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Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
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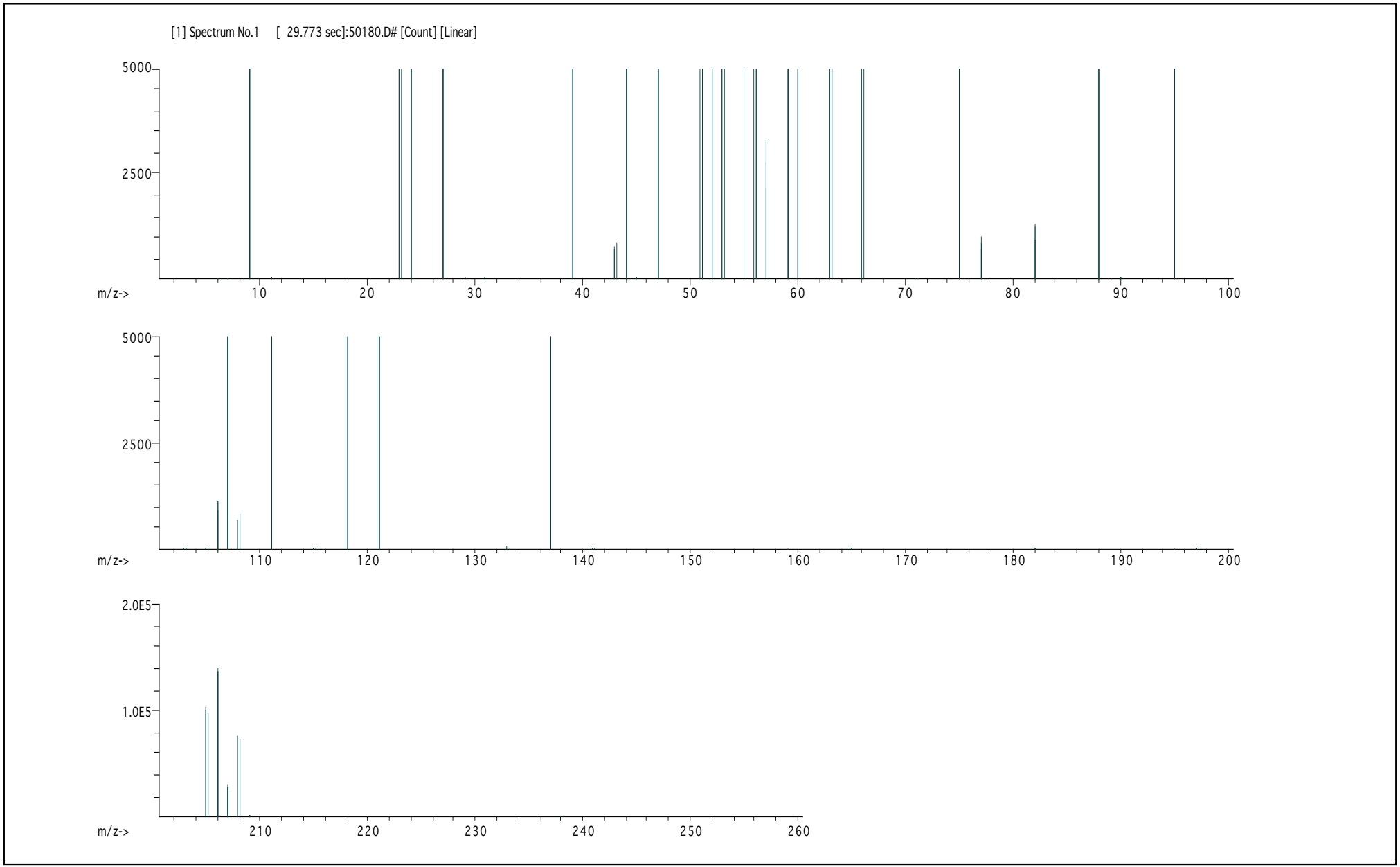
CERTIFIED WEIGHT REPORT:

