Cascade Cycloadditions for the Synthesis of Perylenes

Significance: Perylene derivatives were prepared by cascade [4+2] cycloadditions between 1,8-difurylnaphthalene and arynes. The double Diels–Alder reaction proceeds in a highly stereoselective fashion and only the exo,exo-diastereomer \(3a-c\) is formed as confirmed by X-ray crystallographic studies.

Comment: The synthetic method allows facile preparation of extended perylenes, which are potential molecular electronic materials. Further study on substituted derivatives with better solubility and stability is desirable.

SYNFACTS Contributors: Timothy M. Swager, Shuang Liu

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