

# ***trans*-4-Amino-3-hydroxypiperidines. Regio- and Stereoselective Synthesis**

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**Abstract**—*trans*-4-Amino-1-benzyl-3-hydroxypiperidines were synthesized by regio- and stereoselective amination of a series of 1-benzyl-3,4-epoxypiperidines with primary and secondary aliphatic, aromatic, and heterocyclic amines in the presence of lithium perchlorate. The regio- and stereoselectivity of the amination process is ensured by specific activation of the oxirane ring in epoxypiperidine derivatives. Lithium cation is coordinated simultaneously at the piperidine nitrogen atom and oxirane oxygen atom, which leads to greater extension of the C<sup>4</sup>–O bond as compared to C<sup>3</sup>–O, so that nucleophilic attack is directed at the C<sup>4</sup> atom of the piperidine ring.

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