

Curriculum Vitae

Victoria Volkis, Ph.D.

Associate Professor of Chemistry with tenure

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Education

- Ph.D. in Chemistry. 2001
Department of Chemistry, the Technion – Israel Institute of Technology. Haifa. Israel
Dissertation: Benzamidinate Complexes as Active Catalysts for the Polymerization of α -Olefins and Silanes.
Supervisor: Prof. Moris S. Eisen;
- M. Sc. in Chemistry. 1997
Department of Chemistry, the Technion – Israel Institute of Technology. Haifa. Israel
Thesis: Synthesis and Reactivity of Organometallic Complexes with Boron Ligands.
Supervisor: Prof. Moris S. Eisen;
- B.A. degree (extended 5 years degree with thesis) in Chemical Technology (summa cum laude). 1989
Department of Electro-Chemical Technology, The Institute of Chemical Technology, St.-Petersburg, Russia.
Thesis: Electro-deposition of Zink and Molybdenum in the Presence of Dehydrating Agents.
Supervisors: Prof. A. Arutunyan, Dr. N. A. Shoshina;

Academic Appointments

- Associated professor of chemistry, Department of Natural Sciences, School of Agricultural and Natural Sciences, University of Maryland Eastern Shore Princess Anne MD 21853 2015 - current
- Assistant professor of chemistry, Department of Natural Sciences, School of Agricultural and Natural Sciences, University of Maryland Eastern Shore Princess Anne MD 21853 2010-2015
- Postdoctoral Research Associate, Department of Chemistry and Biochemistry, University of Colorado at Boulder, Boulder, CO, 80309 USA. Adviser: Prof. Josef Michl 2006-2010
- Assistant lecturer. Department of Biology ,Faculty of Sciences and Science Education .University of Haifa - Oranim 2005-2006
- Assistant lecturer. The Technion- Israeli Institute of Technology. Haifa 32000 Israel. Department of Chemistry 2001-2006
- Postdoctoral Position. Department of Chemistry, the Technion – Israel Institute of Technology. Haifa. 32000 Israel 2001-2006

Other Positions and Employment

- Teaching assistant. The Technion – Israel Institute of Technology. Haifa. 32000 Israel Department of Chemistry. 1992-2000
- Researcher. Laboratory of Bio-Cybernetics, the Institute of Agro-physical Researches. St.-Petersburg. Russia. 1989-1991

Professional Memberships and Activities

- ACS member; Division of Polymer Chemistry member. 2006-current
- Course for life saving and first aid in chemical lab. The Technion – Israel Institute of Technology. Haifa. 32000 Israel Department of Chemistry. 2004

Research Interests

Dr. Volkis is currently focused on four main projects:

Project 1: Biocompatible Polymeric Sorbents for the Reversible Capturing of Carbon Dioxide.

Description: Carbon capture and storage (CCS) is an approach to minimize global warming by capturing carbon dioxide (CO₂) from large point sources, such as power plants, and storing it instead of releasing it. Most of today's methods for capturing CO₂ utilize solid silica-based absorbents modified with amino-organic compounds. While solving the emission problem, this approach creates a new one: most modern CO₂ absorbents are irreversible. As a result, once captured, CO₂ is permanently linked to the absorbent, which is to be stored underground. Therefore, it is important to find methods for the reversible CO₂ capturing in which CO₂ can be released and utilized in another industrial process from the sorbent, and then the sorbent can be re-used. One such perspective is a bio-reactor producing fast growing biomass that can be easily transformed into ethanol fuel. Such application would require the absorbent to be not only reversible but also biocompatible. We currently work on samples of the natural and modified chitosan, pure or blended with modified polysulfone. Both of the polymers are biocompatible and are capable for wet CO₂ chemo-sorption due to the presence of amino-groups. CO₂ sorption happens at atmospheric pressure and room temperature. Applying deep vacuum at room temperature does not cause CO₂ to release. However, under atmospheric pressure CO₂ can be quickly released at temperatures as low as 45-50 °C. In addition, sorbent characterization before and after the CO₂ capturing will be presented.

Project 2. The Effect of Nitrogen Treatment On The Antioxidant Content of *Aronia Melanocarpa* Grown in Maryland and other specialty crops.

Description: This project is done in collaboration with Dr. Andrew G. Ristvey, University of Maryland Extension, Wye Research & Education Center, P.O. Box 169, Queenstown, MD 21658-0169. Black chokeberry or *Aronia Melanocarpa* is a small fruit-bearing shrub in the Rose family. Its range is from Newfoundland, west to Ontario, south into Alabama and east to Georgia, and is hardy to zone 3. *Aronia* is a landscape quality plant with few pests and diseases and which persists in a variety of soils and temperate climatic conditions. Because of this, it is an ideal candidate for organic fruit production. The *Aronia* fruit has nutraceutical qualities, heightening its marketability and sales potential as a value added product. There is currently great interest in fruits and vegetables that contain high concentrations of flavonoids, considered potent antioxidants. Some recent studies have implicated the relationship between in-field plant nutrient fertility and antioxidant production in *Aronia*. We collect the data for antioxidant content of *aronia melanocarpa* as a function of different age, amount of time spent in the sun or shade, and nitrogen treatment levels of crops. We have shown that that the level of nitrogen treatment in the soil influence the antioxidant capacity significantly. Detailed measurements and analysis of anthocyanin and polyphenols will be presented and discussed. The aim of the project is to determine the treatment that produces the highest capacity of antioxidants in *Aronia*, develop chemical approach for the formulation of best treatment and processing practices and then expand this approach to other specialty crops, such as mountings ash, Sea Bochum, Holly Basel and others.

Project 3. Natural extracts as an antifouling agents.

Marine and estuarine fouling contributes to a large loss of a ship's sufficiency which in turn causes a problematic impact on world trade. However, current antifouling paints are comprised of materials highly toxic to the marine environment. Increasing need to prevent and decrease pollution with increasing demand from international trade, contributes to the necessary need of an alternative type of antifouling paint that are both biocompatible and nontoxic, but also efficient. In this study, the possible antifouling properties of extracts from herbs, algae and fruits and berries are incorporated into polymeric films of biocompatible materials as a future coating composites as a means to replace the current use of toxic materials with plant based paint.

Project 4. Biocompatible Polymeric Hooks for In-vivo Determination and Trapping of Free Radicals.

Description: Free radicals can be formed in living tissues under UV irradiation and/or when oxygen interacts with certain bio-molecules. Once formed these highly reactive particles are capable to start number of chain reactions involving living tissues. Their chief danger comes from the damage they can do when they react with important cellular components such as DNA, or the cell membrane. Cells may function poorly or die if this occurs. Physicians believe that free radicals in human blood can also lead to cancer. Currently it is very difficult to study free radicals in living tissues due to their short-lived life span. Mostly indirect methods focused on studying tissues affected by free radicals instead of direct observation and trapping of the latter.

