



● **Explanation**

The advantage of the deuterium label compound as standard substance is that it is materially identical to the target compound but does not exist in the sample.

Fig. 3.3.1 shows the methods of extraction from fish and seawater.

Instrument : GCMS-QP5000
Column : DB-1 0.32mm × 30m df = 0.25μm
Column : 50°C(2min)-140°C(20°C/min)
temperature -220°C(7°C/min)-310°C
(15°C/min)(6/min)
Injection inlet : 280°C
temperature
Interface temperature : 300°C
Carrier gas : He(40kPa)
Injection method : Spitless(2min)

Component	Selected ions (m/z)
d27-TBT	295, 293, 316
TBT	277, 275, 291
Tetra-BT	291, 289
TPeT	303, 305
d15-TPT	366, 364
TPT	351, 349

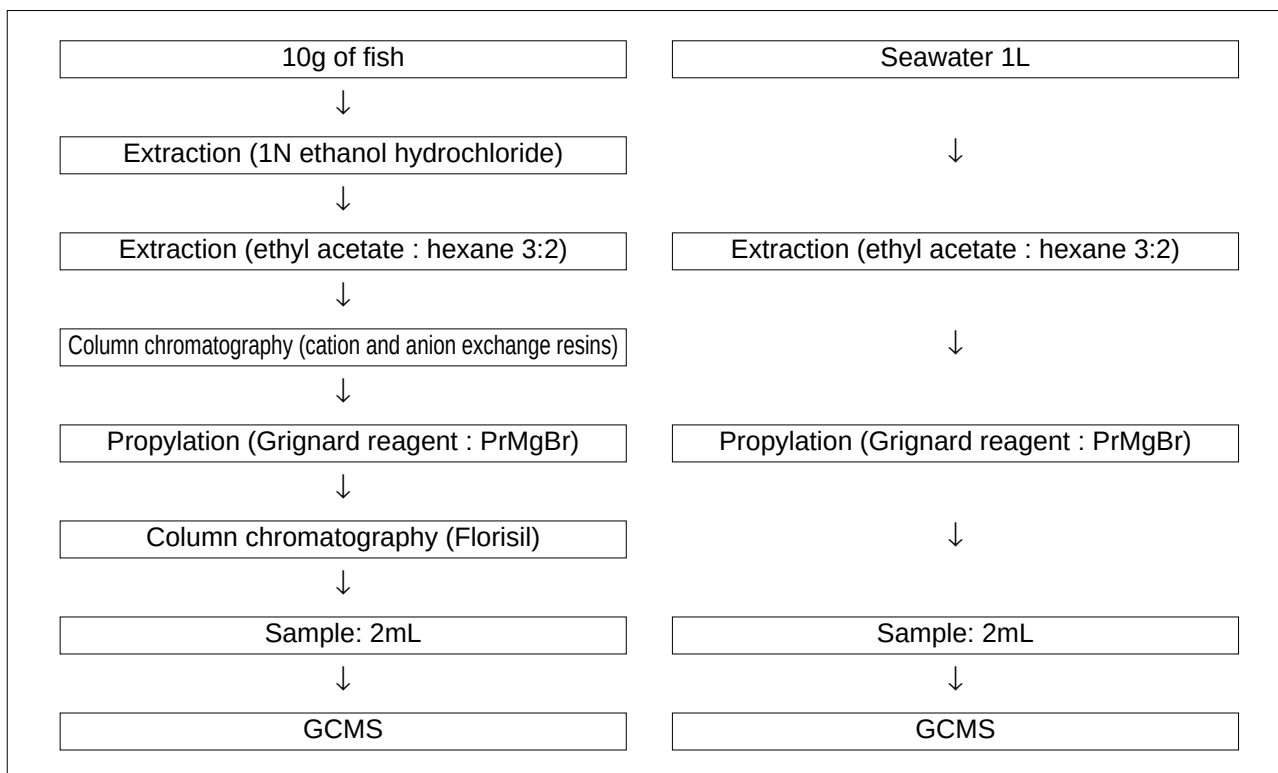


Fig. 3.3.1 Extraction methods for organotin in fish and seawater

3.3 Analysis of Organotin in Fish (2) - GCMS

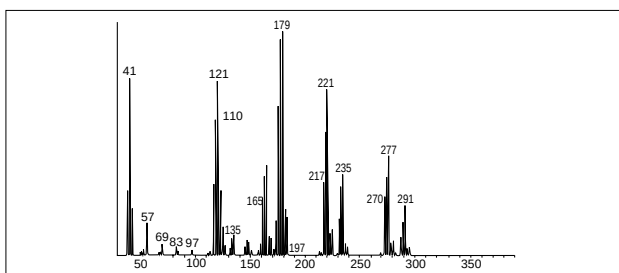


