

SHIMADZU APPLICATION NEWS

HIGH PERFORMANCE LIQUID CHROMATOGRAPHY 143

Analysis of Water-soluble Vitamins by Shim-pack CLC-ODS

High performance liquid chromatography is widely applied for the analysis of water-soluble vitamins in pharmaceuticals and foods. Many water-soluble vitamins can be analyzed by reversed phase chromatography, but there are some vitamins, particularly components like vitamin B₁ that have a high basicity are apt to be much affected by a residual silanol radical of packing materials, generating a tailing.

In Shim-pack CLC-ODS, residual silanol radical is shut up by a unique secondary silylation, minimizing adsorption of basic components.

Shown here is an example of analysis of water-soluble vitamins by Shim-pack CLC-ODS.

■ Analysis of a Group of Vitamin B

Fig. 1 shows an analysis of 7 components of vitamin B group and a standard sample of caffeine. In this analysis, detection wavelength was set to 210 nm so that pantothenic acid might be detected simultaneously. In Fig. 2, analysis of commercially available integrated vitamins are shown.

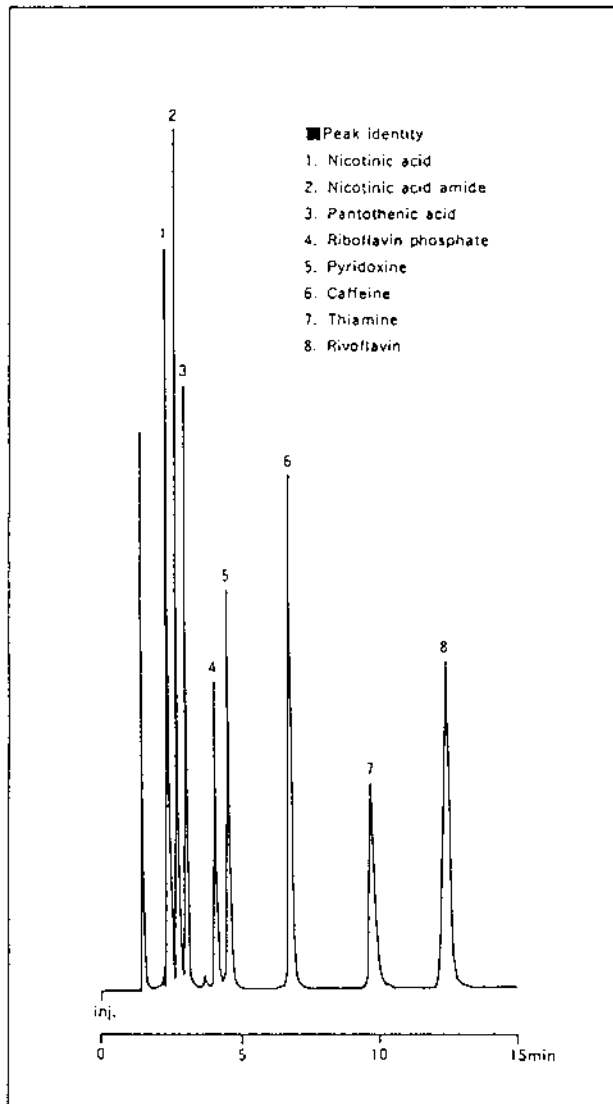


Fig. 1

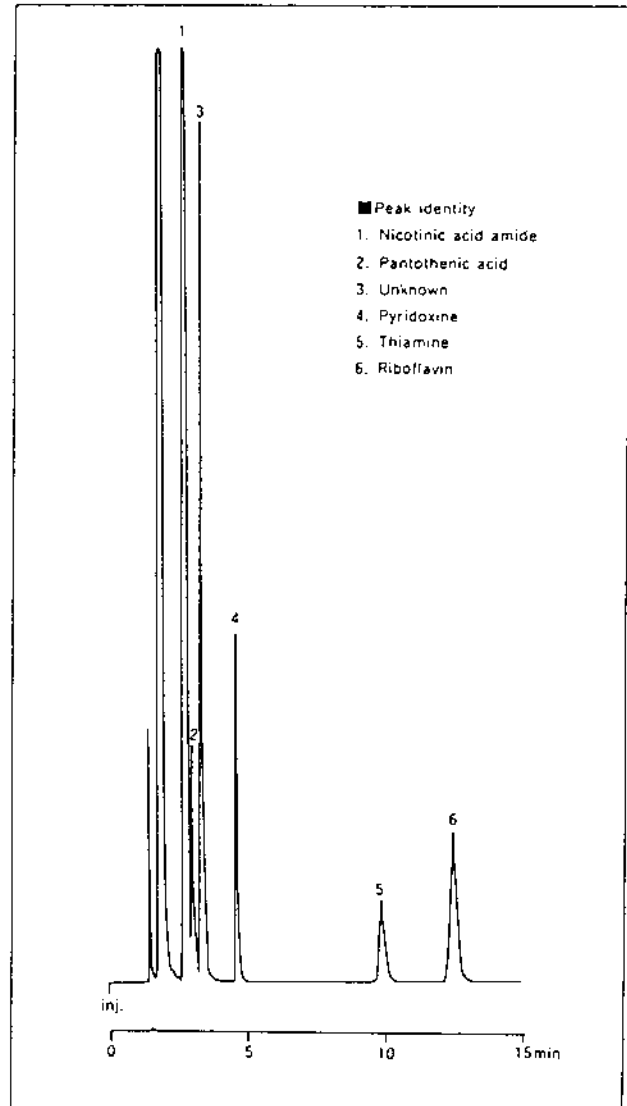


Fig. 2

■ Analysis of Cyanocobalamine

Fig. 3 shows an analysis of cyanocobalamine (vitamin B₁₂) in an eye lotion.

■ Analysis of Folic Acid

Fig. 4 shows an analysis of folic acid contained in a vitamin tablet.

■ Analysis of Carunitin (vitamin Br)

Fig. 5 shows an analysis of carunitin contained in a tablet.

