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Education

- 1984 - 1989 Ph.D. in Organic Chemistry, Dept. of Chemistry, University of California, Berkeley, CA 94720. Advisor: Dr. Peter Schultz.
- 1980 - 1984 B.S. in Chemistry with honors and distinction, Harvey Mudd College, Claremont, CA 91711.

Research

- 2013 – present Adjunct Professor of Chemistry, Stony Brook University, Stony Brook, NY.
- 2011 – present Sr. Scientist & Facility Director, Biological Nanostructures Facility; User Program Sr. Advisor, The Molecular Foundry, Lawrence Berkeley National Laboratory, Berkeley, CA.
- 2008 – 2011 Facility Director, Biological Nanostructures Facility, The Molecular Foundry, LBNL
- 2006 – 2008 Lead Scientist, Biological Nanostructures Facility, The Molecular Foundry, LBNL
- 2003 – 2005 Research Fellow, Chiron Corp.
- 1996 – 2003 Director of Bioorganic Chemistry, Chiron Corp.
- 1993 – 1996 Associate Director, Bioorganic Chemistry, Chiron Corp.
- 1991 – 1993 Senior Scientist, Bioorganic Chemistry, Chiron Corp. Emeryville, CA.
- 1989 – 1991 Research Scientist, New Technologies, Protos Corp., Emeryville, CA.
- 1984 - 1989 Design and Synthesis of Hybrid Sequence-specific Ribonucleases (graduate research). Advisor: Dr. Peter Schultz, University of California, Berkeley.
- Summer 1984 Free-radical Ring-opening Polymerizations: Synthesis of New Copolymers (Resident Research Program). Advisor: Dr. Harry Cripps, Central Research and Development Department, E.I. Du Pont de Nemours and Company, Experimental Station, Wilmington, DE 19898.
- 1982 - 1984 Synthesis of 2-Fluoro-2-alkenes as Terminators for Biomimetic Polyene Cyclizations (summer 1982, junior year, and senior thesis project). Advisor: Dr. G. William Daub, Harvey Mudd College, Claremont, CA 91711.
- Summer 1983 Synthesis of Retinal Analogs: Investigation of the *cis-trans* Isomerization of Retinal in Bacteriorhodopsin (Summer Student Program). Advisor: Dr. Stanley Seltzer, Dept. of Chemistry, Brookhaven National Laboratory, Upton, NY 11973.

Editorial Duties

- 1995 - 2003 Editorial Board: *Molecular Diversity*
1996 - 2004 Editorial Board: *Combinatorial Chemistry and High Throughput Screening*
1998 - 2003 Editorial Board: *Journal of Combinatorial Chemistry*
Ongoing Reviewer for: *Angew. Chemie, J. Org. Chem., JACS, J. Med Chem., J. Comb. Chem., Org. Lett., Biorg. Med. Chem. Lett., Chemistry & Biology, Chem. Comm., Mol. Biosys., Nat. Chem., Macromolecules*

Honors and Awards

- 2015 Dow Distinguished Lecturer, Materials Research Lab, UC Santa Barbara
2014 LBNL Director's Award for Exceptional Achievement in Outreach
2014 H.C. Brown Symposium in Organic Chemistry Lecturer, Purdue University
2013 LBNL Director's Award for Exceptional Achievement in Safety
2009 LBNL Outstanding Performance Award
2003 Chiron Research Fellow
1985-86 University of California Regents Fellowship.
1984 Nomination to Sigma Xi Society.
1984 Student Award of the American Institute of Chemists Student Research and Recognition Foundation.

Research Interests

Protein mimicry using sequence-defined polymers.
Bridge the gap between structural biology and polymer science.
Design, synthesis and folding of peptoid polymers.
Methods and technologies for rapid combinatorial discovery.

Biographical

Born 1962 in California.
Graduated from Berkeley High School, Berkeley, CA; June, 1980.

