

Curriculum Vitae

BRADLEY L. PENTELUTE

Professor, Department of Chemistry, MIT

Extramural Member, Koch Institute for Integrative Cancer Research, MIT

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Degrees:

Ph.D., Organic Chemistry, University of Chicago, 2008, Thesis Advisor: Steve Kent

M.S., Chemistry, University of Chicago, 2004

B.S., Chemistry, University of Southern California, 2003

B.A., Psychology, University of Southern California, 2003

Employment:

Professor, Department of Chemistry,
Massachusetts Institute of Technology, 2021–present

Associate Professor, Department of Chemistry,
Massachusetts Institute of Technology, 2016–2021

Assistant Professor, Department of Chemistry,
Massachusetts Institute of Technology, 2011–2016

Postdoctoral Fellow, Department of Microbiology and Molecular Genetics,
Harvard Medical School, 2008–2011, John Collier's Lab

Senior Scientist, Ethos Pharmaceuticals, 1/2008–9/2008

Graduate Student, Department of Chemistry,
University of Chicago, 2004–2008, Steve Kent's Lab

External Positions Held:

Associate Editor, Scientific Reports, Nature, 2016–present

American Peptide Society, Nominating Committee, 2015–present

Visiting Professor, Tokyo Institute of Technology, Tokyo, Japan, 2019–2020

Visiting Professor, Osaka University, Osaka, Japan 2015–2018

NIH Ad Hoc Grant Reviewer, 2018

Committee member, Safety Culture in Academic Research Laboratories, The National Academies, 2013

Ad Hoc Grant Reviewer NSF Grants, 2015

Honors:

Rao Makineni Lectureship, American Peptide Society, 2021
Blavatnik Award Finalist, 2018
Eli Lilly Award in Biological Chemistry, 2018
Bristol-Myers Squibb Innovation Award, 2017
Amgen Young Investigator Award, 2016
Novartis Early Career Award in Organic Chemistry, 2015
Sloan Research Fellow in Chemistry, 2015
NSF CAREER Award, 2014
Sontag Distinguished Scientist Award, 2013
Young Chemical Biologist Award, International Chemical Biology Society, 2013
Damon Runyon-Rachleff Innovation Award, 2013
Vallee Foundation Travel Award, 2012
Collier Award, Gordon Conference, Microbial Toxins and Pathogenicity, 2010
Poster Prize, University of Chicago, Science at the Interface, 2008
Student Travel Award for Australian Peptide Society, 2006
U.S.C. Chemistry Alumni Award for Outstanding Undergraduate Research, 2003
Renaissance Scholar, U.S.C., 2003

Service:

Internal Service:

MIT Presidential Committee on Pre-health Advising, 2012–2014, 2019–present
Improvement of MIT undergraduate chemistry modules, 2015–present
Chemistry Representative MIT institute faculty meetings, 2019–present
MIT/Harvard M.D./Ph.D. committee member, 2016–present
MIT Freshman Advisor, 2018–present
Faculty advisor ACS MIT Chemistry Club, 2012–present
Introduction to chemistry major, for MIT engineering students, 2017–present
Chemistry department, open house for incoming freshmen, faculty member, 2019–present
Chemistry department, open house, parents visiting weekend, magic shows, 2019–present
MIT Department Instrumentation committee member, 2014–present
Graduate Student Admission Committee Chair for Biological Chemistry, 2011–present
DOW-MIT Access Program in Chemistry, participant in visiting weekend, 2012–present
Chemistry Undergraduate Advisor (8 students), 2012–present
Thesis Chair (15 students), 2011–present
Faculty advisor, Chemistry career panel, 2012–2018
MIT Amgen Scholars graduate school admissions advisor, 2012–2017

External Service:

Associate Editor, *Scientific Reports*
Reviewer for *Journal of the American Chemical Society*, *Nature Publishing Group*, *Chemical Science*, *PNAS*, and *ChemBioChem*.
Ad-hoc Grant Reviewer, NIH SBCB and STTR, NSF CAREER
Guest Editor, ACS Chemical Reviews

Publications from MIT (independent & collaborative):

