Department of Chemistry and Chemical Biology
Rutgers University
610 Taylor Road
Piscataway, NJ 08954

Phone : (732) 445-6921
Fax : (732) 445-5312
e-mail: seidel@rutchem.rutgers.edu
URL: http://seidel-group.com/

DANIEL SEIDEL

EDUCATION

1998 – 2002 **Ph.D.**, University of Texas at Austin

1993 – 1998 **Diplom**, Friedrich-Schiller-Universität Jena, Germany

PROFESSIONAL EXPERIENCE

07/2005 – present **Assistant Professor**
Department of Chemistry and Chemical Biology, Rutgers University

07/2002 – 06/2005 **Postdoctoral Associate with Professor David A. Evans**
Department of Chemistry and Chemical Biology, Harvard University
Development of Soft Enolization Catalysts and Their Application to Synthesis

08/1998 – 06/2002 **Graduate Research/Teaching Assistant with Professor Jonathan L. Sessler**
Department of Chemistry and Biochemistry, University of Texas at Austin
Development of New Methodologies for the Synthesis of Expanded Porphyrins

09/1997 – 06/1998 **Undergraduate Exchange Researcher with Professor Jonathan L. Sessler**
Department of Chemistry and Biochemistry, University of Texas at Austin
Synthesis and Complexation Studies of Oxygen-Analogues of Expanded Porphyrins

07/1995 – 08/1997 **Undergraduate Researcher with Professor E.-G. Jäger and Dr. H. Keutel**
Department of Chemistry, Friedrich-Schiller Universität Jena, Germany
Synthesis and Study of First Row Transition Metal Complexes

AWARDS AND HONORS

2011 Alfred P. Sloan Research Fellowship
2009 Synthesis-Synlett Journal Award for Promising Young Professors
2006 – current J.L.R. Morgan Chair of Synthetic Chemistry
2002 – 2004 Ernst Schering Postdoctoral Fellowship
2001 – 2002 Dorothy A. Banks Fellowship
2001 University Co-op Award for Research Excellence
2001 Welch Academic Excellence Award
1997 – 1998 Fellow of the TASEP (Trans Atlantic Student Exchange Program)

INDEPENDENT PUBLICATIONS

52 "**A Dual Catalytic Approach to the Kinetic Resolution of Allylic Amines.**" Eric G. Klauber, Nisha Mittal, Tejas K. Shah and Daniel Seidel, in preparation.

51 "**Decarboxylative Formation of N-Alkyl Pyrroles.**" Indubhusan Deb, Daniel Coiro and Daniel Seidel, in preparation.

50 "**Redox Neutral Functionalization of Relatively Unreactive C–H bonds.**" Daniel Seidel, invited accounts article for *Synlett*, in preparation.

49 "**Redox Neutral Formation of Aminals.**" Indubhusan Deb, Matthew Richers, Chen Zhang, Marlena D. Konieczynska, and Daniel Seidel, invited Feature Article for *Synthesis*, in preparation.

48 "**Synthesis of Scalemic Amides by Kinetic Resolution.**" Daniel Seidel, invited contribution for *Science of Synthesis, Volume 21*, submitted (01-29-2011).

47 "***o*-Aminobenzaldehyde, Redox-Neutral Aminal Formation and Synthesis of Deoxyvasicinone.**" Chen Zhang, Chandra Kanta De and Daniel Seidel, invited contribution for *Org. Synth.*, submitted (06-26-2010), accepted for checking.

46 "**Gadolinium triflate.**" Deepankar Das and Daniel Seidel, invited contribution for *EROS* (*Encyclopedia of Reagents for Organic Synthesis*), **2011**, in press.

45 "**Redox-Neutral Indole Annulation Cascades.**" Michael Haibach, Indubhusan Deb, Chandra Kanta De and Daniel Seidel, *J. Am. Chem. Soc.* **2011**, *133*, ASAP.

44 "**Redox Isomerization via Azomethine Ylide Intermediates: N-Alkyl Indoles From Indolines.**" Indubhusan Deb, Deepankar Das and Daniel Seidel, *Org. Lett.* **2011**, *13*, 812–815.

43 "**Azomethine Ylide Annulations: Facile Access to Polycyclic Ring Systems.**" Chen Zhang, Deepankar Das and Daniel Seidel, *Chem. Sci.* **2011**, *2*, 233–236.

42 "**Catalytic Enantioselective Friedländer Condensations: Facile Access to Quinolines with Remote Stereogenic Centers.**" Le Li and Daniel Seidel, *Org. Lett.* **2010**, *12*, 5064–5067.

