

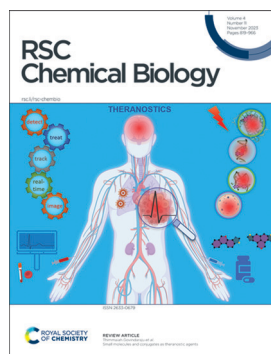
RSC Chemical Biology

rsc.li/rsc-chembio

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

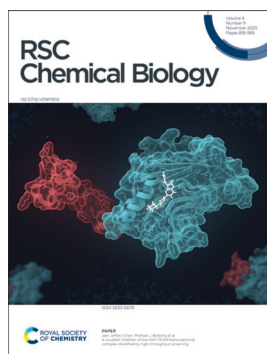
IN THIS ISSUE

ISSN 2633-0679 CODEN RCBSAO 4(11) 819-966 (2023)



Cover

See Thimmaiah Govindaraju *et al.*, pp. 826–849. Image reproduced by permission of Thimmaiah Govindaraju and Sumon Pratihar from *RSC Chem. Biol.*, 2023, 4, 826.



Inside cover

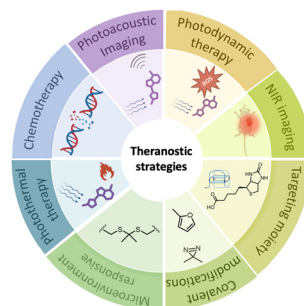
See Jian Jeffery Chen, Michael J. Bollong *et al.*, pp. 894–905. Image reproduced by permission of Kayla Nutsch from *RSC Chem. Biol.*, 2023, 4, 894.

REVIEWS

826

Small molecules and conjugates as theranostic agents

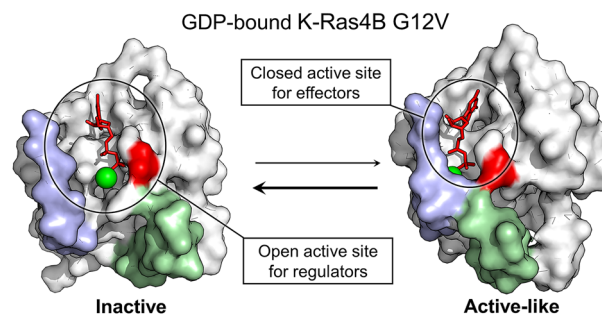
Sumon Pratihar, Krithi K. Bhagavath and Thimmaiah Govindaraju*



850

Protein conformational ensembles in function: roles and mechanisms

Ruth Nussinov,* Yonglan Liu, Wengang Zhang and Hyunbum Jang



Executive Editor

Anna Rulka

Deputy Editor

Audra Taylor

Editorial Production Manager

Viktoria Titmus

Assistant Editors

Shwetha Krishna, Angelica-Jane Onyekwere, Michael Whitelaw, Alexander Whiteside

Editorial Assistant

Samantha Campos

Publishing Assistant

Brittany Hanlon

Publisher

Neil Hammond

For queries about submitted papers, please contact Viktoria Titmus, Editorial Production Manager in the first instance. E-mail: chembio@rsc.org

For pre-submission queries please contact Anna Rulka, Executive Editor. Email: chembio-rsc@rsc.org

RSC Chemical Biology (electronic: ISSN 2633-0679) is published 12 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF

RSC Chemical Biology is a Gold Open Access journal and all articles are free to read. Please email orders@rsc.org to register your interest or contact Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK Tel +44 (0)1223 432398; E-mail: orders@rsc.org

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office: Burlington House, Piccadilly, London W1J 0BA, UK, Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017; E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

RSC Chemical Biology

rsc.li/rsc-chembio

RSC Chemical Biology publishes exceptionally significant findings in chemical biology

Editorial Board

Chair

Hiroaki Suga, The University of Tokyo, Japan

Associate Editors

Claudia Höbartner, University of Würzburg, Germany
Zaneta Nikolovska-Coleska, University of Michigan, USA

Andrea Rentmeister, University of Münster, Germany
Roderich Süßmuth, Technical University of Berlin, Germany
Cai-Guang Yang, Shanghai Institute of Materia Medica, China

Members

Michelle Arkin, University of California San Francisco, USA
Jennifer Heemstra, Washington University, St Louis, USA
Ali Tavassoli, University of Southampton, UK

Advisory Board

Christopher Chang, University of California, Berkeley, USA

Dorothea Fiedler, FMP Berlin, Germany
Christian Hackenberger, FMP Berlin, Germany

