Waters
Lab Highlights
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VITAMINS
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ASCORBIC ACID (VITAMIN C) WITH µBONDAPAK™ NH_2 COLUMN

Vitamin C is a nutritional supplement which is commonly offered through its incorporation into beverages. Reverse-phase chromatographic techniques have not yielded reliable assays for this component from beverages due to the presence of numerous co-elutions. The use of a µBONDAPAK NH_2 column with the proper mobile phase can create ion-exchange conditions which will resolve Vitamin C from the interfering components within a beverage system. Selectivity is accomplished due to the UV absorbance properties of Vitamin C. Figure 1 illustrates the chromatographic response of a Vitamin C standard containing 0.5 mg/ml. Figure 2 was used to quantitate the Vitamin C content of a synthetic orange drink (0.35 mg/ml) while Figure 3 demonstrates the separation on freshly squeezed oranges (0.58 mg/ml). Figure 4 is included to demonstrate the linearity (peak area vs load) of the chromatographic system. Vitamin C can be quantitated at levels as low as 10 ng per injection.

Column:	Z-Module™ RCSS with µBONDAPAK™ NH_2 cartridge
Mobile Phase:	35/35/30 MeOH/CH_3CN/0.01 M KH_2PO_4
Injection:	5 µl
Flow:	4.0 ml/min
Detector:	UV 280 nm @ 0.02 AUFS
Chart:	1 cm/min

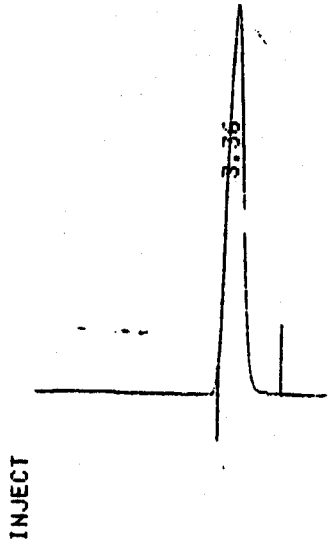

Figure 1

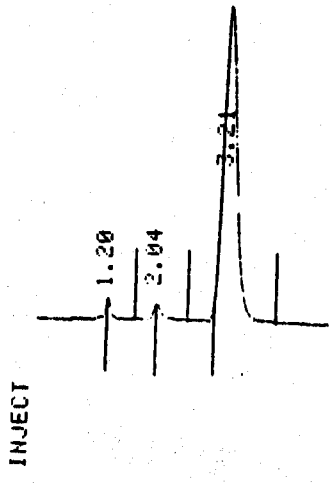

Figure 2

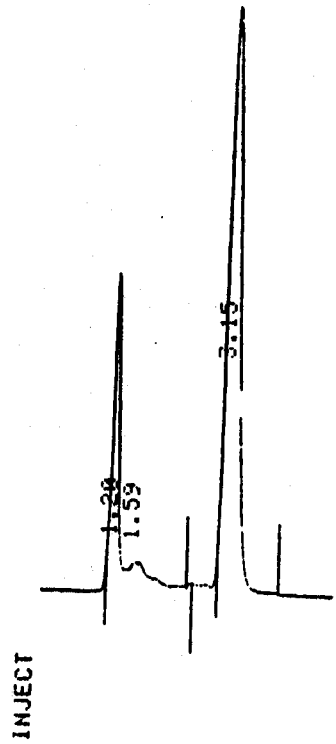

Figure 3

See reverse side for Figure 4

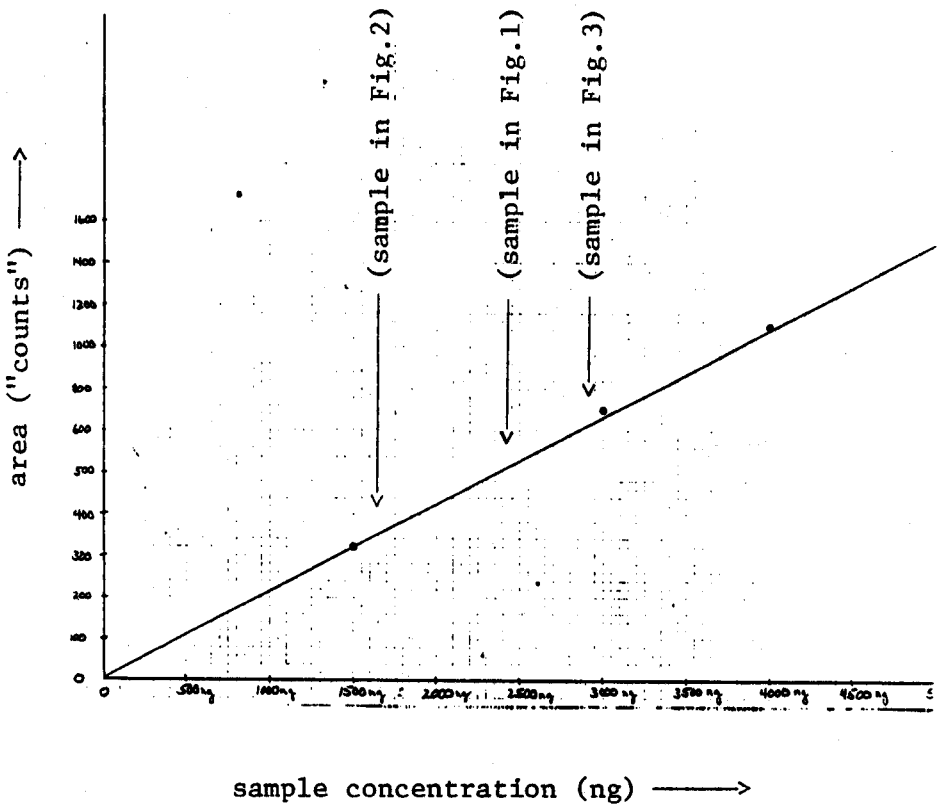

Figure 4

John Morawski