41 "**Merging Nucleophilic and Hydrogen Bonding Catalysis: An Anion Binding Approach to the Kinetic Resolution of Propargylic Amines.**" Eric G. Klauber, Chandra Kanta De, Tejas K. Shah and Daniel Seidel, *J. Am. Chem. Soc.* **2010**, *132*, 13624–13626. (**highlighted in SYNFACTS, December 2010**) (This paper was listed as one of the journal's **Top 20 most downloaded** papers in September of 2010)

40 Invited book review: "**Cinchona Alkaloids in Synthesis & Catalysis: Ligands, Immobilization and Organocatalysis**." Daniel Seidel, *J. Am. Chem. Soc.* **2010**, *132*, 8224.

39 "**Catalytic Enantioselective Aldol Additions of α-Isothiocyanato Imides to α-Ketoesters.**" Matthew K. Vecchione, Le Li and Daniel Seidel, *Chem. Commun.* **2010**, 4604–4606.

38 "**Retro-Claisen Condensation vs. Pyrrole Formation in Reactions of Amines and 1,3-Diketones.**" Indubhusan Deb and Daniel Seidel, *Tetrahedron Lett.* **2010**, *51*, 2945–2947.

37 "**Nontraditional Reactions of Azomethine Ylides: Decarboxylative Three-Component Couplings of α-Amino Acids.**" Chen Zhang and Daniel Seidel, *J. Am. Chem. Soc.* **2010**, *132*, 1798–1799. (This paper was listed as one of the journal's **Top 20 most downloaded** papers in January of 2010)

36 "**Merging Nucleophilic and Hydrogen Bonding Catalysis: An Anion Binding Approach to the Kinetic Resolution of Amines.**" Chandra Kanta De, Eric G. Klauber and Daniel Seidel, *J. Am. Chem. Soc.* **2009**,

131, 17060–17061. (**highlighted in C&E News, November 2009**) (**highlighted in SYNFACTS, January 2010**) (This paper was listed as one of the journal's **Top 20 most downloaded** papers in November of 2009)

35 "**Facile Synthesis of a Chiral Urea Bridged Bisoxazoline Ligand and Structural Characterization of its Bis-Copper(II)-Chloride Complex**" Rudrajit Mal, Nisha Mittal, Thomas J. Emge and Daniel Seidel, *Chem. Commun.* **2009**, 7309–7311.

34 "**Catalytic Enantioselective Intramolecular Redox Reactions: Ring-Fused Tetrahydroquinolines.**" Sandip Murarka, Indubhusan Deb, Chen Zhang and Daniel Seidel, *J. Am. Chem. Soc.* **2009**, *131*, 13226–13227. (**highlighted in SYNFORM, November 2009**) (**highlighted in SYNFACTS, December 2009**)

33 "**Catalytic Enantioselective Synthesis of α,β-Diamino Acid Derivatives.**" Le Li, Madhu Ganesh and Daniel Seidel, *J. Am. Chem. Soc.* **2009**, *131*, 11648–11649. (**highlighted in SYNFACTS, October 2009**) (**part of the JACS SELECT issue 7, December 2009**)

32 "**Lewis Acid Catalyzed Formation of Tetrahydroquinolines via an Intramolecular Redox Process.**" Sandip Murarka, Chen Zhang, Marlena D. Konieczynska and Daniel Seidel, *Org. Lett.* **2009**, *11*, 129–132. (**highlighted in SYNFACTS, April 2009**)

31 "**Facile Formation of Cyclic Aminals Through a Brønsted Acid Promoted Redox Process.**" Chen Zhang, Sandip Murarka and Daniel Seidel, *J. Org. Chem.* **2009**, *74*, 419–422.

30 "**Catalytic Enantioselective Additions of Indoles to Nitroalkenes.**" Madhu Ganesh and Daniel Seidel *J. Am. Chem. Soc.* **2008**, *130*, 16464–16465. (**highlighted in SYNFACTS, February 2009**)

29 "**Catalytic Enantioselective Aldol Additions of α-Isothiocyanato Imides to Aldehydes.**" Le Li, Eric G. Klauber, and Daniel Seidel *J. Am. Chem. Soc.* **2008**, *130*, 12248–12249. (**highlighted as "SYNFACT of the month," November 2008**)

28 "**α-Amination of Nitrogen Heterocycles: Ring Fused Aminals.**" Chen Zhang, Chandra Kanta De, Rudrajit Mal and Daniel Seidel *J. Am. Chem. Soc.* **2008**, *130*, 416–417.

