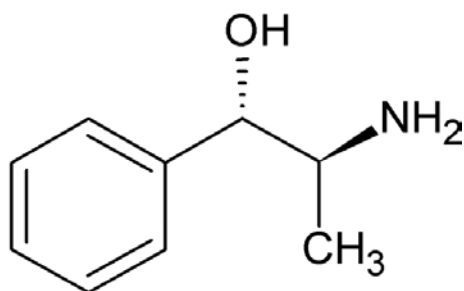




Cathine



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



1. GENERAL INFORMATION

IUPAC Name:	(1S,2S)-2-amino-1-phenylpropan-1-ol
CAS #:	492-39-7
Synonyms:	(+)-norpseudoephedrine; pseudonorephedrine
Source:	DEA Reference Material Collection
Appearance:	Off-white powder (HCl)
UV_{max}:	210 nm

2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C ₉ H ₁₃ NO	151	76.3
HCl	C ₉ H ₁₃ NO·HCl	187	181.3



Cathine

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



3. QUALITATIVE DATA

3.1 NUCLEAR MAGNETIC RESONANCE

Method NMR CD₃OD

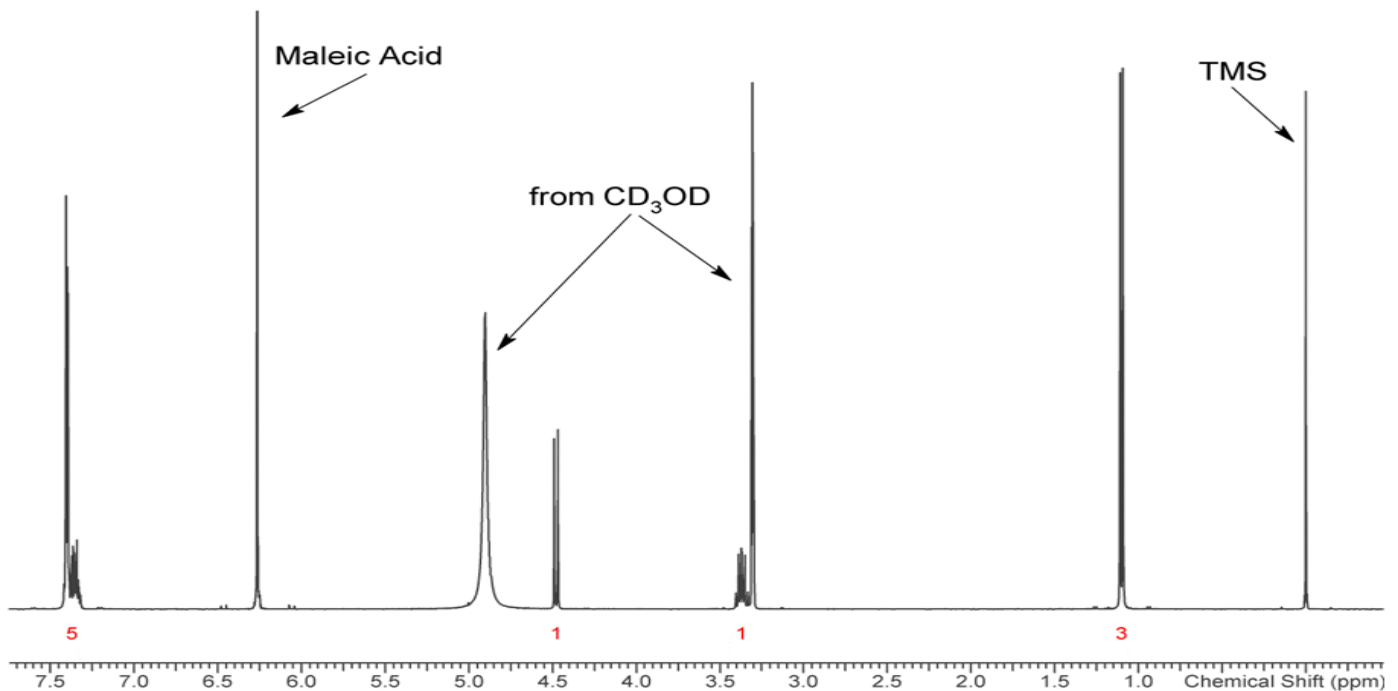
Solvent: Sample diluted to ~10 mg/mL in deuterated methanol (CD₃OD) containing TMS for 0 ppm reference and maleic acid as quantitative ISTD

