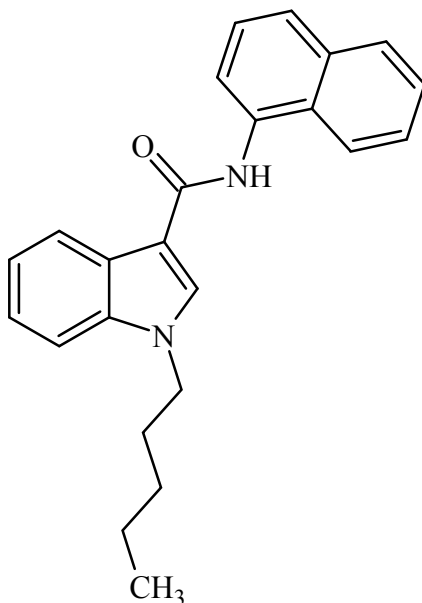




MN-24

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



1. GENERAL INFORMATION

IUPAC Name:	N-(naphthalen-1-yl)-1-pentyl-1H-indole-3-carboxamide
CAS#:	1338925-11-3
Synonyms:	NNE1, NNEI, CBM-018
Source:	DEA Reference Material Collection
Appearance:	White powder
UV_{max}(nm):	Not Determined

2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C ₂₄ H ₂₄ N ₂ O	356	144.8

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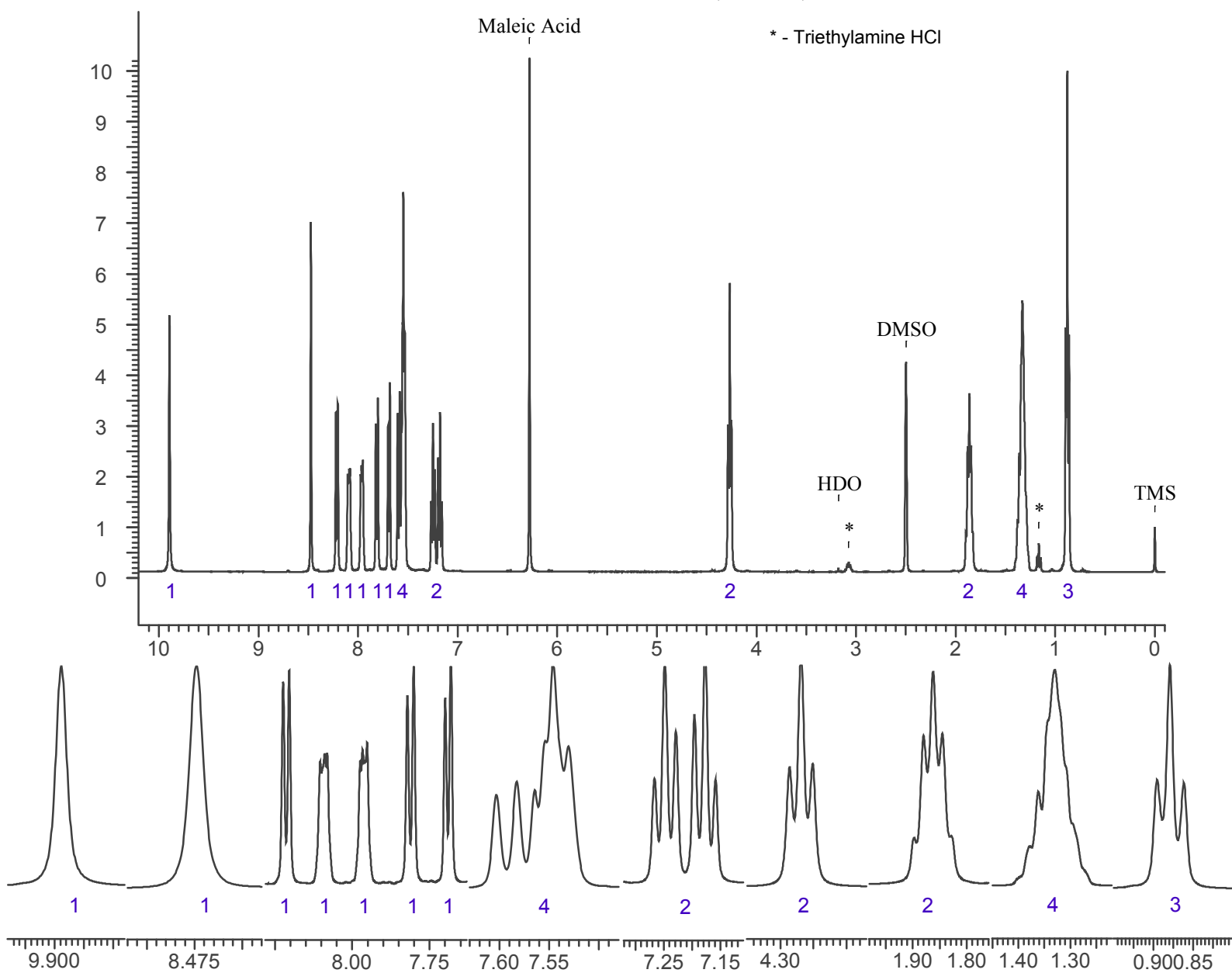
3. QUALITATIVE DATA

