

Analysis of Bi in Hydrochloric acid by Hydride Generation Method

Introduction : Hydrochloric acid containing bismuth at 1 µg/L was analyzed by the hydride generation method. The atomic absorption signal is stable due to the double beam effect of the polarized zeeman correction and bismuth at 1 µg/L can be analyzed with a good accuracy.

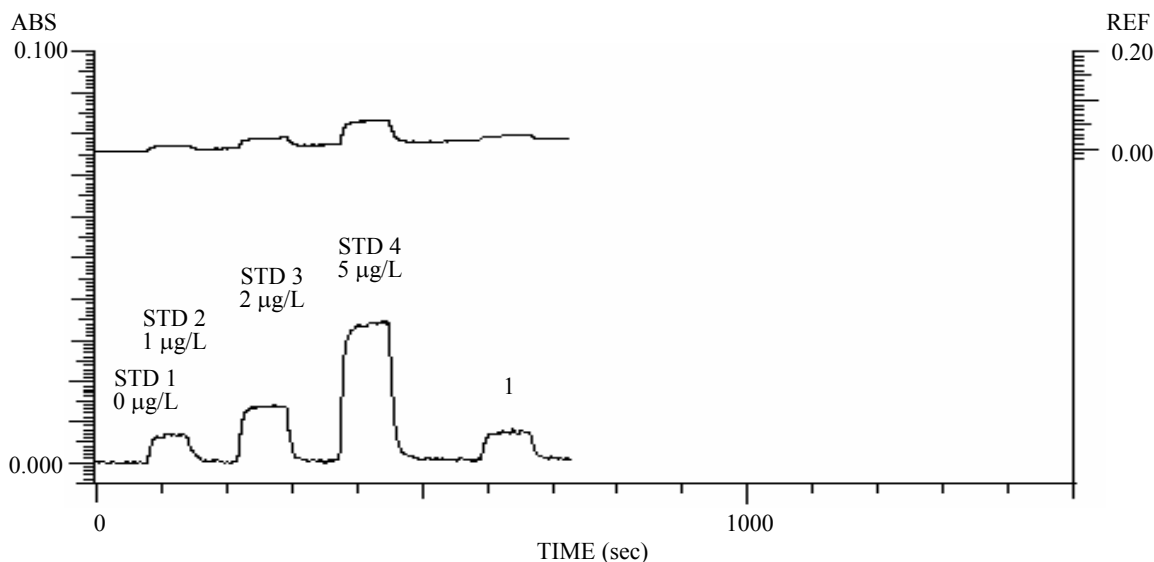
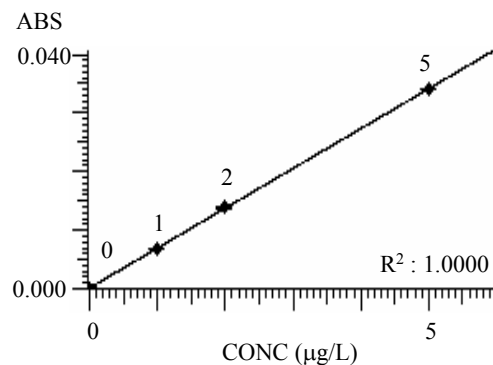
INSTRUMENT CONDITIONS		MEASUREMENT PARAMETERS
Element : Bi	Atomizer : STD Burner	Meas. Mode : Working Curve
Instrument : Z-2310	Flame : Air-C ₂ H ₂	Signal Mode : BKG Corrected
Atomization : Flame	Fuel (C ₂ H ₂) : 1.1 L/min	Curve Order : Linear
Wavelength : 223.1 nm	Oxidant (Air) : 160 kPa	Calculation : Integration
Lamp Current : 12.0 mA	15.0 L/min	Time Constant : 2.0 sec
Slit Width : 0.2 nm	Burner Height : 7.5 mm	Calculation Time : 5.0 sec
		Delay Time : 5 sec

NOTE : HFS-3 hydride generator was used.

The original sample solution was analyzed.

As the reaction solutions for the hydride generation, (1+4) hydrochloric acid and the 1% sodium borohydride + 0.2% sodium hydroxide mixed solution were used.

	CONC (µg/L)	Mean ABS	SD	RSD	REF
STD 1	0.00	0.0001	0.0001	100.00 %	-0.0042
STD 2	1.00	0.0069	0.0000	0.00 %	0.0062
STD 3	2.00	0.0139	0.0001	0.72 %	0.0223
STD 4	5.00	0.0341	0.0000	0.00 %	0.0583
1	1.04	0.0072	0.0002	2.78 %	0.0273



KEY WORDS

Material Processing Material-Related, Industrial Chemical, Industrial Chemistry, Inorganic Chemistry, Material, Metal, Hydrochloric Acid, Hydride Generation Method, Bismuth, Bi, Flame, HFS-3, AA, Z-2310, HCl

Atomic Absorption Photometer (AA)

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