Efficient synthesis of (2*R*, 3*R*)- and (2*S*, 3*S*)-2,3-diaminobutane-1,4-diol and their dibenzyl ethers

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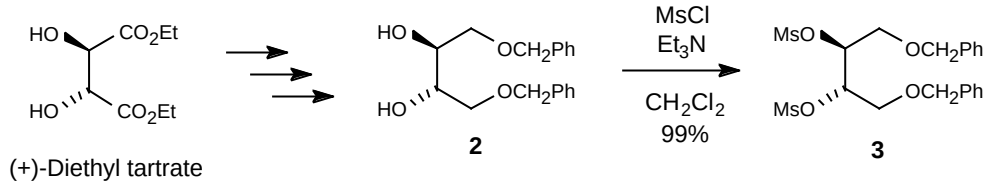
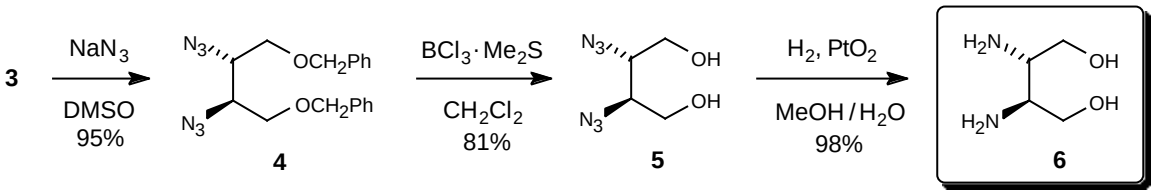
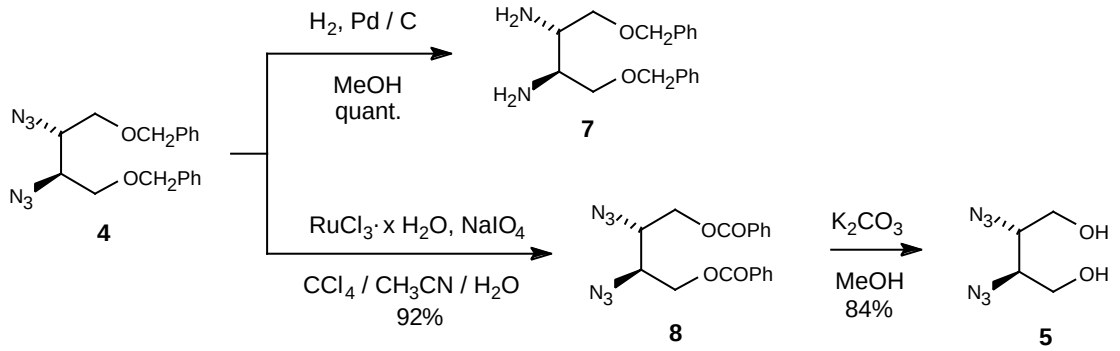
Synthesis:

The enantiomer of **6** was already synthesized starting from D-mannitol for the preparation of analogs of cis-platin antitumor agents. In our synthesis, tartaric acid is the chiral precursor:





Synthesis of the dibenzyl ether and of the dibenzoate of **6**:



Starting from (-)-diethyl tartrate, the enantiomeric series of all these compounds was also obtained.

The optical purity was checked by diesterification of **5** and its (2*S*, 3*S*)-enantiomer by (*S*)-α-methoxyphenylacetic acid. Distinct diasteroisomeric diesters were obtained.

Application:

Diamine **7** has been converted into ligands and transition metal complexes for asymmetric catalysis.