1. Pomplun, S.,* Jbara, M.,* Schissel, C.K., Wilson Hawken, S., Boija, A., Li, C., Klein, I., Pentelute, B.L. (2021). Parallel Automated Flow Synthesis of Covalent Protein Complexes That Can Inhibit MYC-Driven Transcription. *ACS Central Science*, 7(8):1408-1418 (* = co-first authors).
2. Zhang, G., Li, C., Quartararo, A.J., Loas, A., Pentelute, B.L. (2021). Automated affinity selection for rapid discovery of peptide binders. *Chemical Science*, 12(32):10817-10824.
3. Loftis, A.R.,* Zhang, G.,* Backlund, C., Quartararo, A.J., Pishesha, N., Hanna, C.C., Schissel, C.K., Garafola, D., Loas, A., Collier, R.J., Ploegh, H., Irvine, D.J., Pentelute, B.L. (2021). An in vivo selection-derived d-peptide for engineering erythrocyte-binding antigens that promote immune tolerance. *Proceedings of the National Academy of Sciences of the United States of America*, 118(34):e2101596118 (* = co-first authors).
4. Schissel, C.K.,* Mohapatra, S.,* Wolfe, J.M., Fadzen, C.M., Bellovoda, K., Wu, C.L., Wood, J.A., Malmberg, A.B., Loas, A., Gómez-Bombarelli, R.,# Pentelute, B.L.# (2021). Deep learning to design nuclear-targeting abiotic miniproteins. *Nature Chemistry*, in press, DOI: 10.1038/s41557-021-00766-3 (* = co-first authors, # = co-corresponding authors).
5. Jbara, M.,* Pomplun, S.,* Schissel, C.K., Hawken, S.W., Boija, A., Klein, I., Rodriguez, J., Buchwald, S.L., Pentelute, B.L. (2021). Engineering Bioactive Dimeric Transcription Factor Analogs via Palladium Rebound Reagents. *Journal of the American Chemical Society*, 143(30):11788-11798 (* = co-first authors).
6. Li, C.,* Callahan, A.J.,* Simon, M.D., Totaro, K.A., Mijalis, A.J., Phadke, K.S., Zhang, G., Hartrampf, N., Schissel, C.K., Zhou, M., Zong, H., Hanson, G.J., Loas, A., Pohl, N.L.B., Verhoeven, D.E., Pentelute, B.L. (2021). Fully automated fast-flow synthesis of antisense phosphorodiamidate morpholino oligomers. *Nature Communications*, 12(1):4396 (* = co-first authors).
7. Mallek, A.J., Pentelute, B.L.,# Buchwald, S.L.# (2021). Selective *N*-Arylation of *p*-Aminophenylalanine in Unprotected Peptides with Organometallic Palladium Reagents. *Angewandte Chemie International Edition*, 60(31):16928-16931 (# = co-corresponding authors).
8. Jbara, M., Rodriguez, J., Dhanjee, H.H., Loas, A., Buchwald, S.L.,# Pentelute, B.L.# (2021). Oligonucleotide Bioconjugation with Bifunctional Palladium Reagents. *Angewandte Chemie International Edition*, 60(21):12109-12115 (# = co-corresponding authors).
9. Van Egeren, D.,* Novokhodko, A.,* Stoddard, M.,* Tran, U., Zetter, B., Rogers, M., Pentelute, B.L., Carlson, J.M., Hixon, M., Joseph-McCarthy, D., Chakravarty, A. (2021). Risk of rapid evolutionary escape from biomedical interventions targeting SARS-CoV-2 spike protein. *PLoS ONE*, 16(4):e0250780 (* = co-first authors).
10. Von Spreckelsen, N., Fadzen, C.M., Hartrampf, N., Ghotmi, Y., Wolfe, J.M., Dubey, S., Yang, B.Y., Kijewski, M.F., Wang, S., Farquhar, C., Bergmann, S., Zdioruk, M., Wasserburg, J.R., Scott, B., Murrell, E., Bononi, F.C., Luyt, L.G., DiCarli, M., Lamfers, M.L.M., Ligon, K.L., Chiocca, E.A., Viapiano, M.S., Pentelute, B.L., Lawler, S.E.,# Cho, C.-F.# (2021). Targeting Glioblastoma Using a Novel Peptide Specific to a Deglycosylated Isoform of Brevican. *Advanced Therapeutics*, 4(4):2000244 (# = co-corresponding authors).

