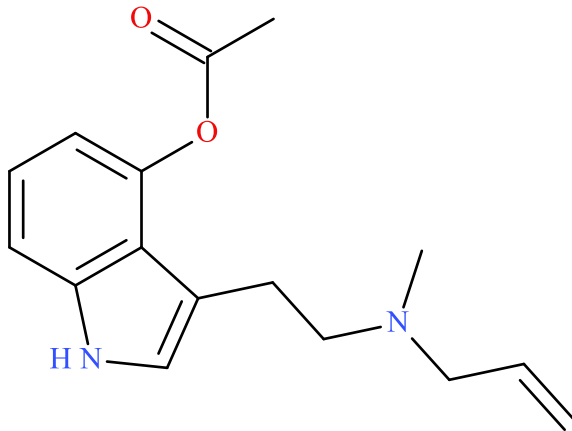


4-Acetoxy-MALT

Sample Type: **Seized Material**



Latest Revision: **February 4, 2019**

Date Received: **November 2, 2018**

Date of Report: **February 4, 2019**

1. GENERAL INFORMATION

IUPAC Name:	[3-[2-[allyl(methyl)amino]ethyl]-1H-indol-4-yl] acetate
InChI String:	InChI=1S/C16H20N2O2/c1-4-9-18(3)10-8-13-11-17-14-6-5-7-15(16(13)14)20-12(2)19/h4-7,11,17H,1,8-10H2,2-3H3
CFR:	Not Scheduled (02/2019)
CAS#	Not Available
Synonyms:	4-AcO-MALT, 4-Acetyloxy-N-methyl-N-allyltryptamine
Source:	Department of Homeland Security
Appearance:	Tan Solid Material

Important Note: All identifications were made based on evaluation of analytical data (GC-MS, LC-QTOF, and NMR), as no standard reference material was available at the time of testing.

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2. CHEMICAL AND PHYSICAL DATA

2.1 CHEMICAL DATA

Form	Chemical Formula	Molecular Weight	Molecular Ion [M ⁺]	Exact Mass [M+H] ⁺
Base	C ₁₆ H ₂₀ N ₂ O ₂	272.3	272	273.1598

3. BRIEF DESCRIPTION

4-Acetoxy-MALT is classified as a novel tryptamine analogue. Tryptamine analogues are modified based on the structure of tryptamine. Tryptamine is found at low concentrations endogenously in the brain, suspected of playing a role in neurological functions, and exogenously in some plant species. Tryptamine analogues have been reported to cause hallucinogenic effects, often associated with “psychedelic mushrooms.” Tryptamine analogues have caused adverse events, including agitation, tachyarrhythmias, hyperpyrexia, and death, as described in the literature. Structurally similar compounds include psilocin, *O*-acetylpsilocin (4-acetoxy-DMT), and 5-MeO-MALT, among several other tryptamine analogues. Psilocin is a Schedule I substance in the United States.

4. ADDITIONAL RESOURCES

No resources available.

5. QUALITATIVE DATA

5.1 GAS CHROMATOGRAPHY MASS SPECTROMETRY (GC-MS)

Testing Performed At:	NMS Labs (Willow Grove, PA)
Sample Preparation:	Acid/base extraction
Instrument:	Agilent 5975 Series GC/MSD System
Column:	Zebtron™ Inferno™ ZB-35HT (15 m x 250 μm x 0.25 μm)
Carrier Gas:	Helium (Flow: 1 mL/min)
Temperatures:	Injection Port: 265 °C Transfer Line: 300 °C

