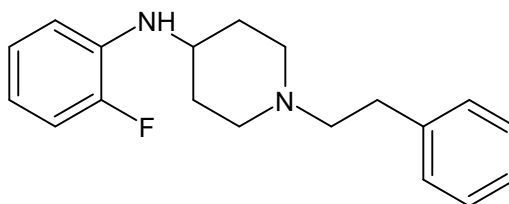




## Despropionyl *ortho*-fluorofentanyl

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



### 1. GENERAL INFORMATION

**IUPAC Name:** N-(2-fluorophenyl)-1-phenethylpiperidin-4-amine

**CAS#:** 864422-91-3

**Synonyms:** N-(2-fluorophenyl)-1-(2-phenylethyl)piperidin-4-amine, Despropionyl 2-FF, Despropionyl o-FF, Despropionyl 2-Fluorofentanyl, Despropionyl o-Fluorofentanyl

**Source:** DEA Reference Material Collection

**Appearance:** White powder

**UV<sub>max</sub>(nm):** Not determined

### 2. CHEMICAL AND PHYSICAL DATA

#### 2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C <sub>19</sub> H <sub>23</sub> FN <sub>2</sub>	298.40	Not Determined
HCl	C <sub>19</sub> H <sub>23</sub> FN <sub>2</sub> HCl	334.86	Not Determined



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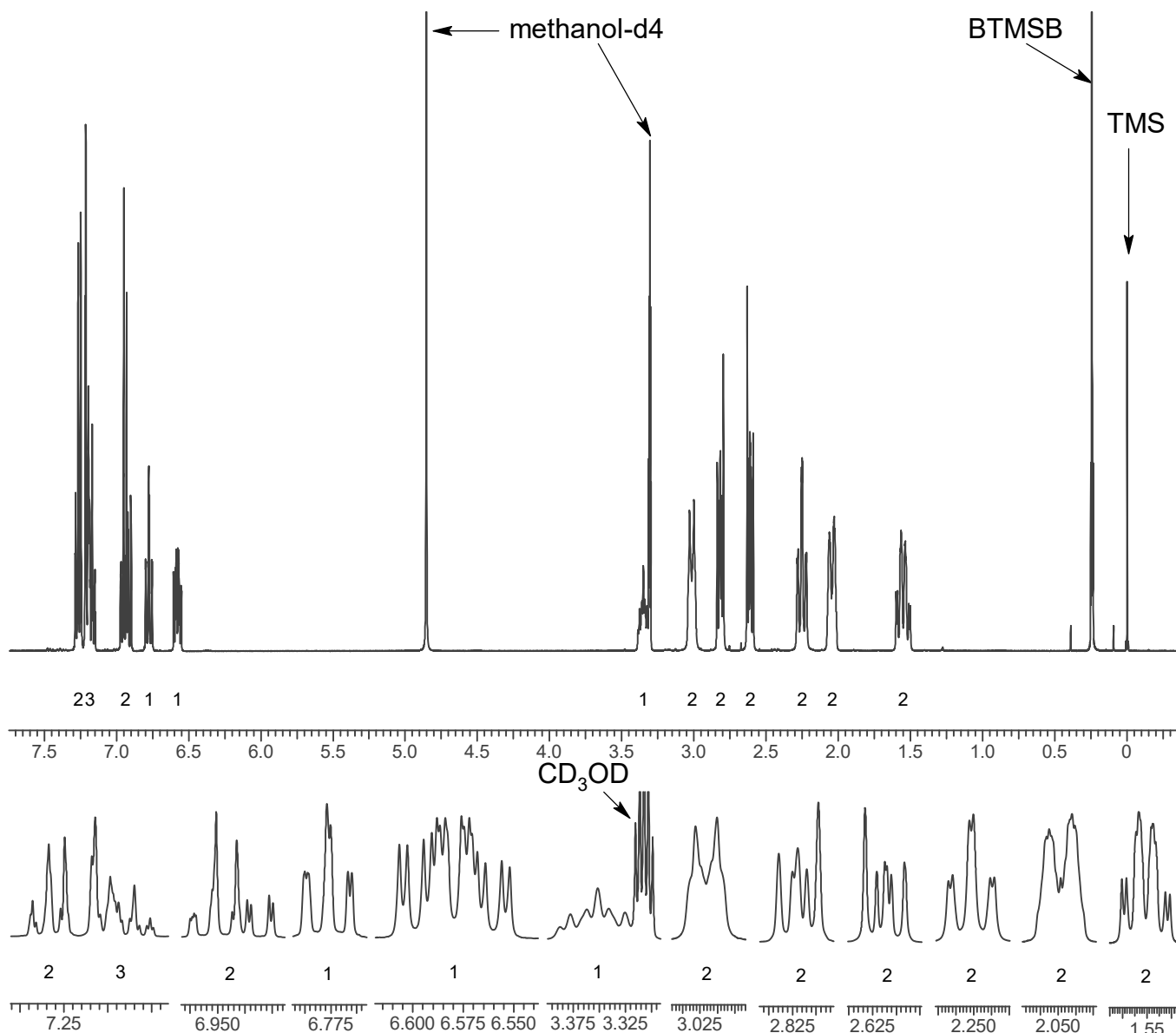
## 3. QUALITATIVE DATA

