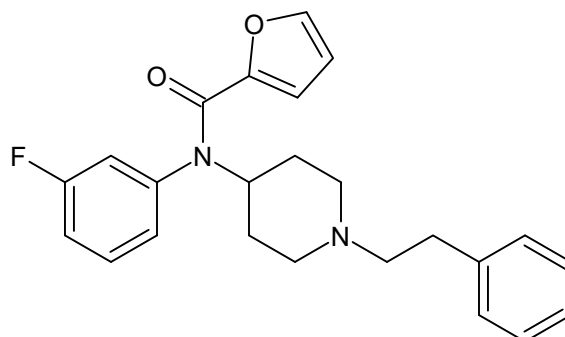




***meta*-fluoro Furanyl fentanyl**

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



1. GENERAL INFORMATION

<i>IUPAC Name:</i>	<i>N</i> -(3-fluorophenyl)- <i>N</i> -(1-phenethylpiperidin-4-yl)furan-2-carboxamide
<i>CAS#:</i>	NA
<i>Synonyms:</i>	3-fluoro Fu F, <i>m</i> -fluoro Fu-F, 3-fluoro furanyl fentanyl, <i>m</i> -fluoro furanyl fentanyl, <i>meta</i> -fluoro Fu-F, <i>N</i> -(3-fluorophenyl)- <i>N</i> -[1-(2-phenylethyl)piperidin-4-yl]furan-2-carboxamide
<i>Source:</i>	DEA Reference Material Collection
<i>Appearance:</i>	White powder
<i>UV_{max}(nm):</i>	Not determined

2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Melting Point (°C)
Base	C ₂₄ H ₂₅ FN ₂ O ₂	392.47	Not Determined
HCl	C ₂₄ H ₂₅ FN ₂ O ₂ HCl	428.93	Not Determined



meta-fluoro Furanyl fentanyl

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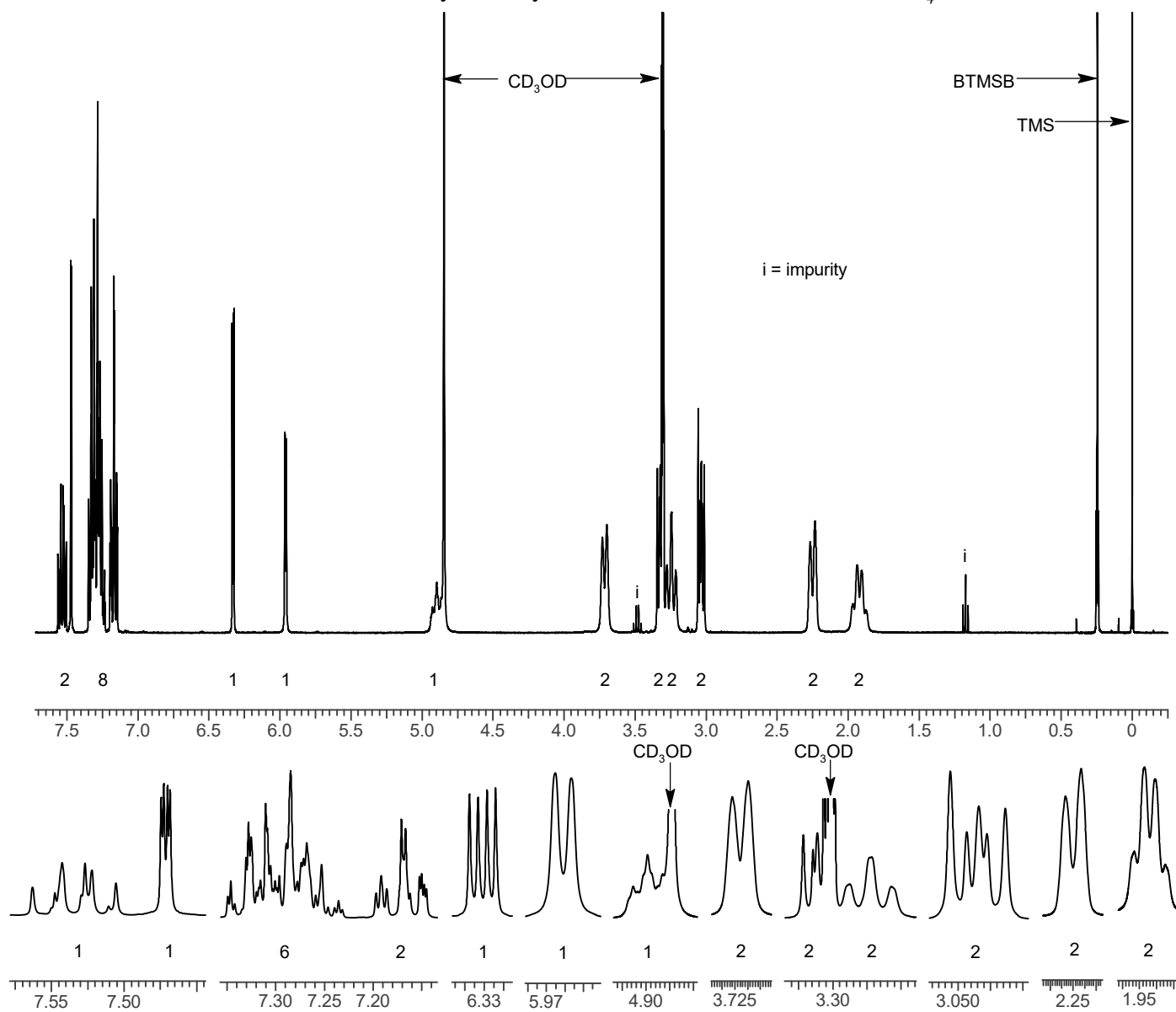
3. QUALITATIVE DATA

