T. SHEN, Y. ZOU, X. HOU, H. WEI, L. REN, L. JIAO, J. WU* (JOINT SCHOOL OF NATIONAL UNIVERSITY OF SINGAPORE AND TIANJIN UNIVERSITY, FUZHOU, P. R. OF CHINA AND NATIONAL UNIVERSITY OF SINGAPORE, SINGAPORE)

Bis-peri-dinaphtho-rylenes: Facile Synthesis via Radical-Mediated Coupling Reactions and their Distinctive Electronic Structures

Angew. Chem. Int. Ed. 2023, 62, e202311928 DOI: 10.1002/anie.202311928.

Radical-Mediated Graphene Nanoribbon Synthesis

Significance: The precise syntheses of graphene nanoribbons (GNRs) warrant more concise and efficient strategies. In this report, radical coupling is demonstrated to be an effective approach to stitching C–C bonds between aromatic fragments and extending the GNR frameworks.

Comment: Both intra- and intermolecular C–C coupling of in situ generated radicals are shown viable with the developed method for accomplishing aromatic annulation, while the intermolecular reaction may give rise to regioisomers due to π -conjugated spin delocalization.

Category

Synthesis of Materials and Unnatural Products

Key words

graphene nanoribbons

pyrenacenes

C-C coupling

radical coupling



SYNFACTS Contributors: Dahui Zhao, Zhizhe Liu Synfacts 2024, 20(01), 0023 Published online: 08.12.2023 **DOI:** 10.1055/s-0043-1772909; **Reg-No.:** S00124SF