

APPLICATIONS

Chiral Separation of Epoxiconazole with a Lux[®] i-Amylose-3 Chiral Stationary Phase by HPLC under Reversed Phase Mobile Phase Conditions

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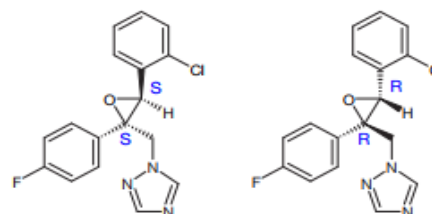
Overview

In this application note, a chiral screening mobile phase conditions was used in conjunction with the Lux i-Amylose-3 immobilized polysaccharide-based chiral stationary phase to separate the two enantiomers of Epoxiconazole. Epoxiconazole is a chiral fungicide with broad pathogen applicability in various crop species. The agricultural use of Epoxiconazole has driven the interest in the development of an efficient and fast HPLC method that is able to enantiomerically resolve the compound. A general screening reversed phase mobile phase conditions of Water with 5 mM Ammonium Acetate with 0.05 % Formic acid/Acetonitrile (35:65) was used. An Agilent[®] 1100 (Santa Clara, CA) HPLC system, with an injection volume of 10 μ L and a flow rate of 1.0 mL/min was used for this example and resulted in a selectivity factor of $\alpha = 1.33$. The Lux i-Amylose-3 chiral selector is a complementary but distinct chiral selectivity in comparison to i-Amylose-1 and i-Cellulose-5. It combines the 5-position methyl group of the i-Amylose-3 chiral selector with electron-withdrawing potential of the i-Cellulose-5, 3-position chlorine group. Combined with the strong solvent flexibility of the immobilization process the Lux i-Amylose-3 column's broad enantioselectivity promotes greater chiral separation success.

LC Conditions

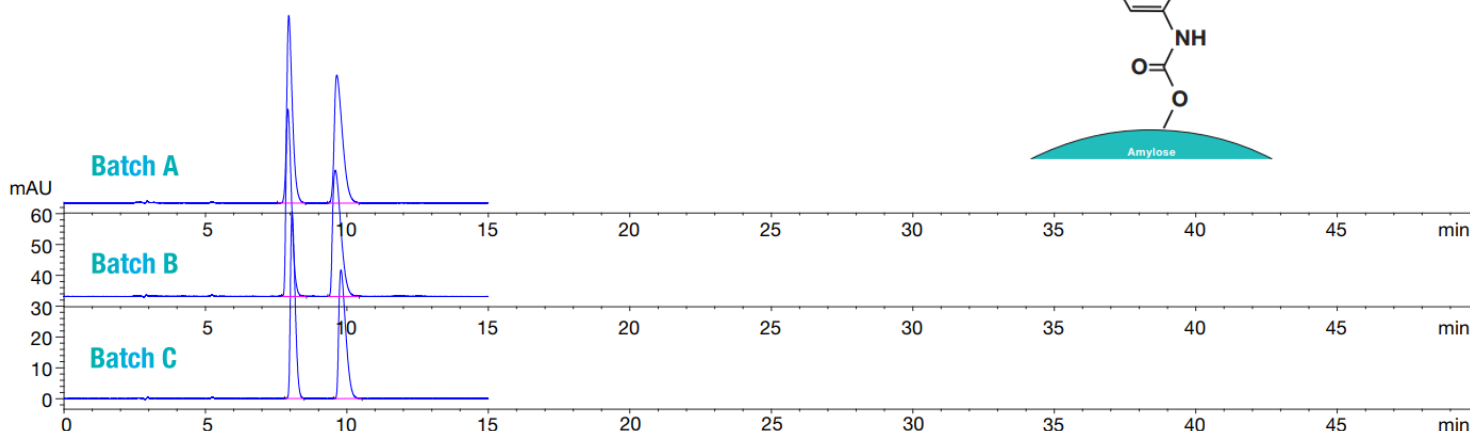
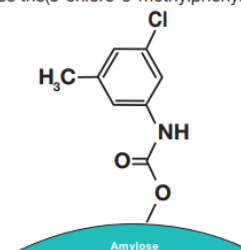
- Column:** Lux 5 μ m i-Amylose-3
- Dimensions:** 250 x 4.6 mm
- Part No.:** [00G-4779-E0](#)
- Recommended Guard:** SecurityGuard[™]
- Guard Holder Part No.:** [KJ0-4282](#)
- Guard Cartridge Part No.:** [AJ0-8650](#)
- Mobile Phase:** Water with 5 mM Ammonium Acetate + 0.05 % Formic Acid/Acetonitrile (35:65)
- Flow Rate:** 1.0 mL/min
- Injection Volume:** 10 μ L (2 mg/mL)
- Detection:** UV-Vis @ 254 nm
- Sample:** 1. Epoxiconazole
2. Epoxiconazole

Enantiomers of Epoxiconazole



Lux i-Amylose-3


Amylose tris(3-chloro-5-methylphenylcarbamate)



APPLICATIONS

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CAUTION: this patent only applies to the analytical-sized guard cartridge holder, and does not apply to SemiPrep, PREP or ULTRA holders, or to any cartridges.

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