

ABDULLAH MOHAMMED ALSWIELEH

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EDUCATION

University of Sheffield, Sheffield, UK

PhD

October 2014

Thesis: Micro and nano-structures of polymers and molecular materials

Hull University, Hull, UK

Master degree (MSc)

September 2010

Thesis: Preparation and Characterization of a new Cholesteric Liquid Crystal

King Saud University, Riyadh, Saudi Arabia

Bachelor degree

May 2005

RESEARCH EXPERINCE

Research associate, King Saud University

April 2005 – October 2007

Research associate, University of Sheffield

June 2014 – November 2014

Academic visitor, University of Sheffield

June 2015 – August 2015

TEACHING EXPERIENCE

King Saud University, Riyadh, Saudi Arabia

Teaching assistant- "General Chemistry"

April 2006 – October 2007

King Saud University, Riyadh, Saudi Arabia

Lecturer- "General Chemistry"

November 2014 – January 2015

King Saud University, Riyadh, Saudi Arabia

Assistant Professor - "Physical Chemistry"

January 2015 – September 2020

Associate Professor - "Physical Chemistry"

Since September 2020

RESEARCH INTEREST

Nanostructured materials – Nanolithography – Drug delivery – Nanosensors

PUBLICATIONS

1-Alswieleh AM, Cheng N, Leggett GJ &Armes SP. Spatial control over crosslinking dictates the pH-responsive behavior of poly(2-(tert-butylamino)ethyl methacrylate) brushes. *Langmuir*, **2014**, 30 (5), 1391–1400

2-Alswieleh AM, Cheng N, Canton I, Ustbas B, Xue X, Ladmiral V, Xia S, Ducker RE, El Zubir O, Cartron ML, Hunter CN, Leggett GJ and Armes SP. Zwitterionicpoly(amino acid methacrylate) brushes. *J. Am. Chem. Soc.*, **2014**, 136 (26), pp 9404–9413

3- Cunningham V, Alswieleh AM, Thompson K, Williams M, Leggett GJ, Armes SP, Musa O. Poly(glycerol monomethacrylate)-poly(benzyl methacrylate) diblock copolymer nanoparticles via RAFT emulsion polymerization: synthesis, characterization and interfacial activity. *Macromolecules*, **2014**, 47 (16), pp 5613–5623.

4-Blakeston AC, Alswieleh AM, Heath GR, Roth J, Bao P, Cheng N, Armes SP, Leggett GJ, Bushby RJ, Evans SD. A new poly(amino acid methacrylate) brush supports the formation of well-defined lipid membranes. *Langmuir*, **2015**, 31 (12), pp 3668–3677.

5- Zhang ZJ, Moxey M, Alswieleh AM, Morse AJ, Lewis AL, Geoghegan M, Leggett GJ. Effect of Salt on Phosphorylcholine-based Zwitterionic Polymer Brushes. *Langmuir*, **2016**, 32 (20), pp 5048–5057.

6- Zhang ZJ, Moxey M, Alswieleh AM, Armes SP, Lewis A, Geoghegan M, Leggett GJ. Nanotribological investigation of polymer brushes with lithographically defined and systematically varying grafting densities. *Langmuir*, **2017**, 33 (3), pp 706–713

7- Al-Jaf O, Alswieleh AM, Armes SP, Leggett GJ. Nanotribological properties of nanostructured poly (cysteine methacrylate) brushes. *Soft Matter*, **2017**, 13, 2075 – 2084.

8- Johnson A, Madsen J, Chapman P, Alswieleh A, Al-Jaf O, Bao P, Cartron ML, Armes SP, Evans SD, Hobbs JK, Hunter CN and Leggett GJ .Micrometre and Nanometre Scale Patterning of Binary Polymer Brushes, Supported Lipid Bilayers and Proteins. *Chem. Sci*, **2017**, 8, 4517-4526.

9- Selvakumar D, Alsalmeh A, Alswieleh A, Jayavel R. Freestanding flexible nitrogen doped-reduced graphene oxide film as an efficient electrode material for solid-state supercapacitors. *Journal of Alloys and Compounds* 723 (**2017**) 995-1000.

10- Venkatachalam V, Alsalmeh A, Alswieleh A, Jayavel R. Double hydroxide mediated synthesis of nanostructured ZnCo₂O₄ as high performance electrode material for supercapacitor applications. *Chemical Engineering Journal* 321 (**2017**) 474–483.