11. Tuang, S.,* Dieppa-Matos, D.,* Zhang, C., Shugrue, C.R., Dai, P., Loas, A., Pentelute, B.L. (2021). A reactive peptide interface for site-selective cysteine bioconjugation. *Chemical Communications*, 57(26):3227-3230 (* = co-first authors).
12. Lu, Z.,* Truex, N.L.,* Melo, M.B., Cheng, Y., Li, N., Irvine, D.J., Pentelute, B.L. (2021). IgG-Engineered Protective Antigen for Cytosolic Delivery of Proteins into Cancer Cells. *ACS Central Science*, 7(2):365-378 (* = co-first authors).
13. Hu, Z.,* Leet, D.E.,* Allesøe, R.L.,* Oliveira, G., Li, S., Luoma, A.M., Liu, J., Forman, J., Huang, T., Iorgulescu, J.B., Holden, R., Sarkizova, S., Gohil, S.H., Redd, R.A., Sun, J., Elagina, L., Giobbie-Hurder, A., Zhang, W., Peter, L., Ciantra, Z., Rodig, S., Olive, O., Shetty, K., Pyrdol, J., Uduman, M., Lee, P.C., Bachireddy, P., Buchbinder, E.I., Yoon, C.H., Neuberg, D., Pentelute, B.L., Hachohen, N., Livak, K.J., Shukla, S.A., Olsen, L.R., Barouch, D.H., Wucherpfennig, K.W., Fritsch, E.F., Keskin, D.B., Wu, C.J., Ott, P.A. (2021). Personal neoantigen vaccines induce persistent memory T cell responses and epitope spreading in patients with melanoma. *Nature Medicine*, 27(3):515-525 (* = co-first authors).
14. Longwell, C.K., Hanna, S., Hartrampf, N., Sperberg, R.A.P., Huang, P.S., Pentelute, B.L., Cochran, J.R. (2021). Identification of N-Terminally Diversified GLP-1R Agonists Using Saturation Mutagenesis and Chemical Design. *ACS Chemical Biology*, 16(1):58-66.
15. Pomplun, S., Jbara, M., Quartararo, A.J., Zhang, G., Brown, J.S., Lee, Y.-C., Ye, X., Hanna, S., Pentelute, B.L. (2021). De Novo Discovery of High Affinity Peptide Binders for the SARS-CoV-2 Spike Protein. *ACS Central Science*, 7(1):156-163.
16. Dhanjee, H.H.,* Buslov, I.,* Windsor, I.A., Raines, R.T., Buchwald, S.L.,# Pentelute, B.L.# (2020). Palladium-Protein Oxidative Addition Complexes by Amine-Selective Acylation. *Journal of the American Chemical Society*, 142(51):21237-21242 (* = co-first authors, # = co-corresponding authors).
17. Pomplun, S., Gates, Z.P., Zhang, G., Quartararo, A.J., Pentelute, B.L. (2020). Discovery of Nucleic Acid Binding Molecules from Combinatorial Biohybrid Nucleobase Peptide Libraries. *Journal of the American Chemical Society*, 142(46):19642-19651.
18. Mohapatra, S.,* Hartrampf, N.,* Poskus, M., Loas, A., Gomez-Bombarelli, R.,# Pentelute, B.L.# (2020). Deep Learning for Prediction and Optimization of Fast-Flow Peptide Synthesis. *ACS Central Science*, 6(12):2277-2286 (* = co-first authors, # = co-corresponding authors).
19. Quartararo, A.J., Gates, Z.P., Somsen, B.A., Hartrampf, N., Ye, X., Shimada, A., Kajihara, Y., Ottmann, C., Pentelute, B.L. (2020). Ultra-large chemical libraries for the discovery of high-affinity peptide binders. *Nature Communications*, 11(1):3183.
20. Fadzen, C.M., Wolfe, J.M., Zhou, W., Cho, C.-F., von Spreckelsen, N., Hutchinson, K.T., Lee, Y.-C., Chiocca, E.A., Lawler, S., Yilmaz, O.H., Lippard, S.J.,# Pentelute, B.L.# (2020). A Platinum(IV) Prodrug-Perfluoroaryl Macrocyclic Peptide Conjugate Enhances Platinum Uptake in the Brain. *Journal of Medicinal Chemistry*, 63(13):6741-6747 (# = co-corresponding authors).
21. Lu, Z.,* Paoletta, B.R.,* Truex, N.L.,* Loftis, A.R., Liao, X., Rabideau, A.E., Brown, M.S., Busanovich, J., Beroukhim, R.,# Pentelute, B.L.# (2020). Targeting Cancer Gene Dependencies with Anthrax-Mediated Delivery of Peptide Nucleic Acids. *ACS Chemical Biology*, 15(6):1358-1369 (* = co-first authors, # = co-corresponding authors).