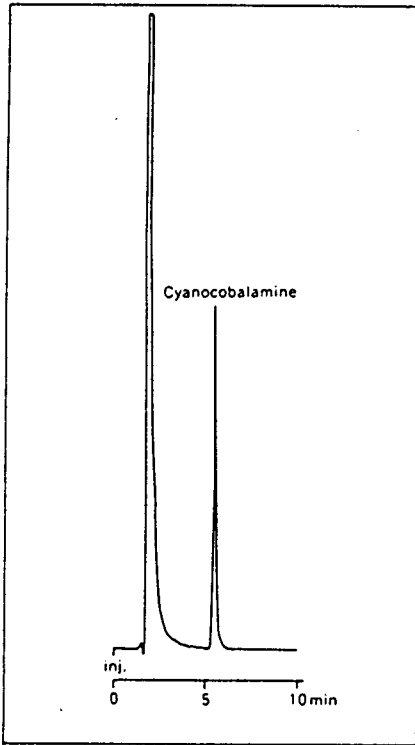


Fig. 3

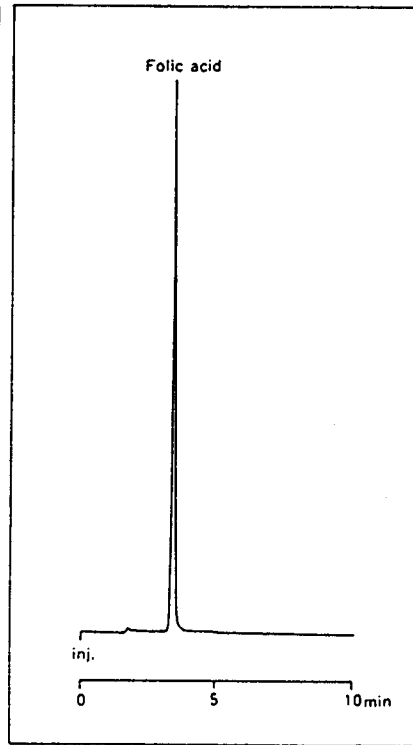


Fig. 4

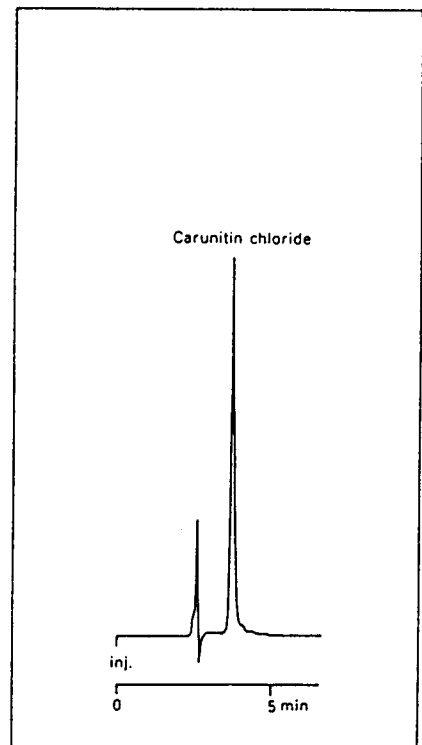


Fig. 5

■ Analysis of Biotin

Fig. 6 shows an analysis of biotin (vitamin H) contained in a tablet.

