SULFOXIDE CONTROLLED SUZUKI C–C COUPLING FOR THE SYNTHESIS OF CYCLOPHANE TYPE AXIALLY CHIRAL BIARYLS

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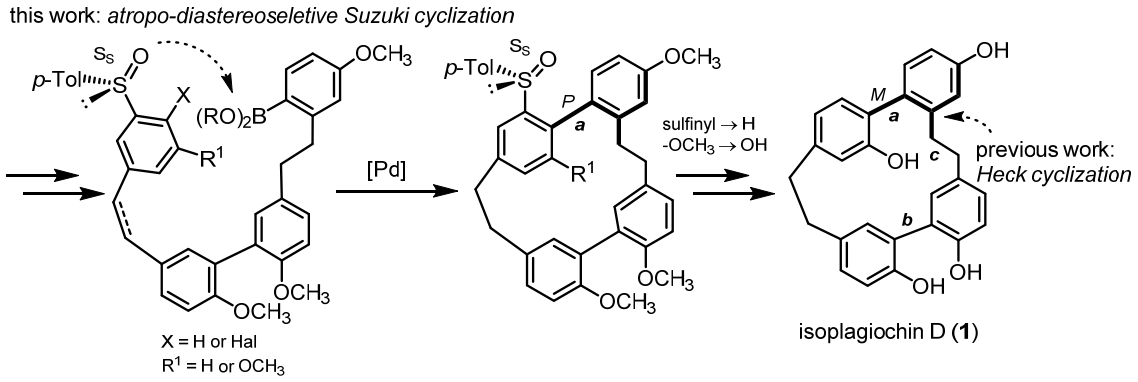
Isoplagiochins D (**1**) as a representative of so called cyclic bis(bibenzyls) – originally isolated from liverworts and exhibiting interesting pharmacological properties [1] – is challenging from a structural as well as from a synthetic point of view [2]. Namely, important with respect to especially enantioselective synthesis is the fact that the biaryl axis ***a*** is configurationally stable only in case of the entire cyclic framework whereas ***b*** is more flexible [3]. Our first attempts on atroposelective syntheses of **1** focused on Heck type cyclization forming the ethylene bridge ***c*** [4]. Regarding our introductive results on sulfoxide-controlled diastereoselective Suzuki coupling en route to this type of compounds [5], we now report on atroposelective syntheses through sulfinyl-controlled diastereoselective intramolecular Suzuki reaction as the ring closing step.



Different approaches – with or without *o*-methoxy group, C–H–activation – can overcome steric hindrance and can give rise to both enantiomers of **1** through complementary exchange procedures for the sulfinyl auxiliary.

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