### 3.1 NUCLEAR MAGNETIC RESONANCE

**Sample Preparation:** Dilute analyte to ~19 mg/mL in methanol- $d_4$  containing TMS for 0 ppm reference and BTMSB 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

$^1\text{H}$ NMR: Despropionyl *ortho*-fluorofentanyl base; Lot # 0534824-1;  $\text{CD}_3\text{OD}$ ; 400MHz





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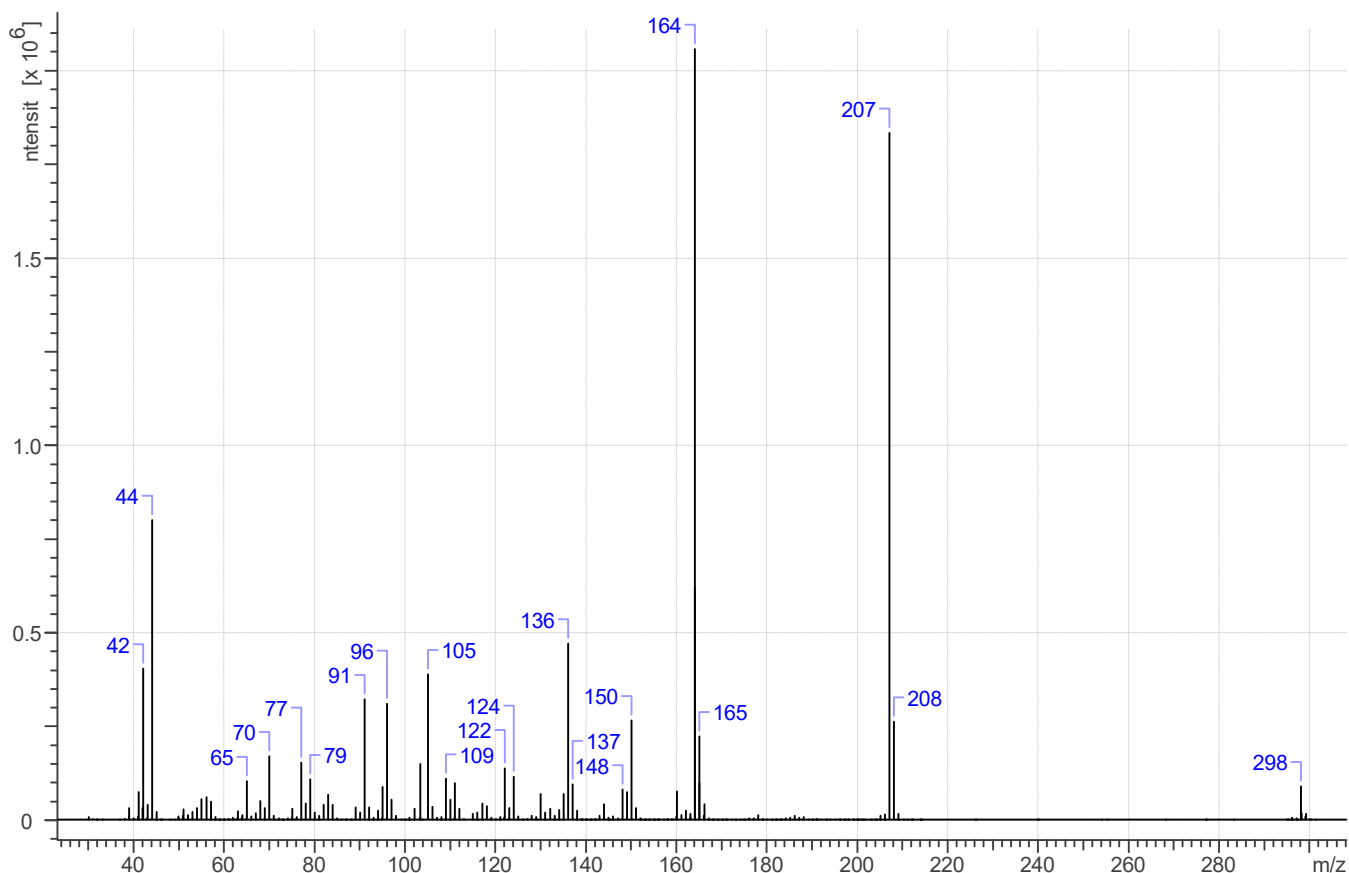


### 3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

**Sample Preparation:** Dilute analyte ~4 mg/mL in MeOH

**Instrument:** Agilent gas chromatograph operated in split mode with MS detector  
**Column:** HP-5 MS (or equivalent); 30m x 0.25 mm x 0.25  $\mu$ 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  $\mu$ L injected  
**MS Parameters:** Mass scan range: 30-550 amu                      Threshold: 250  
Tune file: stune.u                      Acquisition mode: scan  
**Retention Time:** 14.642 min

EI Mass Spectrum: Despropionyl *ortho*-fluorofentanyl base; Lot # 0534824-1





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## 3.3 INFRARED SPECTROSCOPY (FTIR)

**Instrument:** FTIR with diamond ATR attachment (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): Despropionyl *ortho*-fluorofentanyl base; Lot # 0534824-1

