MICHAEL S. SHERBURN

Research School of Chemistry, Australian National University, Building 137 Canberra ACT 2601

EXPERIENCE

2002 – CURRENT
PROFESSOR, RESEARCH SCHOOL OF CHEMISTRY, AUSTRALIAN NATIONAL UNIVERSITY
(Professor since 2012)
ASSOCIATE DIRECTOR – EDUCATION (since 2021)

1997 – 2002
LECTURER, THE UNIVERSITY OF SYDNEY, AUSTRALIA

1994 – 1997
LECTURER, MASSEY UNIVERSITY, NEW ZEALAND

ACADEMIC BACKGROUND

1991-1994
POSTDOCTORAL FELLOW, RESEARCH SCHOOL OF CHEMISTRY, THE AUSTRALIAN NATIONAL UNIVERSITY
With Prof Lew Mander

1987-1990
PHD, THE UNIVERSITY OF NOTTINGHAM, UK
With Prof John Murphy

OTHER CURRENT PROFESSIONAL ACTIVITIES

Australian Research Council: College of Experts (2022-).
Editorial Board Memberships: Advisory Board, *Synlett* (2023–); International Advisory Board, *Asian Journal of Organic Chemistry* (2012–); Advisory Board, *Natural Product Reports* (2012–); Editorial Board Member, *Nature Scientific Reports* (2011–).
***Australian National University*:** Associate Director (Education), Research School of Chemistry; Chair, Australian National University Major Equipment Committee.

MAJOR RESEARCH CONTRIBUTIONS

My group has designed, prepared and studied new classes of molecules, which have opened up new research areas, particularly in the field of fundamental hydrocarbon chemistry. This work has led to a better understanding of how chemical structure is related to reactivity. We have devised new strategies and tactics for efficient chemical synthesis and catalysis of broad value to the community. We have introduced powerful new methods for the rapid creation of molecular complexity through the invention of domino reactions, resulting in the most step economic total synthesis of natural products.

Our work has re-written the textbooks on polyenic hydrocarbons, particularly dendralenes. The prevailing dogma was that these compounds would be too unstable to be prepared, stored, and used synthetically. My group demonstrated experimentally that this was incorrect, hence opening up the field of acyclic cross-conjugated polyenes for study. Our pioneering studies with dendralenes are best evidenced by the growing number of contributions in the field, as other researchers begin to recognise their potential.

We have also designed many other designed hydrocarbons, each of which have opened up new areas of investigation. Notable examples include the ivyanes, 1,1-divinylallene, tetravinylethylene, [5]radialene, tetravinylallene, hybrids of tetravinylethylene and tetraethynylethylene, and 2,3-diethynyl-1,3-butadienes. This work is ground-breaking because it has unlocked significant regions of previously inaccessible chemical structure space and has led to unexpected applications. For example, the ivyanes have the highest recorded heat of combustion, as a function of mass, of any solid substance. This observation led to a collaboration with researchers at NASA, who investigated the use of ivyanes as rocket fuels. At the other end of the kinetic stability spectrum, [5]radialene is a hyper-reactive substance, with a half-life of approximately 30 mins in dilute (20 micromolar concentration) solutions at –80 °C. This compound, the only previously inaccessible member of the "lower" radialene family, finally succumbed to synthesis in our laboratory in 2015. This work led to [5]radialene being named as one of C&EN's six "*molecules of the year*" in 2015. The development of synthetic pathways to small, unprecedented molecules gives other researchers the tactics and strategies – and confidence – to further extend the boundaries of what is possible, and produce the next generation of useful materials.

My group has also made important contributions in the development of new synthetic methods, tactics and strategies. We have published the most step economic syntheses of important families of natural products including podophyllotoxin and various other lignans, himbacine, triptolide, the kingianins/endiandric acids, the pseudopterosins, and the ramonanins. This work contributes improved scalability, efficiency and selectivity in the

chemical synthesis of biologically active natural products and related compounds, including compounds of medicinal importance.

My group designed and synthesised *superbowl* host molecules, which remain some of the largest synthetic host molecules so far prepared. Superbowls are deep, rigid and hollow molecules, which were shown to bind, encapsulate and release various molecules, including medicinal agents, thereby serving as a model for drug delivery system.