PREVIOUS PUBLICATIONS

27 "**Scope and Mechanism of Enantioselective Michael Additions of 1,3-Dicarbonyl Compounds to Nitroalkenes Catalyzed by Nickel(II)-Diamine Complexes.**" David A. Evans, Shizue Mito and Daniel Seidel *J. Am. Chem. Soc.* **2007**, *129*, 11583–11592.

26 "**Redox Behavior of Cyclo[6]pyrrole in the Formation of a Uranyl Complex.**" Patricia J. Melfi, Sung Kuk Kim, Jeong Tae Lee, Frederic Bolze, Daniel Seidel, Vincent M. Lynch, Jacqueline M. Veauthier, Andrew J. Gaunt, Mary P. Neu, Zhongping Ou, Karl M. Kadish, Shunichi Fukuzumi, Kei Ohkubo and Jonathan L. Sessler *Inorg. Chem.* **2007**, *46*, 5143–5145.

25 "**Nonlinear Optical Properties and Excited-State Dynamics of Highly Symmetric Expanded Porphyrins.**" Zin Seok Yoon, Jung Ho Kwon, Min-Chul Yoon, Mi Kyoung Koh, Su Bum Noh, Jonathan L. Sessler, Jeong Tae Lee, Daniel Seidel, Apolonio Aguilar, Soji Shimizu, Masaaki Suzuki, Atsuhiro Osuka and Dongho Kim *J. Am. Chem. Soc.* **2006**, *128*, 14128–14134.

24 "**Ni(II)-bis[(*R,R*)-N,N'-Dibenzylcyclohexane-1,2-diamine]Br_2 Catalyzed Enantioselective Michael Additions of 1,3-Dicarbonyl Compounds to Conjugated Nitroalkenes.**" David A. Evans and Daniel Seidel *J. Am. Chem. Soc.* **2005**, *127*, 9958–9959. (**highlighted in SYNFACTS, November 2005**)

23 "**Electronic Structure, Spectra, and Magnetic Circular Dichroism of Cyclohexa-, Cyclohepta-, and Cyclooctapyrrole.**" Alexander Gorski, Thomas Köhler, Daniel Seidel, Jeong Tae Lee, Grazyna Orzanowska, Jacek Waluk and Jonathan L. Sessler *Chem. Eur. J.* **2005**, *11*, 4179–4184.

22 "**Straightforward synthesis of sulfur bridged oligopyrrolic macrocycles.**" David Sanchez-Garcia, Thomas Köhler, Daniel Seidel, Vincent Lynch and Jonathan L. Sessler *Chem. Commun.* **2005**, 2122–2124.

21 "**Facile Syntheses of Quater-, Penta-, and Sexipyrroles.**" Jonathan L. Sessler, Apolonio Aguilar, David Sanchez-Garcia, Daniel Seidel, Thomas Köhler, Forrest Arp, and Vincent Lynch *Org. Lett.* **2005**, *7*, 1887–1890.

20 "**Reductive Per-N-alkylation of Cyclo[8]pyrroles.**" Thomas Köhler, Zhongping Ou, Jeong Tae Lee, Daniel Seidel, Vincent Lynch, Karl M. Kadish and Jonathan L. Sessler *Angew. Chem. Int. Ed.* **2005**, *44*, 83–87.

19 "**Hexaphyrin(1.0.1.0.0.0). A new colorimetric actinide sensor.**" Jonathan L. Sessler, Patricia J. Melfi, Daniel Seidel, Anne E. V. Gorden, Doris K. Ford, Philip D. Palmerb and C. Drew Tait *Tetrahedron* **2004**, *60*, 11089–11097.

18 "**Octaethylporphyrin and Expanded Porphyrin Complexes Containing Coordinated BF_2 Groups.**" Thomas Köhler, Michael C. Hodgson, Daniel Seidel, Jacqueline M. Veauthier, Sylvie Meyer, Vincent Lynch, Peter D. W. Boyd, Penelope J. Brothers and Jonathan L. Sessler *Chem. Commun.* **2004**, 1060–1061.

17 "**A New Copper Acetate-Bis(oxazoline)-Catalyzed, Enantioselective Henry Reaction.**" David A. Evans, Daniel Seidel, Magnus Rueping, Hon Wai Lam, Jared T. Shaw and C. Wade Downey *J. Am. Chem. Soc.* **2003**, *125*, 12692–12693.

