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RESUME

Full name: Ashraf Brik

Identity #: 026416594

Date and place of birth: June 29, 1973, Israel.

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ACADEMIC DEGREES

- B.Sc. 1993-1996 Department of Chemistry, Ben-Gurion University of the Negev, Beer Sheva, Israel.
- M.Sc. 1996-1998 Department of Chemistry, Technion-Israel Institute of Technology, Haifa, Israel.
- Ph.D. 1998-2001 Department of Chemistry, Technion-Israel Institute of Technology, Haifa, Israel.

ACADEMIC APPOINTMENTS

- Since 3/2015: Full Professor, Schulich Faculty of Chemistry, Technion-Israel Institute of Technology.
- Since 3/2012: Full Professor, Department of Chemistry, Ben-Gurion University of the Negev.
- 4/2011-2/2012: Associate Professor, Department of Chemistry, Ben-Gurion University of the Negev.
- 2/2007-3/2011: Sr. Lecturer, Department of Chemistry, Ben-Gurion University of the Negev.
- 2004-2006: Senior Research Associate, The Scripps Research Institute, La Jolla, California.
- 2002-2004: Postdoctoral Associate, The Scripps Research Institute, La Jolla, California.

PROFESSIONAL EXPERIENCE (outside academia)

- 2006-2007: Consultant for Biomatrix, Inc.
- 2013-2015: Consultant for Teva Pharmaceutical

RESEARCH INTERESTS (briefly)

- 1) Chemical and Semi-synthesis of Posttranslationally Modified Proteins.
- 2) Studying the Ubiquitin and Ubiquitin Like Modifiers Signals Using Chemical Biology Approaches.

- 3) Chemical Synthesis of Modified Histones.
- 4) Modulating Enzymes Activities using Small Molecules, Peptides and Peptidomimetics.

TEACHING EXPERIENCE

1. Peptides and Proteins Chemistry: Basic Principles and Recent Advances: Graduate and Undergraduate, Schulich Faculty of Chemistry, Technion.
2. Chemistry in Drug Discovery: Graduate and undergraduate, Schulich Faculty of Chemistry, Technion.
3. Organic Chemistry II: Undergraduate students, Pharmacy School and Chemical Engineering Department, Ben-Gurion University of the Negev.
4. Analytical and General Chemistry Laboratory: Undergraduate students, Chemistry Department, Ben-Gurion University of the Negev.
4. Advanced Topics in Protein Chemistry: Graduate students, Ben-Gurion University of the Negev.
5. Organic Chemistry I Laboratory: Undergraduate students, the Chemistry Department, Ben-Gurion University of the Negev.
6. Advanced Organic Chemistry Laboratory: Undergraduate students, the Chemistry Department, Ben-Gurion University of the Negev.

TECHNION ACTIVITIES

- 2016-present: Member of the Technion prize committee for postdocs & visiting professors.
 2016-present: Member of the Technion committee responsible for policy of computers and communication infrastructure.

DEPARTMENTAL ACTIVITIES

- 2016-present: Head of the Organic Chemistry Division, Schulich Faculty of Chemistry-Technion.

PUBLIC PROFESSIONAL ACTIVITIES

- 2009-2014: Elected member of the Executive Board of the Israel Chemical Society.
 2012-2018: Member of a peer review group for proposals submitted to Deutsche Forschungsgemeinschaft for the priority program on chemoselective reactions for the synthesis and Application of functional proteins).
 2012-present: Member of the Editorial Board of Organic and Biomolecular Chemistry.
 2012-present: Member of the International Advisory Board of Asian Journal of Organic Chemistry.
 2016-present: Member of the Advisory Board of ChemBioChem.
 2016-present: Member of the Editorial Board of Cell Chemical Biology.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- 2018-present Member of the Israel Young Academy.
 2001-present: Member of the American Chemical Society (ACS).
 2007-present: Member of the Israel Chemical Society (ICS).

2009-present: Member of the American Peptide Society (APS).

FELLOWSHIPS, AWARDS AND HONORS

- 2020 ICS Prize of Excellence 2019
- 2019 ERC-2018 Advanced Grant
- 2018 The Jordan and Irene Tark Academic Chair.
- 2017 The Bruno Award.
- 2017 The Henry Taub Prize for Academic Excellence.
- 2015 Bessel Award of the Humboldt Foundation for 2015.
- 2015 The 11th Hirata Award.
- 2013 Teva Award for Excellence in memory of Eli Hurvitz.
- 2013 The Tetrahedron Young Investigator Award in Bioorganic and Medicinal Chemistry.
- 2013 Dean's Honors for Excellent Researcher (Faculty of Natural Sciences Ben-Gurion University).
- 2012 Ben-Gurion University -Toronto prize for excellence in research.
- 2011 JSP Fellowship, the 46th Bürgenstock Conference, May 1-6, 2011 at Brunnen, Switzerland.
- 2011 The 2011 Israel Chemical Society prize for Outstanding Young Chemist.
- 2009 Dean's Honors for Excellent Researcher (Faculty of Natural Sciences Ben-Gurion University).
- 2007 Ma'of Fellowship: Established by the Kahanoff Foundation (covered the university salary for the first three years of my position as a Sr. lecturer at Ben-Gurion University of the Negev, in addition to \$30,000 for research).
- 2002 Postdoctoral Fellowship: Israel Science Foundation (ISF).
- 1998 Eshkol Scholarship for Graduate Students: Israel Ministry of Science.

