

Curriculum Vitae

Benjamín Ragnar Sveinbjörnsson

(Last modified: June 13th 2024)

Date of birth	September 24 th , 1987 (national ID# 240987-6009)
Citizenship	Icelandic
Home address	Árkvörn 2, 110 Reykjavík, Iceland
Affiliation	-Department of Chemistry, Science Institute, University of Iceland, Dunhagi 3, 107 Reykjavík, Iceland -Faculty of Physical Sciences, School of Engineering and Natural Sciences, University of Iceland
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Education

- **Postgraduate Diploma, *Teaching Studies for Higher Education***, June 2022
University of Iceland
- **Ph.D., *Chemistry***, June 2014
California Institute of Technology
Thesis: Self-Assembly of Brush Polymers
Thesis advisor: Dr. Robert H. Grubbs
Ph.D. committee: Dr. David A. Tirrell (chair), Dr. Robert H. Grubbs, Dr. Harry B. Gray,
and Dr. Dennis A. Dougherty
- **B.Sc., *Chemistry***, June 2009
University of Iceland
Undergraduate thesis: Total synthesis of structured ether lipids with omega-3
polyunsaturated fatty acids in an end position.
Thesis advisor: Prof. Guðmundur G. Haraldsson

Professional Career

- ***Associate Professor of Organic Chemistry*, Jul 2023 – present**
University of Iceland, School of Engineering and Natural Sciences, Faculty of
Physical Sciences.
- ***Assistant Professor of Organic Chemistry*, Jul 2017 – June 2023**
University of Iceland, School of Engineering and Natural Sciences, Faculty of
Physical Sciences.
- ***CEO and Project Manager*, Jan 2017 – present**
Intranasally ehf. (previously named Calor ehf.)
Focusing on methods to increase the thermostability of biopharmaceuticals
- ***Visiting Assistant Professor of Chemistry*, Jul 2016 – Jun 2017**
Pomona College
- ***Robbins Postdoctoral Fellow*, Aug 2014 – Jun 2016**
Pomona College

Advisor: Prof. Cynthia D. Selassie

Taught and worked on the synthesis of anti-malarial drug targets for quantitative structure-activity relationship studies.

- *Graduate Research Assistant, Nov 2009 – Jun 2014*
California Institute of Technology
Advisor: Prof. Robert H. Grubbs
Worked on the synthesis and self-assembly of brush polymers.
- *Summer Undergraduate Research Fellowship, Summer 2008*
California Institute of Technology
Mentor: Prof. Robert H. Grubbs; Co-mentor: Dr. Ian C. Stewart
Worked on a catalyst for anti-Markovnikov olefin hydrogenation
- *Research Assistant, Summer 2007*
University of Iceland – Faculty of Pharmaceutical Science
Mentor: Prof. Sveinbjörn Gizurarson
Worked on analysis of mass spectrometry data

Teaching experience

Courses taught

- Organic Chemistry for medical students – EFN103G – Uni. of Iceland, **2017-present**
- Organic Chemistry 1 – EFN309G – Uni. of Iceland, **2018-present**
- Organic Chemistry 4 – EFN608M – Uni of Iceland, (third of the course) **2019, 2022**
- Organic Chemistry (2nd semester) – CHEM 110B – Pomona College, **2015-17**
- General Chemistry (2nd semester) – CHEM 1B – Pomona College, **2017**
- Organic Chemistry (1st semester) – CHEM 110A – Pomona College, **2015-16**
- Organic Chemistry Lab (1st semester) – CHEM 110AL – Pomona College, **2014, 2016**
- Physical Organic Chemistry – CHEM 176 – Pomona College, **2016**
- General Chemistry Lab (2nd semester) – CHEM 1BL – Pomona College, **2016**

Courses organized

- Organic Chemistry Lab 1 & 1a – EFN310G & EFN313G – Uni. of Iceland, **2017, 2019-present**
- Chemistry/Biochemistry Seminar Series – EFN011F & EFN012F – Uni. of Iceland, **2018-2020**