■ Analysis of Hesperidine

Fig. 7 shows an analysis of hesperidine (vitamin P) in orange juice.

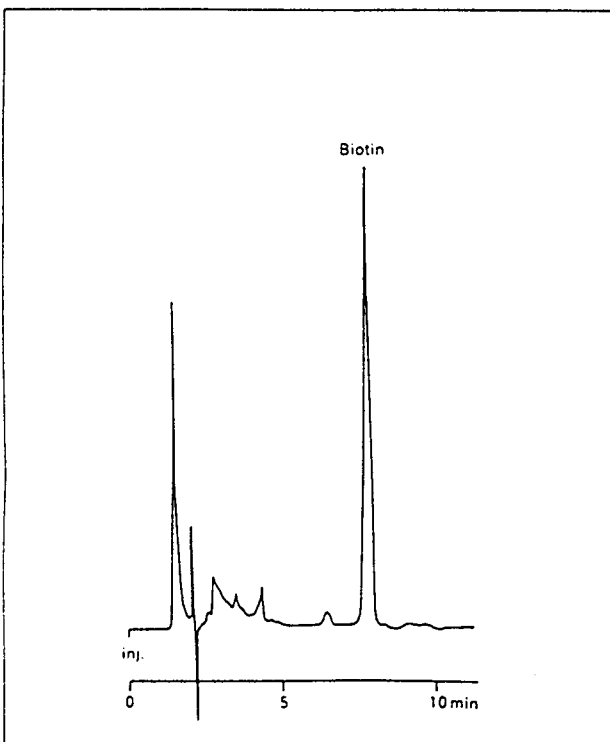


Fig. 6

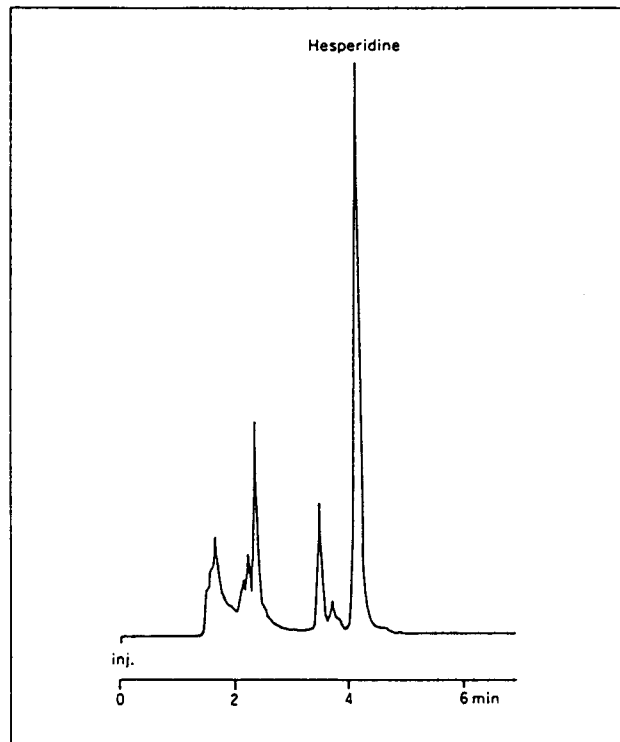


Fig. 7



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