Instrument: Varian Mercury 400 MHz NMR spectrometer with proton detection probe

Parameters:

- Spectral width: at least containing -3 ppm through 13 ppm
- Pulse angle: 90°
- Delay between pulses: 45 seconds
- Number of scans (NT): 8
- Number of steady state scans: 0
- Oversampling: 4 or more
- Shimming: automatic gradient shimming of Z1-4 shims
- Phasing, Drift Correction: automatic or manual

¹H NMR: Cathine Lot # N11-P17 CD₃OD, 400MHz



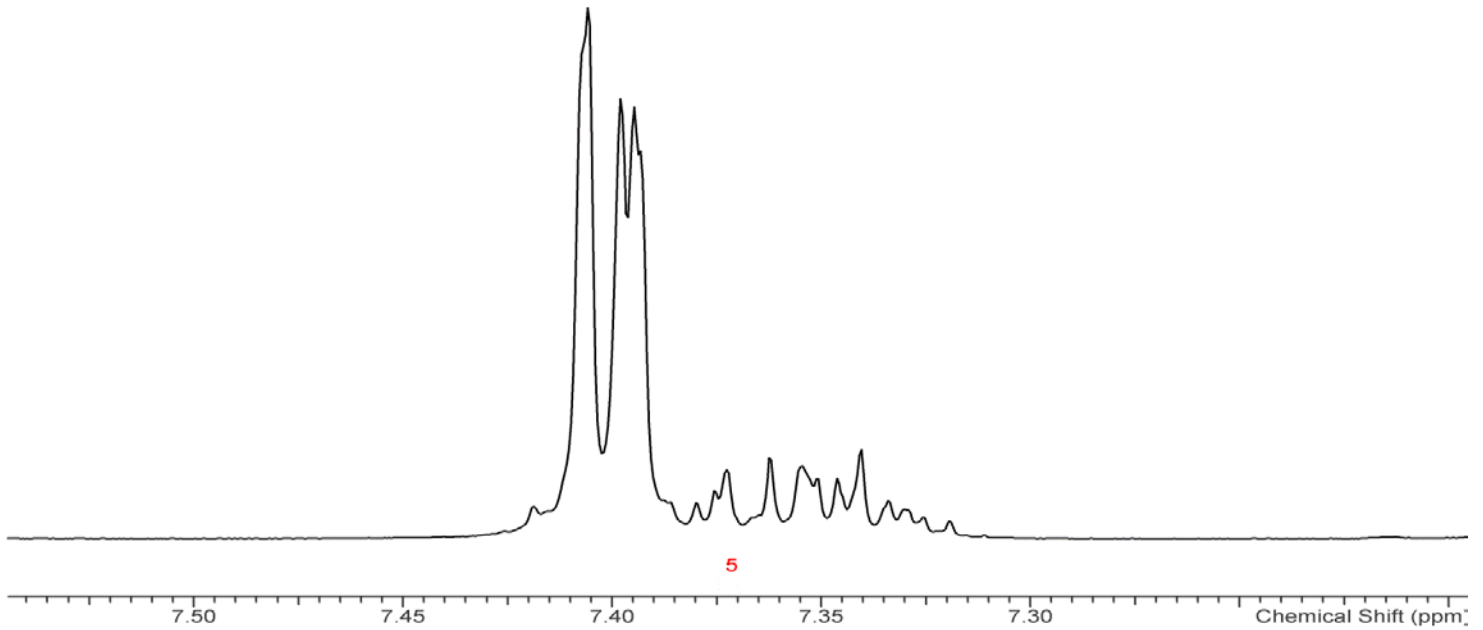


Cathine

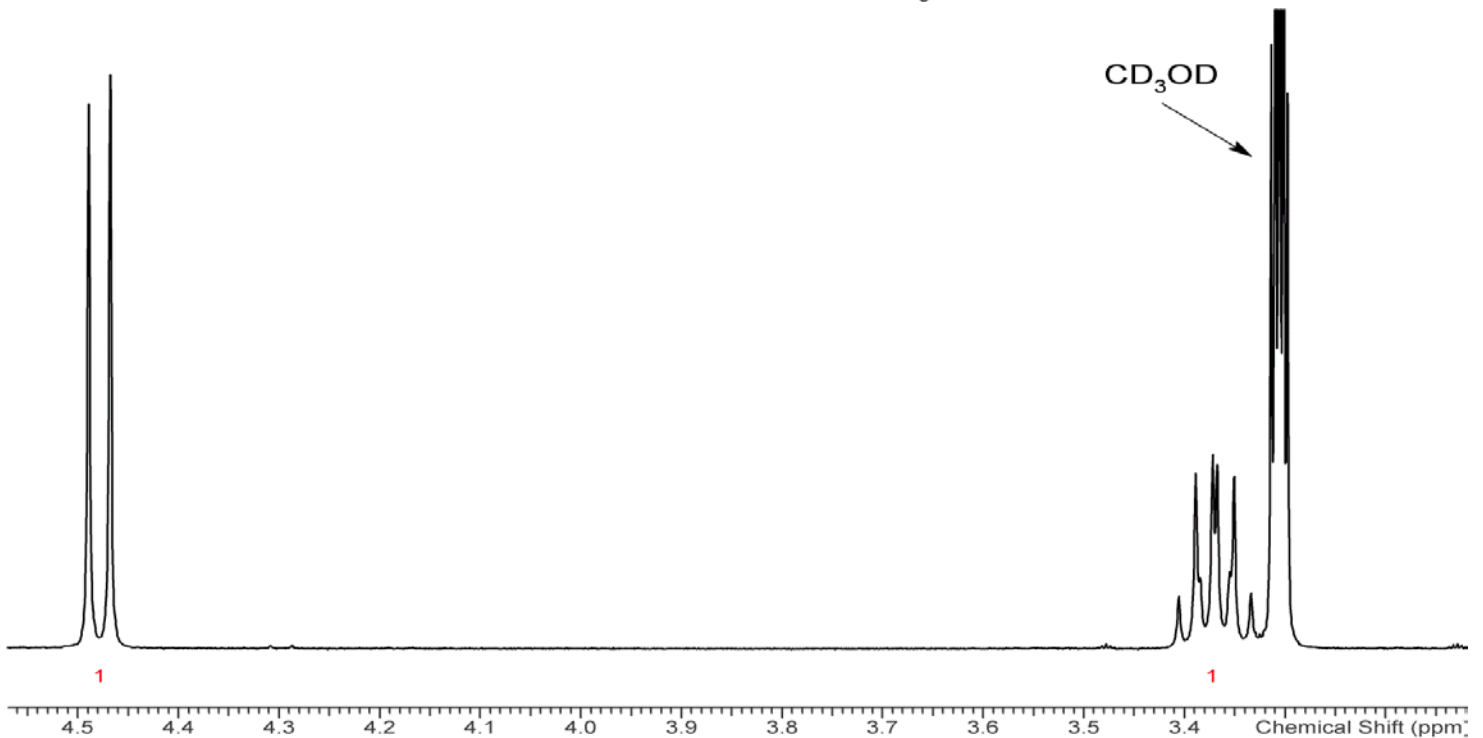


The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

¹H NMR: Cathine Lot # N11-P17 CD₃OD, 400MHz



¹H NMR: Cathine Lot # N11-P17 CD₃OD, 400MHz





Cathine



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

3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Sample Preparation: Dilute analyte to ~1 mg/mL in CHCl₃.

