

CURRICULUM VITAE

PERSONAL DATA

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| Name | ARAFAT AHMED TOGHAN AHMED |
| Nationality | Egyptian |
| Position | Professor -Chemistry Department, College of Science, Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh 11623, Saudi Arabia |
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EDUCATION

| Year | Academic Degree | Institution |
|------------------|--|--|
| Nov. 2012 | Ph.D. Physical Chemistry (Very good) | Institute of Physical Chemistry and Electrochemistry, Leibniz Universität Hannover, Germany |
| Sep. 2004 | M.Sc. Physical Chemistry | Chemistry Department, Faculty of Science, South Valley University, Egypt |
| May 1999 | B.Sc. Chemistry (Very good with Honors) | Chemistry Department, Faculty of Science, South Valley University, Egypt |

WORK EXPERIENCE

| Period | Position | Address |
|----------------------------|----------------------------|--|
| Apr. 2023–present | Professor | Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh 11623, Saudi Arabia |
| Sep. 2018–Mar. 2023 | Associate Professor | Imam Mohammad Ibn Saud Islamic University (IMSIU), Riyadh 11623, Saudi Arabia |
| July 2018–present | Associate Professor | Chemistry Department, Faculty of Science, South Valley University, Egypt |
| May 2013–June 2018 | Assistant Professor | Chemistry Department, Faculty of Science, South Valley University, Egypt |
| May 2008–Nov. 2012 | Doctoral student | Institute of Physical Chemistry and Electrochemistry, Leibniz Universität Hannover, Germany |

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|----------------------|--------------------|---|
| Jan. 2005–Apr. 2008 | Assistant lecturer | Chemistry Department, Faculty of Science, South Valley University, Egypt |
| Nov. 1999– Dec. 2004 | Teaching assistant | Chemistry Department, Faculty of Science, South Valley University, Egypt |

RESEARCH INTERESTS

- **Electrochemistry:** Electrocatalysis, Electrodeposition, Corrosion, Fuel cells, Photo-electrochemistry
- **Surface science:** Interfaces & Spectroscopy (IRAS, XPS), TPD, LEED and PEEM
- **Energy**
- **Nanomaterials:** Synthesis, characterization, and applications
- **Heterogeneous catalysis**
- **Environmental chemistry**

PUBLICATIONS

1. M. M. S. Sanad, N. K. Meselhy, H. A. El-Boraey, A. Toghan, Controllable engineering of new ZnAl₂O₄-decorated LiNiO· 8MnO· 1CoO· 1O₂ cathode materials for high performance lithium-ion batteries, **Journal of Materials Research and Technology** **23 (2023) 1528-1542. (I.F = 6.267)**
2. A Modwi, Bakheit Mustafa, Arafat Toghan, Kamal K Taha, Scalable fabrication and characterization of Y₂O₃@g-C₃N₄ nanocomposite for the enhancement of photocatalytic removal of Congo red dye under visible light, **Journal of Materials Science: Materials in Electronics** **34(4)(2023)298. (I.F = 2.779)**
3. M. S. Eraky, M. M.S. Sanad, **A. Toghan**, Impact of multiple cations doping on Zn-Sn-Se nanostructures for optoelectronic applications, **Journal of Materials Science: Materials in Electronics** **(34(4)(2023)265. (I.F = 2.779)**
4. ZnO/Ag multilayer for enhancing the catalytic activity against 4-nitrophenol, **Journal of Materials Science: Materials in Electronics** **(2023). (I.F = 2.779)**
5. N. A. Elessawy, **A. Toghan**, M. S. Elnouby, A. I. Alakhras, H. A. Hamad, M. E. Youssef, Development and activity enhancement of zirconium/vanadium oxides as micro-heterogeneous ceramic electrocatalyst for ORR in low temperature fuel cell, **Ceramics International** **49 (2023) 4313. (I.F = 5.532)**
6. **A. Toghan**, E. A. Mwafy, A. M. Mostafa, R. A. Rezk, Adsorption of phosphate ions from water using PVA-NiO nanocomposite based on tuning influence of pulsed laser ablation method, **Physica Scripta** **98 (2023) 015611. (I.F = 3.081)**
7. A. Farag, E. Mohamed, **A. Toghan**, The new trends in corrosion control using superhydrophobic surfaces: A review, **Corrosion Reviews** **(2022), accepted. (I.F = 3.507)**
8. H. M. Dardeer, A. G. Taha, **A. Toghan**, A. H. Abdelmonsef, Synthesis, In silico Molecular Docking Studies and antimicrobial evaluation of Some New Anthracene Derivatives Tagged with Arylidene,

