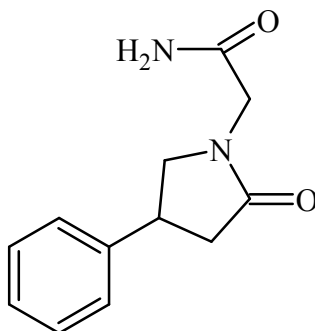




## Phenylpiracetam

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



### 1. GENERAL INFORMATION

**IUPAC Name:** 2-(2-oxo-4-phenylpyrrolidin-1-yl)acetamide

**CAS#:** NA

**Synonyms:** NA

**Source:** DEA Reference Material Collection

**Appearance:** white powder

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

### 2. CHEMICAL AND PHYSICAL DATA

#### 2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C <sub>12</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub>	218.25	131



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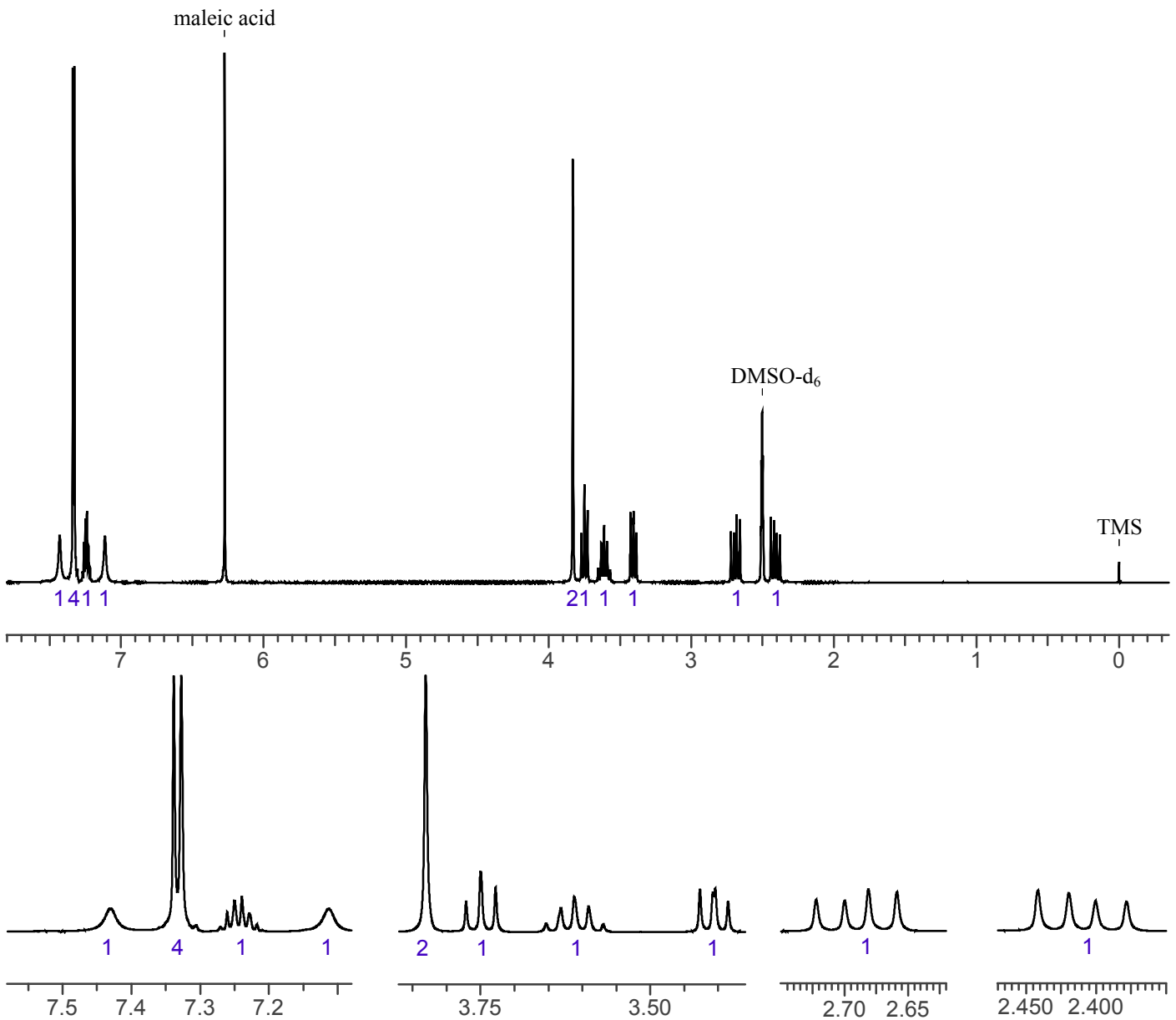
## 3. QUALITATIVE DATA