22. Pomplun, S.,* Shugrue, C.R.,* Schmitt, A.M., Schissel, C.K., Farquhar, C.E., Pentelute, B.L. (2020). Secondary Amino Alcohols: Traceless Cleavable Linkers for Use in Affinity Capture and Release. *Angewandte Chemie International Edition*, 59(28):11566-11572 (* = co-first authors).
23. Lindemann, W.R., Mijalis, A.J., Alonso, J.L., Borbat, P.P., Freed, J.H., Arnaout, M.A., Pentelute, B.L., Ortony, J.H. (2020). Conformational dynamics in extended RGD-containing peptides. *Biomacromolecules*, 21(7):2786-2794.
24. Loftis, A.R.,* Santos, M.S.,* Truex, N.L., Biancucci, M., Satchell, K.J.F., Pentelute, B.L. (2020). Anthrax protective antigen retargeted with single-chain variable fragments delivers enzymes to pancreatic cancer cells. *ChemBioChem*, 21(19):2772-2776 (* = co-first authors).
25. Hartrampf, N., Saebi, A., Poskus, M., Gates, Z.P., Callahan, A.J., Cowfer, A.E., Hanna, S., Antilla, S., Schissel, C.K., Quartararo, A.J., Ye, X., Mijalis, A.J., Simon, M.D., Loas, A., Liu, S., Jessen, C., Nielsen, T.E., Pentelute, B.L. (2020). Synthesis of proteins by automated flow chemistry. *Science*, 368(6494):980-987.
26. Dhanjee, H.H.,* Saebi, A.,* Buslov, I., Loftis, A.R., Buchwald, S.L.,# Pentelute, B.L.# (2020). Protein-Protein Cross-Coupling via Palladium-Protein Oxidative Addition Complexes from Cysteine Residues. *Journal of the American Chemical Society*, 142(20): 9124-9129 (* = co-first authors, # = co-corresponding authors).
27. Albin, J.S., Pentelute, B.L. (2020). Efficient flow synthesis of human antimicrobial peptides. *Australian Journal of Chemistry*, 73(4):380-388.
28. Loas, A., Pentelute, B.L. (2020). Introduction: Peptide Chemistry. *Chemical Reviews*, 120(6):3049-3050.
29. Mandala, V.S., Loftis, A.R., Shcherbakov, A.A., Pentelute, B.L., Hong, M. (2020). Atomic structures of closed and open influenza B M2 proton channel reveal the conduction mechanism. *Nature Structural and Molecular Biology*, 27(2):160-167.
30. Lindemann, W.R., Evans, E.D., Mijalis, A.J., Saouaf, O.M., Pentelute, B.L., Ortony, J.H. (2020). Quantifying residue-specific conformational dynamics of a highly reactive 29-mer peptide. *Scientific Reports*, 10(1):2597.
31. Jack, S., Madhivanan, K., Ramadesikan, S., Subramanian, S., Edwards, D.F., Elzey, B.D., Dhawan, D., McCluskey, A., Kischuk, E.M., Loftis, A.R., Truex, N., Santos, M., Lu, M., Rabideau, A., Pentelute, B.L., Collier, J., Kaimakliotis, H., Koch, M., Ratliff, T.L., Knapp, D.W., Aguilar, R.C. (2020). A novel, safe, fast and efficient treatment for Her2-positive and negative bladder cancer utilizing an EGF-anthrax toxin chimera. *International Journal of Cancer*, 146(2):449-460.
32. Truex, N.L., Holden, R.L., Wang, B.Y., Chen, P.-G., Hanna, S., Hu, Z., Shetty, K., Olive, O., Neuberg, D., Hacohen, N., Keskin, D.B., Ott, P.A., Wu, C.J.,* Pentelute, B.L.* (2020). Automated Flow Synthesis of Tumor Neoantigen Peptides for Personalized Immunotherapy. *Scientific Reports*, 10(1):723 (* = co-corresponding authors).
33. Fadzen, C.M.,* Holden, R.L.,* Wolfe, J.M.,* Choo, Z.-N., Schissel, C., Yao, M., Hanson, G.J., Pentelute, B.L. (2019). Chimeras of Cell-Penetrating Peptides Demonstrate Synergistic Improvement in Antisense Efficacy. *Biochemistry*, 58(38):3980-3989 (* = co-first authors).

