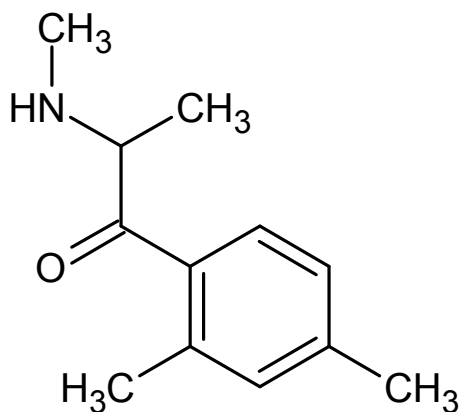




## 2,4-Dimethylmethcathinone

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



### 1. GENERAL INFORMATION

**IUPAC Name:** 1-(2,4-dimethylphenyl)-2-(methylamino)propan-1-one

**CAS#:** Not Available

**Synonyms:** 2,4-DMMC

**Source:** DEA Reference Material Collection

**Appearance:** White powder (HCl)

**UV<sub>max</sub>(nm):** Not Determined

### 2. CHEMICAL AND PHYSICAL DATA

#### 2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C <sub>12</sub> H <sub>17</sub> NO	191	Not Determined
HCl	C <sub>12</sub> H <sub>17</sub> NO · HCl	227	173.8



