

# ChemComm

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## IN THIS ISSUE

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### Cover

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### Inside cover

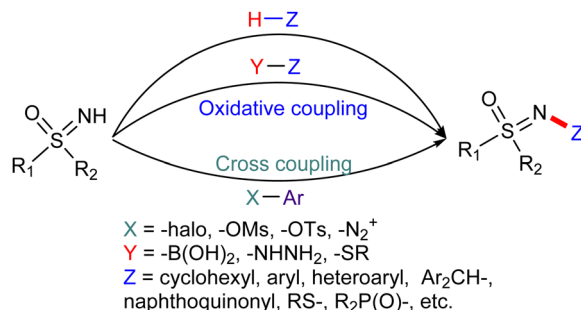
See Igor D. Jurberg *et al.*, pp. 2044–2047. Image reproduced by permission of Igor Dias Jurberg from *Chem. Commun.*, 2025, **61**, 2044. This artwork was created by Wilton J. D. do Nascimento Jr.

## HIGHLIGHTS

1934

### Advances in cross-coupling and oxidative coupling reactions of NH-sulfoximines – a review

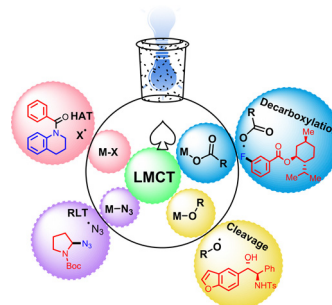
Hala Adam Elzubier Adam, Sihan Zhou and Qingle Zeng\*



1944

### Photoinduced ligand-to-metal charge transfer (LMCT) in organic synthesis: reaction modes and research advances

Yingying Yang, Xinxiang Huang and Yi Jin\*



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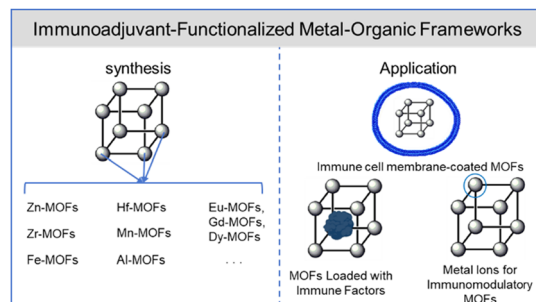
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## HIGHLIGHTS

1962

### Immunoadjuvant-functionalized metal–organic frameworks: synthesis and applications in tumor immune modulation

Chen Zhao, Weihua Song, Jianing Wang, Xiaoying Tang\* and Zhenqi Jiang\*

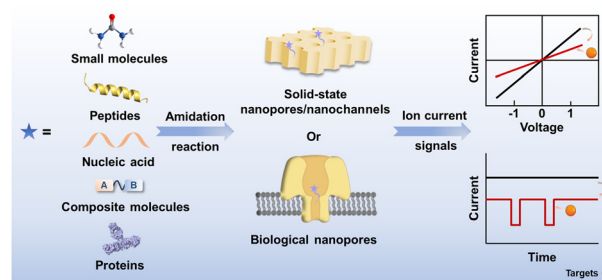


## FEATURE ARTICLES

1978

### Towards effective functionalization of nanopores/nanochannels: the role of amidation reactions

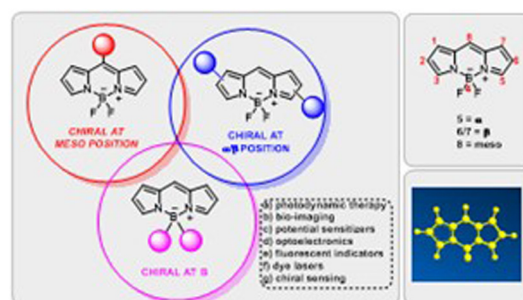
Shijun Lin, Yiheng Liu, Jingjing Hu,\* Fan Xia and Xiaodong Lou\*



1989

### Recent advances in the development of enantiopure BODIPYs and some related enantiomeric compounds

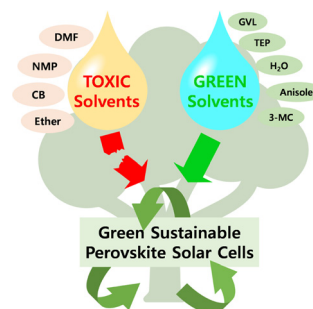
Shaista Sultan, Luis Crovetto and Ramon Rios\*