Instrument: Gas chromatograph operated in split mode with MS detector

Column: DB-1 MS or equivalent; 30m x 0.25mm x 0.25μm

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:

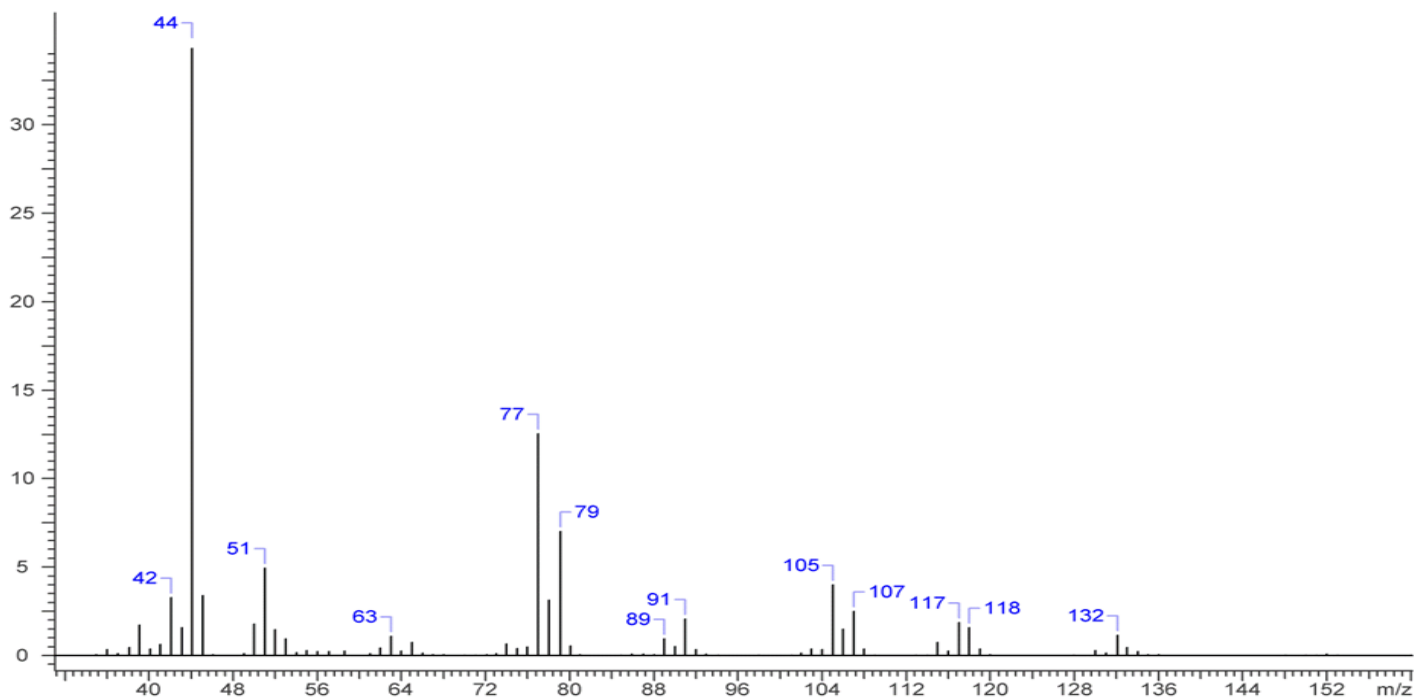
- 1) 100°C initial temperature for 1.0 min
- 2) Ramp to 300°C at 12°C/min
- 3) Hold final temperature for 9.0 min

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

MS Parameters:
Mass scan range: 34-550 amu
Threshold: 100
Tune file: stune.u
Acquisition mode: scan