Videos

- Research Profile (1 minute): http://www.youtube.com/watch?v=JKsCQk6Ln_s
- "Mimicking Biology to Make Better Materials", Science at the Theater, Berkeley Repertory Theater, 5/13/2013 (8 minutes):
<http://www.youtube.com/watch?v=xs6YDfD9G14>
- "Peppyptides: Interactive Models of the Polypeptide Chain" (5 minutes):
<http://www.youtube.com/watch?v=y1UKEo4F5p4>

Issued U.S. Patents

1. Robinson, D.B.; Zuckermann, R.N. Materials and methods for stabilizing nanoparticles in salt solutions. US 8,461,300 B2, **2013**.
2. Barron, A.E.; Cyzyewski, A.M.; Dohm, M.T.; Miller, T.M.; Zuckermann, R.N.; Patch, J.A.; Chongsirwatana, N.P. Selective poly-N-substituted glycine antibiotics. US 8,445,632 B2, **2013**.
3. Barron, A.E.; Wu, C.W.; Zuckermann, R.N. Polypeptoid pulmonary surfactants. US 8,114,830 B2, **2012**.
4. Suich, D.J.; Zuckermann, R.N. Fluorogenic dyes. US 7,704,756 B2, **2010**.
5. Peretz, D.; Connolly, M.D.; Zuckermann, R.N.; Gao, M.; Timoteo, G.; Shimisu, R.M. Prion-specific peptoid reagents. US 7,834,144, **2010**.
6. Zuckermann, R.N.; Reinhard, C.J.; Jefferson, A.B.; Beausoleil, E. Oligonucleotide transfection screening method. US 7,422,861 B2, **2008**.
7. Zuckermann, R.N.; Dubois-Stringfellow, N.; Dwarki, V.; Innis, M.A.; Murphy, J.E.; Cohen, F.E.; Uno, T. Compositions and methods for polynucleotide delivery. US 7,462,592 B2, **2008**.
8. Horn, T.; Zuckermann, R.N. Peptoids incorporating chemoselective functionalities. US 7,408,023 B2, **2008**.
9. Zuckermann, R.N.; Huang, C.; Murphy, J.E.; Uno, T. Lipid-conjugated polyamide compounds. US 7,214,384 B2, **2007**.
10. Charych, D.; Beausoleil, E.; Zuckermann, R.N. Microarrays on mirrored substrates for performing proteomic analyses. US 7,153,682, **2007**.
11. Zuckermann, R.N.; Huang, C.-Y.; Murphy, J.E.; Uno, T. Method of Complexing a Nucleic Acid with a Lipid-Conjugated Polyamide. US 6,982,092 B2, **2006**.
12. Suich, D.J.; Zuckermann, R.N. Fluorogenic Dyes. US 7,026,166, **2006**.
13. Horn, T.; Zuckermann, R.N. Peptoids incorporating Chemoselective Functionalities. US 7,030,216, **2006**.
14. Charych, D.M.; Zuckermann, R.N. Protein Microarrays on Mirrored Surfaces for Performing Proteomic Analyses. US 7,148,058, **2006**.
15. Innis, M.A.; Reinhardt, C.J.; Zuckermann, R.N. Chimeric antisense oligonucleotides and cell transfecting formulations thereof. US 6,846,921, **2005**.
16. Barron, A.E.; Zuckermann, R.N.; Wu, C.W. Polypeptoid pulmonary surfactants. US 6,887,845, **2005**.
17. Zuckermann, R.N.; Beausoleil, E.; Wachowicz, M.; Kothakota, S. Biological sample component purification and differential display. US 6,783,929, **2004**.
18. Innis, M.A.; Reinhardt, C.J.; Zuckermann, R.N. Chimeric antisense oligonucleotides and cell transfecting formulations thereof. US 6,677,445, **2004**.
19. Zuckermann, R.N.; Huang, C.-Y.; Murphy, J.E.; Uno, T. Lipid-conjugated polyamide compounds and related compositions and methods thereof. US 6,569,450, **2003**.