16 "**Synthetic Expanded Porphyrin Chemistry.**" Jonathan L. Sessler and Daniel Seidel *Angew. Chem. Int. Ed.* **2003**, *42*, 5134–5175.

15 "**Formation and Properties of Cyclo[6]pyrrole and Cyclo[7]pyrrole.**" Thomas Köhler, Daniel Seidel, Vincent Lynch, Forrest O. Arp, Zhongping Ou, Karl M. Kadish and Jonathan L. Sessler *J. Am. Chem. Soc.* **2003**, *125*, 6872–6873.

14 "**Characterization of the Interactions Between Neptunyl and Plutonyl Cations and Expanded Porphyrins.**" Jonathan L. Sessler, Anne E. V. Gorden, Daniel Seidel, Sharon Hannah, Vincent Lynch, Pamela L. Gordon, Robert J. Donahoe, C. Drew Tait and D. Webster Keogh *Inorg. Chim. Acta*. **2002**, *341*, 54–70.

13 "**Cyclo[8]pyrrole: A Simple-to-Make Expanded Porphyrin with No Meso Bridges.**" Daniel Seidel, Jonathan L. Sessler and Vincent Lynch *Angew. Chem. Int. Ed.* **2002**, *41*, 1422–1425. (**highlighted on the cover and in C&E News**)

12 "**[30]Heptaphyrin(1.1.1.1.1.0.0): An Aromatic Expanded Porphyrin with a 'Figure Eight' Like Structure.**" Christophe Bucher, Daniel Seidel, Vincent Lynch and Jonathan L. Sessler *Chem. Commun.* **2002**, 328–329.

11 "**Dioxa-[40]decaphyrin(1.0.1.0.0.1.0.1.0.0): An Analogue of Turcasarin with a 'Figure-Eight' Structure.**" Jonathan L. Sessler, Daniel Seidel, Andreas Gebauer, Vincent Lynch and Khalil A. Abboud *J. Heterocycl. Chem.* **2001**, *38*, 1419–1424.

10 "**New Chemistry of Amethyrin.**" Sharon Hannah, Daniel Seidel, Vincent Lynch and Jonathan L. Sessler *Inorg. Chim. Acta* **2001**, *317*, 211–217.

09 "**Novel, Terpyrrole-Containing, Aromatic Expanded Porphyrins.**" Jonathan L. Sessler, Daniel Seidel, Christophe Bucher, and Vincent Lynch *Tetrahedron* **2001**, *57*, 3743–3752.

08 "**Hexaphyrin(1.0.1.0.0.0): An Expanded Porphyrin Ligand for the Actinide Cations Uranyl (UO_2^{2+}) and Neptunyl (NpO_2^{+}).**" Jonathan L. Sessler, Daniel Seidel, Anne E. Vivian, Vincent Lynch, Brian L. Scott and D. Webster Keogh *Angew. Chem. Int. Ed.* **2001**, *40*, 591–594. (**highlighted in C&E News**)

07 "**Actinide Complexes of Expanded Porphyrins.**" Jonathan L. Sessler, Anne E. Vivian, Daniel Seidel, Anthony K. Burrell, Michael Hoehner, Tarak D. Mody, Andreas Gebauer, Steven J. Weghorn and Vincent Lynch *Coord. Chem. Rev.* **2001**, *216-217*, 411–434.

06 "**Novel Synthesis of Hybrid Calixphyrin Macrocycles.**" Christophe Bucher, Daniel Seidel, Vincent Lynch, Vladimir Král and Jonathan L. Sessler *Org. Lett.* **2000**, *2*, 3103–3106.

05 "**[26]Hexaphyrin(1.1.1.1.0.0): an All-Aza Isomer of Rubyrin with an Inverted Pyrrole Subunit.**" Jonathan L. Sessler, Daniel Seidel, Christophe Bucher and Vincent Lynch *Chem. Commun.* **2000**, 1473–1474.

04 "**Calixphyrins: Novel Macrocycles at the Intersection Between Porphyrins and Calixpyrroles.**" Vladimir Král, Jonathan L. Sessler, Rebecca S. Zimmerman, Daniel Seidel, Vincent Lynch and Bruno Andrioletti *Angew. Chem. Int. Ed.* **2000**, *39*, 1055–1058.

03 "**An Unusual Metal-Mediated Formation of an Asymmetrical Carboxylate-Bridged Dinuclear Copper(II) Complex.**" Heike Keutel, Daniel Seidel, Martin Klussmann and Helmar Görls *Inorg. Chem.* **2000**, *39*, 1608–1610.

