

Mark Coster

BSc(Hons), PhD, MRACI CChem

mcoster.net

PROFILE

An Organic and Medicinal Chemist with over 20 years experience. I aim to improve the health and lives of people worldwide through my expertise, creativity and passion for organic chemistry. I continually seek opportunities to apply my organic chemistry skills to improving human health and to mentor the next generation of organic chemists.

SKILLS



Organic synthesis



Project management



Creativity, IP generation



Team leadership



Data analysis, experiment design



Time management



Education and mentoring

CONNECT



mcoster.net



[linkedin.com/in/markjcoster](https://www.linkedin.com/in/markjcoster)



twitter.com/MarkCoster_Chem



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INTERESTS



Cycling



Technology

EDUCATION

altMBA, 2018

Decision-making, Leadership, Project Management
Intense, 4-week online workshop - altmba.com

PhD, University of Cambridge, 2001

Organic Chemistry, Supervisor: Prof. Ian Paterson
"Total Synthesis of the Protected Seco-acid of Spongistatin 1"

BSc(Hons) I, University of Queensland, 1996

Major: Chemistry
Four awards and prizes

WORK EXPERIENCE

Associate Professor, 2010-present

Griffith University, Griffith Institute for Drug Discovery
Organic and Medicinal Chemist – research, teaching & service

ARC Australian Research Fellow, 2009-14

Griffith University, Eskitis Institute for Drug Discovery
Organic and Medicinal Chemist – research intensive

Consultant to PanBio Ltd, 2007-8

Expert private consultant on Synthetic Organic Chemistry
Provided expert advice regarding organic chemistry initiatives

Senior Lecturer, 2007-9

Griffith University, Eskitis Institute for Drug Discovery
Organic and Medicinal Chemist – research intensive

Lecturer, 2003-7

The University of Sydney, School of Chemistry
Organic Chemist – research, teaching & service

Postdoctoral Research Fellow, 2001-3

The Australian National University, Research School of Chemistry
Organic Synthesis – natural products, alkaloids, cytotoxic agents

AWARDS

The Athel Beckwith Lectureship, 2006

RACI Organic Division Lectureship
Awarded to outstanding, recently appointed, organic chemists to travel Australia and present the results of their research work

PROFESSIONAL

RACI Qld Chemical Education Group, 2018-
Secretary

IUPHAR/MMV Guide to Malaria Pharmacology, 2017-
Expert Advisory Committee Member

Scientific Reports, 2014-7

Editorial Board member

Journal Reviewer, 2003-present

Referee for eg. *Organic Letters*, *J. Org. Chem.*

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PUBLICATIONS

5 most recent, from 51 total journal articles, 1 book chapter, 1 patent and 1 provisional patent

Full details at mcooster.net

1. Synthesis of spirocyclic orthoesters by 'anomalous' rhodium(II)-catalysed intramolecular C–H insertions. Lombard, F. J.; Lepage, R. J.; Schwartz, B. D.; Johnston, R. C.; Healy, P. C.; Krenske, E. H.; Coster, M. J. *Org. Biomol. Chem.* **2018**, *16*, 256–261.
2. Trehalose-6-phosphate phosphatase as a broad-spectrum therapeutic target against eukaryotic and prokaryotic pathogens. Cross, M.; Rajan, S.; Biberacher, S.; Park, S.-Y.; Coster, M. J.; Długosz, E.; Kim, J.-S.; Gasser, R. B.; Hofmann, A. *Em. Topics Life Sci.* **2017**, *1*, 675–683.
3. The design, synthesis, and anti-inflammatory evaluation of a drug-like library based on the natural product valerenic acid. Egbewande, F. A.; Nilsson, N.; White, J. M.; Coster, M. J.; Davis, R. A. *Bioorg. Med. Chem. Lett.* **2017**, *27*, 3185.
4. Dichloro-naphthoquinones as a non-classical inhibitor of the mycobacterial carbonic anhydrase Rv3588c. Dallaston, M. A.; Rajan, S.; Chekaiban, J.; Wibowo, M.; Cross, M.; Coster, M. J.; Davis, R. A.; Hofmann, A. *MedChemComm* **2017**, *8*, 1318–1321.
5. A bidirectional synthesis of spiroacetals via Rh(II)-catalysed C–H insertion. Lepage, R. J.; White, J. M.; Coster, M. J. *Chem. Commun.* **2017**, *53*, 4219–4221.

GRANTS AND FUNDING

5 most recent, total career funding \$3.3M

Advancing a novel therapy to target brain cancer stem cells

Day, B.; Boyd, A.; Coster, M.; Lavin, M.

Cancer Council Qld, 2016–7 (\$200K)

Development of reversible inhibitors of Factor XIa

Quinn, R. J.; Coster, M. J.; Charman, S.

NHMRC Project Grant, 2012–4 (\$429K)

Evaluation of novel pyrrolo/iminoquinone antimalarial compounds

Davis, R.; Coster, M.; Andrews, K.; Edstein, M.; Charman, S.

NHMRC Project Grant, 2012–4 (\$591K)

Molecular probes for pancreatic cancer

Coster, M. J.; Biankin A. V.

ARC Discovery Grant + Fellowship 2009–13 (\$780K)

Chiral separations facility

Coster, M. J. and 8 others

Research Infrastructure Grant, 2009 (\$100K)

CAREER HIGHLIGHTS

- completed a 29-step (longest linear sequence) synthesis of the protected seco-acid precursor to the potent anti-mitotic marine natural product, spongistatin 1 – a ca. 2200 Da “small” molecule
- synthesis of novel natural product derivatives by cutting-edge late-stage functionalisation chemistry
- first total synthesis, analogues and SAR of anti-pancreatic cancer natural product, angelmarin
- developed IP and filed patent and provisional patent for compounds for CNS disorders
- developed new methodology for synthesis of spirocycles, bioactive dihydrobenzofurans and other 3D scaffolds for drug discovery
- supervised 15 PhD and 9 Honours projects to completion

