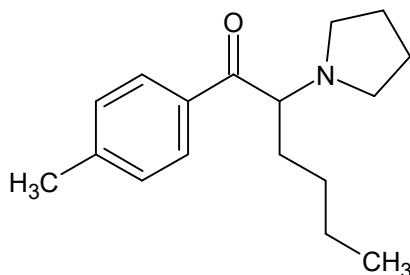




## MPHP

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



### 1. GENERAL INFORMATION

|                              |                                                                                                                                      |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>IUPAC Name:</b>           | 1-(4-methylphenyl)-2-(pyrrolidin-1-yl)hexan-1-one                                                                                    |
| <b>CAS#:</b>                 | 34138-58-4                                                                                                                           |
| <b>Synonyms:</b>             | 4'-Methyl- $\alpha$ -pyrrolidinohexiophenone, 4'-Me- $\alpha$ -PHP,<br>4'-Methyl- $\alpha$ -pyrrolidinohexanophenone, PV-4, 4'-MePHP |
| <b>Source:</b>               | DEARReferenceMaterialCollection                                                                                                      |
| <b>Appearance:</b>           | WhitePowder                                                                                                                          |
| <b>UV<sub>max</sub>(nm):</b> | Not determined                                                                                                                       |

### 2. CHEMICAL AND PHYSICAL DATA

#### 2.1 CHEMICAL DATA

| Form | Chemical Formula                       | Molecular Weight | Melting Point (°C) |
|------|----------------------------------------|------------------|--------------------|
| Base | C <sub>17</sub> H <sub>25</sub> NO     | 259              | Not Determined     |
| HCl  | C <sub>17</sub> H <sub>25</sub> NO HCl | 295              | Not Determined     |



## MPHP

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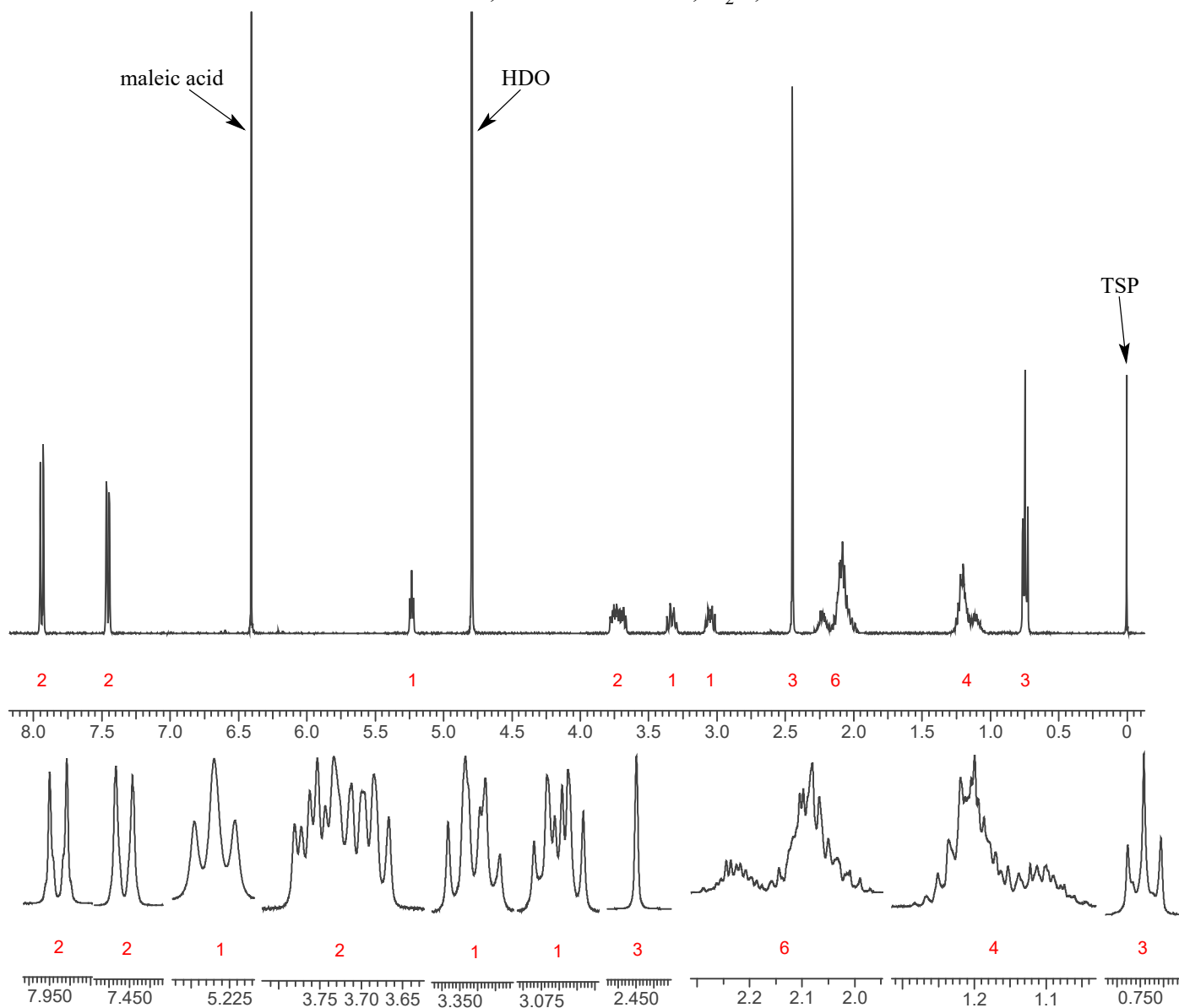
### 3. QUALITATIVE DATA

