SHIMADZU APPLICATION NEWS

GAS CHROMATOGRAPHY 109

Application of CBP Wide Bore Capillary Column (0.53 mm I.D.) (2)

Analysis by Total Amount Injection

Shimadzu HiCap CBP wide bore capillary column has the characteristics of a fused silica capillary column and a sample loading capability comparable to a packed column. It is expected this column will find a wide field of applications in various fields.

A wide bore capillary column has an extremely low column resistance, and can easily set carrier gas flow at a much higher rate than an ordinary packed column, permitting total amount injection like a packed column. This total amount injection is possible by attaching a simple connection adaptor to an existing GC (GC-9A, 9AM, 8A, and 7A). It can be handled as easily as a packed column. In this application news, analyses of food additives, glycols, steroids and pharmaceuticals are introduced.

First, in Fig. 1 and Fig. 2, chromatograms of antioxidants added to oil and fat products analyzed by CBP1 wide bore capillary columns and packed columns with OV-25. Polarity is different and the order of elution is reverse, but an excellent separation and rapidity of analysis are clearly shown. Fig. 3 shows an example of analysis of diethylene glycol which is catching attention nowadays by using CBP20. In the meantime, Fig. 4 shows an example of analysis of steroid by using CBP1 without derivatization. Fig. 5 and 6 show analyses of effective ingredients of a cold remedy by using wide bore capillary columns and SE-30 packed columns. Analysis time by the capillary columns is reduced to half of the packed columns.

As is clear from the above, by combining the total amount injection method and the wide bore capillary columns, it is possible to cover analysis of samples ranging from low concentration samples to high concentration samples easily, making possible more speedy analysis than packed columns.

■ Analysis of Food Additives (comparison with packed columns)