Maja Köhn, University of Freiburg, Germany
Yamuna Krishnan, University of Chicago, USA

Jennifer Prescher, University of California, Irvine, USA

Christopher Schofield, University of Oxford, UK

Pamela Silver, Harvard Medical School, USA

Kira Weissman, University of Lorraine, France

Christopher Schofield, University of Oxford, UK

Peng Chen, Peking University, China
Hermen Overkleeft, Leiden University, Netherlands

Xiu-Jie Wang, Bayes Business School London, UK

Don Hilvert, ETH Zürich, Switzerland

Jin Zhang, University of California San Diego, USA

Laura Kiessling, MIT, USA

Giulio Superti-Furga, Medical University of Vienna, Austria

Luc Brunsveld, Eindhoven University of Technology, Netherlands

May Khanna, University of Arizona, USA

Paul Joseph Dyson, Swiss Federal Institute of Technology Lausanne, Switzerland

Lei Liu, Tsinghua University, China

Guifang Jia, Peking University, China

Chudi Ndubaku, ORIC Pharmaceuticals, USA

Information for Authors

Full details on how to submit material for publication in RSC Chemical Biology are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/rsc-chembio

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)– Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023.

Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA.

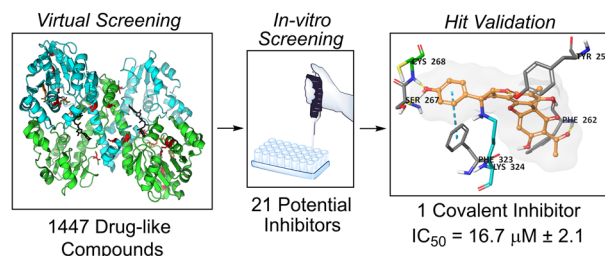
Registered charity number: 207890



865

Virtual screening, identification and *in vitro* validation of small molecule GDP-mannose dehydrogenase inhibitors

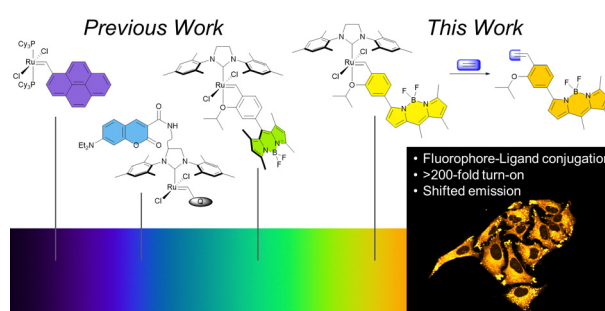
Jonathan P. Dolan, Sanaz Ahmadipour, Alice J. C. Wahart, Aisling Ní Cheallaigh, Suat Sari, Chatchakorn Eurtivong, Marcelo A. Lima, Mark A. Skidmore, Konstantin P. Volcho, Jóhannes Reynisson, Robert A. Field and Gavin J. Miller*



871

Red-shifted activity-based sensors for ethylene via direct conjugation of fluorophore to metal–carbene

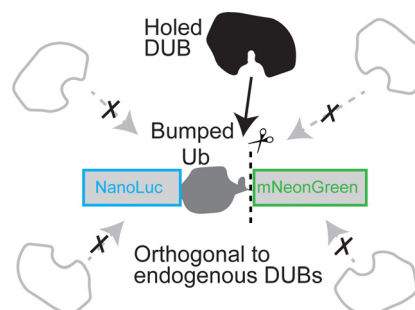
Nicholas J. Dacon, Nathan B. Wu and Brian W. Michel*



879

A strategy for orthogonal deubiquitination using a bump-and-hole approach

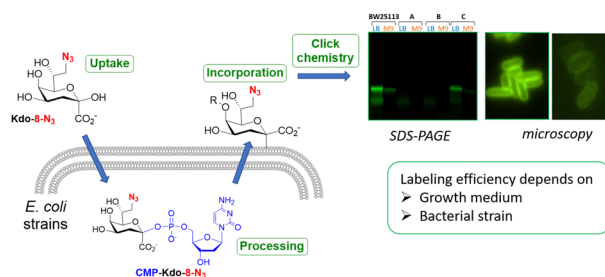
Takumi Suzuki, Yuki Utsugi, Satoshi Yamanaka, Hirotaka Takahashi, Yusuke Sato, Tatsuya Sawasaki and Yusaku Miyamae*