We develop methods for the synthesis of biocompatible polymers based on polycyclic esters, in which fullerene C₆₀, is chemically linked to the polymeric matrix. Fullerene is biocompatible and also known as a good radical scavenger capable to trap multiple small radicals from solutions. In such a way, radical trapping from living tissues and blood can happen on the surface of biocompatible polymer which is in

contact with physiological sample (for example as a filter built-in into infusion device) allowing in-vivo studying of free radicals effects. Alike pure fullerene C₆₀ this biocompatible *polymeric hook* for free radicals may be used in tissues and physiological liquids in *in-vivo* experiments. Spot test rods or filter prepared from such polymers may be useful for studying of free radical formation in biomedical samples and in studying of antioxidant properties of some food additives, like for example lycopene and other carotenoids.

Other research interests includes:

- 1) Herbal extracts with antifouling properties.
- 2) Medical herbs phytochemistry
- 3) Biomass conversion into energy and fuel

Skills

- Polymer chemistry: organometallic, cationic and radical polymerization; isolation and purification of polymers, elastomers and rubbers; full polymer characterization; structure-properties correlation; investigations of reaction mechanisms; scale up for pilot reactors; high pressure polymerization
- Analytical techniques: GPC, viscometer, light scattering detection and determination of particle size and polymer analysis; HPLC analytical and preparative; all kinds of one and two dimensional NMR; FT-IR; GC; GCMS; ESI-MS; MALDI-TOF; UV/Vis; DSC; TGA (TGA/MS and TGA/FTIR); ESR; AFM; ion-selective electrodes; elemental analysis
- Synthesis and homogeneous catalysis: inorganic, organic, and organometallic synthesis; working with air and water sensitive reagents; homogeneous polymerization; separation, isolation, purification and chemical characterization of inorganic and organic products, polymers, rubbers and elastomers; managing and maintenance of lab equipment
- Management skills: supervising of coworkers and students – up to 13 persons; collaborations with other research labs; joint research projects with industrial companies; supervising assistance for lab staff and undergraduate students; ordering of chemicals and supply; inventory; literature search and project planning; preparation of papers, reports and presentations; writing of safety documents, MSDS and SOP.

Computer Literacy: Windows; all MS Office Programs; Adobe Acrobat Suite; ACD Labs; ChemOffice; MestReNova; MM2; MM3; Spartan Student and Spartan Professional; Photoshop; Chem. Abstract search; ProShow View; ECO 360 and Camtasia Studio; Waters, Varian and TA Instrument Software for instrument's support; teaching technology software – Blackboard, Turning Point, OWL, MCGraw Hill Smart Thinking and others.

Personal Skills: Strong analytical skills and experience, ability to learn new technical tools, ability to create and follow through on project plans, strong communications skills, ability to interact with all levels of management, customer facing capabilities, professional appearance, ability to understand product environment from the market point of view, willingness to travel and/or relocate

Educational Activities

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|---|--------------|
| • Instrumental Analysis CHEM 421 | 2012-present |
| • Advanced organic Chemistry CHEM 432/632 | 2012-present |
| • Organic chemistry 1 CHEM 211 | 2010-present |
| • Organic chemistry 2 CHEM 213 | 2010-present |
| • Organic chemistry labs 1 CHEM 212 | 2010-present |
| • Organic chemistry labs 2 CHEM 214 | 2010-present |
| • Independent research CHEM 499 | 2010-present |
| • Independent study CHEM 498 | 2010-present |
| • Master Thesis CHEM 799 | 2012-present |
| • PhD Dissertation CHEM 899 | 2014-present |
| • Graduate Chemistry Seminar CHEM 697 | 2011-2013 |
| • Lab. of analytical chemistry, advanced level, projects planning, preparation of new topics. | 1996-2006 |
| • Lab. of analytical chemistry, basic course | 1997-2006 |
| • Lab. of organic chemistry | 1993-1998 |
| • Lab. of polymers | 1999-2003 |
| • Lab. of general chemistry | 1992-1996 |
| • Course in general chemistry | 1994-1996 |
| | 2003-2004 |

- Course in organic chemistry and polymers for non-chemistry students 2005-2006

Courses proposed for Teaching

- Polymer chemistry with environmental aspects
- Horticultural phytochemistry

Honors

UMES Honors Teacher of the Year Award	2016
First price for faculty oral presentation. 2012 UMES Research Symposium	2012
"The best poster award", "Chemistry and Interfacial Phenomena in Polymers and Plastics" - the Meeting of the Israeli Polymers and Plastics Society	1999
Teaching Award, Department of Chemistry, Technion – Israel Institute of Technology. Haifa. Israel	2000
Israel Institute of Catalysis Fellowship	2001-2004
"Best 16 Posters" nomination on 2 nd COP Conference, Sorrento, Italy	2004

Languages

- English
- Hebrew
- Russian

Miscellaneous

- Willing to travel nationally and internationally
- Green Card holder, permanent resident. Naturalization in October 2016.
- International driving license
- Hobbies: photography; bowling, transcendental meditation; playing piano and guitar; writing songs and lyrics; collection of cook books and writing cook book;

Synergistic Activities

- 1) 2001-current: Reviewer for *Macromolecules*, *Journal of Advanced Materials*; *Journal of the American Chemical Society*; *Israeli Journal of Chemistry*; *The Journal of Advanced Materials*; *Journal of Advanced Materials*; *Journal of the Polymer Science*
 - 2011 – Certificate of Appreciation from ACS Publications for work as a reviewer.
- 2) 2011: Reviewer: Sengage/OWL online course for organic chemistry laboratory. Invited participant for 2012 National OWL event.
- 3) 2012-current: Reviewer: Sengage/OWL online course for organic chemistry laboratory. OWL Project Tomorrow participant.
- 4) 2014 – current – panel
- 5) 2010-2014: MBRS-RISE and MARC U*(STAR) Programs – Research advisor for total of five students.
- 6) 2010-Current: ACS Project SEED: Main trainer for summer 2011 (two trainees) main trainer for one student in 2012; main trainer for one student in 2013; director of the program and trainer for one student in 2014.
- 7) 2012-2013: Member of the Search Committee to fill the position of Inorganic Chemist in the Dept of Natural Sciences in UMES; member of the safety committee in DNS, UMES
- 8) 2012-2013: Member of the Search Committee to fill the position of DNS Department Chair in the Dept of Natural Sciences in UMES;
- 9) 2013-current – Member of search committees for multiple biology position in DNS UMES.
- 10) 2010-current: Member of the safety committee in DNS, UMES
- 11) 2010-current: Senior editor in the editor board for new open source journal *Nano Hybrids* - see <http://www.ttp.net/2234-9871/EditorialBoard.html>
- 12) Judge. 14th - 17th Annual Undergraduate Research Symposiums IN THE Chemical and Biological Sciences, UMBC, Baltimore, 2011-2014
- 13) Judge. UMES Annual Edible Algae Symposium, December 2011 and 2012
- 14) Invited author in the 2012 OWL National Event, San Diego, March 23-25 2012.

