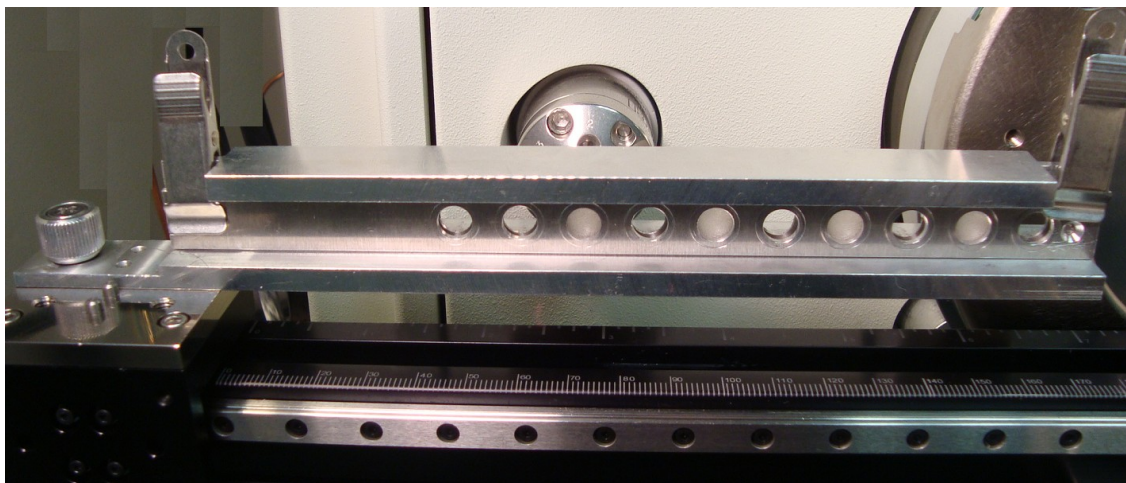


# Rapid Screening for Pesticides

DART with Exactive  
FDA Forensic Center Results  
April 2010



# Rapid Screening for Pesticides

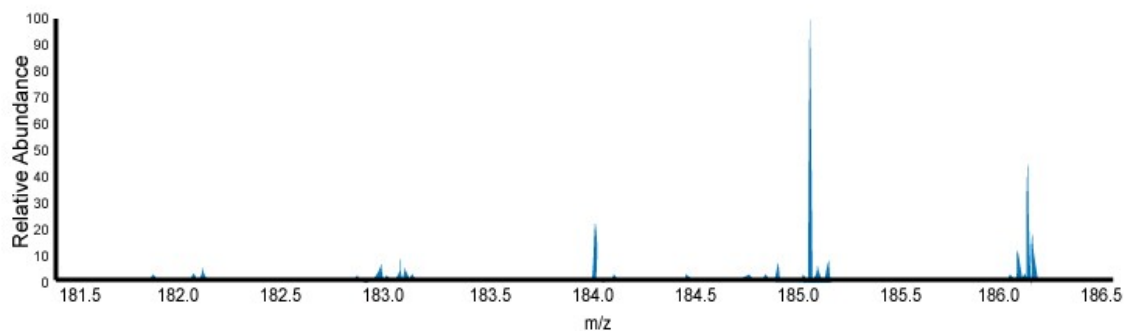
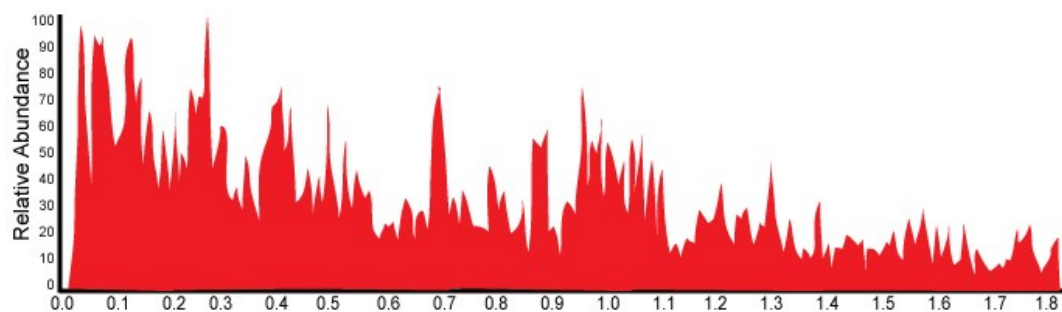
- Solution containing 12ng each of 529 Pesticides applied to sponge
- Transmission DART<sup>®</sup> Experiment module used to position sponge between DART SVP Source and Thermo Exactive<sup>®</sup> inlet
- DART gas temperature ramp from 150 to 400C over 1.8 minute interval
- Exactive operating at >50,000 resolution
- Positive ion yield good mass chromatograms for >350 pesticides
- Sponge sampling method being applied to fruit and vegetable surfaces for rapid sampling without prep