Guest lecturer

- Laboratory Safety – LYF110G & LYF125G – Uni. of Iceland, **2017-2020**
- Pharmaceutical Analysis – LYF403G – Uni. of Iceland **2019-2020**
- Training of the Icelandic Chemistry Olympiad team – **summers 2018-2019**

Teaching Assistant

- Oral Presentation – Chem 90 – Caltech, **2013-14**
- Advanced Techniques of Synthesis and Analysis – Chem5a – Caltech, **2010-13**
- Experimental Procedures of Synthetic Chemistry – Chem 3b – Caltech, **2009-10**
- Organic Chemistry (1st quarter) – Chem 41a – Caltech, **2012**

Tutoring

- Independent – Tutoring general chemistry for a group of students at the University of Iceland from the faculty of food science and nutrition. **2008**

Student Advising Experience

- *Ph.D. students – University of Iceland*
 - Dr. Mostafa Ghasemisarabbadih, Ph.D. in Chemistry. “Thermal stabilization of oxytocin and fibroblast growth factor 2”, September 22nd, 2021.
 - Currently advising 1 Ph.D. candidate, Luis Antonio G. Arana Olivari
- *M.Sc. students – University of Iceland*
 - Sigurður Guðni Gunnarsson, M.S. in Chemistry. “Brush Polymers with Macrocyclic Side Chains”, May 2023
 - William Thomas Möller, M.S. in Chemistry, “Experimental and theoretical study of the regioselectivity of Claisen rearrangements of substituted allyl phenyl ethers.” May 2020
 - Arnaldur Ægir Guðlaugsson, M.S. in Pharmacy, “Total Synthesis of Bisabolene Derivatives from the Marine Sponge Myrmekioderma sp.” April 2020
- *B.Sc. students – University of Iceland – Graduated: 6*
- *B.Sc. students co-advised – Caltech – Graduated: 2*

Opponent in Ph.D. defenses

- Ph.D. thesis by Margarida Costa: *Exploring marine sponges and their associated microorganisms as a source of natural compounds*. Faculty of Pharmaceutical Sciences, School of Health Sciences, University of Iceland, **December 2018**

Books

1. Sveinbjornsson, B.R.; *Ræðumennska og framkoma*, **2023**, ISBN: 978-9935-25-465-8
2. Sveinbjornsson, B.R.; Gizurarson, S.; *Handbook of Laboratory Safety*, **2022**, 1st Ed. Elsevier. ISBN: 978-0-323-99320-3.

Peer-reviewed publications

[Google scholar](#): Citations: 723, h-index: 7

[ISI](#): Citations: 533, h-index: 5

1. Mhango, E.K.G.; Sveinbjornsson, B.R.; Snorraddottir, B.S.; Gizurarson, S. Incompatibility of antimalarial drugs: challenges in formulating combination products for malaria. *Drug Delivery*, **2024**, *31*, 2299594 (<https://doi.org/10.1080/10717544.2023.2299594>)
2. Mhango, E.K.G.; Carillo, P.M.; Escudero, E.; Yuste, M.; Eiriksson, F.F.; Snorraddottir, B.S.; Sveinbjornsson, B.R.; Gizurarson, S. Bioequivalence study of lumefantrine rectal enema and the commercially available generic oral suspension. *Int. J. Pharm. Sci. Res.*, **2024**, *15*, 1391-1399. ([http://doi.org/10.13040/IJPSR.0975-8232.15\(5\).1391-99](http://doi.org/10.13040/IJPSR.0975-8232.15(5).1391-99))
3. Gunnarsson, S.G.; Freygarðsdóttir, S.E.; Kettler, Ó.R.; Sveinbjörnsson, B.R., Using indicators as impurities to monitor the washing process in the organic chemistry laboratory. *J. Chem. Educ.* **2023**, *100*, 4796-4802 (<https://doi.org/10.1021/acs.jchemed.3c00640>)
4. Ghasemisarabbadih, M.; Sigurdsson, S.J.; Dong, V.N.; Gizurarson, S.; Sveinbjornsson, B.R. The effect of D-(+)-glucosamine, N-acetyl-D-glucosamine and