- 15) 2006 – reviewer for MestReNova – online reviewer contract
- 16) 2006-current: American Chemical Society member; Division of Polymer Chemistry member
- 17) 2002 – reviewer for ChemDraw (a part of ChemOffice Suite) – online review: adaptation the software for organometallic chemistry drawing.
- 18) 1995-2006: member of Israel Chemical Society.

Campus or USM Committee or Inter-Campus Committee Assignment(s):

1. Member of Safety and Electronic Committees in DNS;
2. Member of Biosafety committee in UMES;
3. Member of Electronic Committee in DNS;
4. Member of Environmental Chemistry Committee in MEES;
5. Member in the DNS P&T Document Review Committee.
6. Member of SANS Web Site Committee
7. Member of SANS seminar committee
8. Member of SANS recruitment and retention committee
9. Member of UMES Presidential IT Committee;
10. Departmental laboratory equipment maintenance:
 - a) FTIR instrument Bruker Tensor 27;
 - b) NMR 400 MHZ instrument and facility;
 - c) IGA/MS, porozimeter, TGA and DSC in the Laboratory of Carbon Management in DNS
 - d) Fluorimeter.
 - e) MALDY Bruker;
11. Judge. UMES Annual Edible Algae Symposium, December 2011 and 2012.

Current and pending support:

1. MBRS-RISE Program in the Department of Natural Sciences UMES.
Role: Participating faculty mentor. Completed February 28th 2013.
2. MARC U* Program in the Department of Natural Sciences UMES.
Role: Participating faculty mentor. New proposal is submitted in May 2016
3. Faculty/Staff Research/Teaching Abroad program (UMES).
Role: PI – short term travel grant. Completed during 06/01/2011-08/30/2011 Role: PI. \$10,000 - Completed
4. The USM Carnegie Course Redesign (3) Initiative. Role - PI. Redesign of the Fundamentals of Organic Chemistry 1. \$39,800 – funded. 2014-2016 – UMES Redesign Initiative. CHEM 211/212/213/214 – funded for total of \$76,800
5. MEAC 2013: Aronia Melanocarpa phytochemistry and nutrition. Role: Co-PI; \$29800 – funded
6. NSF – QEM: Travel grant for workshop on preparation of HBCU-UP proposal. Status: completed. \$ 3000
7. NSF – Howard Capstone Institute: travel grant – STEM Professional Development Institute. Status: Funded. \$2000
8. TMCP: Early Involvement in undergraduate Research to Improve Retention and graduation. Role: PI. Status: Funded \$25,000
9. Project SEED, ACS; Role: PI and program Director. 2014 grant. \$10,000. 2015: \$5,000; 2016 \$ 7,500. Status: Funded.
10. NSF IUSE: integrating open ended labs into chemistry curriculum in UMES. Role; PI. Required: \$248,730. Proposed duration: 07/2016 – 07/2018. Time spending: 20% during summer and 10 % during the academic year. Status: pending, under review.
11. NASA MUREP MOO: Active Learning and Early Research Training (ALERT) Program in the University of Maryland Eastern Shore, in Partnership with NASA Goddard Space Flight Center (GSFC), Wallops Flights Facility (WFF) and Villanova University. Role: PI; Requested \$264,025 over the period of three years. Status: selectable. Final decision is pending
12. USFA-NIFA SCRI: Applied Research and Outreach for Capacity Building, Focused on the Antioxidant-Rich Alternative Crop Aronia and Its Industries. Role: co-PI. Requested total: \$10,000,000. UMES part is about \$1,200,000. Status: pre-proposal was invited to submit full proposal. Currently full proposal is under review

Visiting lecturers/researchers invited to the Department:

- 1) Prof. Winkler – Penn State, Philadelphia PA
- 2) Dr. Tumanskii – visitor from Israel and specialist in ESR – to help setting up our machine
- 3) Dr. Ristvey – Wye Research Center;

- 4) Dr. Aslan – Morgan State University
- 5) Dr. Egger – Villanova University
- 6) Dr. Tikaker - UMCP

Collaborations:

- 1) Prof. Josef Michl, University of Colorado at Boulder, Department of Chemistry;
- 2) Prof. Moris S. Eisen, The Technion – Israeli Institute of Chemistry;
- 3) Prof. Arun Isloor, NITK, Mangalore, India;
- 4) Dr. Andrew G. Ristvey, University of Maryland Extension, Extension Specialist for Commercial Horticulture, Wye Research & Education Center;
- 5) Prof. Chris Douvris, The University of Louisiana, Department of Chemistry.
- 6) Prof. Malcolm D. E. Forbes, University of North Carolina Chapel Hill

Publications (last update 01/07/2015)

Dissertations.

- 1) PhD thesis: Department of Chemistry, the Technion – Israel Institute of Technology. Haifa. Israel, Supervisor: Prof. Moris S. Eisen; Dissertation: **Volkis, V.** *Benzamidinate Complexes as Active Catalysts for the Polymerization of α -Olefins and Silanes.* **2001**
- 2) M.Sc. thesis: Department of Chemistry, the Technion – Israel Institute of Technology. Haifa. Israel; Supervisor: Prof. Moris S. Eisen; M. Sc. Thesis: **Volkis, V.** *Synthesis and Reactivity of Organometallic Complexes with Boron Ligands.* **1997**
- 3) Extended B.A thesis: Department of Electro-Chemical Technology, the Institute of Chemical Technology, St.-Petersburg, Russia. Supervisors: Prof. A. Arutunyan and Dr. N. A. Shoshina; Thesis: **Volkis, V.** *Electro-deposition of Zink and Molybdenum in the Presence of Dehydrating Agents.* **1989**

Patents:

- 1) U. S. Patent application No 61/151,424 “Branched Homo Polymers Formed by Radical polymerization.” Josef Michl, **Victoria Volkis**. March 3d, **2009**
- 2) U. S. Patent, Technion-Israel Institute of Technology. “Process for the Production of Stereoregular Polymers and Elastomers of α -olefins and Certain Novel Catalysts Thereof”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Sept 30, **2003**, No US 6,627,574B2
- 3) U. S. Patent, Technion-Israel Institute of Technology. “Process for the Production of Stereoregular Polymers and Elastomers of α -olefins and Certain Novel Catalysts Thereof”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Nov 25, **2003**, No US 6,653,413B1
- 4) European Patent Application EPO, Technion-Israel Institute of Technology. “Process for the Production of Stereoregular Polymers and Elastomers of α -olefins and Certain Novel Catalysts Thereof”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Haifa, **2000**.
- 5) Worldwide Patent Disclosure, Technion-Israel Institute of Technology. “Process for the Production of Stereoregular Polymers and Elastomers of α -olefins and Certain Novel Catalysts Thereof”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Haifa, July **1998**.
- 6) Patent Disclosure, Technion-Israel Institute of Technology. “Novel Homogeneous Heteroallylic Complexes for the Stereoregular Polymerization of α -olefins.”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Haifa, July **1997**.
- 7) Patent Disclosure, Technion-Israel Institute of Technology. “Methods for the Preparation of Stereoregular Polymers of α -Olefins and/or for the Polymerization of Elastomers of α -Olefins”, Moris S. Eisen, **Victoria Volkis**, Michal Shmulinson, Claudia Aberbuj and Edith Tish. Haifa, November **1997**.

