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Education Information

Doctorate, Van Yüzüncü Yil University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği (Dr), Turkey 2016 - 2021

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Kimya Mühendisliği, Turkey 2012 - 2015

Undergraduate, Gazi University, Mühendislik Fakültesi, Kimya Mühendisliği, Turkey 2007 - 2012

Foreign Languages

English, C1 Advanced

Research Areas

Chemical Engineering and Technology, Chemical Technologies, Electrochemical Processes, Chemistry, Natural Sciences, Engineering and Technology

Academic Titles / Tasks

Research Assistant PhD, Van Yüzüncü Yil University, Mühendislik Fakültesi, Maden Mühendisliği Bölümü, 2016 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Glucose electrooxidation modelling studies on carbon nanotube supported Pd catalyst with response surface methodology and density functional theory**
KAYA Ş., Ulaş B., Duzenli D., ÖNAL I., Er O. F., Yılmaz Y., Tezsevin I., DEMİR KIVRAK H.
JOURNAL OF PHYSICS AND CHEMISTRY OF SOLIDS, vol.168, 2022 (Peer-Reviewed Journal)
- II. **Hydroxyapatite Supported Pd_xIn_{100-x} as a Novel Electrocatalyst for High Efficiency Glucose Electrooxidation**
Ulaş B., Yılmaz Y., Koç S., Demir Kıvrak H.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.11, pp.1-11, 2022 (Peer-Reviewed Journal)
- III. **Synthesis of Novel Artemisinin Derivatives and Their Electrochemical Properties**
Esen M., Kavak E., Ozok-Arici O., Ulaş B., DEMİR KIVRAK H., KIVRAK A.
CHEMISTRYSELECT, vol.7, no.19, 2022 (Peer-Reviewed Journal)
- IV. **Optimization of Electrode Preparation Conditions for Enhanced Glucose Electrooxidation on Pt/CNT**

by Response Surface Methodology

KAYA Ş., Ulaş B., Er O. F. , DEMİR KIVRAK H., Yılmaz Y.

JOURNAL OF ELECTRONIC MATERIALS, 2022 (Peer-Reviewed Journal)

