Radical-Mediated Enantioselective Hydroazidation of Alkenes

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The formation of carbon-nitrogen bonds using organic azides as radical traps has attracted the attention of many different research groups. We recently described a radical procedure for the anti-Markovnikov hydroazidation using catecholborane as hydroboration agent followed by reaction with benzenesulfonyl azide as radical trap.[1] We developed now an enantioselective type of this reaction using isopinocampheylborane as chiral hydroboration agent.[2] This four-step-one-pot procedure includes the further conversion of the chiral alkylborane into the diethyl boronic ester,[3] transesterification to the alkylcatecholborane and final radical azidation.

In order to demonstrate the utility of the method, the first enantioselective synthesis of (+)-rodocaine was achieved.