GRADUATE STUDENTS

Completed PhD theses

1. Liat Spasser Ph.D., 2013, "Chemical Biology with Ubiquitin Chains", A.Brik, Ben-Gurion University of the Negev.
2. Peter Siman, Ph.D., 2014, "New tools for the Synthesis and Manipulations of Highly Aggregative Proteins" A.Brik, Ben-Gurion University of the Negev.
3. Mahmood Haj-Yahya, Ph.D., 2014, "Novel Chemical Approaches for Constructing Ubiquitinated Proteins for Biochemical Studies", A. Brik, Ben-Gurion University of the Negev.
4. Shimrit Ohayon, M.Sc. 2017, "Novel Chemical Approaches for Studying and Targeting Deubiquitinases" A. Brik, Technion.
5. Roman Meledin, Ph.D., 2013, 2017, "Chemical and semisynthesis of Ubiquitinated proteins for functional analysis", Technion.
6. Sumeet Singh, Ph.D., 2013, 2018, "Expanding the chemistry of non-enzymatic polyubiquitination of expressed protein for biochemical studies", Technion.
7. Muhammad Jbara, Ph.D., 2015, 2019, "Chemical Protein Synthesis of Modified Histone Proteins for biochemical Studies", Technion.

Completed MSc theses

1. Marina Yamit Lutsky, M.Sc., 2009, "Peptide Ligation via Side-Chain Auxiliary", A. Brik, Ben-Gurion University of the Negev.
2. Ziv Harpaz, M.Sc., 2010, "Protein Synthesis Assisted by Native Chemical Ligation at Leucine", A.Brik, Ben-Gurion University of the Negev.
3. Lesly Erlich, M.Sc. 2010, "Chemical Synthesis of Ubiquitin Thioester" A. Brik, Ben-Gurion University of the Negev.
4. Rinat Roytman, M.Sc., 2010, "Exploring the Effect of Carbohydrate on the Self-Assembly of Glycopeptides" A. Brik, Ben-Gurion University of the Negev.
5. Mahmood Haj-Yahya, M.Sc., 2010, "Lessons from Posttranslational Modifications Exercised in Synthetic Proteins" A. Brik, Ben-Gurion University of the Negev.
6. Tal Moyal, M.Sc., 2012, "Adventures in the Chemical Synthesis of Polyubiquitin Chains", A. Brik, Ben-Gurion University of the Negev.
7. Shimrit Ohayon ,M.Sc. 2012, "Novel Chemical Approaches for Studying and Targeting Deubiquitinases" A. Brik , "Novel Chemical Approaches for Studying and Targeting Deubiquitinases", Ben-Gurion University of the Negev.
8. Najat Haj-Yahya (El-tarteer), M.Sc., 2014, "Modifying the Vicinity of the Isopeptide Bond in Ubiquitin Chains to Study their Behavior with Ubiquitin Interacting Proteins", A.Brik, Ben-Gurion University of the Negev.
9. Muhammad Jbara, Ph.D., 2016, "Solid Phase Chemical Ligation Applied to Histone Proteins" A.Brik, Ben-Gurion University of the Negev.
10. Maya Refua, M.Sc., 2016, "Development of HTS Assay for DUBs Using Expeditious Chemical Synthesis of Ubiquitinated Substrates", A. Brik, Ben-Gurion University of the Negev.
11. Guy Mann, M.Sc., 2017, "Development of Palladium Based Cleavable Linkers for Peptide and Protein Chemistry", A.Brik, Technion.
12. Emad Eid, M.Sc., 2017, "Total Chemical synthesis of SUMO-2-Lys63-linked Di-ubiquitin Hybrid Chains Assisted by Removable Solubilizing Tags", A.Brik, Technion.
13. Shay Laps, M.Sc., 2017, "Palladium Assisted Synthesis and Manipulation of Peptides and Proteins" , A.Brik, Technion.

PhD theses in progress

1. Mickal (Abd-Alhadi) Nawatha, Ph.D., 2015, 2019, "Combinatorial Approaches to Target the Ubiquitin System", Technion.
2. Guy Mann, Ph.D., 2017, 2021, "Live Cell Manipulation of Synthetic Peptides and Proteins by External Stimulus: Application to the Ubiquitin System", A.Brik, Technion.
3. Emad Eid, Ph.D., 2017, 2021, "Chemical Protein Synthesis of Ubiquitin Like Modifiers for Biochemical Studies", A.Brik, Technion.
4. Shay Laps, Ph.D., 2017, 2021, "Palladium Chemistry in Protein Synthesis and Manipulation: Expanded Scope and Applications", A.Brik, Technion.
5. Shaswati Mandal, Ph.D., 2019, 2023, "Synthesis of polyubiquitin chains for functional studies in Live Cells", A. Brik, Technion.

MSc theses in progress

1. Muna Massalam, M.Sc., 2017, 2019, “The effect of phosphorylation of p19INK4d on its ubiquitination and degradation”, A.Brik, Technion.
2. Fatima Atamleh, M. Sc. 2019, 2021, To be decided, A.Brik, Technion.

