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Akademik Unvanlar / Görevler

Prof. Dr., Hacettepe Üniversitesi, Fen Fakültesi, Kimya Bölümü, 2021 - Devam Ediyor
Doç. Dr., Hacettepe Üniversitesi, Fen Fakültesi, Kimya Bölümü, 2019 - 2021

SCI, SSCI ve AHCI İndekslerine Giren Dergilerde Yayınlanan Makaleler

I. **MoS2-WS2 decorated carbon nanotubes amplified electro-nanosensor for label-free voltammetric detection of DNA**
BAL ALTUNTAŞ D., Sanko V., KURALAY F.
JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS, 2025 (SCI-Expanded)

II. **Sponge-like Au@Ru nanozyme-labeled electrochemical immunosensor platform on the trimetallic Au@Pt@Ag NPs decorated surface for the sensitive detection of HER2**
Erkmen C., KURALAY F.
MICROCHEMICAL JOURNAL, 2025 (SCI-Expanded)

III. **Janus Micromotors Based on Fe₃O₄ and Fe₃O₄-OH for miRNA-21 Biosensing**
KARACA G., ÖKSÜZ L., Koc U., KURALAY F., ÖKSÜZ A.
JOURNAL OF INORGANIC AND ORGANOMETALLIC POLYMERS AND MATERIALS, 2024 (SCI-Expanded)

IV. **The role of nanoparticles in non-invasive electrochemical immunosensor technology and recent developments**
Sanko V., Erkmen C., KURALAY F.
Electroanalysis, 2024 (SCI-Expanded)

V. **Atomic layer deposited zinc oxide thin film on pencil graphite for DNA sensor applications**

Güngör M. A., Alev O., Kaya H. K., Arslan L. Ç., Büyükköse S., Öztürk Z. Z., KURALAY F.
Materials Today Communications, cilt.36, 2023 (SCI-Expanded)

VI. **Label-Free Electrochemical Biosensor Platforms for Cancer Diagnosis: Recent Achievements and Challenges**
Sanko V., KURALAY F.
Biosensors, cilt.13, sa.3, 2023 (SCI-Expanded)

VII. **Catalytic Au/PEDOT/Pt micromotors for cancer biomarker detection and potential breast cancer treatment**
Yurdabak Karaca G., KURALAY F., BİNGÖL ÖZAKPINAR Ö., Uygun E., Koc U., ULUSOY S., Bosgelmez Tinaz G., Oksuz L., Uygun Oksuz A.
APPLIED NANOSCIENCE, cilt.13, sa.1, ss.367, 2023 (SCI-Expanded)

VIII. **Achievements of Graphene and Its Derivatives Materials on Electrochemical Drug Assays and Drug-DNA Interactions**
Imanzadeh H., Bakirhan N. K., KURALAY F., Amiri M., ÖZKAN S. A.
Critical Reviews in Analytical Chemistry, cilt.53, sa.6, ss.1263-1284, 2023 (SCI-Expanded)

IX. **Paclitaxel-conjugated phenylboronic acid-enriched catalytic robots as smart drug delivery systems**
Demirbuken S. E., Karaca G. Y., Kaya H. K., ÖKSÜZ L., GARİPCAN B., ÖKSÜZ A., KURALAY F.
MATERIALS TODAY CHEMISTRY, cilt.26, 2022 (SCI-Expanded)

X. ** WS2 integrated PEDOT:PSS interface as a sensitive and selective voltammetric epirubicin detection platform and a functional actuator **
Gungor M. A., Kaya H. K., KURALAY F.
SURFACES AND INTERFACES, cilt.30, 2022 (SCI-Expanded)

XI. **Platinum nanoparticles loaded carbon black: reduced graphene oxide hybrid platforms for label-free electrochemical DNA and oxidative DNA damage sensing**
Kaya H. K., Haghmoradi N., Kaplan B. Y., KURALAY F.
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, cilt.910, 2022 (SCI-Expanded)

