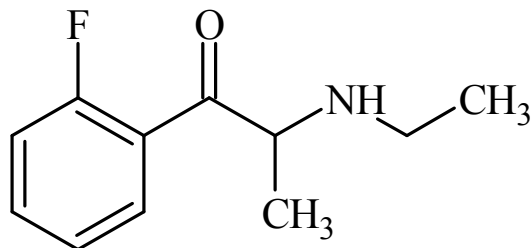




## 2-Fluoroethcathinone

The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.



### 1. GENERAL INFORMATION

**IUPAC Name:** 2-(ethylamino)-1-(2-fluorophenyl)propan-1-one

**CAS#:** NA

**Synonyms:** 2-FEC

**Source:** DEA Reference Material Collection

**Appearance:** White powder (HCl)

**UV<sub>max</sub>(nm):** 246.9

### 2. CHEMICAL AND PHYSICAL DATA

#### 2.1 CHEMICAL DATA

| Form | Chemical Formula                          | Molecular Weight | Melting Point (°C) |
|------|---|------------------|--------------------|
| Base | C <sub>11</sub> H <sub>14</sub> FNO       | 195              | Not Determined     |
| HCl  | C <sub>11</sub> H <sub>14</sub> FNO · HCl | 231              | 154.7              |



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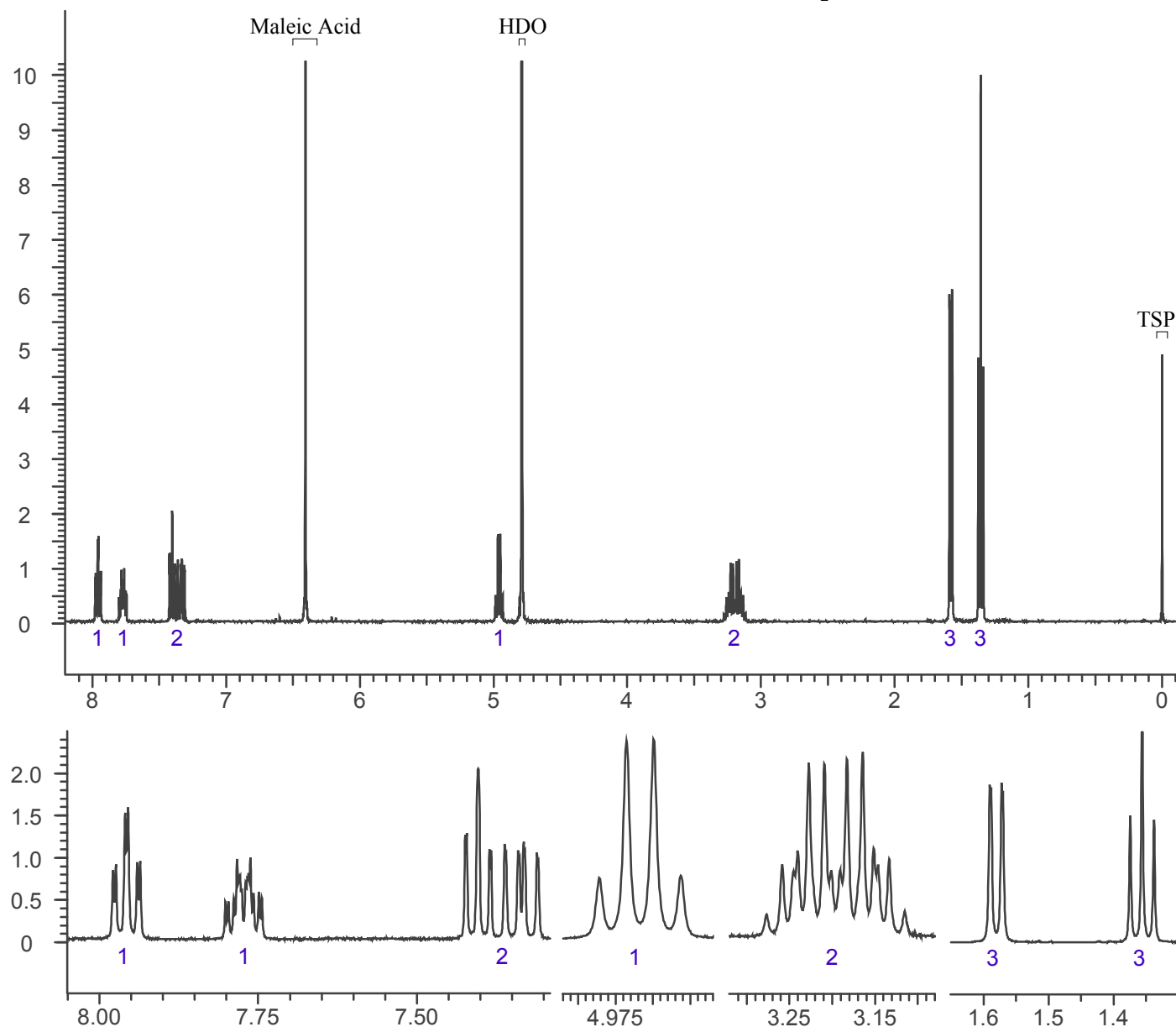
### 3. QUALITATIVE DATA