In an extended synthetic-computational collaboration with Professor Paddon-Row, my group made substantial contributions towards a deeper understanding of the Diels-Alder reaction, in particular the stereoselectivities of intramolecular Diels-Alder reactions. The results of this study were described in over a dozen publications commencing in the year 2000, demonstrated the value of computational methods in both the accurate prediction and explanation of reaction outcomes in the laboratory.

AWARDS AND HONOURS

2022: Tarrant Distinguished Visiting Professorship, University of Florida, USA.
2018: Allergan Lectureship, University of California at Irvine, USA; Liebig-College Lectureship, Justus-Liebig University Giessen, Germany.
2017: Distinguished Visiting Professor, University of Ottawa, Canada*;* Fred Pattison Senior Lectureship, University of Western Ontario, Canada.
2011: Elected Fellow of the Royal Society of Chemistry; Elected Fellow of the Royal Australian Chemical Institute.
2010: Professeur Invite, Université Pierre et Marie Curie, France.
2009: Visiting Professorship, University of Münster, Germany.
2008: Awarded A. J. Birch Medal of the Royal Australian Chemical Institute; Erskine Fellow, University of Canterbury, New Zealand.
2007: Merck-Frosst Visiting Professorship, University of Toronto, Canada.
2006: Awarded the Le Fèvre Memorial Prize of the Australian Academy of Science.

TEACHING AND MENTORING, INCLUDING RESEARCH SUPERVISION

Undergraduate teaching. Professor Sherburn is a passionate teacher and educator, and has carried a full teaching load throughout his career, irrespective of his position. He is the Associate Director for Education at the Research School of Chemistry. Since appointment, he has contributed enthusiastically to the chemistry undergraduate teaching program at ANU and holds one of the highest undergraduate teaching loads in the school. He has shaped the chemistry curriculum at ANU, taught at all levels and currently teaches and convenes second and third year undergraduate courses. He has also taught undergraduate and graduate courses

at the University of Sydney, the University of Tasmania, the University of Adelaide, and at universities in New Zealand, Canada, France, Germany and the UK. He has served on numerous education committees, which were tasked to review and revise undergraduate teaching offerings.

High school teaching and mentoring. He has taught high school students through various outreach programs, and has been involved in devising and assisting many high school research projects. For example, he was Project Coordinator of the Australian Government-funded project "Cool Chemistry: Creating Curious Chemistry Students in ACT Schools", which was an initiative involved in educating and assisting school teachers in the Canberra region.

Research supervision. Supervised 41 PhD students to completion. Many won awards for their work, including the RACI Mander best thesis award (Newton; Drew), RACI Cornforth Medal for best thesis (Turner), and many conference awards for student presentations.

Former PhD co-workers gained postdoctoral positions in world leading research groups, including those of Nicolaou (Scripps), Rebek (Scripps), Du Bois (Stanford), Paterson (Cambridge), Zard (Ecole Polytechnique), Oestreich (Berlin), Studer (Muenster), Cramer (Lausanne), Pronin (UC Irvine), Enders (Aachen), Trauner (LMU), Sutherland (Cambridge), Stephenson (Michigan), Vanderwal (UC-Irvine) and Schreiner (Giessen).

Former co-workers hold organic chemistry-focused research positions in companies in Australia and overseas including Memjet (Fielder), iCeutica (Nörret), Pharmaxis (Turner), Bayer (Mackay), and Arcus (Drew). Others are in chemistry-related patent law (Scott, Barrett, Horvath).

Four former co-workers won prestigious Humboldt fellowships to work in leading laboratories in Germany (Fallon, Nguyen, Mackay, Sowden) and three are recipients of ARC DECRA fellowships (Lawrence, Nguyen, Newton). The following eleven former co-workers hold independent academic positions: Dr Gomotsang Bojase, University of Botswana; Dr Supanimit Chiampanichayakul, Naresuan University, Thailand; Dr Thomas Fallon, University of Newcastle, Australia; Dr Nicholas Green (University of Otago, New Zealand); Professor Andrew Lawrence, University of Edinburgh, UK; Dr Chris Newton, University of Georgia, USA; Dr Vinh Nguyen, University of New South Wales, Australia; Dr Alan Payne, Curtin University, Australia; Dr Emma Pearson, Curtin University, Australia; Dr Kim Roper, University of Birmingham, UK; Dr Mehmet Saglam, Gebze Technical University, Turkey.

