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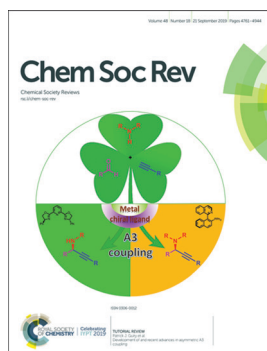
IN THIS ISSUE

ISSN 0306-0012 CODEN CSRVBR 48(18) 4761–4944 (2019)



Cover

See Mahmoud Nasrollahzadeh, Maurizio Selva, Rafael Luque *et al.*, pp. 4791–4822. Image produced by Rafael Luque and reproduced by permission of Mahmoud Nasrollahzadeh from *Chem. Soc. Rev.*, 2019, **48**, 4791.



Inside cover

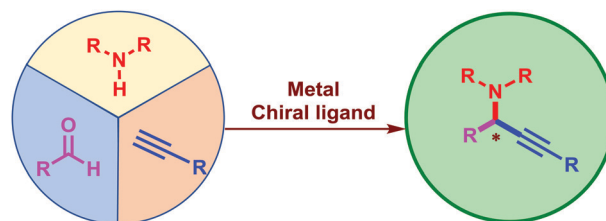
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TUTORIAL REVIEW

4766

Development of and recent advances in asymmetric A3 coupling

Balaji V. Rokade, James Barker and Patrick J. Guiry*

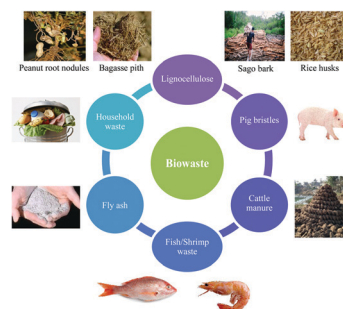


REVIEW ARTICLES

4791

Waste-to-wealth: biowaste valorization into valuable bio(nano)materials

Chunping Xu, Mahmoud Nasrollahzadeh,* Maurizio Selva,* Zahra Issaabadi and Rafael Luque*



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Chemical Society Reviews (print: ISSN 0306-0012; electronic: ISSN 1460-4744) is published 24 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the 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

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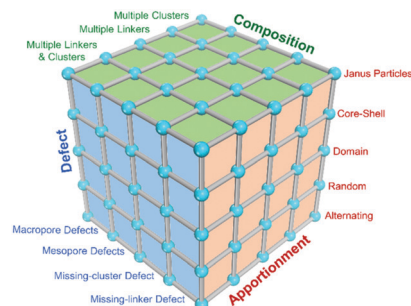


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4823

The chemistry of multi-component and hierarchical framework compounds

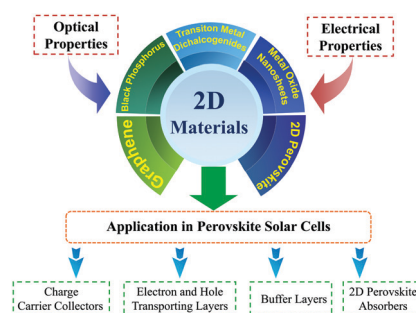
Liang Feng, Kun-Yu Wang, Gregory S. Day and Hong-Cai Zhou*



4854

The charge carrier dynamics, efficiency and stability of two-dimensional material-based perovskite solar cells

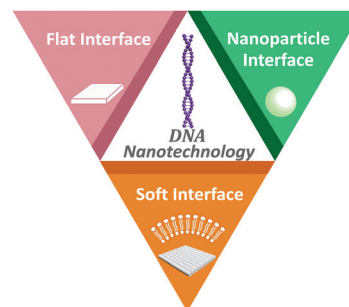
Bing Wang, James Iocozzia, Meng Zhang, Meidan Ye, Shicheng Yan, Huile Jin, Shun Wang,* Zhigang Zou* and Zhiqun Lin*



4892

Bioapplications of DNA nanotechnology at the solid–liquid interface

Wenjing Wang, Sha Yu, Shan Huang, Sai Bi, Heyou Han,* Jian-Rong Zhang,* Yi Lu and Jun-Jie Zhu*



4921

Catalytic alkylation of unactivated C(sp³)–H bonds for C(sp³)–C(sp³) bond formation

Zhen Chen, Meng-Yu Rong, Jing Nie, Xue-Feng Zhu,* Bing-Feng Shi* and Jun-An Ma*