20. Zuckermann, R.N.; Huang, C.-Y.; Murphy, J.E.; Uno, T. Lipid-conjugated polyamide compounds and related compositions and methods thereof. US 6,572,881, **2003**.
21. Zuckermann, R.N.; Dubios-Stringfellow, N.; Dwarki, V.; Innis, M.A.; Murphy, J.E.; Cohen, F.E.; Uno, T. Compositions and methods for polynucleotide delivery. US 6,468,986, **2002**.
22. Zuckermann, R.N.; Huang, C.-Y.; Murphy, J.E.; Uno, T. Lipid-conjugated polyamide compounds and related compositions and methods thereof. US 6,197,332, **2001**.
23. Zuckermann, R.N.; Dubios-Stringfellow, N.; Dwarki, V.; Innis, M.A.; Murphy, J.E.; Cohen, F.E.; Uno, T. Polycationic Polymers. US 6,251,433, **2001**.
24. Zuckermann, R.N.; Truong, K.; DeRose-Juarez, S.; Kuey, K.S.; Owings, M.G.; Steeg, B.J.V.; Chin, H. Synthesizer with reagent recycling. US 6,033,631, **2000**.
25. Zuckermann, R.N.; Goff, D.A.; Ng, S.; Spear, K.; Scott, B.O.; Siegmund, A.C.; Goldsmith, R.A.; Marlowe, C.K.; Pei, Y.; Richter, L.; Simon, R. Synthesis of N-substituted oligomers. US 5,877,278, **1999**.
26. Zuckermann, R.N.; Kerr, J.M.; Kent, S.B.H.; Moos, W.H.; Simon, R.J.; Goff, D.A. Synthesis of N-Substituted Oligomers. US 5,977,301, **1999**.
27. Zuckermann, R.N.; Huebner, V.D.; Santi, D.V.; Siani, M.A. Method and apparatus for biopolymer synthesis. US 5,840,841, **1998**.
28. Zuckermann, R.N.; Kerr, J.M.; Kent, S.B.H.; Moos, W.H.; Simon, R.J.; Goff, D.A. Synthesis of N-Substituted Oligomers. US 5,831,005, **1998**.
29. Zuckermann, R.N.; Huebner, V.D.; Santi, D.V.; Siani, M.A. Method and apparatus for biopolymer synthesis. US 5,705,610, **1998**.
30. Ng, S.; Warne, R.L.; Zuckermann, R.N.; Martin, E.J.; Simon, R.J. Opiate receptor ligands. US 5,605,932, **1997**.
31. Spellmeyer, D.C.; Moos, W.H.; Martin, E.J.; Zuckermann, R.N.; Stauber, G.; Shoemaker, K.R.; Goff, D. Opiate receptor ligands. US 5,536,853, **1996**.
32. Spellmeyer, D.C.; Moos, W.H.; Martin, E.J.; Zuckermann, R.N.; Stauber, G. Peptoid alpha-1 adrenergic receptor ligands. US 5,480,871, **1996**.
33. Ng, S.; Warne, R.L.; Zuckermann, R.N.; Martin, E.J.; Simon, R.J. Opiate receptor ligands. US 5,536,868, **1996**.
34. Ng, S.; Warne, R.L.; Zuckermann, R.N.; Martin, E.J.; Simon, R.J. Opiate receptor ligands. US 5,481,020, **1996**.
35. Spellmeyer, D.C.; Moos, W.H.; Martin, E.J.; Zuckermann, R.N.; Stauber, G. Peptoid alpha-1 adrenergic receptor ligands. US 5,447,916, **1995**.
36. Zuckermann, R.N.; Huebner, V.D.; Santi, D.V.; Siani, M.A. Method and apparatus for biopolymer synthesis. US 5,252,296, **1993**.
37. Zuckermann, R.N.; Banville, S. Automated apparatus for use in peptide synthesis. US 5,240,680, **1993**.

