

APPLICATIONS

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

James Hseu, J Preston, and Ryan Splitstone
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

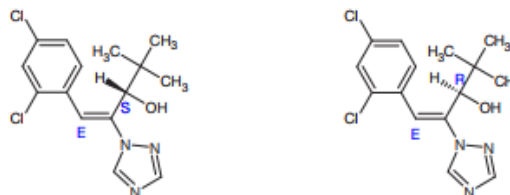
Overview

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 enantiomers of Diniconazole. Diniconazole is a chiral pesticide and its enantiomer is used in plant pathology. The agricultural use of Diniconazole 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 µL, and a flow rate of 1.0 mL/min was used for this example and resulted in a selectivity factor of $\alpha = 1.41$. The Luxi-Amylose-3 chiral selector is a complementary but distinct chiral selectivity in comparison to i-Amylose-1 and iCellulose-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.

LC Conditions

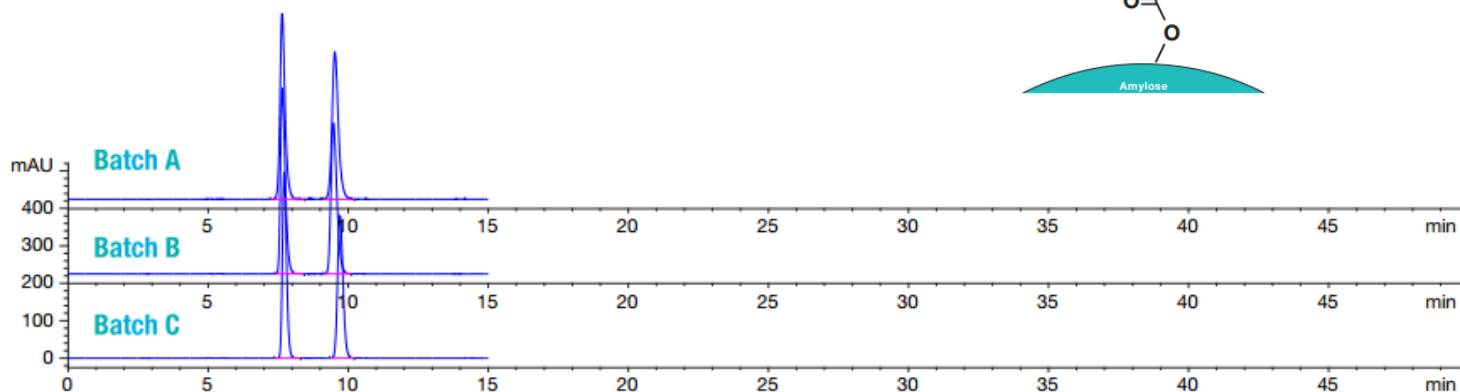
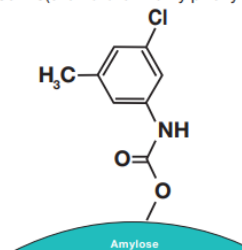
- Column:** Lux 5 µm i-Amylose-3
- Dimensions:** 250 x 4.6 mm
- Part No.:** [00G-4779-E0](#)
- Recommended Guard:** SecurityGuard™
- Guard Holder Part No.:** [KJ0-4282](#)
- Guard Cartridge Part No.:** [AJ0-8650](#)
- Mobile Phase:** Water with 5 mM Ammonium Acetate + 0.05 % Formic Acid/Acetonitrile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

Enantiomers of Diniconazole



Lux i-Amylose-3

Amylose tris(3-chloro-5-methylphenylcarbamate)



APPLICATIONS

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Australia

t: +61 (0)2-9428-6444
auiinfo@phenomenex.com

Austria

t: +43 (0)1-319-1301
anfrage@phenomenex.com

Belgium

t: +32 (0)2 503 4015 (French)
t: +32 (0)2 511 8666 (Dutch)
beinfo@phenomenex.com

Canada

t: +1 (800) 543-3681
info@phenomenex.com

China

t: +86 400-606-8099
cninfo@phenomenex.com

Denmark

t: +45 4824 8048
nordicinfo@phenomenex.com

Finland

t: +358 (0)9 4789 0063
nordicinfo@phenomenex.com

France

t: +33 (0)1 30 09 21 10
franceinfo@phenomenex.com

Germany

t: +49 (0)6021-58830-0
anfrage@phenomenex.com

India

t: +91 (0)40-3012 2400
indiainfo@phenomenex.com

Ireland

t: +353 (0)1 247 5405
eirinfo@phenomenex.com

Italy

t: +39 051 6327511
italiainfo@phenomenex.com

Luxembourg

t: +31 (0)30-2418700
nlinfo@phenomenex.com

Mexico

t: 01-800-844-5226
tecnicomx@phenomenex.com

The Netherlands

t: +31 (0)30-2418700
nlinfo@phenomenex.com

New Zealand

t: +64 (0)9-4780951
nzinfo@phenomenex.com

Norway

t: +47 810 02 005
nordicinfo@phenomenex.com

Portugal

t: +351 221 450 488
ptinfo@phenomenex.com

Singapore

t: +65 800-852-3944
sginfo@phenomenex.com

Spain

t: +34 91-413-8613
espinfo@phenomenex.com

Sweden

t: +46 (0)8 611 6950
nordicinfo@phenomenex.com

Switzerland

t: +41 (0)61 692 20 20
swissinfo@phenomenex.com

Taiwan

t: +886 (0) 0801-49-1246
twinfo@phenomenex.com

United Kingdom

t: +44 (0)1625-501367
ukinfo@phenomenex.com

USA

t: +1 (310) 212-0555
info@phenomenex.com

All other countries Corporate Office USA

t: +1 (310) 212-0555
info@phenomenex.com

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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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