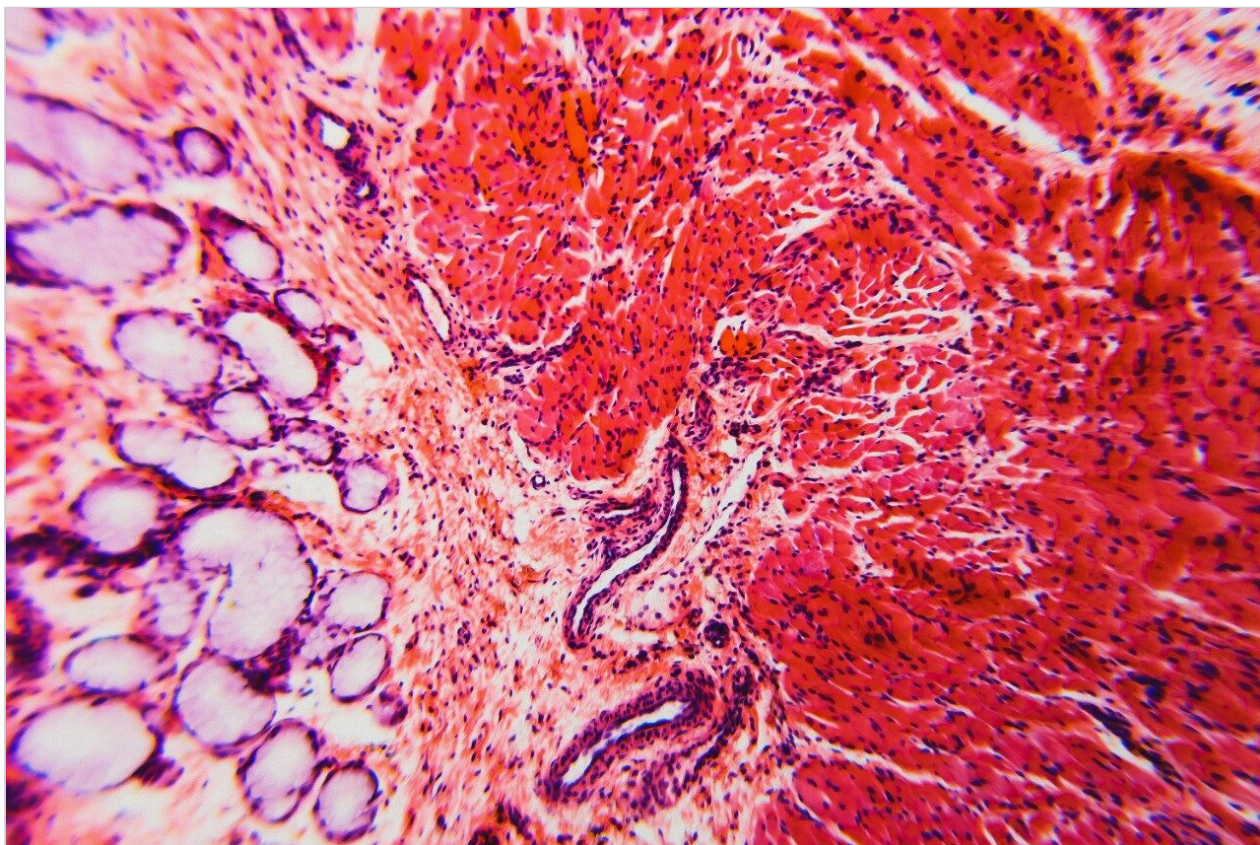


## Nitrofurans in Tissues

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Waters Corporation



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

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### Abstract

This application describes the methods to determine Nitrofurans in food producing animal tissues.

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## Introduction

The United States Food and Drug Administration (US FDA) banned Nitrofurantoin drugs in food producing animals because they pose a public health risk. The rule went into effect as a result of evidence that the drugs may induce carcinogenic residues in animal tissues.