02 "**Expanded Porphyrins. Synthetic Materials with Potential Medical Utility.**" Jonathan L. Sessler, Nicolai A. Tvermoes, Julian Davis, Pavel Anzenbacher, Jr., Karolina Jursíková, Wataru Satoh, Daniel Seidel, Vincent Lynch, Chris B. Black, Andrew Try, Bruno Andrioletti, Greg Hemmi, Tarak D. Mody, Darren J. Magda, Kathryn Woodburn, Richard A. Miller and Vladimír Král *Pure Appl. Chem.* **1999**, *71*, 2009–2018.

01 "**Synthesis of [28]Heptaphyrin(1.0.0.1.0.0.0) and [32]Octaphyrin(1.0.0.0.1.0.0.0) via a Directed Oxidative Ring Closure: The First Expanded Porphyrins Containing a Quaterpyrrole Subunit.**" Jonathan L. Sessler, Daniel Seidel and Vincent Lynch *J. Am. Chem. Soc.* **1999**, *121*, 11257–11258.

PATENTS

01 "**Method for the preparation of cyclo[n]pyrroles via an oxidative coupling procedure.**" Jonathan L. Sessler, Daniel Seidel, Frederic R. Bolze, Thomas Köhler, U.S. Patent No. 6,984,734; Issue date: Jan 10, **2006**, 47 pages.

PRESENTATIONS

Indiana University-Purdue University Indianapolis, April 27, **2011** – Invited lecture
City College of New York, February 7, **2011** – Invited lecture
Emory University, January 26, **2011** – Invited lecture
Vanderbilt University, January 24, **2011** – Invited lecture
Organic and Bioorganic Chemistry Symposium in honor of Prof. S. Knapp, January 14, **2011**, – invited lecture
Merck & Co., Kenilworth, December 8, **2010** – Invited lecture
Molecular Design and Synthesis Award Symposium for Prof. D. A. Evans, November 17, **2010** – Invited lecture
Scripps Research Institute, October 22, **2010** – Invited lecture
California Institute of Technology, October 20, **2010** – Invited lecture
Dartmouth College, October 7, **2010** – Invited lecture
Rutgers University, September 21, **2010**, – Departmental Seminar
University of Missouri at Columbia, September 10, **2010** – Invited lecture
GRC: *Stereochemistry*, Salve Regina University, August 1–6, **2010** – Invited chalk talk
22nd International Symposium on Chirality, Sapporo, Japan, July 12-15, **2010** – Invited keynote lecture
93rd CSC conference, Toronto, Canada, May 29 – June 2, **2010** – Invited lecture
University of California at Santa Barbara, May 28, **2010** – Invited lecture
University of California at Los Angeles, May 27, **2010** – Invited lecture
University of California at Irvine, May 26, **2010** – Invited lecture
Bristol-Myers Squibb, Lawrenceville/Hopewell, May 19, **2010** – Invited lecture
University of Pennsylvania, May 10, **2010** – Invited lecture
New Jersey Biotechnology Chemistry Consortium, Cranbury, NJ, May 3, **2010** – Invited lecture
Brooklyn College, CUNY, April 30, **2010** – Invited lecture
Kean University, April 20, **2010** – Invited lecture
Queens College, CUNY, April 19, **2010** – Invited lecture
University of Texas at Austin, April 16, **2010** – Invited lecture
University of California at Berkeley, April 6, **2010** – Invited lecture
University of South Carolina, October 29, **2009** – Invited lecture
University of North Carolina at Chapel Hill, October 15, **2009** – Invited lecture
Rochester University, October 2, **2009** – Invited lecture
University at Buffalo, September 30, **2009** – Invited lecture
Syracuse University, September 29, **2009** – Invited lecture
University of New Mexico, September 4, **2009** – Invited lecture
GRC: *Organic Reactions & Processes*, Bryant University, July 19–24, **2009** – Short Talk
Lilly Research Laboratories, Indianapolis, June 16, **2009** – Invited lecture
NSF workshop, Gold Lake, Colorado, June 4–7, **2009** – Invited chalk talk
West Virginia University, April 22, **2009** – Invited lecture
Merck & Co., Rahway, April 15, **2009** – Invited lecture
New York University, April 7, **2009** – Invited lecture
Gettysburg College, February 11, **2009** – Invited lecture
Rider University, February 10, **2009** – Invited lecture