

APPLICATIONS

Chiral SFC Separation of Metalaxyl using a Lux[®] 3 μ m i-Amylose-1 Column

Abraham Becerra, J Preston, and Marc Jacob
Phenomenex, Inc., 411 Madrid Ave., Torrance, CA 90501 USA

Overview

Metalaxyl, a systemic agricultural fungicide, is commonly used to control the parasite *Pythium* in a diverse group of vegetable crops. It spreads to plant tissue through the sap, and penetrates the fungal cell to selectively interfere with DNA synthesis, inhibit mycelium growth, and prevent spore germination. Metalaxyl was first registered in the United States in 1979. Today, metalaxyl-based formulations and mixtures are used to regulate and maintain over a hundred different types of crop, including potato, tomato, and tobacco to name a few. Because of this compound's agricultural significance, it is important to have an enantioselective form of analysis to aid in the detection of impurities. A simple and robust SFC method was developed for the identification of each Metalaxyl stereoisomer using a Lux i-Amylose-1 chiral column.

Figure 1.
Chemical structure of Metalaxyl.

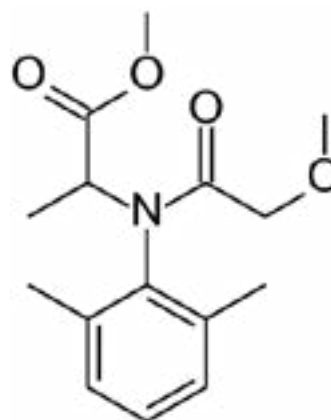
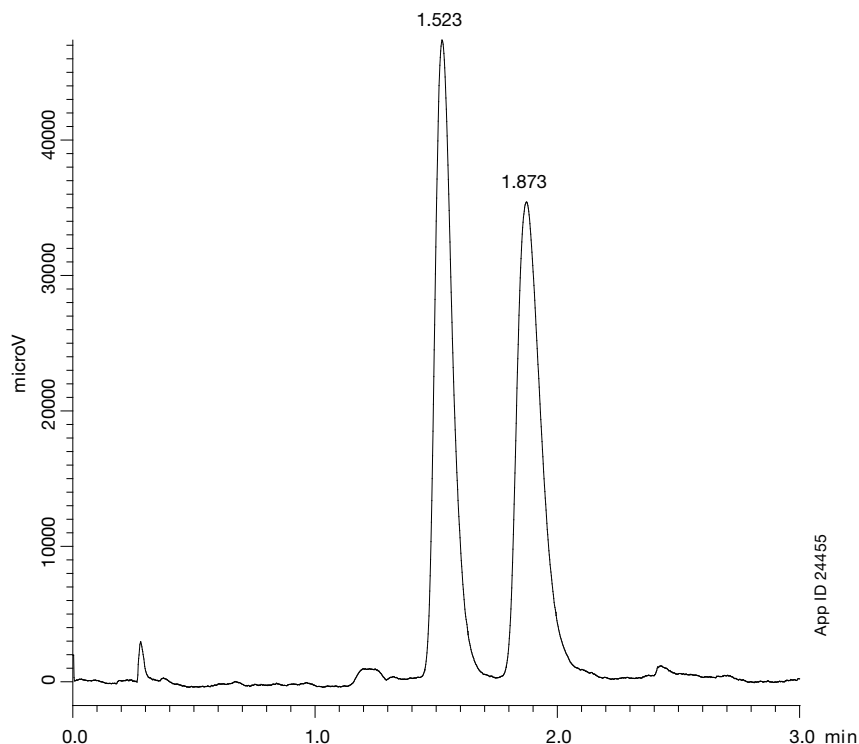


Figure 2.
Representative chromatogram of the separation of Metalaxyl enantiomers.



HPLC Conditions

Column: Lux 3 μ m i-Amylose-1
Dimensions: 150 x 3.0 mm
Part No: 00F-4761-Y0
Mobile Phase: CO₂/Methanol (97:3)
Flow Rate: 4 mL/min
Temperature: 40 °C
Detection: UV @ 220 nm
Sample: Metalaxyl



APPLICATIONS

Lux[®] Chiral Column Ordering Information

3 µm Minibore, MidBore [™] , and Analytical Columns (mm)									SecurityGuard [™] Cartridges (mm) 10/pk	
Phases	50 x 2.0	150 x 2.0	100 x 3.0	150 x 3.0	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 2.0*	4 x 3.0*
i-Amylose-1	00B-4761-B0	00F-4761-B0	00D-4761-Y0	00F-4761-Y0	00B-4761-E0	00D-4761-E0	00F-4761-E0	00G-4761-E0	AJ0-8640	AJ0-8641
									for ID: 2.0–3.0 mm	3.2–8.0 mm