#### 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. Note: sample was hygroscopic.

**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: MPHP HCl; Lot# 0431333-14; D<sub>2</sub>O; 400MHz





## MPHP

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### 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

**Sample Preparation:** Dilute analyte ~4 mg/mL in CHCl<sub>3</sub>

**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 μm

**Carrier Gas:** Helium at 1.0 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

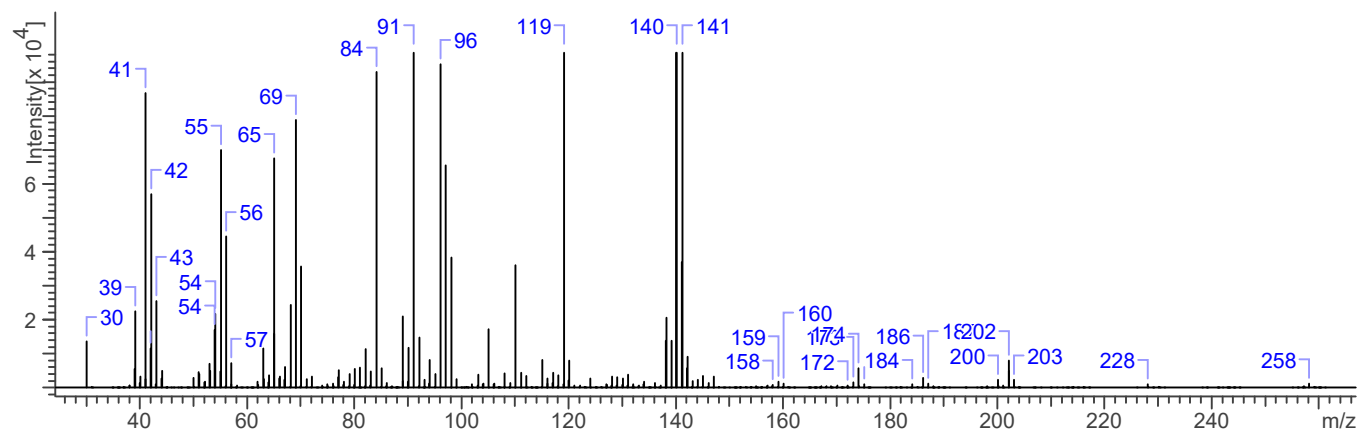
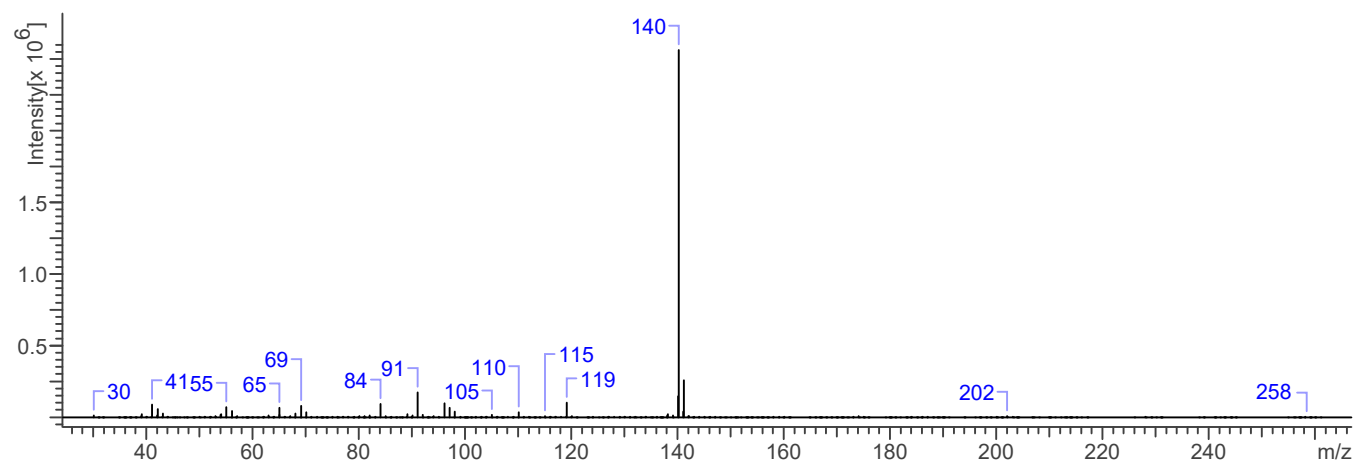
3) Hold final temperature for 9.0 min

