

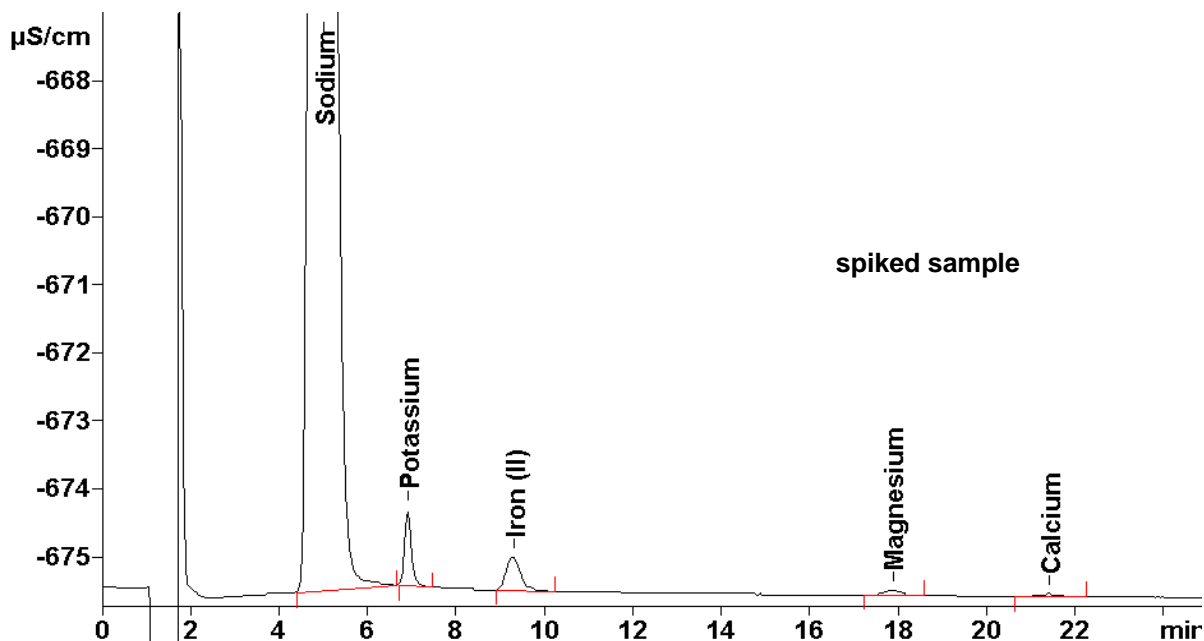
IC Application Note No. C-122

Title: Cations including total iron content in antifreeze (monoethyleneglycol)

Summary: Determination of sodium, potassium, iron(II), magnesium and calcium in antifreeze (monoethyleneglycol) using cation chromatography with direct conductivity detection. Ascorbic acid reduces iron(III) to iron(II). In this way total iron is determined as iron(II).

Sample: Monoethyleneglycol 74%
Sample Preparation: Dilution 1:10 with 20 mmol/L ascorbic acid in ultrapure water

Column: 6.1050.420 Metrosep C 4 – 150
Temperature: 35 °C
Eluent: 2.0 mmol/L nitric acid, 0.1 mmol/L dipicolinic acid
 3.0 mmol/L ascorbic acid
Flow: 0.9 mL/min
Injection Volume: 20 µL



Results:	Sodium mg/L	Potassium mg/L	Iron(II) mg/L	Magnesium mg/L	Calcium mg/L
Spiked sample	200	2.0	1.75	0.1	0.1