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Chemical Society Reviews

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See Hiroshi Yukawa, Hidetoshi Kono, Yoshinobu Baba *et al.*, pp. 3293-3322. Image reproduced by permission of Hiroshi Yukawa from *Chem. Soc. Rev.*, 2025, 54, 3293.



Inside cover

See Jing Lin, Xin Zhou, Peng Huang *et al.*, pp. 3247-3271. Image reproduced by permission of Peng Huang from *Chem. Soc. Rev.*, 2025, 54, 3247.

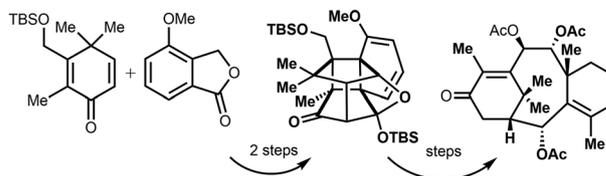
VIEWPOINT

3242

Overcoming (some) rules in synthesis design

Reinhard W. Hoffmann

Rule; Avoid excess complexity along a synthesis sequence ! ??



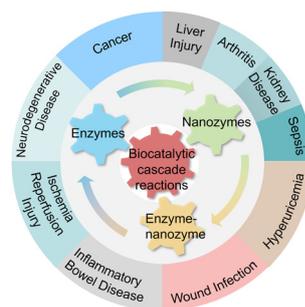
Yet this spectacular reaction sequence relegates the rule to history

TUTORIAL REVIEWS

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Biocatalytic cascade reactions for management of diseases

Ya-Ping Xiao, Jiayingzi Wu, Peng-Hang Chen, Shan Lei, Jing Lin,* Xin Zhou* and Peng Huang*



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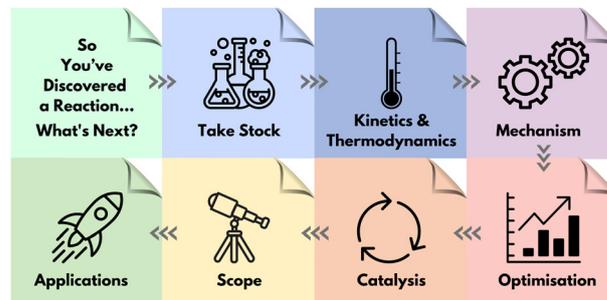


TUTORIAL REVIEWS

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Reaction development: a student's checklist

Jasper L. Tyler,* Dirk Trauner* and Frank Glorius*

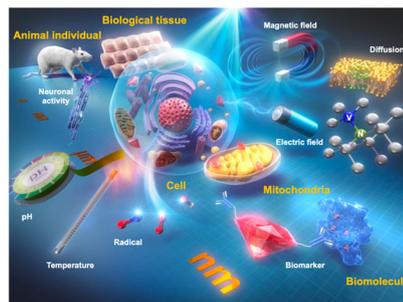


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Quantum life science: biological nano quantum sensors, quantum technology-based hyperpolarized MRI/NMR, quantum biology, and quantum biotechnology

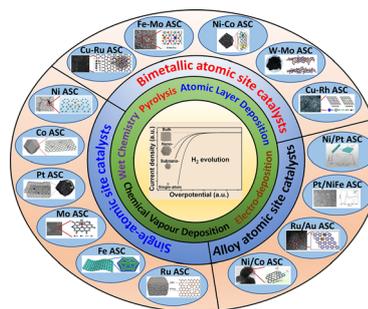
Hiroshi Yukawa,* Hidetoshi Kono,* Hitoshi Ishiwata, Ryuji Igarashi, Yoichi Takakusagi, Shigeki Arai, Yu Hirano, Tetsuya Suhara and Yoshinobu Baba*



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Exploring the properties, types, and performance of atomic site catalysts in electrochemical hydrogen evolution reactions

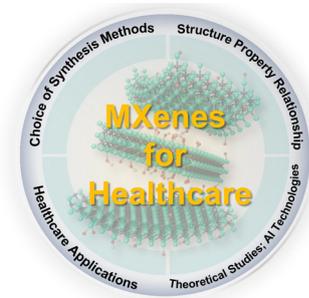
M. Nur Hossain, Lei Zhang,* Roberto Neagu and Shuhui Sun*



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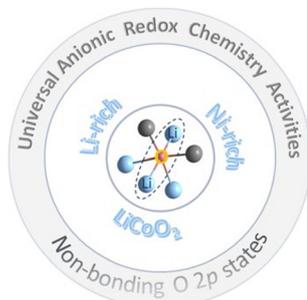
MXenes in healthcare: synthesis, fundamentals and applications

Zaheer Ud Din Babar, Vincenzo Iannotti, Giulio Rosati, Ayesha Zaheer, Raffaele Velotta, Bartolomeo Della Ventura, Ruslan Álvarez-Diduk* and Arben Merkoçi*



REVIEW ARTICLES

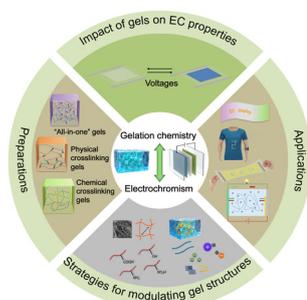
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A comprehensive understanding on the anionic redox chemistry of high-voltage cathode materials for high-energy-density lithium-ion batteries

Qingyuan Li, Dong Zhou, Mihai Chu, Zhongqing Liu, Liangtao Yang, Wei Wu, De Ning, Wenyuan Li, Xingbo Liu, Jie Li,* Stefano Passerini* and Jun Wang*

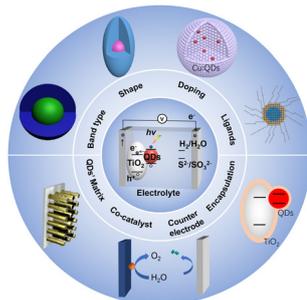
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Functional gel materials for next-generation electrochromic devices and applications

Yuyang Wang, Xiaoyan Sun, Quanbing Liu* and Guihua Yu*

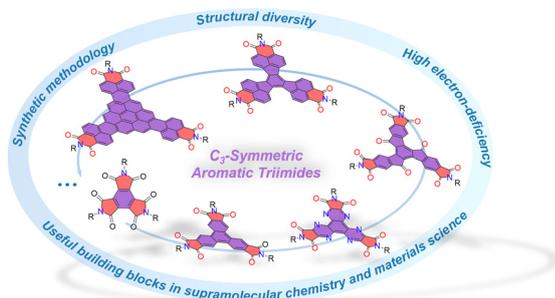
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Stability of photoelectrochemical cells based on colloidal quantum dots

Kanghong Wang, Yi Tao, Zikun Tang, Haiguang Zhao, Xuhui Sun,* Federico Rosei,* Dong Liu* and Yujie Xiong*

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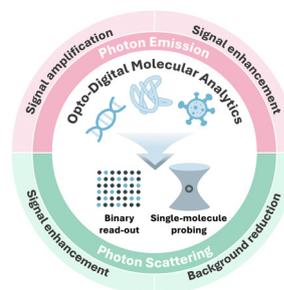


C₃-symmetric aromatic triimides as useful building blocks for supramolecular chemistry and advanced materials

De-Hui Tuo, Xu-Dong Wang* and De-Xian Wang*



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Synthesis innovations for crystallizing covalent organic framework thin films on biological and non-biological substrates

Ashok Kumar Mahato, Satyadip Paul and Rahul Banerjee*