**Injection Parameters:** Split Ratio = 20:1, 1 μL injected

**MS Parameters:** Mass scan range: 30-550 amu Threshold: 150  
Tune file: stune.u Acquisition mode: scan

**Retention Time:** 10.846 min

EI Mass Spectrum: MPHP HCl; Lot# 0431333-14





## MPHP

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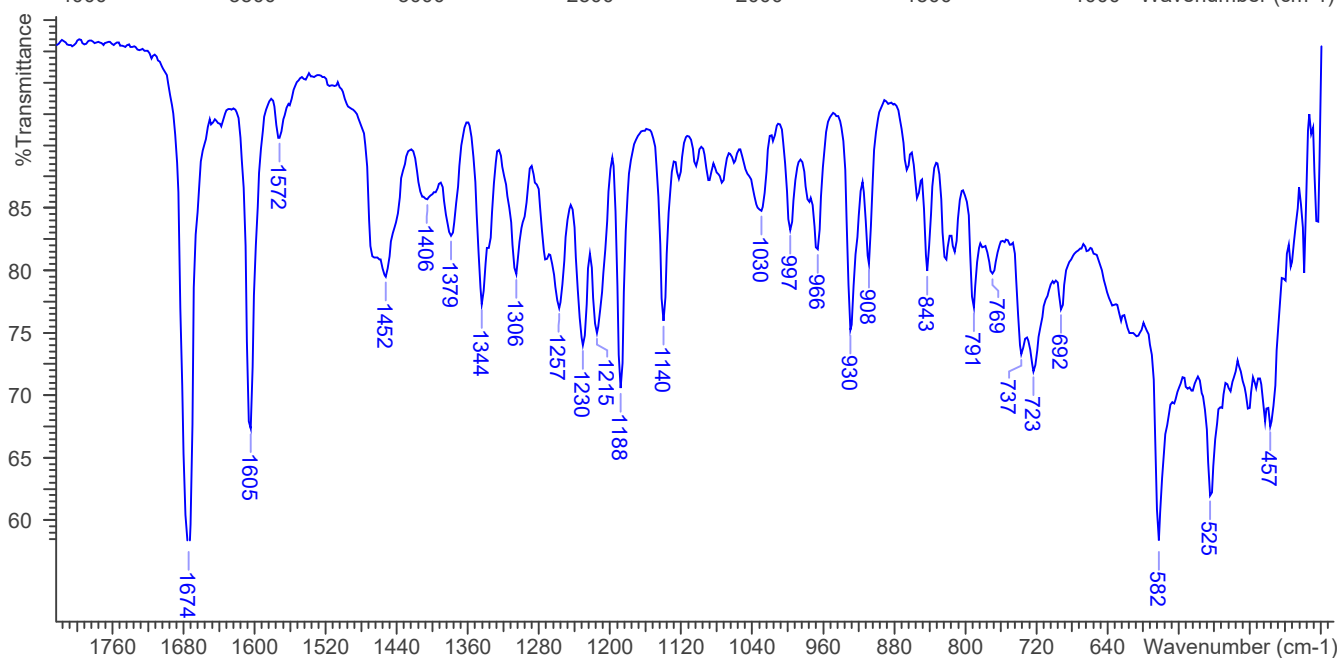