3.1 NUCLEAR MAGNETIC RESONANCE

Sample Preparation: Dilute analyte to ~20 mg/mL in DMSO 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

¹H NMR: MN-24 Lot RM-140320-01, DMSO, 400MHz



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3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

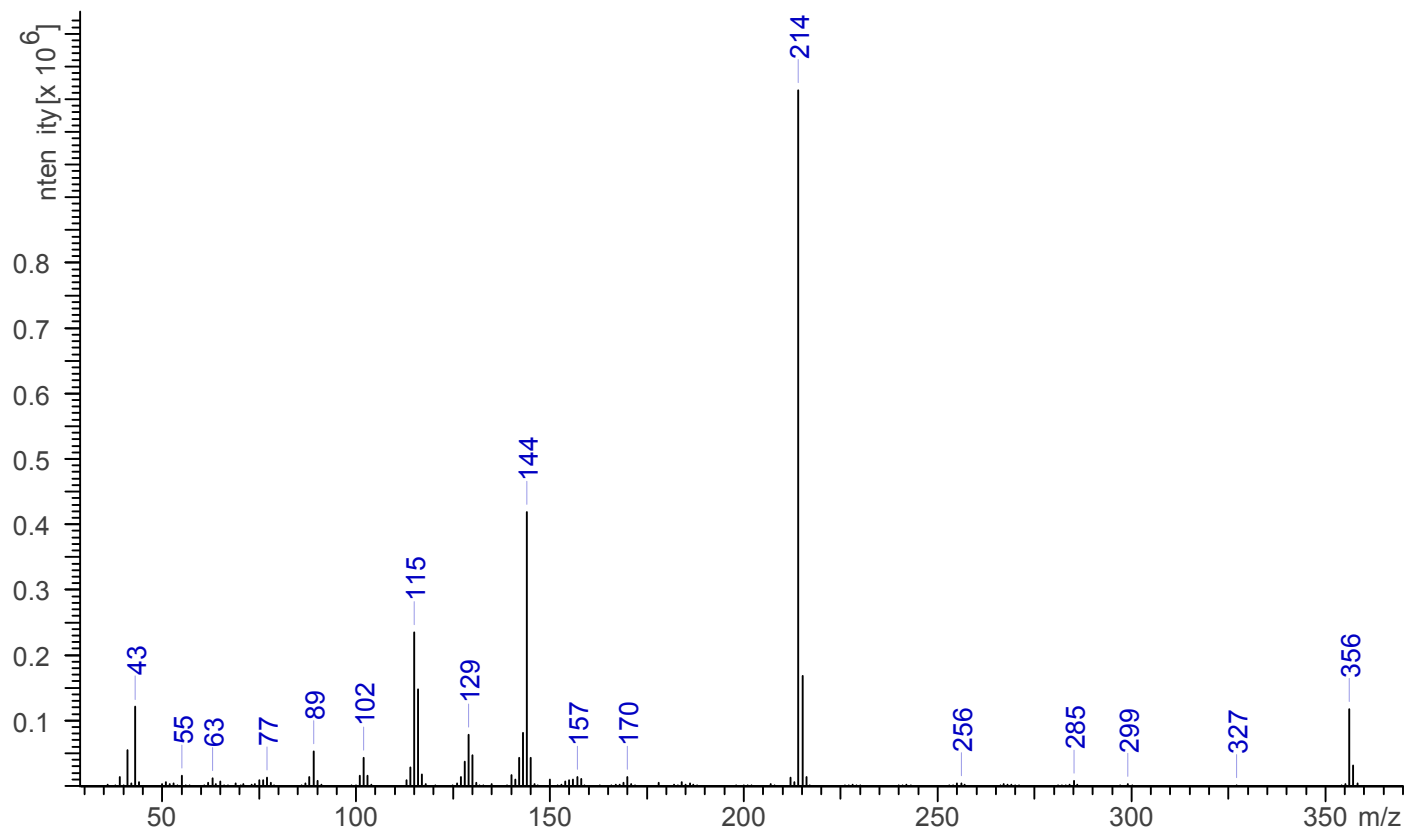
Sample Preparation: Dilute analyte ~4 mg/mL in methanol

