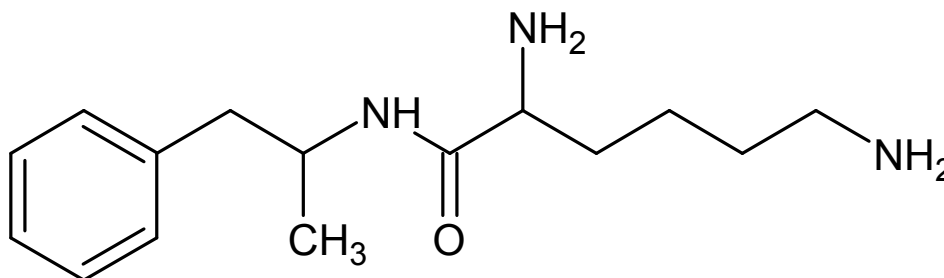




## Lisdexamfetamine

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



\* The depicted structure does not show stereospecificity. This compound has two chiral carbons present which means that there are two diastereomers each with two enantiomers.

### 1. GENERAL INFORMATION

<b>IUPAC Name:</b>	N-(1-phenylpropan-2-yl)lysine methanesulfonate (1:2)
<b>CAS#:</b>	608137-32-2
<b>Synonyms:</b>	Vyvanse, l-lysine-d-amphetamine, Tyvance, Elvanse, Venvanse
<b>Source:</b>	DEA Reference Material Collection
<b>Appearance:</b>	White powder (dimesylate)
<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>15</sub> H <sub>25</sub> N <sub>3</sub> O	263	Not Determined
Dimesylate	C <sub>15</sub> H <sub>25</sub> N <sub>3</sub> O · 2(CH <sub>3</sub> SO <sub>3</sub> H)	455	195.4



# Lisdexamfetamine

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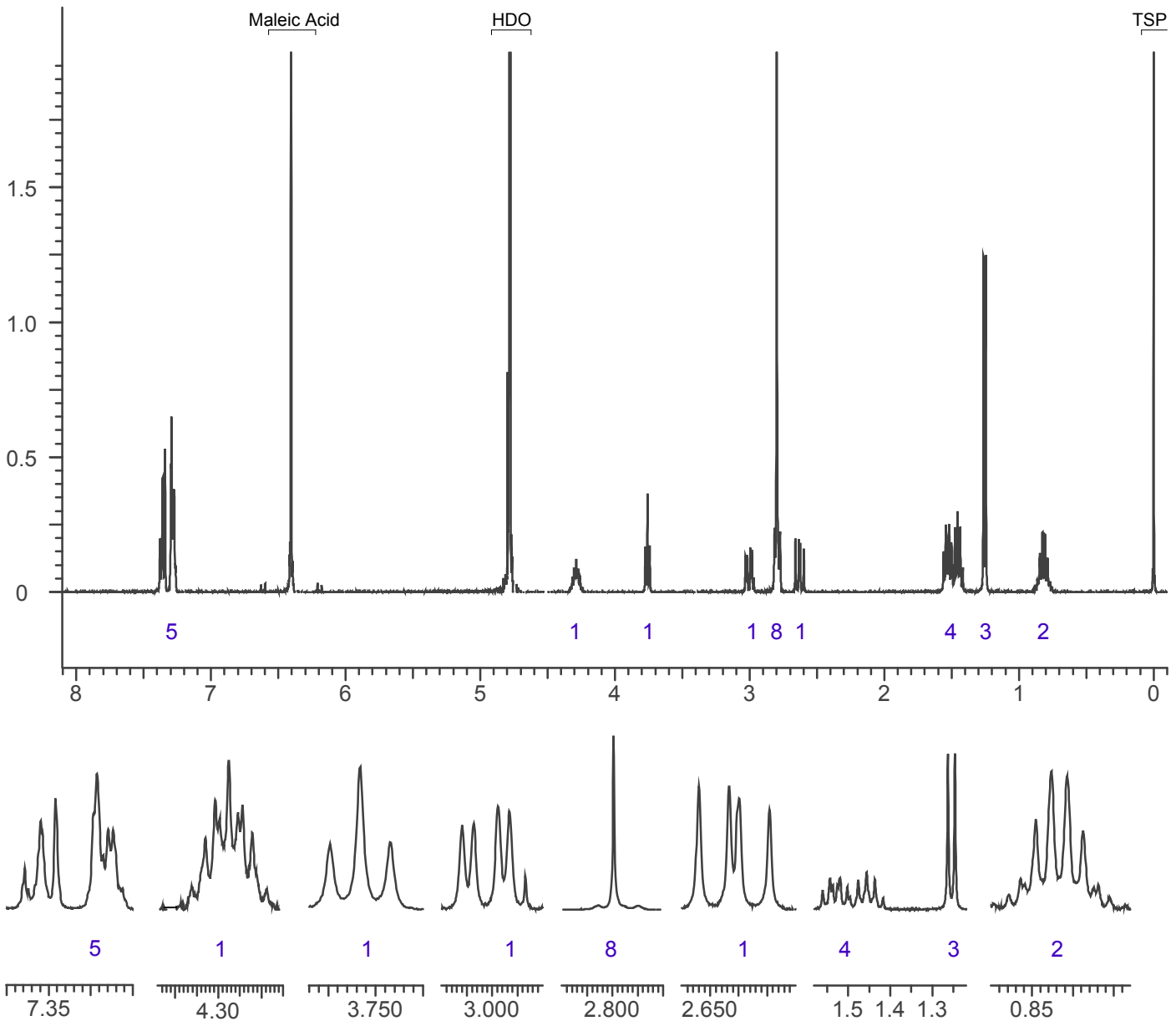
## 3. QUALITATIVE DATA