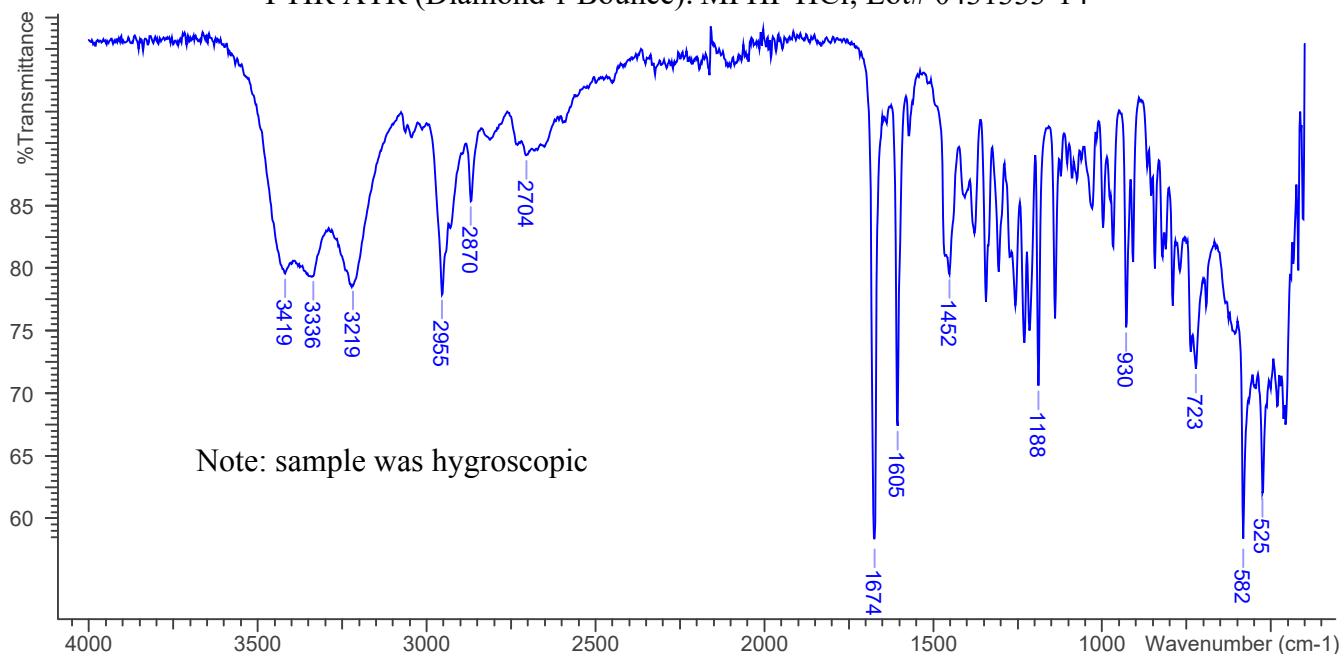


### 3.3 INFRARED SPECTROSCOPY (FTIR)

**Instrument:** FTIR with diamond ATR attachment (1 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 1 Bounce): MPHP HCl; Lot# 0431333-14





## MPHP

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### 4. ADDITIONAL RESOURCES

[\*Wikipedia\*](#)

[\*Forendex\*](#)