RESEARCH GRANTS

- 2019-2024 ERC 2018 Advanced Grant, Euro 2,500,000 “Delivery and On-Demand Activation of Chemically Synthesized and Uniquely Modified Proteins in Living Cells”.
- 2017-2020 ISF-NSFC with Lei-Liu from Tsinghua-Peking Center for Life Sciences, NIS 1,110,000; “Chemical Synthesis of Ubiquitinated Proteins with Unique Compositions to Decode the Proteolytic Signal”.
- 2016-2017: Institutional Equipment Grants Program, The Israel Science Foundation, MALDI-TOF MS (With Prof. Galia Maayan and Prof. Charles Diesendruck).
- 2015-2019: Personal grant, Israel Science Foundation, NIS 1,460,000; “Non-Enzymatic Polyubiquitination of Expressed Proteins: Expanded Chemistry and Applications”.
- 2015-2019: NIH, Co-PI with Cynthia Wolberger from Johns Hopkins, \$140,000 “Mechanisms for Histone H2B Deubiquitination.”
- 2015-2018: Ministry of Science, (The Organizing PI), NIS 1,990,000 “Integrated Organic, Electrochemical and Cellular Approach for Studying the Inhibition of Deubiquitinases by Reactive Oxygen Species.
- 2015-2019: US-Israel Binational Science Foundation, (Jointly with Professor Cynthia Wolberger, Johns Hopkins). \$180,000. “Chemical Synthesis of Novel Reagents Based on Hybrid SUMO-Ubiquitin Chains for DNA Repair Studies.”
- 2014-2016: GIF grant, 180,000 Euros (jointly with Prof. Wolfgang Fischle). Systematic analysis of histone ubiquitylation in chromatin context.
- 2012-2017: Focal Technological Areas, The Ministry of Industry, \$M 11. Bio-inspired Nano-carriers for Sub-Cellular Targeted Therapeutics. (jointly with 11 PIs and headed by Prof Joseph Kost).
- 2010-2014: Personal grant, Israel Science Foundation NIS 936,000, Advanced chemical tools to study ubiquitin chains.
- 2010-2014: US-Israel Binational Science Foundation, (Jointly with Professor Peter Schultz, TSRI), \$188,000, Genetically Encoded Ubiquitination.
- 2009-2012: Tashtiot grant, NIS 1,800,000 (Shared with Prof Ehud Keinan and Ohad Medalia) “Nano Reactors”
- 2009-2012: HFSP grant, \$750,000 (Shared with Prof H. A. Lashuel, EPFL), “Developing novel chemical approaches to control protein folding and self-assembly in health and disease”
- 2007-2011: Personal grant, Israel Science Foundation \$270,000 “New synthetic approaches for the incorporation of peptidomimetic structures into proteins”
- 2008-2011: Safra Foundation \$1,870,000, Principal investigator, (Shared with another five groups), “Establishment of center of biopolymers”
- 2007-2010: Wolfson Foundation €307,000, Principal investigator, (Shared with another three PIs) “Protein Design and Engineering Laboratory at Ben-Gurion University of the Negev”
- 2007-2010: Rich Foundation, \$250,000, “Protein synthesis for biological studies”

- 2007-2009: European Commission FP6 - Marie Curie International Reintegration Grant, €80,000, "HTLV Protease: Synthesis and inhibition"
- 2006-2009: Ma'of fellowship: Established by the Kahanoff Foundation (covered university salary for the first three years of my position as a Sr. lecturer at Ben-Gurion University of the Negev, in addition to \$30,000 for research).
- 2007-2008: Equipment grant, Israel Science Foundation \$140,000, "Analytical and preparative system for synthetic peptides, peptidomimetics, and proteins".

PUBLICATIONS

1. Nizar Haddad, **Ashraf Brik**, and Michael Grishko: Studies Towards Total Synthesis of Borrelidin, Regioselective Methylation of Bis-epoxides and Structure Determination, *Tetrahedron Letters* **1997**, 38, 6079-6082.
2. Nizar Haddad, Michael Grishko, and **Ashraf Brik**: Studies Towards Total Synthesis of Borrelidin, Stereoselective Synthesis of the Polysubstituted Macrolidic Part, *Tetrahedron Letters*, **1997**, 38, 6075-6078.
3. **Ashraf Brik**, Ehud Keinan, and Philip E. Dawson: Protein Synthesis by Solid-Phase Chemical Ligation Using a Safety Catch Linker, *Journal of Organic Chemistry*, **2000**, 65, 3829-3835.
4. **Ashraf Brik**, Philip E. Dawson and Ehud Keinan: The Product of the Natural Reaction Catalyzed by 4-oxalocrotonate Tautomerase Becomes an Affinity Label of its Mutant, *Bioorganic & Medicinal Chemistry*, **2002**, 10, 3891-3897.
5. **Ashraf Brik**, Lawrence J. D'Souza, Ehud Keinan, Flavio Grynszpan and Philip E. Dawson: Mutants of 4-Oxalocrotonate Tautomerase Catalyze the Decarboxylation of Oxaloacetate Through an Imine Mechanism, *ChemBioChem*, **2002**, 3, 845-851, (highlighted on the cover page).
6. **Ashraf Brik**, Ying-Chuan Lin, John Elder, Chi-Huey Wong, A Quick Diversity-Oriented Amide-Forming Reaction to Optimize p-subsite Residues of HIV Protease Inhibitors, *Chemistry & Biology*, **2002**, 9, 891-896.
7. Chi Ching Mak, **Ashraf Brik**, Danica L. Lerner, John H. Elder, Garrett M. Morris, Arthur J. Olson, Chi-Huey Wong: Design and Synthesis of Broad-Based Mono- and Bi-cyclic Inhibitors of FIV and HIV Proteases, *Bioorganic & Medicinal Chemistry*, **2003**, 11, 2025-2040.
8. **Ashraf Brik**, John Muldoon, Ying-Chuan Lin, John H. Elder, David S. Goodsell, Arthur J. Olson, Valery V. Fokin, K. Barry Sharpless and Chi-Huey Wong: A Rapid Diversity-Oriented Synthesis and In Situ Screening of HIV Protease Inhibitors, *ChemBioChem*, **2003**, 4, 1246-1248.
9. Michael D. Best, **Ashraf Brik**, Lac V-Lee, Ali Chapman, Wei-Chieh Cheng and Chi-Huey Wong: Rapid Discovery of Potent Sulfotransferase Inhibitors by Diversity-Oriented Reaction in Microplates Followed by in Situ Screening, *ChemBioChem*, **2004**, 5, 811-819.
10. Ting-Jen Chen, **Ashraf Brik**, Chi-Huey Wong and Chen-Chen Kan: A model System for High-Throughput Screening of Novel Human Immunodeficiency

