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2011

P04

DESIGN AND SYNTHESIS OF HELICENE LIKE MOLECULES

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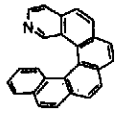
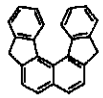
Azahelicenes **I** are unique inherently chiral three-dimensional aromatic compounds with high potential in homogenous assymetric catalysis [1]. Their synthesis has many drawbacks and cannot be done in multigram scale so far [2, 3]. Recently, we have developed a route to new type of helicene-like molecules **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.



I



II

X = CH III
X = N IV

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).

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