

Multiresidue LC-MS/MS Determination of 52 Non-Gas Chromatography-Amenable Pesticides and Metabolites in Fruits and Vegetables

Waters Corporation



This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This multi-residue pesticide sample preparation shows the steps used to process fruit and vegetable samples, extract and concentrate the extract by an Oasis HLB SPE method.

Introduction

This multi-residue pesticide sample preparation shows the steps used to process fruit and vegetable samples, extract and concentrate the extract by an Oasis HLB SPE method.

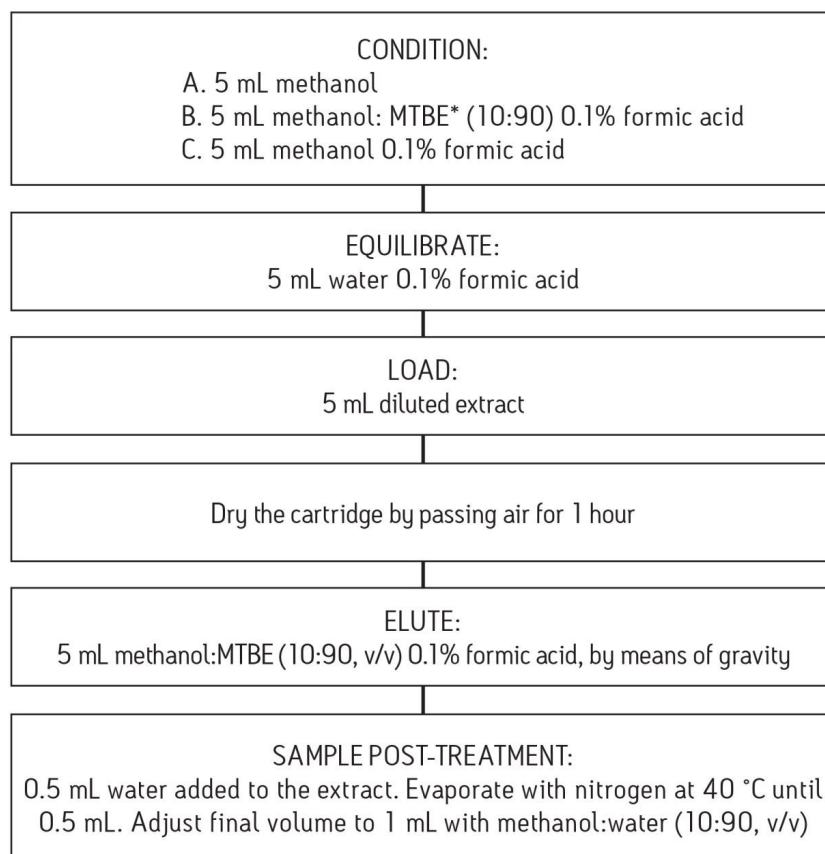
Experimental

Pre-treatment

1. Samples (lemon, raisin, tomato and avocado) were cut into small pieces.
2. A 20 g portion of homogenized sample was mixed with 60 mL 0.1% formic acid in methanol:water (80:20, v/v).
3. Extraction for 2 minutes with Ultra-Turrax at 8000 rpm.
4. Filtration and dilution with methanol:water 0.1% formic acid (80:20, v/v) to a final volume of 100 mL.
5. 2.5 mL aliquot diluted to 20 ml with 0.1% formic acid in water. Load 5 mL of the diluted extract onto the SPE Cartridge.

SPE Procedure

Oasis® HLB 6cc/200mg



*MBTE: methyl-*t*-buthyl ether

LC Conditions

System:	Alliance HPLC 2695
Column:	Atlantis dC ₁₈ , 5 µm, 2.1 x 100 mm
Flow rate:	0.2 mL/min
Mobile phase A:	0.01% formic acid in water
Mobile phase B:	0.01% formic acid in methanol

Injection volume:

20 µL

Gradient

Time (min)	%A	%B
0	95	5
1	95	5
8.5	50	50
25	10	90
28	10	90
29	95	5

MS Conditions

MS System:

Waters Quattro micro

Ionization mode:

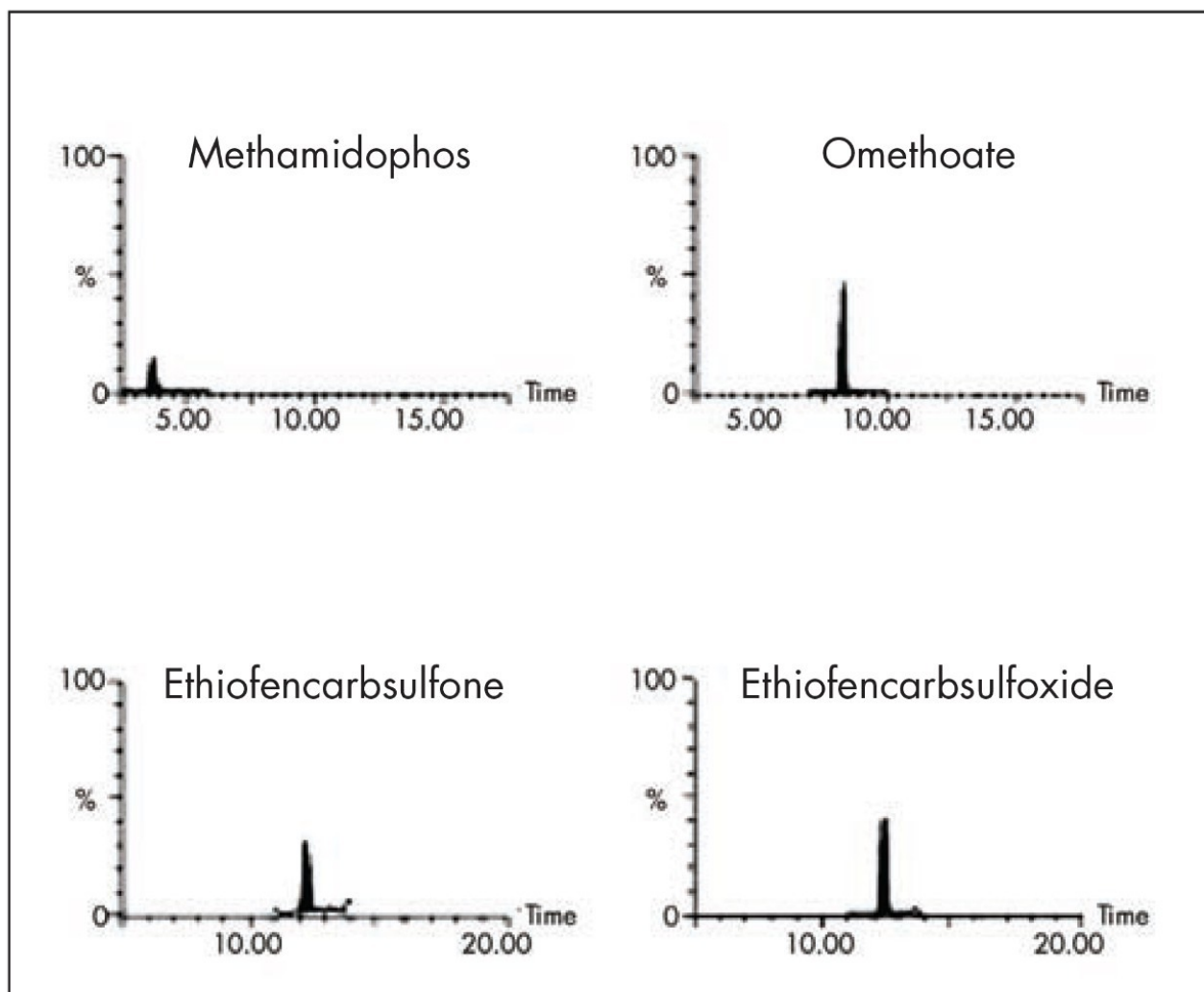
Positive electrospray (ESI⁺)

Multiple reaction monitoring

Gradient

Time (min)	%A	%B
0	95	5
1	95	5
8.5	50	50
25	10	90
28	10	90
29	95	5

Results and Discussion



LC-MS/MS data for 4 representative pesticides.

References

1. *Journal of Chromatography A*, 1109 (2006) 242-252.

Featured Products

- [Alliance HPLC System <https://www.waters.com/534293>](https://www.waters.com/534293)

720002585, April 2008



© 2021 Waters Corporation. All Rights Reserved.