Publications

1. Role of Backbone Chemistry and Monomer Sequence in Amphiphilic Oligopeptide- and Oligopeptoid-Functionalized PDMS- and PEO-Based Block Copolymers for Marine Antifouling and Fouling Release Coatings. Patterson, A.L.; Wenning, B.; Rizis, G.; Calabrese, D.R.; Finlay, J.A.; Franco, S.C.; Zuckermann, R.N.; Clare, A.S.; Kramer, E.J.; Ober, C.K.; Segalman, R.A., *Macromolecules*, **50**, 2656-2667 (2017).
2. Oxygen K Edge Scattering from Bulk Comb Diblock Copolymer Reveals Extended, Ordered Backbones above Lamellar Order–Disorder Transition. Kortright, J.B.; Sun, J.; Spencer, R.K.; Jiang, X.; Zuckermann, R.N., *The Journal of Physical Chemistry B*, **121**, 298-305 (2017).
3. Morphology-Driven Control of Metabolite Selectivity Using Nanostructure-Initiator Mass Spectrometry. Gao, J.; Louie, K.B.; Steinke, P.; Bowen, B.P.; Raad, M.d.; Zuckermann, R.N.; Siuzdak, G.; Northen, T.R., *Analytical Chemistry*, **89**, 6521-6526 (2017).
4. Exploring the links between peptoid antibacterial activity and toxicity. Bolt, H.L.; Eggimann, G.A.; Jahoda, C.A.B.; Zuckermann, R.N.; Sharples, G.J.; Cobb, S.L., *MedChemComm*, **8**, 886-896 (2017).
5. Log D versus HPLC derived hydrophobicity: The development of predictive tools to aid in the rational design of bioactive peptoids. Bolt, H.L.; Williams, C.E.J.; Brooks, R.V.; Zuckermann, R.N.; Cobb, S.L.; Bromley, E.H.C., *Peptide Science*, **108**, e23014 (2017).
6. Structure–Rheology Relationship in Nanosheet-Forming Peptoid Monolayers. Robertson, E.J.; Nehls, E.M.; Zuckermann, R.N., *Langmuir*, **32**, 12146-12158 (2016).
7. Molecular Engineering of the Peptoid Nanosheet Hydrophobic Core. Robertson, E.J.; Proulx, C.; Su, J.K.; Garcia, R.L.; Yoo, S.; Nehls, E.M.; Connolly, M.D.; Taravati, L.; Zuckermann, R.N., *Langmuir*, **32**, 11946-11957 (2016).
8. Morphology Study of Phosphonated Peptoid Block Copolymer. Jiang, X.; Sun, J.; Zuckermann, R.; Downing, K.H.; Balsara, N., *Microscopy and Microanalysis*, **22**, 1926-1927 (2016).
9. On-resin N-terminal peptoid degradation: Toward mild sequencing conditions. Proulx, C.; Noë, F.; Yoo, S.; Connolly, M.D.; Zuckermann, R.N., *Peptide Science*, **106**, 726-736 (2016).
10. Surface-Directed Assembly of Sequence-Defined Synthetic Polymers into Networks of Hexagonally Patterned Nanoribbons with Controlled Functionalities. Chen, C.-L.; Zuckermann, R.N.; DeYoreo, J.J., *ACS Nano*, **10**, 5314-5320 (2016).
11. Implicit-Solvent Coarse-Grained Simulation with a Fluctuating Interface Reveals a Molecular Mechanism for Peptoid Monolayer Buckling. Haxton, T.K.; Zuckermann, R.N.; Whitlam, S., *J. Chem. Theory Comput.*, **12**, 345-352 (2016).
12. Morphology and Proton Transport in Humidified Phosphonated Peptoid Block Copolymers. Sun, J.; Jiang, X.; Siegmund, A.; Conolly, M.D.; Downing, K.H.; Balsara, N.P.; Zuckermann, R.N., *Macromolecules*, **49**, 3083-3090 (2016).
13. Self-assembly of crystalline nanotubes from monodisperse amphiphilic diblock copolypeptoid tiles. Sun, J.; Jiang, X.; Lund, R.; Downing, K.H.; Balsara, N.P.; Zuckermann, R.N., *Proc. Natl. Acad. Sci. U.S.A.*, **113**, 3954-3959 (2016).