- Tetraethylene Glycol on Oxytocin in Aqueous Solution. *Pharmazie*, **2021**, 76, 480-483. (<https://doi.org/10.1691/ph.2021.1081>)
- Ghasemisarabadi, M.; Gizurarson, S.; Sveinbjornsson, B.R. The Effect of Trehalose, Antioxidants, and Acetate Buffer Concentration on Oxytocin Stability. *J. Pept. Sci.* **2021**;e3324. (<https://doi.org/10.1002/psc.3324>)
 - Ghasemisarabadi, M.; Gizurarson, S.; Sveinbjornsson, B.R. Effect of 18-crown-6 on oxytocin stability in aqueous buffer solutions. *ACS Omega*. **2021**, 6, 5805-5811. (<https://doi.org/10.1021/acsomega.0c06248>)
 - Sveinbjornsson, B.R. What is in a prerequisite? An Observational Study on the Effect of General Chemistry on Organic Chemistry Performance. *J. Chem. Ed.* **2021**, 98, 368-373. (<https://doi.org/10.1021/acs.jchemed.0c01065>)
 - Sveinbjornsson, B. R.; Miyake, G. M.; El-Batta, A.; Grubbs, R. H. Stereocomplex Formation of Densely Grafted Brush Polymers. *ACS Macro Letters*, **2014**, 3, 26-29. (<https://doi.org/10.1021/mz400568j>)
 - Hong, S. W.; Gu, W.; Huh, J.; Sveinbjornsson, B. R.; Jeong, G.; Grubbs, R. H.; Russell, T. P.; On the Self-Assembly of Brush Block Copolymers in Thin Films. *ACS Nano*, **2013**, 7, 9684-9692 (<https://doi.org/10.1021/nn402639g>)
 - Fang, L.; Liu, P.; Sveinbjornsson, B. R.; Atahan-Evrenk, S.; Vandewal, K.; Osuna, S.; Jiménez-Osés, G.; Shrestha, S.; Giri, G.; Wei, P.; Salleo, A.; Aspuru-Guzik, A.; Grubbs, R. H.; Houk, K. N.; Bao, Z. Confined organization of fullerene units along high polymer chains. *J. Mater. Chem. C* **2013**, 1, 5747-5755. (<https://doi.org/10.1039/C3TC31158A>)
 - Gu, W.; Huh, J.; Hong, S. W.; Sveinbjornsson, B.R.; Park, C.; Grubbs, R. H.; Russell, T.P. Self-Assembly of Symmetric Brush Diblock Copolymers. *ACS Nano*, **2013**, 7, 2551-2558. (<https://doi.org/10.1021/nn305867d>)
 - Sveinbjornsson, B.R.; Weitekamp, R. A.; Miyake, G. M.; Xia, Y.; Atwater, H. A.; Grubbs, R. H. Rapid self-assembly of brush block copolymers to photonic crystals. *Proc. Natl. Acad. Sci. USA*, **2012**, 109, 14332-14336. (<https://doi.org/10.1073/pnas.1213055109>)

Papers in the pipeline

- Möller, W.T.; Arana, L.A.; Hreinsdottir, S.D.; Sveinbjornsson, B.R., Regioselectivity effect of *meta*- and *para*- substituents on the Claisen rearrangement of allyl aryl ethers. *Submitted*
ChemRxiv Preprint:
"Regioselectivity effect of *meta*- and *para*- substituents on the Claisen rearrangement of allyl aryl ethers." *ChemRxiv* **2024**, doi:[10.26434/chemrxiv-2024-5rkxz](https://doi.org/10.26434/chemrxiv-2024-5rkxz)
- Arana Olivari, L.A.G.; Sveinbjornsson, B.R. Synthesis of a Novel Bottlebrush Polymer with polystyrene-based cyclic macromonomers. *In preparation*