### 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: Lisdexamfetamine dimesylate Lot # 2001H; D<sub>2</sub>O; 400MHz





# Lisdexamfetamine

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## 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

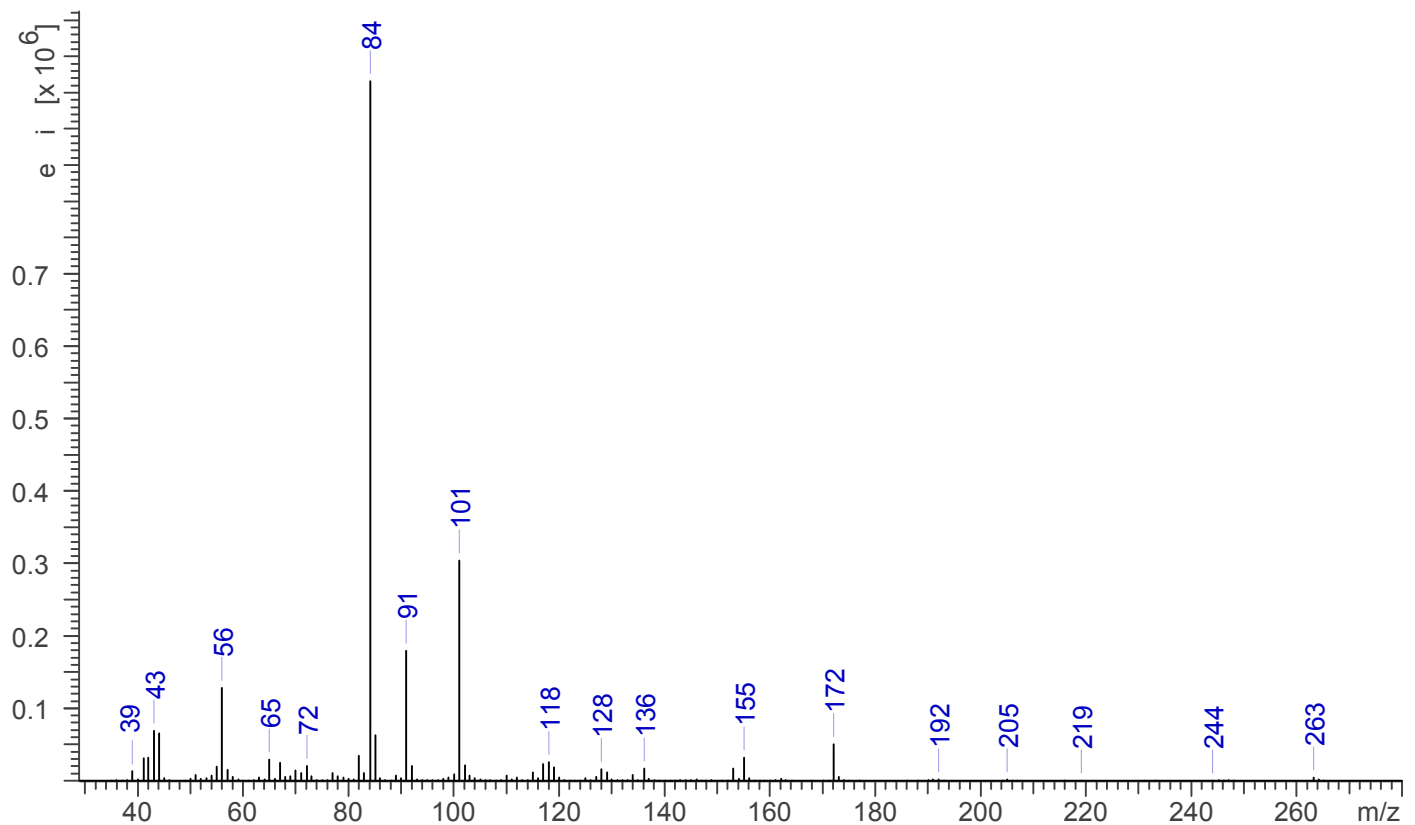
**Sample Preparation:** Dilute analyte ~4 mg/mL base extracted into chloroform.