- V. **Investigation of sulfonation reaction kinetics and effect of sulfonation degree on membrane characteristics for PEMFC performance**
YAĞIZATLI Y., Ulaş B., ŞAHİN A., AR İ.
IONICS, 2022 (Peer-Reviewed Journal)
- VI. **Highly Active RuPd Bimetallic Catalysts for Sodium Borohydride Electrooxidation and Hydrolysis**
KAYA Ş., Yılmaz Y., Er O. F. , Alpaslan D., Ulaş B., Erşen Dudu T., DEMİR KIVRAK H.
JOURNAL OF ELECTRONIC MATERIALS, vol.51, no.1, pp.403-411, 2022 (Peer-Reviewed Journal)
- VII. **Design of 2-(4-(2-pentylbenzo[b]thiophen-3-yl)benzylidene)malononitrile based remarkable organic catalyst towards hydrazine electrooxidation**
Er O. F. , Ulaş B., Ozok O., Kivrak A., Demir Kivrak H.
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol.888, 2021 (Peer-Reviewed Journal)
- VIII. **Disentangling the enhanced catalytic activity on Ga modified Ru surfaces for sodium borohydride electrooxidation**
Ulaş B., Alpaslan D., Yılmaz Y., Erşen Dudu T., Er O. F. , DEMİR KIVRAK H.
SURFACES AND INTERFACES, vol.23, 2021 (Peer-Reviewed Journal)
- IX. **A comparative analysis for anti-viral drugs: Their efficiency against SARS-CoV-2**
Kivrak A., Ulaş B., Demir Kivrak H.
INTERNATIONAL IMMUNOPHARMACOLOGY, vol.90, 2021 (Peer-Reviewed Journal)
- X. **Remarkable bismuth-gold alloy decorated on MWCNT for glucose electrooxidation: the effect of bismuth promotion and optimization via response surface methodology**
Er O. F. , Ulaş B., DEMİR KIVRAK H.
TURKISH JOURNAL OF CHEMISTRY, vol.45, no.4, pp.1173-1189, 2021 (Peer-Reviewed Journal)
- XI. **Improved fuel cell properties of Nano-TiO₂ doped Poly(Vinylidene fluoride) and phosphonated Poly(Vinyl alcohol) composite blend membranes for PEM fuel cells**
YAĞIZATLI Y., Ulaş B., Cali A., ŞAHİN A., AR İ.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.45, no.60, pp.35130-35138, 2020 (Peer-Reviewed Journal)
- XII. **Tailoring the metallic composition of Pd, Pt, and Au containing novel trimetallic catalysts to achieve enhanced formic acid electrooxidation activity**
Ulaş B., Çağlar A., Kivrak A., Aktaş N., Kivrak H.
Ionics, vol.26, no.6, pp.3109-3121, 2020 (Peer-Reviewed Journal)
- XIII. **Novel carbon nanotube supported Co@Ag@Pd formic acid electrooxidation catalysts prepared via sodium borohydride sequential reduction method**
Er O. F. , Çağlar A., Ulaş B., Demir Kivrak H., Kivrak A.
MATERIALS CHEMISTRY AND PHYSICS, vol.241, 2020 (Peer-Reviewed Journal)
- XIV. **Towards more active and stable PdAgCr electrocatalysts for formic acid electrooxidation: The role of optimization via response surface methodology**
Ulaş B., Çağlar A., Yılmaz Ş., Ecer U., Yılmaz Y., Şahan T., Kivrak H.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.15, pp.8985-9000, 2019 (Peer-Reviewed Journal)
- XV. **Synthesis of in situ N-, S-, and B-doped few-layer graphene by chemical vapor deposition technique and their superior glucose electrooxidation activity**
Çağlar A., Ulaş B., Sahin O., Kivrak H.
INTERNATIONAL JOURNAL OF ENERGY RESEARCH, vol.43, no.14, pp.8204-8216, 2019 (Peer-Reviewed Journal)
- XVI. **Synthesis and characterization of Co, Zn, Mn, V modified Pd formic acid fuel cell anode catalysts**
Çağlar A., Ulaş B., Cogenli M. S. , Yurtcan A. B. , Demir Kivrak H.
JOURNAL OF ELECTROANALYTICAL CHEMISTRY, vol.850, 2019 (Peer-Reviewed Journal)
- XVII. **Biosorption of remazol orange RR from aqueous solution: kinetic, equilibrium and thermodynamic studies**

- Ulaş B., Ergun M.
DESALINATION AND WATER TREATMENT, vol.163, pp.366-375, 2019 (Peer-Reviewed Journal)
- XVIII. **Carbon monoxide and formic acid electrooxidation study on Au decorated Pd catalysts prepared via microwave assisted polyol method**
Ulaş B., Kıvrak A., Aktaş N., Kıvrak H.
Fullerenes Nanotubes and Carbon Nanostructures, vol.27, no.7, pp.545-552, 2019 (Peer-Reviewed Journal)
- XIX. **Determination of optimum Pd:Ni ratio for Pd_xNi_{100-x}/CNTs formic acid electrooxidation catalysts synthesized via sodium borohydride reduction method**
Ulaş B., Çağlar A., Kıvrak H.
International Journal of Energy Research, vol.43, no.8, pp.3436-3445, 2019 (Peer-Reviewed Journal)
- XX. **Development of Nonenzymatic Benzoic Acid Detection on PdSn/GCE/Vulcan XC-72R Prepared via Polyol Method**
Çelik Kazıcı H., Yayla M., Ulaş B., Aktaş N., Demir Kıvrak H.
Electroanalysis, vol.31, pp.1118-1124, 2019 (Peer-Reviewed Journal)
- XXI. **Novel activated carbon supported trimetallic PdCoAg nanoparticles as efficient catalysts for the hydrolytic dehydrogenation of ammonia borane**
Çelik Kazıcı H., YILDIZ F., İzgi M. S. , Ulaş B., Kıvrak H.
International Journal of Hydrogen Energy, vol.44, no.21, pp.10561-10572, 2019 (Peer-Reviewed Journal)
- XXII. **Atomic molar ratio optimization of carbon nanotube supported PdAuCo catalysts for ethylene glycol and methanol electrooxidation in alkaline media**
Ulaş B., Çağlar A., Kıvrak A., Kıvrak H.
CHEMICAL PAPERS, vol.73, no.2, pp.425-434, 2019 (Peer-Reviewed Journal)
- XXIII. **Composition dependent activity of PdAgNi alloy catalysts for formic acid electrooxidation**
Ulaş B., Çağlar A., Sahin O., Kıvrak H.
JOURNAL OF COLLOID AND INTERFACE SCIENCE, vol.532, pp.47-57, 2018 (Peer-Reviewed Journal)

