nanoscience and Nanotechnology Conference, 3 - 05 June 2016

XIX. **Using the Heterotriquinane and Benzoheterotriquinane Molecular Framework to Test the Limits of Bonding and Reactivity**
GÜNBAŞ E. G.
Anatolian Conference on Synthetic Organic Chemistry, 21 - 24 March 2016

XX. **Acetone-butanol-ethanol condensation catalysis: Evolution and kinetics**
Goulas K., Sreekumar S., Gunbas G., Toste D.
247th National Spring Meeting of the American-Chemical-Society (ACS), Texas, United States Of America, 16 - 20 March 2014, vol.247

XXI. **Homogeneous and heterogeneous kinetics for the coupling of furfural with aliphatic alcohols**
Goulas K., GÜNBAŞ E. G., Sreekumar S., Tosté D.
International Congress on Energy 2014, ICE 2014 - Topical Conference at the 2014 AIChE Annual Meeting, Georgia, United States Of America, 16 - 21 November 2014, vol.3, pp.1508-1510

XXII. **Homogeneous and heterogeneous kinetics for the coupling of furfural with aliphatic alcohols**
Goulas K., GÜNBAŞ E. G., Sreekumar S., Tosté D.
Catalysis and Reaction Engineering Division 2014 - Core Programming Area at the 2014 AIChE Annual Meeting, Georgia, United States Of America, 16 - 21 November 2014, vol.2, pp.1022-1024

XXIII. **Effects of aluminum content and aging on the selectivity and reactivity of metal-oxide-supported Pd and Cu catalysts**
Goulas K., Dietrich P., Grippo A., GÜNBAŞ E. G., Kulzick M., Tosté D.
Catalysis and Reaction Engineering Division 2014 - Core Programming Area at the 2014 AIChE Annual Meeting, Georgia, United States Of America, 16 - 21 November 2014, vol.2, pp.821-823

XXIV. **Homogeneous and heterogeneous kinetics for the coupling of furfural with aliphatic alcohols**
Goulas K., GÜNBAŞ E. G., Sreekumar S., Tosté D.
Fuels and Petrochemicals Division 2014 - Core Programming Area at the 2014 AIChE Annual Meeting, Georgia, United States Of America, 16 - 21 November 2014, pp.252-254

XXV. **Extreme oxatriquinanes: From protonating oxonium cations to record long C-O bonds**
Gunbas G., Stoyanov E., Hafezi N., Mascal M., Stoyanova I., Tham F., Shepperd W., Reed C.
243rd National Spring Meeting of the American-Chemical-Society, California, United States Of America, 25 - 29 March 2012, vol.243

XXVI. **Green as it Gets; Donor-Acceptor type Polymers as the Key to Realization of RGB Based Polymer Display Devices**
Gunbas G., Toppare L.
13th International Symposium on Polymers and Organic Chemistry, Montreal, Canada, 5 - 08 July 2009, vol.297, pp.79-86

