



Certificate of Analysis

ESI Tuning Mix 100ml

Agilent Part Number: G2421A/G2421-60001 **Sample Lot Number:** A121912

Storage Condition: Room Temperature

Concentration (weight to volume) and Purity/Grades:

| Neat Material | Gravimetric Conc. | Neat material Purity and/or Grade |
|---|-------------------|-----------------------------------|
| Betaine (CAS NO.: 107-43-7) | < 0.01% | 99.0% |
| Trifluoroacetic Acid Ammonium Salt (CAS NO.: 3336-58-1) | < 0.01% | 99.6% |
| Hexamethoxyphosphazene (CAS NO.: 957-13-1) | < 0.01% | 99.0% |
| Hexakis(2,2-Difluoroethoxy)Phosphazene (CAS NO.: 186817-57-2) | < 0.01% | 99.0% |
| Hexakis(1H, 1H, 3H-Tetrafluoropropoxy)Phosphazene (CAS NO.: 58943-98-9) | < 0.01% | 99.0% |
| Hexakis(1H, 1H, 5H-Octafluoropentoxy)Phosphazene (CAS NO.: 16059-16-8) | < 0.01% | 97.0% |
| Hexakis(1H, 1H, 7H-Dodecafluoroheptoxy)Phosphazene (CAS NO.: 3830-74-8) | < 0.01% | 99.0% |
| Hexakis(1H, 1H, 9H-Perfluorononyloxy)Phosphazene (CAS NO.: 186043-67-4) | < 0.01% | 97.0% |
| Tris (heptafluoropropyl)-S-Triazine (CAS NO.: 915-76-4) | < 0.01% | 99.1% |

Solvent Composition:

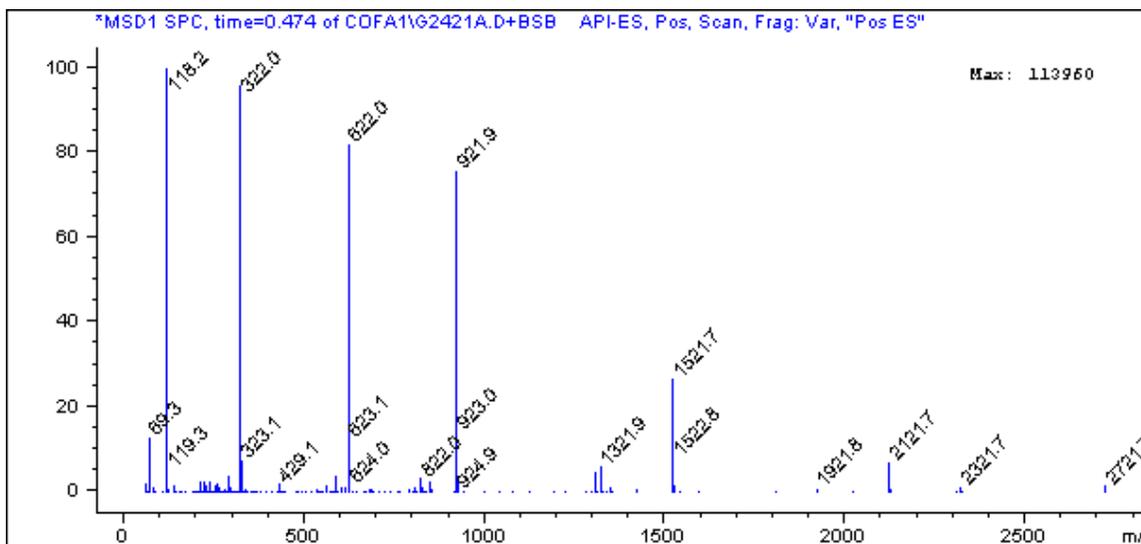
| | | |
|---------------------------------|-------|------------------|
| Acetonitrile (CAS NO.: 75-05-8) | 95.0% | HPLC grade 99.9% |
| DI Water (CAS NO.: 7732-18-5) | 5.0% | De-ionized |

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. High-performance liquid chromatography mass spectroscopy was used to evaluate system performance.

Analytical Spectrum or Chromatogram: Fragmentation Pattern



Agilent 1100 Series LC system:
G1354A Quaternary Pump (includes degasser)
G1313A Automatic liquid Sampler (ALS)

Agilent 1100 Series LC/MSD:
G1946D LC/MSD SL
G1948A API-Electrospray source
G1947A APCI source

G2421A Electrospray Tuning Calibrant

Column: None
Column Temp: N/A
Flow Rate: 0.4ml/min
Mobile Phase: 75:25 Acetonitrile/Water
Ionization Mode: Positive Electrospray
Nebulizer Pressure: 40 psi
Drying Gas Flow: 10L/min
Drying Gas Temp: 350 deg C
Scan Range: 50-3000
Step Size: 0.15amu

PRINCIPLE IONS

| MASS | POS | NEG |
|------|---------|---------|
| 1 | 118.09 | 112.99 |
| 2 | 322.05 | 431.98 |
| 3 | 622.03 | 601.98 |
| 4 | 922.01 | 1033.99 |
| 5 | 1521.97 | 1633.95 |
| 6 | 2121.93 | 2233.91 |
| 7 | 2721.89 | 2833.87 |

Date of Manufacture: 19 JULY 2016

Date of Expiration: 19 JULY 2018