5 µm Minibore and Analytical Columns (mm)					SecurityGuard [™] Cartridges (mm) 10/pk	
Phases	50 x 4.6	100 x 4.6	150 x 4.6	250 x 4.6	4 x 2.0*	4 x 3.0*
i-Amylose-1	00B-4762-E0	00D-4762-E0	00F-4762-E0	00G-4762-E0	AJ0-8640	AJ0-8641
					for ID: 2.0–3.0 mm	3.2–8.0 mm

5 µm Semi-Prep Columns (mm)		SecurityGuard [™] Cartridges (mm) 3/pk
Phases	250 x 10.0	10 x 10.0†
i-Amylose-1	00G-4762-N0	AJ0-8642
	for ID:	9–16 mm

- * SecurityGuard Analytical Cartridges require holder, Part No.: KJ0-4282
- † Semi-Prep SecurityGuard Cartridges require holder, Part No.: AJ0-9281
- ** HPLC PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8223
- SFC PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8617
- ◆ HPLC PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8277
- SFC PREP SecurityGuard Cartridges require holder, Part No.: AJ0-8618

5 µm Axia [™] Packed Preparative Columns (mm)					SecurityGuard [™] Cartridges (mm) ea	
Phases	150 x 21.2	250 x 21.2	250 x 30	250 x 50	15 x 21.2**	15 x 30.0*
i-Amylose-1	00F-4762-P0-AX	00G-4762-P0-AX	00G-4762-U0-AX	00G-4762-V0-AX	AJ0-8634	AJ0-8635
					for ID: 18–29 mm	30–49 mm



If Lux analytical columns (≤ 4.6 mm ID) do not provide at least an equivalent or better chiral separation as compared to a competing column of the same particle size, similar phase and dimensions, return the column with comparative data within 45 days for a FULL REFUND.

Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions which may be viewed at www.phenomenex.com/TermsAndConditions.

Trademarks

Lux is a registered trademark, Axia, MidBore, and SecurityGuard are trademarks of Phenomenex.

Disclaimer

Comparative separations may not be representative of all applications.

Axia column and packing technology is patented by Phenomenex. U.S. Patent No. 7, 674, 383.

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.

© 2017 Phenomenex, Inc. All rights reserved.

Australia
t: +61 (0)2-9428-6444
f: +61 (0)2-9428-6445
auinfo@phenomenex.com

Austria
t: +43 (0)1-319-1301
f: +43 (0)1-319-1300
anfrage@phenomenex.com

Belgium
t: +32 (0)2 503 4015 (French)
f: +32 (0)2 511 8666 (Dutch)
f: +31 (0)30-2383749
beinfo@phenomenex.com

Canada
t: +1 (800) 543-3681
f: +1 (310) 328-7768
info@phenomenex.com

China
t: +86 400-606-8099
f: +86 (0)22 2532-1033
phen@agela.com

Denmark
t: +45 4824 8048
f: +45 4810 6265
nordicinfo@phenomenex.com

Finland
t: +358 (0)9 4789 0063
f: +45 4810 6265
nordicinfo@phenomenex.com

France
t: +33 (0)1 30 09 21 10
f: +33 (0)1 30 09 21 11
franceinfo@phenomenex.com

Germany
t: +49 (0)6021-58830-0
f: +49 (0)6021-58830-11
anfrage@phenomenex.com

India
t: +91 (0)40-3012 2400
f: +91 (0)40-3012 2411
indiainfo@phenomenex.com

Ireland
t: +353 (0)1 247 5405
f: +44 1625-501796
eireinfo@phenomenex.com

Italy
t: +39 051 6327511
f: +39 051 6327555
italiainfo@phenomenex.com

Luxembourg
t: +31 (0)30-2418700
f: +31 (0)30-2383749
nlinfo@phenomenex.com

Mexico
t: 01-800-844-5226
f: 001-310-328-7768
tecnicomx@phenomenex.com

The Netherlands
t: +31 (0)30-2418700
f: +31 (0)30-2383749
nlinfo@phenomenex.com

New Zealand
t: +64 (0)9-4780951
f: +64 (0)9-4780952
nzinfo@phenomenex.com

Norway
t: +47 810 02 005
f: +45 4810 6265
nordicinfo@phenomenex.com

Puerto Rico
t: +1 (800) 541-HPLC
f: +1 (310) 328-7768
info@phenomenex.com

Spain
t: +34 91-413-8613
f: +34 91-413-2290
esinfo@phenomenex.com

Sweden
t: +46 (0)8 611 6950
f: +45 4810 6265
nordicinfo@phenomenex.com

United Kingdom
t: +44 (0)1625-501367
f: +44 (0)1625-501796
ukinfo@phenomenex.com

USA
t: +1 (310) 212-0555
f: +1 (310) 328-7768
info@phenomenex.com

All other countries
Corporate Office USA
t: +1 (310) 212-0555
f: +1 (310) 328-7768
info@phenomenex.com

www.phenomenex.com

Phenomenex products are available worldwide. For the distributor in your country, contact Phenomenex USA, International Department at international@phenomenex.com