		Lot #	Solvents:	
Part Number:	**50180** （产品编号：50180）	24002546	Nitric Acid	
Lot Number:	**111523**（产品批号：111523）	MKCJ5748	Hydrofluoric acid	
Description:	**ICP-MS Mix #1**			
	26 Components	5.0%	50.0	Nitric Acid
Expiration Date:	111526		Trace	Hydrofluoric acid
Recommended Storage:	Ambient (20 °C) （推荐保存条件：常温（20°C））		(mL)	
Nominal Concentration (µg/mL):	**100**			
NIST Test Number:	6UTB	5E-05	Balance Uncertainty	
Volumes shown below were diluted to (mL):	1000.12	0.058	Flask Uncertainty	

Formulated By:	Lawrence Barry	111523
Reviewed By:	Pedro L. Rentas	111523

	Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Nominal Conc. (µg/mL)	Initial Conc. (µg/mL)	**Final Conc. (µg/mL)**	Expanded Uncertainty +/- (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50	NIST SRM
									（实际浓度）	（扩展不确定度）				
1.	Silver nitrate (Ag)	58147	082922	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	7761-88-8	10 ug/m3	NA	3151
2.	Aluminum nitrate nonahydrate (Al)	58113	071123	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	7784-27-2	2 mg/m3	orl-rat 3671 mg/kg	3101a
3.	Arsenic (As)	58133	052623	0.0100	10.0	0.042	100	10001.0	**100.0**	**0.9**	7440-38-2	0.01 mg/m3	orl-rat 763 mg/kg	3103a
4.	Barium nitrate (Ba)	58156	050222	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	10022-31-8	0.5 mg/m3	orl-rat 355 mg/kg	3104a
5.	Beryllium nitrate (Be)	58104	091423	0.0100	10.0	0.042	100	10001.5	**100.0**	**0.9**	13597-99-4	0.2ug/m3	intrvns-rat 3.16mg/kg	NA
6.	Calcium carbonate (Ca)	58120	051123	0.0100	10.0	0.042	100	10001.3	**100.0**	**0.9**	471-34-1	5 mg/m3	orl-rat >2000mg/kg	3109a
7.	Cadmium nitrate tetrahydrate (Cd)	58148	051523	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	10022-68-1	0.2 mg/m3	orl-rat 300 mg/kg	3108
8.	Cobalt(II) nitrate hexahydrate (Co)	58127	050923	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	10026-22-9	0.02 mg/m3	orl-rat 691 mg/kg	3113
9.	Chromium(III) nitrate nonahydrate (Cr)	58124	092523	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	7789-02-8	0.5 mg(Cr)/m3	orl-rat 3250 mg/kg	3112a
10.	Copper(II) nitrate trihydrate (Cu)	58129	100223	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	10031-43-3	1 mg/m3	orl-rat 794 mg/kg	3114
11.	Iron (Fe)	58126	051523	0.0100	10.0	0.042	100	10001.5	**100.0**	**0.9**	7439-89-6	5 mg/m3	orl-rat 7500mg/kg	3126a
12.	Potassium nitrate (K)	58119	071123	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	7757-79-1	5 mg/m3	orl-rat 3750 mg/kg	3141a
13.	Magnesium nitrate hexahydrate (Mg)	58112	091823	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	13446-18-9	NA	orl-rat 5440 mg/kg	3131a
14.	Manganese(II) nitrate tetrahydrate (Mn)	58125	071123	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	20694-39-7	5 mg/m3	orl-rat >300mg/kg	3132
15.	Molybdenum (Mo)	58142X	080823	0.0100	10.0	0.042	100	10001.4	**100.0**	**0.9**	7439-98-7	15 mg/m3	orl-rat >5000mg/kg	3134
16.	Sodium nitrate (Na)	58111	071023	0.0100	10.0	0.042	100	10001.4	**100.0**	**0.9**	7631-99-4	5 mg/m3	orl-rat 3430 mg/kg	3152a
17.	Nickel(II) nitrate hexahydrate (Ni)	58128	062023	0.0100	10.0	0.042	100	10000.4	**100.0**	**0.9**	13478-00-7	1 mg/m3	orl-rat 1620 mg/kg	3136
18.	Lead(II) nitrate (Pb)	58182	110923	0.0100	10.0	0.042	100	10001.1	**100.0**	**0.9**	10099-74-8	0.05 mg/m3	intrvns-rat 93 mg/kg	3128
19.	Antimony (Sb)	58151	100923	0.0100	10.0	0.042	100	10001.4	**100.0**	**0.9**	7440-36-0	0.5 mg/m3	orl-rat 7000 mg/kg	3102a
20.	Selenium (Se)	58134	071223	0.0100	10.0	0.042	100	10002.5	**100.0**	**0.9**	7782-49-2	0.2 mg/m3	orl-rat 6700 mg/kg	3149
21.	Ammonium hexafluorostannate(IV) (Sn)	54583	051622	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	16919-24-7	7 mg/m3	NA	3161a
22.	Strontium nitrate (Sr)	58138	082922	0.0100	10.0	0.042	100	10000.1	**100.0**	**0.9**	10042-76-9	NA	orl-rat >2000mg/kg	3153a
23.	Ammonium hexafluorotitanate (Ti)	58122	050323	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	16962-40-6	2.5 (F) mg/m3	NA	3162a
24.	Thallium (Tl)	58181	061923	0.0100	10.0	0.042	100	10001.5	**100.0**	**0.9**	7440-28-0	0.1 mg/m3	orl-mus 15 mg/kg	3158
25.	Ammonium metavanadate (V)	58123	082823	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	7803-55-6	0.05 mg/m3	orl-rat 58.1mg/kg	3165
26.	Zinc nitrate hexahydrate (Zn)	58130	063023	0.0100	10.0	0.042	100	10000.0	**100.0**	**0.9**	10196-18-6	1 mg/m3	orl-rat 1190mg/kg	3168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m/z->
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190
200
2.0E5
1.0E5
m/z->
210
220
230
240
250
260

