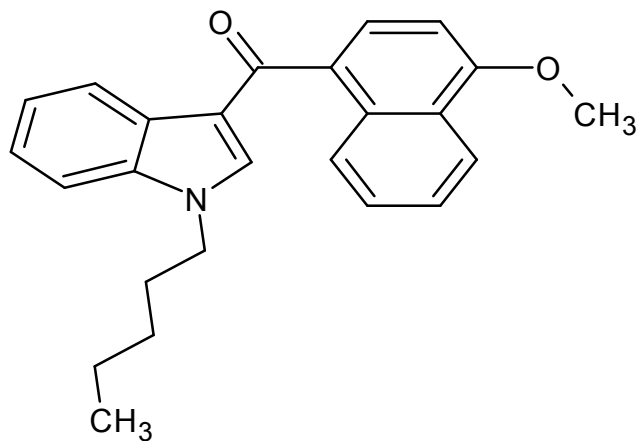




## JWH-081

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>	(4-Methoxynaphthalen-1-yl)(1-pentyl-1H-indol-3-yl)methanone
<b>CAS#:</b>	210179-46-7
<b>Synonym:</b>	1-Pentyl-3-[1-(4-methoxynaphthoyl)]indole, (1-(4-methoxynaphthalenyl)-(1-pentyl-1H-indol-3-yl)methanone
<b>Source:</b>	DEA Reference Material Collection
<b>Appearance:</b>	Off-white powder
<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>25</sub> H <sub>25</sub> NO <sub>2</sub>	371	126.7

