

Certificate of Analysis

ESI + APCI LC Demo Sample

Agilent Part Number: G1978-85000 Sample Lot Number: LB73318

Concentration: Weight to Volume and Purity/Grade

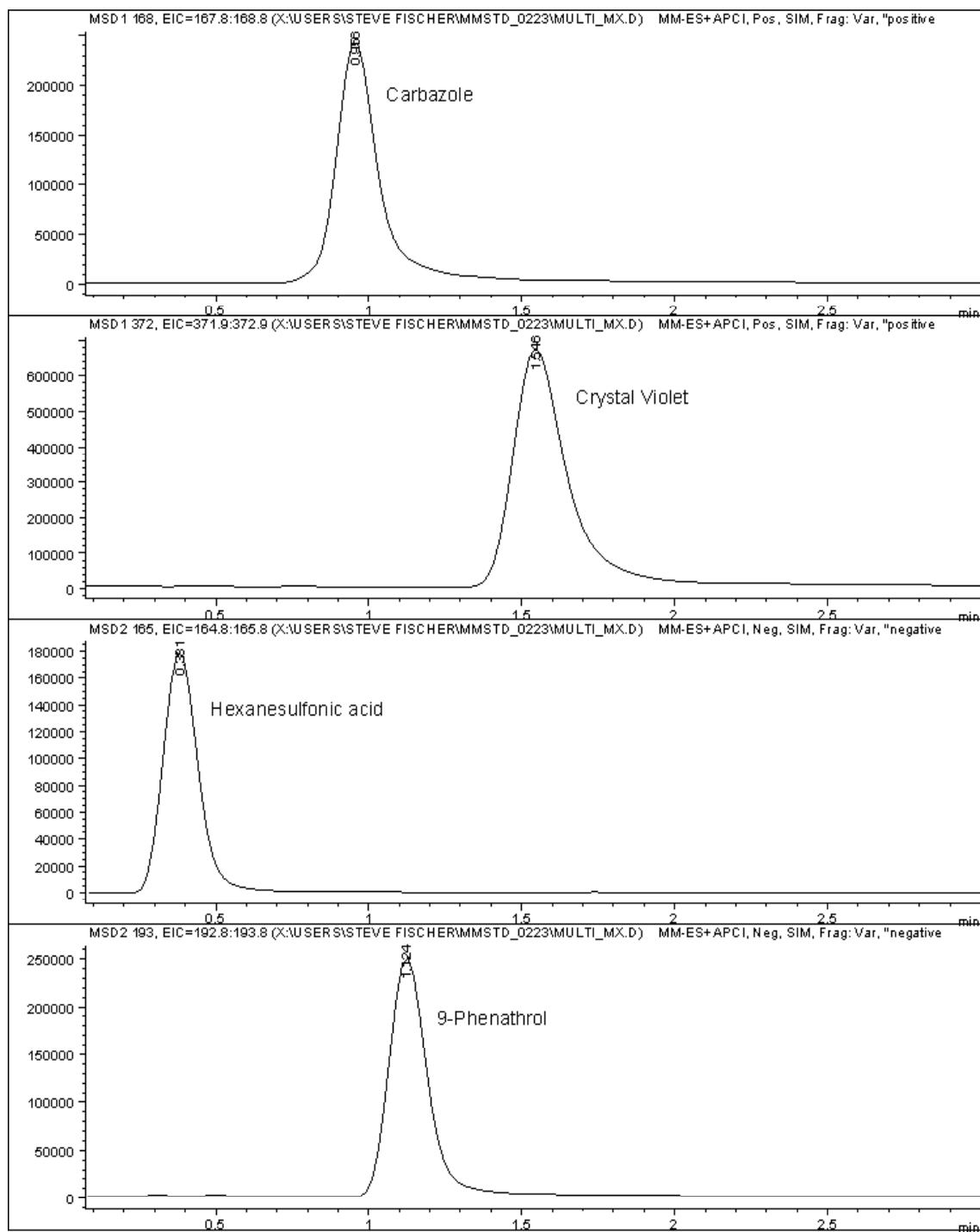
Neat Material	Gravimetric Conc.	Purity and/or Grade
Crystal Violet (CAS NO.: 548-62-9)	0.33 ng/ul	90.90% dye content
Carbazole (CAS NO.: 86-74-8)	150.00 ng/ul	99.90% GCFID
1-Hexanesulfonic acid sodium salt (CAS NO.: 2832-45-3)	5.00 ng/ul	37.67% Carbon, Elemental Analysis
9-Phenanthrol (CAS NO.: 484-17-3)	150.00 ng/ul	97.60% HPLC

Solvent Composition	Concentration	Neat Material Purity and/or Grade
Di-Water (CAS NO.: 7732-18-5)	40.0%	De-ionized
Methanol (CAS NO.: 67-56-1)	59.0%	Capillary High Resolution Grade 99.9%
Acetic Acid (CAS No.: 64-19-7)	1.0%	Reagent Plus >/ 99.0%

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 $\mu\text{g/ml} \pm 0.5\%$, uncertainty based upon balance and Class A volumetric glassware.

Analytical Spectrum:



NOTE:

- Carbazole ionizes predominantly in the positive APCI mode.
- Crystal violet ionizes only in the positive ESI mode.

- 1-Hexanesulfonic acid sodium salt ionizes only in the negative ESI mode.
- 9-Phenanthrol ionizes predominantly in the negative APCI mode.

Agilent 1100 Series LC System:

G1354A Quaternary Pump (incl. degasser)

G1313A Automatic Liquid Sampler (ALS)

G1956B LC/MSD SL

G1978A Multimode APCI+ESI source

Column: Zorbax SB-C18 Rapid Resolution Cartridge 2.1 x 30 mm, 3.5 um

Column Temperature: Ambient

Flow Rate: 0.4 ml/min

Mobile Phase: 65 methanol : 35 Water : 0.2 acetic acid

Ionization Mode: MM-APCI+ESI, pos/neg switching

Nebulizer: 60 psi

Drying gas flow: 5 L/min

Drying gas temperature: 350 C

Vaporizer: 200 C

Charging Voltage: 2000

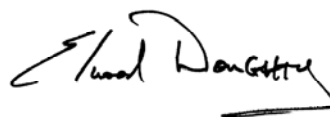
Capillary Voltage: 1000

SIM Ion positive: 168.1 , 372.2

SIM Ion negative: 165.1, 193.1

Date of Manufacture: 04 FEBRUARY 2010

Date of Expiration: 04 FEBRUARY 2011



Elwood Doughty
QA Manager
Supelco, Inc.