2011

### Green solvent strategies for the sustainable development of perovskite solar cells

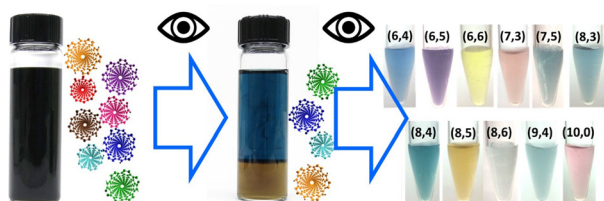
David Sunghwan Lee, Hyong Joon Lee, Yunmi Song, Jin Kyoung Park, Jin Hyuck Heo\* and Sang Hyuk Im\*





## FEATURE ARTICLES

2026



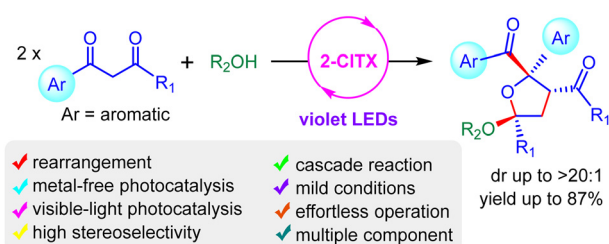
## Metrology → Faster &amp; Easier

Single-wall carbon nanotube separations *via* aqueous two-phase extraction: new prospects enabled by high-throughput methods

Christopher M. Sims,\* Ming Zheng\* and Jeffrey A. Fagan\*

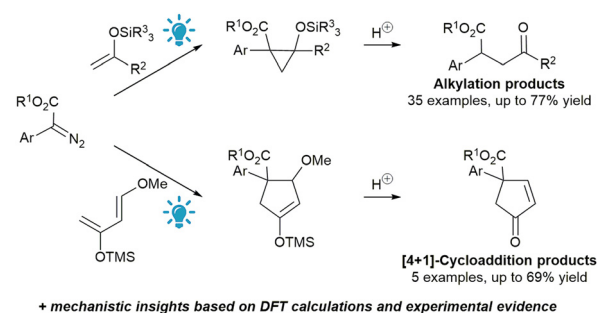
## COMMUNICATIONS

2040

Synthesis of polysubstituted tetrahydrofurans *via* visible light-induced De Mayo acetalization of benzoylacetones

Ranadheer Reddy Indurmuddam, Bor-Cherng Hong\* and Su-Ying Chien

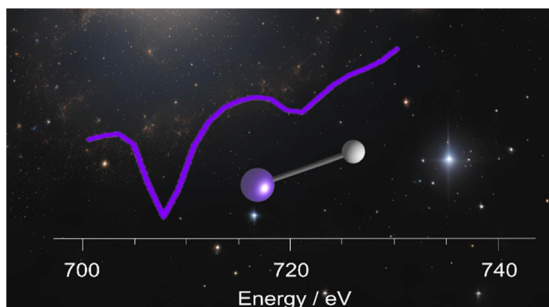
2044



## Visible light-mediated formal alkylation and [4+1]-cycloaddition strategies of silyl enol ethers with aryldiazoacetates

Guilherme Cariello, Rafael D. C. Gallo, Victor M. Deflon, Rodrigo A. Cormanich and Igor D. Jurberg\*

2048

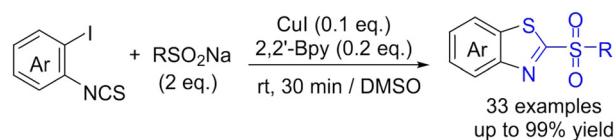
X-ray absorption spectroscopy of FeH<sup>+</sup> to aid its identification in astrochemical environments

Shan Jin, Max Flach, Alexander Ebenbichler, Ethan M. Cunningham, Vicente Zamudio-Bayer, Konstantin Hirsch, Christian van der Linde, Norbert Przybilla,\* Milan Ončák, J. Tobias Lau and Martin K. Beyer\*