Patents

- Gizurarson, S.; Kalesi Gondwe Mhango, E.; Sveinbjornsson, B.R. Preventing Incompatibility Among Malarial Drugs, **2020**, Publication number: WO/2020/225832, International Application No. PCT/IS2020/050014
- Xia, Y.; Sveinbjornsson, B.R.; Weitekamp, R.; Miyake, G.M.; Piunova, V.; Daeffler, C.S.; Atwater, H.A.; Grubbs, R.H. Rapid Self-Assembly of Block Copolymers to Photonic Crystals. US Patent, **2012**, 13/800,646.
- Xia, Y.; Sveinbjornsson, B.R.; Weitekamp, R.; Miyake, G.M.; Piunova, V.; Daeffler, C.S.; Grubbs, R.H. Periodic Nanostructures From Self-Assembled Wedge-Type Block Copolymers. US Patent, **2012**, 13/801,710.

Publications for the public

- [Hvernig er plast endurunnid?](#) An answer for the Icelandic Web of Science (Vísindavefurinn), **Jan 2021**.
- [Eyðist plast í sjónum eða mun það verða þar um alla eilífð?](#) An answer for the Icelandic Web of Science (Vísindavefurinn), **Jan 2021**.
- Gizurarson, S.; Sveinbjörnsson, B.R. Augnskaði, *Á vakt fyrir Ísland (Journal of the Icelandic national association of firefighters and EMTs)* **2020**, 47, 6.

Oral Presentations

1. *The classroom as our laboratory: Experiments in teaching*, Chemistry-biochemistry seminar series at the University of Iceland. **January 26th, 2024**
2. *Novel polymeric architectures and effect on polymeric properties*, Chemistry-biochemistry seminar series at the University of Iceland. **October 13th, 2022**
3. *Notkun litvísa til að auka skilning á þvotti og útdrætti í verklegri efnafræði*, (English: *Using color indicators to enhance understanding of washing and extraction in experimental chemistry*), a presentation at [Menntakvika HÍ](#), **October 7th, 2022**.
4. *Tilraunir með heima- og staðpróf undanfarin ár*, (English: *Experiments with home and on-site exams in recent years*), a presentation at the 1st symposium of the Teaching Academy of Public Universities in Iceland, **May 23rd, 2022**.
5. *Það er leikur að læra*, (English: *Learning is a game*), a teaching seminar at the School of Engineering and Natural Sciences at the University of Iceland, **March 28th, 2022**.
6. *Vísindagreinarverkefni til að vekja nemendaáhuga*, (English: *A scientific article based project to induce student interest*), a presentation at [Menntakvika HÍ](#), **October 15th, 2021**.
7. *The effect of 18-crown-6 on oxytocin stability in aqueous buffer solutions*, 20th Biomedical and Health Sciences Conference at the University of Iceland. **June 3rd, 2021**.
8. *Kahoot keppnir í kennslu: Fyrir nemendavirkjun og eftirfylgni með námsframvindu*. Fjarmenntabúðir at the University of Iceland, **May 20th, 2021**.
9. *Fjölliðuefnafræði: Ljóseindakristallar og endurvinnsla plasts*, Chemistry research – a chemistry symposium for high school teachers at Endurmenntun HÍ, **June 5th, 2020**.
10. *Polymer architectures and applications*, at a Scientific Workshop held by COST Action CA16227. Università di Torino, Turin, Italy, **February 7th, 2018**.
11. *Brush polymers: synthesis and self-assembly* at a Scientific Workshop held by COST Action CA16217. Porto, Portugal, **February 2nd, 2018**.
12. *Polymer architectures: Recent advances and future adventures*, Chemistry-biochemistry seminar series at the University of Iceland. **January 26th, 2018**.
13. *Self-Assembly of (A)symmetric Brush Block Copolymers*, Inorganic-Organometallic Seminar, California Institute of Technology. **March 7th, 2014**.
14. *Fabrication of Photonic Crystals from Graft Block Copolymers*, Chemistry-biochemistry seminar series at the University of Iceland. **May 18th, 2012**.

