

## HIGH PERFORMANCE LIQUID CHROMATOGRAPHY

179

## Application to Food Analysis (No.12)

## —Analysis of Antibacterials and Preservatives in Meat—

From the standpoint of quality control of meat, analysis of residual antibacterials, control of concentration of preservatives and the like are very important. By high performance liquid chromatography, such analyses can be

done with simple pretreatment.

Introduced here are analyses of an antibacterial of sulfamethazine and a sorbic acid preservative.

### ■ Analysis of Sulfamethazine

Figure 2 shows data by injection of 20 $\mu$ l of sulfamethazine standard solution (200ppb). Analytical conditions are shown in Table 1. Figure 3 shows data of pork meat (with 150ppb of sulfamethazine). Pretreatment of the sample is shown in Fig. 1.

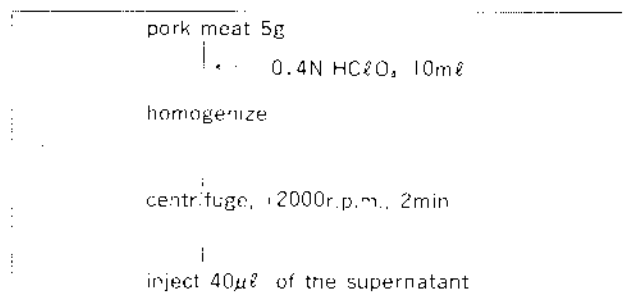


Fig. 1 Pretreatment Procedure

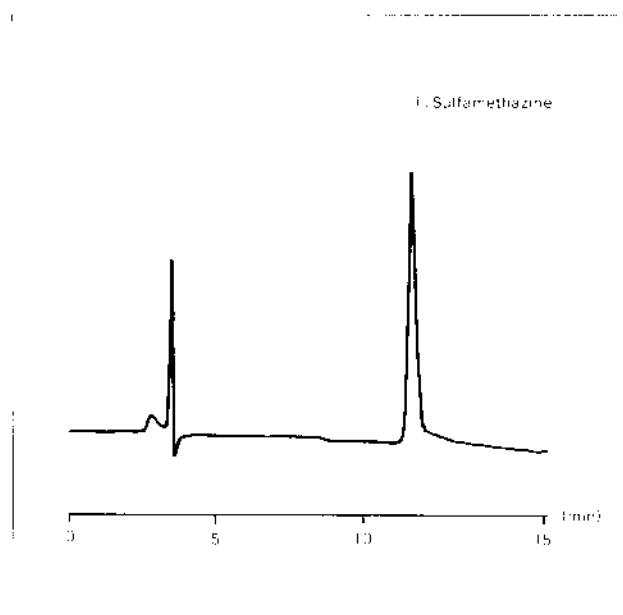


Fig. 2 Chromatogram of a Sulfamethazine Standard Solution

Table 1 Analytical Conditions	
Instrument	: Shimadzu LC-6A system
Sample	: Fig. 2: sulfamethazine solution (200ppb); 20 $\mu$ l injection Fig. 3: pork meat (The pretreatment procedure is shown in Fig. 1)
Column	: Shim-pack CLC-ODS (6.0mm I.D. $\times$ 1acm L)
Column temp.	: 40°C
Flow rate	: 1.0ml/min
Mobile phase	: 10mM sodium phosphate buffer (pH2.6) acetonitrile (85:15)
Detection	: 250nm, 0.001AUFS, ATTEN $\times$ 2

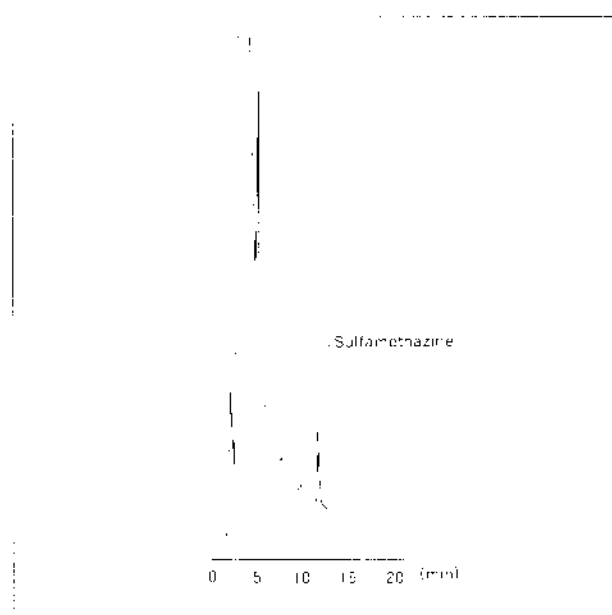


Fig. 3 Chromatogram of Pork Meat

## ■ Analysis of Sorbic Acid

Figure 5 shows data of  $5\mu\text{l}$  of sorbic acid standard solution (150ppm) injected into a HPLC. Analytical conditions are shown in Table 2.

Figure 6 shows data of ham. Pretreatment of the sample is shown in Fig. 4.

