Archimica

Chiral Toolbox

Aromatic and Aliphatic Chiral Epoxides With Very High Enantiomeric Purity

In a further effort to expand the potential and range of chiral chemistry, Archimica has recently developed a highly efficient, cutting edge technology for obtaining enantiomerically pure epoxides in high yields.

Valuable Building Blocks

Chiral epoxides are valuable building blocks in organic synthesis and have already been introduced into several industrial, especially pharmaceutical, applications (e.g. synthesis of antitumor, antihypertensive, antibiotic, antidepressant and anti-HIV drugs[1-7]).

Chiral epoxides are instrumental in opening up convenient ways to structural diversity and – with the increasing demand for enantiomerically pure pharmaceuticals – play an ever more important role in pharmaceutical manufacture.

Additionally, chiral epoxides are also used in the synthesis of agrochemicals, flavors, fragrances, optically active polymers, and chiral catalysts[9].

Convenient Access Via Innovative Technology

Archimica's new technology features an enzymatic reduction starting from substituted aromatic and aliphatic ketones in a process that can make both enantiomers of epoxides available. It is essentially a 'one pot' procedure operating under very mild conditions, so that functional groups considered 'difficult' can also be handled.

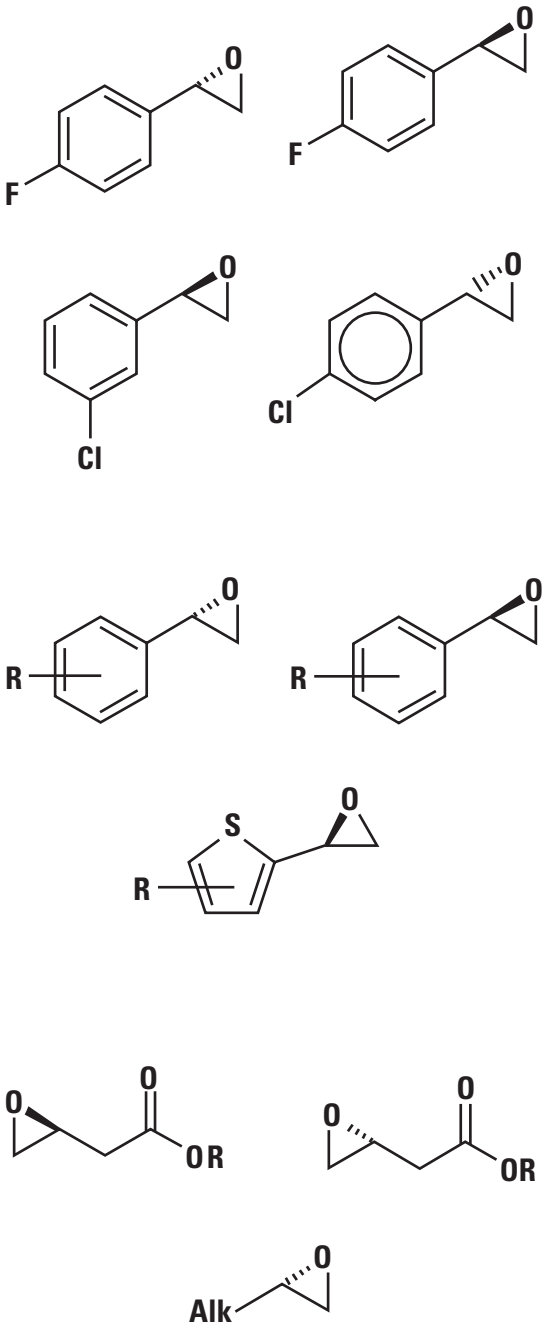
High Purity on Commercial Scale

Yields from this very economical process are virtually quantitative with enantiomeric excess (ee) and purity above 99%. Archimica can isolate these very reactive intermediates with high performance distillation equipment (up to 100 theoretical plates), crystallization and a variety of other purification methods to achieve even higher product purity.

Structural Diversity

This brochure just lists a few typical examples of aromatic and aliphatic chiral epoxides accessible via Archimica's technology. Please inquire for similar or any tailor-made building blocks.

Archimica's new technology for the production of chiral epoxides has been proven on commercial scale.



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For additional information and/or samples, please contact our regional sales office.
Regional contacts are given at **www.archimica.com**

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