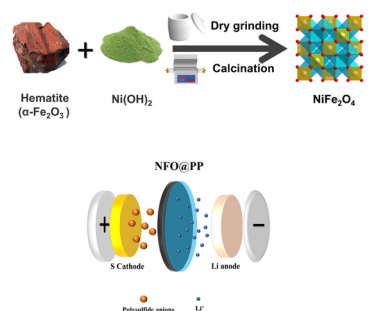
## COMMUNICATIONS

2051

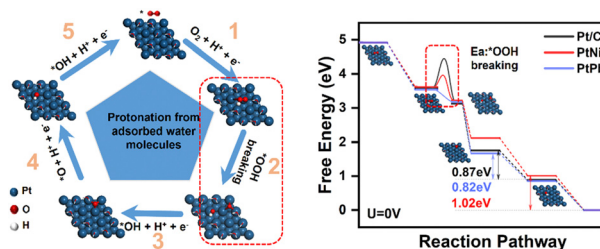
**Facile synthesis of 2-sulfonylbenzothiazoles via cascade  $\text{SO}_2^-$ -NCS addition and S-C(sp<sup>2</sup>) coupling**Wenjie Liu, Xuehui Zhang, Qian Wu, Zhi-Bing Dong,\*  
Xiaojing Bi\* and Enxue Shi\*

- concurrent installation of benzothiazole and sulfone motifs
- readily available starting materials with diverse structures
- rapid conversions under environmentally mild conditions
- high yields mainly through simple column-free purifications

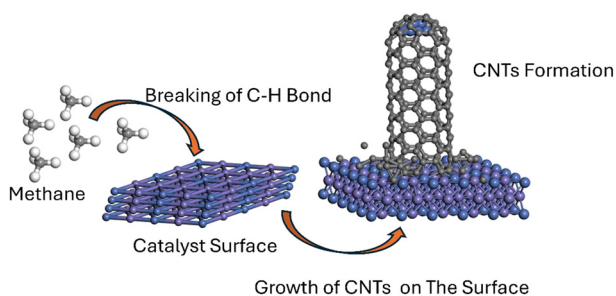
2055

**Natural hematite-derived  $\text{NiFe}_2\text{O}_4$  as a separator modification material for improved Li-S battery performance**Lei Zhang, Jiawen Cui, Haoxian Zhu, Kun Yang,  
Wei Li and Li Sun\*

2059

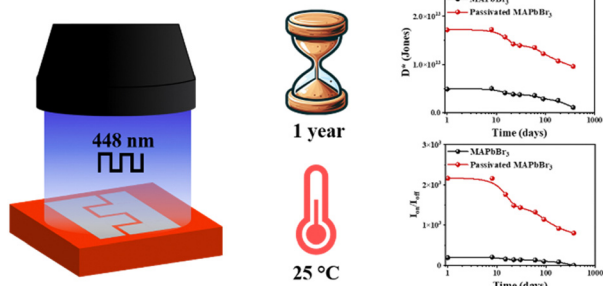
**Oxygen reduction reaction kinetics of platinum-based catalysts under stress induction**Haibo Jiang, Jiyuan Lu, Liyuan Bi, Lili Zhang, Jiajia Yang,  
Cui Liu, Shengwei Yu,\* Jianhua Shen\* and Yihua Zhu\*

2063

**Influence of Ni on carbon nanotube production with Fe-based catalysts**Shashank Shekhar, Komal Tripathi, Amir Karton,  
Shantanu Roy,\* Rakesh Joshi\* and Kamal Kishore Pant\*

## COMMUNICATIONS

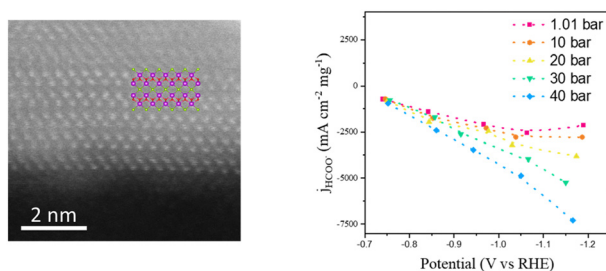
2067



### Towards a long-term stable MAPbBr<sub>3</sub> single crystal-based photoconductor with a high on/off ratio and detectivity

Vishnu Anilkumar, Apurba Mahapatra,\*  
Joanna Kruszyńska, Manoranjan Mandal,  
Seckin Akin, Pankaj Yadav and Daniel Prochowicz\*