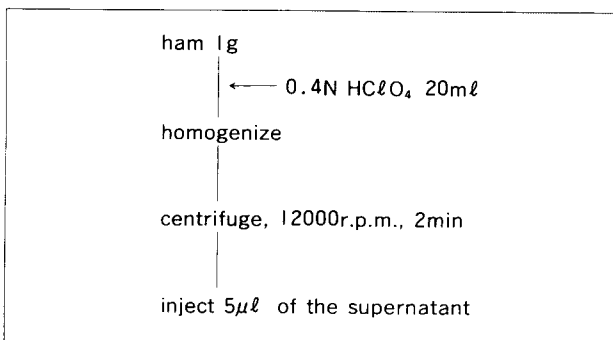


Fig. 4 Pretreatment Procedure

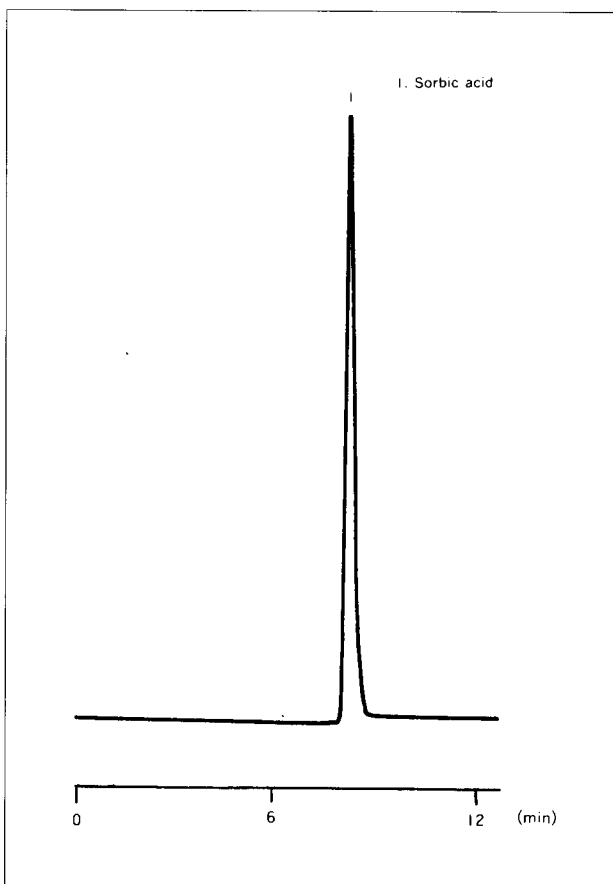


Fig. 5 Chromatogram of a Sorbic Acid Standard Solution

Sample	: Fig. 5; potassium sorbate solution (150ppm as a potassium salt) Fig. 6; ham (The pretreatment procedure is shown in Fig. 4)
Column	: Shim-pack CLC-ODS (6.0mm I. D. ×15cm L.)
Column temp.	: 45°C
Flow rate	: 1.0ml /min
Mobile phase	: 10mM sodium phosphate buffer (pH7.0)/acetonitrile (20/1)
Detection	: 256nm, 0.16AUFS, ATTN=3

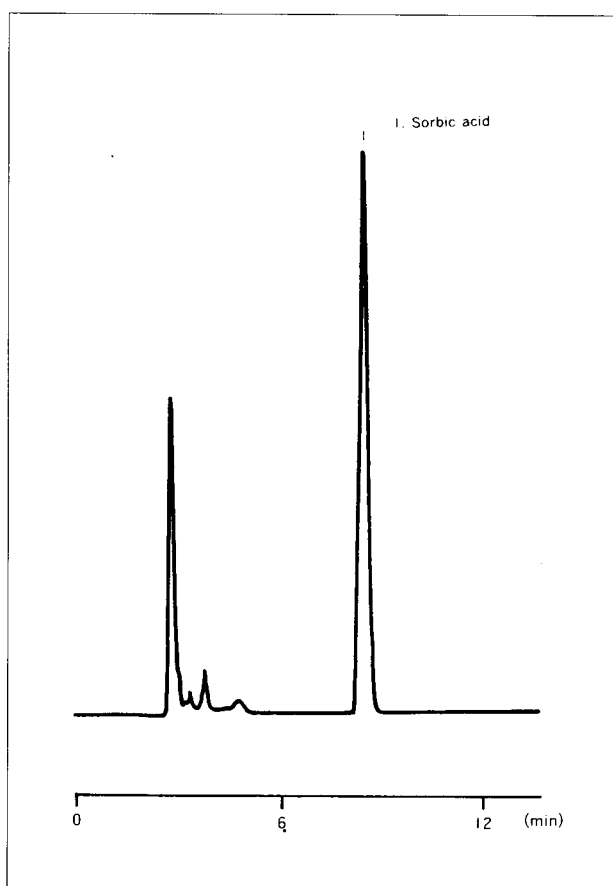


Fig. 6 Chromatogram of Ham

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