14. Application of Black Silicon for Nanostructure-Initiator Mass Spectrometry. Gao, J.; de Raad, M.; Bowen, B.P.; Zuckermann, R.N.; Northen, T.R., *Anal. Chem.*, **88**, 1625-1630 (2016).
15. Design, Synthesis, Assembly, and Engineering of Peptoid Nanosheets. Robertson, E.J.; Battigelli, A.; Proulx, C.; Mannige, R.V.; Haxton, T.K.; Yun, L.; Whitelam, S.; Zuckermann, R.N., *Acc. Chem. Res.*, **49**, 379-389 (2016).
16. Improved chemical and mechanical stability of peptoid nanosheets by photo-crosslinking the hydrophobic core. Flood, D.; Proulx, C.; Robertson, E.J.; Battigelli, A.; Wang, S.; Schwartzberg, A.M.; Zuckermann, R.N., *Chem. Commun.*, **52**, 4753-4756 (2016).
17. The Organic Flatland—Recent Advances in Synthetic 2D Organic Layers. Cai, S.-L.; Zhang, W.-G.; Zuckermann, R.N.; Li, Z.-T.; Zhao, X.; Liu, Y., *Adv. Mater.*, **27**, 5762-5770 (2015).
18. Accelerated Submonomer Solid-Phase Synthesis of Peptoids Incorporating Multiple Substituted N-Aryl Glycine Monomers. Proulx, C.; Yoo, S.; Connolly, M.D.; Zuckermann, R.N., *J. Org. Chem.*, **80**, 10490-10497 (2015).
19. Peptoid nanosheets exhibit a new secondary-structure motif. Mannige, R.V.; Haxton, T.K.; Proulx, C.; Robertson, E.J.; Battigelli, A.; Butterfoss, G.L.; Zuckermann, R.N.; Whitelam, S., *Nature*, **526**, 415-420 (2015).
20. Peptoid Nanosheets as Soluble, Two-dimensional Templates for Calcium Carbonate Mineralization. Jun, J.M.V.; Altoe, V.; Aloni, S.; Zuckermann, R.N., *Chem. Commun.*, **51**, 10218-10221 (2015).
21. Structure-activity relationship study of novel peptoids that mimic the structure of antimicrobial peptides. Mojsoska, B.; Zuckermann, R.N.; Jenssen, H., *Antimicrob. Agents Chemother.*, **59**, 4112-4120 (2015).
22. Sequence Programmable Peptoid Polymers for Diverse Materials Applications. Knight, A.S.; Zhou, E.Y.; Francis, M.B.; Zuckermann, R.N., *Adv. Mater.*, **38**, 5665-5691 (2015).
23. Modeling Sequence-Specific Polymers Using Anisotropic Coarse-Grained Sites Allows Quantitative Comparison with Experiment. Haxton, T.K.; Mannige, R.V.; Zuckermann, R.N.; Whitelam, S., *J. Chem. Theory Comput.*, **11**, 303-315 (2015).
24. Structure-Determining Step in the Hierarchical Assembly of Peptoid Nanosheets. Sani, B.; Haxton, T.K.; Olivier, G.K.; Cho, A.; Barton, B.; Proulx, C.; Whitelam, S.; Zuckermann, R.N., *ACS Nano*, **8**, 11674-11684 (2014).
25. Morphology-Conductivity Relationship in Crystalline and Amorphous Sequence-Defined Peptoid Block Copolymer Electrolytes. Sun, J.; Liao, X.; Minor, A.M.; Balsara, N.P.; Zuckermann, R.N., *J. Am. Chem. Soc.*, **136**, 14990-14997 (2014).
26. Assembly and molecular order of two-dimensional peptoid nanosheets through the oil-water interface. Robertson, E.J.; Oliver, G.K.; Qian, M.; Proulx, C.; Zuckermann, R.N.; Richmond, G.L., *Proc. Natl. Acad. Sci. U.S.A.*, **111**, 13284-13289 (2014).
27. Tuning calcite morphology and growth acceleration by a rational design of highly stable protein-mimetics. Chen, C.-L.; Qi, J.; Tao, J.; Zuckermann, R.N.; DeYoreo, J.J., *Sci. Rep.*, **4**, 6266 (2014).