3.1 NUCLEAR MAGNETIC RESONANCE

Sample Preparation: Dilute analyte to ~15 mg/mL in methanol- d_4 containing TMS for 0 ppm reference and 1,4-BTMSB- d_4 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: meta-fluoro furanyl fentanyl HCl; Lot# 0548403-5; methanol- d_4 ; 400MHz





meta-fluoro Furanyl fentanyl

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3.2 GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Sample Preparation: Dilute analyte ~3 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 μ 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 30.0 min

Injection Parameters:

Split Ratio = 25:1, 1 μ L injected

MS Parameters:

Mass scan range: 30-550 amu

Threshold: 250

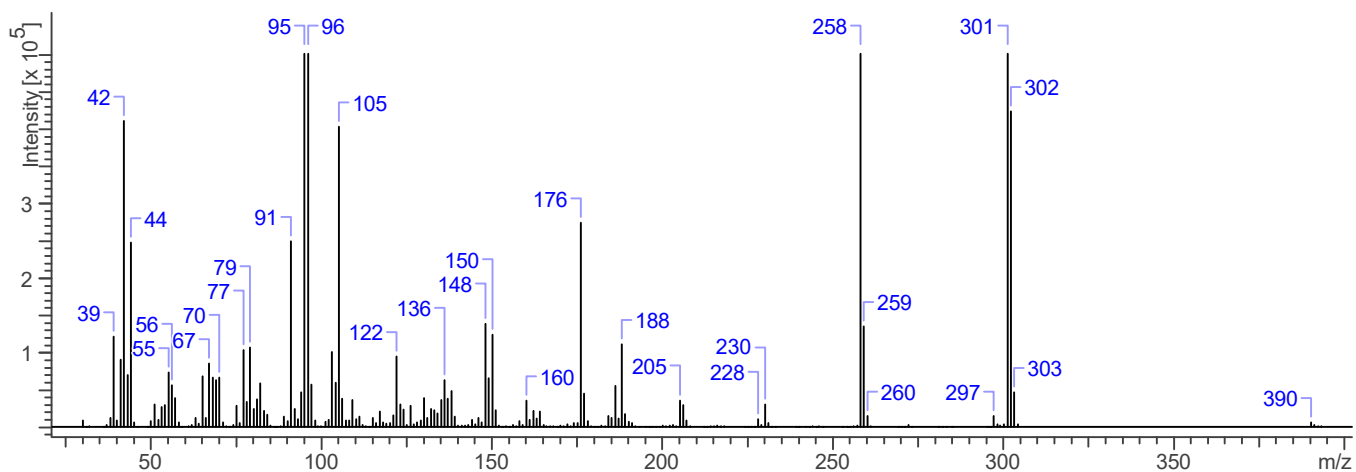
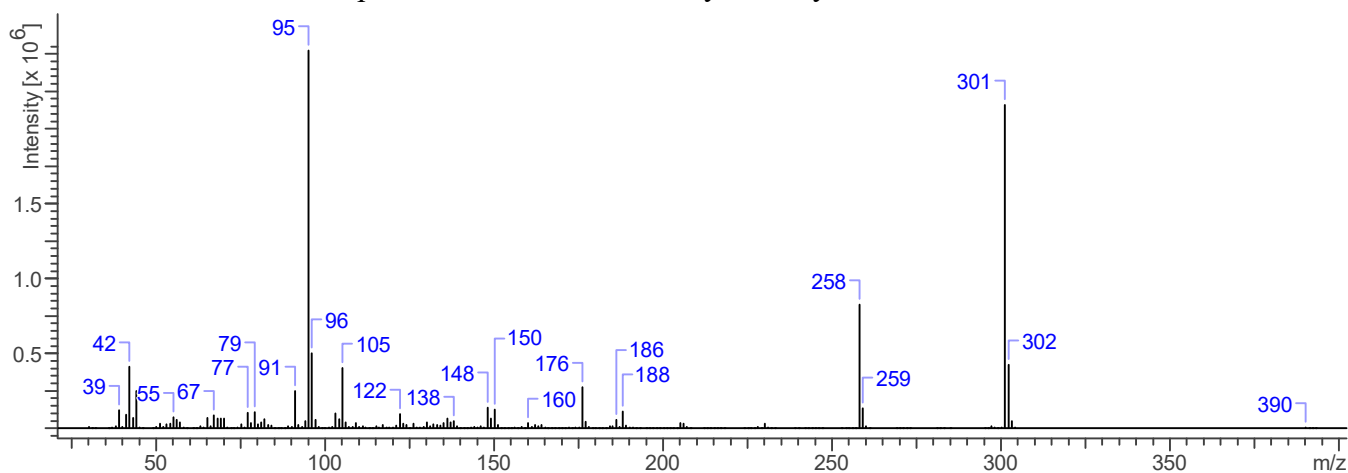
Tune file: stune.u

Acquisition mode: scan

Retention Time:

18.85 min

EI Mass Spectrum: meta-fluoro furanyl fentanyl HCl; Lot# 0548403-5





meta-fluoro Furanyl fentanyl

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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⁻¹
Sample gain: 1
Aperture: 150

FTIR ATR (Diamond 1 Bounce): meta-fluoro furanyl fentanyl HCl; Lot# 0548403-5