- 11- Sivaram H, Selvakumar D, Alsalme A, [Alswieleh A](#), Jayavel R. Enhanced performance of PbO nanoparticles and PbO-CdO and PbO-ZnO nanocomposites for supercapacitor application. *Journal of Alloys and Compounds* 731 (2018) 55-63.
- 12- Alzahrani KE, Niazy AA, Alswieleh AM, Wahab R, El-Toni AM, Alghamdi HS. Antibacterial activity of trimetal (CuZnFe) oxide nanoparticles. *International Journal of Nanomedicine*, 2018, 13, 77–87.
- 13- Madsen J, Ducker RE, Al Jaf O, Cartron ML, [Alswieleh AM](#), Smith CH, Hunter CN, Armes SP and Leggett GJ. Fabrication of microstructured binary polymer brush “corrals” with integral pH sensing for studies of proton transport in model membrane systems. *Chem. Sci.*, 2018, 9, 2238-2251.
- 14- Alsager OA, Alotaibi KM, [Alswieleh AM](#) and Alyamani BJ .Colorimetric Aptasensor of Vitamin D3: A Novel Approach to Eliminate Residual Adhesion between Aptamers and Gold Nanoparticles. *Scientific reports*, 2018, 8 (1), 12947
- 15- [Alswieleh A](#), Alshahrani M, Alzahrani K, Alghamdi H, Niazy A, Alsilme A, Beagan A, Alsheheri B, Alghamdi A, Almeataq M. Surface modification of pH-responsive poly(2-(tert-butylamino)ethyl methacrylate) brushes grafted on mesoporous silica nanoparticles. *Designed Monomers and Polymers* (2019) 22(1) 226-235.
- 16- [Alswieleh A](#). Quantitative Determination of Thiol Groups Modified Mesoporous Silica Nanoparticles by Ellman's Reagent.
- 17- [Alswieleh A](#), Beagan A, Alsheheri B, Alotaibi K, Alharthi M, Almeataq M. Hybrid mesoporous silica nanoparticles grafted with 2-(tert-butylamino)ethyl methacrylate-b-poly(ethylene glycol) methyl ether methacrylate diblock brushes as drug nanocarrier. *Molecules* (2020) 25(1).
- 18- Alzahrani K, Shukla A, Alam J, Niazy A, [Alsouwaileh A](#), Alhoshan M, Khalid J, Alghamadi H. Probing the surface ultrastructure of *Brevibacillus laterosporus* using atomic force microscopy. *Micron* (2020) 131.
- 19- [Alswieleh A](#). Modification of Mesoporous Silica Surface by Immobilization of Functional Groups for Controlled Drug Release. *Journal of Chemistry* (2020) 2020 1-9.
- 20- Beagan A, Lahmadi S, Alghamdi A, Halwani M, Almeataq M, Alhazaa A, Alotaibi K, [Alswieleh A](#). Glucosamine Modified the Surface of pH-Responsive Poly (2-(diethylamino) ethyl Methacrylate) Brushes Grafted on Hollow Mesoporous Silica Nanoparticles as Smart Nanocarrier. *Polymers* 2020, 12(11), 2749.
- 21- Beagan A, Alghamdi A, Lahmadi S, Halwani M, Almeataq M, Alhazaa A, Alotaibi K, [Alswieleh A](#). Folic acid-terminated poly (2-diethyl amino ethyl methacrylate) brush-gated magnetic mesoporous nanoparticles as a smart drug delivery system. *Polymers* 2021, 13(1), 59.
- 22- Alotaibi K, Almethen A, Beagan A, Alfheid L, Ahamed 2M, El-Toni A, [Alswieleh A](#). Poly(oligo(ethylene glycol) methyl ether methacrylate) Capped pH-Responsive Poly(2-(diethylamino)ethyl methacrylate) Brushes Grafted on Mesoporous Silica Nanoparticles as Nanocarrier. *Polymers* 2021, 13(5), 823.

