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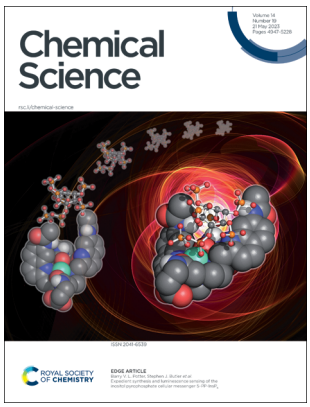

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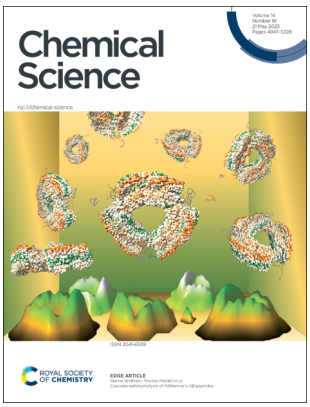

Inside cover
See Martin Wolfram, Morten Meldal *et al.*, pp. 4986–4996. Image reproduced by permission of Morten Meldal from *Chem. Sci.*, 2023, **14**, 4986.

COMMENTARY

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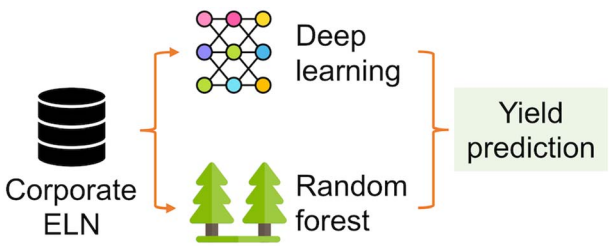
A focus on the use of real-world datasets for yield prediction

Latimah Bustillo and Tiago Rodrigues*



REVIEW

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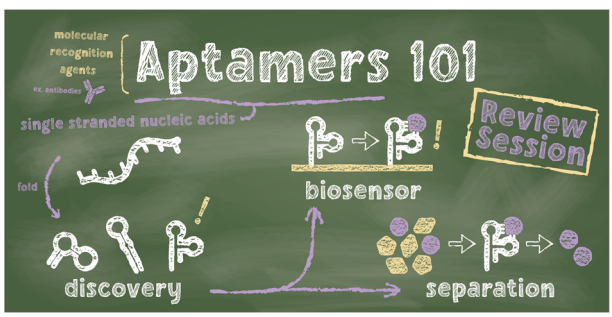
Aptamers 101: aptamer discovery and *in vitro* applications in biosensors and separations

Lucy F. Yang, Melissa Ling, Nataly Kacherovsky and Suzie H. Pun*



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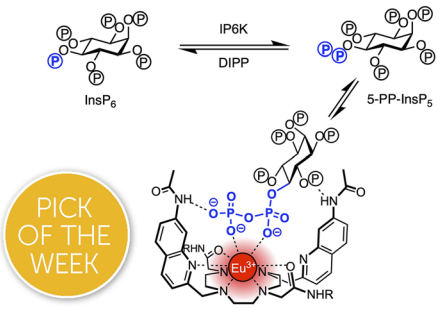
Expedient synthesis and luminescence sensing of the inositol pyrophosphate cellular messenger 5-PP-InsP$_5$

Megan L. Shipton, Fathima A. Jamion, Simon Wheeler, Andrew M. Riley, Felix Plasser, Barry V. L. Potter* and Stephen J. Butler*



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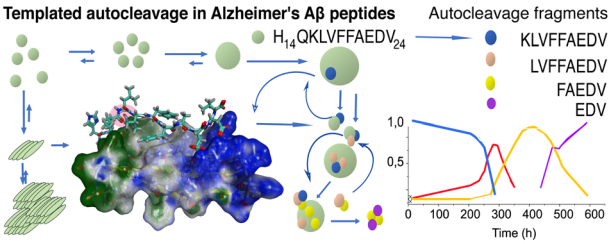
Cascade autohydrolysis of Alzheimer's Aβ peptides

Martin Wolfram,* Manish K. Tiwari, Tue Hassenkam, Ming Li, Morten J. Bjerrum and Morten Meldal*