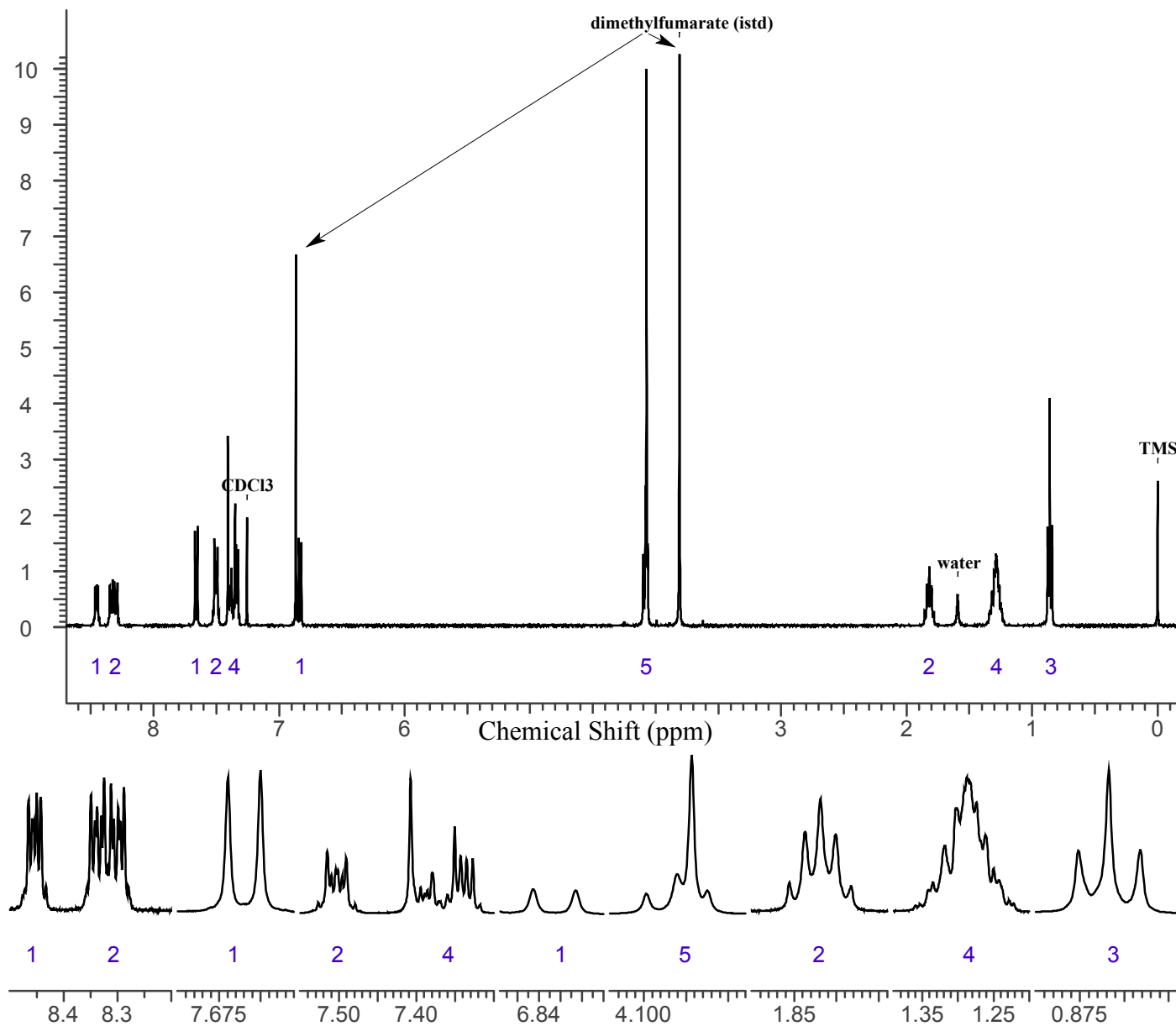
### 3. QUALITATIVE DATA

#### 3.1 NUCLEAR MAGNETIC RESONANCE

**Sample Preparation:** Dilute analyte to ~13 mg/mL in deuterium chloroform (CDCl<sub>3</sub>) containing TMS for 0 ppm reference and dimethylfumarate 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: JWH-081 Lot# ALB056RC; CDCl<sub>3</sub>; 400 MHz





## JWH-081

