Organic & Biomolecular Chemistry

An international journal of synthetic, physical and biomolecular organic chemistry

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The authors are indebted to Aivireti Dilinaer and Chelsea Ymana of the Trant Group at the University of Windsor for the design and creation of the cover image.

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REVIEWS

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"Breaking bud": the effect of direct chemical modifications of phytocannabinoids on their bioavailability, physiological effects, and therapeutic potential

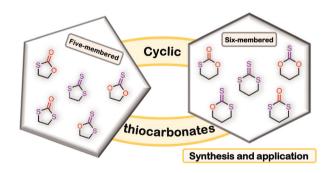
Abhinandan Banerjee,* John J. Hayward* and John F. Trant*



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Synthesis and applications of the sulfur containing analogues of cyclic carbonates

Carlos Díez-Poza, Lucía Álvarez-Miguel, Marta E. G. Mosquera* and Christopher J. Whiteoak*



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COMMUNICATIONS

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Access to functionalized 2-pyrones through cascade reactions of α -halothioesters involving **DBU-derived ammonium ylides**

Living Chen, Huiming Di, Jian Liu, Jinfeng Zhang, Bingfu Wang, Hui Jin* and Lixin Zhang*

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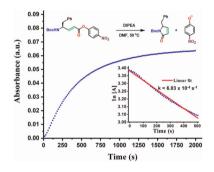
First total synthesis of type II abyssomicins: (±)-abyssomicin 2 and (±)-neoabyssomicin B

Aleksander Canko, Georgia D. Athanassopoulou, Vassilis Psycharis, Catherine P. Raptopoulou, Julie M. Herniman, Vasileios Mouchtouris, Angeliki Sofia Foscolos, Elias A. Couladouros and Veroniki P. Vidali*

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Cyclization of N-Boc-(E)- α , β -unsaturated γ -amino acid active esters into N-Boc-(Z)- α , β -unsaturated γ -lactams through $E \rightarrow Z$ isomerization

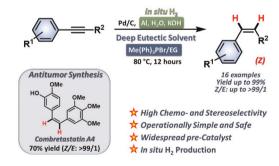
Manjeet Singh, Manish Kumar, Sachin A. Nalawade, DRGKoppalu R. Puneeth Kumar and Hosahudya N. Gopi*



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A phosphonium-based deep eutectic solvent promotes the stereoselective semi-reduction of internal alkynes to (Z)-alkenes

Andrea Nicola Paparella, Francesco Messa, Serena Perrone* and Antonio Salomone*



COMMUNICATIONS

The aromatic Claisen rearrangement of a 1.2-azaborine

Hannah M. Robichaud, Jacob S. A. Ishibashi, Tomoya Ozaki, Walid Lamine, Karinne Miqueu* and Shih-Yuan Liu*

3784

NHC-catalyzed C-N radical coupling and [3+2+1] annulation

♠ Formal [3+2+1] annulation

♠ Denitrogenated radical migration

Carbene-catalyzed [3 + 2 + 1] annulation via C-N radical coupling of iminyl radicals and ketyl radicals

Wenchang Li, Peng Zhou, Qing Zhao, Kejun Lin and Tingshun Zhu*

PAPERS

3789

radical sulfur dioxide insertion and fluorination strategy

cheap Na₂S₂O₄ as both reductant and SO₂ surrogate

one-pot procedure and gram-scale synthesis

Aryl sulfonyl fluoride synthesis *via* palladiumcatalyzed fluorosulfonylation of aryl thianthrenium salts

Lingling Shan, Zhanhu Ma, Caiyun Ou, Yinxia Cai, Yuyang Ma, Yong Guo, Xiaoyu Ma* and Chao Liu*

R
CIH₃N
EWG

Ar-SH

NaNO₂, NH₄CI
toluene/H₂O = 10:1

100 °C, 24 h
EWG = COOR', CN

• 35 examples
• up to 90% yield

on pre-activation

easy operation

Synthesis of α -aryl sulfides by deaminative coupling of α -amino compounds with thiophenols

Xuejing Yang, Qiang Teng, Feifei Cao, Jianfeng Hu, Hao Zhang* and Yong Yang*

PAPERS

3800

Palladium-catalyzed regioselective synthesis of mono and bis(arylthiol) alkenes from propargyl carbonate and thiophenol