Posters co-authored

1. Arana, L.; Sveinbjörnsson, B.R., Brush polymers with cyclic and/or divalent side chains. *Seventh International Conference on Multifunctional, Hybrid & Nanomaterials (HYMA 2022)*. **October 19th-22nd, 2022**. Genoa, Italy.

- Gunnarsson, S.G.; Olivari, L.A.A. Sveinbjornsson, B.R. Linear and cyclic brush polymers with cyclic side-chains. *9th Efnis Conference – Chemistry and the environment*. **August 11th-12th, 2022**
- Ghasemisarabadi, M.; Gizurarson, S.; Sveinbjornsson, B.R. (2019) The Stability of Oxytocin in Aqueous Solutions with Glucosamine and Tetraethyleneglycol. *International Research Conference on Protein Stability and Interactions*.
- Ghasemisarabadi, M.; Gizurarson, S.; Sveinbjornsson, B.R. (2019) The Protection of Oxytocin from Degradation in Aqueous Solutions using Glucosamine and Tetraethylenglycol. *19th Biomedical and Health Sciences Conference at the University of Iceland*.
- Jeong, G.; Sveinbjornsson, B.R.; Grubbs, R.H.; Russell, T.P. (2015) Thin Films of Bottlebrush Block Copolymers with Homopolymer. *APS March Meeting 2015*.
- Jeong, G.; Russell, T.P.; Sveinbjornsson, B.R.; Grubbs, R.H.; (2014) In Situ X ray scattering for investigating morphology of bottle brush BCP with Solvent annealing. *APS March Meeting 2014*.
- Gu, W.; Sveinbjornsson, B.R.; Hong, S.W.; Grubbs, R.H.; Russell, T.P. (2012) Self-Assembly of Narrowly Dispersed Brush Diblock Copolymers with Domain Spacing more than 100nm. *APS March Meeting 2012*.

Research Funding (Principal Investigator)

- The Student Innovation Fund*, “Effect of polymer size on plastic solubility”, 2 students, (2.04 million ISK), **summer 2024**. Grant number: 241202
- The Research Fund of University of Iceland*, “Size and architecture effect on plastics solubility for solvent-based recycling” (2.4 million ISK), **2024-2026**. Grant number: 94204
- The Student Innovation Fund*, “2D Photonic crystals from divalent brush polymers”, 2 students, (2.04 million ISK), **summer 2023**. Grant number: 2311377
- The Student Innovation Fund*, “Total synthesis of bisabolene derivatives”, 1 student, (1.02 million ISK), **summer 2023**. Grant number: 2210975
- The Icelandic Research Fund*, Project Grant, “Brush polymers with cyclic and/or divalent side chains” (49.5 million ISK or \approx 400 thousand USD), **2021-2023**. Grant number: 218163
- The Research Fund of University of Iceland*, “Brush polymers with cyclic and/or divalent side chains” (1.2 million ISK), **2021-2023**.
- The Research Fund of University of Iceland*, “Tuneable Hydrogels for Small Molecule Drug Delivery” (2.1 million ISK) **2018-2020**
- The Student Innovation Fund*, “Development of a chemical sorting of mixed plastic waste for recycling”, 2 students, (900 thousands ISK), **summer 2020**. Grant number: 207083
- The Student Innovation Fund*, “Brush polymers with cyclic side chains”, 2 students, (1.8 million ISK), **summer 2019**. Grant number: 195861

Leadership experience

- Vice Head of Faculty, *Faculty of Physical Sciences*, School of Engineering and Natural Sciences, University of Iceland, **2024-present**
- Chair of the *Safety committee of the University of Iceland*, **2023-present**
- Chair of the *Chemistry department* at the University of Iceland, **2022-present**

