Agilent Technologies

SUPELCO
Solutions within.

Certificate of Analysis

MMI-L Low Concentration Tuning Mix 100ml

Agilent Part Number: **G1969-85020** **Sample Lot Number:** LC11846
Storage Condition: **Refrigerate**

Concentration (weight to volume) and Purity/Grades:

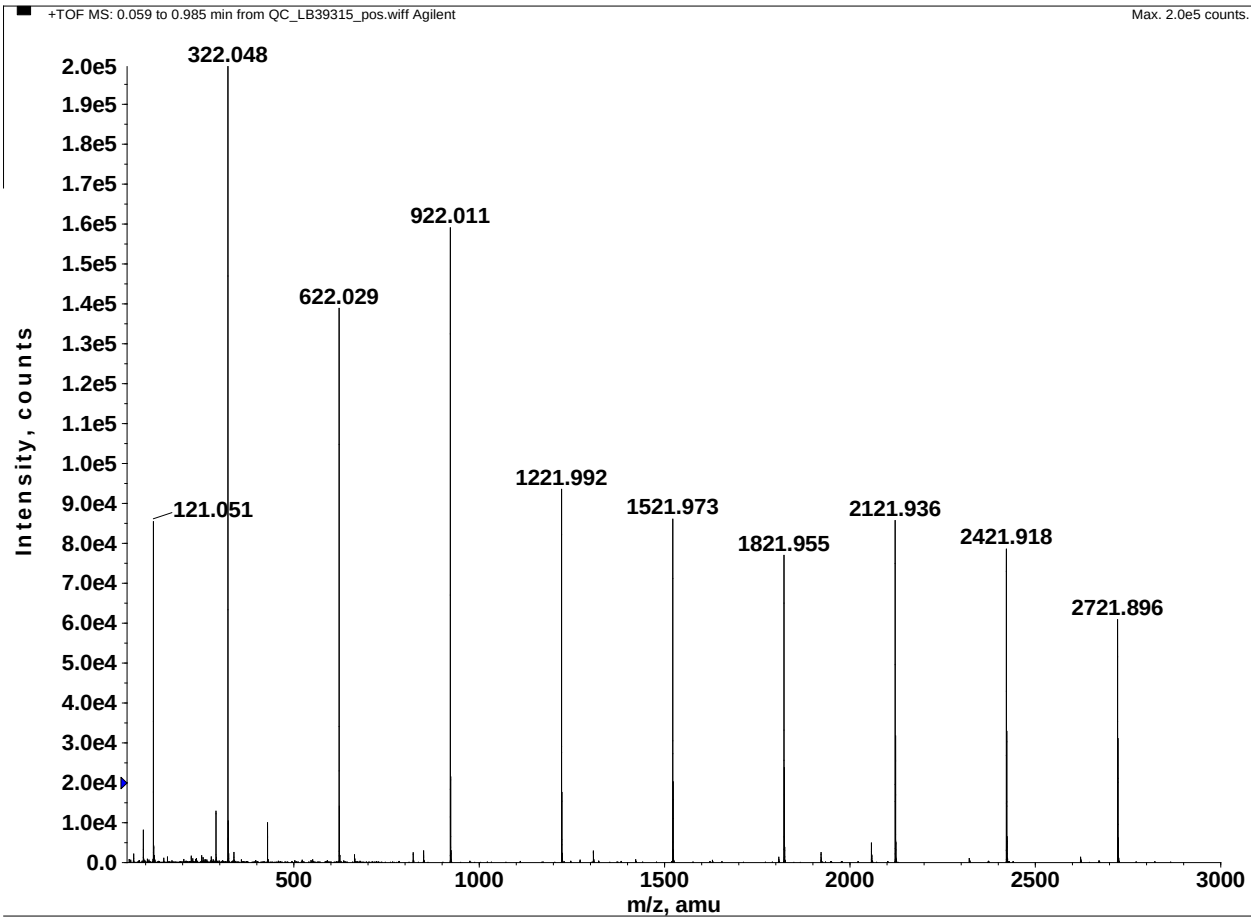
Neat Material	Gravimetric Conc. uM	Neat material Purity and/or Grade
Purine (CAS NO.:120-73-0)	3.20	99.9%
Trifluoroacetic acid ammonium salt (CAS NO.: 3336-58-1)	200.00	99.8%
Hexamethoxyphosphazine (CAS NO.: 957-13-1)	0.50	99.0%
Hexakis(2,2-difluoroethoxy)phosphazine (CAS NO.: 186817-57-2)	0.50	99.0%
Hexakis(1H, 1H, 3H-tetrafluoropropoxy)phosphazine (CAS NO.: 58943-98-9)	0.60	99.0%
Hexakis(1H, 1H, 5H-octafluoropentoxy)phosphazine (CAS NO.: 16059-16-8)	0.70	98.0%
Hexakis(1H, 1H, 7H-dodecafluoroheptoxy)phosphazine (CAS NO.: 3830-74-8)	1.10	97.0%
Hexakis(1H, 1H, 9H-perfluorononyloxy)phosphazine (CAS NO.: 186043-67-4)	2.75	99.0%
Hexakis(1H, 1H ,4H-hexafluorobutyloxy)phosphazine (CAS NO.: 186406-47-3)	0.50	99.0%
Hexakis(1H, 1H, 6H-decafluorohexyloxy)phosphazine (CAS NO.: 186406-48-4)	0.75	97.0%
Hexakis(1H, 1H, 8H-tetradecafluorooctyloxy)phosphazine (CAS NO.: 186406-49-5)	1.50	98.0%
Tris(trifluoromethyl)-1, 3, 5-triazine (CAS NO.: 368-66-1)	5.00	98.8%
Tris(heptafluoropropyl)-1, 3, 5-triazine (CAS NO.: 915-76-4)	2.10	98.0%

