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EDUCATION

Ph.D., Chemistry, University of California, Irvine 2012 – 2017
B.S., Chemistry, Purdue University 2007 – 2011

RESEARCH EXPERIENCE

Postdoctoral Fellow, Professor Bradley L. Pentelute, MIT 2017 – 2022
Graduate Student, Professor James S. Nowick, UC Irvine 2012 – 2017
Undergraduate Research, Professor Ei-ichi Negishi, Purdue 2008 – 2012
Summer Intern, Eli Lilly and Company 2008, 2009, & 2010

HONORS AND AWARDS

NIH Postdoctoral Fellowship, Ruth L. Kirschstein National Research Service Award (NRSA) 2020 – 2022
MIT Postdoctoral Fellowship, Koch Institute for Integrative Cancer Research / Ludwig Center 2018
UC Regents' Dissertation Fellowship, UC Irvine 2017
Michael Zach Award for Research and Teaching, UC Irvine 2017
Allergan Graduate Fellowship, UC Irvine 2016

ACCEPTED PUBLICATIONS († equal contribution; * corresponding author)

18. **Truex, N.L.**[†]; Mohapatra, S.[†]; Melo, M.; Rodriguez, J.; Li, N.; Abraham, W.; Sementa, D.; Touti, F.; Keskin, D.B.; Wu, C.J.; Irvine, D.J.; Gomez-Bombarelli, R.*; Pentelute, B.L.* Design of Cytotoxic T Cell Epitopes by Machine Learning of Human Degrons. *ACS Cent. Sci.* **2024**, *10*, 793–802.
17. Ruttenberg, S. M.; Kreutzer, A. G.; **Truex, N. L.**; Nowick, J. S.* β -Hairpin Alignment Alters Oligomer Formation in A β -Derived Peptides. *Biochemistry* **2024**, *63*, 212–218.
16. **Truex, N.L.**[†]; Rondon, A.[†]; Rössler, S.; Hanna, C.; Wang, B.Y.; Lutz, E.; Irvine, D.J.*; Pentelute, B.L.* Enhanced Vaccine Immunogenicity Enabled by Targeted Cytosolic Delivery of Tumor Antigens into Dendritic Cells. *ACS Cent. Sci.* **2023**, *9*, 1835–1845.
15. Rojas, A.J.[†]; Wolfe, J.M.[†]; Dhanjee, H.H.; Buslov, I.; **Truex, N.L.**, Liu, R.Y.; Masefski, W.W.; Pentelute, B.L.*; Buchwald, S.L.* Palladium–Peptide Oxidative Addition Complexes for Bioconjugation. *Chem. Sci.* **2022**, *13*, 11891–11895.
14. Gazvoda, M.[†]; Dhanjee, H.H.[†]; Rodriguez, J.; Brown, J.S.; Farquhar, C.F.; **Truex, N.L.**; Loas, A.; Buchwald, S.L.*; Pentelute, B.L.* Palladium-Mediated Incorporation of Carborane into Small Molecules, Peptides, and Proteins. *J. Am. Chem. Soc.*, **2022**, *144*, 7852–7860; Correction: *J. Am. Chem. Soc.* **2022**, *144*, 10096.
13. Lu, Z.[†]; **Truex, N.L.**[†]; Melo, M.B.; Cheng, Y.; Li, N.; Irvine, D.J.; Pentelute, B.L.* IgG-Engineered Protective Antigen for Cytosolic Delivery of Proteins into Cancer Cells. *ACS Cent. Sci.* **2021**, *7*, 365–378.
12. Loftis, A.R.; Santos, M.S.; **Truex, N.L.**; Biancucci, M.; Satchell, K.J.F.; Pentelute, B.L.* Anthrax Protective Antigen Retargeted with Single-Chain Variable Fragments Delivers Enzymes to Pancreatic Cancer Cells. *ChemBioChem.* **2020**, *21*, 2772–2776.
11. Lu, Z.Y.[†]; Paoletta, B.R.[†]; **Truex, N.L.**[†]; Loftis, A.R.; Liao, X.L.; Rabideau, A.E.; Brown, M.; Busanovich, J.; Beroukhim, R.*; Pentelute, B.L.* Targeting Cancer Gene Dependencies with Anthrax-Mediated Delivery of Peptide Nucleic Acids. *ACS Chem. Biol.* **2020**, *15*, 1358–1369.