Articles Published in Other Journals

- I. **A Review of Recent Studies Employing Hyperspectral Imaging for the Determination of Food Adulteration**
Temiz H. T. , Ulaş B.
Photochem, vol.1, no.2, pp.125-146, 2021 (Peer-Reviewed Journal)
- II. **A review of Pd based multimetallic anode electrocatalysts for direct formic acid fuel cells**
Ulaş B., Demir Kıvrak H.
General Chemistry, vol.in press, 2020 (Peer-Reviewed Journal)
- III. **Yüksek Aktiviteye Sahip CNT Destekli Pd-Zn Katalizörünün Formik Asit Elektrokoksitletme Aktivitesinin İncelenmesi**
Yılmaz Y., Er Ö. F. , Ulaş B., Demir Kıvrak H.
Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.24, no.2, pp.125-132, 2019 (Peer-Reviewed Journal)
- IV. **Few-layer graphene coated on indium tin oxide electrodes prepared by chemical vapor deposition and their enhanced glucose electrooxidation activity**
Çağlar A., Ulaş B., Sahin O., DEMİR KIVRAK H.
ENERGY STORAGE, vol.1, no.4, 2019 (Peer-Reviewed Journal)
- V. **Karbon Destekli Pd Nanokatalizörü Üzerinde Elektrokoksitletme Parametrelerinin İncelenmesi**
Yılmaz Y., Yurdigül M., Çağlar A., Ulaş B., Demir Kıvrak H.
Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.24, pp.19-25, 2019 (Peer-Reviewed Journal)
- VI. **A MINI REVIEW ON HEALTH AND ENVIRONMENTAL RISKS OF OIL AND GAS INDUSTRY UNDESİRED PRODUCTS: HYDROGEN SULFIDE AND CARBON MONOXIDE**
Bakr R. A. , Ulaş B., Demir Kıvrak H.
INTERNATIONAL JOURNAL OF ECOSYSTEMS AND ECOLOGY SCIENCE-IJEES, vol.7, no.4, pp.883-894, 2017 (Peer-

Reviewed Journal)

VII. **Doğrudan Metanol Yakıt Pili Karbon Destekli Pt-Ru Anot Katalizörlerinin Sıralı İndirgeme Yöntemi ile Sentezi ve Geliştirilmesi**

Kıvrak H., Ulaş B.

Yüzüncü Yıl Üniversitesi Fen Bilimleri Enstitüsü Dergisi, vol.22, no.1, pp.21-32, 2017 (Peer-Reviewed Journal)