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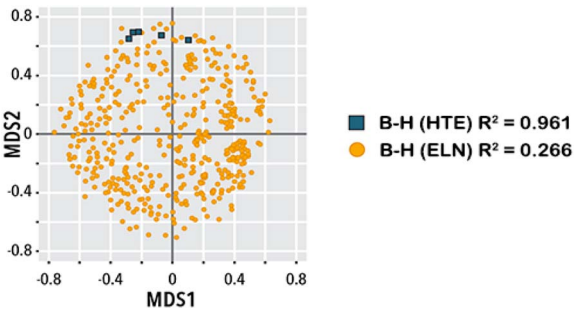
On the use of real-world datasets for reaction yield prediction

Mandana Saebi, Bozhao Nan, John E. Herr, Jessica Wahlers, Zhichun Guo, Andrzej M. Zurański, Thierry Kogej, Per-Ola Norrby, Abigail G. Doyle, Nitesh V. Chawla* and Olaf Wiest*



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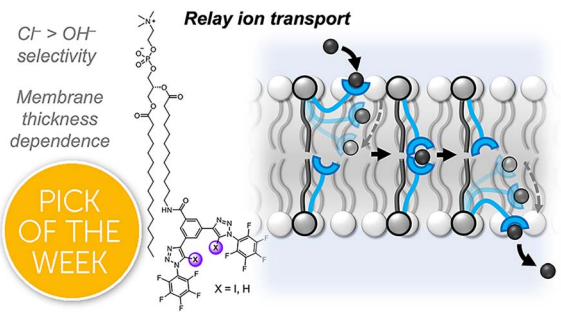
Halogen bonding relay and mobile anion transporters with kinetically controlled chloride selectivity

Toby G. Johnson, Andrew Docker, Amir Sadeghi-Kelishadi and Matthew J. Langton*



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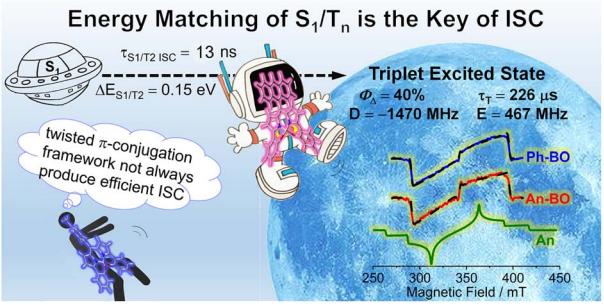

Origin of intersystem crossing in highly distorted organic molecules: a case study with red light-absorbing *N,N,O,O*-boron-chelated Bodipys

Xue Zhang, Andrey A. Sukhanov, Xi Liu, Maria Taddei, Jianzhang Zhao,* Anthony Harriman,* Violeta K. Voronkova,* Yan Wan,* Bernhard Dick* and Mariangela Di Donato*

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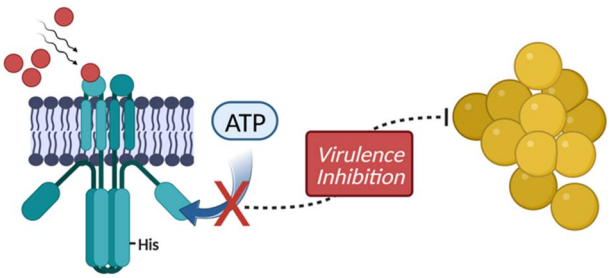

Targeting multidrug resistant *Staphylococcus* infections with bacterial histidine kinase inhibitors

Adeline Espinasse, Manibarsha Goswami, Junshu Yang, Onanong Vorasin, Yinduo Ji* and Erin E. Carlson*

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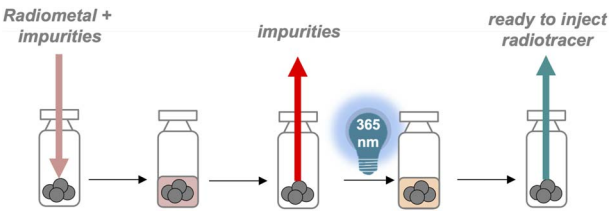

Radiometallation and photo-triggered release of ready-to-inject radiopharmaceuticals from the solid phase

