1.5 Analysis of Polystyrene - GCMS

■Explanation

Generally, a polymer such as polystyrene is thermally decomposed and the generated gas analyzed. Introduced here is an example of polystyrene analysis by GC/MS with a direct insertion probe (DI). Such devices are equipped as furnace types or Curie point heating types. The temperature required for thermal decomposition differs but is generally in the region of 500 ºC (polystyrene will not be decomposed at 400 °C or lower). The data provided here was measured using QP2000 but the QP5050A also could accomplish the same analysis.

■Analytical Conditions

Instrument : GCMS-QP2000 JDI800

Pyrolysis Temp : 590 °C

Pyrolysis Time : 1Sec

References

Application News No. M157

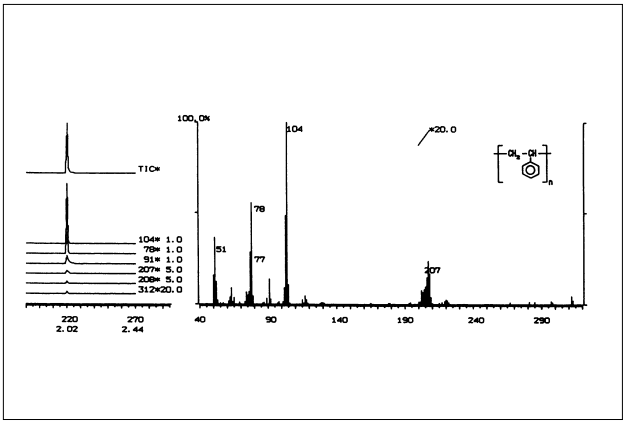

Fig. 1.5.1 Polystyrene mass spectrum (40ng)

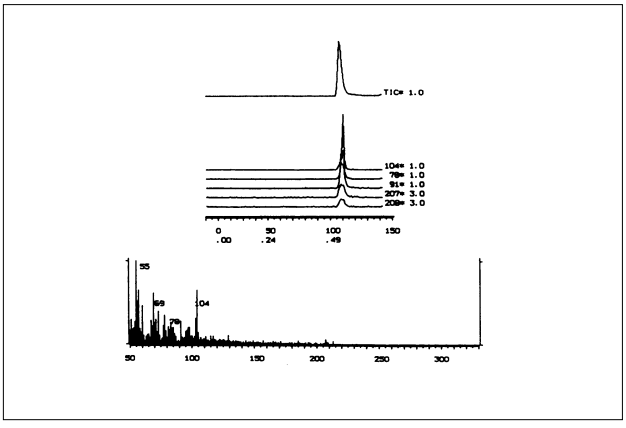

Fig. 1.5.2 Polystyrene mass spectrum (100pg)

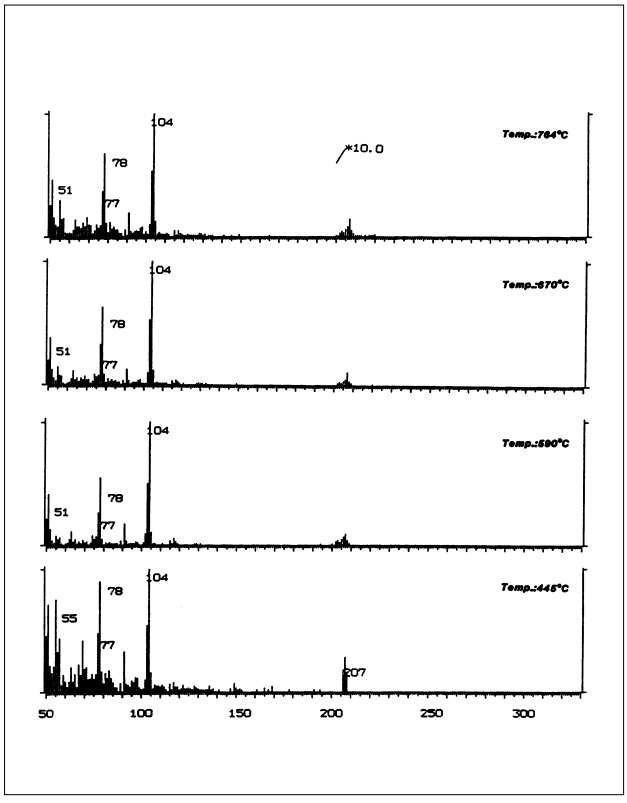

Fig. 1.5.3 Polystyrene mass spectrum using each decomposition temperature