Papers.

- 1) Uche Udeochu; Marcos Cheney; Victoria V. Volkis. Implementation of Active Experiential learning Labs into Senior instrumental Analysis Course in the University of Maryland Eastern Shore. Submitted to *J. Chem. Edu.* **2016**. Under review.
- 2) Jan Merna, Petr Vlček, **Victoria Volkis**, and Josef Michl. Li⁺ Catalysis and Other New Methodologies for the Radical Polymerization of Less Activated Olefins. *Chem. Rev.* **2016**, 116, 771–785
- 3) ANDREW G. RISTVEY, SUDEEP MATHEW, BLESSING AROH² AND VICTORIA VOLKIS · Effect of organic nitrogen rate on fruit yield, brix and other quality parameters in two cultivars of Aronia. Submitted to *Journal of Horticultural Science and Biotechnology*
- 4) D.G. Sauder and V. Volkis. Undergraduate Material Research in a Land Grant HBCU to Sustain Local Farmers Communities. MRS Proceeding. AAA-04. **2014**. *Cambridge Press*.
- 5) **V. Volkis**, R. Shoemaker, J. Michl. Highly Branched Polyisobutylene by Radical Polymerization under Li[CB₁₁(CH₃)₁₂] Catalysis. *Macromolecules*, **2012**, 45, 9250-9257
- 6) Fekadu Jiru, ¹ Rajesha A. Kumar, ² Arun M. Isloor, ² and **Victoria V. Volkis**^{*1} Biocompatible Polymeric Blends for the Reversible Capturing of Carbon Dioxide . *Polymer Preprints*, **2012**, PMCE-409
- 7) **V. Volkis**, C. Douvris and J. Michl. LiCB₁₁Me₁₂ catalyzed High-Temperature Cationic Polymerization of Isobutylene Induced by CB₁₁Me₁₂. *J. Amer. Chem. Soc.* **2011**, 133(20), 7801-7809
- 8) Janata, M.; Vlček, P.; Latalov, P.; Svitáková, R.; Kaleta, J.; Valasek, M.; **Volkis, V.**; Michl, J. J.
- 9) **Volkis, Victoria**; Aharonovich, Sinai; Eisen, Moris S. Deuterium labeling and mechanistic insights in the polymerization of propylene promoted by benzamidinate complexes. *Macromolecular Research* **2010**, 18(10), 967-973
- 10) Clayton, J. R.; King, B. T.; Zharov, I.; Fete, M. G.; **Volkis, V.** and Michl, J. Dodecamethylcarba-closo-dodecaborate(-) Anion, CB₁₁Me₁₂⁻, and Dodecamethylcarba-closo-dodecaboranyl Radical, CB₁₁Me₁₂[·], *Inorganic Synth.* **2010**, 35, 56-63
- 11) Hua Mei, C. Douvris, **V. Volkis** and J. Michl. Radical Copolymerization of Isobutylene and Ethyl Acrylate with Li[CB₁₁Me₁₂] catalyst. *Macromolecules*, **2011**, 44, 2552-2558

