

IC Application Note No. S-215

Title: Qualitative determination of anions in urine to verify adulteration

Summary: Qualitative determination of chloride, phosphate and sulfate as well as chlorite, nitrite, chlorate, bromide and chromate in urine using anion chromatography with conductivity detection after chemical suppression.

Sample: Urine

Sample Preparation: Dilution 1 : 10 with ultrapure water

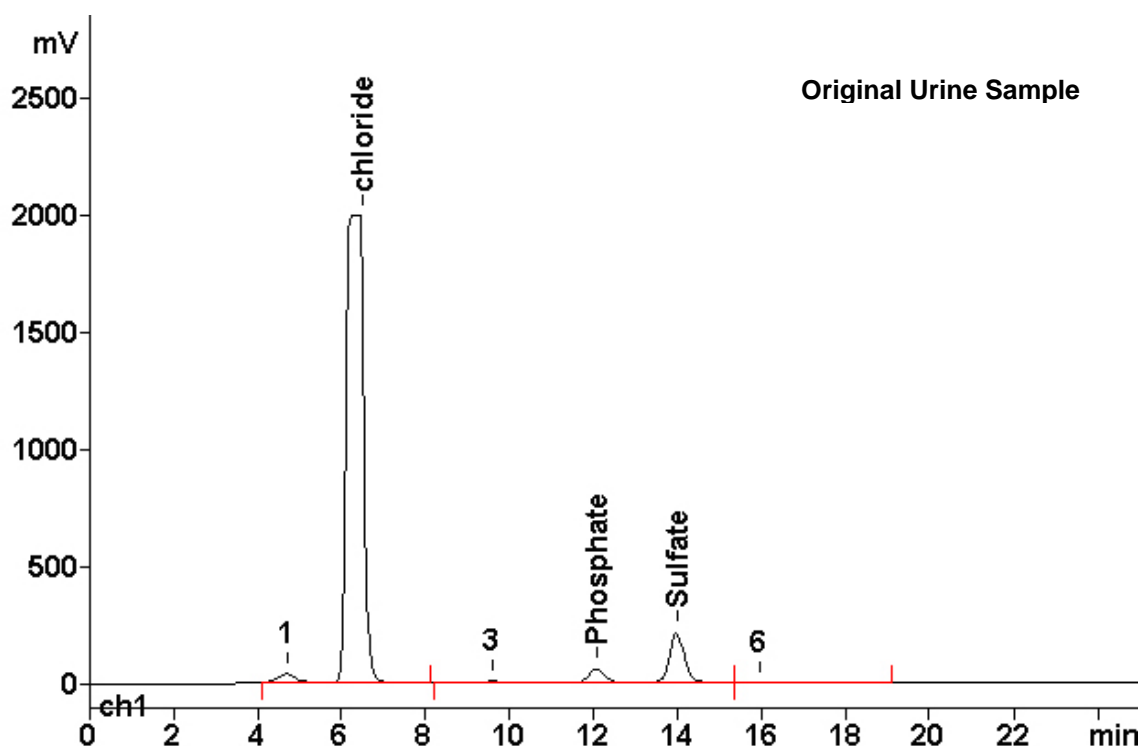
Column: 6.1006.530 Metrosep A Supp 5 – 250