CURRENT RESEARCH GROUP (COUNTRY OF ORIGIN)

PhD candidates: JJ Lee (Australia), Sharwel Lei (Australia), Rashid Javaid (Pakistan), Kusum Sai (Nepal), Robin Sander (Sweden), Jose Maria (Spain), Kieran Connor (Australia), Maksim Lisau (Australia), Osbert Chou (Australia), Xinyi Wang (China), Aidan Campbell (Australia).

ACADEMIC AND RESEARCH LEADERSHIP

Professor Sherburn's current ANU-based administrative contributions include serving as Chair of the University's Major Equipment Committee and as Associate Director of the Research School of Chemistry (Education).

Outside of the ANU, he is a member of the Australian Research Council's College of Experts. He works with government departments (e.g. AFP), research institutes (e.g. CSIRO, NASA), and industry. He serves as a consultant with large multinational pharmaceutical companies and is an expert witness in patent law cases for pharmaceutical companies.

He was the first Australian organic chemist to be featured in an author profile in *Angewandte Chemie*.

PROFESSIONAL SERVICE

Professional societies. Professor Sherburn is a Fellow of the Royal Australian Chemical Institute (RACI), a Fellow of the Royal Society of Chemistry and a member of the American Chemical Society. He has served through numerous roles in the RACI: as President of the ACT Branch of the RACI from 2005–2010, Treasurer of the RACI Organic Division 2004–2009 and Chair of the Organic Division of the RACI (2017-2019). These positions allowed him to champion new initiatives, both to improve inclusivity and diversity and to enhance member engagement.

Journal refereeing. Professor Sherburn regularly reviews for all the journals in which he publishes, and accepts invitations to review around 50 manuscripts per year. He also accepts invitations to review papers from other prestigious journals, including *Science* and *Nature*.

Editorial boards. Professor Sherburn's high international profile is further evidenced by invitations to participate in various capacities in the following international journals:

- Editorial Advisory Board, *Synthesis* and *Synlett* (2014–2022)
- Advisory Board, *Synlett* (2023–)
- International Advisory Board, *Chemistry–An Asian Journal* (2014–2021)
- International Advisory Board, *Asian Journal of Organic Chemistry* (2012–)
- Advisory Board, *Natural Product Reports* (2012–)
- Editorial Board Member, *Nature Scientific Reports* (2011–)

Public lectures. Professor Sherburn regularly delivers public lectures. Over the past 10 years, the majority of these lectures have been to provide positive publicity to science, on popular topics including *Chemistry in the Movies* and *Chemophobia*.

CONFERENCE PRESENTATIONS, INCLUDING PLENARY/KEYNOTE LECTURES, INVITED SYMPOSIUM LECTURES ETC., AND CONFERENCE ORGANISATION.

Conference presentations. Professor Sherburn has presented over 50 plenary and invited lectures at national and international conferences and symposia and over 100 invited research lectures at universities outside Australia since 2010.

Major invited lectures since 2013 *(several invitations to travel in 2020-2022 declined).*

2024 Progress in the Art and Science of Total Synthesis, October 2024, Paris (plenary speaker)

2024 Gordon Research Conference on Organic Reactions and Processes, July 21-26, 2024, Bryant University (invited speaker)

2022 Royal Australian Chemical Institute OMC meeting, Wollongong, November (*keynote*)

2019 Markovnikov Congress on Organic Chemistry, Kazan, Russia *(keynote)*

International Society of Heterocyclic Chemistry 2019, Kyoto, Japan *(keynote)*

2018 ORCHEM 2018, Berlin, Germany *(plenary)*

Gordon Research Conference on Natural Products, Proctor Academy, NH, USA *(plenary)*

2017 Gordon Research Conference on Physical Organic Chemistry, USA *(plenary)*

Canadian Society for Chemistry 100th conference (*keynote*)

2016 IUPAC International Conference in Physical Organic Chemistry, Sydney, Australia *(keynote)*

2015 European Symposium on Organic Reactivity, Kiel, Germany *(invited)*

Strategies and Tactics in Complex Molecule Synthesis Symposium, 2015 Pacifichem Conference, Hawaii, USA *(plenary)*

Gordon Research Conference on Heterocyclic Compounds, USA *(plenary)*

Synthesis in Organic Chemistry, Cambridge, UK *(plenary)*

2014 IUPAC International Conference in Physical Organic Chemistry, Ottawa, Canada *(keynote)*

2013 15th Asian Chemical Congress, Singapore *(keynote)*

Tetrahedron Symposium Asia Edition, Seoul, Korea *(keynote)*

Conference organisation. Professor Sherburn has organised many conferences and symposia, most recently Organic18 (>350 delegates) in December 2018 in Perth.