### 3.1 NUCLEAR MAGNETIC RESONANCE

*Sample Preparation:* Dilute analyte to ~10mg/mL in DMSO-d<sub>6</sub> containing TMS 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: Phenylpiracetam Lot# RM-160929-05; DMSO-d<sub>6</sub>; 400MHz





# Phenylpiracetam



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## 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

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

**Instrument:** Agilent gas chromatograph operated in split mode with MS detector

**Column:** HP-5; 30m x 0.25 mm x 0.25 m

**Carrier Gas:** Helium at 1.5 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 280°C at 12 °C/min

3) Hold final temperature for 9.0 min

**Injection Parameters:** Split Ratio = 25:1, 1 µL injected

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

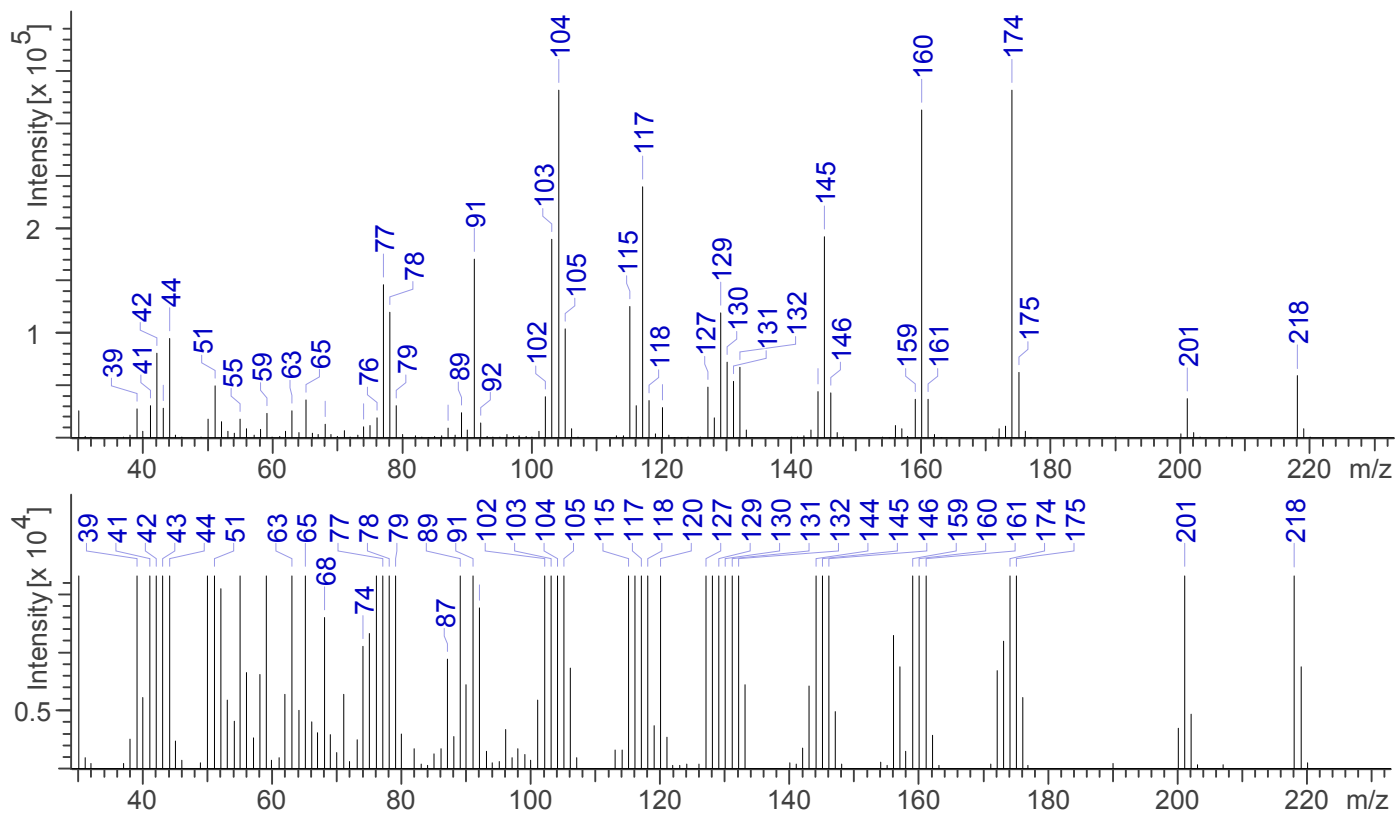
Threshold: 100

Tune file: stune.u

Acquisition mode: scan

**Retention Time:** 12.966 min

EI Mass Spectrum: Phenylpiracetam Lot# RM-160929-05





# Phenylpiracetam

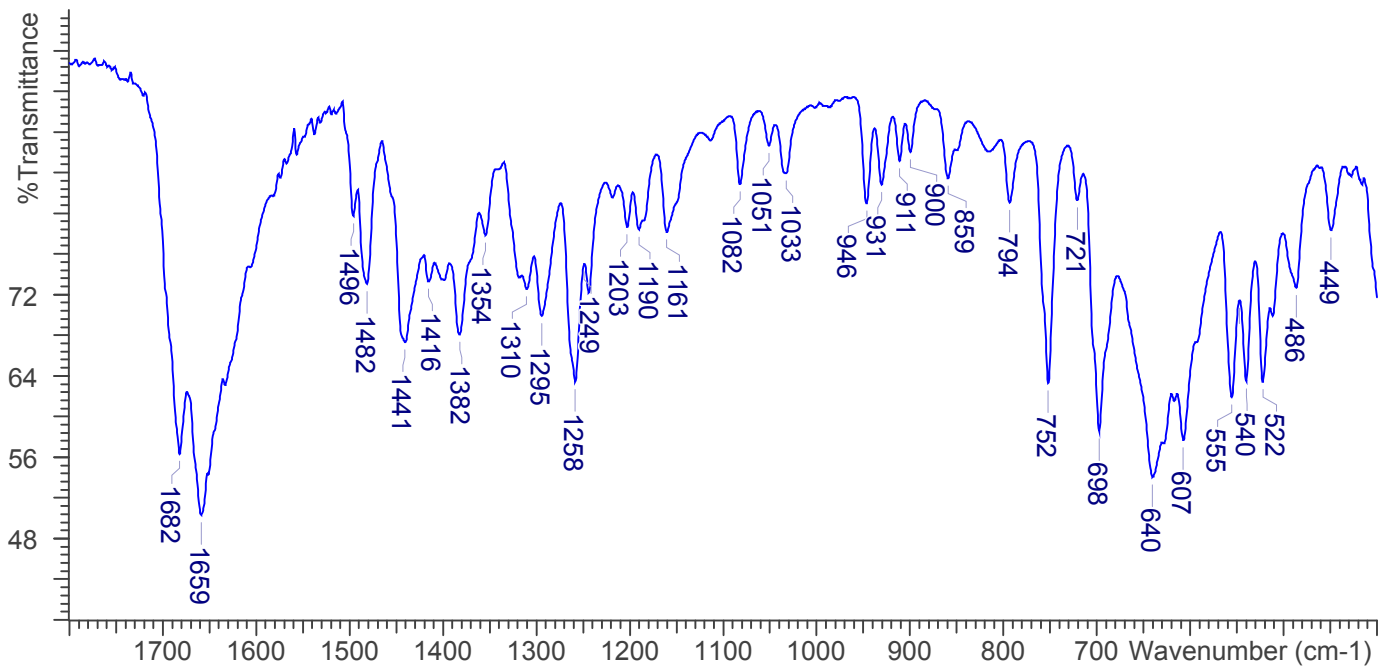