34. Wang, B., Dai, P., Ding, D., Del Rosario, A., Grant, R.A., Pentelute, B.L., Laub, M.T. (2019). Affinity-based Capture and Identification of Protein Effectors of the Growth Regulator ppGpp. *Nature Chemical Biology*, 15(2):141-150.
35. Romano, K.P., Warriar, T., Poulsen, B.E., Nguyen, P.H., Loftis, A.R., Saebi, A., Pentelute, B.L., Hung, D.T. (2019). Mutations in *pmrB* Confer Cross-Resistance between the LptD Inhibitor POL7080 and Colistin in *Pseudomonas aeruginosa*. *Antimicrobial Agents and Chemotherapy*, 63(9):e00511-19.
36. Zhang, C., Vinogradova, E.V., Spokoyny, A.M., Buchwald, S.B., Pentelute, B.L. (2019). Arylation Chemistry for Bioconjugation. *Angewandte Chemie International Edition*, 58(15):4810-4839.
37. Evans, E.D., Gates, Z.P., Sun, Z.-Y.J., Mijalis, A.J., Pentelute, B.L. (2019). Conformational Stabilization and Rapid Labeling of a 29-Residue Peptide by a Small Molecule Reaction Partner. *Biochemistry*, 58(10):1343-1353.
38. Evans, E.D., Pentelute, B.L. (2019). Studies on a landscape of perfluoroaromatic-reactive peptides. *Organic and Biomolecular Chemistry*, 17(7):1862-1868.
39. Cohen, D.T., Zhang, C., Fadzen, C.M., Mijalis, A.J., Hie, L., Johnson, K.D., Shriver, Z., Plante, O., Miller, S.J., Buchwald, S.B., Pentelute, B.L. (2019). A Chemoselective Strategy for Late Stage Functionalization of Complex Small Molecules with Polypeptides and Proteins. *Nature Chemistry*, 11(1):78-85.
40. Touti, F., Gates, Z.P., Bandyopadhyay, A., Lautrette, G., Pentelute, B.L. (2019). In-solution enrichment identifies peptide inhibitors of protein-protein interactions. *Nature Chemical Biology*, 15(4):410-418.
41. Touti, F.,* Lautrette, G.,* Johnson, K., Delaney, J., Wollacott, A., Tissire, H., Viswanathan, K., Shriver, Z., Mong, S., Mijalis, A.J., Plante, O.J., Pentelute, B.L. (2018). Antibody-Bactericidal Macrocyclic Peptide Conjugates to Target Gram-Negative Bacteria. *ChemBioChem*, 19(19):2039-2044 (* = co-first authors).
42. Bergmann, S., Lawler, S.E., Qu, Y., Fadzen, C.M., Wolfe, J.M., Regan, M.S., Pentelute, B.L., Agar, N.Y.R., Cho, C.-F. (2018). Blood-brain-barrier organoids for investigating the permeability of CNS therapeutics. *Nature Protocols*, 13(12):2827-2843.
43. Gates, Z.P., Vinogradov, A.A., Quartararo, A.J., Bandyopadhyay, A., Choo, Z.N., Evans, E.D., Halloran, K.H., Mijalis, A.J., Mong, S.K., Simon, M.D., Standley, E.A., Styduhar, E.D., Tasker, S.Z., Touti, F., Weber, J.M., Jamison, T.F., Pentelute, B.L. (2018). Xenoprotein engineering via synthetic libraries. *Proceedings of the National Academy of Sciences of the United States of America*, 115(23):E5298-E5306.
44. Dunkelmann, D.L., Hirata, Y., Totaro, K.A., Cohen, Z., Gates, Z.P., Pentelute, B.L. (2018). Amide-forming chemical ligation via O-acyl hydroxamic acids. *Proceedings of the National Academy of Sciences of the United States of America*, 115(15):3752-3757.
45. Belashov, I.A., Crawford, D.W., Cavender, C.E., Dai, P., Beardslee, P.C., Mathews, D.H., Pentelute, B.L., McNaughton, B.R., Wedekind, J.E. (2018). Structure of HIV TAR in complex with a Lab-Evolved RRM provides insight into duplex RNA recognition and synthesis of a constrained peptide that impairs transcription. *Nucleic Acids Research*, 46(13):6401-6415.