Books & Book Chapters

- I. **3 - Metal-free catalysts for fuel cell applications**
Ulaş B., Yağızatlı Y., Demir Kıvrak H.
in: Carbon-Based Metal Free Catalysts Preparation, Structural and Morphological Property and Application, Abdullah Mohammed Ahmed Asiri, Anish Khan, Showkat Ahmad Bhawani, Bahaa Mohamed Mahmoud Abu-Zied, Suchart Siengchin, Hurija Džudžević-Čančar, Editor, Elsevier Science, Oxford/Amsterdam, Amsterdam, pp.67-109, 2022
- II. **Carbon Composites as Metal-Free Catalysts**
Kaya Ş., Çağlar A., Avcı Hansu T., Ulaş B., Khan A., Demir Kıvrak H.
in: Carbon Composite Catalysts, Dr. Mohammad Jawaid, Dr. Anish Khan, Editor, Springer, London/Berlin, Singapore, pp.131-169, 2022
- III. **Electrocatalysis Based on Carbon Composite Catalysts**
Ulaş B., Kaya Ş., Çağlar A., Özok Ö., Sharif K. H., Kavak E., Kıvrak A., Khan A., Demir Kıvrak H.
in: Carbon Composite Catalysts, Jawaid Mohammad, Khan Anish, Editor, Springer, London/Berlin, Singapore, pp.371-405, 2022
- IV. **Chapter 6 - Introduction to other organic fuel-based fuel cells**
Ulaş B., Demir Kıvrak H.
in: Direct Liquid Fuel Cells Fundamentals, Advances and Future, Ramiz Gültekin Akay, Ayşe Bayrakçeken Yurtcan, Editor, Elsevier Science, Oxford/Amsterdam, Amsterdam, pp.137-148, 2021
- V. **Chapter 7 - Direct formic acid and formate fuel cells (DF(A)FCs)**
Ulaş B., Demir Kıvrak H.
in: Direct Liquid Fuel Cells Fundamentals, Advances and Future, Ramiz Gültekin Akay, Ayşe Bayrakçeken Yurtcan, Editor, Elsevier Science, Oxford/Amsterdam, Amsterdam, pp.149-176, 2021
- VI. **Bölüm 2: Yakıt Pili Katalizörleri**
Gökdoğan Şahin Ö., Ulaş B., Çağlar A., Demir Kıvrak H., Aktaş N.
in: Yakıt Pili Katalizörleri, Demir Kıvrak H., Editor, Gece Kitaplığı, Ankara, pp.13-37, 2019
- VII. **Bölüm 1: Yakıt Pillerine Giriş**
Gökdoğan Şahin Ö., Ulaş B., Demir Kıvrak H.
in: Yakıt Pili Katalizörleri, Demir Kıvrak H., Editor, Gece Kitaplığı, Ankara, pp.1-37, 2019
- VIII. **Bölüm 3: Yakıt Pili Katalizörlerinin Sentezi ve Karakterizasyonu**
Çelik Kazıcı H., Ulaş B., Demir Kıvrak H.
in: Yakıt Pili Katalizörleri, Demir Kıvrak H., Editor, Gece Kitaplığı, Ankara, pp.37-99, 2019

Refereed Congress / Symposium Publications in Proceedings

- I. **Bimetalik Nanokatalizörlerin Sentezi ve Hidrojen Peroksit Sensör Uygulamaları**
Yıldırım A., Çelik Kazıcı H., Ulaş B., Demir Kıvrak H., Aktaş N.
13. Kimya Mühendisliği Kongresi, Van, Turkey, 03 September 2019 - 06 September 2018, pp.1
- II. **Design, Synthesis, and Characterization of Au-Based Catalysts for Direct Glucose Fuel Cells**
Demir Kıvrak H., Ulaş B., Er O. F.
International Engineering and Science Symposium, Siirt, Turkey, 20 - 22 June 2019, pp.329-334
- III. **Investigation of Formic Acid Electrooxidation Activity of High Activity CNT Supported Pd-Zn Catalyst**

Demir Kıvrak H., Er Ö. F. , Yılmaz Y., Ulaş B.