28. Sun, J.; Proulx, C.; Zuckermann, R.N., Precision sequence control in bioinspired peptoid polymers. In *Sequence-Controlled Polymers: Synthesis, Self-Assembly, and Properties*, Francois-Lutz, J., Ed. American Chemical Society: 2014; Vol. 1170, pp 35-53.
29. Matching 4.7-Å XRD Spacing in Amelogenin Nanoribbons and Enamel Matrix. Sanii, B.; Martinez-Avila, O.; Simpliciano, C.; Zuckermann, R.N.; Habelitz, S., *J. Dental Res.*, **93**, 918-922 (2014).
30. Sequence of Hydrophobic and Hydrophilic Residues in Amphiphilic Polymer Coatings Affects Surface Structure and Marine Antifouling/Fouling Release Properties. van Zoelen, W.; Buss, H.G.; Ellebracht, N.C.; Lynd, N.A.; Fischer, D.A.; Finlay, J.; Hill, S.; Callow, M.E.; Callow, J.A.; Kramer, E.J.; Zuckermann, R.N.; Segalman, R.A., *ACS Macro Letters*, **3**, 364-368 (2014).
31. Nanometer-scale siRNA carriers incorporating peptidomimetic oligomers: physical characterization and biological activity. Konca, Y.U.; Kirshenbaum, K.; Zuckermann, R.N., *Int. J. Biomedicine*, **9**, 2271-2285 (2014).
32. Crystallization in sequence-defined peptoid diblock copolymers induced by microphase separation. Sun, J.; Teran, A.A.; Liao, X.; Balsara, N.P.; Zuckermann, R.N., *J. Am. Chem. Soc.*, **136**, 2070-2077 (2014).
33. Development and use of an atomistic CHARMM-based forcefield for peptoid simulation. Mirijanian, D.T.; Mannige, R.V.; Zuckermann, R.N.; Whitlam, S., *J. Comput. Chem.*, **35**, 360-370 (2014).
34. Nanoscale Phase Separation in Sequence-Defined Peptoid Diblock Copolymers. Sun, J.; Teran, A.A.; Liao, X.; Balsara, N.P.; Zuckermann, R.N., *J. Am. Chem. Soc.*, **135**, 14119-14124 (2013).
35. Antibody-Mimetic Peptoid Nanosheets for Molecular Recognition. Olivier, G.K.; Cho, A.; Sanii, B.; Connolly, M.D.; Tran, H.; Zuckermann, R.N., *ACS Nano*, **7**, 9276-9286 (2013).
36. Polypeptoids: a model system to study the effect of monomer sequence on polymer properties and self-assembly. Rosales, A.M.; Segalman, R.A.; Zuckermann, R.N., *Soft Matter*, **9**, 8400-8414 (2013).
37. Coarse-grained, foldable, physical model of the polypeptide chain. Chakraborty, P.; Zuckermann, R.N., *Proc. Natl. Acad. Sci. U.S.A.*, **110**, 13368-13373 (2013).
38. Peptoid Polymers: A Highly Designable Bioinspired Material. Sun, J.; Zuckermann, R.N., *ACS Nano*, **7**, 4715-4732 (2013).
39. Persistence length of polyelectrolytes with precisely located charges. Murnen, H.K.; Rosales, A.M.; Dobrynin, A.V.; Zuckermann, R.N.; Segalman, R.A., *Soft Matter*, **9**, 90-98 (2013).
40. Synthesis and characterization of designed BMHP1-derived self-assembling peptides for tissue engineering applications. Silva, D.; Natalello, A.; Sanii, B.; Vasita, R.; Saracino, G.; Zuckermann, R.N.; Doglia, S.M.; Gelain, F., *Nanoscale*, **5**, 704-718 (2013).
41. Determination of the persistence length of helical and non-helical polypeptoids in solution. Rosales, A.M.; Murnen, H.K.; Kline, S.R.; Zuckermann, R.N.; Segalman, R.A., *Soft Matter*, **8**, 3673-3680 (2012).