46. Garcia-Castillo, M.D., Chinnapen, D.J., Te Welscher, Y.M., Gonzalez, R.J., Softic, S., Pacheco, M., Mrsny, R.J., Kahn, C.R., von Andrian, U.H., Lau, J., Pentelute, B.L., Lencer, W.I. (2018). Mucosal absorption of therapeutic peptides by harnessing the endogenous sorting of glycosphingolipids. *eLife*, 7:e34469.
47. Machen, A.J., O'Neil, P.T., Pentelute, B.L., Villar, M.T., Artigues, A., Fisher, M.T. (2018). Analyzing Dynamic Protein Complexes Assembled On and Released From Biolayer Interferometry Biosensor Using Mass Spectrometry and Electron Microscopy. *Journal of Visualized Experiments*, (138):e57902.
48. Moynihan, K.D., Holden, R.L., Mehta, N.K., Wang, C., Karver, M.R., Dinter, J., Liang, S., Abraham, W., Melo, M.B., Zhang, A.Q., Li, N., Gall, S.L., Pentelute, B.L., Irvine, D.J. (2018). Enhancement of Peptide Vaccine Immunogenicity by Increasing Lymphatic Drainage and Boosting Serum Stability. *Cancer Immunology Research*, 6(9):1025-38.
49. Hartmann, S., Lopez Cruz, R., Alameh, S., Ho, C.C., Rabideau, A., Pentelute, B.L., Bradley, K.A., Martchenko, M. (2018). Characterization of Novel Piperidine-Based Inhibitor of Cathepsin B-Dependent Bacterial Toxins and Viruses. *ACS Infectious Diseases*, 4(8):1235-45.
50. Slough, D.P., McHugh, S.M., Cummings, A.E., Dai, P., Pentelute, B.L., Kritzer, J.A., Lin, Y.S. (2018). Designing Well-Structured Cyclic Pentapeptides Based on Sequence-Structure Relationships. *Journal of Physical Chemistry B*, 122(14):3908-19.
51. Zhang, C.,* Dai, P.,* Vinogradov, A.A., Gates, Z.P., Pentelute, B.L. (2018). Site-Selective Cysteine-Cyclooctyne Conjugation. *Angewandte Chemie International Edition*, 57(22):6459-63 (* = co-first authors).
52. Wolfe, J.M.,* Fadzen, C.M.,* Holden, R.L., Yao, M., Hanson, G.J., Pentelute, B.L. (2018). Perfluoroaryl Bicyclic Cell-Penetrating Peptides for Delivery of Antisense Oligonucleotides. *Angewandte Chemie International Edition*, 57(17):4756-59 (* = co-first authors).
53. Wolfe, J.M.,* Fadzen, C.M.,* Choo, Z.-N., Holden, R.L., Yao, M., Hanson, G.J., Pentelute, B.L. (2018). Machine Learning to Predict Cell-Penetrating Peptides for Antisense Delivery. *ACS Central Science*, 4(4):512-20 (* = co-first authors).
54. Kubota, K., Dai, P., Pentelute, B.L., Buchwald, S.L. (2018). Palladium Oxidative Addition for Peptide and Protein Cross-linking. *Journal of the American Chemical Society*, 140(8):3128-33.
55. Evans, E.D., Pentelute, B.L. (2018). Discovery of a 29-Amino-Acid Reactive Abiotic Peptide for Selective Cysteine Arylation. *ACS Chemical Biology*, 13(3):527-32.
56. Dai, P., Williams, J.K., Zhang, C., Welborn, M., Shepherd, J.J., Zhu, T., van Voorhis, T., Hong, M., Pentelute, B.L. (2017). A structural and mechanistic study of Π -clamp-mediated cysteine perfluoroarylation. *Scientific Reports*, 7:7954.
57. Elkins, M.R., Williams, J.K., Gelenter, M.D., Dai, P., Kwon, B., Sergeyev, I.V., Pentelute, B.L., Hong, M. (2017). Cholesterol-binding site of the influenza M2 protein in lipid bilayers from solid-state NMR. *Proceedings of the National Academy of Sciences of the United States of America*, 114(49):12946-51.