RESEARCH FUNDING (SINCE 2005)

A$ 3.5M in competitive funding since 2012, mainly from the Australian Research Council.

DP = Australian Research Council Discovery Projects;

LE = Australian Research Council Linkage Infrastructure, Equipment and Facilities;

ACS PRF = American Chemical Society Petroleum Research Fund

Project ID (funding years)	**CI Names**	**Amount Funded (A$K)**	**Number of Years**	**Project Title**
DP240100555 (2024-2026)	ML Coote, MS Sherburn	600	3	New Horizons in Quinonedimethide Chemistry
DP220103714 (2022-2024)	MS Sherburn	446	3	Enhanced Synthetic Efficiency For Molecular Complexity and Diversity
ACS PRF, New Directions Scheme, May 2021 round. (2022-2023)	MS Sherburn	140	2	New Directions in Hydrocarbon Chemistry
DP160104322 (2016-2020)	MS Sherburn	804	5	Multi-Bond-Forming Processes: Step-Economical Synthesis In Batch And Flow
LE150100127 (2015)	MS Sherburn, MG Banwell, AF Hill, ML Coote, CJ Easton	360	1	Flow Reactor Chemical Synthesis Facility
DP140103642 (2014-2016)	MS Sherburn	495	3	Next Generation Synthesis
LE130100213 (2013)	G Otting, AF Hill, MS Sherburn, MG Banwell, MG Humphrey	840	1	Multinuclear 700 MHz Nuclear Magnetic Resonance (NMR) Spectrometer for Advanced Molecular Analysis
DP120103427 (2012-2014)	MS Sherburn, MN Paddon-Row	510	3	A Blueprint for Cross-Conjugation and a Gateway for New Directions in Synthesis
LE100100087 (2010)	JL Beck, SJ Blanksby, JA Aquilina, MJ Walker, MG	450	1	Regional Facility for Molecular Characterisation and Mapping

Project ID (funding years)	CI Names	Amount Funded (A$K)	Number of Years	Project Title
	Banwell, MD McLeod, et al			
LE0989474 (2009)	MG Banwell, CJ Easton, LN Mander, MS Sherburn, MD McLeod	200	1	Organic Synthesis and Reaction Processing Facility
LE0989351 (2009)	EL Ghisalberti, SJ Berners-Price, et al	425	1	High Resolution Mass Spectrometry Facility
DP0984801 (2009-2011)	MS Sherburn, MN Paddon-Row	590	3	Experimental and Computational Investigations into Enantioselective Domino Sequences
LE0883096 (2008)	JJ De Voss, CM Williams, RP McGeary, I Toth, DP Fairlie, LR Gahan, et al	600	1	Analytical and Preparative Enantioselective Chromatography
DP0665161 (2006-2008)	MS Sherburn, MN Paddon-Row	285	3	Experimental-Computational Investigations into Diels–Alder Sequences
CE0561607 (2005–2013)	CH Schiesser, CJ Easton, L Radom, JA Angus, MJ Davies, PJ Scammells, et al	21,051	5 +3.5	ARC Centre of Excellence for Free Radical Chemistry and Biotechnology
DP0558151 (2005-2007)	MS Sherburn	360	3	Domino Approaches to Polycyclic Natural Products

PUBLICATION LIST 2010-PRESENT

For abstracts and links to all papers, see https://sherburngroup.org/publications/

Refereed Journal Articles:

123 J. C. Mullins, K. Yuvaraj, M. J. Sowden, M. S. Sherburn, C. Jones *Chem. Eur. J.* DOI: 10.1002/chem.202303219 "Reductive Metallation of Dendralenes and Myrcene using Dimagnesium(I) Compounds: A Facile Route to Unsaturated Organomagnesium Compounds"

122 A. K. K. Fung, M. J. Sowden, M. L. Coote, M. S. Sherburn
Org. Lett. **2023**, DOI: 10.1021/acs.orglett.3c03314 "Air Tolerant Cadiot-Chodkiewicz and Sonogashira Cross-Couplings"