Dariusz Śmiłowicz, Shawn Eisenberg, Shin Hye Ahn, Angus J. Koller, Philip P. Lampkin and Eszter Boros*

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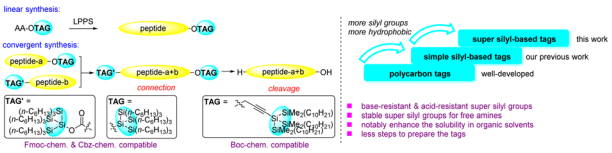

Super silyl-based stable protecting groups for both the C- and N-terminals of peptides: applied as effective hydrophobic tags in liquid-phase peptide synthesis

An Wu* and Hisashi Yamamoto*

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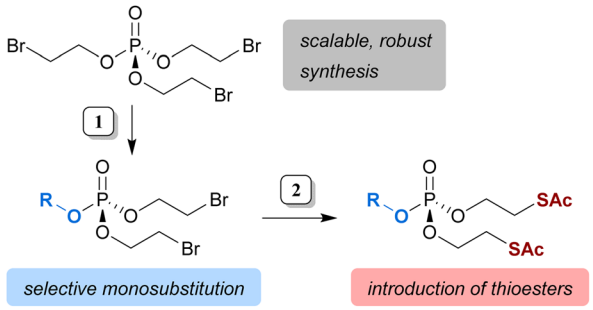
Synthesis of biolabile thioalkyl-protected phosphates from an easily accessible phosphotriester precursor

Lloyd D. Murphy, Kathryn E. Huxley, Ava Wilding, Cyane Robinson, Quentin P. O. Foucart and Lianne I. Willems*



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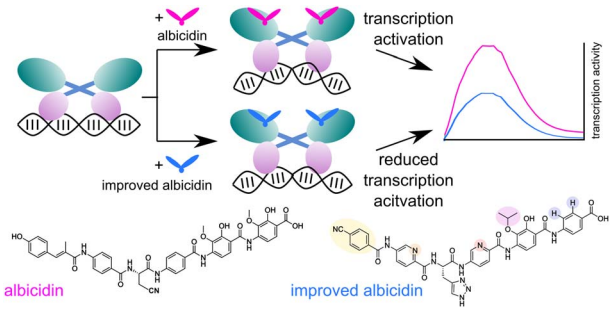
Transcription activation by the resistance protein AlbA as a tool to evaluate derivatives of the antibiotic albicidin

Simone Kosol, Lida Rostock, Jonas Barsig, Theresa Tabarelli, Kay Hommernick, Marcel Kulike, Tobias Eulberg, Maria Seidel, Iraj Behroz, Leonardo Kleebauer, Stefan Grätz, Andi Mainz and Roderich D. Süssmuth*



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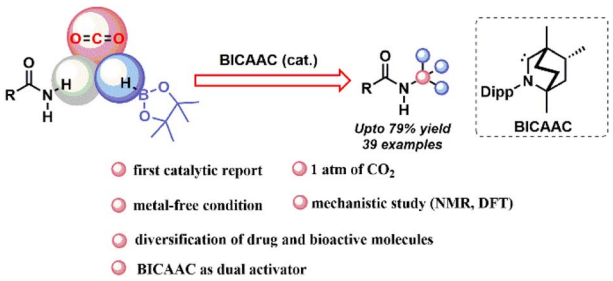
Bicyclic (alkyl)(amino)carbene (BICAAC) in a dual role: activation of primary amides and CO_2 towards catalytic *N*-methylation

Nimisha Gautam, Ratan Logdi, Sreejyothi P., Antara Roy, Ashwani K. Tiwari* and Swadhin K. Mandal*



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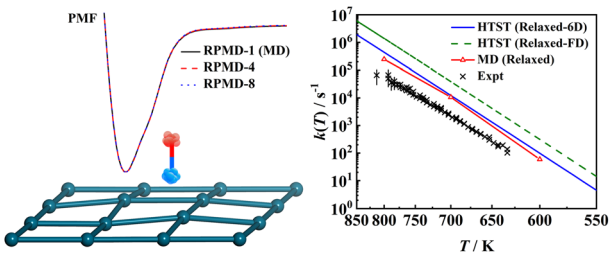
First-principles surface reaction rates by ring polymer molecular dynamics and neural network potential: role of anharmonicity and lattice motion