Solvent Composition:

Acetonitrile (CAS NO.: 75-05-8)	95.0%	HPLC grade 99.9%
DI Water (CAS NO.: 7732-18-5)	5.0%	De-ionized

Traceability: This standard has been produced gravimetrically using ISO9001 quality procedures. NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. API-Mass spectrometry was used to evaluate this multi-standard solution.

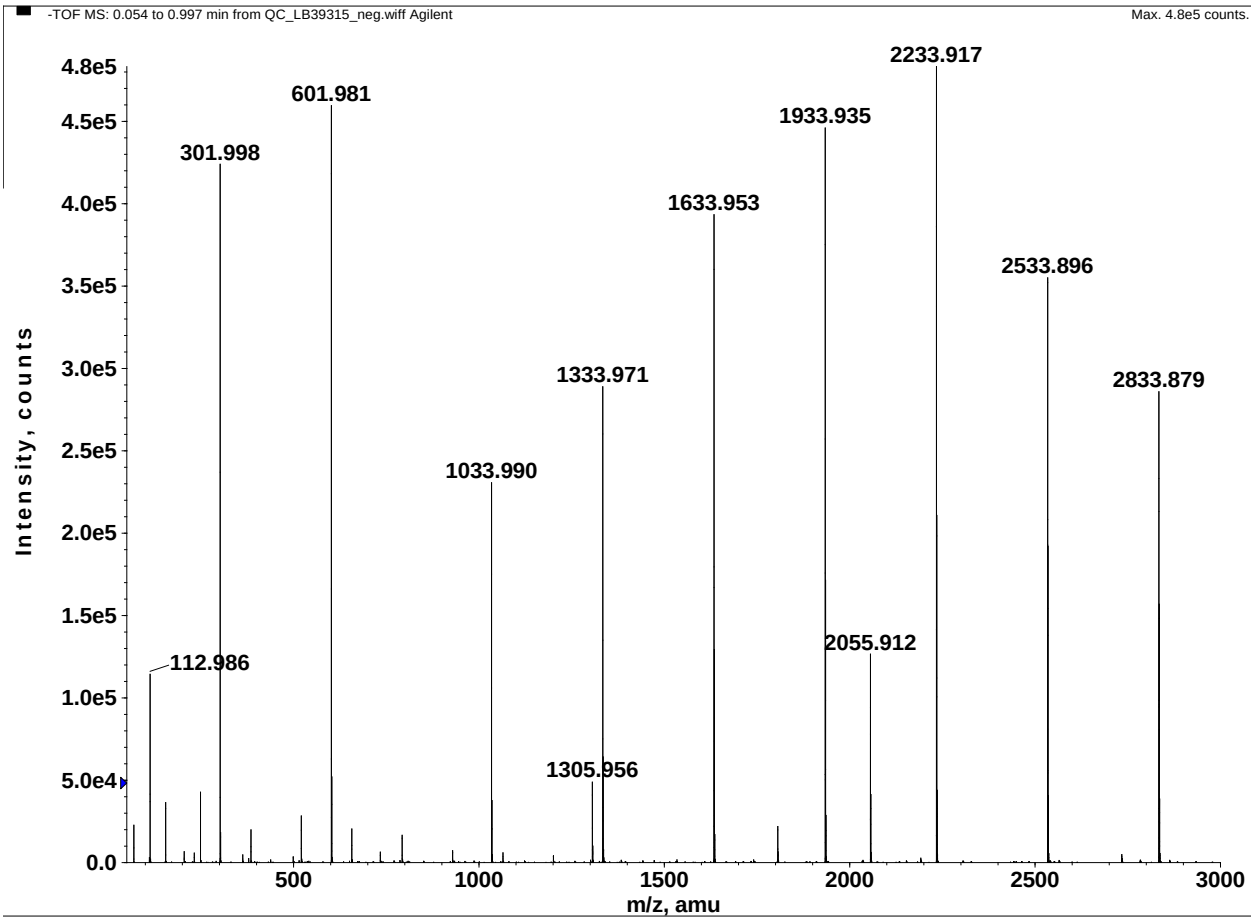
MMI-TOF Positive Ion Mode Mass Spectrum



Sample: G1969-85020 MMI-TOF Tuning Mix
Instrument: Agilent G1969A API-TOF MS
Mode/Polarity: MMI / Positive ion
CDS infusion rate: 0.1 ml/min
Nebulizer pressure: 60 psig
Drying gas flow: 5 L/min
Drying gas temperature: 325 °C
Vaporizer: 200°C
Charging Electrode: -2 kV
Vcap: -2.5 kV
Corona current: 2 uA
Fragmentor: 215 V
Oct. RF: 250 V pk
Scan range: m/z 50-3000