Fig. 3.3.2 TBT mass spectrum

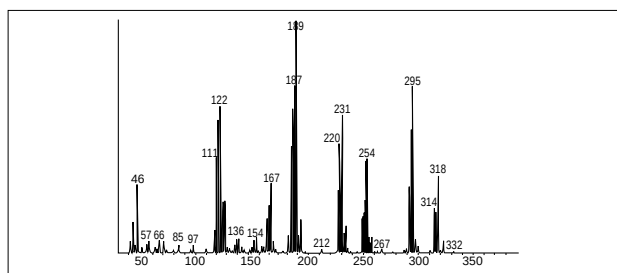


Fig. 3.3.3 d27-TBT mass spectrum

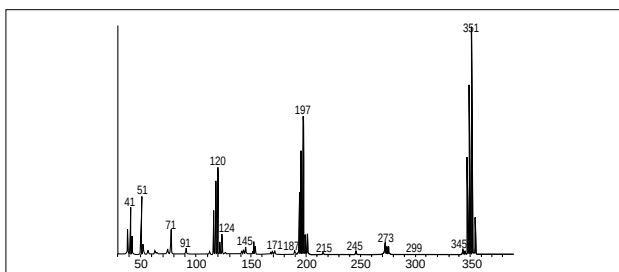


Fig. 3.3.4 TPT mass spectrum

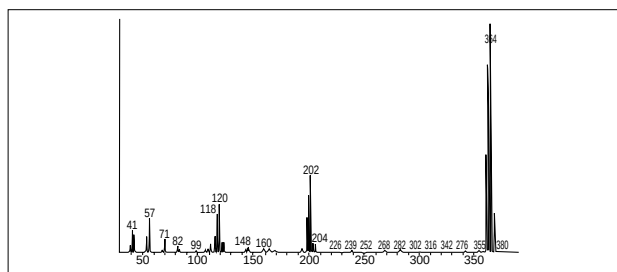


Fig. 3.3.5 d15-TPT mass spectrum

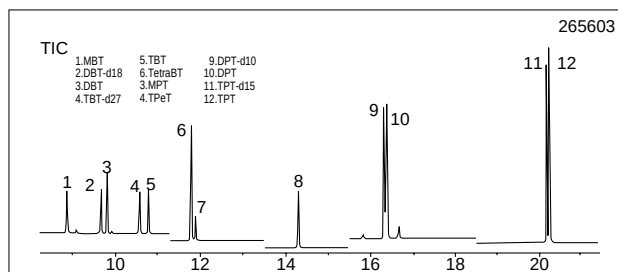


Fig. 3.3.6 SIM chromatogram of standard sample

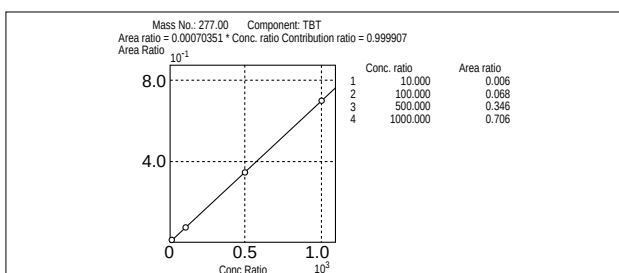


Fig. 3.3.7 TBT calibration curve (10 to 1000ppb)

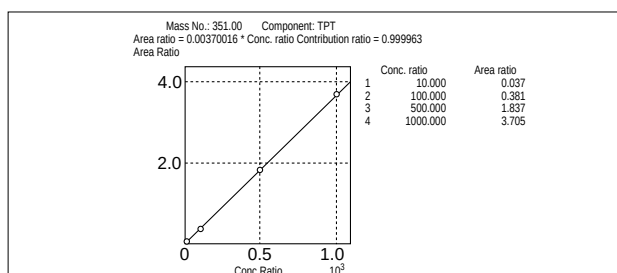


Fig. 3.3.8 TPT calibration curve (10 to 1000ppb)

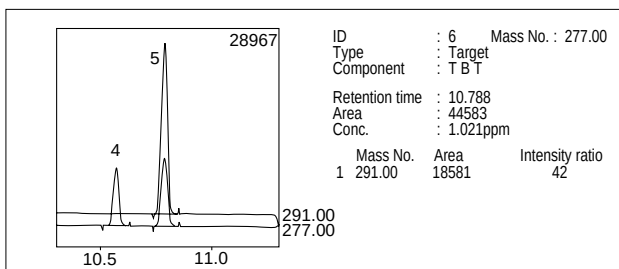


Fig. 3.3.9 SIM chromatogram of TBT in fish (sea bass)

Component	Sea bream (µg/g)	Sea bass (µg/g)	K port (µg/L)	W port (µg/L)
TBT	0.436	0.782	0.173	0.068
TPT	0.014	0.010	0.019	0.078

Chart 3.3.10 Quantitative results for tin in fish and seawater