Chen Li, Yongle Li* and Bin Jiang*



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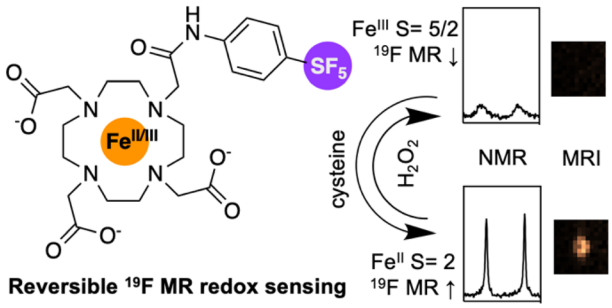

An Fe complex for ^{19}F magnetic resonance-based reversible redox sensing and multicolor imaging

Rahul T. Kadakia, Raphael T. Ryan, Daniel J. Cooke and Emily L. Que*

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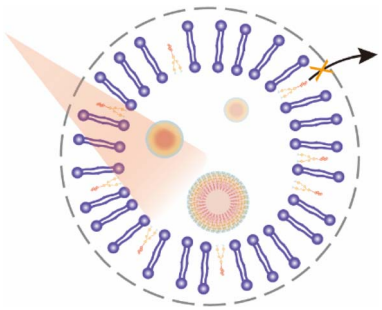

A self-assembled nanophotosensitizer targets lysosomes and induces lysosomal membrane permeabilization to enhance photodynamic therapy

Youyou Li, Wenbo Han, Deyan Gong, Taokun Luo, Yingjie Fan, Jianming Mao, Wenwu Qin and Wenbin Lin*

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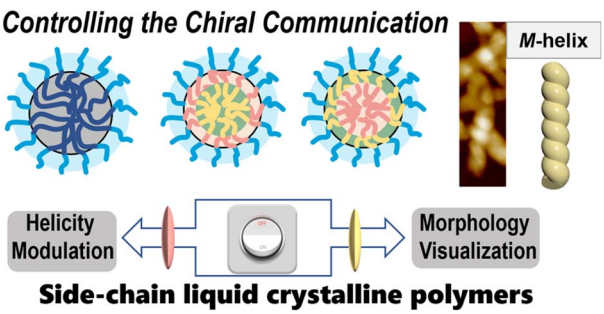

Conformationally supramolecular chirality prevails over configurational point chirality in side-chain liquid crystalline polymers

Xiaoxiao Cheng, Yijing Gan, Gong Zhang, Qingping Song,* Zhengbiao Zhang* and Wei Zhang*

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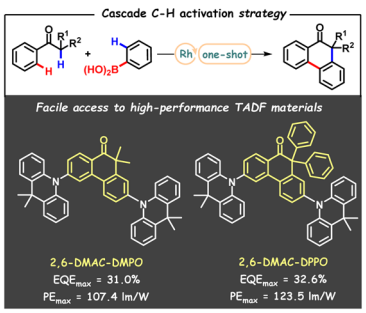

Molecular engineering of locked alkyl aryl carbonyl-based thermally activated delayed fluorescence emitters *via* a cascade C–H activation process

Yunxi Zhang, Zhengmei Huang, Yudong Yang, Jiahui Liu, Yang Tian, Zhengyang Bin* and Jingsong You*

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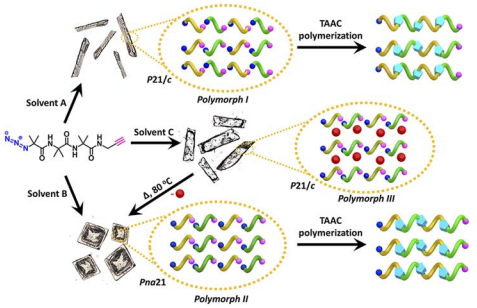