- Pyridine, Oxazole, and Chromene Moieties as Promising Inhibitors of Bacterial DNA gyrase, **Biointerface Research in Applied Chemistry** **13 (2023) 299. (I. F= 1.949)**
9. N. Alqarni, B. El-Gammal, A. Fawzy, A. Al Bahir, **A. Toghan**, Investigation of Expired Ticarcillin and Carbenicillin Drugs for Inhibition of Aluminum Corrosion in Hydrochloric Acid Solution, **International Journal of Electrochemical Science** **17 (2022). (I.F = 1.541)**
10. **A. Toghan**, A. Fawzy, A. I. Alakhras, A. A. Farag, Electrochemical and Theoretical Examination of Some Imine Compounds as Corrosion Inhibitors for Carbon Steel in Oil Wells Formation Water, **International Journal of Electrochemical Science** **17 (2022). (I.F = 1.541)**
11. **A. Toghan**, A. Fawzy, A. Al Bahir, N. Alqarni, M. Sanad, M. Khairy, A. I. Alakhras, A. A. Farag, Computational Foretelling and Experimental Implementation of the Performance of Polyacrylic Acid and Polyacrylamide Polymers as Eco-Friendly Corrosion Inhibitors for Copper in Nitric Acid, **Polymers** **14 (2021) 4802. (I. F= 4.967)**
12. T. A. Alrebdi, H. A. Ahmed, E. Alsubhe, F. H. Alkallas, E. A. Mwafy, R. A. Pashameah, **A. Toghan**, A. M. Mostafa, Synthesis of NiO-PVA nanocomposite by laser assisted-method and its characterization as a novel adsorbent for removal phosphate from aqueous water, **Optics & Laser Technology** **156(2022) 108526. (I.F = 4.939)**
13. Y. Zhao, X. Song, M. Huang, H. Jiang, **A. Toghan**, Crown ether interlayer-modulated polyamide membrane with nanoscale structures for efficient desalination, **Nano Research**, **accepted (2022). (I. F= 10.269)**
14. F. H. Alkallas, H. A. Ahmed, R. A. Pashameah, S. H. Alrefae, **A. Toghan**, A. B. Trabelsi, A. M. Mostafa, Nonlinearity enhancement of Multi-walled carbon nanotube decorated with ZnO nanoparticles prepared by laser assisted method, **Optics & Laser Technology** **155 (2022) 108444. (I.F = 4.939)**
15. T. A. Alrebdi, H. A. Ahmed, S. H. Alrefae, R. A. Pashameah, **A. Toghan**, A. M. Mostafa, F. H. Alkallas, R. A. Rezk, Enhanced adsorption removal of phosphate from water by Ag-doped PVA-NiO nanocomposite prepared by pulsed laser ablation method, **Journal of Materials Research and Technology** **20 (2022) 4356-4364. (I. F= 6.267)**
16. A. S. Altowyan, **A. Toghan**, H. A. Ahmed, R. A. Pashameah, E. A. Mwafy, S. H. Alrefae, A. M. Mostafa, Removal of methylene blue dye from aqueous solution using carbon nanotubes decorated by nickel oxide nanoparticles via pulsed laser ablation method, **Radiation Physics and Chemistry** **198(2022) 110268. (I. F= 2.776)**
17. M. Abdel-Sabour, **A. Toghan**, A. M. Abo-Bakr, Differential Pulse Voltammetric Determination of Folic Acid in the Presence of Ascorbic Acid using A Glassy Carbon Electrode Modified with Reduced Graphene Oxide, **Analytical and Bioanalytical Electrochemistry** **14 (2022)789-805.**
18. **A. Toghan**, A. Modwi, A. M. Mostafa, A. I. Alakhras, M. Khairy, K. K. Taha, Insight of yttrium doping on the structural and dielectric characteristics of ZnO nanoparticles, **Journal of Materials Science:**

Materials in Electronics 33 (2022)18167-18179. (I.F = 2.779)