XII. **Nucleic Acid Integrated Technologies for Electrochemical Point-of-Care Diagnostics: A Comprehensive Review**
SÜRÜCÜ Ö., ÖZTÜRK E., KURALAY F.
ELECTROANALYSIS, cilt.34, sa.2, ss.148-160, 2022 (SCI-Expanded)

XIII. **Graphene supported poly(3-aminophenylboronic acid) surface via constant potential electrolysis for facile and sensitive paracetamol determination**
Gursoy S., KURALAY F.
COLLOIDS AND SURFACES A-PHYSICOCHEMICAL AND ENGINEERING ASPECTS, cilt.633, 2022 (SCI-Expanded)

XIV. **Chitosan functionalized gold-nickel bimetallic magnetic nanomachines for motion-based deoxyribonucleic acid recognition**
Karaca G. Y., Kaya H. K., KURALAY F., ÖKSÜZ A.
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, cilt.193, ss.370-377, 2021 (SCI-Expanded)

XV. **A novel design thia-bilane structure-based molecular imprinted electrochemical sensor for sensitive and selective dopamine determination**
Kaya H. K., Cinar S., Altundal G., Bayramli Y., ÜNALEROĞLU C., KURALAY F.
SENSORS AND ACTUATORS B-CHEMICAL, cilt.346, 2021 (SCI-Expanded)

XVI. **Designing functional materials: DNA/Poly(3,4-ethylenedioxythiophene) interfaces for advanced DNA direct electrochemistry and DNA-Drug interaction detection**
KURALAY F., Dukar N., Bayramli Y.
MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, cilt.272, 2021 (SCI-Expanded)

XVII. **MoS2/Chitosan/GOx-Gelatin modified graphite surface: Preparation, characterization and its use for glucose determination**
BAL ALTUNTAŞ D., KURALAY F.
MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS, cilt.270, 2021

(SCI-Expanded)

XVIII. **Electrochemical Determination of Mitomycin C and Its Interaction with Double-Stranded DNA Using a Poly(o-phenylenediamine)-Multi-Walled Carbon Nanotube Modified Pencil Graphite Electrode**
KURALAY F., Bayramli Y.
ANALYTICAL LETTERS, cilt.54, sa.8, ss.1295-1308, 2021 (SCI-Expanded)

XIX. **Gold-Nickel Nanowires as Nanomotors for Cancer Marker Biodetection and Chemotherapeutic Drug Delivery**
Karaca G. Y., KURALAY F., Uygun E., Ozaltin K., Demirbuken S. E., GARİPCAN B., ÖKSÜZ L., ÖKSÜZ A.
ACS APPLIED NANO MATERIALS, cilt.4, sa.4, ss.3377-3388, 2021 (SCI-Expanded)

XX. **Current status of micro/nanomotors in drug delivery**
Tezel G., TİMUR S. S., KURALAY F., GÜRSOY R. N., ULUBAYRAM K., ÖNER L., EROĞLU H.
JOURNAL OF DRUG TARGETING, cilt.29, sa.1, ss.29-45, 2021 (SCI-Expanded)

XXI. **Fabrication of self-functionalized polymeric surfaces and their application in electrochemical acetaminophen detection**
KURALAY F., Caglayan T., İLHAN H., Dumangoz M., SÖNMEZ ÇELEBİ M.
JOURNAL OF APPLIED POLYMER SCIENCE, cilt.137, sa.48, 2020 (SCI-Expanded)

XXII. **Ultrathin polypyrrole films on self-assembled monolayers as an efficient ultramicroelectrode assay**
BOLAT G., YAMAN Y. T., KURALAY F., ABACI S.
JOURNAL OF APPLIED POLYMER SCIENCE, cilt.137, sa.43, 2020 (SCI-Expanded)

XXIII. **Direct Electrochemistry and Sensitive Detection of Guanosine on Nanopolymeric Surfaces Bearing Boronic Acid Groups**
KURALAY F., Gursoy T.
CHEMISTRYSELECT, cilt.5, sa.29, ss.9134-9142, 2020 (SCI-Expanded)

XXIV. **Polypyrrole-Based Nanohybrid Electrodes: Their Preparation and Potential Use for DNA Recognition and Paclitaxel Quantification**
KURALAY F., Dukar N.
CHEMISTRYSELECT, cilt.5, sa.15, ss.4708-4714, 2020 (SCI-Expanded)

