

Dr. MUHAMMAD IMRAN MALIK



CONTACT INFORMATION

Permanent Postal Address : Near Janaza-gah.
Ward # 2 Muftian, Dina,
Distt. Jhelum, Pakistan.

Present Postal Address : Lab # 305, H.E.J. Research Institute of Chemistry,
International Center for Chemical and Biological
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PERSONAL INFORMATION

Father's Name : Muhammad Usman Akhtar

Date of Birth : April 25, 1976

Domicile : Jhelum (Punjab)

N.I.C. Nr. : 37301-5035077-5

Marital Status : Married

Religion : Islam

Blood Group : B +ive

Hobbies & Extra

Curricular Activities :

- * Travelling & Photography
- * Coin Collecting
- * Playing & Watching Cricket

PROFESSIONAL JOB AND RESEARCH EXPERIENCE

Position : Assistant Professor
Institute : H.E.J. Research Institute of Chemistry,
International Center for Chemical and Biological Sciences
(ICCBS)
University : University of Karachi
Duration : 16th January 2012 to Date
Area of Research : Analytical Polymer Science

POST-DOCTORAL RESEARCH EXPERIENCE

Research Topic : “Multidimensional Characterization of block copolymers”
Research advisor : Prof. Dr. Harald Pasch
SASOL Chair of Analytical Polymer Science,
Department of Chemistry and Polymer Science,
University of Stellenbosch, South Africa
Duration : 1st January 2010 to 31st December 2011

ACADEMIC QUALIFICATIONS

Ph. D.

Subject: Polymer Chemistry **Session:** 2005-2009
Thesis title: “Microwave-assisted synthesis and characterization
of polyoxyalkylene block copolymers”
Academic Supervisor: Prof. Dr. Bernd Trathnigg
Advisors : Prof. Dr. Christian Oliver Kappe (MW-assisted Synthesis)
Prof. Dr. Otto Glatter (Physical Characterization)
Prof. Dr. Robert Saf (Spectroscopy)
University : Karl-Franzens-Universitte Graz , Austria.

P.G.D.

Subject: Chemical Technology

Session: 2000-2001

University: University of the Punjab, Lahore, Pakistan.

M. Sc.

Subject: Chemistry

Session: 1997-1999

University: University of the Punjab, Lahore, Pakistan.

B. Sc.

Subjects: Botany, Zoology and Chemistry.

Session: 1994-1996

University: University of the Punjab, Lahore, Pakistan.

F. Sc.

Subjects: Premedical.

Session: 1992-1994

Board: Board of Intermediate and secondary education, Rawalpindi, Pakistan.

S.S.C.

Subjects: Science

Session: 1990-1991

Board: Board of Intermediate and secondary education, Rawalpindi, Pakistan.

PRE-DOCTORAL PROFESSIONAL JOB EXPERIENCE

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|----|---|-----------------------------|
| 1) | Sandal dyestuff industries (pvt.) ltd. | 01.11.04 to 30.10.05 |
| | Position held: | Consultant |
| 2) | Albaqi chemicals | 01.01.03 to 30.10.04 |
| | Position held: | Technical manager |
| 3) | Polyco. intl. (pvt.) ltd. | 01.06.02 to 31.10.02 |
| | Position held: | Technical research officer. |
| 4) | MB Dyes, chemical & silk ind. (pvt.) ltd. | 01-03-00 to 31-05-02 |
| | Position held: | Research chemist. |

DISTINCTIONS

- a) **Cumulative Impact Factor (CIF) is more than 65, exceeding 130 citations and H-index of 8**
- b) Have been awarded Claude Leon Foundation postdoctoral fellowship for postdoctoral research in South Africa
- c) Featured in HEC monthly "NEWS AND VIEWS" (December 2007) under heading "HEC scholar honoured in Austria"
- d) First publication is selected as a cover page of well renowned polymer journal "Macromolecular Chemistry and Physics" (issue 23, vol.208, 2007)
- e) Got HEC overseas scholarship for Ph.D. in selected fields in 2005