19. X. Xu, X. Hou, P. Du, C. Zhang, S. Zhang, H. Wang, A. Toghan, M. Huang, Controllable Ni/NiO interface engineering on N-doped carbon spheres for boosted alkaline water-to-hydrogen conversion by urea electrolysis, **Nano Research 15(2022)7124. (I. F= 10.269)**
20. V. S. Bhat, A. Toghan, G. Hegde, R. S. Varma, Capacitive dominated charge storage in supermicropores of self-activated carbon electrodes for symmetric supercapacitors, **Journal of Energy Storage 52 (2022) 104776. (I. F= 8.907)**
21. A. A. Farag, A. Toghan, M. S. Mostafa, C. Lan, G. Ge, Environmental Remediation through Catalytic Inhibition of Steel Corrosion by Schiff's Bases: Electrochemical and Biological Aspects, **Catalysts 12 (2022)838. (I.F = 4.501)**
22. M. H. Gouda, N. A. Elessawy, A. Toghan, Development of hybrid green nanocomposite polymeric beads doped with nano sulfated zirconia for effective removal of Cefotaxime antibiotic from aqueous solution, **Scientific reports 12(2022) 12701. (I.F = 4.996)**
23. X. Song, W. Dong, Y. Zhang, H. M. Abdel-Ghafar, A. Toghan, H. Jiang, Coupling solar-driven interfacial evaporation with forward osmosis for continuous water treatment, **Exploration (2022) 0220054.**
24. A. Toghan, M. Khairy, E. M. Kamar, M. A. Mousa, Effect of particle size and morphological structure on the physical properties of NiFe₂O₄ for supercapacitor application, **Journal of Materials Research and Technology 19(2022)3521-3535. (I. F= 6.267)**
25. F. H. Alkallas, A. Toghan, H. A. Ahmed, S. H. Alrefae, R. A. Pashameah, T. A. Alrebdi, E. A. Mwafy, A. M. Mostafa, Catalytic performance of NiO nanoparticles decorated carbon nanotubes via one-pot laser ablation method against methyl orange dye, **Journal of Materials Research and Technology 16(2022) 362. (I. F= 6.267)**
26. M. Abou-Krishna, A. Toghan, F. Assaf, F. El-Sheref, The Mechanism and Corrosion Behavior of Zn-Fe-Co Film Electrochemically Deposited on a Steel Substrate: Influence of Deposition Time and Co Ion Concentration, **Russian Journal of Electrochemistry 58 (2022) 284. (I. F= 1.351)**
27. V. Adimule, V. S. Bhat, B. C. Yallur, A. H. J. Gowda, P. D. Padova, G. Hegde, A. Toghan, Facile synthesis of novel SrO_{0.5}MnO_{0.5} bimetallic oxide nanostructure as a high-performance electrode material for supercapacitors, **Nanomaterials and Nanotechnology 12 (2022) 18479804211064028. (I. F= 3.280)**
28. H. M. Abd El-lateef, H. S. El-Beltagi, M. E. Mohamed, M. Kandeel, E. Bakir, A. Toghan, K. Shalabi, M. M. Khalaf, Novel natural surfactants based-fatty acids and their corrosion inhibitive characteristics for carbon steel induced-sweet corrosion: Detailed practical and computational explorations, **Frontiers in Materials 9(2022) 843438. (I. F= 3.985)**
29. H. M. Dardeer, A. Toghan, M. E. A. Zaki, R. B. Elamary, Design, Synthesis and Evaluation of Novel Antimicrobial Polymers Based on the Inclusion of Polyethylene Glycol/TiO₂ Nanocomposites in Cyclodextrin as Drug Carriers for Sulfaguanidine, **Polymers 14 (2022) 227. (I. F= 4.967)**

