



národní
úložiště
šedé
literatury

Design and Synthesis of Helicene like Molecules

Bernard, Martin
2011

Dostupný z <http://www.nusl.cz/ntk/nusl-111538>

Dílo je chráněno podle autorského zákona č. 121/2000 Sb.

Tento dokument byl stažen z Národního úložiště šedé literatury (NUŠL).

Datum stažení: 27.07.2024

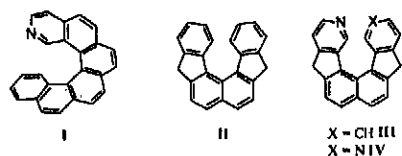
Další dokumenty můžete najít prostřednictvím vyhledávacího rozhraní [nusl.cz](http://www.nusl.cz) .

DESIGN AND SYNTHESIS OF HELICENE LIKE MOLECULES

Martin Bernard, Jan Sýkora, Jan Storch

Institute of Chemical Process Fundamentals of the ASCR, v. v. i., Rozvojova 2/135, CZ-165 02 Prague 6 – Suchbát, Czech Republic

Azahelicenes I are unique inherently chiral three-dimensional aromatic compounds with high potential in homogenous asymmetric catalysis [1]. Their synthesis has many drawbacks and cannot be done in multigram scale so far [2, 3]. Recently, we have developed a route to new type of helicene-like molecules II. Multigram-scale synthesis of model compound where two benzene rings in [6]helicene skeleton are replaced by cyclopentadiene rings was accomplished in five steps. Such molecules have helical structure similar to helicenes, however, lower racemization barrier. Appropriately modified aza-analogues III, IV could be suitable catalysts for asymmetric reactions. Therefore, our synthetic approach leading to these compounds will be discussed.



We appreciate the financial support from the Grant Agency of the Czech Republic (Grant No. P207/10/1124) and the Technology Agency of the Czech Republic (Grant No. TA01010646).

¹ Takenaka, N.; Sarangthem, R. S.; Captain, B. *Angew. Chem., Int. Ed. Engl.* **2008**, *47*, 9708–9710.

² Storch, J.; Čermák, J.; Karban, J.; Císařová, I.; Sýkora, J. *J. Org. Chem.* **2010**, *75*, 3137–3140.

³ Míšek, J.; Těplý, F.; Stará, I. G.; Tichý, M.; Šaman, D.; Císařová, I.; Vojtíšek, P.; Starý, I. *Angew. Chem., Int. Ed. Engl.* **2008**, *47*, 3188–3191.