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DANIEL SEIDEL

EDUCATION

- 1998 – 2002 **Ph.D.**, University of Texas at Austin
- 1993 – 1998 **Diplom**, Friedrich-Schiller-Universität Jena, Germany

PROFESSIONAL EXPERIENCE

- 07/2011 – present **Associate Professor**
Department of Chemistry and Chemical Biology, Rutgers University
- 07/2005 – 06/2011 **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

- 2012 Carl Duisberg Memorial Prize of the German Chemical Society
- 2011 Amgen Young Investigator Award
- 2011 Alfred P. Sloan Research Fellowship
- 2011 SAS Award for Distinguished Contributions to Undergraduate Education
- 2011 Board of Trustees Research Fellowship for Scholarly Excellence
- 2011 Presidential Fellowship for Teaching Excellence
- 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)

PUBLICATIONS

- 54 “***o*-Aminobenzaldehyde, Redox-Neutral Aminal Formation and Synthesis of Deoxyvasicinone.**” Chen Zhang, Chandra Kanta De and Daniel Seidel, invited contribution for *Org. Synth.* **2012**, in press.
- 53 “**The Decarboxylative Strecker Reaction.**” Deepankar Das, Matthew T. Richers, Longle Ma and Daniel Seidel, *Org. Lett.* **2011**, *13*, 6584–6587. (This paper was listed as one of the journal’s **Top 20 most downloaded papers in November of 2011**)
- 52 “**A Dual Catalysis Approach to the Asymmetric Steglich Rearrangement and Catalytic Enantioselective Addition of O-Acylated Azlactones to Isoquinolines.**” Chandra Kanta De, Nisha Mittal and Daniel Seidel, *J. Am. Chem. Soc.* **2011**, *133*, 16802–16805. (**highlighted in SYNFACTS, December 2011**)
- 51 “**Catalytic Enantioselective Desymmetrization of meso-Diamines: A Dual Small-Molecule Catalysis Approach.**” Chandra Kanta De and Daniel Seidel, *J. Am. Chem. Soc.* **2011**, *133*, 14538–14541. (**highlighted in SYNFACTS, November 2011**)
- 50 “**Divergent Reactions of Indoles with Aminobenzaldehydes: Indole Ring Opening vs. Annulation and Facile Synthesis of Neocryptolepine.**” Matthew K. Vecchione, Aaron X. Sun and Daniel Seidel, *Chem. Sci.* **2011**, *2*, 2178–2181. (**highlighted on the Chemical Science blog, August 19, 2011**)
- 49 “**Origins of Enantioselectivity in Proline Catalyzed Friedländer Condensations of 4-substituted Cyclohexanones.**” Le Li and Daniel Seidel, *Synthesis* **2011**, 1853–1858.
- 48 “**Decarboxylative Formation of N-Alkyl Pyrroles From 4-Hydroxyproline.**” Indubhusan Deb, Daniel Coiro and Daniel Seidel, *Chem. Commun.* **2011**, *47*, 6473–6475.
- 47 “**A Dual Catalysis/Anion Binding Approach to the Kinetic Resolution of Allylic Amines.**” Eric G. Klauber, Nisha Mittal, Tejas K. Shah and Daniel Seidel, *Org. Lett.* **2011**, *13*, 2464–2467. (**highlighted in SYNFACTS, June 2011**)
- 46 “**Gadolinium triflate.**” Deepankar Das and Daniel Seidel, invited contribution for *EROS (Encyclopedia of Reagents for Organic Synthesis)*, published March 15, **2011**, DOI: 10.1002/047084289X.rn01253
- 45 “**Redox-Neutral Indole Annulation Cascades.**” Michael Haibach, Indubhusan Deb, Chandra Kanta De and Daniel Seidel, *J. Am. Chem. Soc.* **2011**, *133*, 2100–2103. (**highlighted in SYNFACTS, April 2011**) (This paper was listed as one of the journal’s **Top 20 most downloaded** papers in February of 2011)
- 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 Amins 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 Amins.”** Chen Zhang, Chandra Kanta De, Rudrajit Mal and Daniel Seidel *J. Am. Chem. Soc.* **2008**, 130, 416–417.
- 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, Atsuhiko Osuka and Dongho Kim *J. Am. Chem. Soc.* **2006**, *128*, 14128–14134.

- 24 **“Ni(II)-bis[(R,R)-N,N'-Dibenzylcyclohexane-1,2-diamine]Br₂ 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 BF₂ 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 (UO₂²⁺) and Neptunyl (NpO₂⁺).”** 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

RWTH Aachen University, Germany, March 9, **2012** – Invited lecture
 Max-Planck-Institut für Kohlenforschung, Mülheim an der Ruhr, Germany, March 8, **2012** – Invited lecture
 University of Münster, Germany, March 7, **2012** – Invited lecture
 Chemiedozententagung of the German Chemical Society, Freiburg, Germany, March 5, **2012** – Award lecture
 University of Miami, December 9, **2011** – Invited lecture
 The Ohio State University, November 3, **2011** – Invited lecture
 Temple University, October 27, **2011** – Invited lecture
 Amgen Young Investigator Award Symposium, October 4, **2011** – Award lecture
 GRC: *Organic Reactions & Processes*, Bryant University, July 17–22, **2011** – Poster
 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
 GRC: *Heterocyclic Compounds*, Salve Regina University, June 28 – July 3, **2009** – Poster
 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
 GRC: *Stereochemistry*, Salve Regina University, July 27 – August 1, **2008** – Poster
 GRC: *Heterocyclic Compounds*, Salve Regina University, June 15–20, **2008** – Poster