- 23- Alswieleh A, Remediation of cationic and anionic dyes from water by histidine modified mesoporous silica. *International Journal of Environmental Analytical Chemistry* **2021**, 1-13.
- 24- Alswieleh A, Cysteine-and glycine-functionalized mesoporous silica as adsorbents for removal of paracetamol from aqueous solution. *International Journal of Environmental Analytical Chemistry* **2021**, 1-12.
- 25- Ahmad A, Al-Swaidan H, Alghamdi A, Alotaibi K, Alswieleh A, Albalwi A, Bajuayfir E. Efficient sequester of hexavalent chromium by chemically active carbon from waste valorization (Phoenix Dactylifera). *Journal of Analytical and Applied Pyrolysis* **2021**, 155, 105075.
- 26- Sreekanth S, Alodhayb A, Assaifan A, Alzahrani K, Muthuramamoorthy M, Alkhamash H, Pandiaraj S, Alswieleh A, Le Q, Mangaiyarkarasi R, Grace A, Raghavan V. Multi-walled carbon nanotube-based nanobiosensor for the detection of cadmium in water. *Environmental Research* **2021**, 197, 111148.
- 27- Assaifan A, Hezam M, Al-Gawati M, Alzahrani K, Alswieleh A, Arunachalam P, Al-Mayouf A, Alodhayb A, Albrithen H. Label-free and simple detection of trace Pb (II) in tap water using non-faradaic impedimetric sensors. *Sensors and Actuators A: Physical* **2021**, 329, 112833.
- 28- A. Alswieleh, H. Albahar, A. Alfawaz, A. Alsilme, A. Beagan, A. Alsalme, M. Almeataq, A. Alshahrani, K. Alotaibi. Evaluation of the Adsorption Efficiency of Glycine-, Iminodiacetic Acid -, and Amino Propyl-Functionalized Silica Nanoparticles for the Removal of Potentially Toxic Elements from Contaminated Water Solution. *Journal of Nanomaterials* **2021**, 2021, 12.
- 29- K. Alzahrani, A. Alodhayb, M. Algwati, A. Alanazi, Qura Tul Ain, A. Assaifan, S. Manoharadas, A. Alshammari, A. Alswieleh, H. Albrithen. Nanomechanical Detection of Bacteria–Bacteriophage Interactions Using Microchannel Microcantilevers. *Journal of The Electrochemical Society* **2021**, 168, 87509.
- 30- H. AlQahtani, A. Alswieleh, I. Al-Khurayyif, S. AlGarni, M. Grell. Parallel Potentiometric and Capacitive Response in a Water-Gate Thin Film Transistor Biosensor at High Ionic Strength. *Sensors* **2021**, 21, 5618.
- 31- K. Alotaibi, A. Almethen, A. Beagan, H. Al-Swaidan, A. Ahmad, S. Bhawani, A. Alswieleh. Quaternization of poly (2-diethyl aminoethyl methacrylate) brush-grafted magnetic mesoporous nanoparticles using 2-Iodoethanol for removing anionic dyes. *Appl. Sci.* **2021**, 11(21), 10451.
- 32- A. Alotaibi, A. Shukla, M. Mrad, A. Alswieleh, K. Alotaibi. Fabrication of Polysulfone-Surface Functionalized Mesoporous Silica Nanocomposite Membranes for Removal of Heavy Metal Ions from Wastewater. *Membranes* **2021**, 11(12), 935.
- 33- A. Alotaibi, C. Ayari, E. Bajuavfir, A. Ahmad, F. Al-Nahdi, A. Alswieleh, K. Alotaibi, J. Mi, C. Nasr, M. Mrad. Stabilization of Tetrachloride with Mn (II) and Co (II)Complexes and 4-Tert-Butylpyridinium Organic Cation: Elaboration of the Structure and Hirshfeld Surface, Optical, Spectroscopic and Thermal Analyses. *Crystals* **2022**, 12(2), 140.