- Virus (HIV) Protease Inhibitors in Escherichia Coli, *Antimicrobial Agents and Chemotherapy*, **2004**, 48(7), 2437-2447.
11. Norman Metanis, **Ashraf Brik**, Ehud Keinan, and Philip E. Dawson: Electrostatic interaction dominate the contribution of Arg39 in 44 Oxalocrotonate Tautomerase, *Journal of the American Chemical Society*, **2004**, 126 (40), 12726-12727.
 12. Chung-Yi Wu, Jia-Tsong Jan, Shiou-Hwa Ma, Chih-Jung Kuo, Hsueh-Fen Juan, Yih-Shyun E Cheng, Hsuan Cheng Huang, Douglass Wu, **Ashraf Brik**, Fu-Sen Liang, Rai-Shung Liu, Jim-Min Fang, Shui-Tein Chen Po-Huang Liang, Chi-Huey Wong: Small Molecules Targeting Severe Acute Respiratory Syndrome (SARS) Human Coronavirus, *Proceedings of the National Academy of Science, USA*, **2004**, 101(27), 10012-10017.
 13. **Ashraf Brik**, Chung-Yi Wu, Michael D. Best and Chi-Huey Wong: Tetrabutylammonium Fluoride-Assisted Rapid N9-Alkylation on Purine Ring: Application to Combinatorial reaction in Microtiter plates for the Discovery of Potent Sulfotransferase Inhibitors In situ, *Bioorganic & Medicinal Chemistry*, **2005**, 13, 4622-4626.
 14. **Ashraf Brik**, Jerry Alexandratos, Ying-Chuan Lin, John H. Elder, Arthur J. Olson, David S. Goodsell, Alexander Wlodawer and Chi-Huey Wong: 1,2,3 Triazole as a Peptide Bond Surrogate in the Rapid Synthesis of HIV Protease Inhibitors, *ChemBiochem*, **2005**, 6, 1167-1169 (highlighted on the cover page).
 15. Chung-Yi Wu, **Ashraf Brik**, Sheng-Kai Wang, Yu-Hsien Chen, and Chi-Huey Wong: Tetrabutylammonium Fluoride-Mediated Rapid Alkylation Reaction in Microtiter Plates for Discovery of Enzyme Inhibitors In situ, *ChemBiochem*, **2005**, 6, 2176-2180.
 16. Fu-Sen Liang, **Ashraf Brik**, Ying-Chuan Lin, John H. Elder, and Chi-Huey Wong. "Epoxide Opening in Water for Rapid Inhibitor Discovery in Microtiter Plate and In situ screening" *Bioorganic & Medicinal Chemistry*, **2006**, 14, 1058-1062
 17. **Ashraf Brik**, Yu-Ying Yang, Simon Ficht, Chi-Huey Wong: Sugar Assisted Glycopeptide Ligation" *Journal of The American Chemical Society*, **2006**, 128, 5626-5627.
 18. Ying-Chuan Lin, **Ashraf Brik**, Aymeric de Parseval, Karen Tam, Bruce Torbett, Chi-Huey Wong, John H. Elder: Altered Gag-Pol Polyprotein Cleavage Specificity of FIV/HIV Mutant Proteases as Demonstrated in Cell-Based Expression System, *Journal of Virology*, **2006**, 80, 7832-7843.
 19. **Ashraf Brik**,* Simon Ficht, Yu-Ying Yang, Chi-Huey Wong*: Sugar Assisted ligation for the Synthesis of N-linked Glycopeptide with Broad Sequence Tolerance at the Ligation Junction, *Journal of the American Chemical Society*, **2006**, 128, 15026-15033. See highlight about this paper in News & Views, *Nature*, **2007**, 445, 31-33.
 20. Simon Ficht, Richard J. Payne, **Ashraf Brik**, Chi-Huey Wong: Second Generation Sugar-Assisted ligation: An effective New Method for the