Retention Time: 5.87 minutes

EI Mass Spectrum: Cathine HCl, Lot # 284





Cathine

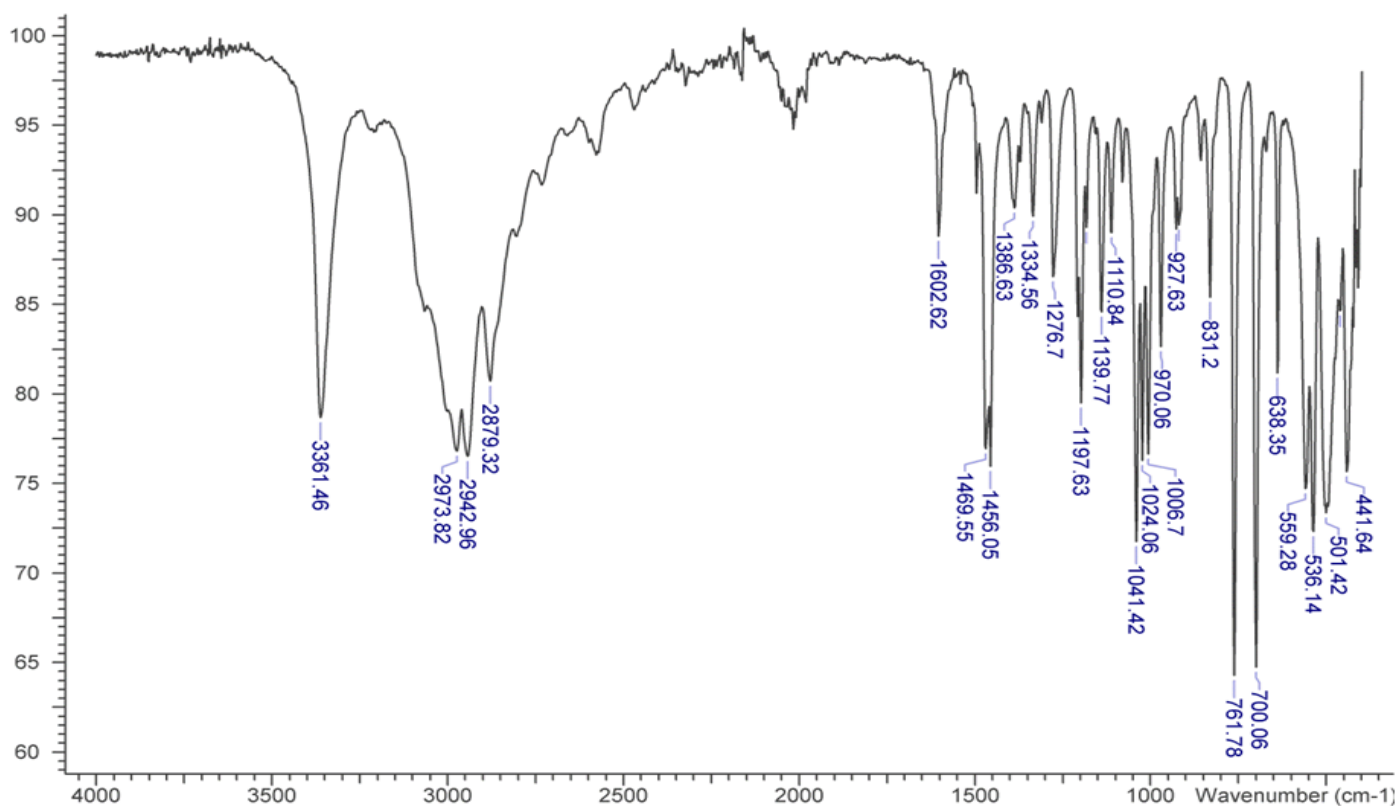


The Drug Enforcement Administration's Special Testing and Research Laboratory generated this monograph using structurally confirmed reference material.