- Chairman of the board of the *Icelandic Chemical Society (Efnafræðifélag Íslands)*, **2021 – present**
- A member of the *Equality committee for the School of Engineering and Natural Sciences*, University of Iceland, **2021 – 2023**
- A member of the *Safety group for the Institute of Physical Sciences / Faculty of Physical Sciences*, School of Engineering and Natural Sciences, **2018 – present**
- A member of the board of *Kristilega skólahreyfingin*, **2017 – present**
 - Chairman of the board 2018-20
- A member of the board of *Sumarbúðir KFUM og KFUK – Kaldárseli*, **2017 – 2020**
- A member of the board of *Friends of Rural Development*, **2018 – 2019**
- President of the *Caltech Toastmasters Club*, **2013 – 2014**
- President of *EXPLiCIT*, the student theater club at Caltech, **2012-13**.
 - Co-produced 3 full-stage plays during that time.
- A co-founder and board member of *Gladius*, a student organization organizing forums and seminars relating to aspects of Christianity from an academic perspective. **2007-09**
- A board member of *Kristileg skólasamtök (KSS)*, **2004-07**
 - Chairman of the board 2006-07.

Organizer of conferences and symposiums

- Chair of the conference committee for the [9th Efnís Conference – Chemistry and the Environment](#), August 11th-12th, 2022
- A member of the *Eurobic Conference Office*, organizing the Eurobic 2020 conference, which had to be turned into an online webinar series because of COVID-19. **2020**.
- Coordinated the symposium *Rannsóknir í efnafræði*, which was a chemistry symposium held by *Félag raungreinakennara* in collaboration with Endurmenntun HÍ. **June 2020**.

Other work experience

- *Camp counselor, Summers 2002-2007, 2009*
In the summer camps Vatnaskógur and Kaldársel
- *Youth leader, 2007-2009*
Youth leader in various youth groups and Sunday school for the Evangelical Lutheran Church of Iceland
- *Janitor, 2005-2008*
KFUM og KFUK á Íslandi

Awards and accomplishments

- *University of Iceland Science and Innovation Prize, 2022*. Member of the team that won the “Motivational” category with the project “Plastic recycling based on solubility”. Other team members were Hreinn Kristjánsson, Sigurður Guðni Gunnarsson, and Sólrún Elín Freygarðsdóttir.
- *Teaching award – School of Engineering and Natural Sciences within the University of Iceland, 2021*. One of two recipients of this teaching award this year.
- *Founding member of The Teaching Academy of the Public Universities in Iceland*, active **2021-present**.

- *University of Iceland Science and Innovation Prize, 2021*. Member of the team that won the “Health and wellbeing” category as well as the overall competition, with the project “Meðferð við heilahimnubólgu af völdum malaríu” (English – “Treatment of cerebral malaria”). Other team members were Sveinbjörn Gizurarson, Bergþóra S. Snorradóttir and Ellen K. G. Mhango)
- Bronze medal at the *International Chemistry Olympiad, 2006*, Gyongsan S-Korea
- Participated in the *International Mathematical Olympiad, 2005*, Mérida, Mexico
- Participated in the *Baltic Way Mathematical Team Competition, 2005*, Stockholm, Sweden

Interests

- Music
 - Elementary level in singing from Söngskóli Sigurðar Demetz, 2022.
 - Played violing with the Pomona College Orchestra, fall of 2016.
 - Advanced level in violin playing from Reykjavik Suzuki School of Music, 2009.
 - Played violin with the Icelandic Youth Symphony Orchestra, 2007-2008.
 - Played violin with the Icelandic Amateur Symphony Orchestra, 2007-2008.
- Theater
 - Acted in 7 full-stage productions, 1 musical and several playreadings at Caltech, 2011-2015. One of the favorite roles was playing Caliban in Shakespeare’s *The Tempest*.
 - Acted in 3 full-stage musicals at Söngskóli Sigurðar Demetz, 2022-24.
- Dance
 - Took lessons in West Coast Swing, Lindy Hop, Swing and Rock&Roll, and salsa dancing at *Háskóladansinn*, 2018-2019
 - Participated in *Dancing with the Claremont Stars* at Pomona College in 2015, a competition where students teamed up with teachers and/or staff to do a dance routine.