

# Direct Heating Analysis of Commercial Food Wraps - Using HandyTD Portable Thermal Desorber

Simple heat-extraction analysis of commercial food wraps (heat-resistant temperatures of 140 °C) was performed using a HandyTD.

The wrap was heated directly using a HandyTD and the resulting volatile components introduced into a GC - MS. The results of the analysis showed a large number of observed peaks when the heating temperature rose above 140 °C, with the detection of esterified compounds of hydrocarbons, fatty acids and larger hydrocarbons.

## Preliminary processing procedure

Food wrap

Place 86.2 mg in a liner,  
Introduce into a GC - MS using HandyTD

Silica wool



Pre-analysis wrap-tail

TD/GC/MS

① 80 °C



① After extraction at 80 °C

TD/GC/MS

② 140 °C



② After extraction at 140 °C

TD/GC/MS

③ 180 °C



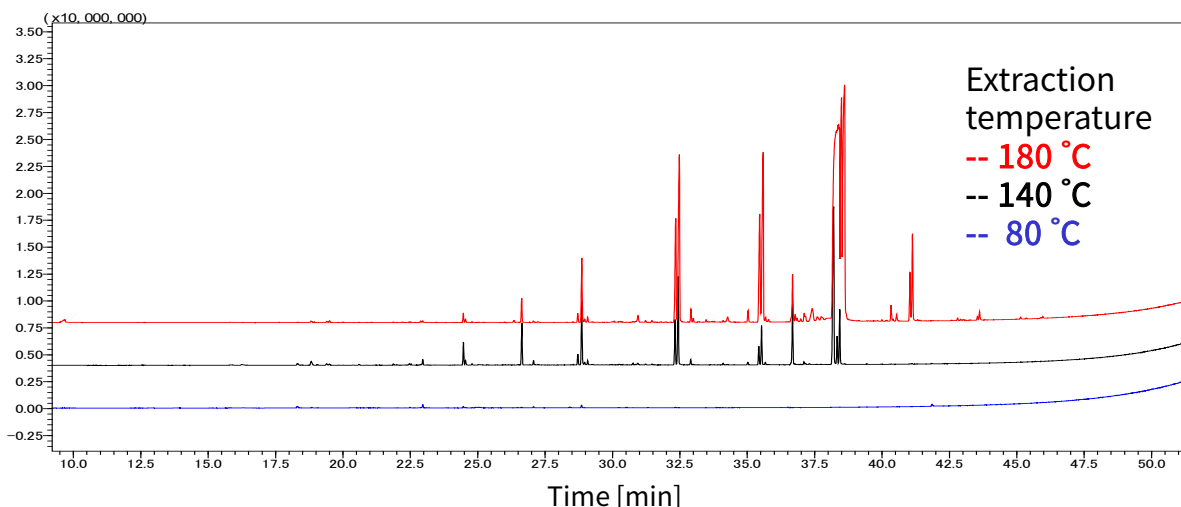
③ After extraction at 180 °C

### GC Conditions

**System** : GC - MS - HandyTD TD265  
**Column** : InertCap 5MS/Sil  
 0.25 mm I.D. x 30 m, df = 0.25 µm  
**Col.Cat. No.** : 1010-15142  
**Col.Temp.** : 40 °C (5 min) - 6 °C/min - 320 °C  
**Carrier Gas** : He, 0.97 mL/min  
**GC Inlet** : 300 °C, Split 7:1  
**Detection** : MS Scan (*m/z* 29-500)

### HandyTD Conditions

**Temp.** : ① 40 °C - 45 °C/sec - 80 °C (3 min)  
 ② 40 °C - 45 °C/sec - 140 °C (3 min)  
 ③ 40 °C - 45 °C/sec - 180 °C (3 min)  
**Press.** : 75 kPa



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