

Chem Soc Rev

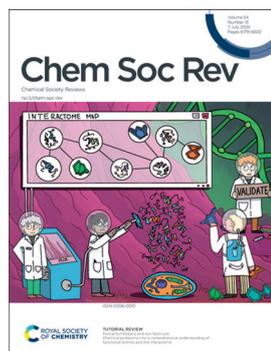
Chemical Society Reviews

rsc.li/chem-soc-rev

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 0306-0012 CODEN CSRVBR 54(13) 6179-6602 (2025)



Cover

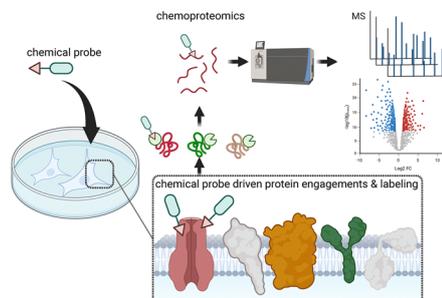
See Kostiantyn Kozoriz and Jun-Seok Lee, pp. 6186-6207. Image reproduced by permission of Kostiantyn Kozoriz and Jun-Seok Lee from *Chem. Soc. Rev.*, 2025, 54, 6186.

TUTORIAL REVIEW

6186

Chemical proteomics for a comprehensive understanding of functional activity and the interactome

Kostiantyn Kozoriz and Jun-Seok Lee*

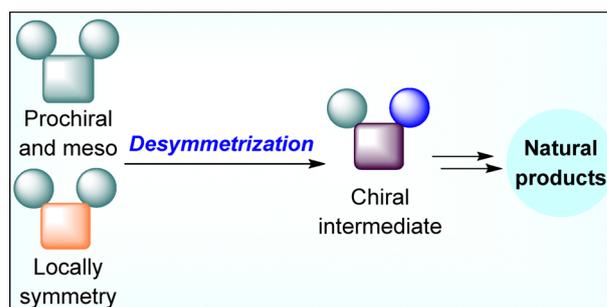


REVIEW ARTICLES

6208

Desymmetrization strategy in natural product total synthesis

Haichao Liu,* Kai Tang, Hao Zeng, Lijun Chen, Hong Liang* and Yanxing Jia*



Advance your career in science

with professional recognition that showcases
your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment
to attaining excellence in
your field

Gain the recognition you deserve

Achieve a professional
qualification that inspires
confidence and trust

Unlock your career potential

Apply for our professional
registers (RSci, RSciTech)
or chartered status
(CChem, CSci, CEnv)

Apply now

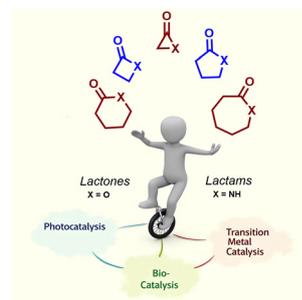
rsc.li/professional-development



6238

Synthesis of lactones and lactams via C(sp³)-H bond functionalization

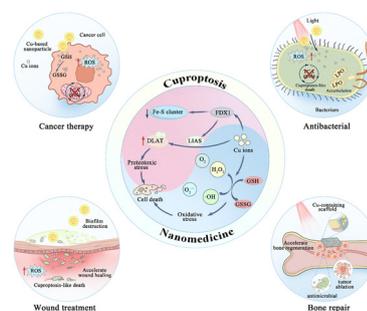
Egambaram Premkumar, Ramdas Sreedharan, Premananda Ghosh, Tanay Pal, Debabrata Maiti* and Thirumanavelan Gandhi*



6282

Cuproptosis: mechanisms and nanotherapeutic strategies in cancer and beyond

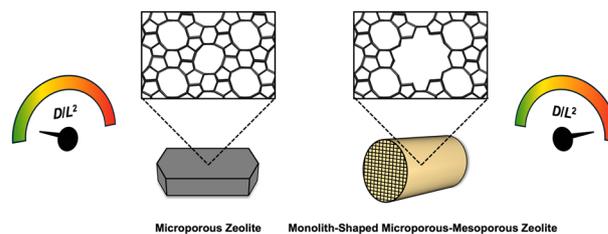
Lijie Mao, Ji Lu, Xinyu Wen, Zhiyi Song, Cai Sun, Yuanru Zhao, Fang Huang, Si Chen, Dongyang Jiang, Wenliang Che, Cheng Zhong, Chen Yu, Ke Li,* Xiangyu Lu* and Jianlin Shi*



6335

Chemical engineering of zeolites: alleviating transport limitations through hierarchical design and shaping