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: 4cm^{-1}
Sample gain: 8
Aperture: 150

FTIR (Diamond ATR, 3 Bounce): Cathine HCl Lot # 284



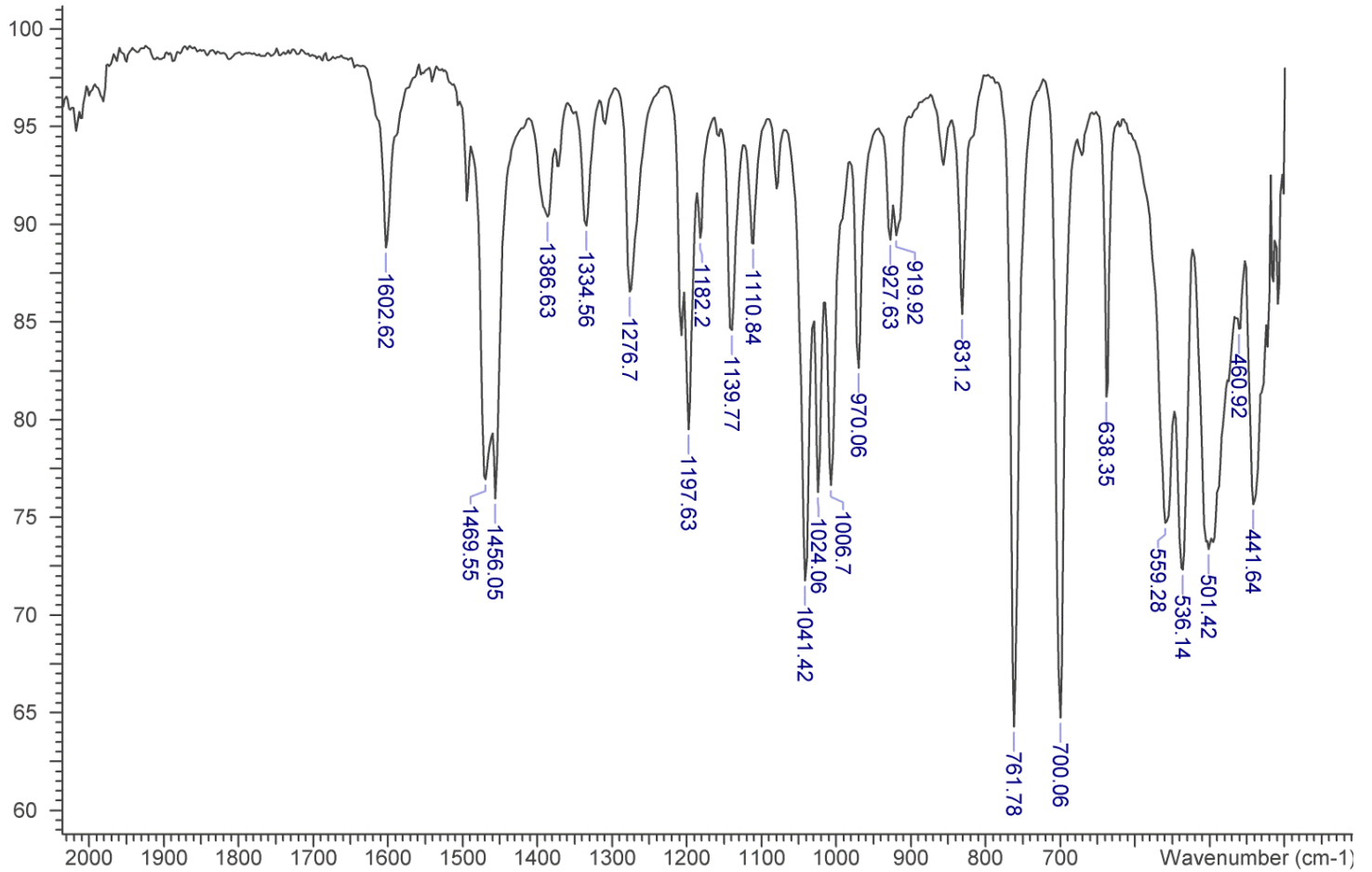


Cathine



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

FTIR (Diamond ATR, 3 Bounce): Cathine HCl Lot # 284



4. ADDITIONAL RESOURCES

[Wikipedia](#)

[Forendex](#)