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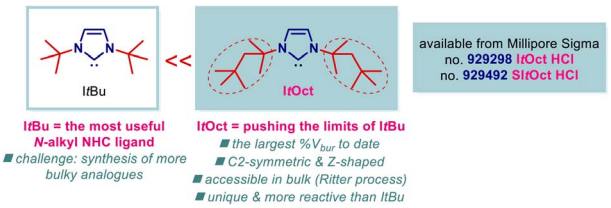
ItOct (ItOctyl) – pushing the limits of ItBu: highly hindered electron-rich N-aliphatic N-heterocyclic carbenes

Md. Mahbubur Rahman, Guangrong Meng, Elwira Bisz, Błażej Dziuk, Roger Lalancette, Roman Szostak and Michal Szostak*



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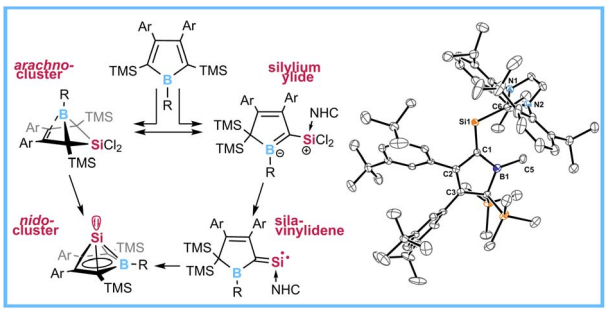
A donor-supported silavinylidene and silylium ylides: boroles as a flexible platform for versatile Si(II) chemistry

Julijan Sarcevic, Tobias Heitkemper, Paul Niklas Ruth, Leonard Naß, Maximilian Kubis, Dietmar Stalke and Christian P. Sindlinger*



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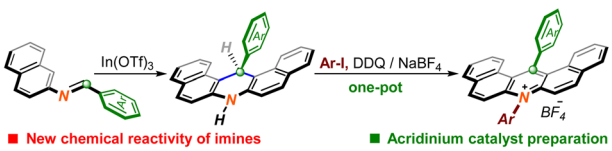
In(OTf)$_3$-catalyzed reorganization/cycloaddition of two imine units and subsequent modular assembly of acridinium photocatalysts

Jiang Nan,* Guanjie Huang, Shilei Liu, Jing Wang, Yangmin Ma and Xinjun Luan*



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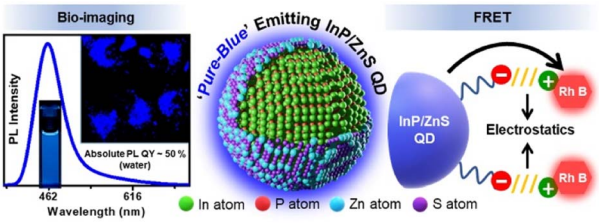

Blue-emitting InP quantum dots participate in an efficient resonance energy transfer process in water

Pradyut Roy, Mishika Virmani and Pramod P. Pillai*

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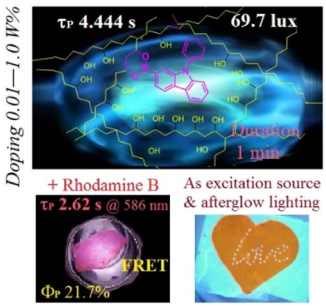
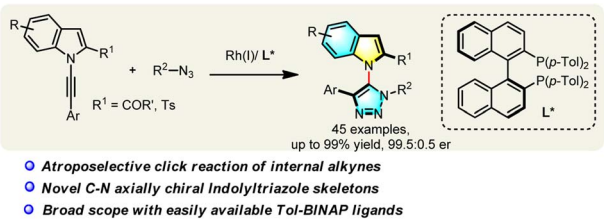


Rational molecular and doping strategies to obtain organic polymers with ultralong RTP

Yuefa Zhang, Shiguo Zhang, Guanyu Liu, Qikun Sun, Shanfeng Xue* and Wenjun Yang*

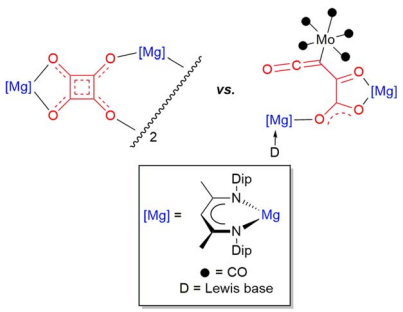
5182



Asymmetric rhodium-catalyzed click cycloaddition to access C–N axially chiral *N*-triazolyl indoles