RESEARCH INTERESTS

- a) HPLC of polymers
- b) Hyphenation of liquid chromatographic and spectroscopic techniques for complete analysis of complex polymers
- c) Microwave-assisted polymerizations
- d) Synthesis of different architectures of polymers

SCIENTIFIC CONFERENCES AND MEETINGS

- 10- European polymer congress, 26 June-01 July 2011, Granada, Spain
- 9- 11th UNESCO/IUPAC Conference Workshop and Conference on Functional Polymeric Materials & Composites, 26-29 April 2011, Stellenbosch, South Africa
- 8- Analitika 2010, International conference on analytical sciences, December 5-9, 2010, Stellenbosch, South Africa
- 7- Postdoctoral research day of University of Stellenbosch, 28 October, 2010, STIAS, Stellenbosch, South Africa

- 6- 16th International Symposium on Separation Science, September 6-10, 2010, Rome, Italy
- 5- European polymer congress, July 12-17 2009, Graz, Austria
- 4- NAWI-Graz Workshop, 26 June 2009, Graz, Austria
- 3- Ist Doc-Days of Universities of Graz, 24-25 June 2009, Graz, Austria
- 2- 1st Joint Austrian & Slovenian Polymer Meeting ASPM2008 and
9th Austrian Polymer Meeting; March 26–28, 2008, Graz, Austria
- 1- 9th Symposium on instrumental analysis; June 29- July 02, 2008, Pécs, Hungary

SCIENTIFIC PUBLICATIONS

A) SCIENTIFIC JOURNAL PUBLICATIONS

- 17- “Two-dimensional liquid chromatography of Polystyrene-Polyethylene oxide block copolymers”
Muhammad Imran Malik, Gareth W. Harding, Monika Elvira Grabowsky, Harald Pasch
Journal of Chromatography A, 2012, **(I.F. = 4.194)**
- 16- “Recent Advances in High-Temperature Fractionation of Polyolefins”
Harald Pasch, Muhammad Imran Malik, Tibor Macko,
Advances in Polymer Science; 2012, **(I.F. = 7.344)**

- 15- "Characterization of Polystyrene-*block*-Polyethylene Oxide Diblock Copolymers and Blends of Homopolymers by Liquid Chromatography at Critical Conditions (LCCC)"
 Pritish Sinha, Monika Grabowsky, Muhammad Imran Malik, Gareth William Harding, Harald Pasch
 Macromolecular Symposia; 2012, 313-314, 1, 162-169 (**I.F. = 0.913**)

- 14- "Two-dimensional liquid chromatography of PDMS-PS block Copolymers"
Muhammad Imran Malik, Gareth W. Harding, Harald Pasch
 Analytical and Bioanalytical Chemistry; 2012, 403, 2, 601-611 (**I.F. = 3.841**)

- 13- "Characterization of polydimethylsiloxane-block-polystyrene (PDMS-b-PS) copolymers by liquid chromatography at critical conditions"
Muhammad Imran Malik, Pritish Sinha, Gareth M. Bayley, Peter E. Mallon, Harald Pasch
 Macromolecular Chemistry and Physics; 2011, 212, 12, 1221–1228 (**I.F. = 2.570**)

- 12- "Liquid chromatography at critical conditions in ternary mobile phases: Gradient elution along the critical line"
 Bernd Trathnigg, Muhammad Imran Malik, Nicole Pircher, Stephan Hayden
 Journal of Separation Science; 2010, 33, 14, 2052–2059 (**I.F. = 2.664**)

- 11- "Self-assembly and structural analysis of multiblock polyoxyalkylene copolymers"
 Martin Dulle, Muhammad Imran Malik, Bernd Trathnigg and Otto Glatter
 Macromolecules, 2010, 43, 18, 7868–7871 (**I.F. = 4.854**)