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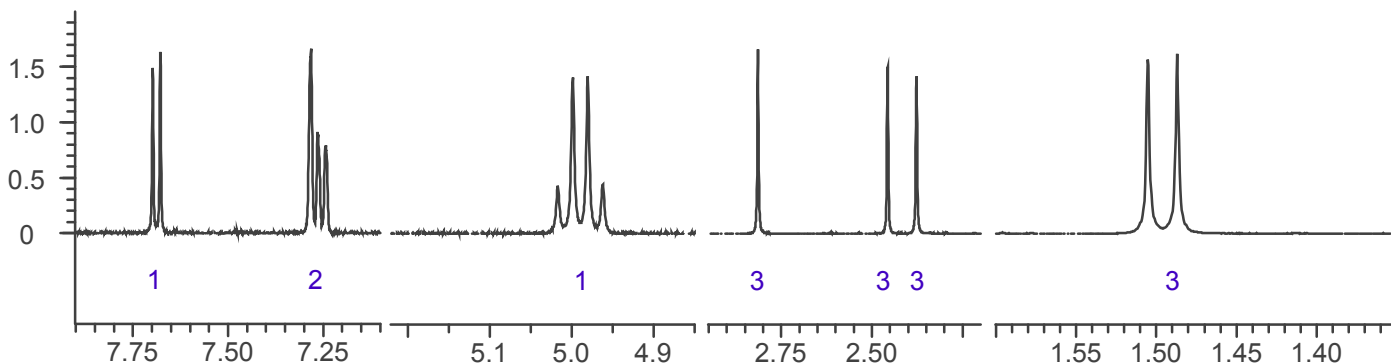
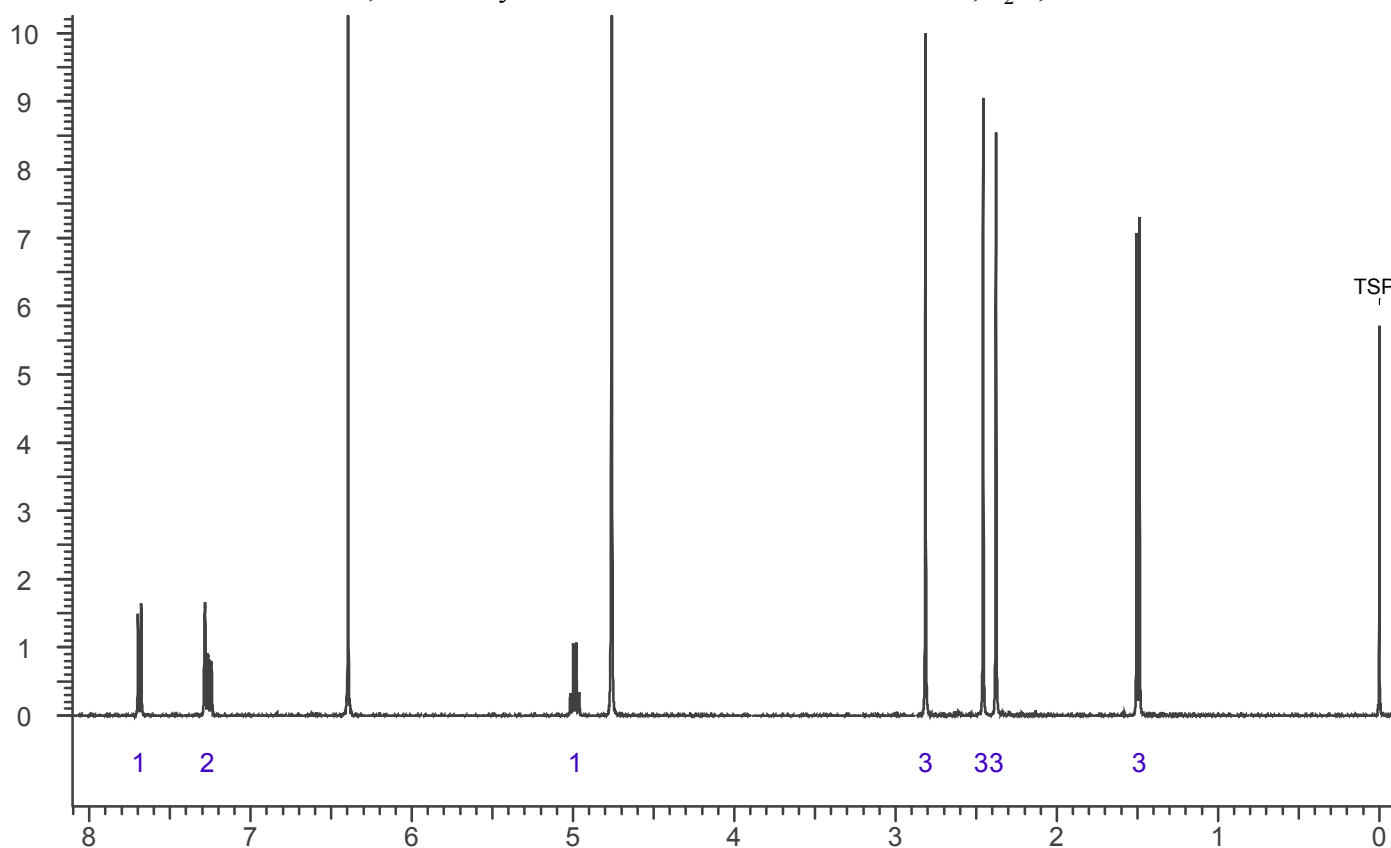
### 3. QUALITATIVE DATA

#### 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>HNMR 2,4-Dimethylmethcathinone HCl Lot N17-P92A, D<sub>2</sub>O, 400MHz





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### 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