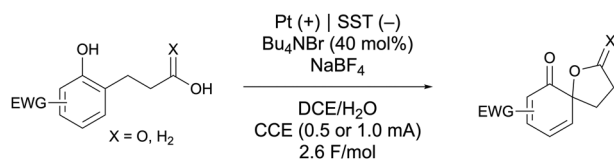
2071



### Pressure regulated CO<sub>2</sub> electrolysis on two-dimensional Bi<sub>2</sub>O<sub>2</sub>Se

Ruofan Sun, Jiwu Zhao, Hang Liu, Yanrong Xue and  
Xu Lu\*

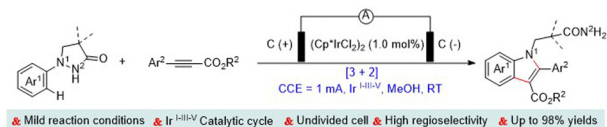
2075



### Electrochemical oxidative dearomatization of electron-deficient phenols using Br<sup>+</sup>/Br<sup>-</sup> catalysis

Kai Matsui, Muhammet Uyanik\* and Kazuaki Ishihara\*

2079



### Electrochemistry-enabled Ir-catalyzed C–H/N–N bond activation facilitates [3+2] annulation of phenidones with propiolates

LuLu Zhao, Jianjing Yang,\* Kelu Yan, Xingda Cheng,  
Ziyang Xiao and Jiangwei Wen\*

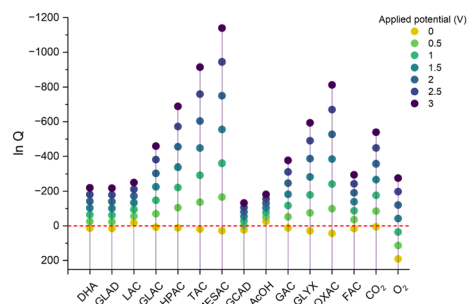


## COMMUNICATIONS

2083

**Sustainable upgrading of biomass: a thermodynamic approach to fine-tuning product selectivity for glycerol oxidation**

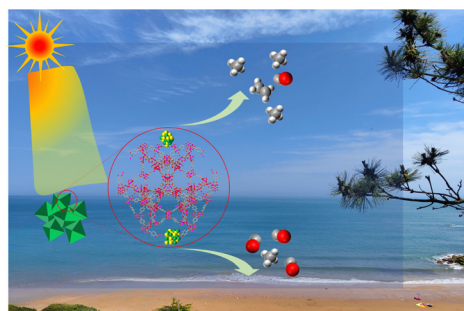
Andrés F. Pérez-Torres,\* Heejung Kong, Fatwa F. Abdi, Roel van de Krol and Marco Favaro\*



2087

**Cr-MOF composited with facet-engineered bimetallic alloys for inducing photocatalytic conversion of CO<sub>2</sub> to C<sub>2</sub>H<sub>4</sub>**

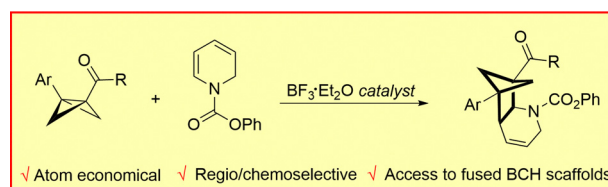
Xiang-Yu Lu, Peng Wang,\* Zhao-Feng Qiu and Wei-Yin Sun\*



2091

**Lewis acid-catalyzed [2 $\pi$ +2 $\sigma$ ] cycloaddition of dihydropyridines with bicyclobutanes**

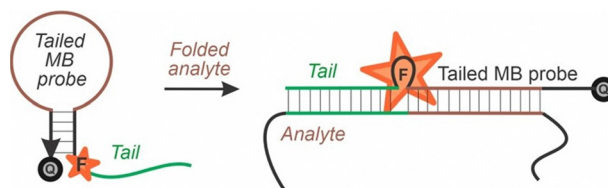
Yujie Liang, Ronewa Nematswerani, Constantin G. Daniliuc and Frank Glorius\*



2095

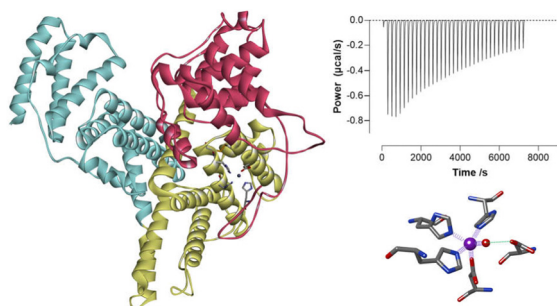
**Tailed molecular beacon probes: an approach for the detection of structured DNA and RNA analytes**