- 10- "Characterization of polyoxyalkylene block copolymers by combination of different chromatographic techniques and MALDI-TOF-MS"
Muhammad Imran Malik, Bernd Trathnigg and Robert Saf
 Analytica Chimica ACTA. 2010, 658, 2, 217-224 (**I.F. = 4.310**)

- 9- "Characterization of ethylene oxide – propylene oxide block copolymers by combination of different chromatographic techniques and matrix-assisted laser desorption ionization time-of-flight mass spectroscopy"
Muhammad Imran Malik, Bernd Trathnigg and Robert Saf
 Journal of Chromatography A; 2009, 1216, 38, 6627-6635 (**I.F. = 4.194**)

- 8- "Full separation of oligomers in block copolymers of ethylene oxide and propylene oxide"
Muhammad Imran Malik, Bernd Trathnigg
 Journal of Separation Science; 2009, 32, 11, 1771-1781 (**I.F. = 2.664**)

- 7- "Liquid chromatography under critical conditions (LCCC) : Practical applications in the analysis of amphiphilic block copolymers"
Muhammad Imran Malik, Hasnat Ahmed and Bernd Trathnigg
 Analytical and Bioanalytical Chemistry; 2009,393, 6-7, 1797-1804 (**I.F. = 3.841**)

- 6- "Amphiphilic polymers based on higher alkylene oxides: Synthesis and characterization by different chromatographic techniques"
Muhammad Imran Malik, Bernd Trathnigg, and C. Oliver Kappe
 Journal of Chromatography A; 2009, 1216, 7, 1167-1173 (**I.F. = 4.194**)

- 5- "Microwave-assisted polymerization of higher alkylene oxides"
Muhammad Imran Malik, Bernd Trathnigg, and C. Oliver Kappe
 European Polymer Journal; 2009, 45, 3, 899-910 (**I.F. = 2.912**)

- 4- "Monofunctional polymers in liquid adsorption chromatography:Determination of the interaction parameter in the range of weak interaction"
 Bernd Trathnigg, Muhammad Imran Malik, Nguyen Viet Cuong, Alexander M. Skvortsov
 Journal of Chromatography A; 2008, 1207, 1-2, 122-129 (**I.F. = 4.194**)

- 3- "Microwave assisted Synthesis and characterization of end functionalized poly(propylene oxides) as model compounds"
Muhammad Imran Malik, Bernd Trathnigg, C. Oliver Kappe
 European Polymer Journal; 2008, 44, 1, 144-154 (**I.F. = 2.912**)
- 2- "A database for polymer chromatography: dependence of interaction parameter on mobile phase composition"
 Bernd Trathnigg, Muhammad Imran Malik, Otto Jamelnik, Nguyen Viet Cuong
 Analytica Chimica ACTA; 2007, 604, 1, 39-44 (**I.F. = 4.310**)
- 1- "Selectivity of PEO-block-PPO diblock copolymers in the microwave-accelerated anionic ring-opening polymerization of propylene oxide with PEG as initiator"
Muhammad Imran Malik, Bernd Trathnigg, C. Oliver Kappe
 Macromolecular Chemistry and Physics; 2007, 208 , 23, 2569-2577 (**I.F.= 2.570**)
 *Selected as the Cover Page of issue

B) MANUSCRIPTS IN PIPELINE

- 4- "A data base for polymer chromatography: Interaction parameters of various polymers in reversed phase chromatography and their dependence on mobile phase composition"
 Bernd Trathnigg, Nguyen Viet Cuong and Muhammad Imran Malik
 *To be submitted
- 3- "Mechanism and side reactions in alkylene oxide polymerizations"
Muhammad Imran Malik, Bernd Trathnigg, C. Oliver Kappe and Robert Saf
 *To be submitted
- 2- "Separation of block copolymers of ethylene oxide and butene oxide according to symmetry"
Muhammad Imran Malik, Bernd Trathnigg and Robert Saf
 *To be submitted