30. F. S. Alamro, **A. Toghan**, H. A. Ahmed, A. M. Mostafa, A. I. Alakhras, E. A. Mwafy, Multifunctional leather surface embedded with zinc oxide nanoparticles by pulsed laser ablation method, **Microscopy Research and Technique (2022)**. (I. F= 2.893)
31. **Arafat Toghan**, M. Khairy, M. Mokhtar Mohamed, A. A. Amer, Synthesis of Defect-Impressive Boron Graphene as a Remarkable Electrocatalyst for Methanol Oxidation Reaction, **Journal of Materials Research and Technology 16(2022) 362**. (I. F= 6.267)
32. A. Fawzy, N. Alqarni, B. El-Gammal, **A. Toghan**, N. A. Hassan, Z. Algarni, Auspicious water treatment approach. Oxidative degradation of fluconazole and voriconazole antibiotics by CrO₃ in different acidic environments: Kinetics, mechanistic and thermodynamic modelling, **Journal of Saudi Chemical Society 26(2022) 101396**. (I. F= 4.712)
33. R. Xu, X. Wang, C. Zhang, Y. Zhang, H. Jiang, H. Wang, G. Su, M. Huang, **A. Toghan**, Engineering solid-liquid-gas interfaces of single-atom cobalt catalyst for enhancing the robust stability of neutral Zn-air batteries under high current density, **Chemical Engineering Journal 433 (2022) 133685**. (I. F= 16.744)
34. M. M. ElFaham, A. M. Mostafa, **A. Toghan**, Facile synthesis of Cu₂O nanoparticles using pulsed laser ablation method for optoelectronic applications, **Colloids and Surfaces A: Physicochemical and Engineering Aspects 630 (2021) 127562**. (I. F= 5.518)
35. M. H. Gouda, N. A. Elessawy, S. A. Al-Hussain, **A. Toghan**, Design of Promising Green Cation Exchange Membranes Based Sulfonated PVA and Doped with Nano Sulfated Zirconia for Direct Borohydride Fuel Cells, **Polymers 13 (2021) 4205**. (I. F= 4.967)
36. M. Sanad, **A. Toghan**, Chemical activation of nanocrystalline LiNbO₃ anode for improved storage capacity in lithium-ion batteries, **Surfaces and Interfaces 27 (2021) 101550**. (I. F= 6.137)
37. **A. Toghan**, M. Greiner, A. K-Gericke, R. Imbihl, Identification of the surface species in electrochemical promotion: ethylene oxidation over a Pt/YSZ catalyst, **Physical Chemistry Chemical Physics 23 (2021) 21591-21598**. (I. F= 3.945)
38. **A. Toghan**, A. Modwi, M. Khairy, K. K. Taha, Influence of TiO₂ concentration on the characteristics of ZnO nanoparticles fabricated via sonication assisted with gelatin, **Chemical Physics 551 (2021) 111350**. (I. F= 2.552)
39. H. F. Assaf, H. Salah, N. Hashem, M. Khodari, **A. Toghan**, Fabrication of an electrochemical sensor based on copper waste wire recycling and its application, **Sensors and Actuators A: Physical 331 (2021) 112962**. (I. F= 4.291)
40. A. M. Mostafa, E.A. Mwafy, **A. Toghan**, ZnO nanoparticles decorated carbon nanotubes via pulsed laser ablation method for degradation of methylene blue dyes, **Colloids and Surfaces A: Physicochemical and Engineering Aspects 627 (2021) 127204**. (I. F= 5.518)
41. **A. Toghan**, Ahmed Fawzy, Nada Alqarni, Adel Abdelkader, Abbas I. Alakhras, Inhibition Effects of Citrulline and Glutamine for Mild Steel Corrosion in Sulfuric Acid Environment: Thermodynamic and