- Synthesis of Cysteine Containing Glycopeptides, *Angewandte Chemie International Edition*, **2007**, *46*, 5975-5979.
21. **Ashraf Brik***, Chi-Huey Wong* “Sugar-Assisted Ligation for the Synthesis of Glycopeptides” *Chemistry-A European Journal*, **2007**, *13*, 5670-5675.
 22. Yu-Ying, Yang, Simon Ficht, **Ashraf Brik***, Chi-Huey Wong*: Sugar-Assisted Ligation in Glycoprotein Synthesis, *Journal of the American Chemical Society*, **2007**, *129*, 7690-7701.
 23. Richard J. Payne, Simon Ficht, Sishi Tang, **Ashraf Brik**, Yu-Ying Yang, David A. Case, Chi-Huey Wong, “Extended Sugar-Assisted Glycopeptide Ligations: Development, Scope and Applications” *Journal of The American Chemical Society*, **2007**, *129*, 13527-13536.
 24. Clay S. Bennett, Richard J. Payne, Simon Ficht, Stephen M. Dean, **Ashraf Brik**, Chi-Huey Wong: Sugar-Assisted Glycopeptide Ligation with Complex Oligosaccharides, *Journal of the American Chemical Society*, **2008**, *130*, 11945-11952.
 25. Michael J. Giffin, Holly Heaslet, **Ashraf Brik**, Ying-Chuan Lin, Gabrielle Cauvi1, Chi-Huey Wong, Duncan E. McRee, John H. Elder, C. David Stout, Bruce E. Torbett: AB2, an Azide-Alkyne Click Compound, is a Potent Protease Inhibitor of Multidrug-Resistant HIV-1, *Journal of Medicinal Chemistry*, **2008**, *51*, 6263-6267.
 26. Marina-Yamit Lutsky, Natalia Nepomniaschiy, **Ashraf Brik***: Peptide Ligation via Side-Chain Auxiliary, *Chemical Communications*, **2008**, *10*, 1229-1231.
 27. Natalia Nepomniaschiy, Valerie Grimminger, Aviv Cohen, Saviana DiGiovanni, Hilal Lashuel*, **Ashraf Brik***: Switch Peptide via Staudinger Reaction, *Organic Letters*, **2008**, *11*, 5243-5246.
 28. K. S. Ajish Kumar, Ziv Harpaz, Mahmood Haj-Yahya, **Ashraf Brik***: Side-Chain Assisted Ligation in Protein Synthesis, *Bioorganic & Medicinal Chemistry Letters*, **2009**, *19*, 3870–3874.
 29. K. S Ajish Kumar, Mahmood Haj-Yahya, Diana Olschewski, Hilal A. Lashuel, **Ashraf Brik***: Highly Efficient and Chemoselective Peptide Ubiquitylation, *Angewandte Chemie*, **2009**, *48*, 8090-8094; See highlight on this paper in C&EN, November 16, 2009, Volume 87.
 30. Lesly A. Erlich, K. S. Ajish Kumar, Mahmood Haj-Yahya, Philip E. Dawson, **Ashraf Brik***: N-Methylcysteine-Mediated Total Chemical Synthesis of Ubiquitin Thioester, *Organic & Biomolecular Chemistry*, **2010**, *8*, 2392-2396.
 31. Mahmood Haj-Yahya, K. S. Ajish Kumar, Lesly A Erlich, **Ashraf Brik***: Protecting Group Variations of δ -Mercaptolysine Useful in Chemical Ubiquitylation, *Biopolymers*, **2010**, *94*, 504-510.
 32. Ziv Harpaz, Peter Siman, K. S. Ajish Kumar, **Ashraf Brik***: Protein Synthesis Assisted by Native Chemical Ligation at Leucine, *ChemBioChem*, **2010**, *11*, 1232-1235.
 33. K. S. Ajish Kumar#, Liat Spasser#, Lesly A. Erlich, Sudhir N. Bavikar, **Ashraf Brik***: Total Chemical Synthesis of all di-Ubiquitin Chains,