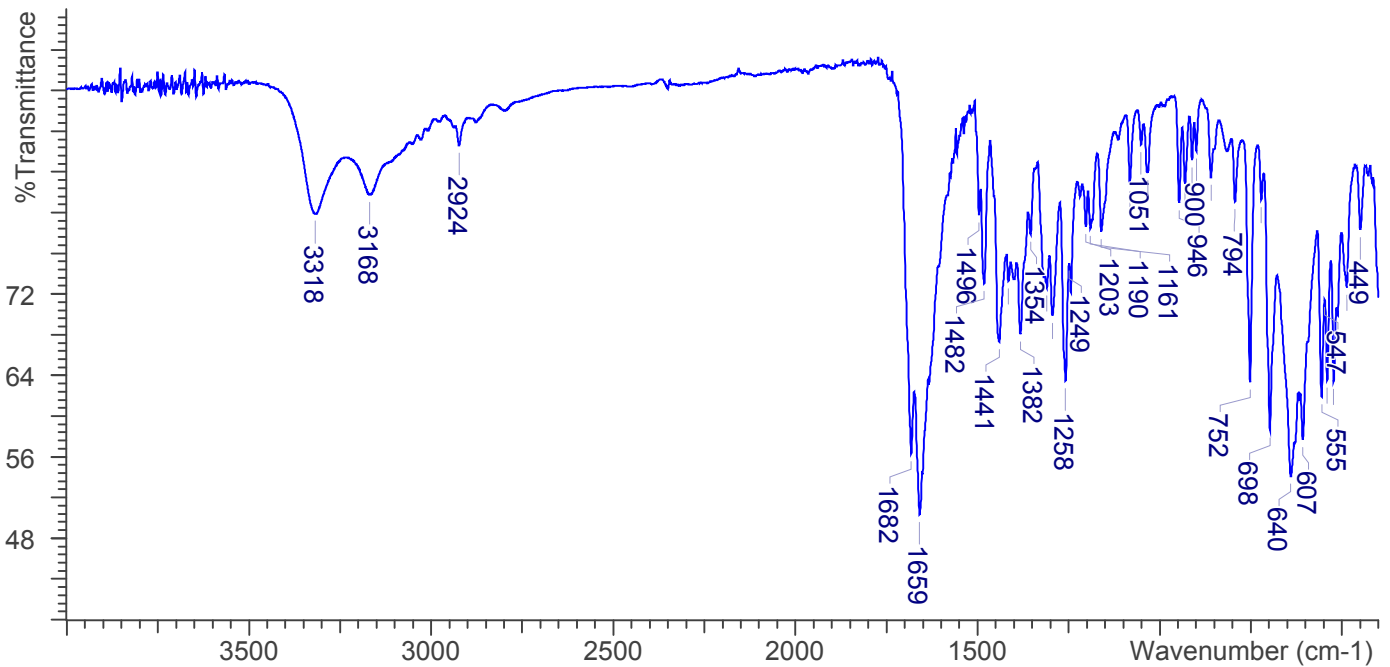


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## 3.3 INFRARED SPECTROSCOPY (FTIR)

**Instrument:** FTIRATR(Diamond 1 Bounce)  
**Scan Parameters:** Number of scans: 32  
Number of background scans: 32  
Resolution: 4 cm<sup>-1</sup>  
Sample gain: 1  
Aperture: 150

FTIR ATR (Diamond 1 Bounce): Phenylpiracetam Lot# RM-160929-05





## Phenylpiracetam

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### **4. ADDITIONAL RESOURCES**

**No additional resources as of 07/12/17**