- Kinetic Aspects, **International Journal of Electrochemical Science** 16 (2021) 211118. (I.F = 1.541)
42. M. Sanad, **A. Toghan**, Unveiling the role of trivalent cation incorporation in Li-rich Mn-based layered cathode materials for low-cost lithium-ion batteries, **Applied Physics A: Materials Science and Processing** 127(10) (2021) 1-15. (I. F= 2.983)
43. F. S. Alamro, A. M. Mostafa, H. A. Ahmed, **A. Toghan**, Zinc oxide/carbon nanotubes nanocomposite: Synthesis, characterization and catalytic reduction of 4-nitrophenol via laser assistant method, **Surfaces and Interfaces** 26 (2021) 101406. (I. F= 6.137)
44. **A. Toghan**, A Modwi, Boosting unprecedented indigo carmine dye photodegradation via mesoporous MgO@g-C₃N₄ nanocomposite, **Journal of Photochemistry and Photobiology A: Chemistry** 419 (2021) 113467. (I. F= 5.141)
45. **A. Toghan**, H. M. Abd El-Lateef, K. K. Taha, A. Modwi, Mesoporous TiO₂@g-C₃N₄ composite: construction, characterization, and boosting indigo carmine dye destruction, **Diamond & Related Materials** 118 (2021) 108491. (I. F= 3.806)
46. H. M. Abd El-Lateef, S. Shaaban, M. M. Khalaf, **A. Toghan**, K. Shalabi, Synthesis, experimental, and computational studies of water soluble anthranilic organoselenium compounds as safe corrosion inhibitors for J55 pipeline steel in acidic oilfield formation water, **Colloids and Surfaces A: Physicochemical and Engineering Aspects** 625 (2021) 126894. (I. F= 5.518)
47. H. Elsayy, H. M. Abd El-Lateef, M. M. Khalaf, I. M. A. Mohamed, A. H. Touny, **A. Toghan**, Synthesis and antimicrobial activity assessment of calcium and iron phosphate nanoparticles prepared by a facile and cost-effective method, **Chemical Physics Letters** 779 (2021) 138839. (I. F= 2.719)
48. M. M. Khalaf, H. M. Abd El-Lateef, I. M. A. Mohamed, Magdi EA Zaki, **A. Toghan**, Facile synthesis of gold-nanoparticles by different capping agents and their anticancer performance against liver cancer cells, **Colloid and Interface Science Communications** 44 (2021) 100482. (I. F= 5.633)
49. M. H. Gouda, N. A. Elessawy, **A. Toghan**, Development of effectively costed and performant novel cation exchange ceramic nanocomposite membrane based sulfonated PVA for direct borohydride fuel cells, **Journal of Industrial and Engineering Chemistry** 100 (2021) 212. (I. F= 6.760)
50. F. S. Alamro, A. M. Mostafa, K. A. Abu Al-Ola, H. A. Ahmed, **A. Toghan**, Synthesis of Ag Nanoparticles-Decorated CNTs via Laser Ablation Method for the Enhancement the Photocatalytic Removal of Naphthalene from Water, **Nanomaterials** 11 (2021) 2142. (I. F= 5.719)
51. G. He, Y. Ling, H. Jiang, **A. Toghan**, Barium Titanate as a Highly Stable Oxygen Permeable Membrane Reactor for Hydrogen Production from Thermal Water Splitting, **ACS Sustainable Chemistry & Engineering** 9 (33) (2021) 11147. (Front Cover, see below); (I. F= 9.224)
52. G. A. M. Mersal, **A. Toghan**, I. S. Yahia, H. S. El-Sheshtawy, Pyrrole/thiophene π -bridged two triphenylamine electron donor and substituted thiobarbituric electron acceptor for D- π -A-D-featured DSSC applications, **Journal of the Chinese Chemical Society** (2021). (I. F= 1.753)

