Volume 12 | Number 14 | 14 April 2014 | Pages 2153–2324

Organic & Biomolecular Chemistry

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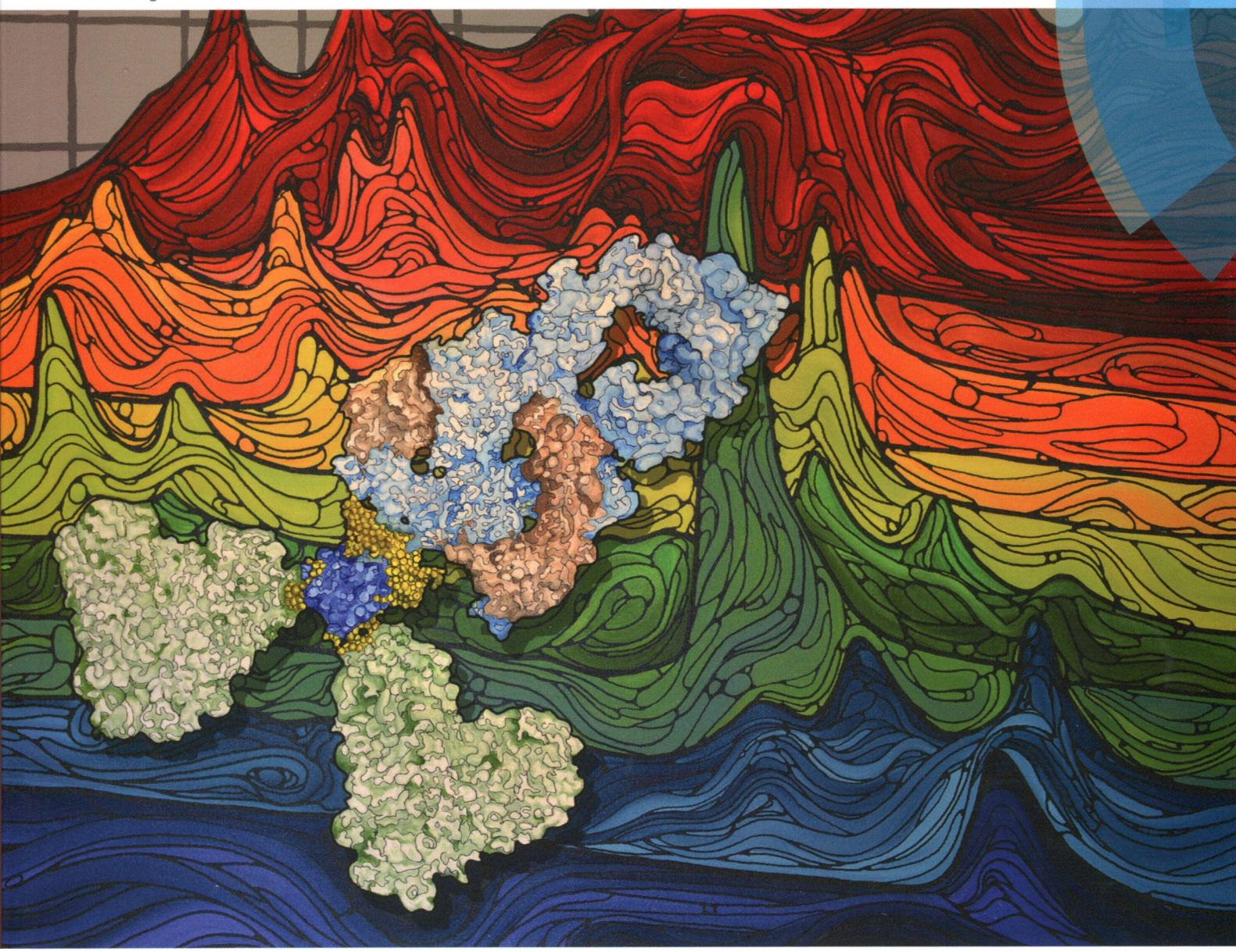

ISSN 1477-0520

ROYAL SOCIETY OF CHEMISTRY

PAPER
Justin J. Bailey and David R. Bundle
Synthesis of high-mannose 1-thio glycans and their conjugation to protein

Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

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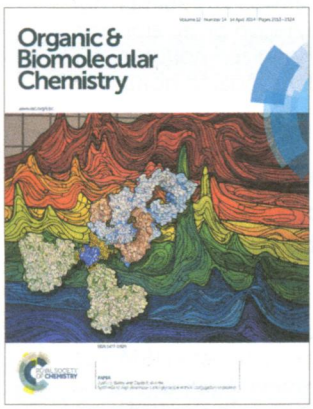
ISSN 1477-0520 CODEN OBCRAK 12(14) 2153–2324 (2014)



Cover
See Justin J. Bailey and David R. Bundle, pp. 2193–2213.