XXV. **Electroactive polyglycine coatings for nanobiosensing applications: Label-free DNA hybridization, DNA-Antitumor agent interaction and antitumor agent determination**
Gursoy S., Dukar N., YAMAN Y. T., Abaci S., Kuralay F.
ANALYTICA CHIMICA ACTA, cilt.1072, ss.15-24, 2019 (SCI-Expanded)

XXVI. **Highly sensitive and selective dopamine sensing in biological fluids with one-pot prepared graphene/poly(o-phenylenediamine) modified electrodes**
Dukar N., Tunc S., Ozturk K., Demirci S., Dumangoz M., Celebi M. S., Kuralay F.
MATERIALS CHEMISTRY AND PHYSICS, cilt.228, ss.357-362, 2019 (SCI-Expanded)

XXVII. **Determination of hydrogen peroxide with an enzymeless amperometric sensor based on poly(vinylferrocene)-supported Ag nanoparticles**
SÖNMEZ ÇELEBİ M., ÖZTÜRK K., DUMANGÖZ M., KURALAY F.
Turkish Journal Of Chemistry, cilt.42, ss.1755-1767, 2018 (SCI-Expanded)

XXVIII. **Poly-L-lysine Coated Surfaces for Ultrasensitive Nucleic Acid Detection**
KURALAY F., DÜKAR N., BAYRAMLI D. Y.
ELECTROANALYSIS, cilt.30, sa.7, ss.1556-1565, 2018 (SCI-Expanded)

XXIX. **Preparation of self-propelled Cu-Pt micromotors and their application in miRNA monitoring**
ÖKSÜZ L., Karaca G. Y., KURALAY F., UYGUN E., KOÇ İ. Ü., ÖKSÜZ A.
TURKISH JOURNAL OF CHEMISTRY, cilt.42, sa.6, ss.1744-1755, 2018 (SCI-Expanded)

XXX. **Synergistic tungsten oxide/organic framework hybrid nanofibers for electrochromic device application**
Dulgerbaki C., Komur A. I., Maslakci N. N., Kuralay F., Oksuz A. U.
OPTICAL MATERIALS, cilt.70, ss.171-179, 2017 (SCI-Expanded)

XXXI. **Electrochemical bacterial detection using poly(3-aminophenylboronic acid)-based imprinted polymer**

Golabi M., Kuralay F., Jager E. W. H., Beni V., Turner A. P. F.
BIOSENSORS & BIOELECTRONICS, cilt.93, ss.87-93, 2017 (SCI-Expanded)

XXXII. **Biosensing applications of titanium dioxide coated graphene modified disposable electrodes**
Kuralay F., Tunc S., Bozduman F., ÖKSÜZ L., Oksuz A. U.
TALANTA, cilt.160, ss.325-331, 2016 (SCI-Expanded)

XXXIII. **Polymer/carbon nanotubes coated graphite surfaces for highly sensitive nitrite detection**
Kuralay F., Dumangoz M., Tunc S.
TALANTA, cilt.144, ss.1133-1138, 2015 (SCI-Expanded)

XXXIV. **Ultrasound-Propelled Nanoporous Gold Wire for Efficient Drug Loading and Release**
GARCIA-GRADILLA V., SATTAYASAMITSATHIT S., SOTO F., KURALAY F., Yardimci C., WIITALA D., GALARNYK M., WANG J.
SMALL, cilt.10, sa.20, ss.4154-4159, 2014 (SCI-Expanded)

XXXV. **Functionalized Ultrasound-Propelled Magnetically Guided Nanomotors: Toward Practical Biomedical Applications**
Garcia-Gradilla V., Orozco J., Sattayasamitsathit S., Soto F., Kuralay F., Pourazary A., Katzenberg A., Gao W., SHEN Y., Wang J.
ACS NANO, cilt.7, sa.10, ss.9232-9240, 2013 (SCI-Expanded)

