

Rasha Khaled Abuflaha

Al al-Bayt University

Department of Chemistry/ Faculty of science

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Citizenships

Jordanian, Bosnian

Date of Birth: Jan 8th, 1984

Languages

Fluent in Arabic, English and Yugoslavian

Employment Background

Sept 2021 – Present Assistant Dean for Academic Accreditation and Quality Assurance,
Al al-Bayt University, Faculty of Science, Mafraq, Jordan

Sept 2020 – Sept 2021 Assistant Dean for Student Affairs, Al al-Bayt University
Faculty of Science, Mafraq, Jordan

Oct 2016 – Present Assistant Professor, Physical Chemistry, Al al-Bayt University
Department of Chemistry, Mafraq, Jordan

Jan 2016 – Aug 2016 Research Assistant, Surface Chemistry, University of Wisconsin
Milwaukee, Department of Chemistry and Biochemistry, USA

- 2015 - 2016** Teaching Assistant, General Chemistry, University of Wisconsin Milwaukee, Department of Chemistry and Biochemistry, USA
- 2009 - 2011** Organic Analyses Laboratory Supervisor, Al-albait University, Department of Chemistry, Jordan
- 2008 - 2009** Shale Oil Extraction and Purification Project, Al-albait University, Arid Regions Research Center, Jordan.
- 2007 - 2008** Undergraduate Physical Chemistry Laboratory Supervisor, Al-albait University, Department of Chemistry, Jordan.

Experience

Ultrahigh Vacuum (UHV) Technology

Auger Electron Spectroscopy (AES) in Ultrahigh Vacuum

Temperature-Programmed Desorption (TPD) in Ultrahigh Vacuum

Scanning Tunneling Microscopy (STM) in Ultrahigh Vacuum

Thin Film Preparation

Attenuated total reflection Infra-red (ATR-IR) Spectroscopy

Nuclear Magnetic Resonance: (^1H -NMR) spectroscopy

Fourier Transformation Infra-red: (FT-IR) spectroscopy

Gas Chromatography-Mass Spectroscopy (GC-MS)

Elemental Analysis (EA)

Differential Scanning Calorimeter (DSC)

Surface Tensiometer

UV-visible spectrophotometers

Column Chromatography

Organic Synthesis (Substitution Reactions)

Educational Background

- 2011 – 2016** Ph.D. Candidate, Physical Chemistry, Department of Chemistry and Biochemistry, University of Wisconsin-Milwaukee, USA.
Advisor: Distinguished Professor W. T. Tysoe
Thesis title: “Electrical Measurements and Attenuated Total Reflection Infra-red Spectroscopic Study of Aromatic Compounds on Gold Granular Films”.
Graduation expected: August, 2016
- 2006 – 2009** M.Sc. Physical Chemistry, Al-albays University, Jordan
Thesis title: “Preparation and Characterization of New Lipooligosaccharide Chitosan Derivatives”.
- 2002 – 2006** B.Sc. Chemistry, Al-albays University, Jordan

Scholarships

Received a four-year scholarship (2011-2015) from Al al-bays University to get the Ph.D in Physical Chemistry from the University of Wisconsin-Milwaukee. Department of Chemistry and Biochemistry.

Professional Affiliations

Member of the American Chemical Society (ACS), USA

Publications

- 1) Kestell, J.; **Abuflaha, R.**; Boscoboinik, J. A.; Bai, Y.; Bennett, D. W.; Tysoe, W. T. Linking gold nanoparticles with conductive 1,4-phenylene diisocyanide-gold oligomers. *Chemical Communications*. **2013**, 49, 1422–1424.
- 2) Garvey, M.; Kestell, J.; **Abuflaha, R.**; Bennett, D. W.; Henkelman, G.; Tysoe, W. T. Understanding and controlling the 1,4-phenylene diisocyanide–gold oligomer formation Pathways. *Journal of Physical Chemistry*. **2014**, 118, 20899–20907.
- 3) Kestell, J.; **Abuflaha, R.**; Boscoboinik, J. A.; Garvey, M.; Bennett, D. W.; Tysoe, W. T. Determination of adsorbate structures from 1,4-phenylenediisocyanide on gold. *Journal of Physical Chemistry letters*. **2014**, 5, 3577–3581.
- 4) Kestell, J.; **Abuflaha, R.**; Garvey, M.; Tysoe, W. T. Self-Assembled Oligomeric Structures from 1,4-Benzenedithiol on Au(111) and the Formation of Conductive Linkers between Gold Nanoparticles. *Journal of Physical Chemistry*. **2015**, 119, 23042–23051
- 5) **Abuflaha, R.**; Olson, D.; Bennett, D. W.; Tysoe, W. T. Surface chemistry and structures of 1,4-phenylene diisocyanide on gold films from solution. *Surface Science*. **2016**, 649, 56-59.
- 6) Xu, Y; Yu, J; Geng, J; **Abuflaha, R.**; Olson, D; Hu, X; Tysoe, W. T. Characterization of the Tribological Behavior of the Textured Steel Surfaces Fabricated by Photolithographic Etching. *Tribology Letters*. **2018**, 66:55.
- 7) **Abuflaha, R.**; Tysoe, W. T. Spontaneous self-assembly of conductive molecular linkages between gold nanoelectrodes from aryl diisocyanides. *Applied Physics A*. **2018**, 124:784.
- 8) Xu, Y; Zheng, Q; **Abuflaha, R.**; Olson, D; Furlong, O; You, T; Zhang, Q; Hu, X; Tysoe, W. T. Influence of dimple shape on tribofilm formation and tribological properties of textured surfaces under full and starved lubrication. *Tribology International*. **2019**, 136, 267-275.
- 9) Yousef, F; Ghanem, R; Al-Sou'od, K; Alsarhan, A; **Abuflaha, R.**; Bodoor, K; Assaf, K; Barghouthi, M. Investigation of spectroscopic properties and molecular dynamics simulations of the interaction of mebendazole with β -cyclodextrin. *Journal of Iranian Chemical Society*. **2020**, 18, 75-86.