42. De novo structure prediction and experimental characterization of folded peptoid oligomers. Butterfoss, G.L.; Yoo, B.; Jaworski, J.N.; Chorny, I.; Dill, K.A.; Zuckermann, R.N.; Bonneau, R.; Kirshenbaum, K.; Voelz, V.A., *Proc. Natl. Acad. Sci. U.S.A.*, **109**, 14320-14325 (2012).
43. Tunable Phase Behavior of Polystyrene-Polypeptoid Block Copolymers. Rosales, A.M.; McCulloch, B.L.; Zuckermann, R.N.; Segalman, R.A., *Macromolecules*, **45**, 6027-6035 (2012).
44. Tunable Surface Properties from Sequence-Specific Polypeptoid-Polystyrene Block Copolymer Thin Films. van Zoelen, W.; Zuckermann, R.N.; Segalman, R.A., *Macromolecules*, **45**, 7072-7082 (2012).
45. Structure - Conductivity Relationship for Peptoid-Based PEO-Mimetic Polymer Electrolytes. Sun, J.; Stone, G.M.; Balsara, N.P.; Zuckermann, R.N., *Macromolecules*, **45**, 5151-5156 (2012).
46. Impact of Hydrophobic Sequence Patterning on the Coil-to-Globule Transition of Protein-like Polymers. Murnen, H.K.; Khokhlov, A.R.; Khalatur, P.G.; Segalman, R.A.; Zuckermann, R.N., *Macromolecules*, **45**, 5229-5236 (2012).
47. Solid-phase Submonomer Synthesis of Peptoid Polymers and their Self-Assembly into Highly-Ordered Nanosheets. Tran, H.; Gael, S.L.; Connolly, M.D.; Zuckermann, R.N., *J. Vis. Exp.*, **57**, e3373 (2011).
48. Zuckermann, R.N., Protein Mimicry with Bioinspired Peptoid Polymers. In Proc. 22nd Amer. Pep. Symp., Lebl, M., Ed. American Peptide Society: San Diego, 2011; pp 174-175.
49. Shaken, not stirred: Collapsing a peptoid monolayer to produce free-floating, stable nanosheets. Sanii, B.; Kudirka, R.; Cho, A.; Venkateswaran, N.; Oliver, G.K.; Olson, A.M.; Tran, H.; Harada, R.M.; Tan, L.; Zuckermann, R.N., *J. Am. Chem. Soc.*, **133**, 20808-20815 (2011).
50. A universal method for detection of amyloidogenic misfolded proteins. Yam, A.Y.; Wang, X.; Gao, C.; Connolly, M.D.; Zuckermann, R.N.; Bleua, T.; Halla, J.; Fedynyshyn, J.; Allauzen, S.; Peretz, D.; Salisbury, C.M., *Biochemistry*, **50**, 4322-4329 (2011).
51. Protein Side-Chain Translocation Mutagenesis via Incorporation of Peptoid Residues. Lee, B.-C.; Zuckermann, R.N., *ACS Chem. Biol.*, **6**, 1367-1374 (2011).
52. Engineered Biomimetic Polymers as Tunable Agents for Controlling CaCO₃ Mineralization. Chen, C.-L.; Qi, J.; Zuckermann, R.N.; DeYoreo, J.J., *J. Am. Chem. Soc.*, **133**, 5214-5217 (2011).
53. BMHP1-derived self-assembling peptides: hierarchically assembled structures with self-healing propensity and potential for tissue engineering applications. Gelain, F.; Silva, D.; Villa, O.; Taraballi, F.; Natalello, A.; Caprini, A.; Nam, K.T.; Zuckermann, R.N.; Doglia, S.M.; Vescovi, A., *ACS Nano*, **5**, 1845-1859 (2011).
54. Folding of a Single-Chain, Information-Rich Polypeptoid Sequence into a Highly-Ordered Nanosheet. Kudirka, R.; Tran, H.; Sanii, B.; Nam, K.T.; Choi, P.H.; Venkateswaran, N.; Chen, R.; Whitelam, S.; Zuckermann, R.N., *Peptide Sci.*, **96**, 586-595 (2011).
55. Peptoid Origins. Zuckermann, R.N., *Peptide Sci.*, **96**, 545-555 (2011).
56. Stabilization of nanoparticles under biological assembly conditions using peptoids. Robinson, D.B.; Buffleben, G.M.; Langham, M.E.; Zuckermann, R.N., *Peptide Sci.*, **96**, 669-678 (2011).

57. Seo, J.; Lee, B.-C.; Zuckermann, R.N., Peptoids - Synthesis, Characterization, and Nanostructures. In *Comprehensive Biomaterials*, Ducheyne, P.; Healy, K. E.; Hutmacher, D. W.; Grainger, D. W.; Kirkpatrick, C. J., Eds. Elsevier: 2011; Vol. 2, pp 53-76.
58. AB40 Oligomers Identified as a Potential Biomarker for the Diagnosis of Alzheimer's Disease. Gao, C.M.; Yam, A.Y.; Wang, X.; Magdangal, E.; Salisbury, C.; Peretz, D.; Zuckermann, R.N.; Connolly, M.D.; Hansson, O.; Minthon, L.; Zetterberg, H.; Blennow, K.; Fedynyshyn, J.P.; Allauzen, S., *PLoS ONE*, **5**, e15725 (2010).
59. Hierarchical Self-Assembly of a Biomimetic Diblock Copolypeptoid into Homochiral Super Helices. Murnen, H.K.; Rosales, A.M.; Jaworski, J.N.; Segalman, R.A.; Zuckermann, R.N., *J. Am. Chem. Soc.*, **132**, 16112-16119 (2010).
60. Rapid Multistep Synthesis of a Bioactive Peptidomimetic Oligomer for the Undergraduate Laboratory. Utku, Y.; Rohatgi, A.; Yoo, B.; Kirshenbaum, K.; Zuckermann, R.N.; Pohl, N.L., *J. Chem. Ed.*, **87**, 637-639 (2010).
61. Control of Crystallization and Melting Behavior in Sequence Specific Polypeptoids. Rosales, A.M.; Murnen, H.K.; Zuckermann, R.N.; Segalman, R.A., *Macromolecules*, **43**, 5627-5636 (2010).
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