- Angewandte Chemie Int. Ed.* **2010**,*49*, 9126-9131, (# these authors contributed equally). This communication has been selected as a frontispiece for *Angewandte Chemie*. See highlights about this paper: 1) C&EN, Vol 88 # 41, October 11, 2010; 2) Carpe Diubiquitin, by L. Martin & R. T. Raines, *Angewandte Chemie Int. Ed.* 2010,*49*, 9042-9044;3) C&EN, December 20, 2010, issue: Chemical Year in Review 2010.
34. Liat Spasser, K. S. Ajish Kumar, **Ashraf Brik***: Side-Chain Assisted Ligation: Scope and limitation, *Journal of Peptide Science*, **2011**, *17*, 252-255.
 35. Mirva Hejjaoui#, Mahmood Haj-Yahya#, K. S. Ajish Kumar, **Ashraf Brik***, Hilal A. Lashuel*: Towards elucidating the role of ubiquitination in the pathogenesis of Parkinson's disease using semisynthetic ubiquitinated α -synuclein, *Angewandte Chemie Int. Ed.* **2011**, *50*, 405. Selected by the editors as a Hot Paper (# these authors contributed equally).
 36. K. S. Ajish Kumar, Liat Spasser, Shimrit Ohayon, Lesly Erlich, **Ashraf Brik***: Expeditious Chemical Synthesis of Ubiquitinated Peptides Employing Orthogonal Protection, Native Chemical Ligation, *Bioconjugate Chemistry (ACS publication)*, **2011**, *22*, 137-143.
 37. Peter Siman, Ofrah Blatt, Tal Moyal, Tsafi Danieli, Mario Lebediker, Hilal A. Lashuel, Assaf Friedler*, **Ashraf Brik***: Chemical Synthesis and Expression of the HIV-1 Rev Protein, *ChemBioChem*, **2011**, *12*, 1097-1104.
 38. Rinat Roytman, Lihi Adler-Abramovich, K. S. Ajish Kumar, Ting-Chun Kuan, Chun-Cheng Lin, Ehud Gazit*, **Ashraf Brik***: Exploring the Self-Assembly of Glycopeptides Using Diphenylalanine Scaffold, *Organic & Biomolecular Chemistry*, **2011**, *9*, 5755-5761.
 39. K. S. Ajish Kumar#, Sudhir N. Bavikar#, Liat Spasser, Shimrit Ohayon, Tal Moyal and **Ashraf Brik***: Total Synthesis of a 304 residue, K48-Linked Tetraubiquitin, *Angewandte Chemie*, **2011**,*50*, 6137-6141; (# these authors contributed equally). Selected by the editors as a Hot Paper. See highlight on this paper in News of the Week of C&EN, May 30, 2011, Volume 89, number 22, p. 7
 40. Natalie Zeytuni, Ertan Ozyamak, Kfir Ben-Harush, Geula Davidov, Maxim Levin, Yair Gat, Tal Moyal, **Ashraf Brik**, Arash Komeili, Raz Zarivach*: Self-Recognition Mechanism of MAMa, a Magnetosome-Associated TPR-Containing Protein, Promotes Complex Assembly; *Proceedings of the National Academy of Science, USA*, **2011**, *108*, E480-E487
 41. Carlos A. Castañeda, Liat Spasser, Sudhir N. Bavikar, **Ashraf Brik***, David Fushman*: Segmental Isotopic Labelling of Ubiquitin Chains to Unravel Monomer-Specific Molecular Behavior, *Angewandte Chemie Int. Ed.* **2011**, *50*, 11210-11214.
 42. Sudhir N. Bavikar, Liat Spasser, Mahmood Haj-Yahya, Subramanian Vedhanarayanan Karthikeyan, Tal Moyal, K. S. Ajish Kumar and **Ashraf Brik***: Chemical Synthesis of Ubiquitinated Peptides with Varying Lengths and Types of Ubiquitin Chains to Explore the Activity of Deubiquitinases, *Angewandte Chemie Int. Ed.* **2012**,*51*, 758-763.

43. Shimrit Ohayon, Liat Spasser, Amir Aharoni*, **Ashraf Brik***: Targeting Deubiquitinases Enabled by Chemical Synthesis of Proteins, *Journal of the American Chemical Society*, **2012**, *134*, 3281-3289.
44. Gilad Fuchs, Efrat Shema, Rita Vesterman, Eran Kotler, Zohar Lifshits, Sylvia Wilder, Lior Golomb, Ariel Pribluda, Feng Zhang, Mahmood Haj-Yahya, Ester Feldmesser, **Ashraf Brik**, Xiaochun Yu, Jacob Hanna, Daniel Aberdam, Eytan Domany and Moshe Oren*: RNF20 and USP44 regulate embryonic stem cell differentiation by modulating H2B monoubiquitylation, *Molecular Cell*, **2012**, *46*, 662-673.
45. Peter Siman, Subramanian Vedhanarayanan Karthikeyan and **Ashraf Brik***: Native Chemical Ligation at Glutamine, *Organic Letters*, **2012**, *14*, 1520-1523. Highlighted in the Peptides virtual issue that compiles the most noteworthy recent research in the field that were published in Org Lett, JOC and JACS; September 7, 2012, Volume 1, Issue 2.
46. Nitzan Shabek, Yifat Herman-Bachinsky, Samuel Buchsbaum, Oded Lewinson, Mahmood Haj-Yahya, Mirva Hejjaoui, Hilal A. Lashuel, Thomas Sommer, **Ashraf Brik**, and Aaron Ciechanover*: The Size of the Proteasomal Substrate Determines whether its Degradation will be Mediated by Mono- or Polyubiquitylation, *Molecular Cell*, **2012**, *48*, 1-11. Highlighted in Nature Reviews Molecular Cell Biology 13, 602 (October 2012).
47. Tal Moyal, Sudhir Bavikar, Subramanian Vedhanarayanan Karthikeyan, Hosahalli Hemantha, **Ashraf Brik***: Polymerization Behavior of a Bifunctional Ubiquitin Monomer as a Function of the Nucleophile Site and Folding Conditions, *Journal of the American Chemical Society*, **2012**, *134*(38),16085-16092.
48. Mahmood Haj-Yahya, Najat Eltrteer, Shimirit Ohayon, Efrat Shema, Eran Kotler, Moshe Oren and **Ashraf Brik***: N-methylation of Isopeptide Bond as a Strategy to Resist Deubiquitinases, *Angewandte Chemie Int. Ed.* **2012**, *51*(46), 11535-9.
49. Roman Meledin, **Ashraf Brik***, Amir Aharoni,*: Dissecting the Roles of the N- and C-flanking Residues of Acetyl-lysine Substrate for SIRT1 activity, *ChemBioChem*, **2013**, *14*, 577–581.
50. Tal Moyal, Hosahalli Hemantha, Peter Siman, Maya Refua, **Ashraf Brik***: Highly Efficient One-Pot Ligation and Desulfurization, *Chemical Science*, **2013**, *4*(6), 2496-2501.
51. Peter Siman#, Subramanian Vedhanarayanan Karthikeyan#, Miroslav Nikolov, Wolfgang Fischle and **Ashraf Brik***: Convergent Chemical Synthesis of Histone H2B Protein Enabled Site Specific Ubiquitination at Lys34; *Angewandte Chemie Int. Ed.* **2013**, *52*, 8059-8063. Selected by the editors as a Hot Paper (# these authors contributed equally).
52. Efrat Shema-Yaacoby, Miroslav Nikolov, Mahmood Haj-Yahya, Peter Siman, Eric Allemand, Yuki Yamaguchi, Christian Muchardt, Henning Urlaub, **Ashraf Brik**, Moshe Oren*, Wolfgang Fischle*: Systematic identification of proteins binding to chromatin-embedded ubiquitylated H2B reveals