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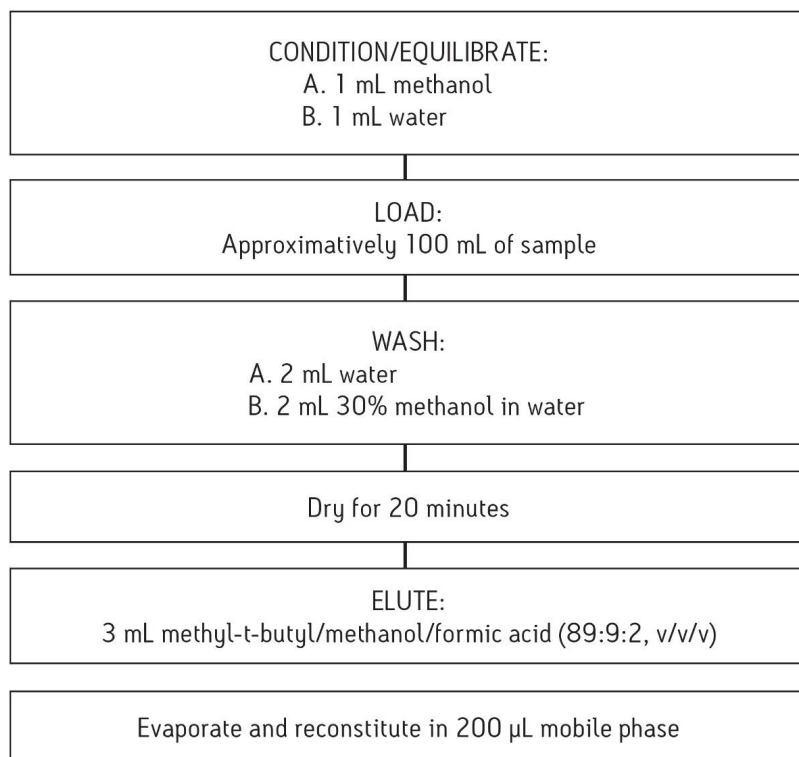
## Experimental

### Pretreatment

1. Homogenize 10 g of sample in 100 mL of 0.12 M hydrochloric acid.
2. Take 1 mL aliquot and treat with 400  $\mu$ L of 50 mM 2-nitrobenzaldehyde in dimethylsulfoxide.
3. Hydrolyze/derivatize the sample for 16 hours at 37 °C.
4. Adjust the sample to pH 7.4 with potassium hydrogen phosphate.
5. Centrifuge sample for 5 minutes at 8000 rpm

## SPE Procedure

Oasis® HLB 3 cc/60 mg



## LC Conditions

System:	Alliance HPLC 2695
Column:	XTerra MS C <sub>18</sub> , 3.5 µm, 2.1 x 100 mm
Flow rate:	0.2 mL/min
Mobile phase:	Isocratic 70% 20 mM ammonium formate pH 4, 30% acetonitrile
Injection volume:	20 µL
Column temp.:	30 °C

## MS Conditions

MS System: Waters Quattro micro API

Ionization mode: Positive electrospray (ESI<sup>+</sup>)

