

Analysis of Chromium (III) Picolinate in Supplements by HPLC

Chromium picolinate has a chelating ligand structure in which 3 picolinic acid molecules are arranged around trivalent chromium and is widely used in diet-related supplements. Many types of chromium-containing supplements are currently on the market, but most domestically produced products in Japan use chromium yeast as an ingredient, while the majority of imported products contain chromium picolinate as an ingredient. However, excessive consumption over a long period of time may cause adverse reactions such as kidney failure.

Shown here is an example of chromium picolinate in supplements analyzed by HPLC. The content in supplements could easily be determined by simple solvent extraction.

Table 1. Analytical conditions

Column:	TSKgel ODS-100V, 5μm, 4.6mm ID x 15cm
Mobile phase:	A: water B: acetonitrile A/B = 90/10
Flow rate:	1.0mL/min
Temperature:	40°C
Injection vol.:	5 μ L
Detection:	UV@264nm

Figure 1. Chromatogram of chromium picolinate (10mg/L)

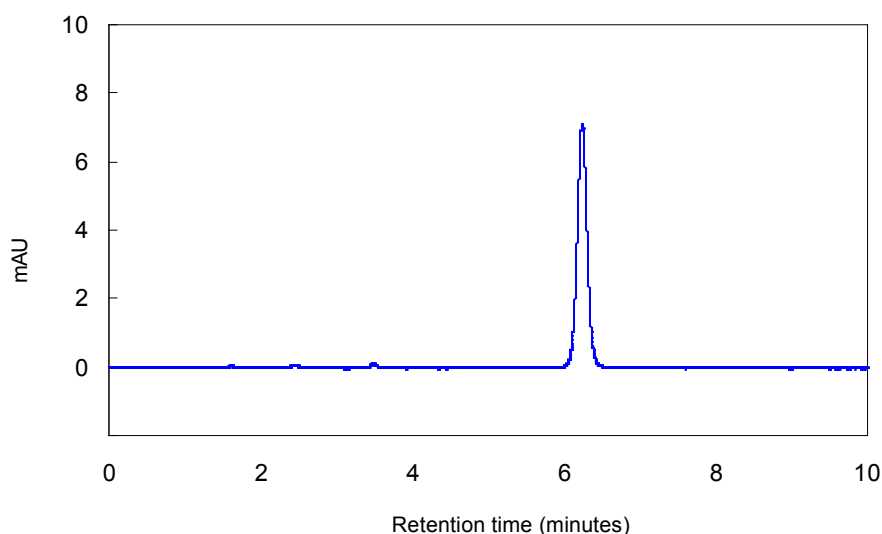


Figure 2. Pretreatment of supplement

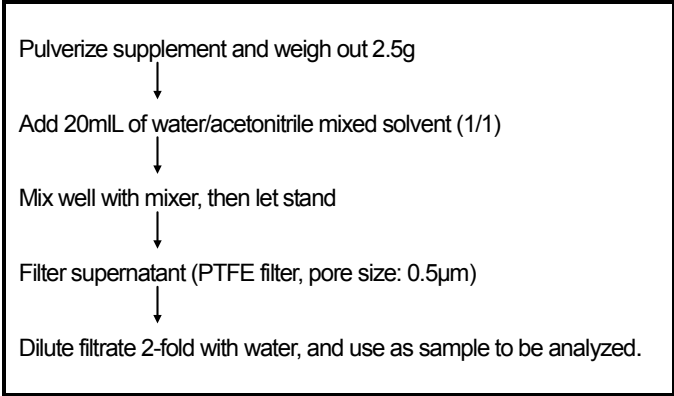


Figure 3. Chromatogram of supplement