53. **A. Toghan**, M. Gouda, K. Shalabi, H. M. Abd El-Lateef, Preparation, Characterization, and Evaluation of Macrocrystalline and Nanocrystalline Cellulose as Potential Corrosion Inhibitors for SS316 Alloy during Acid Pickling Process: Experimental and Computational Methods, **Polymers 13 (2021) 2275. (I. F= 4.967)**
54. M. H. Gouda, N. A. Elessawy, **A. Toghan**, Novel Crosslinked Sulfonated PVA/PEO Doped with Phosphated Titanium Oxide Nanotubes as Effective Green Cation Exchange Membrane for Direct Borohydride Fuel Cells, **Polymers 13 (2021) 2050. (I. F= 4.967)**
55. J. Gao, Y. Zhang, X. Wang, L. Jia, H. Jiang, M. Huang, **A. Toghan**, Nitrogen-doped $Sr_2Fe_{1.5}Mo_{0.5}O_{6-6}$ Perovskite as Efficient and Stable Catalysts for Hydrogen Evolution Reaction, **Materials Today Energy 20 (2021) 100695. (I. F= 9.257)**
56. X. Xu, T. Guo, J. Xia, B. Zhao, G. Su, H. Wang, M. Huang, **A. Toghan**, Modulation of the crystalline/amorphous interface engineering on Ni-P-O-based catalysts for boosting urea electrolysis at large current densities, **Chemical Engineering Journal 425 (2021) 130514. (I. F= 16.744)**
57. **A. Toghan**, M. Abd-ElSabour, A. M. Abo-Bakr, A novel Electrochemical Sensor Based on EDTA-NQS/GC for Simultaneous Determination of Heavy Metals, **Sensors and Actuators: A: Physical 322 (2021) 112603. (I. F= 4.291)**
58. H. M. Dardeer, **A. Toghan**, A Novel Route for the Synthesis of Pseudopolyrotaxane Containing γ -Cyclodextrin Based on Environmental Waste Recycling, **Journal of Molecular Structure 1227 (2021) 129707. (I.F = 3.841)**
59. **A. Toghan**, H. M. Dardeer, H.S.Gadow, H. M. Elabbasy: New promising halogenated cyclic imides derivatives as Potential Corrosion Inhibitors for Carbon Steel in Acidic Environment, **Journal of Molecular Liquids 325(2021) 115136. (I.F = 6.633)**
60. X.Xu, Y. Zhang, X. Li, X. Xia, H. Jiang, **A. Toghan**, Comparative study on the catalytic behaviors of zeolites with different diffusion limitation in ethane aromatization, **Microporous and Mesoporous Materials 315 (2021) 110926. (I.F = 5.876)**
61. **A. Toghan**, K.amal K. Taha, A. Modwi, TiO_2 -ZnO composites Fabricated via Sonication assisted with Gelatin for potential use in Rhodamine B Degradation, **Journal of Materials Science: Materials in Electronics 32 (2021)2471–2485. (I.F = 2.779)**
62. **A. Toghan**, M. Abou-krisa, F. Assaf, F. El-Sheref: Effect of Deposition Potential on the Mechanism and Corrosion Behavior of Zn-Fe-Co Thin Coatings Electrochemically Deposited on a Steel Substrate, **International Journal of Electrochemical Science 16 (2021) 151044. (I.F = 1.541)**
63. A. Fawzy, **A. Toghan**, Inhibition Evaluation of Chromotrope Dyes for the Corrosion of Mild Steel in an Acidic Environment: Thermodynamic and Kinetic Aspects, **ACS Omega 6 (2021) 4051. (I.F = 4.132)**
64. H. M. Dardeer, A. S. Assran, S. A. Al-Hussain, **A. Toghan**: Synthesis, spectroscopic and molecular docking studies of novel 10-heterylazo-9-anthrone derivatives as potential antimicrobial and

- anticancer agents*, **Journal of Molecular Structure** **15(2021)** 129359. **(I.F = 3.841)**
65. A. Fawzy, **A. Toghan**, *Unprecedented Treatment Strategy of Aquatic Environments. Oxidative Degradation of Penicillin G by Chromium Trioxide in Acidic Media and the Impact of Metal Ion Catalysts: Kinetics and Mechanistic Insights*, **ACS Omega** **5(2020)** 32781. **(I.F = 4.132)**
66. X. Wang, H. Gai, Z. Chen, Y. Liu, J. Zhang, B. Zhao, **A. Toghan**, M. Huang: *The marriage of crystalline/amorphous Co/Co₃O₄ heterostructures with N-doped hollow carbon spheres: efficient and durable catalysts for oxygen reduction*, **Materials Today Energy** **18 (2020)** 100497 **(I. F= 9.257)**
67. F. Assaf, M. Abou-krisna, T. A. Yousef, A. Abushoffa, F. El-Sheref, **A. Toghan**: *Influence of Current Density on the Mechanism of Electrodeposition and Dissolution of Zn-Fe-Co Alloys*, **Russian Journal of Physical Chemistry A** **94(8)(2020)** 1708–1715. **(I.F = 0.791)**
68. X. Xu, S. K. Megarajan, X. Xia, **A. Toghan**, A. Feldhoff, Y. Zhang, H. Jiang: *Effect of reduction temperature on structure and catalytic performance of mesoporous Ni-Fe-Al₂O₃ in oxidative dehydrogenation of ethane*, **New Journal of Chemistry** **44 (2020)** 18994-19001. **(I.F = 3.925)**
69. M. Heikal, A. Ali, B. S. Ibrahim, **A. Toghan**: *Electrochemical and Physico-mechanical Characterizations of Fly ash Composite Cements*, **Construction and Building Materials** **243 (2020)** 118309. **(I.F = 7.693)**
70. **A. Toghan**, A. M. Abo-baker, H. M. Rageh, M. Abd-Elsabour: *Green Electrochemical Strategy for One-step Synthesis of New Catechol Derivatives*, **RSC advances** **9 (2019)** 13145. **(I.F = 4.036)**
71. **A. Toghan**, A. M. Abo-baker, H. M. Rageh, M. Abd-Elsabour: *A Novel Electrochemical Sensor for Determination of Salbutamol Based on Graphene Oxide/Poly (O-nitrobenzoic acid) Modified Glassy Carbon Electrode and its Analytical Application in Pharmaceutical Formulation and Human Urine*, **Journal of Biosens Bioelectronics** **10 (2019)** 2. **(I.F = NA)**
72. **A. Toghan**, A. M. Abo-baker, H. M. Rageh, M. M. Abou-Krisna, M. Abd-Elsabour: *Electro-oxidation and Detection Limit of Catechol as a precursor for Pharmaceutical Applications at a Glassy Carbon Electrode*, **Journal of Pharmaceutical and Applied Chemistry** **4 (2) (2018)** 133. **(I.F = NA)**
73. **A. Toghan**, R. Imbihl: *Inner photoelectric effect at Pt/YSZ interface during photoemission electron microscopy*, **Solid State Ionics** **298 (2016)** 63. **(I.F = 3.699)**
74. **A. Toghan**: **Review**: *Electrochemical promotion of catalysis: the case of ethylene oxidation*, **Assiut University Chemistry Journal** **45 (2016)** 116. **(I.F = NA)**
75. S. Mehl, **A. Toghan**, T. Bauer, O. Brummel, N. Taccardi, P. Wasserscheid, J. Libuda: *Pd nanoparticle formation in ionic liquid thin films monitored by in-situ vibrational spectroscopy*, **Langmuir** **31 (2015)** 12126. **(I.F = 4.331)**
76. **A. Toghan**, R. Imbihl: *Effect of anodic Polarization on the free-floating parts at Pt/YSZ catalyst electrode*, **Applied Surface Science** **350 (2015)** 156. **(I.F = 7.392)**
77. F. Faisal, **A. Toghan**, M. Vorokhta, I. Khalakan, V. Matolin, J. Libuda: *Characterization of thin CeO₂ films electrochemically deposited on HOPG*, **Applied Surface Science** **350 (2015)** 142. **(I.F = 7.392)**