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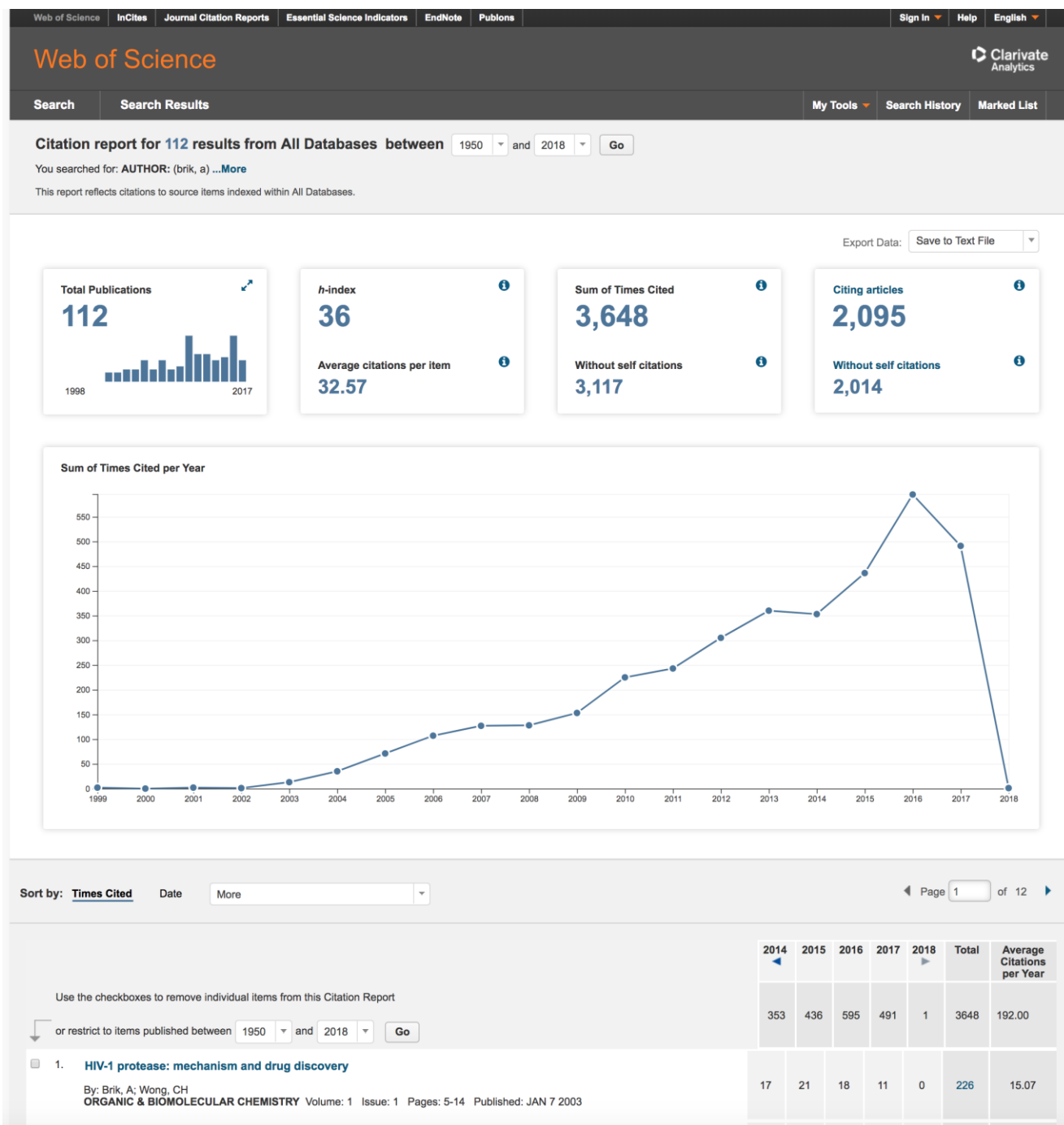
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48. "Aminoacyl Transfer in Peptide-Protein Synthesis and Manipulation", The 74th meeting of the Israel Chemical Society, 8-9 Feb, 2009.
49. "Side-Chain Assisted ligation", The 30th European Peptide Symposium, Helsinki, Finland 31- August - 5 September 2008.
50. "Peptide Ligation via side-chain auxiliary", The 73rd meeting of the Israel Chemical Society, 4-5 Feb, 2008.
51. The 23rd ACS National Meeting, San Francisco, CA, United States, Sept. 10-14, 2006. (Contributed).