Instrumental Analysis by Inductively Coupled Plasma Mass Spectrometry (ICP-MS):

Trace Metals Verification by ICP-MS (µg/mL)

Al	T	Cd	T	Dy	<0.02	Hf	<0.02	Li	<0.02	Ni	T	Pr	<0.02	Se	T	Tb	<0.02	W	<0.02
Sb	T	Ca	T	Er	<0.02	Ho	<0.02	Lu	<0.02	Nb	<0.02	Re	<0.02	Si	<0.02	Te	<0.02	U	<0.02
As	T	Ce	<0.02	Eu	<0.02	In	<0.02	Mg	T	Os	<0.02	Rh	<0.02	Ag	T	Tl	T	V	T
Ba	T	Cs	<0.02	Gd	<0.02	Ir	<0.02	Mn	T	Pd	<0.02	Rb	<0.02	Na	T	Th	<0.02	Yb	<0.02
Be	T	Cr	T	Ga	<0.02	Fe	T	Hg	<0.2	P	<0.02	Ru	<0.02	Sr	T	Tm	<0.02	Y	<0.02
Bi	<0.02	Co	T	Ge	<0.02	La	<0.02	Mo	T	Pt	<0.02	Sm	<0.02	S	<0.02	Sn	T	Zn	T
B	<0.02	Cu	T	Au	<0.02	Pb	T	Nd	<0.02	K	T	Sc	<0.02	Ta	<0.02	Ti	T	Zr	<0.02

(T)= Target analyte

Physical Characterization:

Certified by:

Homogeneity: No heterogeneity was observed in the preparation of this standard.

* The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
* Purified acids, 18.2 megohm deionized water, calibrated Class A glassware and the highest purity raw materials are used in the preparation of all standards.
* All standard containers are meticulously cleaned prior to use.
* Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
* Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
* All Standards should be stored with caps tight and under appropriate laboratory conditions.
* Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, D.C. (1994).