Mohammed Irfan Zakir, Omer
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Education

Masters Texas A & M University Commerce, Commerce, TX (2015-Present)
(MS Chemistry)
B.Pharmacy Jawaharlal Nehru Tech University, Hyderabad, India (2010-2014)

Research Experience

Development of high surface area mesoporous catalysts from different carbon sources for the production of Biodiesel

Production of a catalyst using different carbon materials such as corn starch, soluble starch and amylose as sources for Esterification of triglycerides. Testing the effect of concentration of Amylose in Corn Starch for the production of High Surface area mesoporous catalysts. Determining the accurate temperature and time for hydrothermal treatment of starch and amylose to produce materials with high surface areas. The steps involved Expansion, Retrogradation, Solvent Exchange, Pyrolysis, Carbonization and Sulphonation. Characterization of the catalyst was done by surface area analysis, pore size and pore volume analysis, FTIR, GC-MS, TGA and titration studies. Comparison of the prepared catalysts with Amberlyst-15 through esterification reaction between methanol and oleic acid

Instrumentation: Micrometer Tri-Star Porosity analyzer, Thermo Scientific ISQ-QD Single Quadrupole GC-MS, TGA Q500, Nicolet FTIR 380, Buck GC 910.

Designing of Formulation and Evaluation of Midazolam Mucoadhesive Microemulsion for Intranasal Delivery

Formulated Mucoadhesive Microemulsion using high speed magnetic stirring machine and evaluated for Zeta potential, Viscosity, Conductivity and Globule size. Invitro diffusion was also done using Diffusion cell apparatus.

Instrumentation: Brookfield Viscometer, Magnetic stirrer, Scanning electron microscope, UV-Visible Spectrophotometer, Zetasizer.

Development of Novel Drug Delivery System (Internship)

Industrial training for the development of pellets and novel sustained release formulation with its evaluation such as in-vitro dissolution, moisture content and Carr's Index.

Teaching And Chemical Prparation Experiences

- Graduate Teaching Assistant at Texas A&M University-Commerce
  - Survey of General Chemistry Laboratory
  - General & Quantitative Chemistry Laboratory I.
- Chemical preparation for General & Quantitative Chemistry experiments (Preparation of solutions, salts, experimental setups).

Other Experiences And Activities

- Member of American Chemical Society.
- Group leader at Texas A&M University-Commerce for 8th graders tour at the Chemistry department.
- Data Management (SAS) (March 2015 – June 2015).

- Have been a member of NSS (National Service Scheme) which primarily focuses on the development of student's personality through community service.

Publication

- Afshan Meherose*, Md. Irfan Zakir Omer, Tasleem, "Nanosuspension –Boon to Science Technology" in ***Indo American Journal of Pharmaceutical Research,*** IAJPR. 2015; 5(8): 2556-2563.

Awards And Honors

- Jai and Susan Nagarkatti Chemistry Fellowship for the year 2017 – 2018.
- Graduate Summer Fellowship in the year 2017.
- Graduate tuition remission grants from the year 2015 to 2017.
- Stood as the Topper of our Batch consistently for four years (2010-2014) of my B.Pharmacy studies with an aggregate percentage of about 81.2% (GPA 4).
- Have cracked the Entrance Examinations at National Level and State level with remarkable percentage and rank (GPAT 2014, NIPER 2014 and PGECET 2014).
- Have been awarded as The Outstanding Student of the Year 2014.

Presentations

- A&M-Annual Research Symposium, Rayburn Student Center. Lightning round (3MT presentation) "Synthesis of High Surface Area Mesoporous Catalysts from Carbon Sources for the Production of Biodiesel". (Commerce, Texas, April 2018)
- A&M-Annual Research Symposium, Rayburn Student Center. Oral presentation "Synthesis of High Surface Area Mesoporous Catalysts from Carbon Sources for the Production of Biodiesel". (Commerce, Texas, April 2018)
- 255th ACS National Meeting, Ernest N. Morial Convention Center. Poster presentation "Synthesis of High Surface Area Mesoporous Catalysts from Carbon Sources for the Production of Biodiesel". (New Orleans, Louisiana. March 2018)
- 2017 Southwest Regional Meeting (SWRM), Overton Hotel & Conference Center. Oral presentation "Synthesis of High Surface Area Mesoporous Carbon Catalysts with High Acid Density for the Production of Biodiesel". (Lubbock, TX. November 2017)
- Annual research symposium, Texas A & M university commerce. Poster presentation "Mesoporous Catalysts for the Synthesis of Biodiesel". (Commerce, TX. April 2017)
- 50th Annual Meeting in Miniature, Texas Christian University. Oral presentation "Synthesis of High Surface Area Mesoporous Catalyst with High Acid Density for the production of Biodiesel". (Fort Worth, TX, 2017)
- 2017 Federation of North Texas Area Universities Graduate Student Research Symposium. Poster presentation "Mesoporous Catalysts for the Synthesis of Biodiesel". (Denton, TX. March 2017)
- Annual research symposium, Texas A & M university commerce. Poster presentation "Highly Mesoporous Catalysts for the Synthesis of Biodiesel". (Commerce, TX. April 2016)
- National Symposium on "Current Trends in Pharmaceutical Sciences". Poster presentation "Microemulsion as an Intra nasal approach". (Hyderabad, India. 2014)
- Pharmacy level National Symposium at SSJ College of Pharmacy. Poster presentation "Resealed Erythrocytes". (Hyderabad, India. 2013)
- National level Sports, Technical and Cultural Events at Holy Mary Group of Institutions. Poster presentation "Bioequivalence". (Hyderabad, India. 2012)