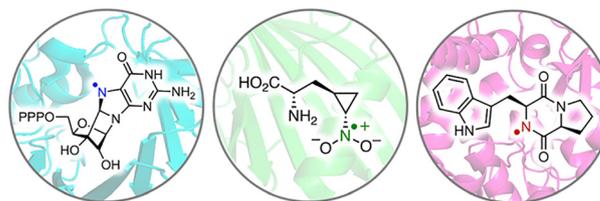
Nibras Hijazi, Anastasiya Bavykina, Irina Yarulina, Tuiana Shoinkhorova, Enrique V. Ramos-Fernandez and Jorge Gascon*



6385

Nitrogen-centered radicals driving unusual enzyme reactions in biosynthetic pathways

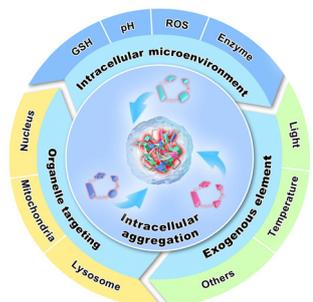
Richiro Ushimaru* and Ikuro Abe*



N-centered radicals in enzyme reactions



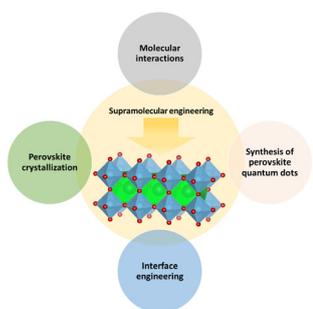
6412



Intracellular aggregation of exogenous molecules for biomedical applications

Da-Yong Hou, Haoran Wang,* Yue-Ze Wang, Dong-Bing Cheng,* Ben Zhong Tang* and Wanhai Xu*

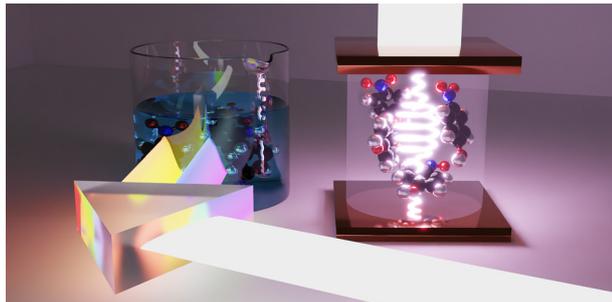
6448



Supramolecular engineering in hybrid perovskite optoelectronics

Tzu-Sen Su, Anurag Krishna, Chenxu Zhao, Junhao Chu and Hong Zhang*

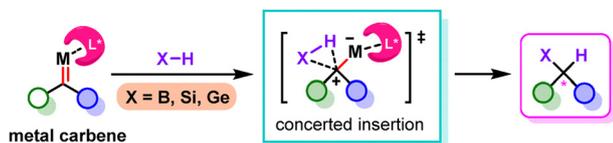
6482



When do molecular polaritons behave like optical filters?

Kai Schwennicke, Arghadip Koner, Juan B. Pérez-Sánchez, Wei Xiong, Noel C. Giebink, Marissa L. Weichman and Joel Yuen-Zhou*

6505



Recent advances in catalytic asymmetric metalloid–hydrogen bond insertion of transition-metal carbenes

Shuyue Zhang and Ming-Hua Xu*

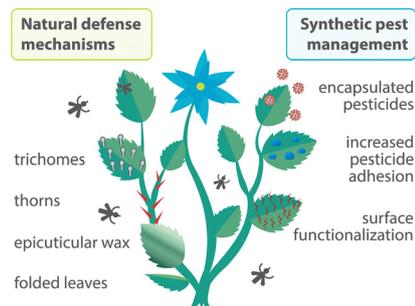


REVIEW ARTICLES

6525

Turning over a new leaf: innovative pest control from a materials science perspective

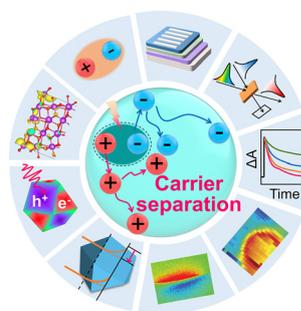
Abinaya Arunachalam, Maria Perraki, Bram Knegt, Mirka Macel, Dagmar Voigt and Marleen Kamperman*



6553

Transfer dynamics of photo-generated carriers in catalysis

Jun Wang, Wanru Liao, Yao Tan, Olivier Henrotte, Yicui Kang, Kang Liu, Junwei Fu, Zhang Lin, Liyuan Chai, Emiliano Cortes* and Min Liu*



CORRECTIONS

6597

Correction: Decoding recombination dynamics in perovskite solar cells: an in-depth critical review

Ramkrishna Das Adhikari, Mayur Jagdishbhai Patel, Himangshu Baishya, Deepak Yadav, Manab Kalita, Mizanur Alam and Parameswar Krishnan Iyer*

6599

Correction: Unified approaches in transition metal catalyzed C(sp³)-H functionalization: recent advances and mechanistic aspects

Jagrit Grover, Amal Tom Sebastian, Siddhartha Maiti, Alex C. Bissember* and Debabrata Maiti*

