

APPLICATIONS

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

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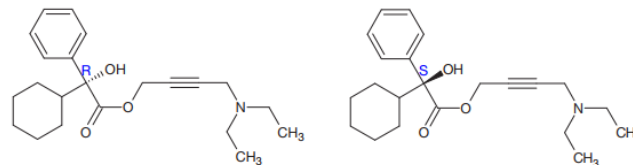
Overview

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 a racemic mixture of Oxybutynin. Oxybutynin is an organic molecule used to treat overactive bladder syndrome because of its antispasmodic and anticholinergic effect on smooth muscle tissue. The therapeutic use of Oxybutynin has led to an increased interest in the development of an efficient and fast HPLC method that are able to enantiomerically resolve the compound. A general screening normal phase mobile phase convention was used and was comprised of Hexane/Isopropanol with 0.1 % Diethylamine (80:20). An Agilent[®] 1100 (Santa Clara, CA) HPLC system, with an injection volume of 10 μ L and a flow rate of 0.6 mL/min was used for this example and resulted in a selectivity factor of $\alpha = 1.28$. 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

LC Conditions

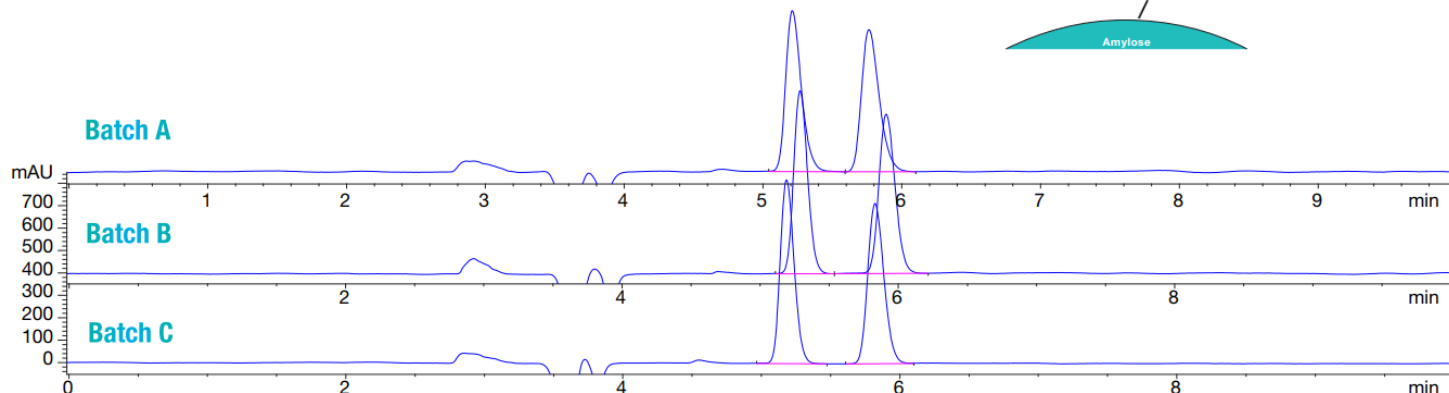
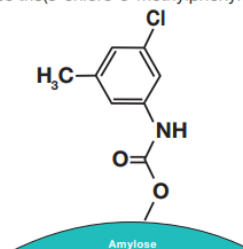
- Column:** Lux 5 μ m i-Amylose-3
- Dimensions:** 250 x 4.6 mm
- Part No.:** [00G-4779-E0](#)
- Recommended Guard:** SecurityGuard[™]
- Guard Holder Part No.:** [KJ0-4282](#)
- Guard Cartridge Part No.:** [AJ0-8650](#)
- Mobile Phase:** Hexane/Isopropanol with 0.1 % Diethylamine (80:20)
- Flow Rate:** 1.0 mL/min
- Injection Volume:** 10 μ L (2 mg/mL)
- Detection:** UV-Vis @ 220 nm
- Sample:**
 1. Oxybutynin
 2. Oxybutynin

Enantiomers of Oxybutynin



Lux i-Amylose-3

Amylose tris(3-chloro-5-methylphenylcarbamate)



APPLICATIONS

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SecurityGuard is patented by Phenomenex. U.S. Patent No. 6,162,362

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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