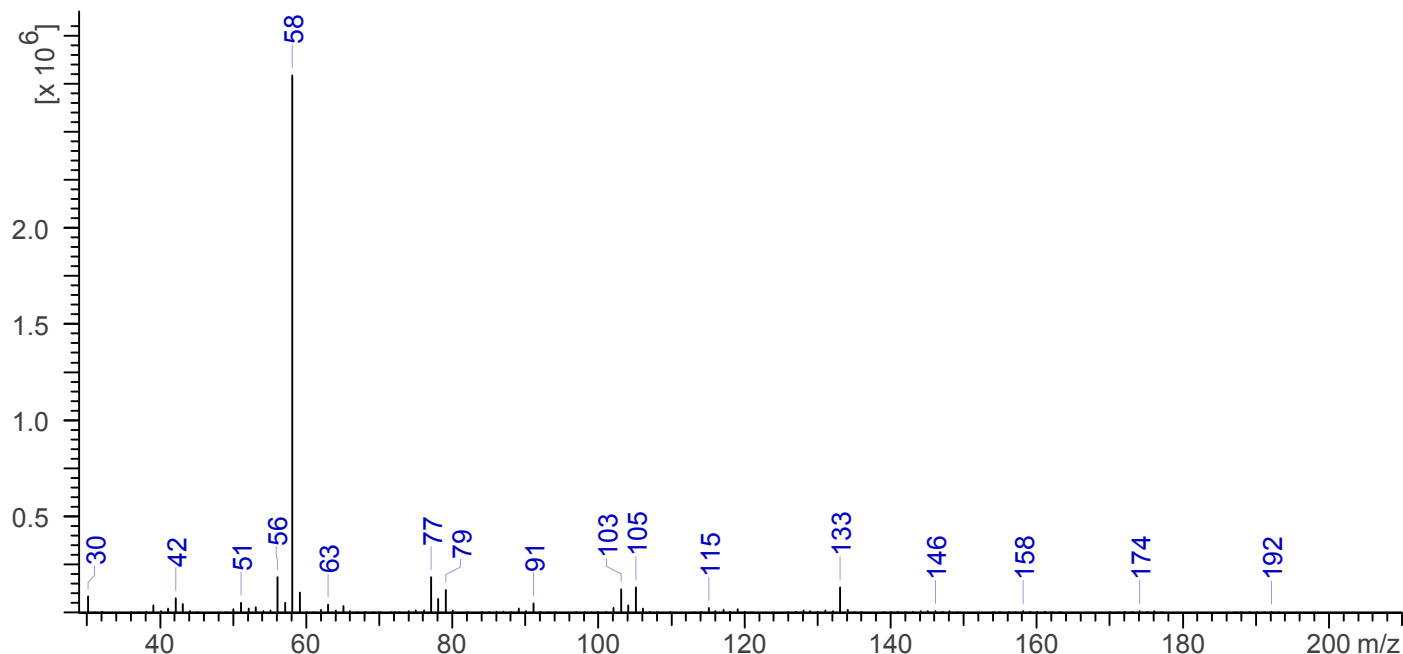
**Sample Preparation:** Dilute analyte ~4 mg/mL base extracted into chloroform.