- 1- “Parameters to play around LC at critical conditions: gradients, temperature and pore diameter”

Muhammad Imran Malik, Bernd Trathnigg

*To be submitted

C) SCIENTIFIC CONFERENCE CONTRIBUTIONS (ORAL)

- 10- “Two-dimensional liquid chromatography of complex polymers:
PDMS-PS block copolymers”

Muhammad Imran Malik*, Pritish Sinha, Gareth W. Harding, Harald Pasch

European polymer congress, 26 June- 01 July 2011, Granada, Spain

- 9- “Multi-dimensional liquid chromatography of complex polymers “

Muhammad Imran Malik, Pritish Sinha, Gareth. W. Harding, Harald Pasch

11th UNESCO/IUPAC Conference Workshop and Conference on Functional Polymeric
Materials & Composites, 26-29 April 2011, Stellenbosch, South Africa

- 8- “Novel multidimensional separation methods for complex block copolymers”

Harald Pasch, Muhammad Imran Malik, Pritish Sinha

Polychar 19, March 20 – 24, 2011, Kathmandu, Nepal

- 7- “Characterization of poly(dimethyl siloxane)-block-poly(styrene) copolymers by
liquid chromatography at critical conditions (LCCC)”

Pritish Sinha, Muhammad Imran Malik, Gareth Bayley, Peter Mallon, Harald Pasch

5th International symposium on the separation and characterization of natural and
synthetic macromolecules (SCM-5) ; January 26th - January 28th, 2011, Amsterdam,
The Netherlands

- 6- “Two dimensional liquid chromatography of complex polymers:
PS-PDMS block copolymers”

Muhammad Imran Malik, Pritish Sinha, Gareth. W. Harding, Harald Pasch

Analitika 2010, International conference on analytical sciences,

December 5-9, 2010, Stellenbosch, South Africa

- 5- "HPLC Characterization of PDMS-b-PS Copolymers"
Muhammad Imran Malik, P. Sinha, Gareth M. Bayley, Peter E. Mallon, Harald Pasch
 16th International Symposium on Separation Science, September 6-10, 2010, Rome, Italy

- 4- "Characterization of EO-PO block copolymers by combination of different chromatographic techniques and MALDI-TOF-MS" (OC6-13)
Muhammad Imran Malik, Bernd Trathnigg, Robert Saf
 European polymer congress (EPF-09), July 12-17, 2009, Graz, Austria

- 3- "Semi-preparative 2-dimensional liquid chromatography (2D-LC) in combination with MALDI-TOF-MS for analysis of EO-PO block copolymers"
Muhammad Imran Malik, Bernd Trathnigg, Robert Saf
 Ist Doc-Days 2009; June 24-25, 2009, Graz, Austria

- 2- "Prediction of retention in liquid chromatography of polymers with isocratic and gradient elution"
 Bernd Trathnigg, Muhammad Imran Malik, Otto Jamelnik, Nguyen Viet Cuong
 European polymer congress 2007; July 01 – 06, 2007, Protoroz, Slovenia

- 1- "A database for polymer chromatography"
 Bernd Trathnigg, Muhammad Imran Malik, Otto Jamelnik, Nguyen Viet Cuong
 3rd International symposium on the separation and characterization of natural and synthetic macromolecules (SCM-3) ; January 31st - February 2nd, 2007, Amsterdam, The Netherlands

D) SCIENTIFIC POSTERS

- 14- "Chromatographic characterization of PS-block-PEO"
 Monika Grabowsky, Muhammad Imran Malik, Pritish Sinha, Harald Pasch
 European polymer congress, 26 June-01 July 2011, Granada, Spain

- 13- "Nanoparticle Characterisation by Field-Flow Fractionation"
 Werner van Aswegen, Muhammad Imran Malik, Tino Otte, Harald Pasch
 European polymer congress, 26 June-01 July 2011, Granada, Spain