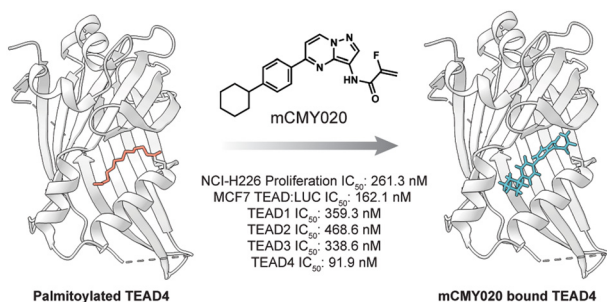
884

Evaluation of Kdo-8-N₃ incorporation into lipopolysaccharides of various *Escherichia coli* strains

Zeynep Su Ziyilan, Geert-Jan de Putter, Meike Roelofs, Jan Maarten van Dijk, Dirk-Jan Scheffers and Marthe T. C. Walvoort*



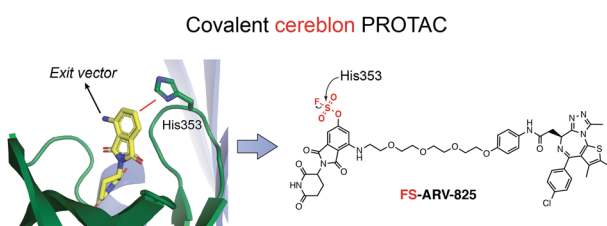
894



A covalent inhibitor of the YAP–TEAD transcriptional complex identified by high-throughput screening

Kayla Nutsch, Lirui Song, Emily Chen, Mitchell Hull, Arnab K. Chatterjee, Jian Jeffery Chen* and Michael J. Bollong*

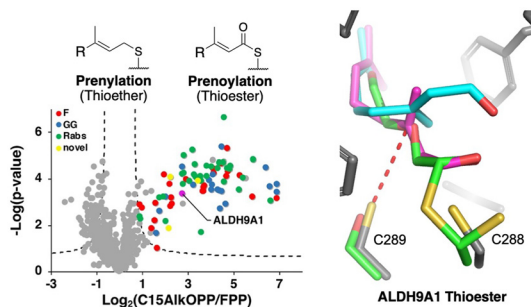
906



Development of a covalent cereblon-based PROTAC employing a fluorosulfate warhead

Radostaw P. Nowak,* Leah Ragosta, Fidel Huerta, Hu Liu, Scott B. Ficarro, Justin T. Cruite, Rebecca J. Metivier, Katherine A. Donovan, Jarrod A. Marto, Eric S. Fischer, Breanna L. Zervas and Lyn H. Jones*

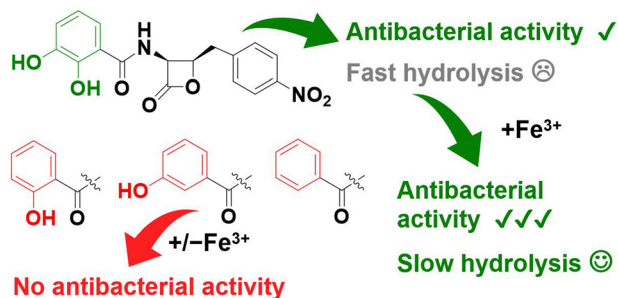
913



Thinking outside the CaaX-box: an unusual reversible prenylation on ALDH9A1

Kiall F. Suazo, Jakub Běliček, Garrett L. Schey, Shelby A. Auger, Alexandru M. Petre, Ling Li, Katarzyna M. Błażewska, David Kopečný and Mark D. Distefano*

926



The catechol moiety of obafluorin is essential for antibacterial activity

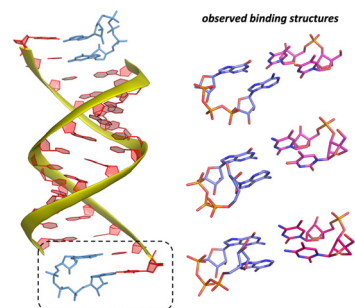
Sibyl F. D. Batey, Melissa J. Davie, Edward S. Hems, Jonathon D. Liston, Thomas A. Scott, Silke Alt, Christopher S. Francklyn and Barrie Wilkinson*



942

Insight into the structures of unusual base pairs in RNA complexes containing a primer/template/adenosine ligand

Yuliya Dantsu, Ying Zhang and Wen Zhang*



952

Advantages and challenges associated with bisulfite-assisted nanopore direct RNA sequencing for modifications

Aaron M. Fleming,* Judy Zhu, Vilhelmina K. Done and Cynthia J. Burrows*