121 Y.-M. Fan, J. George, J. Y. J. Wang, M. G. Gardiner, M. L. Coote, M. S. Sherburn
Org. Lett. **2023**, *25*, 7545–7550: "A Rapid Aza-Bicycle Synthesis from Dendralenes and Imines"

120 Z. Pei, N. L. Magann, M. J. Sowden, R. B. Murphy, M. G. Gardiner, M. S. Sherburn, M. L. Coote *J. Am. Chem. Soc.* **2023**, *145*, 16037–16044: "Computational and Experimental Confirmation of the Diradical Character of *para*-Quinonedimethide"

119 N. L. Magann, E. Westley, M. J. Sowden, M. G. Gardiner, M. S. Sherburn
J. Am. Chem. Soc. **2022**, *144*, 19695–19699: "Total Synthesis of Matrine Alkaloids"

118 Y.-M. Fan, M. J. Sowden, N. L. Magann, E. J. Lindeboom, M. G. Gardiner, M. S. Sherburn, *J. Am. Chem. Soc.* **2022**, *144*, 20090–20098: "A General Stereoselective Synthesis of [4]Dendralenes"

117. Y.-M. Fan, L.-J. Yu, M. L. Coote, M. S. Sherburn *Angew. Chem. Int. Ed.*, **2022**, *61*, e202204872: "Enantioselective oxa-Diels–Alder Sequences of Dendralenes"

116 M. Stewart, L.-J. Yu, M. S. Sherburn, M. L. Coote, *Polym. Chem*. **2022**, *13*, 1067-1074: "Computational design of next generation atom transfer radical polymerization ligands."

115 J.-Y. Wang, M. Blyth, M. S. Sherburn, M. L. Coote, *J. Am. Chem. Soc*, **2022**, *144*, 1023-1033: "Tuning Photoenolization-Driven Cycloadditions Using Theory and Spectroscopy."

114 E. Westley, M. J. Sowden, N. L. Magann, K. L. Horvath, K. P. E. Connor, M. S. Sherburn, *J. Am. Chem. Soc*, **2022**, *144*, 977-986: "Substituted Tetraethynylethylene-Tetravinylethylene Hybrids."

113 H. Hopf, M. S. Sherburn, *Synthesis*, **2022**, *54*, 864-886: "Allenes in Diels-Alder Cycloadditions."

112 N. L. Magann, M. T. Blyth, M. S. Sherburn, *Angew. Chem. Int. Ed.*, **2021**, *60*, 18561-18565: "Five Step Total Synthesis of Lythranidine."

111 A. Fung, L.-J. Yu, M. S. Sherburn, M. L. Coote, *J. Org. Chem.*, **2021**, *86*, 9723-9732: "ATRP-Inspired Room Temperature (sp^3)C–N Coupling."

110 M. A. Morin, S. Rohe, C. Elgindy, M. S. Sherburn *Org. Synth.* **2020**, *97*, 217– 23: "Preparation of a *Z*-Iodoalkene through Stork-Zhao-Wittig Olefination, Stereo-retentive Lithium–iodine Exchange and Z-Boronic acid Pinacol Ester Synthesis."

109 W. J. Lording, T. Fallon, M. N. Paddon-Row, M. S. Sherburn, *Chem. Sci*., **2020**, *11*, 11915-11926: "The simplest Diels–Alder reactions are not *endo*-selective."

108 M. S. Sherburn, M. J. Sowden, J. S. Ward *Angew. Chem. Int. Ed.*, **2020**, *59*, 4145-4153: "Synthesis and Properties of 2,3-Diethynyl-1,3-Butadienes."

107 K. L. Horvath, N. L. Magann, M. J. Sowden, M. G. Gardiner, M. S. Sherburn *J. Am. Chem. Soc.*, **2019**, *141*, 19746-19753: "Unlocking Acyclic π-Bond Rich Structure Space With Tetraethynylethylene–Tetravinylethylene Hybrids."

106 J. George, M. S. Sherburn *J. Org. Chem.* **2019**, *84*, 14712-14723: "Diene-Transmissive Enantioselective Diels-Alder Reactions and Sequences Involving Substituted Dendralenes."

105 J. George, J. S. Ward, M. S. Sherburn *Org. Lett.* **2019**, *21*, 7529-7533: "Diene-Transmissive Diels–Alder Sequences with Benzynes."