**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:** 7.668 min

EI Mass Spectrum, 2,4-Dimethylmethcathinone HCl, Lot N17-P92A



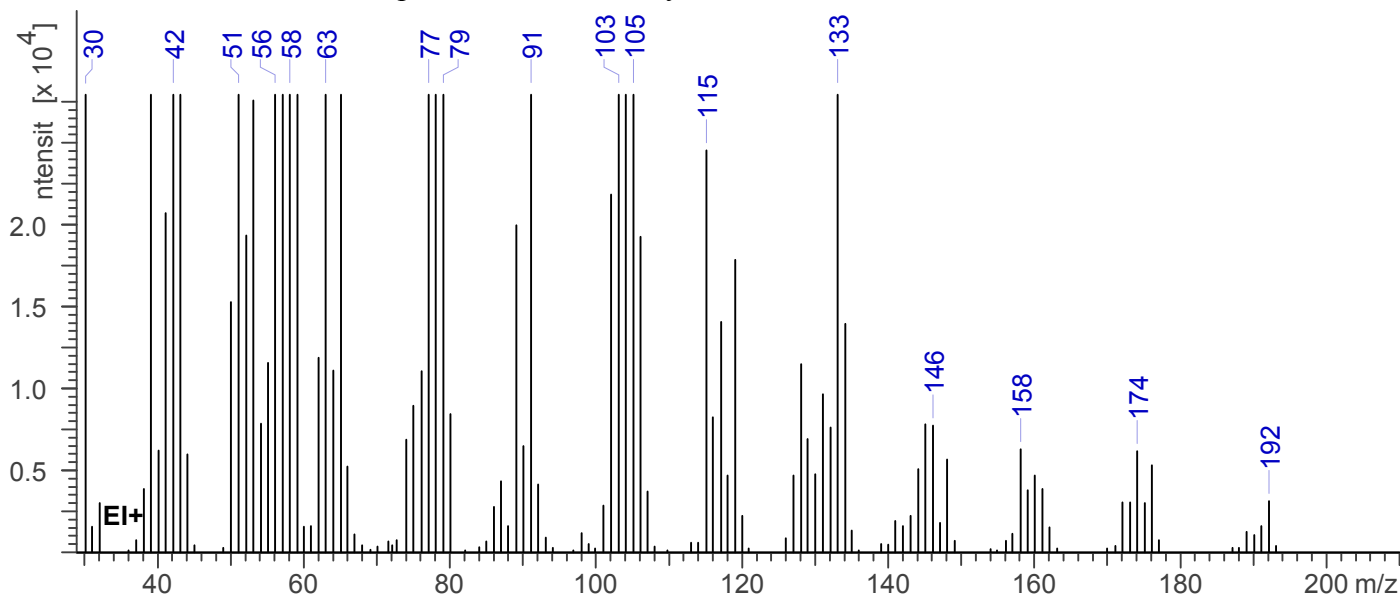


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EI Mass Spectrum, 2,4-Dimethylmethcathinone HCl, Lot N17-P92A