Supported Projects

Günbaş E. G., H2020 Project, Overcoming the Barriers of Brain Cancer Treatment: Targeted and Fully NIR Absorbing Photodynamic Therapy Agents with Extremely Low Molecular Weights and Controlled Lipophilicity, 2019 - 2024
GÜNBAŞ E. G., BAĞ E., Project Supported by Higher Education Institutions, YÜKSEK PERFORMANSLI GÜNEŞ PİLLERİNE YÖNELİK YENİ GELİŞTİRİLEN POLİMERİK DELİK TRANSFER MALZEMELERİ, 2018 - 2020
GÜNBAŞ E. G., VARLIOĞLU F., Project Supported by Higher Education Institutions, ORGANİK FOTOVOLTAİK CİHAZ UYGULAMALARI İÇİN GÖRÜNÜR VE YAKIN KIZIL ÖTESİ BÖLGELERİNDE SOĞURMA YAPABİLEN TİYENOTİYOFEN TABANLI NANOMERLERİN SENTEZİ VE KARAKTERİZASYONU, 2018 - 2020
Günbaş E. G., TUBITAK Project, Tribenzoheterotrikuinan Tabanlı Moleküler Yapıların Sentezi ve Kimyalarının İncelenmesi, 2017 - 2020
Günbaş E. G., Yerci S., Turan R., FP7 Project, CHEETAH - Cost-reduction through material optimisation and Higher EnErgy outpuT of solAr pHotovoltaic modules - joining Europe's Research and Development efforts in support of its PV industry, 2013 - 2018
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, KENDİLİĞİNDEN DÜZENLENEBİLEN İKİLİ ROZET SUPRAMOLEKÜLLERİN SENTEZİ VE TANIMLANMASI, 2017 - 2017
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, DİKETOPİROL VE SELENOFEN İÇEREN POLİMERİK MALZEMELERİN GÜNEŞ PİLİ UYGULAMALARI, 2017 - 2017
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, ORGANİK GÜNEŞ PİLLERİ İÇİN ÖZGÜN FULLERENE OLMAYAN ELEKTRON ALICILARININ TASARIMI,SENTEZİ, 2017 - 2017
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, KIZIL ÖTESİ BÖLGEDE SOĞURMA YAPAN ÖZGÜN POLİMERLERİN SENTEZİ VE BU POLİMERLERİN GÜNEŞ PİLİ UYGULAMALARI, 2017 - 2017
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, YÜKSEK PERFORMANLI GÜNEŞ PİLLERİNE YÖNELİK YENİ GELİŞTİRİLEN POLİMERİK DELİK TRANSFER MALZEMELERİ, 2017 - 2017
GÜNBAŞ E. G., DOĞAN Ö., AKDAĞ A., ÖZÇUBUKÇU S., TANYELİ C., ZORA M., Project Supported by Higher Education Institutions, ORGANİK ELEKTRONİK ALANI İÇİN YENİ BİR YAPITAŞININ TASARIMI VE SENTEZİ, 2017 - 2017
GÜNBAŞ E. G., Project Supported by Higher Education Institutions, PEROVSKİT GÜNEŞ PİLLERİ ÖZGÜN N TİPİ

POLİMERLERİN TASARIMI VE SENTEZİ, 2017 - 2017

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, TERMAL ETKİNLEŞTİRİLMİŞ GECİKMELİ IŞIMA BAZLI OLEDLER İÇİN AĞIR ATOM İÇEREN MOLEKÜLER SİSTEMLER: TEORİK VERİMLERİN SINIRLARINA ULAŞMA DOĞRULTUSUNDA, 2017 - 2017

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, PROSOT: KONJÜGE POLİMERLER İÇİN ÖZGÜN YENİ YAPITAŞI, 2017 - 2017

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, KANSER HÜCRELERİNİN ETKİN FLORESANS GÖRÜNTÜLEMELERİ İÇİN KIRMIZI -KAYMALI YENİ NESİL MOLEKÜLER PRABLAR, 2017 - 2017

TOPPARE L. K., GÖKER S., EREL GÖKTEPE İ., ÇORUH N., ÇIRPAN A., GÜNBAŞ E. G., ZORA M., Project Supported by Higher Education Institutions, Pestisit tayinine dönük biyosensörlerin hazırlanması, 2016 - 2016

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

GÜNBAŞ E. G., Project Supported by Higher Education Institutions, FEN BİLİMLERİ ENSTİTÜSÜ/LİSANSÜSTÜ TEZ PROJESİ, 2014 - 2016

GÜNBAŞ E. G., İĞCİ C., Project Supported by Higher Education Institutions, Supramoleküler kimya kullanarak kafes tipi organik yapıların tasarımı ve sentezi, 2015 - 2015

Patent

Günbaş E. G., METHODS FOR PRODUCING CYCLIC AND ACYCLIC KETONES US10,618,856B2, Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: US10,618,856B2 , Standard Registration, 2020

Günbaş E. G., Methods for producing cyclic and acyclic ketones , Patent, CHAPTER C Chemistry; Metallurgy, The Invention Registration Number: 10,207,961 , Standard Registration, 2019

GÜNBAŞ E. G., Methods to produce fuels, Patent, CHAPTER C Chemistry; Metallurgy, Standard Registration, 2017

GÜNBAŞ E. G., Methods for producing fuels, gasoline additives, and lubricants, Patent, CHAPTER C Chemistry; Metallurgy, Standard Registration, 2017

