

Cascade Cycloadditions for the Synthesis of Perylenes

Category

Synthesis of Materials and Unnatural Products

Key words

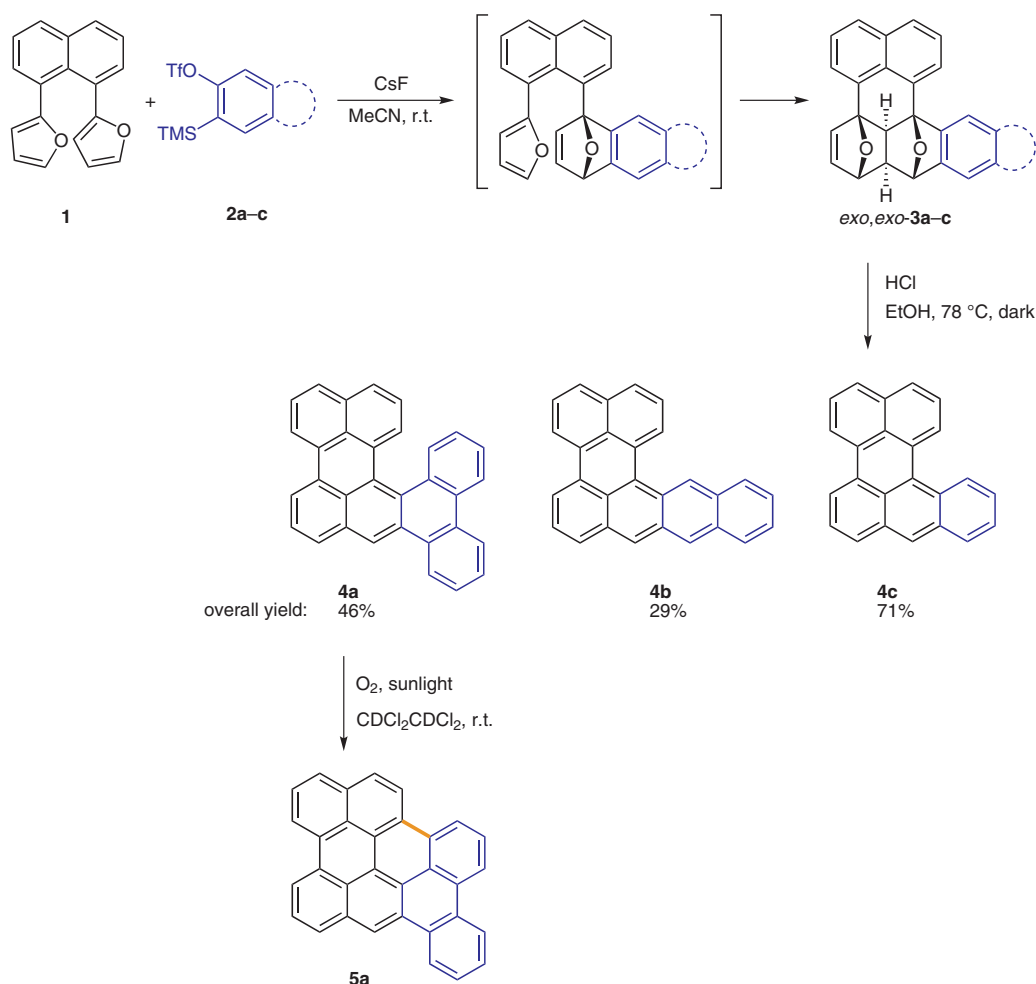
Diels–Alder cycloaddition

domino reaction

polycyclic aromatic hydrocarbons

perylenes

SYNFACT
of the month



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.