- 12) **V. Volkis** and J. Michl. LiCB₁₁Me₁₂ catalyzed High-Temperature Cationic Polymerization of Isobutylene Induced by CB₁₁Me₁₂? In print. *J. Amer. Chem. Soc.* **2011**
- 13) **Volkis, V.**; Glassford, I. M.; Michl, J. Li⁺ catalyzed radical grafting reactions initiated by stable CB₁₁Me₁₂[•] radical. *Abstracts of Papers, 237th ACS National Meeting, Salt Lake City, UT, United States, March 22-26, 2009*, INORG-603
- 14) Braunecker, W. A.; **Volkis, V.**; Shoemaker, R. K.; Michl, J. Li⁺ catalyzed polymerization of ethylene, propylene and butylene. *Abstracts of Papers, 237th ACS National Meeting, Salt Lake City, UT, United States, March 22-26, 2009*, INORG-678
- 15) **Volkis, V.**; Hua Mei; Shoemaker, R.; Michl, J. Preparation of Hyperbranched Polyisobutylene and its Copolymer with Ethyl Acrylate by LiCB₁₁(CH₃)₁₂ Catalyzed Radical Polymerization of Isobutylene. *J. Amer. Chem. Soc.*, **2009**, 131 (9), 3132-3133
- 16) F. Majoumo; P. Lönnecke; **V. Volkis**; M. S. Eisen; and E. Hey-Hawkins. Oligomerization of alpha-olefins by the dimeric nickel bisamido complex [Ni{1-N(PMes₂)-2-N(μ-PMes₂)C₆H₄-κ³N,N',P,-κ¹P}]₂ activated by methylalumoxane (MAO). *J. Organomet. Chem.*, **2008**, 693(15), 2603-2609.
- 17) **Volkis, V.**; Shoemaker, R.; Michl, J. Branched polyisobutylene by Li⁺ catalyzed polymerization of isobutylene. *Polymer Preprints (American Chemical Society, Division of Polymer Chemistry)* **2008**, 49(2), 42-43.
- 18) **Volkis, V.**; Shoemaker, R.; Michl, J. Branched polyisobutylene by Li⁺ catalyzed polymerization of isobutylene. *Abstracts of Papers, 236th ACS National Meeting, Philadelphia, PA, United States, August 17-21, 2008*, POLY-309.
- 19) Aharonovich, S.; **Volkis, V.**; Tumanskii, B.; Eisen, M. S. Aharonovich, Sinai; Volkis, Victoria; Tumanskii, Boris; Eisen, Moris S. Are two cocatalysts better than one in the catalytic polymerization of propylene? *Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, United States, April 6-10, 2008*, INOR-849.
- 20) Aharonovich, S.; **Volkis, V.**; Eisen, M. S. Octahedral complexes in the polymerization of α-olefins. *Macromolecular Symposia*, **2007**, 260 (Heterogeneous Ziegler-Natta Catalysts), 165-171
- 21) **V. Volkis**; K. Averbuj; M. S. Eisen. Reactivity of group 4 benzamidinate complexes towards mono- and bis-substituted silanes and 1,5-hexadiene. *J. Organomet. Chem.* **2007**, 692, 1940
- 22) **V. Volkis**, M. Shmulinson, A. Lisovskii, Y. Balazs, M. S. Eisen. Stereoerror Formation in the Polymerization of Propylene Catalyzed by a Titanium Bis(benzamidinate) Dichloride Complex Activated by MAO, *Organometallics*, **2006**, 25, 4934-4937
- 23) **V. Volkis**, B. Tumanskii, M. S. Eisen. Unusual Synergetic Effect of Cocatalysts in the Polymerization of Propylene by Zirconium Bis(benzamidinate) Dimethyl Complex. *Organometallics*, **2006**, 25, 2722-2724.
- 24) **V. Volkis**, A. Lisovskii, M. Shuster, M. S. Eisen, Determination of the Catalytic Active Species in the Polymerization of Propylene by Titanium Benzamidinate Complexes. *Organometallics*. **2006**, 25, 2656-2666.
- 25) Carlos Alonso-Moreno, Antonio Antiñolo, Fernando Carrillo-Hermosilla, Antonio Otero, Ana M. Rodríguez, José Sancho, **Victoria Volkis**, and Moris Eisen, *Eur. J. of Inorg. Chem.* **2006**, 5, 972-979
- 26) **V. Volkis**, A. Lisovskii, E. Smolensky, M. S. Eisen, Solvent Effect in the Polymerization of Propylene Catalyzed by Octahedral Complexes. *J. of Polymer Sci., A: Chem.* **2005**, 43, 4505
- 27) Santiago Gomez-Ruiz, Sanjiv Prashar, Mariano Fajardo, Antonio Antisoló, Antonio Otero, Miguel A. Maestro, **Victoria Volkis**, Moris S. Eisen, Cesar J. Pastor Synthesis, hydrosilylation reactivity and catalytic properties of group 4 *ansa* metallocene complexes, *Polyhedron* 24 (**2005**) 1298–1313
- 28) **V. Volkis**, M. Shmulinson, E. Shaviv, A. Lisovskii, D. Plat O. Kuhl, T. Koch, E. Hey-Hawkins, M. S. Eisen. Group 4 Octahedral Complexes Catalyzed the Stereoregular and Elastomeric Polymerization of Propylene. In: *Beyond Metallocenes; Next Generation Polymerization Catalysts* A. O. Patil and G. G. Hlatky Eds., *American Chemical Society Symposium Series*. 857 (**2003**) 46-61.
- 29) **V. Volkis**, E. Nelkenbaum, A. Lisovskii, G. Hasson, R. Semiat, M. Kapon, M. Botoshansky, Y. Eishen, M. S. Eisen, Group 4 Octahedral Complexes: Synthesis, Structure and Catalytic Activities in the Polymerization of Propylene Modulated by Pressure. - *J. Amer. Chem. Soc.*, **2003**, 125, 2179-2194
- 30) Eisen M.S.; Ray B.; Shaviv E.; **Volkis, V.**; Group 4 Allylic and Heteroallylic Complexes. *Abstract of Papers, 224th ACS National Meeting, Boston, MA, US, August 18-22, 2002*, INOR-077
- 31) M. Botoshansky, A. Lisovskii, **V. Volkis**, M. S. Eisen Polymorphism in tri- p -tolyl-1,3,5-triazine. *Acta Crystallographica Section A - ACTA CRYSTALLOGR A*, vol. 58, no. s1, pp. c126-c126, **2002**
- 32) Eisen, Moris S.; **Volkis, Victoria**; Smolensky, Elena; Schmulinson, Michal; Lisovskii, Anatolii; Shaviv, Ella. Controlling the stereoregularity of polypropylene promoted by group 4 octahedral complexes. *PMSE Preprints* (**2002**), 87, 80-81.
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- 36) **Volkis, Victoria**; Schmulinson, Michal; Shaviv, Ella; Lisovskii, Anatolii; Plat, Dorit; Kuehl, Olaf; Koch, Thomas; Hey-Hawkins, Eva Marie; Eisen, Moris S. Group 4 octahedral complexes catalyzed the stereoregular and elastomeric polymerization of propylene. *PMSE Preprints (2002)*, 86, 301-303.
- 37) M. Shmulinson, **V. Volkis**, A. Lisovskii, E. Nelkenbaum, M. S. Eisen, Design Your Elastomeric or Stereoregular Polymer. - *Polymers for Adv. Techn.*, **2002**, 13, 1-7
- 38) Anatoly Lisovskii, Elza Nelkenbaum, **Victoria Volkis**, Rafi Semiat, and Moris S. Eisen, Polymerization of isobutylene and Copolymerization of Isobutylene with Isoprene Promoted by Methylalumoxane. - *Inorg. Chem. Acta*, **2002**, 334, 243-252
- 39) **V. Volkis**, M. Shmulinson, C. Aberbuj, A. Lisovskii, F. T. Edelman and M. S. Eisen, Pressure Modulated Stereoregularity in the Polymerization of propylene Promoted by *rac*-Octahedral Heteroallylic Complexes. - *Organometallics*, **1998**, 17, 3155-3157
- 40) **V. Volkis** and M. S. Eisen, *Main Group Metal Chemistry*, **1997**, 20, No. 5, 293-299.

Chapters in books.

- 1) **Volkis, Victoria**; Lisovskii, Anatolii; Eisen, Moris S. Stereoerror formation in the polymerization of deuterated propylene. *Studies in Surface Science and Catalysis 2006*, 161 (Progress in Olefin Polymerization Catalysts and Polyolefin Materials), 105-112
- 2) submitted in April 2016: Springer: Handbook of Functional Polymers, Edited by Mohammad Jafar Mazumder (KFUPM, Saudi Arabia), Heather Sheardown (Mc Master University, Canada), Toshihiro Akaike (Tokyo Institute of Technology, Japan) and Amir Al-Ahmed (KFUPM, Saudi Arabia). Chapter 38. H. Goldsborough and V. V. Volkis. (University of Maryland Eastern Shore, US) Polymers from Renewable Sources. – Invited publication.

Manuscripts in preparation

- 1) Aroh, B.C., V.V. Volkis and A.G. Ristvey. **2016**. Effect of organic N fertility rates and a mineral soil amendment on the phytochemical content in Aronia "Viking" fruit. *Journal of Agricultural and Food Chemistry*.
- 2) Aroh, B.C., V.V. Volkis and A.G. Ristvey. **2016**. Comparison of different rates of organic and conventional fertilizer on the phytochemical content in Aronia "Viking" fruit. *Journal of Agricultural and Food Chemistry*.
- 3) Paul I. Dron, Victoria Volkis, Matibur Zamadar, Marie Hurtgen, Keith E. Whitener, Jr.,^a Carley E. Little,^a Jiří Kaleta, Walter E. Klein,^a Dong Chen,^g Yongqiang Shen,^g Thomas F. Magnera, Charles Rogers, Noel A. Clark, and Josef Michl. **2015**. A Closer Look at LiCB11Me12/sulfolane as a Lewis Acid Catalyst. *Inorg. Chem.*
- 4) Heather Goldsborough, Adaobi Egwuagu, Victoria V. Volkis. Effective Resin Extraction of Antioxidants from *Aronia mitchurinii* Juice. Paper in preparation to be submitted to *Pharmaceutica Medica* in May 2016.

Invited talks.

2015. V. Volkis. Biocompatible and reversible polymers for carbon sequestration. Villanova University. Department of Chemistry.

2015. V. Volkis. Non-food related applications of *Aronia mitchurinii*. 2015 annual meeting of Midwest Aronia Growers Association. Moline, IL

2013: V. Volkis. The Effect of Nitrogen and Potassium Treatment on the Antioxidant Capacity of *Aronia Melanocarpa* Grown in Maryland. 2013 Aronia Twilight Tour. Way Research and Education Center. Queenstown MD.