10. 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.L.**; Santos, M.; Lu, M.; Rabideau, A.; Pentelute, B.; Collier, J.; Kaimakliotis, H.; Koch, M.; Ratliff, T.L.; Knapp, D.W.; Aguilar, R.C.* A Novel, Safe, Fast and Efficient Treatment for Her2-Positive and Negative Bladder Cancer Utilizing an EGF-Anthrax Toxin Chimera. *Int. J. Cancer.* **2020**, *146*, 449–460.
9. **Truex, N.L.**[†]; Holden, R.L.[†]; Wang, B.Y.; Chen, P.G.; Hanna, S.; Hu, Z.T.; Shetty, K.; Olive, O.; Neuberg, D.; Hacoheh, N.; Keskin, D.B.; Ott, P.A.; Wu, C.J.*; Pentelute, B.L.* Automated Flow Synthesis of Tumor Neoantigen Peptides for Personalized Immunotherapy. *Sci. Rep.* **2020**, *10*, 723.
8. Samdin, T.D.; Wierzbicki, M.; Kreutzer, A.G.; Howitz, W.J.; Valenzuela, M.; Smith, A.; Sahrai, V.; **Truex, N.L.**; Klun, M.; Nowick, J.S.* Effects of N-Terminal Residues on the Assembly of Constrained β -Hairpin Peptides Derived from A β . *J. Am. Chem. Soc.* **2020**, *142*, 11593–11601.
7. Wang, Y.; **Truex, N.L.**; Vo, N. D. P.; Nowick, J.S.* Effects of Charge and Hydrophobicity on the Oligomerization of a Peptide Derived from IAPP. *Bioorganic Med. Chem.* **2018**, *26*, 1151–1156.
6. **Truex, N.L.**; Nowick, J.S.* Transmembrane Proteins: Amyloids Hidden in Plain Sight? *Biochemistry*, **2017**, *56*, 4735–4736.
5. Wang, Y.; Kreutzer, A.G.; **Truex, N.L.**; Nowick, J.S.* A Tetramer Derived from Islet Amyloid Polypeptide. *J. Org. Chem.* **2017**, *82*, 7905–7912.
4. **Truex, N.L.**; Nowick, J.S.* Coassembly of Peptides Derived from β -Sheet Regions of β -Amyloid. *J. Am. Chem. Soc.* **2016**, *138*, 13891–13900.
3. **Truex, N.L.**; Wang, Y.; Nowick, J.S.* Assembly of Peptides Derived from β -Sheet Regions of β -Amyloid. *J. Am. Chem. Soc.* **2016**, *138*, 13882–13890.
2. Yoo, S.; Kreutzer, A.G.; **Truex, N.L.**; Nowick, J.S.* Square Channels formed by a peptide derived from transthyretin. *Chem. Sci.* **2016**, *7*, 6946–6951.
1. Xu, S.; **Truex, N.L.**; Swathi, M.; Negishi, E.-I.* Pd-Catalyzed Cross-Coupling Reactions Exhibiting Catalyst Turnover Numbers Exceeding One Million. *Arkivoc* **2012**, *7*, 242. (*Dedicated in Honor of Prof. Keith Smith*).

CONFERENCE PRESENTATIONS (an underline indicates the presenter)

7. “Vaccine Design using Machine Learning of Human Degrons” Mohapatra, S.; **Truex, N.L.**; Melo, M.B.; Li, N.; Abraham, W.; Rodriguez, J.; Irvine, D.J.; Pentelute, B.L.*; Gómez-Bombarelli, R.* Presented at the Neural Information Processing Systems (NeurIPS) 2021 Workshop: Learning Meaningful Representations of Life (LMRL), December 6–10, 2021.
6. “Assembly and Coassembly of Peptides Derived from β -Sheet Regions of β -Amyloid” **Truex, N.L.**; Wang, Y.; Nowick, J.S. Presented at the 2016 Graduate Research Symposium of the ACS Division of Organic Chemistry, Bryn Mawr, PA, July 28–31, 2016.
5. “Effect of Hydrophobicity and Charge in the Oligomerization of Amyloidogenic Peptides and the Design of a pH-Switchable Oligomer” Wang, Y.; **Truex, N.L.**; Wali, H.A.M.; Nowick, J.S. Presented at the 45th Western Regional Meeting of the American Chemical Society, San Marcos, CA, November 6–8, 2015.
4. “A β -Hairpin Derived from Transthyretin 106-121 that Forms Square Hydrophobic Channels” Yoo, S.; **Truex, N.L.**; Kreutzer, A.G.; Nowick, J.S. Presented at the 45th Western Regional Meeting of the American Chemical Society, San Marcos, CA, November 6–8, 2015.

3. "Mimicry and Study of Amyloidogenic Peptides with Macrocyclic β -Sheet Models" Ferrick, K.R.; **Truex, N.L.**; Nowick, J.S. Presented at the 44th Natl. Org. Chem. Symp., Philadelphia, PA, June 28–July 2, 2015; paper T41.
2. "Assembly of Peptides Derived from the Central and C-Terminal Regions of β -Amyloid" **Truex, N.L.**; Nowick, J.S. Presented at the 2015 Data Science Initiative Summer Fellows Program, Irvine, CA, May 29, 2015.
1. "Molecular Recognition between Chemical Models of β -Amyloid Peptides." **Truex, N.L.**; Wang, Y.; Dong, V.; Nowick, J.S. 2013. Presented at the 246th National Meeting of the American Chemical Society, Indianapolis, IN, September 8–12, 2013.

TEACHING EXPERIENCE

Teaching Assistant, Department of Chemistry, University of California, Irvine
General Chemistry, Online General Chemistry (Zoom), Organic Chemistry, Honors Organic Chemistry,
Organic Chemistry Laboratory, Organic Spectroscopy (Graduate Course), CalTeach Research Methods

Get FIT! Faculty in Training Program with Professor Suzanne A. Blum
Chem 203, Organic Spectroscopy (Graduate Course) 2014

DEPARTMENT CONTRIBUTIONS

NMR Facility Fellow, UC Irvine 2016

PROFESSIONAL AFFILIATIONS

American Chemical Society, member 2013 – present