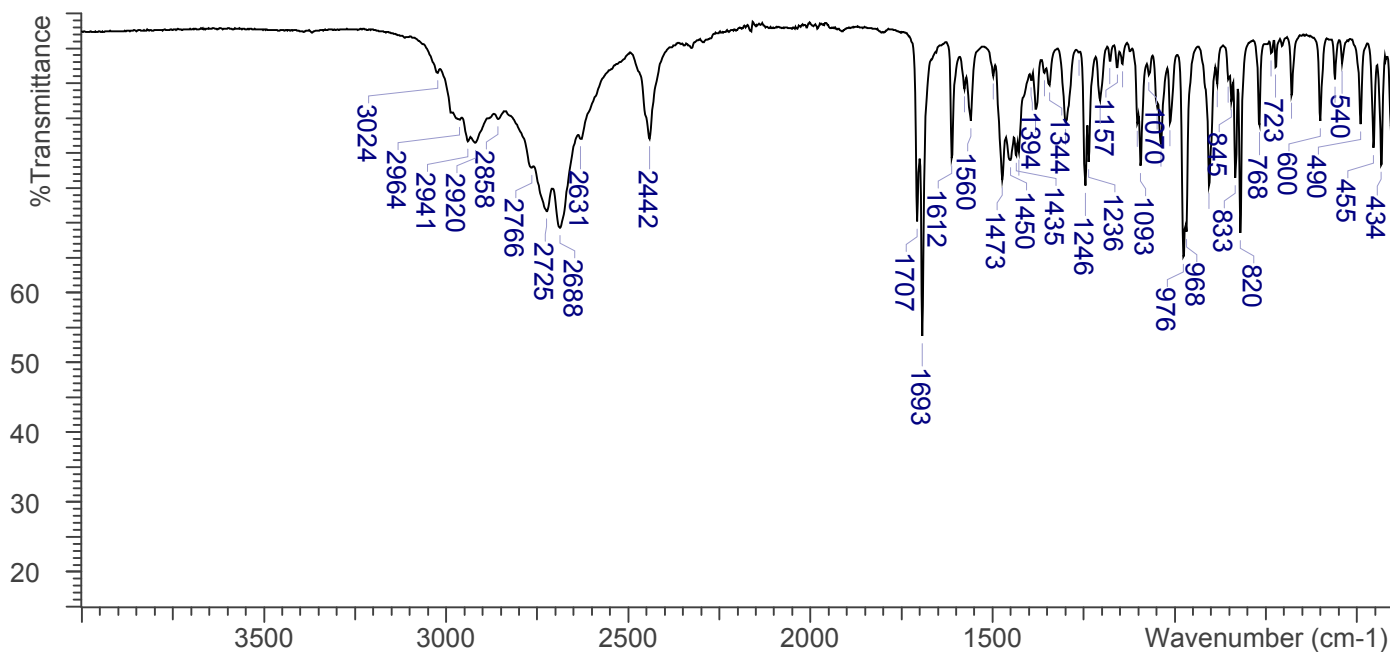


## 3.3 INFRARED SPECTROSCOPY (FTIR)

**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) 2,4-Dimethylmethcathinone HCl Lot N17-P92A



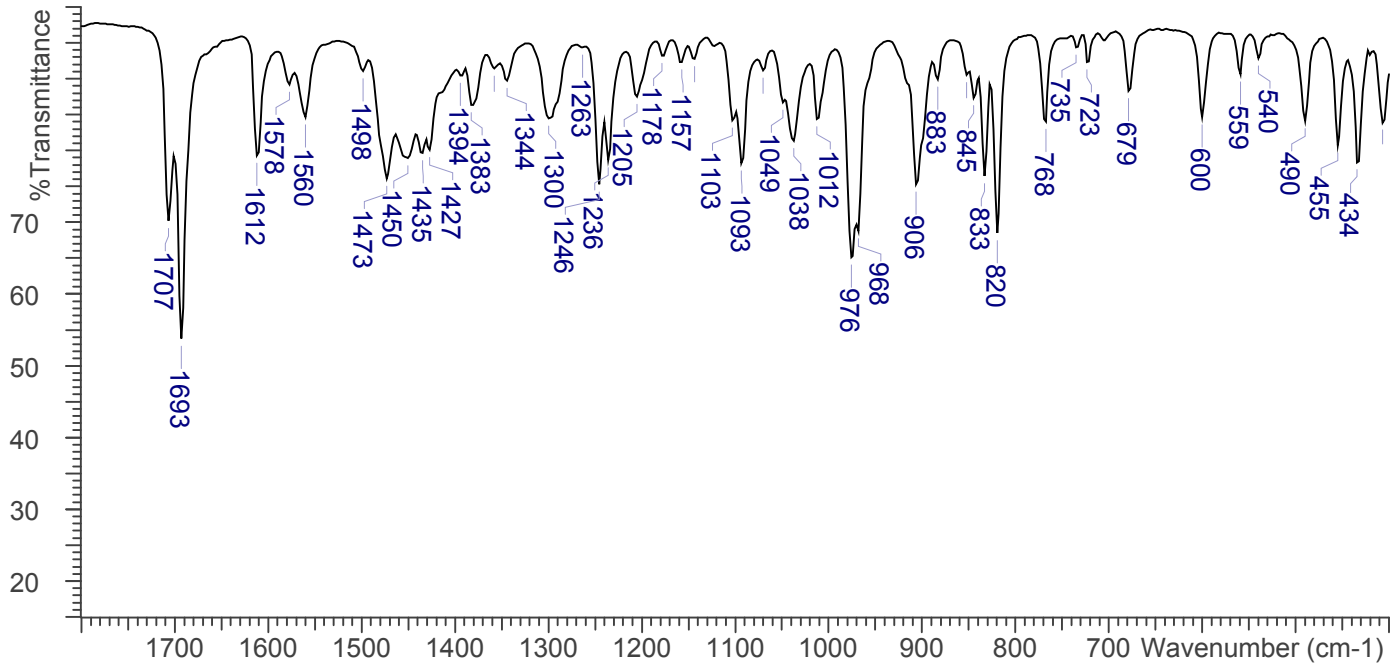


## 2,4-Dimethylmethcathinone

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FTIR, ATR (Diamond, 3 Bounce) 2,4-Dimethylmethcathinone HCl Lot N17-P92A



#### 4. ADDITIONAL RESOURCES

*No additional references as of 12/2013*