V. Volkis. Influence of nitrogen treatment on the antioxidant capacity of *Aronia Melanocarpa* grown in MD. Meeting of MD Association of Aronia Growers. Way Research Center, April 2013

2012: Yan Waguespack and Victoria Volkis. Literature Search Workshop,

V. Volkis. Antioxidant profile of *Aronia Melanocarpa* grown in MD. 6th Maryland Aronia Twilight Tour, Maryland MD, September 2012.

V. Volkis, Biocompatible Polymeric Materials with New Applications, NITK, Mangalore, India

V. Volkis, Biocompatible Polymers with New Functionalities, Manipal University, Manipal, India

V. Volkis, Biocompatible Polymers - chef guest lecture, Chemical Society Inauguration in the University of Mangalore, India

V. Volkis, LiCB₁₁(CH₃)₁₂ Catalyzed Radical Polymerization and Flame Retarding, R&D of Sequent Pharmaceutical Company, Mangalore, India

- 2011: LiCB₁₁(CH₃)₁₂ CATALYZED RADICAL POLYMERIZATION AND GRAFTING OF ISOBUTYLENE. Technion/Haifa/Israel. 08/31/2010
LiCB₁₁(CH₃)₁₂ CATALYZED RADICAL POLYMERIZATION AND GRAFTING OF ISOBUTYLENE. BGU/Beer-Sheva/Israel. 09/02/2010
LiCB₁₁(CH₃)₁₂ CATALYZED RADICAL POLYMERIZATION AND GRAFTING OF ISOBUTYLENE. Weitzman Institute/Rehoboth/Israel . 09/03/2010
LiCarb - a magic wand for radical polymerization of olefins. DNS/UMES. 03/04/2011
- 2010: Texas Tech University
Missouri University of Science and technology
Sigma-Aldrich Corp.
Technion- Israeli Institute of Technology, Haifa, Israel
Ben-Gurion University in Beer-Sheva, Israel
Weizmann Research institute, Rehovot, Israel
- 2009: The University of Akron Ohayo
The University of South Caroline
Saginaw Valley State University
Colorado School of Mines

Presentations in Conference Format:

A) Oral presentations:

- 1) Preparation and Potential Applications of Chitosan Blends for the Reversible Carbon Sequestration. Preeti Sharma¹, Haneef Muhammad¹, Benjamin Barnes¹, Dr. Victoria Volkis¹
- 2) Heather Goldsborough, So Jin Park, Diamond Nwaeze, Blessing Aroh, Tina Ndam, Motunrayo Fadipe, Andrew Ristvey, Victoria Volkis. Super berry Aronia mitchurinii – cultural management and non-food related applications supported by phytochemical and material research. 2015 ACS NERM Symposium. Ithaca NY. Oral presentation.
- 3) Victoria V. Volkis and Deborah G. Sauder University of Maryland Eastern Shore (UMES): Best graduate and undergraduate material research practices to help sustain local rural communities. 2015 ACS NERM Symposium. Ithaca NY. Oral presentation.
- 4) November 2015. SANS Seminar Series in UMES. Oral presentation: V. Volkis.
- 5) January 2016: CTE Conference, Frostburg MD. V. Volkis, workshop: Reimaging STEM Courses Using Hybrid Model with Elements of Active Experiential Learning in Courses with Labs.
- 6) Heather Goldsborough, So Jin Park, Diamond Nwaeze, Blessing Aroh, Tina Ndam, Motunrayo Fadipe, Andrew Ristvey, Victoria Volkis. Super berry Aronia mitchurinii – cultural management and non-food related applications supported by phytochemical and material research. 2015 ACS NERM Symposium. Ithaca NY
- 7) Victoria V. Volkis and Deborah G. Sauder University of Maryland Eastern Shore (UMES): Best graduate and undergraduate material research practices to help sustain local rural communities. 2015 ACS NERM Symposium. Ithaca NY
- 8) V. Volkis. Undergraduate Material Research in a Land Grant HBCU to Sustain Local Farmers Communities. December 204. MRS National Meeting. Boston, MA
- 9) V. Volkis. Aronia Interest Day. UMES, November 2014. Organizer and main presenter.
- 10) V. Volkis. Material Chemistry Research to Help Sustaining Local Communities. SANS Seminar Series. UMES. April 2015.
- 11) **V. Volkis**. Reversible Carbon Dioxide Capturing in Biocompatible Polymeric Sorbents. 17th ARD Symposium. April 2013. Jacksonville FL
- 12) **V. Volkis**. Biocompatible Polymeric Materials with New Applications. UMES Research Symposium 2012.
- 13) Fekadu Jiru, Rajesha A. Kumar, Arun M. Isloor, and **Victoria V. Volkis**. BIOCOMPATIBLE POLYMERIC BLENDS FOR THE REVERSIBLE CAPTURING OF CARBON DIOXIDE. 244th ACS Meeting. PMCE. Philadelphia, August 2012
- 14) **Volkis, V.**; Glassford, I. M.; Michl, J. Li⁺ catalyzed radical grafting reactions initiated by stable CB₁₁Me₁₂ radical., *237th ACS National Meeting, Salt Lake City, UT, United States, March 22-26, 2009*, INORG-603
- 15) **V. Volkis**, M. Rodensky, A. Lisovskii, Y. Balazs, M. S. Eisen. Isotope Effects and Stereoerrors Formation in the Polymerization of Deuterium Labeled Propylene Catalyzed by Titanium Benzamidinate and Acetylacetonate Complexes Activated by MAO, *2nd Blue Sky Conference on Catalytic Olefin Polymerization, Sorrento, Italy, 2005 – oral presentation on “The best 16 posters” section*

- 16) **V. Volkis**, E. Nelkenbaum, A. Lisovskii, M. S. Eisen, Using the GPC "Alliance 2000" device for studying of some polymer's properties. *The Meeting of the Israeli Polymers and Plastics Society*, 2002
- 17) **V. Volkis**, M. S. Eisen, Octahedral N-TMS Substituted Benzamidinate Complexes as an active complexes for polymerization propylene, 1,5-hexadiene and silanes, *The 3rd Meeting of Department of Chemistry, Technion*, 2000

B) Poster presentations:

- 18) D. Johnson, B. Volkis, A. Ristvey, P. Chigbu, V. Volkis. Testing Anti-Fouling Properties of *Aronia mitchurinii*, *Fucus sp.* and *Clathria prolifera*. 2015 REU research symposium in UMES
- 19) Mussie W. Talley, Baruch Volkis, Paulinus Chigbu, Victoria Volkis. Use of Plant Extracts as Potential Antifouling Agents, 2015 REU research symposium in UMES
- 20) Testing Antifouling Properties of *Aronia mitchurinii*, *Fucus sp.*, and *Clathria prolifera*. Deirdre Johnson¹, Baruch Volkis¹, Andrew Ristvey², Paulinus Chigbu¹, Victoria Volkis^{1*} - 2016 UMES research symposium
- 21) Chemical Characterization of *Aronia mitchurinii* Pulp. Diamond Nwaeze¹, Taiwo Ola¹, Byungrok Min², Andrew G. Ristvey³ and Victoria V. Volkis^{1*} 2016 UMES research symposium
- 22) From Discovery to Applications: Lessons Learned from Research in Antioxidant Extraction. Heather Goldsborough¹, Taiwo Ola¹, Adaobi Eguagu¹, Andrew Ristvey², Victoria Volkis¹ 2016 UMES research symposium
- 23) The use of Chitin and its Derivatives in Reversible Carbon Dioxide Capture. Preeti Sharma¹, Haneef Muhammad^{1*}, Benjamin Barnes^{1*}, Dr. Victoria Volkis^{1†} 2016 UMES research symposium
- 24) Chemical Characterization of Essential Oils Extracted from Osmium Family Plants. So Jin Park¹, Diamond Nwaeze¹, Byungrok Min² and Victoria V. Volkis^{1*} 2016 UMES research symposium †
- 25) Heather Goldsborough, Taiwo Ola, Andrew Ristvey, Victoria Volkis. USING POLYMERIC RESINS FOR THE EXTRACTION OF PURE ANTHOCYANIN FROM ARONIA MITSCHURINII BERRIES. 17th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2014
- 26) Courtney Rhoades, Blessing Aroh, Kelsey Chandler, Victoria Volkis. INFLUENCE OF TEMPERATURE ON THE ANTIOXIDANT CAPACITY OF ARONIA MITSCHURINII. 17th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2014
- 27) So Jin Park, Diamond Nwaeze, Baruch S. Volkis, Paulinus Chigbu, Victoria V. Volkis. PROBING POLYMERIC BLENDS WITH NATURAL EXTRACTS FROM SPONGE, ALGAE, BERRIES, AND HERBS FOR ANTIFOULING PROTECTION. 17th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2014
- 28) Tina Ndam, Motunrayo Fadipe, Blessing Aroh, Andrew Ristvey, Victoria Volkis. THE MARYLAND NATIVE BERRY WITH SUPER HIGH ANTIOXIDANT CONTENT. 17th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2014
- 29) Baruch S. Volkis, So-Jin Park, Diamond Nwaeze, Victoria V. Volkis, Paulinus Chigbu. Probing Polymeric Blends with Natural Extracts from Sponge, Algae, Berries and Herbs for Antifouling Protection against Barnacles and other Fouling Factors. 2015 NOAA Educational and Research Biannual Symposium, UMES.
- 30) D. Simpson, Y. Waguespack and **V. Volkis**. Biocompatible Polymeric Hooks for *in vivo* Trapping and Determination of Free Radicals. UMES research Symposium 2013.
- 31) Blessing Aroh, Baruch Volkis, Andrew G. Ristvey, Sudeep Mathew, and **Victoria V. Volkis**. THE EFFECT OF NITROGEN TREATMENT ON THE ANTIOXIDANT CAPACITY OF ARONIA MELANOCARPA GROWN IN MARYLAND. UMES Research Symposium 2013.
- 32) Tina Ndam, Blessing Aroh, Baruch Volkis, Andrew Ristvey, Sadip Mathew, Victoria V. Volkis. THE EFFECT OF NITROGEN TREATMENT ON THE ANTHACYANINE AND POLYPHENOLS CONTENT AND ORAC FACTOR OF ARONIA MELANOCARPA GROWN IN MARYLAND. 16th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2013
- 33) Welay Megos, Cheregn Tegegn, Duane Simpson, Victoria Volkis. Fullerene C₆₀ Chemically Linked for Biocompatible Polymers for In-vivo Radical Trapping. 16th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2013
- 34) Ashley Summers, Victoria V. Volkis. RADICAL COPOLYMERIZATION OF OLEFINS WITH PENTABROMOPHENYL ACRYLATE (PBPA) USING LiCB₁₁Me₁₂. 16th Annual undergraduate Research Symposium in Biology and Chemistry. UMBC, Baltimore, 2013
- 35) Ashley Summers, Yan Waguespack, and **Victoria V. Volkis**. LiCB₁₁Me₁₂ CATALYZED RADICAL COPOLYMERIZATION OF OLEFINS WITH PENTABROMOPHENYL ACRYLATE (PBPA) FOR FLAME RETARDING OF MEDICAL PLASTICS. 15th Annual Undergraduate Research Symposium IN THE Chemical and Biological Sciences, UMBC, Baltimore, October 20th 2012
- 36) Ashley Summers, Brent Tran, and **Victoria V. Volkis**. LiCB₁₁Me₁₂ CATALYZED RADICAL COPOLYMERIZATION OF OLEFINS WITH PENTABROMOPHENYL ACRYLATE (PBPA) FOR FLAME RETARDING OF ILEFIND. *Annual Undergraduate Research Symposium for Minority Students, Atlanta GA, April 2013*