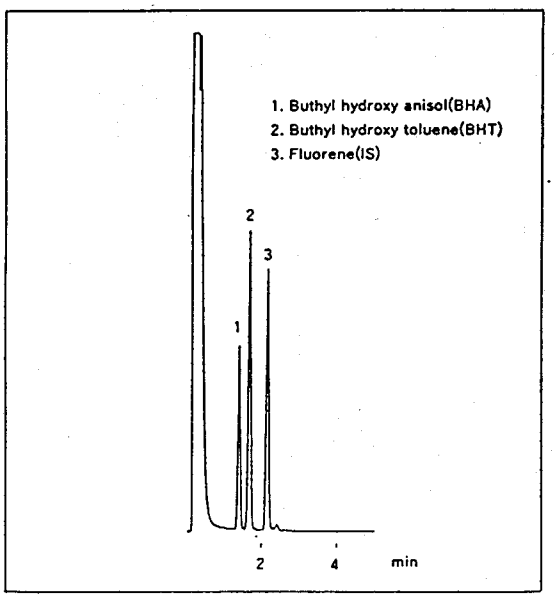

Fig. 1 Analysis of BHA, BHT by CBP1 Wide Bore Capillary Columns

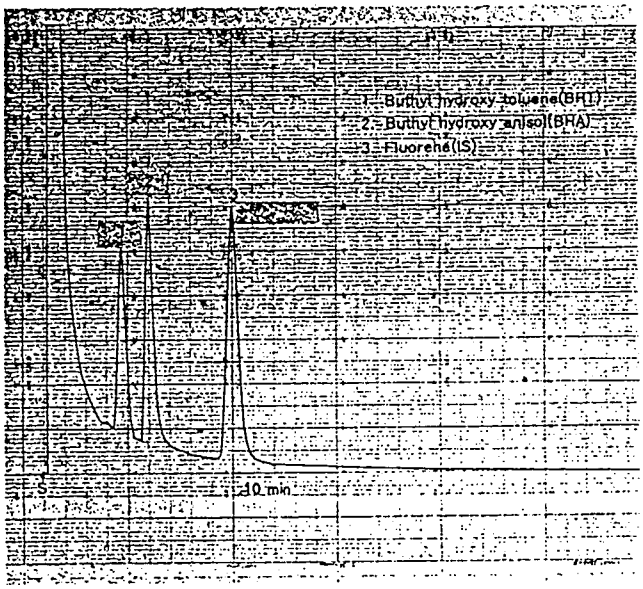

Fig. 2 Analysis of BHA, BHT by OV-25 Packed Columns

■ Analysis of Glycol by Total Amount Injection Method

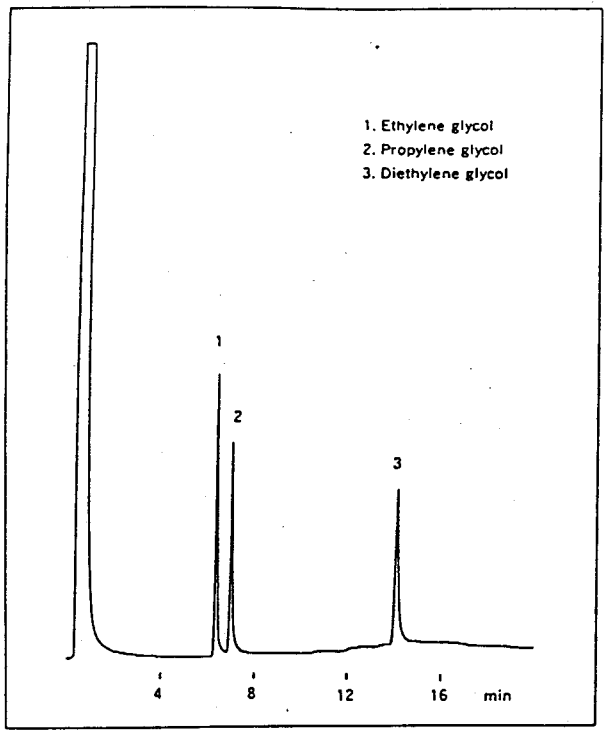

Fig. 3 Analysis of Glycol by CBP20 Wide Bore Capillary Columns

■ Analysis of Steroid Hormone by Total Amount Injection Method

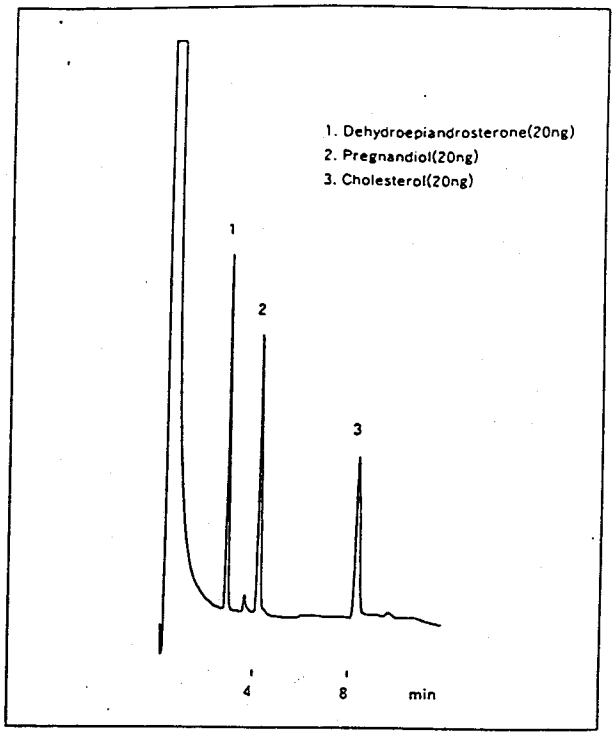

Fig. 4 Analysis of Steroid Hormone by CBP1 Wide Bore Capillary Columns

■ Analysis of a Cold Remedy (comparison with packed columns)

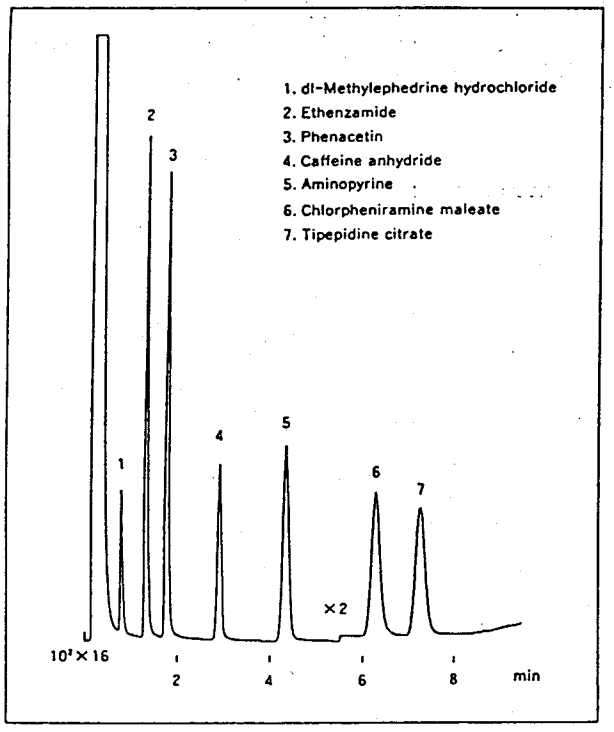

Fig. 5 Analysis of a Cold Remedy by Wide Bore Capillary Columns

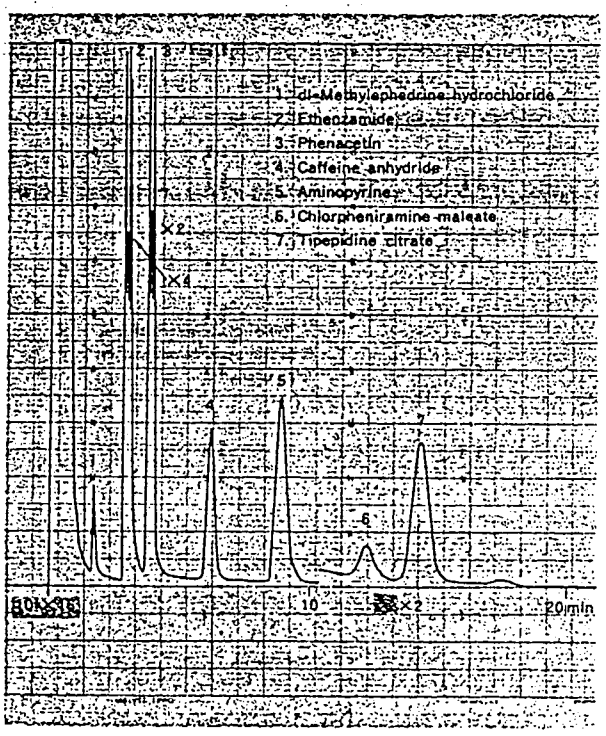

Fig. 6 Analysis of a Cold Remedy by SE30 Packed Columns

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