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 ~ 1 mg/mL in 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

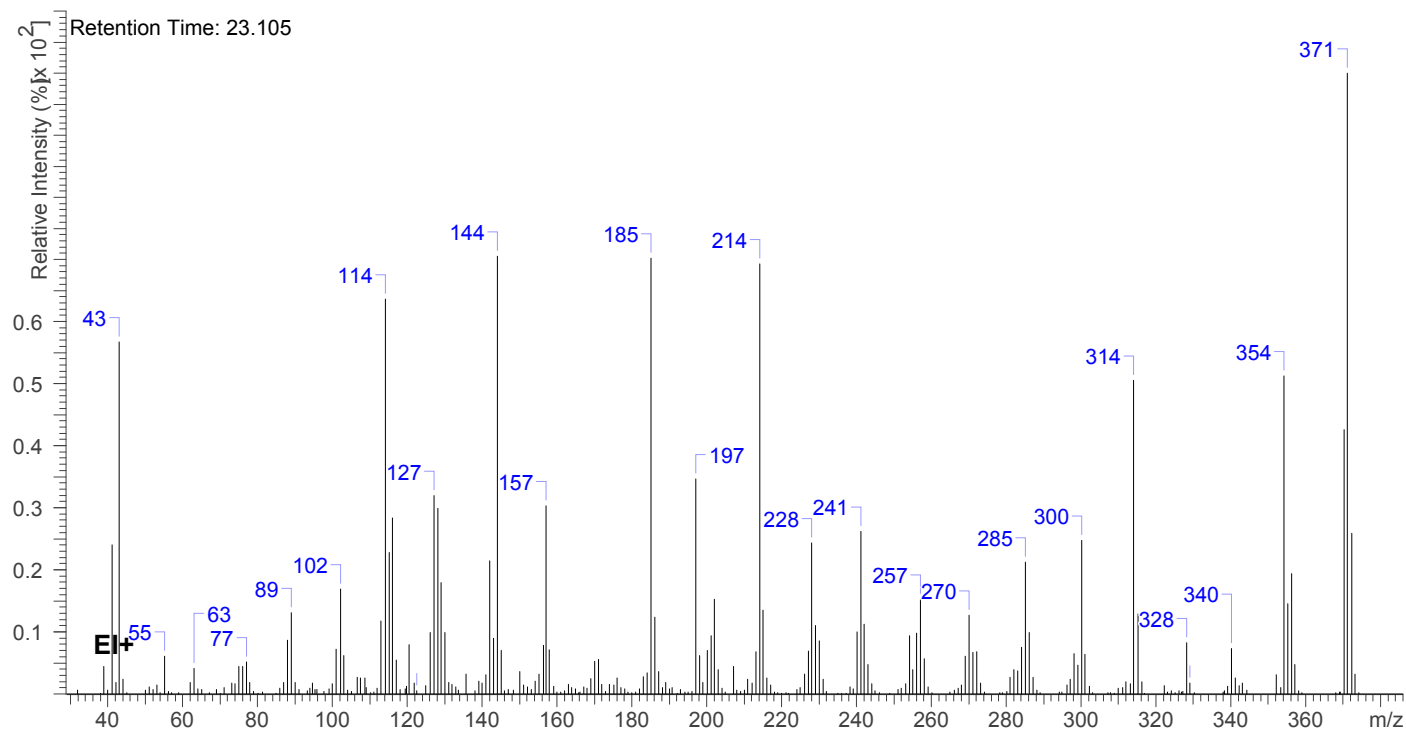
**Temperatures:**  
Injector: 280°C  
MSD transfer line: 280°C  
MS Source: 230°C  
MS Quad: 150°C  
Oven program:  
1) 100°C initial temperature for 1.0 min  
2) Ramp to 300°C at 12 °C/min  
3) Hold final temperature for 9.0 min