Indranil Chatteriee and Gautam Panda*

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Synthesis of SARS-CoV-2 M^{pro} inhibitors bearing a cinnamic ester warhead with in vitro activity against human coronaviruses

Andrea Citarella,* Davide Moi,* Martina Pedrini, Helena Pérez-Peña, Stefano Pieraccini, Alessandro Dimasi, Claudio Stagno, Nicola Micale, Tanja Schirmeister, Giulia Sibille, Giorgio Gribaudo, Alessandra Silvani, Clelia Giannini and Daniele Passarella



3825

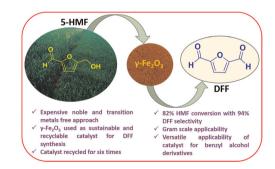
A one-step base-free synthesis of N-arylamides via modified pivaloyl mixed anhydride mediated amide coupling

Fenghua Mao, Can Jin, Jie Wang, Hui Yang, Xinhuan Yan, Xiaoqing Li* and Xiangsheng Xu*

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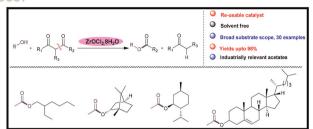
An unconventional iron oxide catalyst for 5-hydroxymethylfurfural oxidation to 2,5diformylfuran

Ajay Kumar, Arvind Singh Chauhan, Rohit Bains and Pralay Das*



PAPERS

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Zirconium oxychloride hydrate: an efficient and reusable catalyst for retro-Claisen condensation of alcohols with 1,3-diketones

Durgaiah Chevella, Chiranieevi Thota and Supriyo Majumder*

3844

$$R_1$$
 R_2 + $ArSO_2$ I R_2 R_2 $R_3CN, 25 °C, 1h$

- •40 examples of internal alkynes •high yields (63%-99%, average yield 88%) •transition metal free
- photocatalyst free
- •good functional group tolerance

Synthesis of β-iodovinyl sulfones via direct photoinitiated difunctionalization of internal alkynes

Vladimir A. Abramov, Maxim A. Topchiy, Maria A. Rasskazova, Egor A. Drokin, Grigorii K. Sterligov, Olga V. Shurupova, Anna S. Malysheva, Sergey A. Rzhevskiy, Irina P. Beletskaya and Andrey F. Asachenko*

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trans-syn-trans perhydrobenz[e]indene triketone

Eschenmoser-Claisen

Convenient synthesis of perhydrobenz[e]indene triketone, a key intermediate for the total synthesis of stelletins

Yang Cao, Xiaoyu Liu, Zhe Wang, Yuan Wang, Xiaozhen Jiao* and Ping Xie*

3858 Cat.4, tBuONa dioxane, 90 °C, 12 h R² > 26 examples Up to 96% Excellent chemoselectivity; Cat.4 ■ Great tolerance to FGs and heterocycles

Highly efficient α -arylation of aryl ketones with aryl chlorides by using bulky imidazolylidene-ligated oxazoline palladacycles

Xian Wei, Kun Wang and Weiwei Fang*

PAPERS

3863

Synthesis of fused quinazolinones *via* visible light induced cyclization of 2-aminobenzaldehydes with tetrahydroisoquinolines

Xuehua Chen, Liang Jin, Yihong Wang, Hong Yang, Zhanggao Le* and Zongbo Xie*

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Nitronate-aryne cycloaddition as a concise route to stereochemically complex fused benzisoxazolines and amino alcohols

Alexander A. Lukoyanov, Andrey A. Tabolin,* Yulia V. Nelyubina, Svetlana A. Aksenova and Alexey Yu. Sukhorukov*

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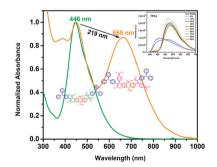
Divergent synthesis of two types of indolizines from pyridine-2-acetonitrile, (hetero)arylglyoxal, and TMSCN

Seonghyeon Nam, Sunhee Lee, Woojin Kim and Ikyon Kim*

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Near-IR absorbing 1,1,4,4-tetracyanobutadienefunctionalized phenothiazine sulfones

Manju Sheokand, Nikhil Ji Tiwari and Rajneesh Misra*



CORRECTION

3906

Correction: Formal synthesis of cyclotheonellazole A

Bohua Long, Liu-Yang Pu, Zhanyan Liu, Xiaobin Zeng and Zhengzhi Wu*