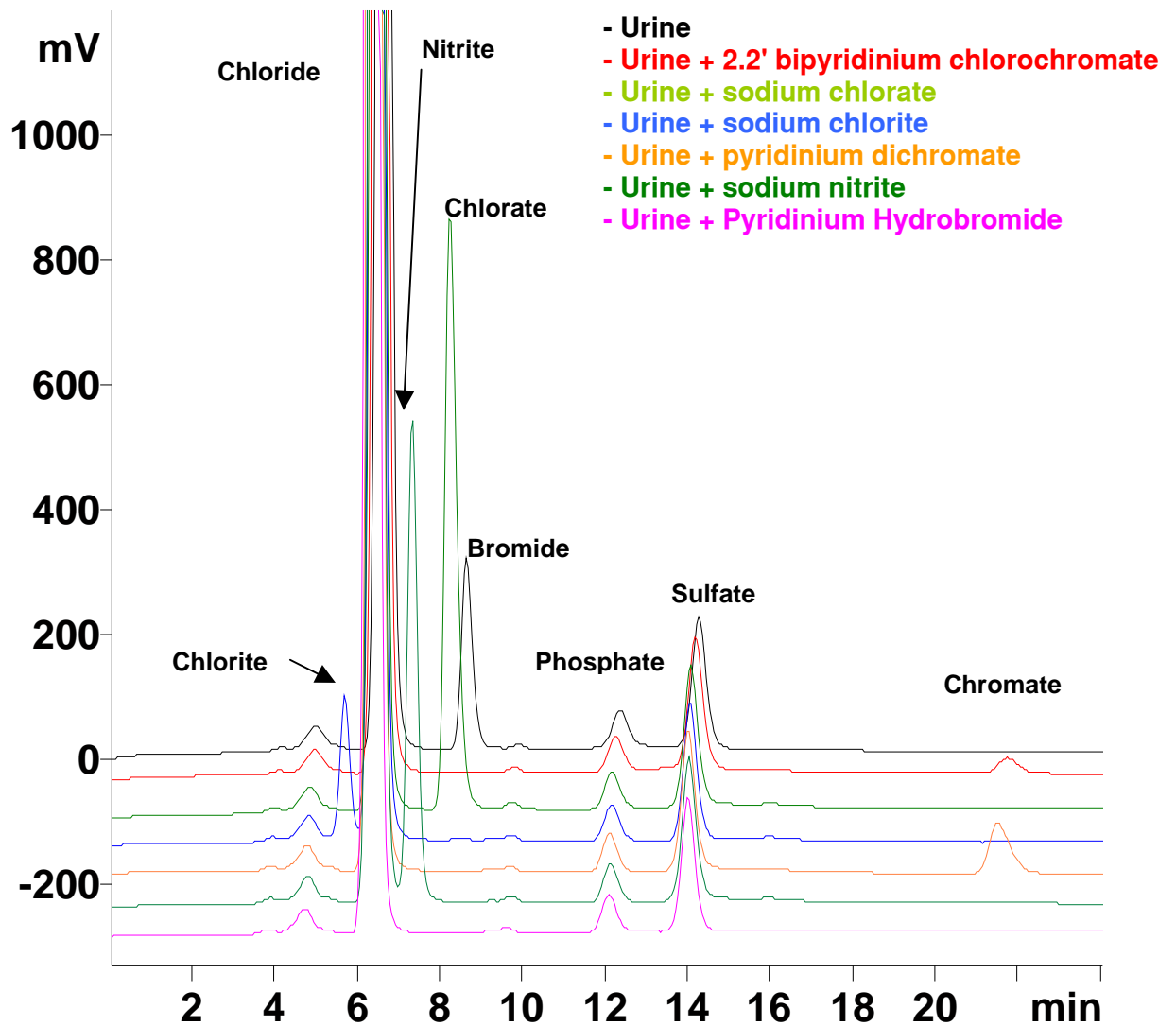
Eluent: 3.2 mmol/L sodium carbonate
1.0 mmol/L sodium hydrogencarbonate
1% acetonitrile

Suppressor: Metrohm Suppressor Module (MSM, 100 mmol/L sulfuric acid)

Flow: 0.7 mL/min

Injection Volume: 20 μ L





Results: In professional sports and also in pre-employment tests, human urine is screened for drug abuse. The color of the urine can be simulated by adding one of the components above to water. Sometimes hypochlorite salts are also added to the water to simulate urine. This application demonstrates the power of Ion Chromatography to verify salt adulteration in urine.