Participation in organizing conferences

1. The Ubiquitin Workshop 2012, July 23-25, Philadelphia, USA. (Organizing committee).
2. Protein Synthesis Meeting, Vienna, Austria (Organizing committee).
3. Israel Chemical Society Meeting, 2012, Tel Aviv, Israel.
4. Chemical Protein Synthesis (CPS2017), Shulich Faculty of Chemistry, Technion, Israel (Chair).

Citation Report




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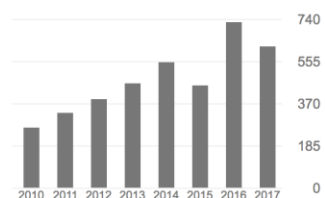
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<input type="checkbox"/>	HIV-1 protease: mechanism and drug discovery A Brik, CH Wong Organic & biomolecular chemistry 1 (1), 5-14	378	2003
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<input type="checkbox"/>	A copper (I)-catalyzed 1, 2, 3-triazole azide-alkyne click compound is a potent inhibitor of a multidrug-resistant HIV-1 protease variant MJ Griffin, H Heaslet, A Brik, YC Lin, G Cauvi, CH Wong, DE McRee, ... Journal of medicinal chemistry 51 (20), 6263-6270	158	2008
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<input type="checkbox"/>	Sugar-assisted glycopeptide ligation A Brik, YY Yang, S Ficht, CH Wong Journal of the American Chemical Society 128 (17), 5626-5627	129	2006
<input type="checkbox"/>	Protein synthesis assisted by native chemical ligation at leucine Z Harpaz, P Siman, KS Kumar, A Brik ChemBioChem 11 (9), 1232-1235	116	2010
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<input type="checkbox"/>	RNF20 and USP44 regulate stem cell differentiation by modulating H2B monoubiquitylation	99	2012

תוצאות משאל המרצה - סמסטר אביב תשע"ז

המקצוע: 125801 - כימיה אורגנית
 שם המרצה: פרופ' אשרף בריק

מספר סטודנטים רשומים: 94
 מספר סטודנטים שענו למשאל: 35
 מספר סטודנטים שמתתפיים בהערכה: 30

0% - 25%	26% - 70%	71% - 100%	נוכחות
4	4	27	באיזה אחוז מההרצאות היית נוכח/ת?

ממוצע	לא ענו	לא יכול להעריך	מועטה מאד -1-	מועטה -2-	בינונית -3-	רבה -4-	רבה מאד -5-	הערכת המרצה
4.00	0	0	0	1	10	7	12	1. מוכנות - באיזו מידה המרצה היה/הייתה מוכן/ה לשיעורים?
3.80	0	0	1	2	9	8	10	2. סדר/ארגון - באיזו מידה החומר הוצג ע"י המרצה בצורה מאורגנת?
3.83	0	0	1	2	9	7	11	3. בהירות - באיזו מידה היו ההסברים של המרצה ברורים?
3.90	0	0	1	2	9	5	13	4. עניין - באיזו מידה המרצה לימד/ה בצורה מעניינת?
4.33	0	0	0	0	4	12	14	5. אווירה - באיזו מידה המרצה גילה/גילתה יחס נאות לסטודנטים?
3.80	0	0	1	3	9	5	12	6. למידה פעילה - באיזו מידה המרצה השיג/ה מעורבות של הסטודנטים? (לדוגמא: הציג/ה שאלות, עודד/ה שאלות של הסטודנטים וכד')
3.93	0	1	1	2	7	7	12	7. הערכה כללית - הערכה כללית לרמת ההוראה של המרצה?
ציון מרצה כללי: 3.94								

ממוצע	לא ענו	לא יכול להעריך	מועטה מאד -1-	מועטה -2-	בינונית -3-	רבה -4-	רבה מאד -5-	הערכת הקורס
4.23	0	0	0	1	4	12	13	1. באיזו מידה המרצה הראה/הראתה את הרלבנטיות של מה שלימד/ה? (לקורס/לתחום לימודיך בטכניון/לעיסוקיך האפשריים בעתיד)
4.03	0	0	1	0	7	11	11	2. באיזו מידה היה תיאום בין ההרצאות לבין שיעורי התרגול?
3.70	0	0	2	3	7	8	10	3. באיזו מידה תרמו עבודות הבית ללמידה בקורס?
3.55	1	0	3	2	8	8	8	4. באיזו מידה שיעורי התרגול עזרו להבנת החומר בהרצאות?
2.71	0	2	7	8	5	2	6	5. באיזו מידה הוחזרו עבודות הבית עם משוב ראוי?
4.77	0	0	0	0	1	5	24	6. דרגו את רמת הקושי של הקורס.

0-3	3-6	6-9	9-12	12-15	15+	7. כמה שעות שבועיות את/ה מקדיש/ה ללמידה בקורס זה? (עבודות בית, הכנה לשיעור)
1	0	7	6	10	6	

פירוט הערות הסטודנטים