Transients: 10,000
Flight tube: -6.5 kV
MCP: 650 V
PMT: 675 V

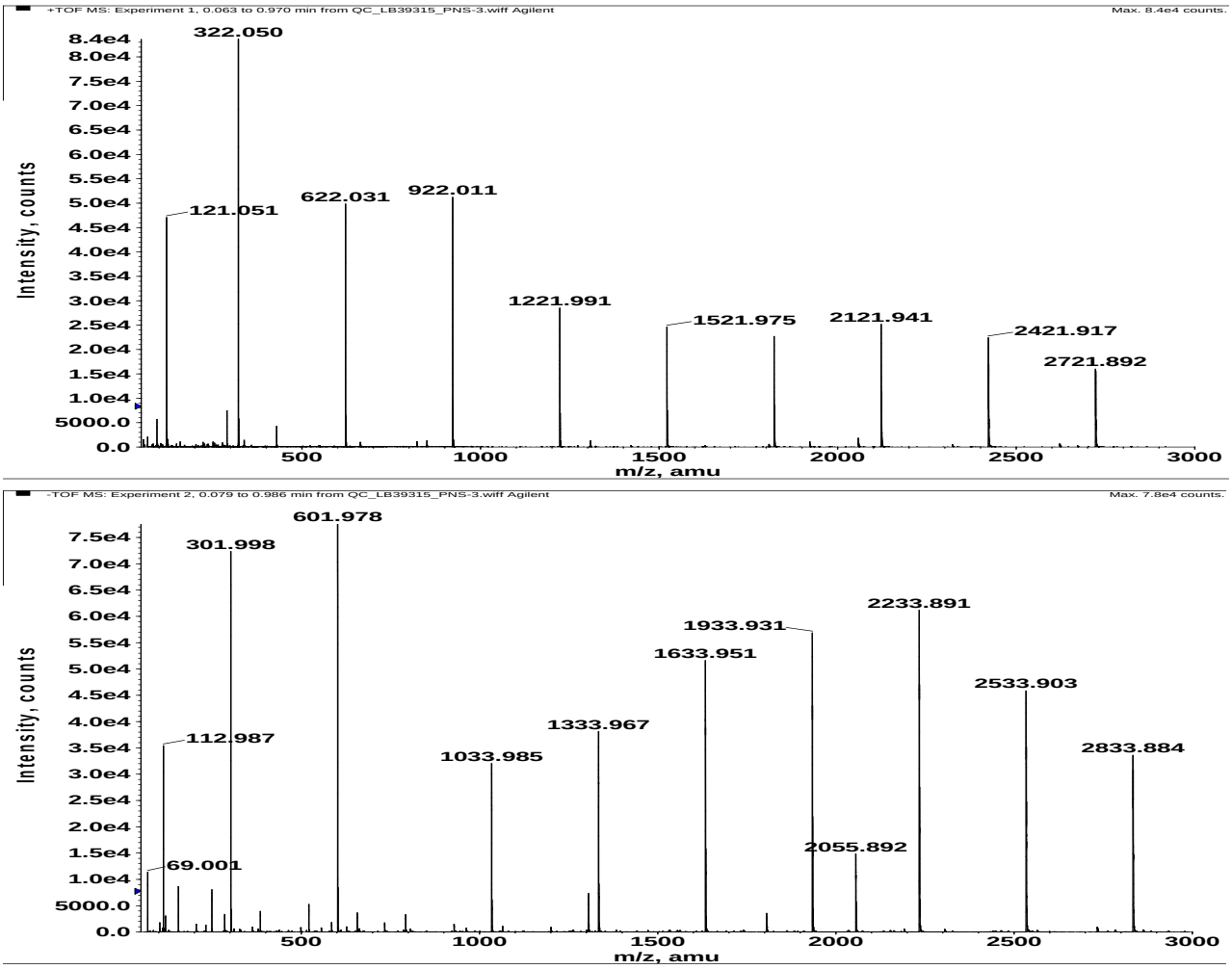
MMI-TOF Negative Ion Mode Mass Spectrum



Sample: G1969-85020 MMI-TOF Tuning Mix
Instrument: Agilent G1969A API-TOF MS
Mode/Polarity: MMI / Negative ion
CDS infusion rate: 0.1 ml/min
Nebulizer pressure: 60 psig
Drying gas flow: 5 L/min
Drying gas temperature: 325 °C
Vaporizer: 200°C
Charging Electrode: +2kV
Vcap: -2.5 kV
Corona current: 0 uA
Fragmentor: -165 V
Oct. RF: 250 V pk
Scan range: m/z 50-3000

Transients: 10,000
Flight tube: +6.5 kV
MCP: 650 V
PMT: 702 V

MMI-TOF POS/NEG Fast Polarity Switching Mass Spectra



Sample: G1969-85020 MMI-TOF Tuning Mix
Instrument: Agilent G1969A API-TOF MS
Mode/Polarity: MMI POS/NEG Fast Polarity Switching
CDS infusion rate: 0.1 ml/min
Nebulizer pressure: 60 psig
Drying gas flow: 5 L/min
Drying gas temperature: 325 °C
Vaporizer: 200°C
Charging Electrode: (±) 2kV
Vcap: (±) 2.5 kV
Corona current: 2 uA / 0 uA
Fragmentor: 215 V / - 165V

Oct. RF: 250 V pk
Scan range: m/z 50-3000
Transients: 5,000
Flight tube: (±) 6.5 kV
MCP: 650 V
PMT: 750 V

PRINCIPAL IONS

MASS	POS	NEG
1	**121.050873**	**112.985587**
2	**322.048121**	**301.998139**
3	**622.028960**	**601.978977**
4	**922.009798**	**1033.988109**
5	**1221.990637**	**1333.968947**
6	**1521.971475**	**1633.949786**
7	**1821.952313**	**1933.930624**
8	**2121.933152**	**2233.911463**
9	**2421.913990**	**2533.892301**
10	**2721.894829**	**2833.873139**

Date of Manufacture: 09 JANUARY 2015
Date of Expiration: 09 JANUARY 2016

Duane Funk

Duane Funk
Quality Manager
Supelco, Inc