XXXVI. **Self-Propelled Carbohydrate-Sensitive Microtransporters with Built-In Boronic Acid Recognition for Isolating Sugars and Cells**
Kuralay F., SATTAYASAMITSATHIT S., GAO W., UYGUN A., KATZENBERG A., WANG J.
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, cilt.134, sa.37, ss.15217-15220, 2012 (SCI-Expanded)

XXXVII. **Single-walled carbon nanotubes-polymer modified graphite electrodes for DNA hybridization**
Muti M., Kuralay F., ERDEM GÜRSAN K. A.
COLLOIDS AND SURFACES B-BIOINTERFACES, cilt.91, ss.77-83, 2012 (SCI-Expanded)

XXXVIII. **Ternary Monolayer Interfaces for Ultrasensitive and Direct Bioelectronic Detection of Nucleic Acids in Complex Matrices**
CAMPUZANO S., Kuralay F., WANG J.
ELECTROANALYSIS, cilt.24, sa.3, ss.483-493, 2012 (SCI-Expanded)

XXXIX. **Multiplexed and switchable release of distinct fluids from microneedle platforms via conducting polymer nanoactuators for potential drug delivery**
Valdes-Ramirez G., Windmiller J. R., Claussen J. C., Martinez A. G., Kuralay F., Zhou M., Zhou N., Polsky R., Miller P. R., Narayan R., et al.
SENSORS AND ACTUATORS B-CHEMICAL, cilt.161, sa.1, ss.1018-1024, 2012 (SCI-Expanded)

XL. **A novel polypyrrole-phenylboronic acid based electrochemical saccharide sensor**
Aytac S., Kuralay F., BOYACI İ. H., ÜNALEROĞLU C.
SENSORS AND ACTUATORS B-CHEMICAL, cilt.160, sa.1, ss.405-411, 2011 (SCI-Expanded)

XLI. **Carbon nanotube-chitosan modified disposable pencil graphite electrode for Vitamin B-12 analysis**
KURALAY F., VURAL T., BAYRAM C., DENKBAŞ E. B., ABACI S.
COLLOIDS AND SURFACES B-BIOINTERFACES, cilt.87, sa.1, ss.18-22, 2011 (SCI-Expanded)

XLII. **Interaction of Mitomycin C with DNA Immobilized onto Single-walled Carbon Nanotube/Polymer Modified Pencil Graphite Electrode**
Canavar E., KURALAY F., ERDEM GÜRSAN K. A.
ELECTROANALYSIS, cilt.23, sa.10, ss.2343-2349, 2011 (SCI-Expanded)

XLIII. **Functionalized Micromachines for Selective and Rapid Isolation of Nucleic Acid Targets from Complex Samples**
Kagan D., Campuzano S., Balasubramanian S., Kuralay F., Flechsig G., Wang J.
NANO LETTERS, cilt.11, sa.5, ss.2083-2087, 2011 (SCI-Expanded)

XLIV. **The Recent Electrochemical Biosensor Technologies for Monitoring of Nucleic Acid Hybridization**
KARADENİZ H., KURALAY F., ABACI S., ERDEM GÜRSAN K. A.
CURRENT ANALYTICAL CHEMISTRY, cilt.7, sa.1, ss.63-70, 2011 (SCI-Expanded)

XLV. **Preparation and physical/electrochemical characterization of carbon nanotube-chitosan modified**

pencil graphite electrode
VURAL T., KURALAY F., BAYRAM C., ABACI S., DENKBAŞ E. B.
APPLIED SURFACE SCIENCE, cilt.257, sa.2, ss.622-627, 2010 (SCI-Expanded)

XLVI. **Characterization of poly(vinylferrocenium) coated surfaces and their applications in DNA sensor technology**
KURALAY F., ERDEM GÜRSAN K. A., ABACI S., Ozyoruk H., Yildiz A.
JOURNAL OF APPLIED ELECTROCHEMISTRY, cilt.40, sa.11, ss.2039-2050, 2010 (SCI-Expanded)

XLVII. **Tin oxide nanoparticles-polymer modified single-use sensors for electrochemical monitoring of label-free DNA hybridization**
Muti M., KURALAY F., ERDEM GÜRSAN K. A., ABACI S., Yumak T., SINAĞ A.
TALANTA, cilt.82, sa.5, ss.1680-1686, 2010 (SCI-Expanded)