#### 3.1 NUCLEAR MAGNETIC RESONANCE

*Sample Preparation:* Dilute analyte to ~5 mg/mL in D<sub>2</sub>O containing TSP for 0 ppm reference and maleic acid as quantitative internal standard.

**Instrument:** 400 MHz NMR spectrometer  
**Parameters:** Spectral width: at least containing -3 ppm through 13 ppm  
Pulse angle: 90°  
Delay between pulses: 45 seconds

<sup>1</sup>H NMR: 2-Fluoroethcathinone HCl; Lot 0434902-9; D<sub>2</sub>O; 400MHz





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### 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

**Sample Preparation:** Dilute analyte ~4 mg/mL in chloroform.

**Instrument:** Agilent gas chromatograph operated in split mode with MS detector  
**Column:** DB-1 MS (or equivalent); 30m x 0.25 mm x 0.25  $\mu$ m  
**Carrier Gas:** Helium at 1 mL/min  
**Temperatures:** Injector: 280°C

MSD transfer line: 280°C

MS Source: 230°C

MS Quad: 150°C

Oven program:

1) 100°C initial temperature for 1.0 min

2) Ramp to 300°C at 12 °C/min

3) Hold final temperature for 9.0 min

**Injection Parameters:** Split Ratio = 20:1, 1  $\mu$ L injected

**MS Parameters:** Mass scan range: 30-550 amu

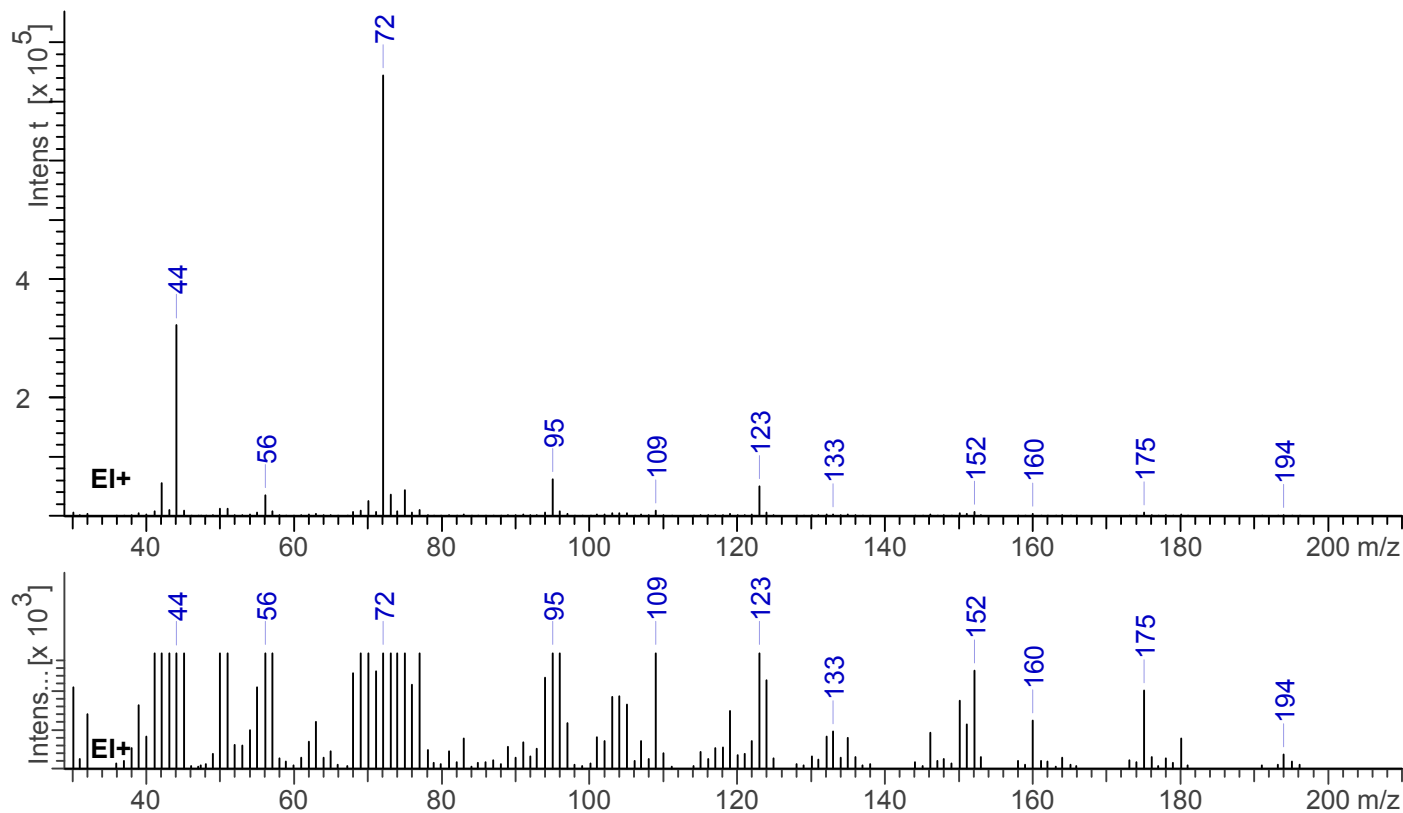
Threshold: 100

Tune file: stune.u

Acquisition mode: scan