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 μ 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) 90°C initial temperature for 2.0 min
2) Ramp to 300°C at 14 °C/min
3) Hold final temperature for 25.0 min

Injection Parameters: Split Ratio = 20:1, 1 μ L injected
MS Parameters: Mass scan range: 30-550 amu
Threshold: 100
Tune file: stune.u
Acquisition mode: scan

Retention Time: 26.141 min

EI Mass Spectrum: MN-24 Lot RM-140320-01



MN-24

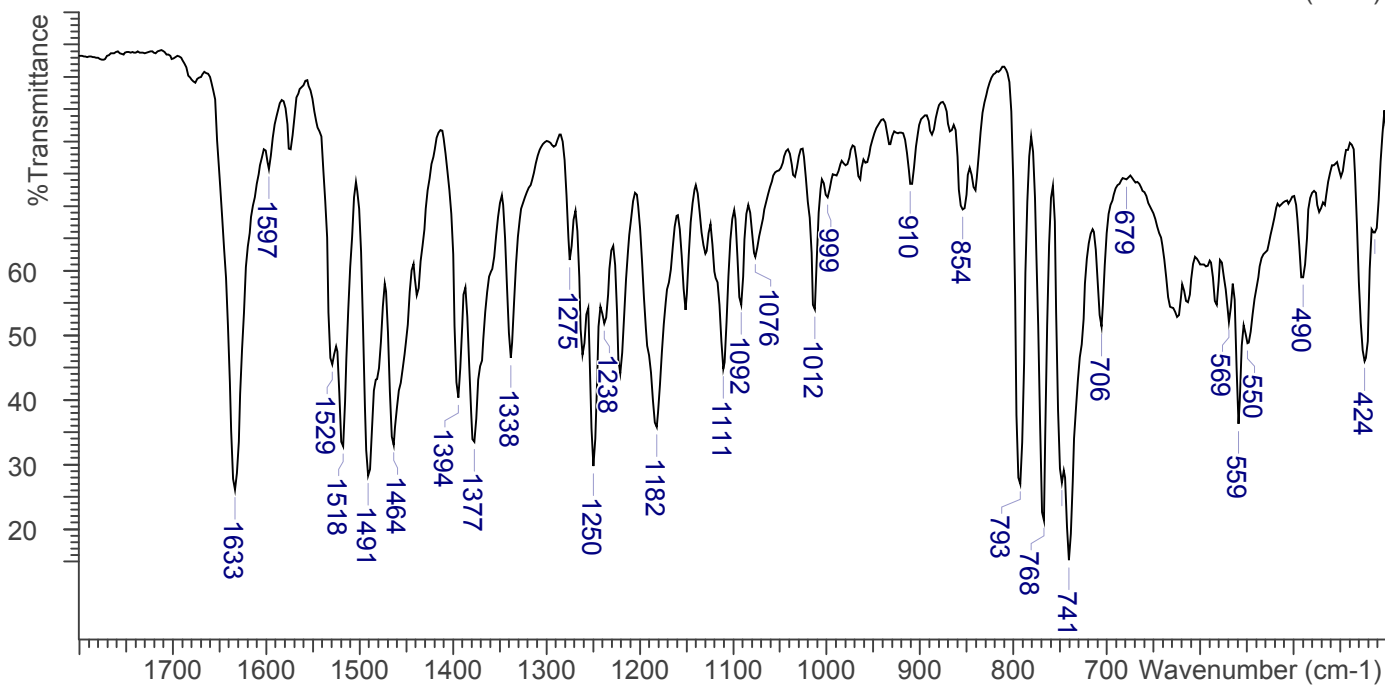
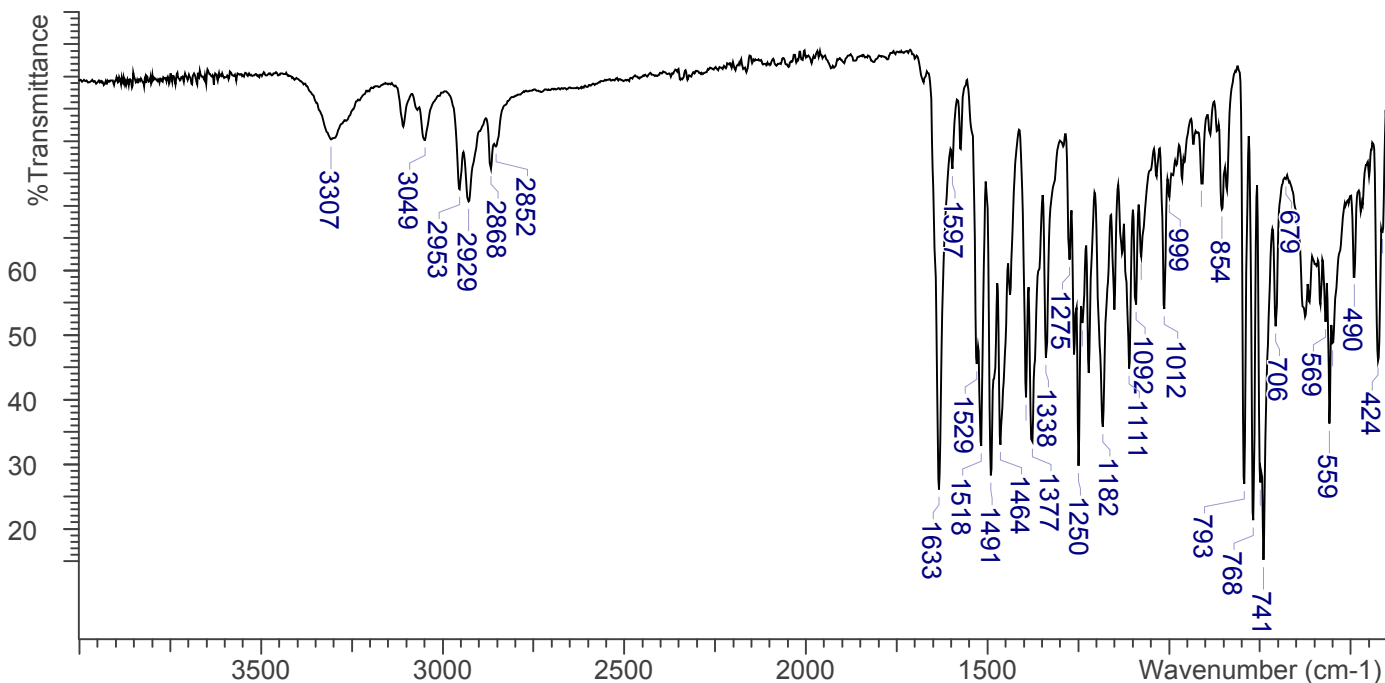
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3.3 INFRARED SPECTROSCOPY (FTIR)

Instrument: FTIR with diamond ATR attachment (3 bounce)

Scan Parameters:
Number of scans: 32
Number of background scans: 32
Resolution: 4 cm⁻¹
Sample gain: 8
Aperture: 150

FTIR ATR (Diamond, 3 Bounce): MN-24 Lot RM-140320-01



MN-24

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4. ADDITIONAL RESOURCES

[Forendex](#)

[Wikipedia](#)

Shevyrin, V.; Melkozerov, V.; Nevero, A.; Eltsov, O.; Shafran, Y. Analytical characterization of some synthetic cannabinoids, derivatives of indole-3-carboxylic acid. **Forensic Science International**. 232 (2013) 1-10.