# Mass Chromatogram

1.8 minutes

Temperature ramp 150 -400C

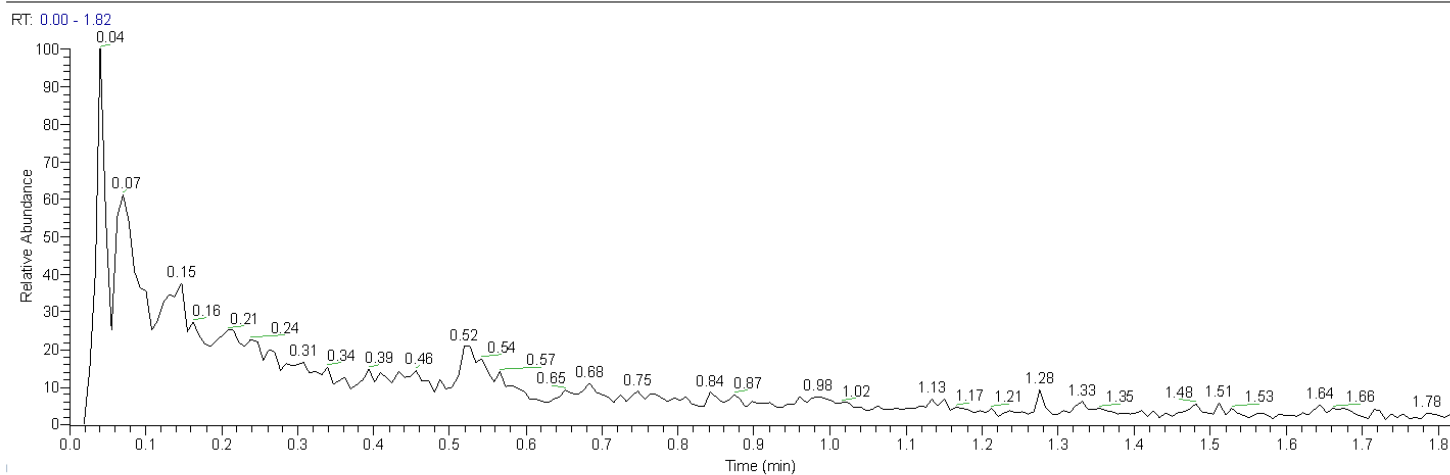
Acephate



# Mass Chromatogram - Diazinon

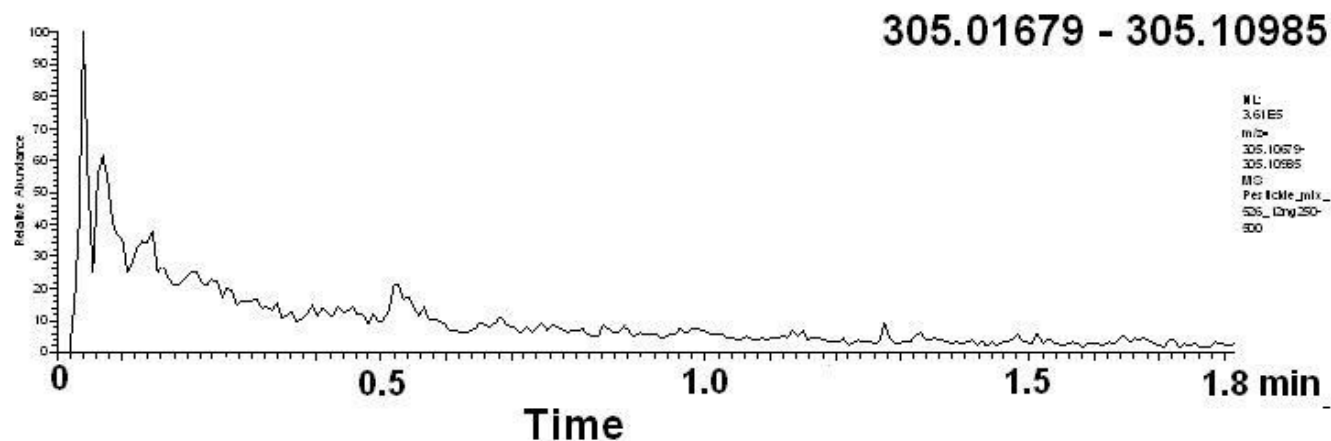
Pesticide\_mix\_526\_12ng250-500

4/16/2010 1:50:07 PM

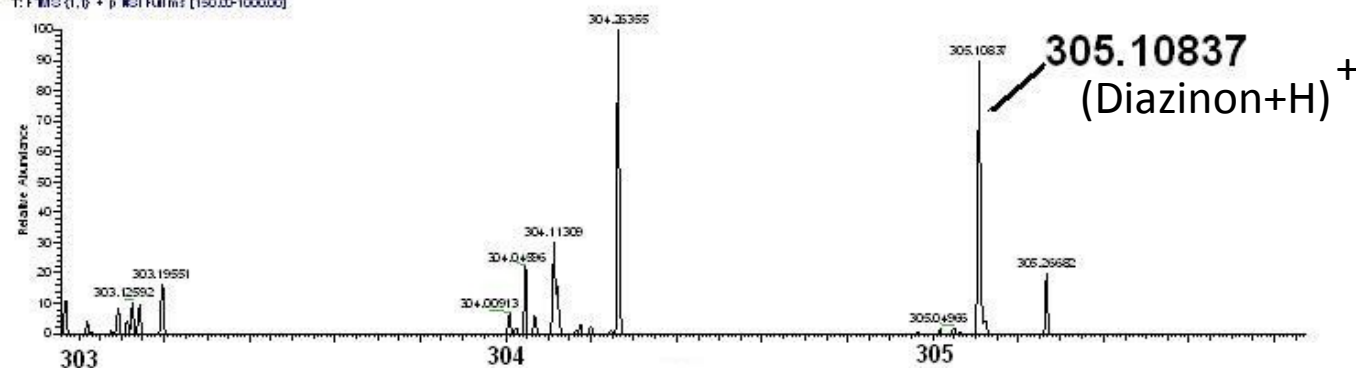


# Diazinon

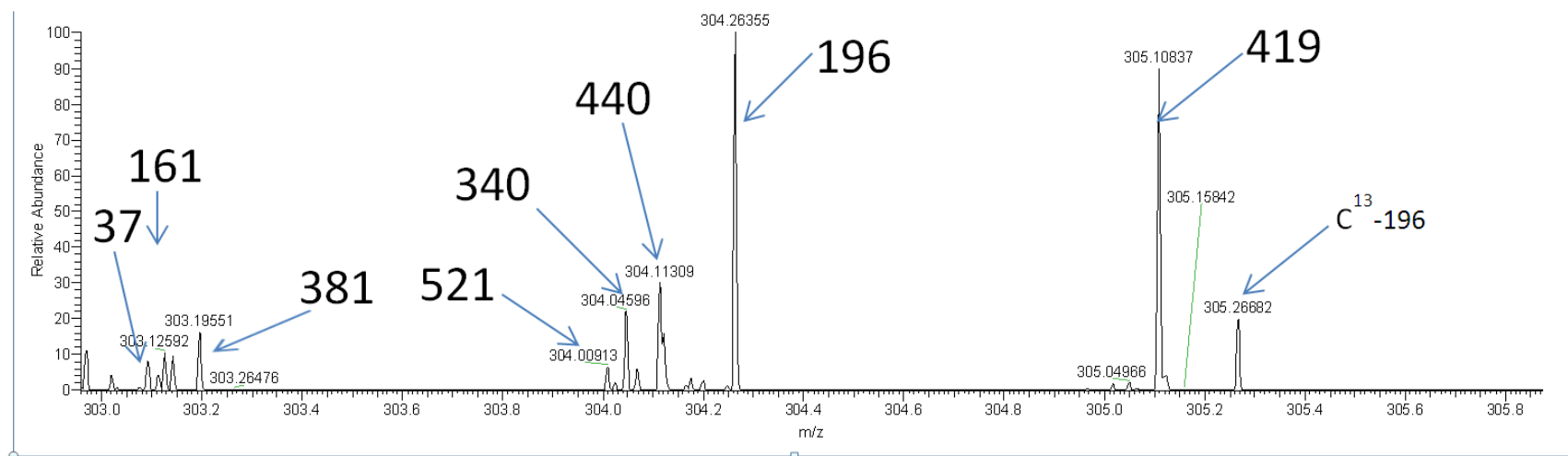
Pesticide mix 526 12ng applied



Pesticide\_mix\_526\_12ng\_250-500 #2067 RT: 0.16-0.53 AV: 48 ML: 6.36E4  
T: FID (1.0 + p MS) Full ms [150.00-1000.00]



# Simultaneous Detection of 8 Pesticides in 3 dalton mass range



Clofentezine #37  
Norflurazon #340

Cumyluron #161  
Fenamiphos #440

Allethrin #381  
Diazinon #419

Tri-allate #521  
Fenpropimorph #196

# Mass Chromatogram

## Differential Thermal Desorption

- Pesticide Mix 529

