

Solid Phase Extraction of Prothiophos Prothiofos Oxon - Analysis using GC/MS

Prothiofos Oxone, a metabolite of prothiophos described in Appendix Method 25 and was added as a target analyte in the Notification dated March 28, 2018 and enforced April 1, 2018.

Analytical methods are the same as before, and solid-phase extraction using a reversed-phase solid-phase method is used for determination by GC/MS.

Example of Measurement Flow (Appendix Method 25)

Example of analytical conditions for GC/MS

Conditioning

- 5 mL Dichloromethane
- 5 mL Methanol
- 5 mL Purified water

Sample 500 mL

- Adjust to pH 3 with 1 mol/L hydrochloric acid
- 10 mL/min

InertSep PLS-3

Dehydration

- Nitrogen purge + Aspiration for 40 min.

Elution

- 5 mL Dichloromethane

Concentration

- 0.9 mL under a stream of nitrogen
- Add 100 µL of internal standard solution

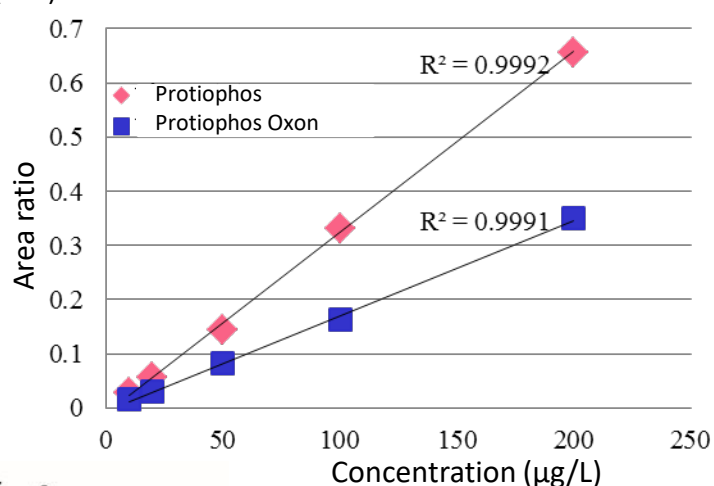
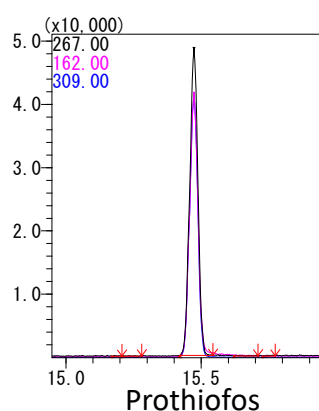
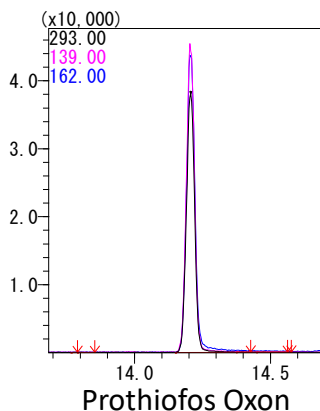
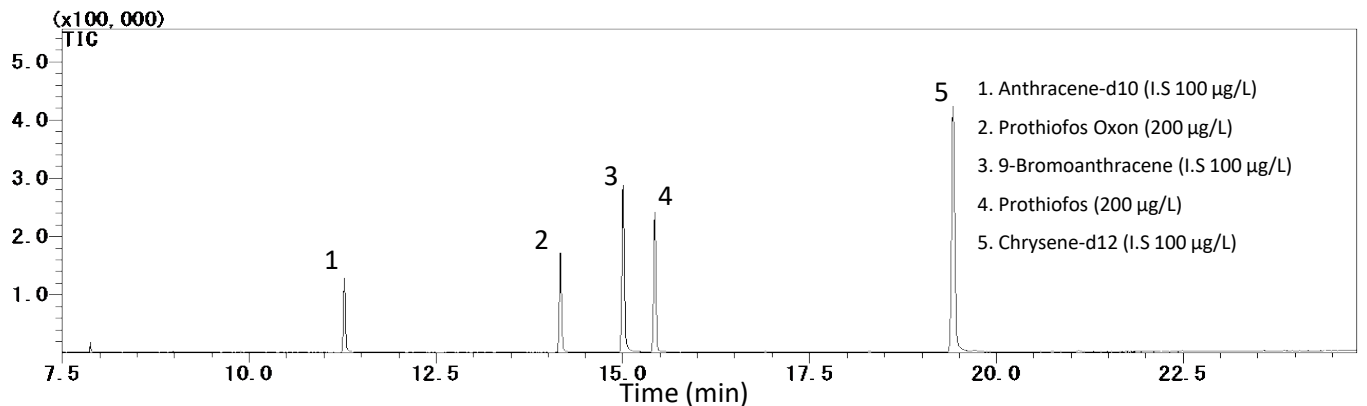
Dilution

- 1 mL with dichloromethane

GC/MS

System	: GC-MS
Column	: InertCap 5MS/NP 0.25 mm I.D. x 30 m df = 0.25 µm
Col. Temp.	: 50 °C (1 min hold) - 20 °C/min - 200 °C - 5 °C/min - 300 °C (1 min hold)
Carrier Gas	: He 1.2 mL/min
Injection	: Splitless 250 °C
Liner	: Splitless liners
Detection	: MS SIM Interface Temp. 280 °C
Sample Size	: 0.2 µg/mL in Dichloromethane
Inj. Vol.	: 2 µL

e.g. chromatograms (0.2 µg/mL of mixed standard)



2. Related products

<GC/MS-related products>

Analytical capillary column



Column name (Liquid phase)	Internal diameter (mm)	Length (m)	Film thickness (μm)	Maximum operating temperature ($^{\circ}\text{C}$)	Cat.No.
InertCap 5MS/NP	0.25	30	0.25	Iso.325-prog.350	1010-18642

<Products for Solid Phase Extraction>

Solid-phase extraction columns



Product name	Size	Qty.	Cat.No.
InertSep SlimJ PLS-3	230 mg	50 bottles	5010-25200
		500 bottles	5010-25205

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GL Sciences, Inc. Japan

22-1 Nishishinjuku 6-Chome
Shinjuku-ku, Tokyo,
163-1130, Japan
Phone: +81-3-5323-6620
Fax: +81-3-5323-6621
Email: world@glsciences.com
Web: www.glsciences.com

GL Sciences B.V.

De Sleutel 9
5652 AS Eindhoven
The Netherlands
Phone: +31 (0)40 254 95 31
Email: info@glsciences.eu
Web: www.glsciences.eu

GL Sciences (ShangHai) Ltd.

Tower B, Room 2003,
Far East International Plaza,
NO,317 Xianxia Road,
Changning District.
Shanghai, China P.C. 200032
Phone: +86 (0)21-6278-2272
Email: contact@glsciences.com.cn
Web: www.glsciences.com.cn

GL Sciences, Inc. USA

4733 Torrance Blvd. Suite 255
Torrance, CA 90503
Phone: 310-265-4424
Fax: 310-265-4425
Email: info@glsciencesinc.com
Web: www.glsciencesinc.com

International Distributors

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