58. Fadzen, C.M.,* Wolfe, J.M.,* Cho, C.F., Chiocca, E.A., Lawler, S.E., Pentelute, B.L. (2017). Perfluoroarene-Based Peptide Macrocycles to Enhance Penetration Across the Blood-Brain Barrier. *Journal of the American Chemical Society*, 139(44):15628-31 (* = co-first authors).
59. Mong, S.K., Cochran, F.V., Yu, H., Graziano, Z., Lin, Y., Cochran, J.R., Pentelute, B.L. (2017). Heterochiral Knottin Protein: Folding and Solution Structure. *Biochemistry*, 56(43):5720-5.
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61. Rojas, A., Pentelute, B.L., Buchwald, S.L. (2017). Water-Soluble Palladium Reagents for Cysteine S-Arylation under Ambient Aqueous Conditions. *Organic Letters*, 19(16):4263-6.
62. Cho, F., Wolfe, J.M., Fadzen, C.M., Calligaris, D., Hornburg, K., Chiocca, E.A., Agar, N.Y.R., Pentelute, B.L., Lawler, S.E. (2017). Blood-brain barrier spheroids as an in vitro screening platform for brain-penetrating agents. *Nature Communications*, 8:15623.
63. Biancucci, M., Rabideau, A.E., Lu, Z., Loftis, A.R., Pentelute, B.L., Satchell, K.J.F. (2017). Substrate recognition of MARTX Ras/Rap1-specific endopeptidase. *Biochemistry*, 56(21):2747-57.
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65. Rojas, A.J., Zhang, C., Vinogradova, E.V., Buchwald, N., Reilly, J., Pentelute, B.L.,* Buchwald, S.B.* (2017). Divergent unprotected peptide macrocyclization by palladium-mediated cysteine arylation. *Chemical Science*, 8(6):4257-62 (* = co-corresponding authors).
66. Lee, H.G., Lautrette, G., Pentelute, B.L.,* Buchwald, S.B.* (2017). Palladium-mediated arylation of lysine in unprotected peptides. *Angewandte Chemie International Edition*, 56(12):3177-81 (* = co-corresponding authors).
67. Pentelute, B.L., Wang, L. (2016). Editorial overview: Chemistry for biopolymers to investigate and even move beyond nature. *Current Opinion in Chemical Biology*, 34:v-vi.
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Companies started:

- Co-founder, Amide Technologies, Cambridge, MA, 2018-present
- Co-scientific founder, Resolute Biosciences, Cambridge, MA, 2018-present
- Co-founder, TegriGen Therapeutics, Cambridge, MA, 2021-present
- Co-scientific founder, New Frontier Bio, Cambridge, MA, 2021-present