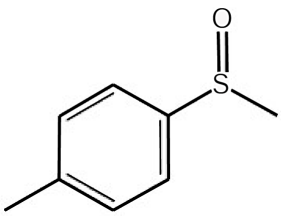
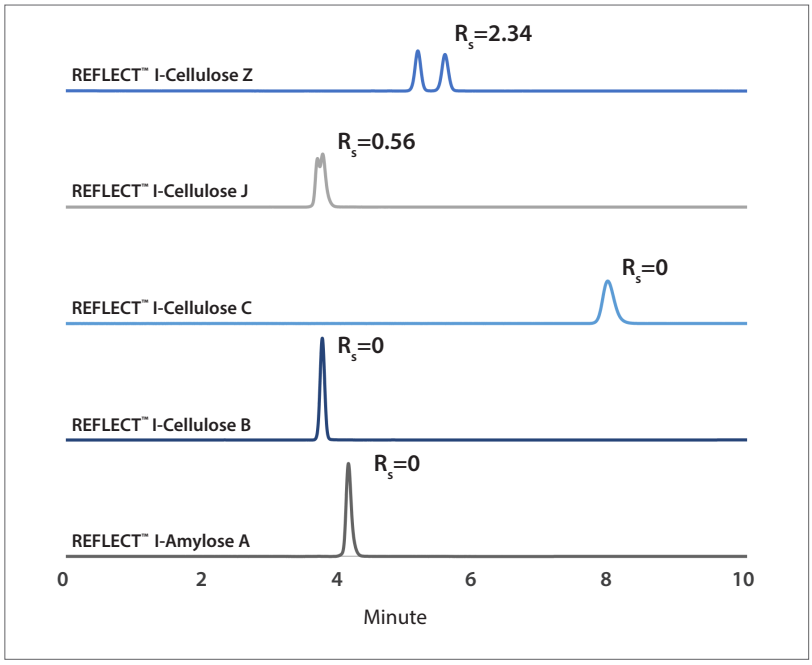
Separation of Methyl p-tolyl Sulfoxide Enantiomers Using a REFLECT™ I-Cellulose Z Column

Since there is no universal chiral stationary phase (CSP), compounds are typically screened on a variety of CSPs in order to find the one that gives the best separation. Sometimes, more than one column provides adequate resolution, but in many cases only one column will provide acceptable resolution of the enantiomers. For this work, methyl p-tolyl sulfoxide was screened on five different REFLECT™ phases for the purpose of finding the column that provided the best separation. The three CSPs that typically have the highest number of "hits", REFLECT™ I-Amylose A, REFLECT™ I-Cellulose B, and REFLECT™ I-Cellulose C, failed to provide any separation. A small amount of resolution (R_s=0.56) was observed with the REFLECT™ I-Cellulose J column, and very good resolution (R_s=2.34) was obtained with the REFLECT™ I-Cellulose Z column. In this case, REFLECT™ I-Cellulose Z was the only column to provide adequate resolution and further supports the need to have a diverse set of CSPs that provide complementary selectivity so that a broad range of compounds can be successfully separated.



methyl p-tolyl sulfoxide

Test Conditions	
Columns	Various REFLECT™ Immobilized Columns
Dimensions	250 x 4.6 mm, 5 µm
Mobile Phase	(80/20) Hexane/Ethanol
Flow Rate	1.5 mL/min
Detection	UV 254 nm



Columns Used in This Application

Column	Dimensions	Particle Size	Catalog Number
REFLECT™ I-Amylose A	250 x 4.6 mm	5 µm	1-591204-300
REFLECT™ I-Cellulose B	250 x 4.6 mm	5 µm	1-592204-300
REFLECT™ I-Cellulose C	250 x 4.6 mm	5 µm	1-593204-300
REFLECT™ I-Cellulose J	250 x 4.6 mm	5 µm	1-594204-300
REFLECT™ I-Cellulose Z	250 x 4.6 mm	5 µm	1-595204-300

For more information about REFLECT™ polysaccharide chiral columns, visit registech.com/reflect or email a REGIS Chromatography Sales Representative at chromsales@registech.com for additional information or for a personalized quote.