

## **SEPARATION OF ENANTIOMERS ON NOVEL CHIRAL CYCLIC SULFOXIDES IN HIGH-PERFORMANCE LIQUID CHROMATOGRAPHY USING POLYSACCHARIDE-BASED CHIRAL COLUMNS**

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The goal of our study was separation of enantiomers of novel chiral cyclic sulfoxides in high-performance liquid chromatography. Cellulose-based chiral columns were used in combination with acetonitrile and aqueous-acetonitrile as mobile phases. In order to study separation of enantiomers and detect possible reversal of enantiomer elution order based on mobile phase or structure of a chiral selector the study was planned in the following way:

- 1) Separation of enantiomers of nonracemic (spiked) samples on different chiral columns and with different mobile phases.
- 2) Optimization of mobile phases by addition of various amount of water to acetonitrile.

Based on the obtained results we could determine which chiral selector is most suitable for separation of enantiomers of novel chiral sulfoxides under present study. Specifically, Lux Cellulose-4 with cellulose tris(4-chloro-3-methylphenylcarbamate) as a chiral selector appeared to be the most successful chiral selector. Lux Cellulose-3 with cellulose tris(4-methylbenzoate) as a chiral selector exhibited very limited chiral recognition ability. This indicates the importance of having hydrogen bonding-donor functionality in the structure of a chiral selector as a key structural element for chiral recognition ability towards this specific group of chiral analytes.