104 J. George, J. S. Ward, M. S. Sherburn *Chem. Sci.* **2019**, *10*, 9969-9973: "A General Synthesis of Dendralenes."

103 C. Elgindy, J. S. Ward, M. S. Sherburn *Angew. Chem. Int. Ed.* **2019**, *58*, 14573-14577: "Tetravinylallene."

102 K. L. Horvath, C. G. Newton, K. A. Roper, J. S. Ward, M. S. Sherburn, *Chem. Eur. J.* **2019**, *25*, 4072-4076: "A Broad-Spectrum Synthesis of Tetravinylethylenes."

101 M. J. Sowden, M. S. Sherburn, *Org. Lett.* **2017***, 19,* 636–637: "Four-Step Total Synthesis of Selaginpulvilin D."

100 B. L. J. Poad, N. D. Reed, C. S. Hansen, A. J. Trevitt, S. J. Blanksby, E. G. Mackay, M. S. Sherburn, B. Chan, L. Radom, *Chem. Sci.* **2016***, **7,*** 6245-6250: "Preparation of an ion with the highest calculated proton affinity: *ortho*-diethynylbenzene dianion."

99 N. J. Green, A. C. Willis, and M. S. Sherburn, *Angew. Chem. Int. Ed.* **2016***, 55,* 9244 –9248: "Direct Cross-Couplings of Propargylic Diols."

98 M. F. Saglam, A. R. Alborzi, A. D. Payne, A. C. Willis, M. N. Paddon-Row, and M. S. Sherburn, *J. Org. Chem.* **2016**, *81*, 1461–1475: "Synthesis and Diels–Alder Reactivity of Substituted [4]Dendralenes."

97 S. M. Tan, A. C. Willis, M. N. Paddon-Row and M. S. Sherburn, *Angew. Chem. Int. Ed.* **2016**, 55, 3081–3085: "Multicomponent Diene-Transmissive Diels-Alder Sequences Featuring Aminodendralenes."

96 M. F. Saglam, T. Fallon, M. N. Paddon-Row, and M. S. Sherburn, *J. Am. Chem. Soc.* **2016**, *138*, 1022–1032: "Discovery and Computational Rationalization of Diminishing Alternation in [n]Dendralenes"

95 E. G. Mackay, M. Nörret, L. S.-M. Wong, I. Louis, A. L. Lawrence, A. C. Willis, and M. S. Sherburn, *Org. Lett.* **2015**, *17*, 5517–5519: "A Domino Diels–Alder Approach Toward The Tetracyclic Nicandrenone Framework"

94 E. G. Mackay, C. G. Newton, H. Toombs-Ruane, E. J. Lindeboom, T. Fallon, A. C. Willis, M. N. Paddon-Row, and M. S. Sherburn, *J. Am. Chem. Soc.* **2015**, *137*, 14653–14659: "[5]Radialene"

93 M. S. Sherburn, *Acc. Chem. Res.*, **2015**, *48*, 1961–1970: "Preparation and Synthetic Value of π-Bond Rich Branched Hydrocarbons"

92 S. L. Drew, A. L. Lawrence and M. S. Sherburn, *Chem. Sci.* **2015**, *6*, 3886 – 3890: "Unified Total Synthesis Of The Natural Products Endiandric Acid A, Kingianic Acid E, And Kingianins A, D And F."

91 C. G. Newton and M. S. Sherburn, *Nat. Prod. Rep.* **2015**, *32*, 865-876: "Total Synthesis Of The Pseudopterosin Aglycones"

90 R. S. Harvey, E. G. Mackay, L. Roger, M. N. Paddon-Row, M. S. Sherburn, A. L. Lawrence, *Angew. Chem. Int. Ed.* **2015**, *54*, 1795–1798: "Total Synthesis Of Ramonanins A–D."

89 W. J. Lording, A. D. Payne, T. N. Cayzer, M. S. Sherburn, M. N. Paddon-Row, *Aust. J. Chem.* **2015**, *68*, 230–240: "A Combined Computational-Experimental Study Of The Kinetics Of Intramolecular Diels–Alder Reactions In A Series Of 1,3,8-Nonatrienes." ***Invited paper***

88 C. G. Newton, S. L. Drew, A. L. Lawrence, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Nature Chem.* **2015**, *7*, 82–86: "Pseudopterosin synthesis from a chiral cross-conjugated hydrocarbon through a series of cycloadditions."

