

Varian 320-MS

LC/MS/MS for Higher Sensitivity and Selectivity

Advantage statement: The unique 180° off-axis collision cell and triple quadrupole configuration (Figure 1) of the Varian 320-MS eliminates the chemical background noise and cross-talk observed when similar product ions in complex matrices are monitored in the same time segment.

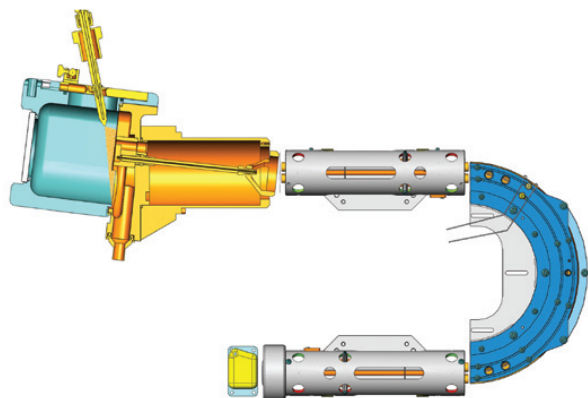


Figure 1 Off-axis geometry (180°) of 320-MS Triple quadrupole LC/MS/MS for increased sensitivity and robustness.

The chromatograms presented here are from the analysis of four acidic herbicides present in vegetable extracts.

Instrumentation

- Varian ProStar™ 410 AutoSampler
- Varian ProStar™ 210 Binary Solvent Modules
- Varian 320-MS Triple Quadrupole Mass Spectrometer

Figure 2 shows four chromatograms acquired in SIM (Single Ion Monitoring) mode. For all herbicides, we have observed extra peaks and baseline instability. For mecoprop, an interfering peak overlaps with the compound resulting in truncated quantitation.

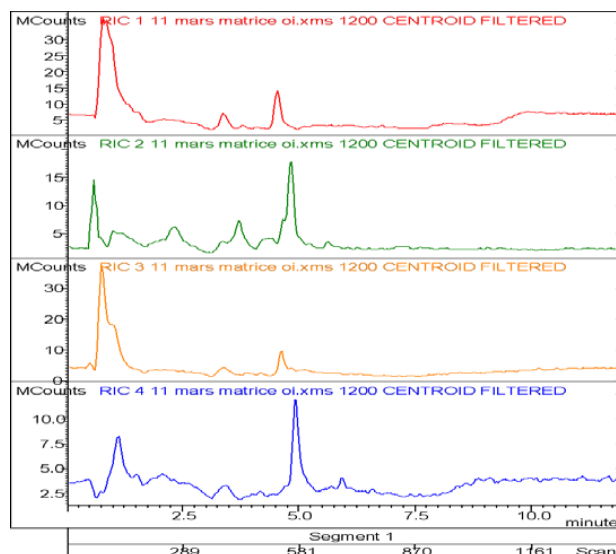


Figure 2 SIM chromatograms of (1) 2,4-MCPA, (2) Mecoprop, (3) 2,4-D and (4) Dichlorprop under negative ESI conditions for the onion matrix (5 ppb level).

Using the same matrix extract, the increased selectivity and sensitivity of MS/MS is readily apparent in Figure 3.

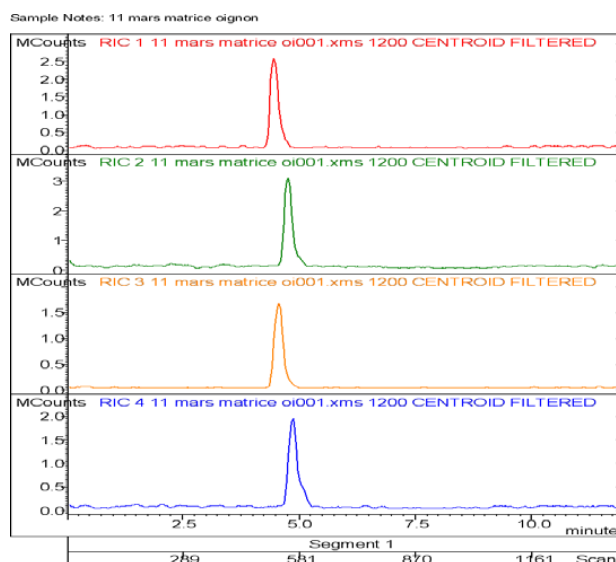


Figure 3 MRM chromatograms of (1) 2,4-MCPA, (2) Mecoprop, (3) 2,4-D and (4) Dichlorprop under negative ESI conditions for the onion matrix (5ppb level).

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With the elimination of false positive peaks, the confidence in your results is increased. This makes the Varian 320-MS ideal for analyzing a wide range of compounds in multi-residue screening applications such as environmental and food safety analysis.

For high throughput screening and confirmation, the Varian 320-MS provides the ideal solution with the following associated benefits:

- Greater confidence – safety in your results
- Confirmatory power with fast MRM transitions
- Ease of data interpretation
- Faster routine analysis
- Lower cost per sample

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