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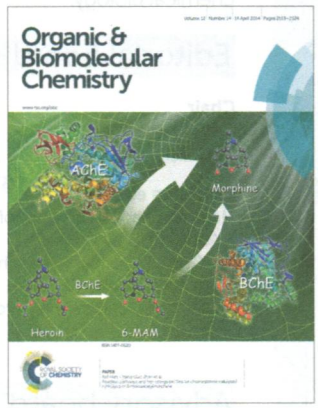
The authors gratefully acknowledge Tammie Hunter from White Cap Art (whitecapart.com) for preparing the cover image.



Inside cover
See Keli Han, Chang-Guo Zhan *et al.*, pp. 2214–2227.

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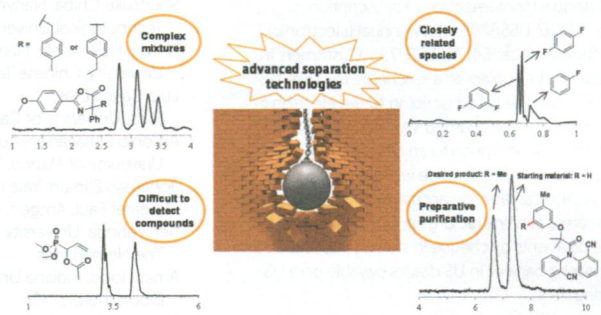
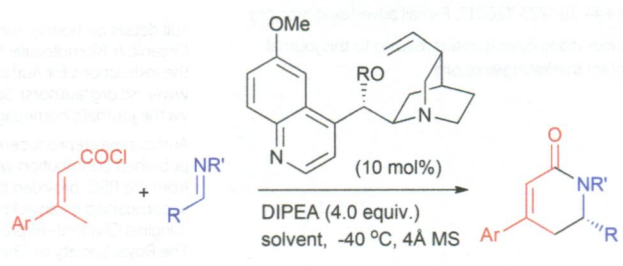
REVIEW



COMMUNICATIONS



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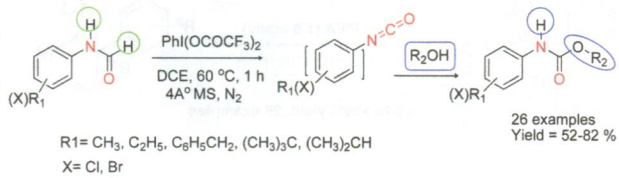
Metal free oxidative coupling of aryl formamides with alcohols for the synthesis of carbamates

N. Veera Reddy, K. Rajendra Prasad, P. Sudhir Reddy, M. Lakshmi Kantam and K. Rajender Reddy*

A new method under metal free conditions has been developed for the direct transformation of *N*-aryl formamides to corresponding *N*-aryl carbamates with alcohols using hypervalent iodine reagents as oxidants. The reaction has been postulated to go through the formation of isocyanate intermediates.

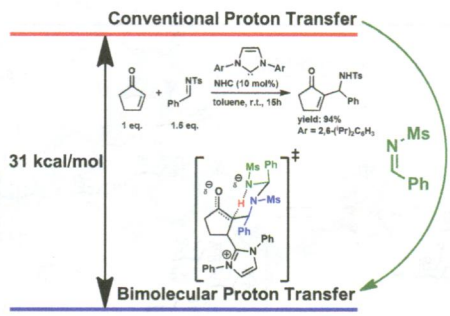


2176

The mechanism of the NHC catalyzed aza-Morita–Baylis–Hillman reaction: insights into a new substrate-catalyzed bimolecular pathway

Pritha Verma, Pragya Verma and Raghavan B. Sunoj*

The first mechanistic study on the NHC-catalyzed aza-MBH reaction between cyclopentenone and *N*-mesylbenzaldimine using density functional theory reveals that a bimolecular mechanism, involving two molecules of benzaldimine in the proton transfer, is energetically more preferred over the conventional direct proton transfer.

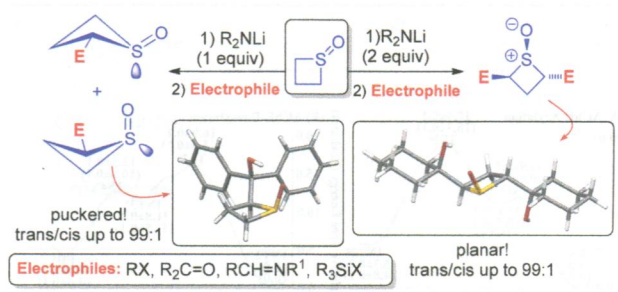


2180

Straightforward access to 4-membered sulfurated heterocycles: introducing a strategy for the single and double functionalization of thietane 1-oxide

Laura Carroccia, Leonardo Degennaro, Giuseppe Romanazzi, Corrado Cuocci, Luisa Pisano and Renzo Luisi*

A strategy for the stereoselective functionalization of thietane 1-oxide has been developed by using the corresponding organometallic intermediates that reacted with electrophiles leaving intact the 4-membered ring.

