



U-5100

Analysis of NO₂⁻ in Water Sample by U-5100

INTRODUCTION

In the natural world, in general, nitrite ion is widely distributed in environment at a low concentration and its balance is maintained in the nitrogen cycle. However, due to the excessive use of fertilizers and inappropriate treatment of farm animal wastes, peroxy nitrite ion is entering groundwater. As a result, the levels of nitrite ion in natural and well waters are tend to be high. This time, the nitrite concentration in mineral water was analyzed and it was found to be 0.20 mg/L (should be 10 mg/L or less according to the water quality standard). The 6-cell turret in U-5100 switches the cells automatically and therefore, by the combined use with the reagent for the simple analysis, the high throughput analysis can be performed easily.

METHOD

Analyte : NO₂⁻
 Measurement method: Naphthyl-ethylenediamine method
 (Simple analysis by using the water quality analysis reagent of Kyoritsu Chemical-check Lab)
 Reagent : Kyoritsu Chemical-check lab, Water Quality Analysis Reagent Kit No.18 NO₂
 Assay range : 0.02 - 0.6 mg/L
 Refer to JIS K0102 43 and Standard Methods for the Examination of Water and Wastewater VI-2. 11 for the official method.

PREPARATION

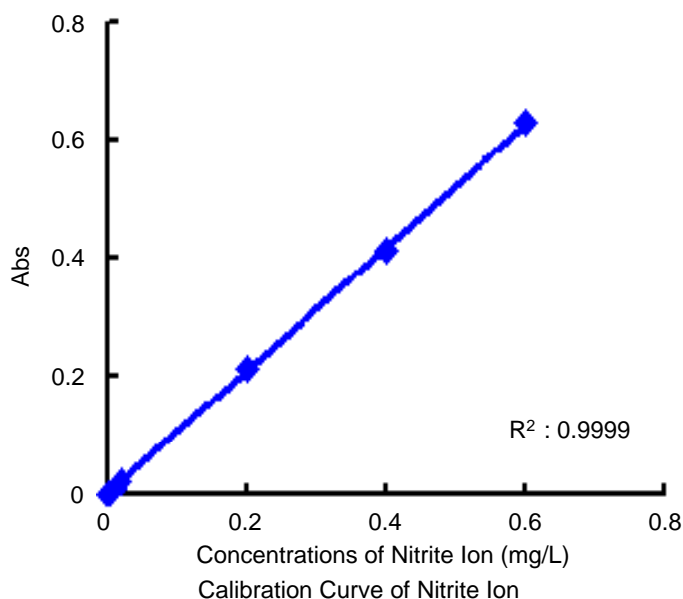
Water sample 25 mL
 | ← Add R-1 reagent (*1)
 Stir
 | ← Add R-2 reagent (*2)
 Stir
 | ← Let it stand for 5 min
 Solution for measurement

Temperature: room temperature
 1, * 2 Kyoritsu Chemical-check Lab, Water Quality Analysis Reagent Kit No.18 NO₂

• For details such as the effects of the interfering substances and reagent, please contact Kyoritsu Chemical-check Lab.

INSTRUMENT CONDITIONS

Instrument : U-5100
 Measurement wavelength : 539 nm
 Slit : 5 nm



Nitrite Ion in Mineral Water

	Absorbance	Concentration (mg/L)
Sample	0.207 ± 0.001	0.198 ± 0.001

n = 3

KEY WORDS

Environmental Analysis Related, Environmental Water, Environmental Chemistry, Environment, Clean Water, Mineral Water, Well Water, Color Reagent, NO₂⁻, Nitrite Ion, Calibration Curve, Nitrous Acid, UV, U-5100, U-1900, U-3900, U-3900H, U-2900, U-2910, U-3010, U-3310, U-1800, U-2800

Spectrophotometer (UV)

Sheet No. UV100008-01