- 37) B. Aroh, **V. Volkis**, A. G. Ristvey, and S. Mathew, and V. V. Volkis. The Effect of Nitrogen Treatment on the Anthocyanin and Polyphenols Content of *Aronia melanocarpa* Grown in Maryland. Submitted for the presentation on 17th ARD Symposium, Jacksonville, FL, April **2013**.
- 38) D. Simpson, Y. Waguespack and **V. Volkis**. Biocompatible Polymeric Hooks for *in vivo* Trapping and Determination of Free Radicals. 244th ACS Meeting. PMCE. Philadelphia, August 2012
- 39) Blessing Aroh, Baruch Volkis, Andrew G. Ristvey, Sudeep Mathew, and **Victoria V. Volkis**. THE EFFECT OF NITROGEN TREATMENT ON THE ANTIOXIDANT CAPACITY OF ARONIA MELANOCARPA GROWN IN MARYLAND. 244th ACS Meeting. PMCE. Philadelphia, August 2012
- 40) A. Summers, Y. Waguespack and **V. Volkis**. Radical Incorporation of Flame Retardants into Biomedical polymers. UMES Research Symposium 2012.
- 41) D. Simpson, Y. Waguespack and **V. Volkis**. Biocompatible Polymeric Hooks for *in vivo* Trapping and Determination of Free Radicals. UMES Research Symposium 2012.
- 42) Michl, Josef; **Volkis, Victoria**; Mei, Hua; Akdag, Akin; Whitener, Keith E., Jr.; Braunecker, Wade A.; Sweat, Joshua R.; Boon, Byron H.; Yang, Fan. Li⁺-catalyzed radical polymerization and copolymerization of isobutylene. 241st ACS National Meeting & Exposition, Anaheim, CA, United States, **2011**, POLY-159.
- 43) D. Simpson, Y. Waguespack and **V. Volkis**. Biocompatible Polymeric Hooks for *in vivo* Trapping and Determination of Free Radicals. 14th Annual Undergraduate Research Symposium IN THE Chemical and Biological Sciences, UMBC, Baltimore, **2011**
- 44) A. Summers, Y. Waguespack and **V. Volkis**. Radical Incorporation of Flame Retardants into Biomedical polymers. 14th Annual Undergraduate Research Symposium IN THE Chemical and Biological Sciences, UMBC, Baltimore, **2011**
- 45) D. Simpson, Y. Waguespack and **V. Volkis**. Biocompatible Polymeric Hooks for *in vivo* Trapping and Determination of Free Radicals. 2011 Annual Biomedical Research Conference for Minority Students (ABRCMS)
- 46) Braunecker, W. A.; **Volkis, V.**; Shoemaker, R. K.; Michl, J. Li⁺ catalyzed polymerization of ethylene, propylene and butylene. 237th ACS National Meeting, Salt Lake City, UT, United States, March 22-26, **2009**, INORG-678
- 47) **Volkis, V.**; Shoemaker, R.; Michl, J. Branched polyisobutylene by Li⁺ catalyzed polymerization of isobutylene. 236th ACS National Meeting, Pennsylvania, Philadelphia, United States, August 17-21, **2008**, POLY-309 and SciMix.
- 48) **V. Volkis**, B. Tumanskii, S. Aharonovich, A. Lisovskii, M. S. Eisen. Unusual Synergetic Effect of Cocatalysts in the Polymerization of Propylene by Group 4 heteroallylic precatalysts. XXII International Conference on Organometallic Chemistry, Zaragoza, Spain, **2006**
- 49) S. Aharonovich, **V. Volkis**, M. Kapon, M. S. Eisen. The Effect of the Substituent in Titanium IV Heteroallylic Complexes as Active Precursors for the Polymerization of Propylene in Presence of Different Cocatalysts. The 71st Meeting of the Israel Chemical Society, **2006**
- 50) **V. Volkis**, S. Aharonovich, B. Tumanskii, M. Kapon and M. S. Eisen. Insights in the Mechanism for the Polymerization of Propylene Promoted by Group 4 Benzamidinate Complexes Activated by Methylalumoxane (MAO) and Trityl Tetrakis(pentafluorophenyl)borate (TTPB). The 71st Meeting of the Israel Chemical Society, **2006**
- 51) S. Aharonovich, **V. Volkis**, M. Kapon, M. S. Eisen. The Effect of the Substituent in Titanium IV Complexes with (N,N'-(trimethylsilyl)arylamidinato) Ligands as Active Precursors for the Polymerization of Propylene in presence of methylalumoxane and/or Trityl Tetrakis(pentafluorophenyl)borate 2nd Blue Sky Conference on Catalytic Olefin Polymerization, Sorrento, Italy, **2005**
- 52) **V. Volkis**, A. Lisovskii, M. S. Eisen. Regarding the Formation of the Active Cationic Species in the Polymerization of Propylene Catalyzed by Different Titanium Benzamidinate Complexes Activated by Methylalumoxane. 2nd Blue Sky Conference on Catalytic Olefin Polymerization, Sorrento, Italy, **2005**
- 53) **V. Volkis**, M. Rodensky, A. Lisovskii, Y. Balazs, M.S. Eisen. Isotope Effects and Stereoerrors Formation in the Polymerization of Deuterium Labeled Propylene Catalyzed by Titanium Dichloride Benzamidinate and Acetylacetonate Complexes Activated by MAO. The 70th Meeting of the Israel Chemical Society, **2005**
- 54) A. Lisovskii, M. Rodensky, **V. Volkis**, M.S. Eisen. Polymerization of Propylene Catalyzed by Group 4 Bis(Acetylacetonate) Dichloride Complexes Activated with Methylalumoxane. The 70th Meeting of the Israel Chemical Society, **2005**
- 55) **V. Volkis**, A. Lisovskii, M. S. Eisen, Propylene Polymerization Using Different Homogeneous Ti (III) Catalysts Activated by Methylalumoxane (MAO). The 69th Meeting of the Israel Chemical Society, **2004**
- 56) **V. Volkis**, A. Lisovskii, M. S. Eisen, High Temperature Gel Permeation Chromatography for the Determination of Molecular weight and Molecular Weight Distribution of Electrometric Polymers, The 7th Meeting of the Israel Analytical Chemical Society, **2004**
- 57) **V. Volkis**, M. S. Eisen, TiCl₃·DME·THF as an Active Homogeneous Ti (III) Catalyst for Propylene Polymerization, The 68th Meeting of the Israel Chemical Society, **2003**
- 58) B. Ray, **V. Volkis**, A. Lisovskii, M. S. Eisen, Benzamidinate Catalyst for α -Olefin Polymerization

Supported by MAO-Modified Silica, *The 68th Meeting of the Israel Chemical Society*, **2003**

59) **V. Volkis**, A. Lisovskii, M. S. Eisen, Effect of the Solvent Nature on the Polymerization of Propylene with Different Catalysts, *The 68th Meeting of the Israel Chemical Society*, **2003**

60) **V. Volkis**, A. Lisovskii, M. Shuster, M. S. Eisen, Influence of the Ti-Benzamidinate Structure on Catalytic Activity in Propylene Polymerization and Polymer Properties, *The 68th Meeting of the Israel Chemical Society*, **2003**

61) M. Shmulinson, **V. Volkis**, M. S. Eisen, Formation of Elastomeric Polypropylene by Using Acetyl-Acetonate Complex as a Catalyst, The 5th Meeting of Department of Chemistry, Technion , **2002**

62) **V. Volkis**, A. Lisovskii, M. S. Eisen, Octahedral N-TMS Substituted Benzamidinate Complexes of Group 4 Metals as New Catalysts for the Polymerization of α -olefins and Styrene, *The 9th International Symposium of Heterogeneous Catalysis*, Verona, Bulgaria, **2000** in Proceeding of the Symposium, Institute of Catalysis of Bulgarian Academy of Science, Sofia, Bulgaria, p. 301-306

63) V. Volkis and M. S. Eisen, Reactivity of Group 4 Benzamidinate Complexes *The 65th Meeting of the Israel Chemical Society*, **2000**.

64) **V. Volkis** and M. S. Eisen, Octahedral N-TMS Substituted Benzamidinate Complexes as Active Catalysts for the Stereoregular Polymerization of α -Olefins. "*Chemistry and Interfacial Phenomena in Polymers and Plastics*" - *the Meeting of the Israeli Polymers and Plastics Society*, **1999**. - "**The best poster award**"

65) **V. Volkis** and M. S. Eisen, N-TMS Substituted Benzamidinate Complexes as Active Catalysts for the Stereoregular α -Olefin Polymerization. *The 64th Meeting of the Israel Chemical Society*, **1999**.

66) **V. Volkis** and M. S. Eisen, Catalytic Polymerization of Silane Using Group 4 Benzamidinate complexes. *The 64th Meeting of the Israel Chemical Society*, **1999**.

67) **V. Volkis**, D. Herskovics-Korine and M. S. Eisen, Catalytic Polymerizations of Propylene and Silanes by a Zirconium Benzamidinate Complex. *The 62nd Meeting of the Israel Chemical Society*, **1997**.