**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:** 14.201 min

EI Mass Spectrum: Lisdexamfetamine dimesylate Lot # 2001H





# Lisdexamfetamine



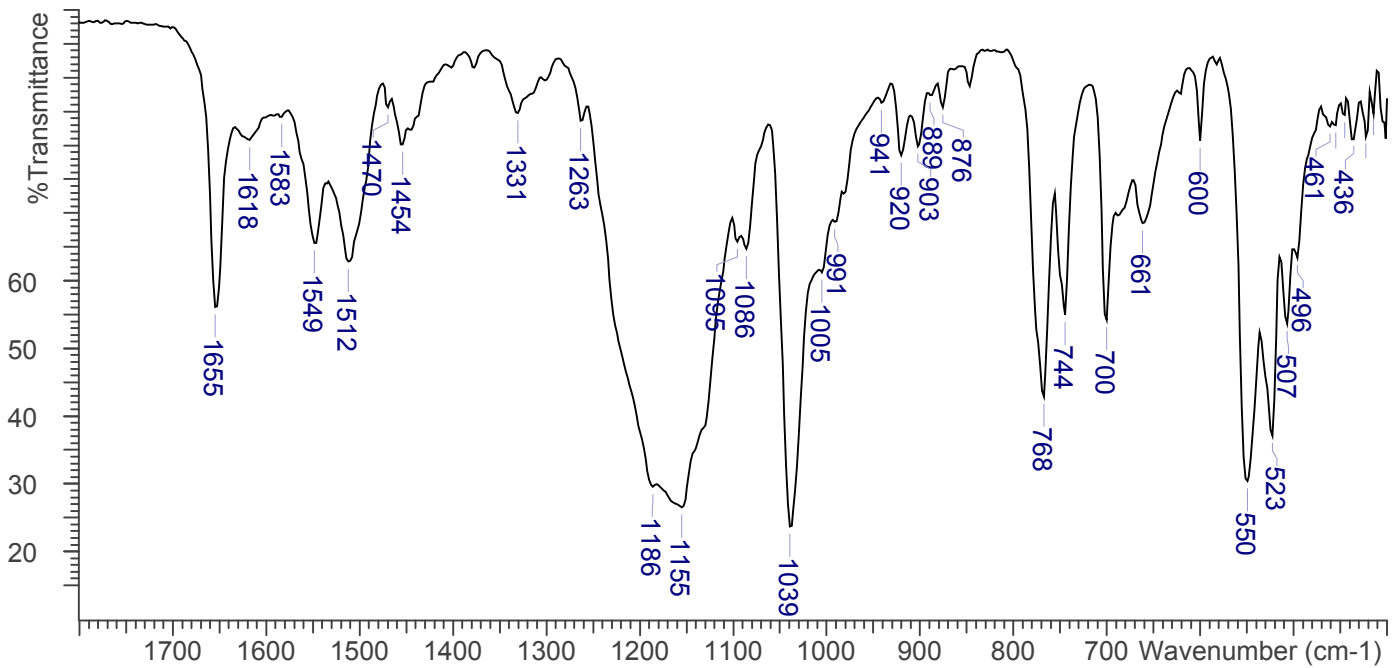
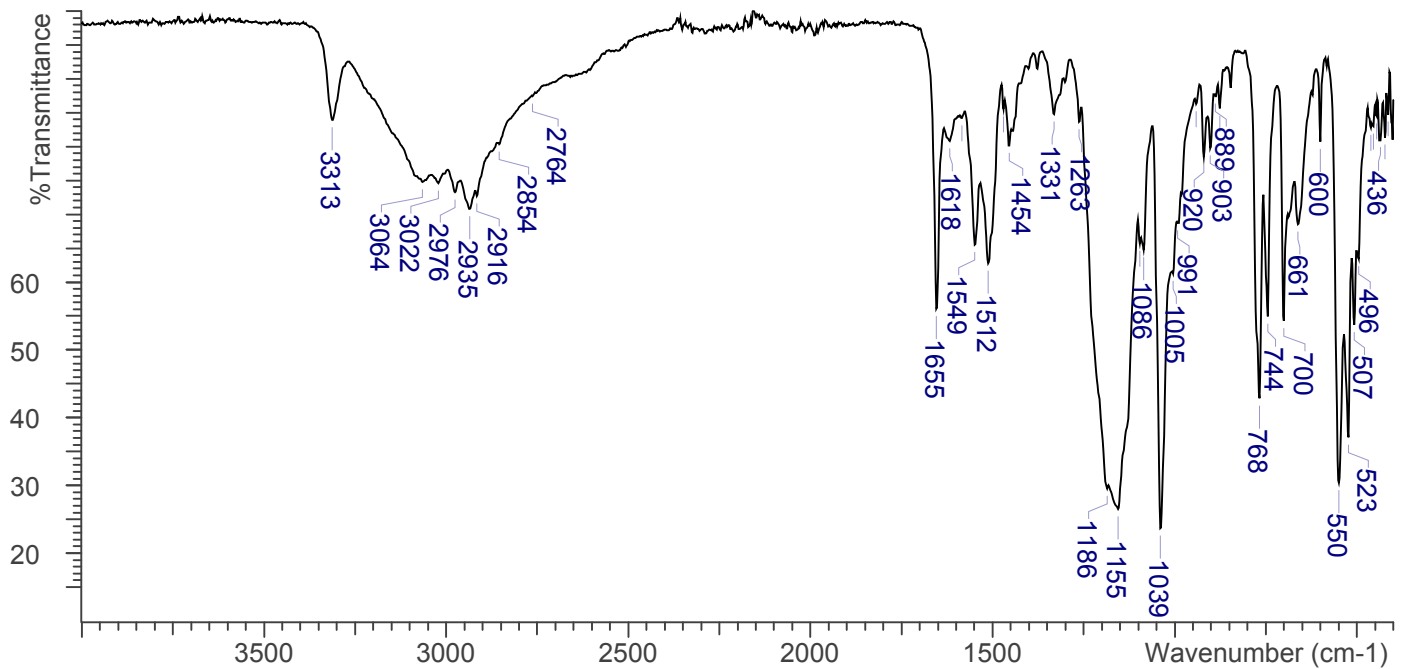
The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

## 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): Lisdexamfetamine dimesylate Lot # 2001H





## Lisdexamfetamine

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



### 4. ADDITIONAL RESOURCES

[Forendex](#)

[Wikipedia](#)