**Retention Time:** 6.350 min

EI Mass Spectrum: 2-Fluoroethcathinone HCl; Lot 0434902-9





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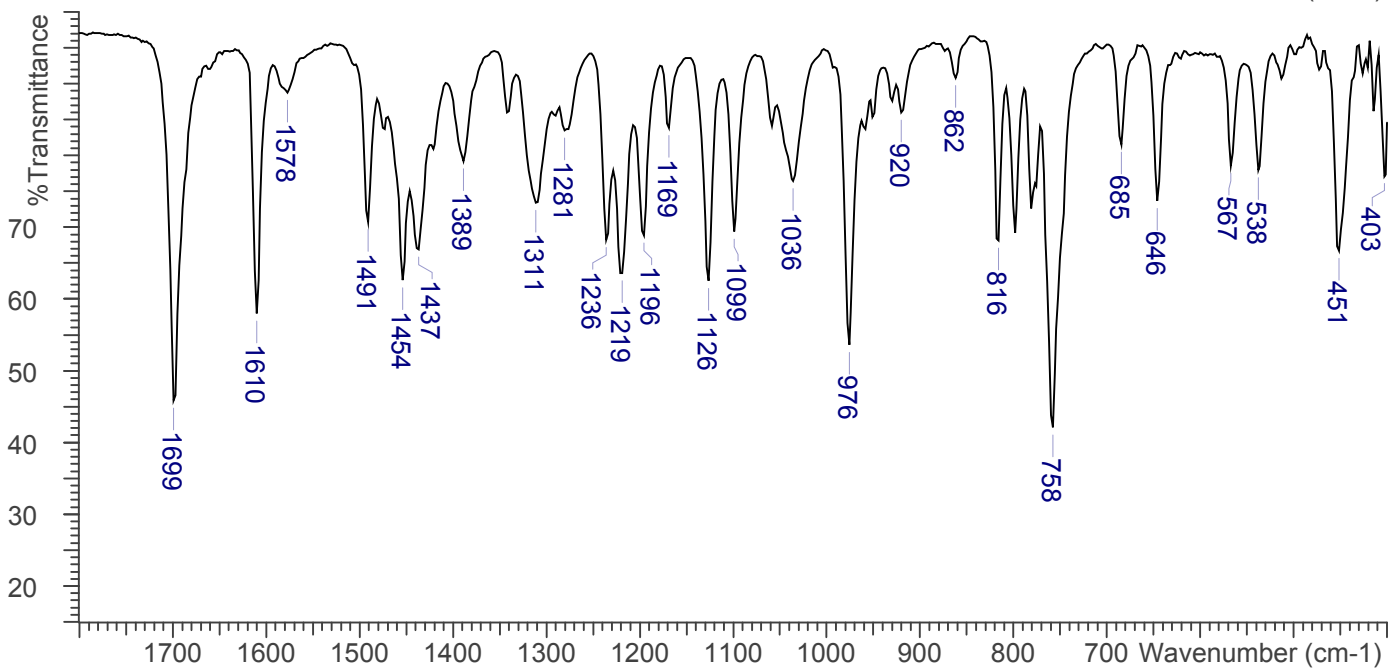
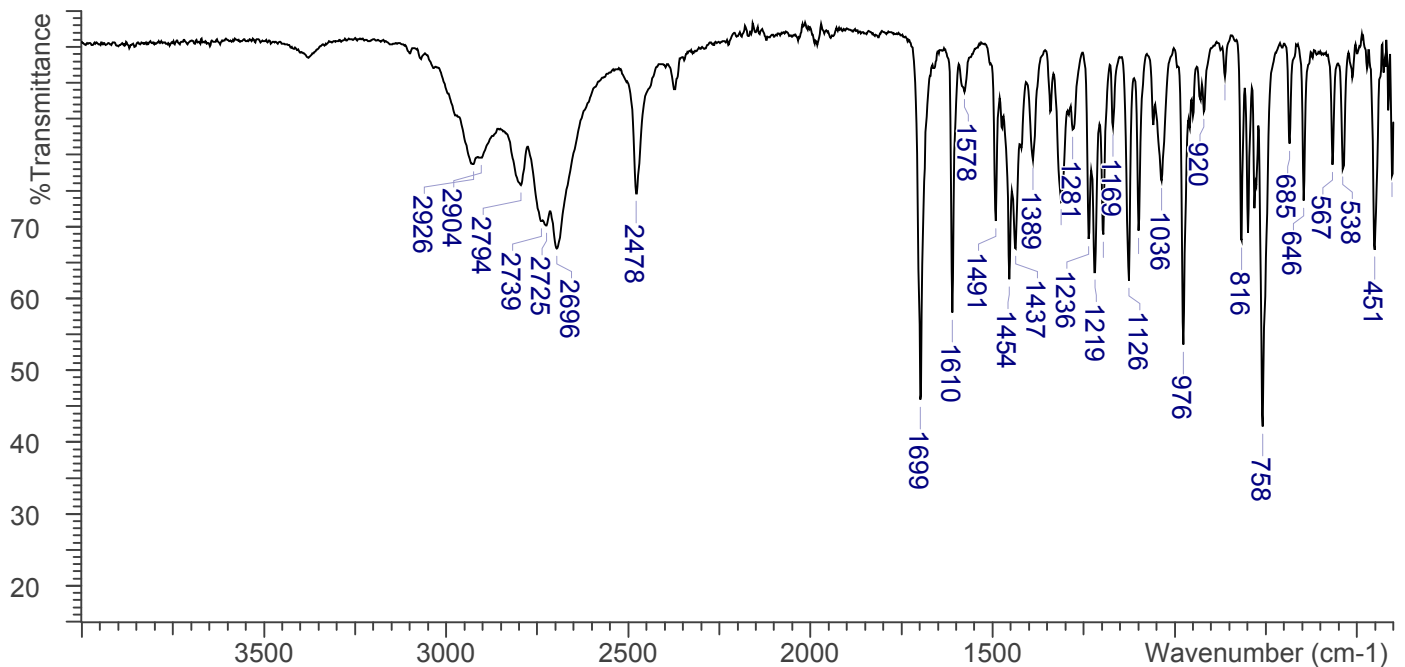


### 3.3 INFRARED SPECTROSCOPY (FTIR)

**Instrument:** FTIR with diamond ATR attachment (3 bounce)

**Scan Parameters:**  
Number of scans: 32  
Number of background scans: 32  
Resolution: 4 cm<sup>-1</sup>  
Sample gain: 8  
Aperture: 150

FTIR ATR (Diamond, 3-Bounce): 2-Fluoroethcathinone HCl; Lot 0434902-9





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### 4. ADDITIONAL RESOURCES

*No Literature available as of 05/2014*