- 12- "Two dimensional liquid chromatography of complex polymers:
 PS-PDMS block copolymers"
Muhammad Imran Malik, Pritish Sinha, Gareth. W. Harding, Harald Pasch
 11th UNESCO/IUPAC Conference Workshop and Conference on Functional Polymeric
 Materials & Composites, 26-29 April 2011, Stellenbosch, South Africa

- 11- "Microstructural Separation and Analysis of Polyisoprene and Polyethylene Oxide
 by Using Liquid Chromatography"
 Pritish Sinha, Muhammad Imran Malik, Harald Pasch
 11th UNESCO/IUPAC Conference Workshop and Conference on Functional Polymeric
 Materials & Composites, 26-29 April 2011, Stellenbosch, South Africa

- 10- "Hyphenation of lccc with spectroscopy: PDMS-b-PS copolymers"
Muhammad Imran Malik, Pritish Sinha, Gareth. W. Harding, Harald Pasch
 5th International symposium on the separation and characterization of natural and
 synthetic macromolecules (SCM-5) ; January 26 -28 , 2011, Amsterdam, The Netherlands

- 9- "Characterization of poly(styrene)-block-poly(ethylene oxide) copolymers by liquid
 chromatography at critical conditions (LCCC)"
 Pritish Sinha, Muhammad Imran Malik, Monika Grabowsky, Harald Pasch
 Analitika 2010, International conference on analytical sciences, December 5-9, 2010,
 Stellenbosch, South Africa

- 8- "Separation Of Block Copolymers Of Ethylene Oxide and Butene Oxide According
 to Symmetry" (P-17)
Muhammad Imran Malik, Bernd Trathnigg and Robert Saf
 5th conference by Nordic separation science society, August 26-29, 2009, Tallinn, Estonia

- 7- "Dependence of interaction parameters of higher epoxides on mobile phase composition" (PC1-189)
 Nguyen Viet Cuong , Muhammad Imran Malik, Bernd Trathnigg
 European polymer congress (EPF-09), July 12-17, 2009, Graz, Austria

- 6- "Characterization of polyoxyalkylene block copolymers by combination of different chromatographic techniques and MALDI-TOF-MS" (PC2-195)
Muhammad Imran Malik, Bernd Trathnigg and Robert Saf
 European polymer congress (EPF-09), July 12-17, 2009, Graz, Austria

- 5 - "Synthesis of new polyoxyalkylene di- and multi-block copolymers and structural analysis of their self-assembly" (PC3-88)
Muhammad Imran Malik, Martin Dulle, Bernd Trathnigg and Otto Glatter
 European polymer congress (EPF-09), July 12-17, 2009, Graz, Austria

- 4 - "Microwave-assisted synthesis of different amphiphilic block copolymer architectures" (PC1-26)
Muhammad Imran Malik, Hasnat Ahmed, Bernd Trathnigg, C. Oliver Kappe
 European polymer congress (EPF-09), July 12-17, 2009, Graz, Austria

- 3- "Liquid chromatography under critical conditions (LCCC): Practical Applications"
Muhammad Imran Malik, Nguyen Viet Cuong, Bernd Trathnigg
 9th Symposium on instrumental analysis; June 29- July 02, 2008, Pécs, Hungary

- 2- "Microwave-assisted synthesis and characterization of amphiphilic block copolymer brushes and cones"
Muhammad Imran Malik, Bernd Trathnigg, Christian Oliver Kappe
 1st Joint Austrian & Slovenian Polymer Meeting ASPM2008 and
 9th Austrian Polymer Meeting; March 26–28, 2008, Graz, Austria

- 1- “Microwave-assisted synthesis and chracterization of amphiphilic block copolymers based on different epoxides” (P1.4.62.)

Bernd Trathnigg, Christian Oliver Kappe, Muhammad Imran Malik, Hasnat Ahmed

European polymer congress 2007; July 01–06, 2007, Protoroz, Slovenia

REFERENCES

Will be furnished on demand.