Li Zhou, Yankun Li, Shunian Li, Zhenwei Shi, Xue Zhang, Chen-Ho Tung and Zhenghu Xu*

5188



Molybdenum carbonyl assisted reductive tetramerization of CO by activated magnesium(I) compounds: squarate dianion *vs.* metallo-ketene formation

K. Yuvaraj, Jeremy C. Mullins, Thayalan Rajeshkumar, Iskander Douair, Laurent Maron* and Cameron Jones*

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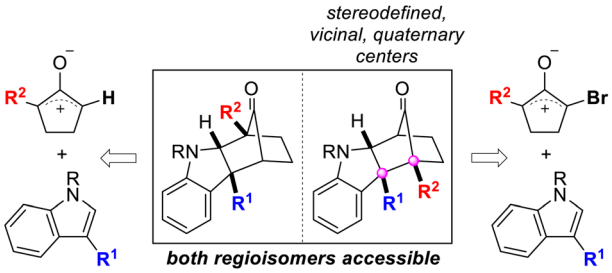
EDGE ARTICLES

5196

Regiodivergent (3 + 2) annulation reactions of oxyallyl cations

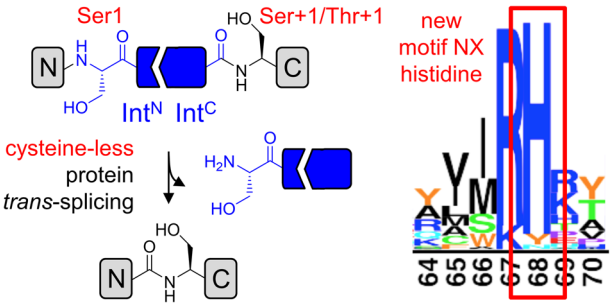
Zachary Protich, Leah L. Lowder, Russell P. Hughes* and Jimmy Wu*



5204

Structural and biochemical analysis of a novel atypically split intein reveals a conserved histidine specific to cysteine-less inteins

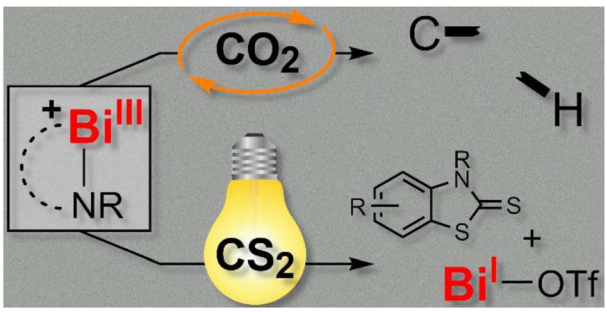
Tim Pasch, Alexander Schröder, Sabrina Kattelmann, Miriam Eisenstein, Shmuel Pietrokovski,* Daniel Kümmel* and Henning D. Mootz*



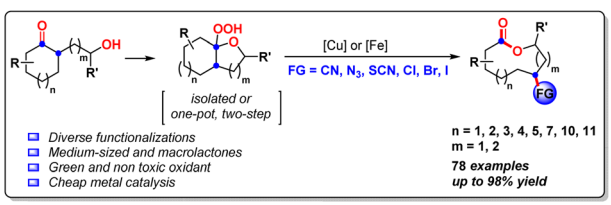
5214

Insertion of CO_2 and CS_2 into Bi–N bonds enables catalyzed CH-activation and light-induced bismuthinidene transfer

Kai Oberdorf, Anna Hanft, Xiulan Xie, F. Matthias Bickelhaupt, Jordi Poater* and Crispin Lichtenberg*



5220

A cheap metal catalyzed ring expansion/cross-coupling cascade: a new route to functionalized medium-sized and macrolactones

Shuai Liu, Pengchen Ma, Lu Zhang, Shenyu Shen, Hong-Jie Miao, Le Liu, K. N. Houk,* Xin-Hua Duan* and Li-Na Guo*