XLVIII. **Characterization of redox polymer based electrode and electrochemical behavior for DNA detection**
KURALAY F., ERDEM GÜRSAN K. A., ABACI S., Ozyoruk H., Yildiz A.
ANALYTICA CHIMICA ACTA, cilt.643, ss.83-89, 2009 (SCI-Expanded)

XLIX. **Poly(vinylferrocenium) coated disposable pencil graphite electrode for DNA hybridization**
KURALAY F., ERDEM GÜRSAN K. A., ABACI S., Ozyoruk H., Yildiz A.
ELECTROCHEMISTRY COMMUNICATIONS, cilt.11, sa.6, ss.1242-1246, 2009 (SCI-Expanded)

L. **Indicator-based and indicator-free magnetic assays connected with disposable electrochemical nucleic acid sensor system**
KARADENİZ H., ERDEM GÜRSAN K. A., KURALAY F., Jelen F.
TALANTA, cilt.78, sa.1, ss.187-192, 2009 (SCI-Expanded)

LI. **Electrochemical Biosensing of DNA Immobilized Poly(Vinylferrocenium) Modified Electrode**
KURALAY F., ERDEM GÜRSAN K. A., Abact S., Ozyoruk H., Yildiz A.
ELECTROANALYSIS, cilt.20, sa.23, ss.2563-2570, 2008 (SCI-Expanded)

LII. **Constant current chronopotentiometry and voltammetry of native and denatured serum albumin at mercury and carbon electrodes**
Ostatna V., Kuralay F., Trnkova L., Palecek E.
ELECTROANALYSIS, cilt.20, sa.13, ss.1406-1413, 2008 (SCI-Expanded)

LIII. **Inhibitive determination of Hg2+ ion by an amperometric urea biosensor using poly(vinylferrocenium) film**
Kuralay F., Ozyoruk H., Yildiz A.
ENZYME AND MICROBIAL TECHNOLOGY, cilt.40, sa.5, ss.1156-1159, 2007 (SCI-Expanded)

Kitaplar

I. **Chapter 15: Multifunctional therapeutic hybrid nanocarriers for targeted and triggered drug delivery: recent trends and future prospects**
KURTAY G., YILMAZ M., KURALAY F., DEMİREL G.
Nanostructures for Drug Delivery, Ecaterina Andronescu and Alexandru Mihai Grumezescu, Editör, Elsevier, ss.461-493, 2017

Hakemli Bilimsel Toplantılarda Yayımlanmış Bildiriler

I. **Mikrotel Yapıdaki Manyetik Motorların Hazırlanması ve Karakterizasyonu**
ÖZTÜRK E., KURALAY F.
35.ULUSAL KİMYA KONGRESİ, Ankara, Türkiye, 09 Eylül 2024

II. **Preparation and Characterization of Polyglycine Based Polymeric Micromotors**
Özdemir K., ÖZTÜRK E., KURALAY F.
IX. Polymer Science and Technology Congress with International Participation, Ankara, Türkiye, 16 Eylül 2024

III. **Memantine Loaded Magnetic Micro/Nanomotors for the Treatment of Alzheimer's Disease**
TEZEL TEMEL G., ÖZTÜRK E., Ulutürk S., ÖZTÜRK S. C., REÇBER T., TİMUR S. S., NEMUTLU E., KURALAY F., ESENDAĞLI G., EROĞLU H.
21st International Pharmaceutical Technology Symposium, Ankara, Türkiye, 09 Eylül 2024

IV. **The Effect of The Segment Construction on The Motion Ability of Magnetic Motors**
ÖZTÜRK E., KURALAY F.
NanoTR-16, Türkiye, 05 Eylül 2022

Metrikler

Yayın: 58
Atıf (WoS): 1041
Atıf (Scopus): 702
H-İndeks (WoS): 17
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Ödüller

Kuralay F., TÜBİTAK Teşvik Ödülü-2017, Tübitak, Aralık 2018

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