International Engineering and Science Symposium, Siirt, Turkey, 20 - 22 June 2019, pp.44

- IV. **SYNTHESIS OF IN-SITU S DOPED FEW LAYER GRAPHENE BY CHEMICAL VAPOR DEPOSITION TECHNIQUE AND THEIR SUPERIOR GLUCOSE ELECTROOXIDATION ACTIVITY**
Demir Kıvrak H., Caglar A., Ulaş B., Muhammady S., Sahin O.
International symposium for environmental science and engineering research (ISESER), Konya, Turkey, 25 - 27 May 2019, pp.303-307
- V. **FEW-LAYER GRAPHENE COATED ON INDIUM TIN OXIDE ELECTRODE PREPARED BY CHEMICAL VAPOR DEPOSITION AND THEIR ENHANCED GLUCOSE ELECTROOXIDATION ACTIVITY**
Demir Kıvrak H., Caglar A., Ulaş B., Uygun S., Sahin O.
International symposium for environmental science and engineering research (ISESER), Konya, Turkey, 25 - 27 May 2019, pp.309-314
- VI. **SYNTHESIS OF B DOPED AND IN-SITU B DOPED FEW LAYER GRAPHENE BY CHEMICAL VAPOR DEPOSITION TECHNIQUE FOR HYDROGEN PEROXIDE DETECTION**
Demir Kıvrak H., Caglar A., Ulaş B., Nadeesh A., Sahin O.
International symposium for environmental science and engineering research (ISESER), Konya, Turkey, 25 - 27 May 2019, pp.316-321
- VII. **Elektrokimyasal grafen oksit sentezi ve karakterizasyonu; glikoz ve hidrojen peroksit uygulamaları**
Caglar A., Kuliyeve S., Demir Kıvrak H., Ulaş B.
13 Ulusal Kimya Mühendisliği Kongresi, Van, Turkey, 3 - 06 September 2018, pp.6297
- VIII. **Vulcan destekli Paladyum katalizörünün nano tasarım ile sentezi ve doğrudan formik asit yakıt pili uygulaması**
Yılmaz Y., Yurdağül M., Caglar A., Ulaş B., Demir Kıvrak H.
13 Ulusal Kimya Mühendisliği Kongresi, Van, Turkey, 3 - 06 September 2018, pp.6335
- IX. **Pd@Sn Vulcan nanomateryalinin gıdalarda koruyucu madde tayininde kullanılması**
Yayla M., Çelik Kazıcı H., Ulaş B., Demir Kıvrak H., Aktaş N.
13 Ulusal Kimya Mühendisliği Kongresi, Van, Turkey, 3 - 06 September 2018, pp.7547
- X. **Erbildeki bir rafineride Hidrojen sülfür ve Karbon monoksit toksik gazlarının belirlenmesi ve risk analizi**
BAKR R. A. , Ulaş B., Demir Kıvrak H.
13 Ulusal Kimya Mühendisliği Kongresi, Van, Turkey, 3 - 06 September 2018, pp.7288
- XI. **INVESTIGATION OF Ni ADDITION TO Pd/C: SYNTHESIS, CHARACTERIZATION AND FORMIC ACID ELECTROOXIDATION PERFORMANCE**
Caglar A., Ulaş B., Yılmaz Y., Demir Kıvrak H.
International Conference of Ecosystems Tirana, Albania,, Tiran, Albania, 22 - 25 June 2018, pp.1
- XII. **INVESTIGATION OF OPTIMUM ATOMIC RATIO OF PDAGNI TOWARD FORMIC ACID ELECTROOXIDATION ACTIVITY**
Ulaş B., Yılmaz Y., Caglar A., Demir Kıvrak H.
International Conference of Ecosystems Tirana, Albania,, Tiran, Albania, 22 - 25 June 2018, pp.1
- XIII. **Carbon nanotube supported Pt, Bi, and Ru; stnthesis and ethanol electrooxidation performance**
Caglar A., Demir Kıvrak H., Ulaş B., Sahin O., Albouni N.
International symposium for environmental science and engineering research (ISESER), Antalya, Turkey, 11 - 12 May 2018, pp.10
- XIV. **Synthesis and Characterization of PdAgNi/CNT Catalysts for Formic Acid Electrooxidation,**
Çelik Kazıcı H., Ulaş B., Kıvrak H., Çağlar A.
International Conference on Advances and Innovations in Engineering (ICAIE), Elazığ, Turkey, 10 - 12 May 2017, pp.1
- XV. **Synthesis, Characterization and CO Poisoning Tolerance of PdAgNi/CNT Catalysts**
Çelik Kazıcı H., Ulaş B., Kıvrak H., Çağlar A.
International Conference on Advances and Innovations in Engineering (ICAIE), Elazığ, Turkey, 10 - 12 May 2017, pp.1