87 E. G. Mackay, M. S. Sherburn, *Synthesis* **2015**, *47*, 1–21: "The Diels–Alder Reaction in Steroid Synthesis." ***Invited paper***

86 E. J. Lindeboom, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *J. Org. Chem.* **2014**, *79*, 11496–11507: "Computational and Synthetic Studies with Tetravinylethylenes."

85 T. V. Nguyen, M. S. Sherburn, *Chem. Eur. J.* **2014**, *20*, 14991–14995: "Simple Synthetic Receptors for Aspirin."

84 E. J. Lindeboom, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Angew. Chem. Int. Ed.* **2014**, *53*, 5440–5443: "Tetravinylethylene."

83 T. Fallon, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *J. Org. Chem.* **2014**, *79*, 3185–3193: "Furanodendralenes."

82 P. D. Brown, A. C. Willis, M. S. Sherburn, A. L. Lawrence, *Angew. Chem. Int. Ed.* **2013**, *52*, 13273–13275: "Total Synthesis and Structural Revision of Incargranine B."

81 R. Wang, M. N. Paddon-Row, M. S. Sherburn, *Org. Lett.* **2013**, *15*, 5610–5612: "Short Synthesis of 3-(Hydroxymethyl)xylitol and Structure Revision of the Anti-Diabetic Natural Product from *Casearia esculenta*."

80 N. J. Green, A. L. Lawrence, G. Bojase, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Angew. Chem. Int. Ed.* **2013**, *32*, 8333–8336: "Domino Cycloaddition Organocascades of Dendralenes."

79 E. G. Mackay, M. S. Sherburn, *Pure Appl. Chem.* **2013**, *85*, 1227–1239: "Demystifying the Dendralenes." ***Invited paper***

78 S. L. Drew, A. L. Lawrence, M. S. Sherburn. *Angew. Chem. Int. Ed.* **2013**, *52*, 4221–4224: "Total Synthesis of Kingianins A, D and F."

77 N. J. Green, M. S. Sherburn, *Aust. J. Chem.* **2013**, *66*, 267–283: "Multi-Bond Forming Processes in Efficient Synthesis." ***Invited paper***

76 R. Wang, G. Bojase, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Org. Lett.* **2012**, *14*, 5652–5655: "Nitroso-Dienophile Additions to Dendralenes: A Short Synthesis of Branched Aminosugars."

75 P. D. Brown, A. C. Willis, M. S. Sherburn, A. L. Lawrence. *Org. Lett.* **2012**, *14*, 4537–4539: "Total Synthesis of Incarviditone and Incarvilleatone."

74 H. Toombs-Ruane, E. L. Pearson, M. N. Paddon-Row, M. S. Sherburn, *Chem. Commun.* **2012**, *48*, 6639–6641: "On the Diels–Alder Dimerisation of Cross-Conjugated Trienes."

73 T. Fallon, A. C. Willis, A. D. Rae, M. N. Paddon-Row, M. S. Sherburn, *Chem. Sci.* **2012**, *3*, 2133–2137: "*b*-Oligofurans."

72 H. Hopf, M. S. Sherburn, *Angew. Chem. Int. Ed.* **2012**, *51*, 2298–2338. "Dendralenes Branch Out: Cross-Conjugated Oligoenes Allow the Rapid Generation of Molecular Complexity."

71 M. N. Paddon-Row, M. S. Sherburn, *Chem. Commun.* **2012**, *48*, 832–834: "On the Origin of Alternating Diels–Alder Reactivity in [*n*]Dendralenes."

70 H. Toombs-Ruane, N. Osinski, T. Fallon, C. Wills, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Chem. Asian J.* **2011**, *6*, 3243–3250: "Synthesis and Applications of Tricarbonyliron Complexes of Dendralenes."

69 K. M. Cergol, C. G. Newton, A. L. Lawrence, A. C. Willis, M. N. Paddon-Row, M. S. Sherburn, *Angew. Chem. Int. Ed.* **2011**, *50*, 10425–10428: "1,1-Divinylallene."

68 G. Bojase, T. V. Nguyen, A. D. Payne, A. C. Willis, M. S. Sherburn, *Chem. Sci.* **2011**, *2*, 229–232: "Synthesis and Properties of the Ivyanes: The Parent 1,1-Oligocyclopropanes."

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