78. P. Ferstl, S. Mehl, M. Arman, M. Schuler, **A. Toghan**, B. Laszlo, Y. Lykhach, O. Brummel, E. Lundgren, J. Knudsen, L. Hammer¹, M.A. Schneider, J. Libuda: *Adsorption and activation of CO on Co₃O₄(111) thin films*, **The Journal of Physical Chemistry C** **119** (2015) 16688. (I. F= 4.177)
79. S. Mehl, P. Ferstl, M. Schuler, **A. Toghan**, O. Brummel, L. Hammer, M.A. Schneider, J. Libuda: *Thermal evolution of cobalt deposits on Co₃O₄(111): atomically dispersed cobalt, two-dimensional CoO islands, and metallic Co nanoparticles*, **Physical Chemistry Chemical Physics** **17** (2015) 23538. (I. F= 3.945)
80. R. Imbihl, **A. Toghan**: *Comment on the article "Reaction kinetic-induced changes in the electrochemically promoted C₂H₄ oxidation on Pt/YSZ" by Peng-ont S., Souentie S., Assabumrungrat S., Praserttham P., Brosda S., Vayenas C. G., Catalysis Letters* 143 (2013) 445, **Catalysis Letters** **143** (2013) 975. (I. F= 2.936)
81. **A. Toghan**, R. Arrigo, A. Knop-Gericke, R. Imbihl: *Corrigendum to "Ambient pressure X-ray photoelectron spectroscopy during electrochemical promotion of ethylene oxidation over a bimetallic Pt-Ag/YSZ catalyst" [J. Catal. 296 (2012) 99–109]*, **Journal of Catalysis** **302** (2013) 92. (I. F= 8.047)
82. **A. Toghan**, [Electrochemical promotion of catalytic ethylene oxidation on a solid ionic conductor](#), Hannover: **Gottfried Wilhelm Leibniz Universität Hannover**. (I. F= NA)
83. **A. Toghan**, R. Arrigo, A. Knop-Gericke, R. Imbihl: *Ambient pressure X-ray photoelectron spectroscopy during electrochemical promotion of ethylene oxidation over a bimetallic Pt-Ag/YSZ catalyst*, **Journal of Catalysis** **296** (2012) 99. (I. F= 8.047)
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