Brittany L. Mueller,\* Tatiana A. Molden,\* Jordan Hammock and Dmitry M. Kolpashchikov\*



## COMMUNICATIONS

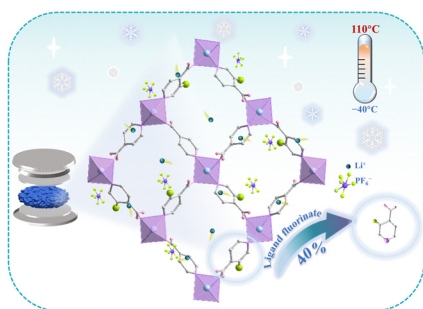
2099



**Properties of the major Zn<sup>2+</sup>-binding site of human alpha-fetoprotein, a potential foetal plasma zinc carrier**

Jin Lu, Stephen J. Hierons, Swati Arya, Remi Fritzen, Sirilata Polepalli, Siavash Khazaipoul, Alan J. Stewart\* and Claudia A. Blindauer\*

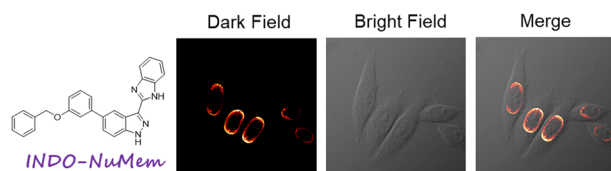
2103



**Significantly promoting the lithium-ion transport performances of MOFs-based electrolytes via a strategy of introducing fluoro groups in the crystal frameworks**

Jia Guo, Xin Wang, Lu Shi and Zhiliang Liu\*

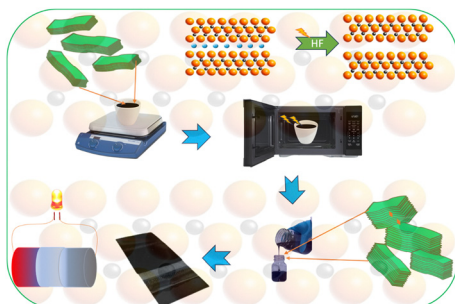
2107



**A novel small-molecule fluorescent probe caused by minimal structural modifications for specific staining of the cell nuclear membrane**

Wendong Jin, Yang Liu,\* Qing Lu, Jie Huang, Zhiqiang Liu\* and Xiaoqiang Yu\*

2111



**Microwave assisted synthesis of Ti<sub>3</sub>C<sub>2</sub>-MXene for supercapacitor application**

Prasad Eknath Lokhande,\* Udayabhaskar Rednam,\* Vishal Kadam, Chaitali Jagtap, Deepak Kumar and Radhamanohar Aepuru



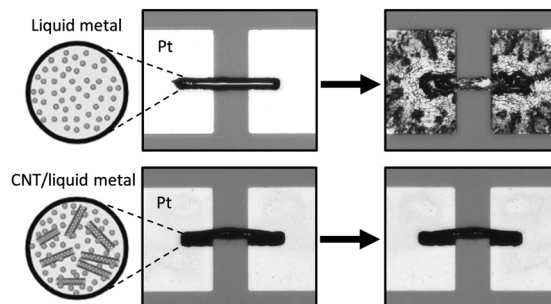


## COMMUNICATIONS

2115

**Liquid metal composite with carbon nanotubes for reliable interconnection between Pt electrodes**

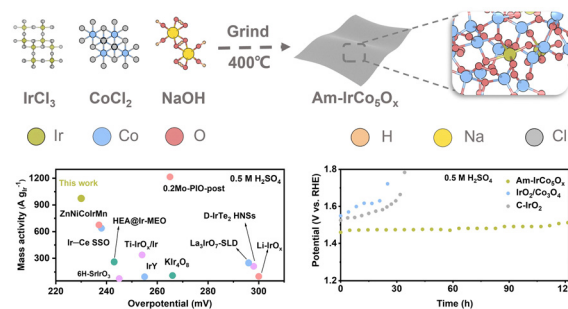
Anar Zhexembekova, Seongyeop Lim, Hyegi Min and Chang Young Lee\*



