

Application Note No. 080

## Analysing Quaternary Ammonium Salts (QAS) in Seawater by Difficult Matrix Introduction (DMI)

Diane Nicholas

- *No sample preparation necessary*
- *Removes water under controlled conditions prior to analysis*
- *Retains the salt and involatiles within the microvial*

### Instrumentation

- ATAS Optic 2-200 programmable injector
- Agilent 5890 GC with 5971 MSD

### Principles

- Inject 2-3 uL of seawater into a microvial and place in fritted liner in Optic injector
- Vent the water, heating the injector and column oven to 100 °C
- Thermally desorb the sample at high temperature to degrade the QAS, under static flow conditions
- Transfer the analytes directly onto the GC column and analyse by GC-MS

### Chromatogram

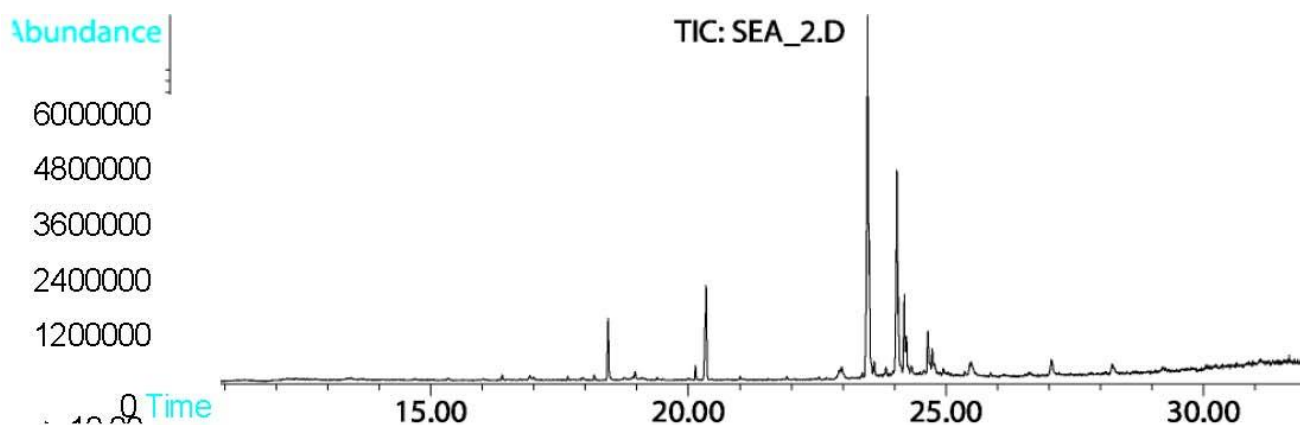


Figure 1: TIC of analysis of seawater by DMI

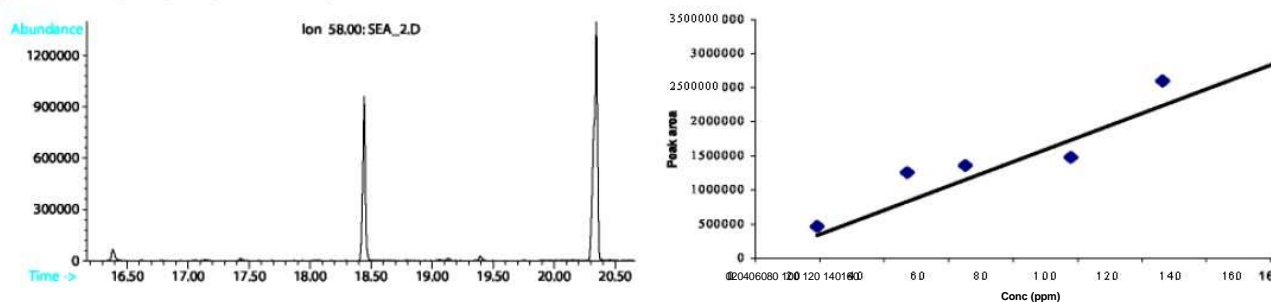


Figure 2: Selected ion for the quaternary ammonium salt Figure 3: Calibration with manual injection using the un-optimised method

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