

Basma Ahmad Mahi

PROFILE:

- An enthusiastic graduate with a good knowledge in Organic Chemistry and Polymer Science with passion for learning
- Strong desire to make an impact in my community
- Ability to work independently and as a team member
- An effective communicator with people of diverse cultures and background

MAJOR ACHEIVEMENT:

- **Conducted research in applied organic chemistry "Synthesis of Some Surface-Active Agent from Fatty Matter Extracted from Wastes of Some Vegetables Seeds".**
My research aimed to exploit a neglected resource (Al-Cedre seed) in order to synthesize surfactant compounds from its oil. Then I determined the surface-active properties of these prepared compounds after confirming their structure by spectral data.
Generally, the surface-active properties in this study were quite satisfactory and it is hoped that find uses in industrial applications.
- **Ongoing research in polymer science "Synthesis of Arborescent Amphiphilic Copolymers for Drug Delivery Applications"**
My research focuses on synthesis of unimolecular micelles with arborescent polypeptides core and hydrophilic corona. The doxorubicin is the hydrophobic drug that I aim to encapsulate within the core using responsive chemical conjugation, followed by attaching the targeting moiety to the system. Further, I am planning to conduct *in vitro* drug release study after looking at the drug loading capacity and drug loading efficiency.

EDUCAION:

- Honor Bachelor of Chemistry in May 2005 from Umm Al-Qura University in Mecca in Saudi Arabia with overall 94/100
- Master of Organic Chemistry in April 2013 from Umm Al-Qura University in Mecca in Saudi Arabia with overall 98/100
- English diploma from English Language Institute of University of British Colombia in Canada in April 2015
- Two years Ph.D student in Polymer Synthesis Laboratory in University of Waterloo in Canada from September 2016 to August 2018, supervised by professor Mario Gauthier

WORK EXPERIENCE:

- **Teacher's assistant in Umm Al-Qura University in chemistry department (Sep. 2005-Feb.2006)**
I worked as teacher's assistant in organic chemistry laboratory after graduated from the university with my B. Sc., and I was responsible for teaching undergraduate students the practical part in the course. I also oversaw preparing tests and marking them to evaluate the students' knowledge besides observing their performance in the lab.

Research Interest:

- Synthesis of dendritic system using RING OPENING POLYMERIZATION technique for α -Amino Acid *N*-Carboxyanhydrides
- Biomedical applications for polymeric systems

CONFERENCES:

- Oral presentation in INSTITUTE OF POLYMER RESEARCH (IPR) conference in University of Waterloo in Canada in May 2018, “Synthesis of pH-responsive Arborescent Amphiphilic Copolymers for Drug Delivery Applications”
- Poster presentation in CANADIAN HIGH POLYMER FORUM (HPF) in Gananoque in Canada in July 2018, “Optimizing the Grafting Reaction in the Synthesis of Arborescent Polypeptides for Drug Delivery”

ADDITIONAL INFORMATION:

- Languages: native Arabic speaker, excellent English communicator
- Skilled in using NMR spectroscopy, gel permeation chromatography (GPC), and matrix-assisted laser desorption/ionization (MALDI-ToF)