2119

**A two-dimensional amorphous iridium–cobalt oxide for an acidic oxygen evolution reaction**

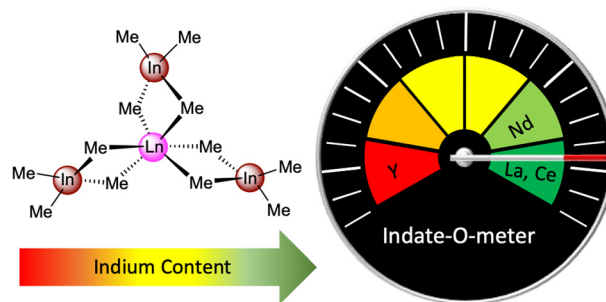
Da Liu, Yue Wang, Jiarui Zhu, Xuewei Gu, Hao Yang,\* Yutian Xiong, Mingwang Shao\* and Qi Shao\*



2123

**A homoleptic rare-earth-metal tetramethylindate**

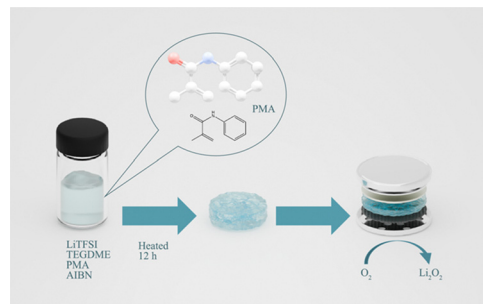
Philipp Wetzels, Căcilia Maichle-Mössmer and Reiner Anwander\*



2127

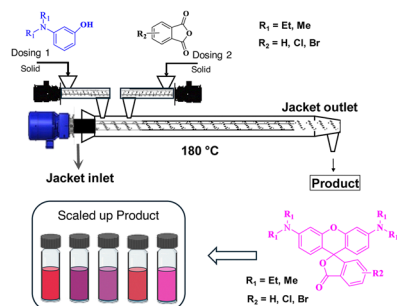
**An amide-based gel polymer electrolyte for Li–O<sub>2</sub> batteries: advancing towards practical Li–air batteries**

Qinming Zhang, Xu Hu, Zhaojun Xie\* and Zhen Zhou\*



## COMMUNICATIONS

2131



### Continuous flow solvent-free and catalyst-free mechanochemical production of rhodamine B dyes and their derivatives

Mukesh Purohit, Tabrez Rafique Shaikh and Amol A. Kulkarni\*

2135



### Sensitive detection of formaldehyde via a luminescent distorted $\text{Eu}_4\text{L}_4$ tetrahedral cage

Ran Li, Xuan Deng, Fan Yin, Xiao-Fang Duan, Li-Peng Zhou, Yang Zhou, Xiao-Qing Guo\* and Qing-Fu Sun\*

## EXPRESSION OF CONCERN

2139

### Expression of concern: Graphene oxide: an efficient and reusable carbocatalyst for aza-Michael addition of amines to activated alkenes

Sanny Verma, Harshal P. Mungse, Neeraj Kumar, Shivani Choudhary, Suman L. Jain,\* Bir Sain and Om P. Khatri\*

## RETRACTIONS

2140

### Retraction: Visible-light driven reaction of $\text{CO}_2$ with alcohols using a $\text{Ag/CeO}_2$ nanocomposite: first photochemical synthesis of linear carbonates under mild conditions

Anil Malik, Sakshi Bhatt, Aishwarya Soni, Praveen K. Khatri, Ankur K. Guha, Lakshi Saikia and Suman L. Jain\*



## RETRACTIONS

2141

**Retraction: CO<sub>2</sub> as oxidant: an unusual light-assisted catalyst free oxidation of aldehydes to acids under mild conditions**

Shafiur Rehman Khan, Sandhya Saini, K. Naresh, Alka Kumari, Vineet Aniya, Praveen K. Khatri, Anjan Ray and Suman L. Jain\*

2142

**Retraction: Light-induced synthesis of unsymmetrical organic carbonates from alcohols, methanol and CO<sub>2</sub> under ambient conditions**

Sandhya Saini, Nand Kishor Gour, Shafiur Rehman Khan, Ramesh Chandra Deka and Suman L Jain\*