**Injection Parameters:** Split Ratio = 20:1, 1  $\mu$ L injected

**MS Parameters:**  
Mass scan range: 34-550 amu  
Threshold: 90  
Tune file: stune.u  
Acquisition mode: scan

**Retention Time:** 23.105 min

EI Mass Spectrum: JWH-081 Lot# ALB056RC





# JWH-081

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

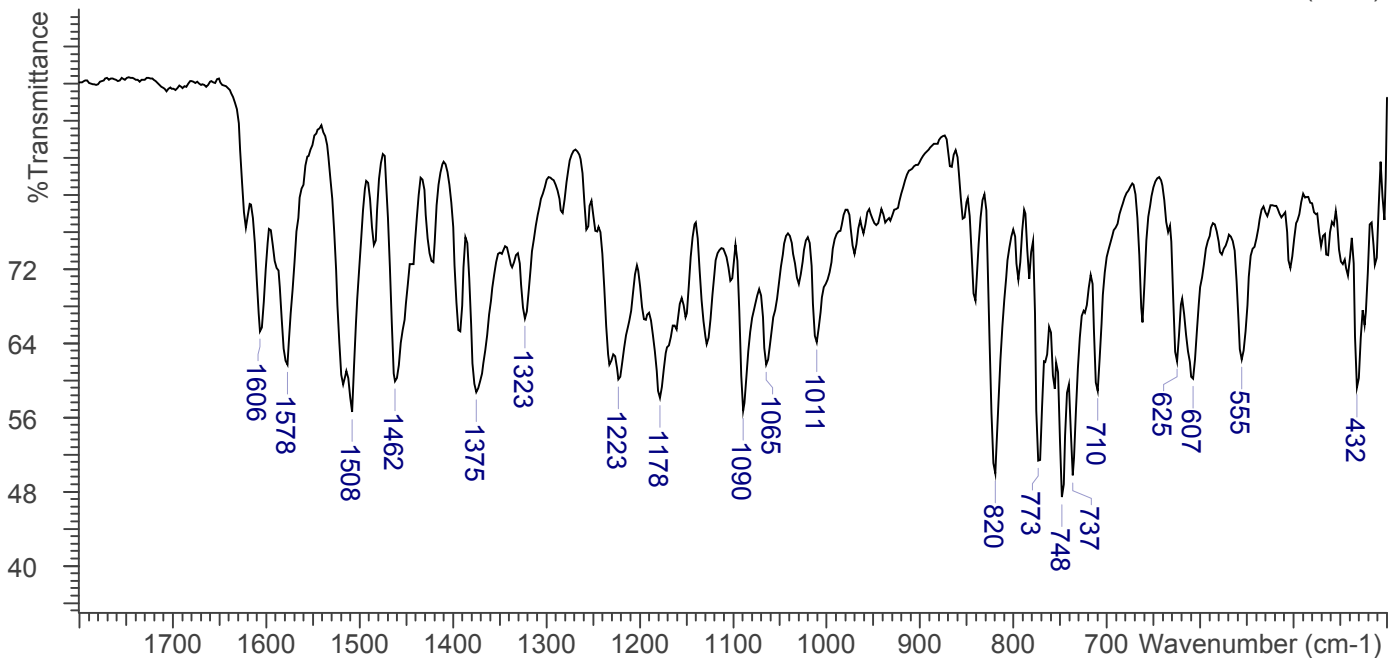
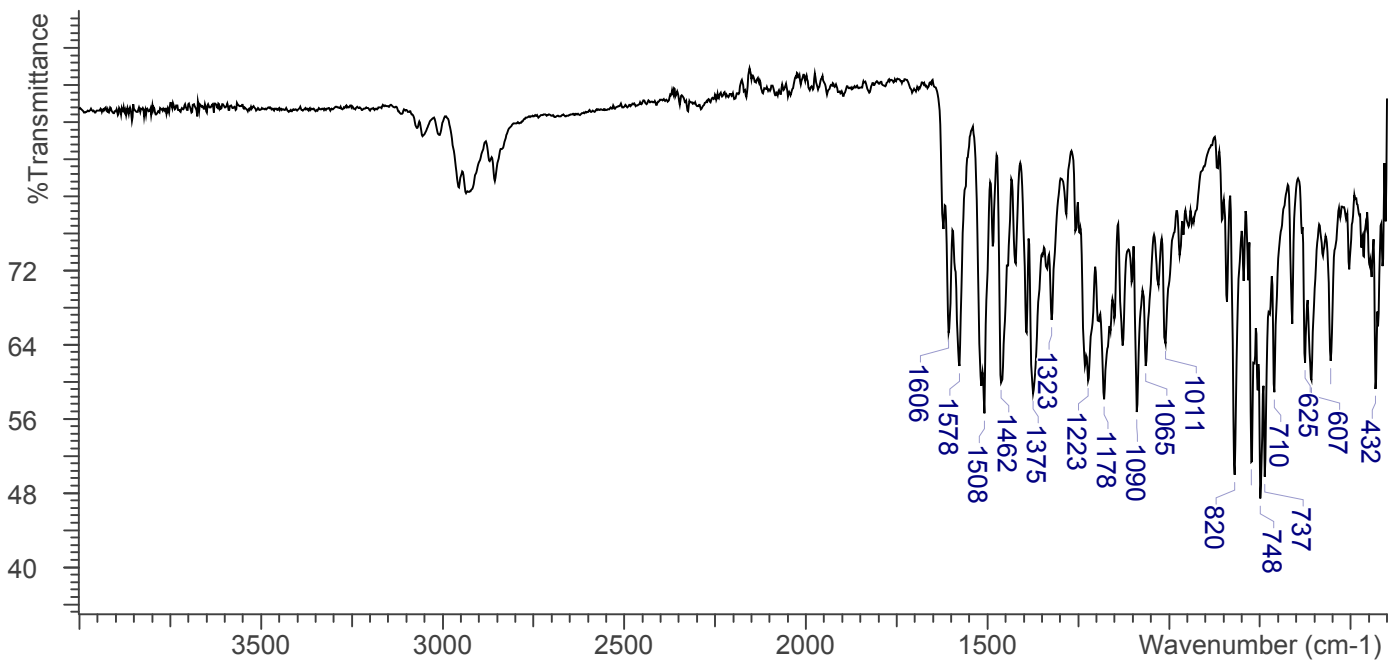


## 3.3 INFRARED SPECTROSCOPY (FTIR)

**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): JWH-081 Lot# ALB056RC





## JWH-081

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



### 4. **ADDITIONAL RESOURCES**

Uchiyama, N.; Kawamura, M.; Kikura-Hanajiri, R.; Goda, Y. Identification and quantitation of two cannabimimetic phenylacetylindoles JWH-251 and JWH-250, and four cannabimimetic naphthoylindoles JWH-081, JWH-015, JWH-200, and JWH-073 as designer drugs in illegal products. *Forensic Toxicol.* 2011, 29:25-37.

[Forendex](#)

[Wikipedia](#)