GÜNBAŞ E. G., Ticari RGB tabanlı elektrokromik cihaz uygulamalarının gerçekleştirilebilmesi için yükseltgenmiş halinde geçirgen, özgün işlenebilir yeşil polimer, Patent, CHAPTER C Chemistry; Metallurgy, Standard Registration, 2008

Activities in Scientific Journals

SCIENTIFIC REPORTS, Committee Member, 2019 - 2021

Memberships / Tasks in Scientific Organizations

American Chemical Society, Member, 2007 - Continues, United States Of America

Scientific Refereeing

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, November 2022

TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical

University, Turkey, November 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, November 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, November 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, November 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, September 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, September 2022
ACS APPLIED BIO MATERIALS, Journal Indexed in ESCI, July 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, June 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, June 2022
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, June 2022
SOLAR RRL, Journal Indexed in SCI-E, February 2022
ADVANCED ELECTRONIC MATERIALS, SCI Journal, November 2021
SOLAR RRL, SCI Journal, November 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, November 2021
POLYMER CHEMISTRY, SCI Journal, October 2021
ADVANCED FUNCTIONAL MATERIALS, SCI Journal, September 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, Ministry of Science and Technology of the People's Republic of China, MOST Bilateral Cooperation Program, Middle East Technical University, Turkey, August 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, Ministry of Science and Technology of the People's Republic of China, MOST Bilateral Cooperation Program, Middle East Technical University, Turkey, August 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, Ministry of Science and Technology of the People's Republic of China, MOST Bilateral Cooperation Program, Middle East Technical University, Turkey, August 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, Ministry of Science and Technology of the People's Republic of China, MOST Bilateral Cooperation Program, Middle East Technical University, Turkey, August 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, Ministry of Science and Technology of the People's Republic of China, MOST Bilateral Cooperation Program, Middle East Technical University, Turkey, August 2021
ADVANCED ENERGY MATERIALS, SCI Journal, July 2021
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, SCI Journal, July 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, May 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, May 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, May 2021
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, May 2021
CHEMMEDCHEM, SCI Journal, April 2021
CHEMICAL ENGINEERING JOURNAL, SCI Journal, March 2021
TÜBİTAK International Bilateral Joint Cooperation Program Project, 2535 TÜBİTAK-IRAN MSRT, Middle East Technical University, Turkey, March 2021
CHEMMEDCHEM, SCI Journal, November 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical

University, Turkey, September 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, September 2020
CHEMISTRYSELECT, SCI Journal, August 2020
CHEMMEDCHEM, SCI Journal, August 2020
CHEMICAL ENGINEERING JOURNAL, SCI Journal, July 2020
NEW JOURNAL OF CHEMISTRY, SCI Journal, March 2020
CHEMMEDCHEM, SCI Journal, January 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, January 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, January 2020
TUBITAK Project, 1001 - Program for Supporting Scientific and Technological Research Projects, Middle East Technical University, Turkey, January 2020
ACS APPLIED MATERIALS & INTERFACES, SCI Journal, April 2019
NEW JOURNAL OF CHEMISTRY, SCI Journal, March 2019
JOURNAL OF NANOMATERIALS, SCI Journal, April 2018

Metrics

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H-Index (Scopus): 27

Invited Talks

16th NANOSCIENCE AND NANOTECHNOLOGY CONFERENCE, Conference, Orta Doğu Teknik Üniversitesi, Turkey, September 2022
Towards Overcoming the Barriers of Brain Cancer Treatment: Tailor Made Small Molecules or Carrier Systems?, Seminar, Dokuz Eylül Üniversitesi, Turkey, March 2022
From Cancer Treatment to Solar Energy: Showcasing the Power of Synthetic Organic Chemistry , Seminar, Sabanci University, Turkey, November 2021
Developing Next Generation of Molecular Scaffolds for Treatment of Challenging Cancers: An Overview, Conference, The 5th Photodynamic Day, Turkey, May 2021
From Fundamentals to Materials to Supramolecules: Unifying Power of Synthetic Organic Chemistry, Seminar, Ihsan Dogramaci Bilkent University, Turkey, February 2020

Awards

Günbaş E. G., GEBİP, Türkiye Bilimler Akademisi, December 2018
Günbaş E. G., ASKAN GÜNDOĞAN A., Mustafa Parlar Vakfı Araştırma Teşvik Ödülü, Parlar Vakfı, December 2018