- XVI. **Synthesis And Electrochemical Characterization Of The Pd/CNT Electrocatalyst**
Çelik Kazıcı H., Ulaş B., Kıvrak H., Aktaş N., Çağlar A.
III INTERNATIONAL CONFERENCE ON ENGINEERING AND NATURAL SCIENCES (ICENS), Macaristan, Hungary, 3 - 07 May 2017, pp.1
- XVII. **Synthesis Of The Pd/CNT For Direct Formic Acid Fuel Cell**
Çelik Kazıcı H., Çağlar A., Ulaş B., Kıvrak H., Aktaş N.
III INTERNATIONAL CONFERENCE ON ENGINEERING AND NATURAL SCIENCES (ICENS), Macaristan, Hungary, 3 - 07 May 2017, pp.1
- XVIII. **Co PROMOTED Pd-Au NANOCATALYSTS AND ITS ENHANCED ALCOHOL ELECTROOXIDATION ACTIVITY**
Kıvrak H., Ulaş B., Kıvrak A.
48th Symposium on Catalysis,, Prag, Czech Republic, 7 - 09 November 2016, vol.-
- XIX. **'Electrocatalytic oxidation of ethylene glycol at MPd (M:Mn, Zn) core shell and alloy bimetallic catalysts'**
Ulaş B., Özlem S., Kıvrak H., Ebru Ö.
International Nanoscience and nanotechnology for next generation (NaNoNG 2016), Antalya, Turkey, 20 - 22 October 2016
- XX. **Synthesis and characterization of microwave assisted Pd nanoparticles as hydrogen peroxide sensor**
Ulaş B., Gökdoğan Şahin Ö., Kıvrak H., Kıvrak A., Çelik Kazıcı H., Alal O., Atbaş D.
International Conference on Nanoscience and Nanotechnology for Next Generation (NANONG2016), Antalya, Turkey, 20 - 22 October 2016, pp.1
- XXI. **Electrodeposition of CoAuPd nanoparticles on indium tin oxide and investigation of their electroactivity toward the formic acid electrooxidation**
Ulaş B., Avci Ç., Kıvrak H., Kıvrak A.
3st International NANOSCIENCE & NANOTECHNOLOGY FOR NEXT GENERATION (NaNoNG 2016) Conference, Antalya, Turkey, 20 - 22 October 2016, pp.37-0
- XXII. **PD BASED CATALYSTS FOR FUEL CELL APPLICATIONS**
Ulaş B., Sahin O., Özkan E., Kıvrak H., Alal O., Ahmetli G.
International Conference on Advanced Technology & Sciences (ICAT'16), Konya, Turkey, 1 - 03 September 2016

Supported Projects

Demir Kıvrak H., Ulaş B., ÇAĞLAR A., Project Supported by Higher Education Institutions, Co Ve Ag Metali Çekirdeği Üzerinde Pd Kabuklandırması İle Çok Metalli Çekirdek/Kabuk Katalizörlerin Nanotasarım İle Sentezi Karakterizasyonu, 2018 - 2021

Demir Kıvrak H., Aktaş N., Şahan T., Zengin A., Çelik Kazıcı H., Aldemir A., Alpaslan D., Erşen Dudu T., Ulaş B., Uzun Y., et al., Project Supported by Higher Education Institutions, 13. Ulusal Kimya Mühendisliği Kongresi, 2018 - 2018

Metrics

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