Multiple reaction monitoring

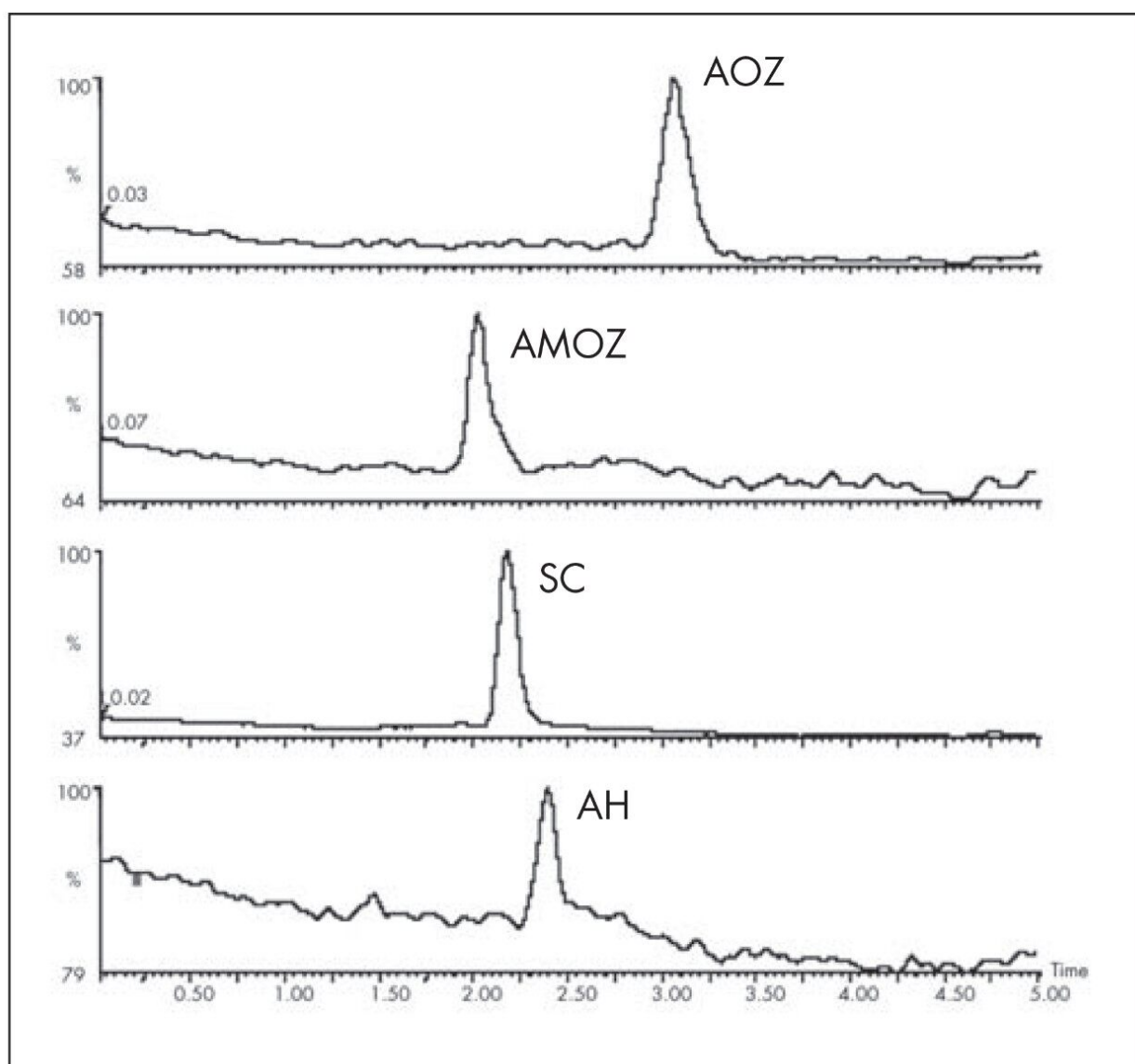
Analyte	MRM Transition
AOZ	236 → 134
AMTZ	335 → 291
SC	209 → 192
AH	249 → 178

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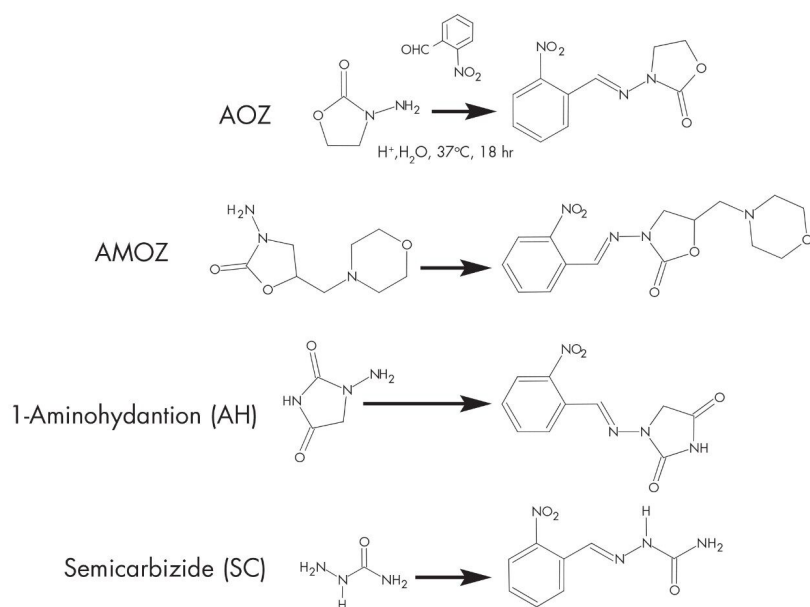
*MRM method parameters.*

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## Results and Discussion



Spiked chicken muscle (1 ng/g) metabolites as 2-nitrobenzaldehyde derivatives.



## Featured Products

Alliance HPLC System <<https://www.waters.com/534293>>

720002594, April 2008