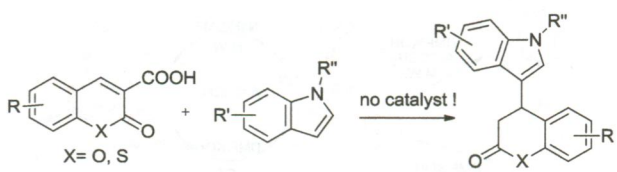


2185

Catalyst-free tandem Michael addition/decarboxylation of (thio)coumarin-3-carboxylic acids with indoles: facile synthesis of indole-3-substituted 3,4-dihydro(thio)coumarins

Zhuzhou Shao, Lubin Xu, Liang Wang, Hongtao Wei and Jian Xiao*

The tandem Michael addition/decarboxylation of (thio)-coumarin-3-carboxylic acids with indoles gives biologically important indole-3-substituted dihydrocoumarins in good to excellent yields under catalyst-free conditions.



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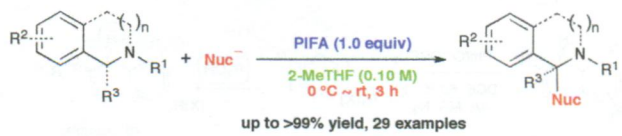
2189



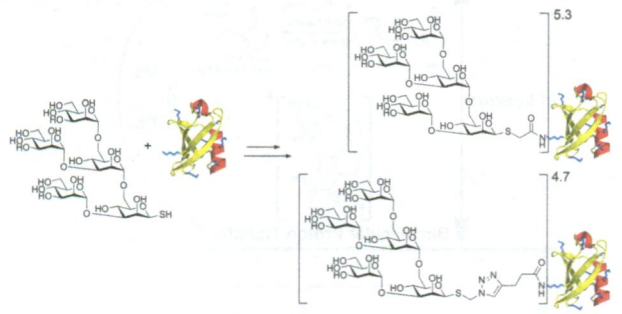
Direct sp^3 C–H bond arylation, alkylation, and amidation of tetrahydroisoquinolines mediated by hypervalent iodine(III) under mild conditions

Wataru Muramatsu,* Kimihiro Nakano and Chao-Jun Li*

We have developed a method for the sp^3 C–H bond functionalization of tetrahydroisoquinolines (THIQs) mediated by [bis(trifluoroacetoxy)iodo]benzene (PIFA).

PAPERS

2193

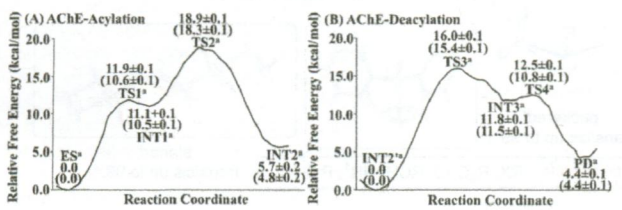


Synthesis of high-mannose 1-thio glycans and their conjugation to protein

Justin J. Bailey* and David R. Bundle

Mannosylthiol derivatives of the high-mannose structure $Man_9GlcNAc_2$ were synthesized and conjugated to ubiquitin in high copy number as determined by LC-UV-MS.

2214

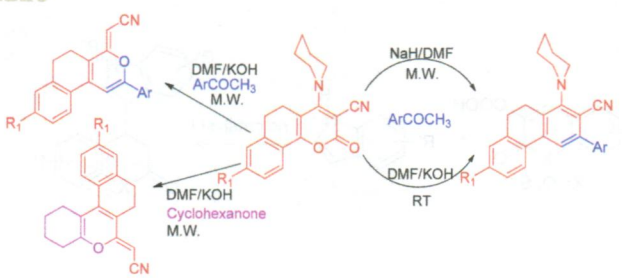


Reaction pathways and free energy profiles for cholinesterase-catalyzed hydrolysis of 6-monoacetylmorphine

Yan Qiao, Keli Han* and Chang-Guo Zhan*

Reaction-coordinate calculations revealed the detailed reaction pathways for acetylcholinesterase (AChE)- and butyrylcholinesterase (BChE)-catalyzed hydrolysis of 6-monoacetylmorphine (6-MAM) to morphine and the corresponding free energy profiles in good agreement with the available experimental kinetic data.

2228



Microwave assisted base dependent regioselective synthesis of partially reduced chromenes, isochromenes and phenanthrenes

Pratik Yadav, Surjeet Singh, Satya Narayan Sahu, Firasat Hussain and Ramendra Pratap*

Microwave assisted base directed regioselective synthesis of partially reduced chromenes, isochromenes and phenanthrenes has been reported.