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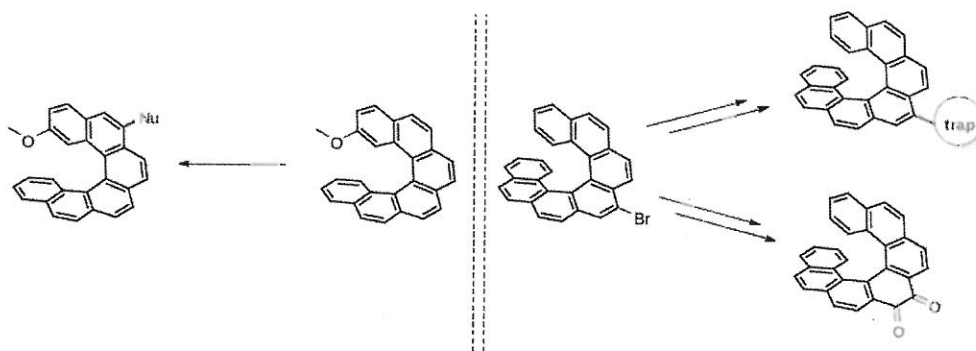
Photochemical Derivatization of Helicenes

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Helicenes are a class of polycyclic aromatic compounds that have been increasingly studied over the past years. Their chirality, extended π -system and other intriguing characteristics make them worth exploiting in various fields of chemistry and material science¹.

One of the main challenges yet to overcome in helicene chemistry is difficult introduction of complex structural features into specific positions of the molecule. Although there have been some examples of functionalization of helicenes in recent literature², most helicenes are still produced from pre-functionalized starting materials³, which makes derivatization and fine-tuning of properties more difficult. Introduction of functional groups at late stages of synthesis remains attractive, but rather underdeveloped due to the lack of regioselectivity⁴ and a limited number of practically useful procedures providing helicenes on a larger scale.

In an effort to overcome these obstacles, new late-stage derivatization methodology using modern photochemical methods will be presented, with emphasis on the use of very simple and readily available helicenes, such as 2-bromo[6]helicene, 9-bromo[7]helicene and 2-methoxy[6]helicene.



Scheme 1: Photochemical derivatization of helicenes.

References

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