- 34- A. Beagan, K. Alotaibi, M. Almakhlafi, W. Algarabli, N. Alajmi, M. Alanazi, H. Alwaalah, F. Alharbi, R. Alshammari, [A. Alswieleh](#). Amine and sulfonic acid functionalized mesoporous silica as an effective adsorbent for removal of methylene blue from contaminated water. *Journal of King Saud University – Science* **2022**, 34 (2), 101762.
- 35- S. Hermi, A. Alotaibi, [A. Alswieleh](#), K. Alotaibi, M. Althobaiti, C. Jelsch, E. Wenger, C. Nasr, M. Mrad. The Coordination Behavior of Two New Complexes, [(C₇H₁₀NO₂)CdCl₃]_n(I) and [(C₇H₉NO₂)CuCl₂] (II), Based on 2,6-Dimethanolpyridine; Elaboration of the Structure and Hirshfeld Surface, Optical, Spectroscopic and Thermal Analysis. *Materials* **2022**, 15(5), 1624.
- 36- A. Almethen, K. Alotaibi, H. Alhumud, [A. Alswieleh](#). Highly Efficient and Rapid Removal of Methylene Blue from Aqueous Solution Using Folic Acid-Conjugated Dendritic Mesoporous Silica Nanoparticles. *Processes* **2022**, 10(4), 705.
- 37- A. Alfawaz, K. Alzahrani, A. Niazy, H. Alghamadi, R. Lambarte, A. Beagan, L. Alfahid, K. Alotaibi, [A. Alswieleh](#). Smart Nanocarrier Based on Poly(oligo(ethylene glycol) methyl ether acrylate) Terminated pH-Responsive Polymer Brushes Grafted Mesoporous Silica Nanoparticles. *Appl. Sci.* **2022**, 12(7), 3688.
- 38- [A. Alswieleh](#). Aspartic Acid- and Glycine-Functionalized Mesoporous Silica as an Effective Adsorbent to Remove Methylene Blue from Contaminated Water. *Journal of Chemistry.* **2022**, 2022, 14.
- 39- A. Alfawaz, A. Alsalmeh, A. Alkathiri, [A. Alswieleh](#). Surface functionalization of mesoporous silica nanoparticles with brønsted acids as a catalyst for esterification reaction. *Journal of King Saud University – Science* **2022**, 34 (5), 102106.
- 40- [A. Alswieleh](#). Efficient Removal of Dyes from Aqueous Solution by Adsorption on L-Arginine-Modified Mesoporous Silica Nanoparticles. *Processes* **2022**, 10(6), 1079.
- 41- A. Alfawaz, A. Alsalmeh, [A. Alswieleh](#), M. Abdel-Messih, A. Galal, M. Shaker, M. Ahmed, A. Soltan. A low cost and green curcumin/ZnO nanocomposites: Preparation, characterization and photocatalytic aspects in removal of amaranth dye and hydrogen evolution generation. *Optical Materials* **2022**, 128, 112331.
- 42- A. Beagan, R. Alshammari, L. Alotaibi, H. Albarrak, K. Alotaibi, [A. Alswieleh](#). High-Efficient Anionic Dyes Removal from Water by Cationic Polymer Brush Functionalized Magnetic Mesoporous Silica Nanoparticles. *Processes* **2022**, 10(8), 1565.
- 43- [A. Alswieleh](#). Kinetic, equilibrium and thermodynamic studies for rhodamine B adsorption on sodium tauroglycocholate functionalized mesoporous silica nanoparticles. *Journal of Porous Materials* **2022**.
- 44- [A. Alswieleh](#). Zwitterionic Polymer Brushes Coated with Mesoporous Silica Nanoparticles as Efficient Adsorbents for Dye Removal from Aqueous Solutions. *ACS Applied Polymer Materials* **2023**, 5 (2), 1334.
- 45- K. Alzahrani, A. Assaifan, M. Al-Gawati, [A. Alswieleh](#), H. Albrithen, A. Alodhayb. Microelectromechanical system-based biosensor for label-free detection of human cytomegalovirus. *IET nanobiotechnology* **2023**, 17, 32.

46- K. Alotaibi, A. Shukla, E. Bajuayfir, A. Alotaibi, M. Mrad, F. Gomaa, A. Alswieleh. Ultrasound-Assisted Synthesis of MSNs/PS Nanocomposite Membranes for Effective Removal of Cd²⁺ and Pb²⁺ ions from Aqueous Solutions. *Ultrasonics Sonochemistry* **2023**, 98, 106497.

47- A Beagan, S Khibari, A Alswieleh. Magnetic Mesoporous Silica Nanoparticles Functionalized with 5, 5'-Dithiobis (2-Nitrobenzoic Acid) for Highly Efficient Removal of Organic Dyes from Contaminated Water. *Journal of Chemistry* **2023**.

48- R. Alshammari, M Aadil, T Kousar, U Maqbool, Z Ahmad, A Alswieleh, T Algarni, M Naeem. Synthesis of Binary Metal Doped CuO Nanoarchitecture for Congo red dye Removal: Synergistic Effects of Adsorption and Mineralization Techniques. *Optical Materials* **2023**, 144, 114314.