MS Source: 230 °C

MS Quad: 150 °C

Oven Program: 60 °C for 0.5 min, 35 °C/min to 340 °C for 6.5 min

Injection Parameters: Injection Type: Splitless

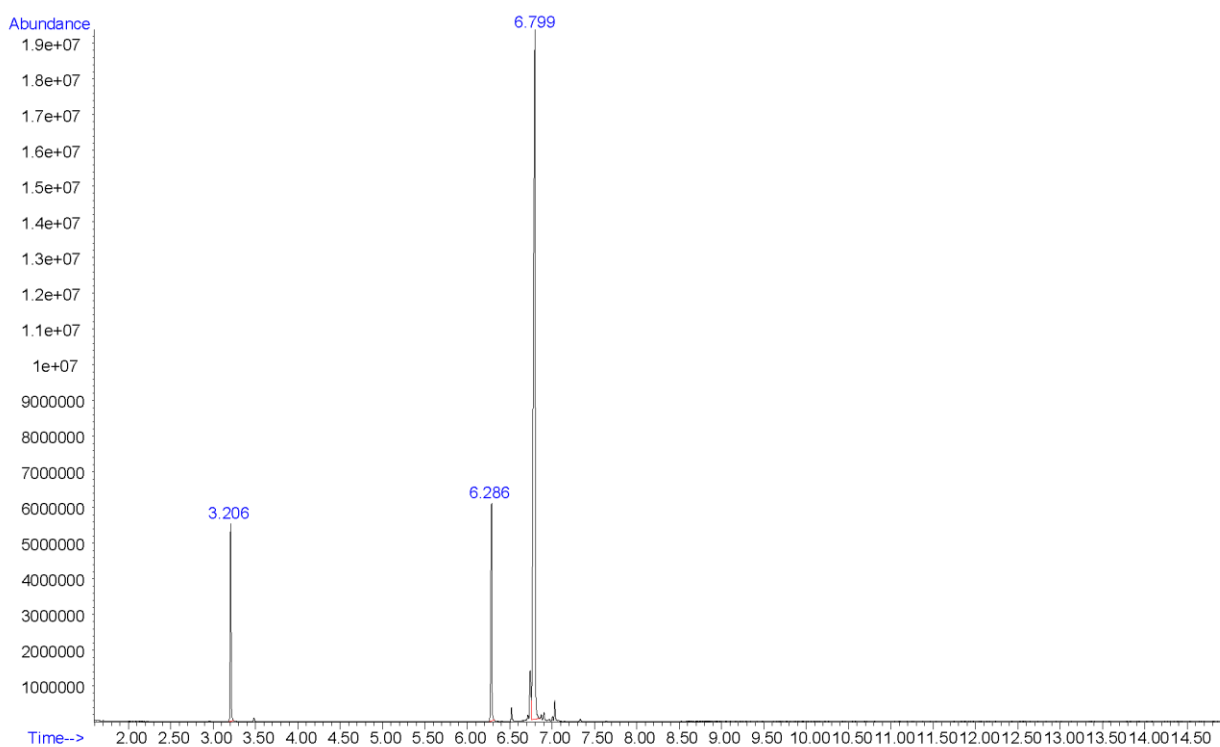
Injection Volume: 1 µL

MS Parameters: Mass Scan Range: 40-550 m/z

Threshold: 250

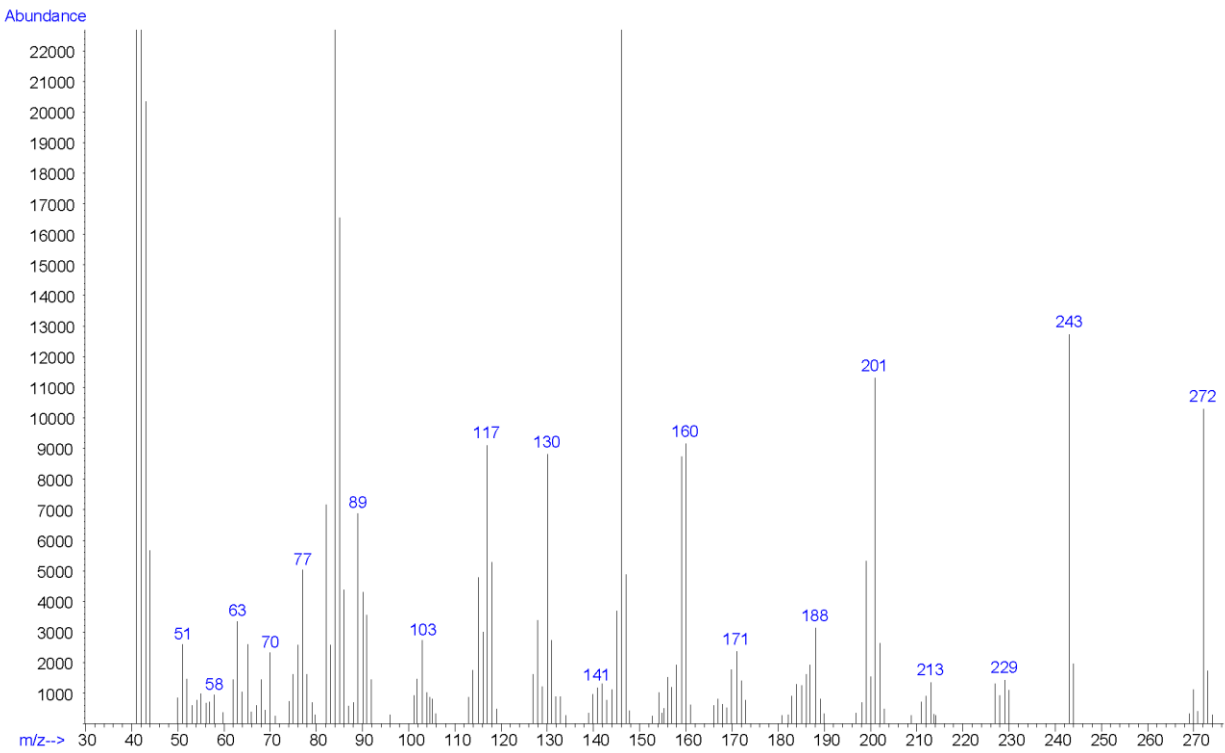
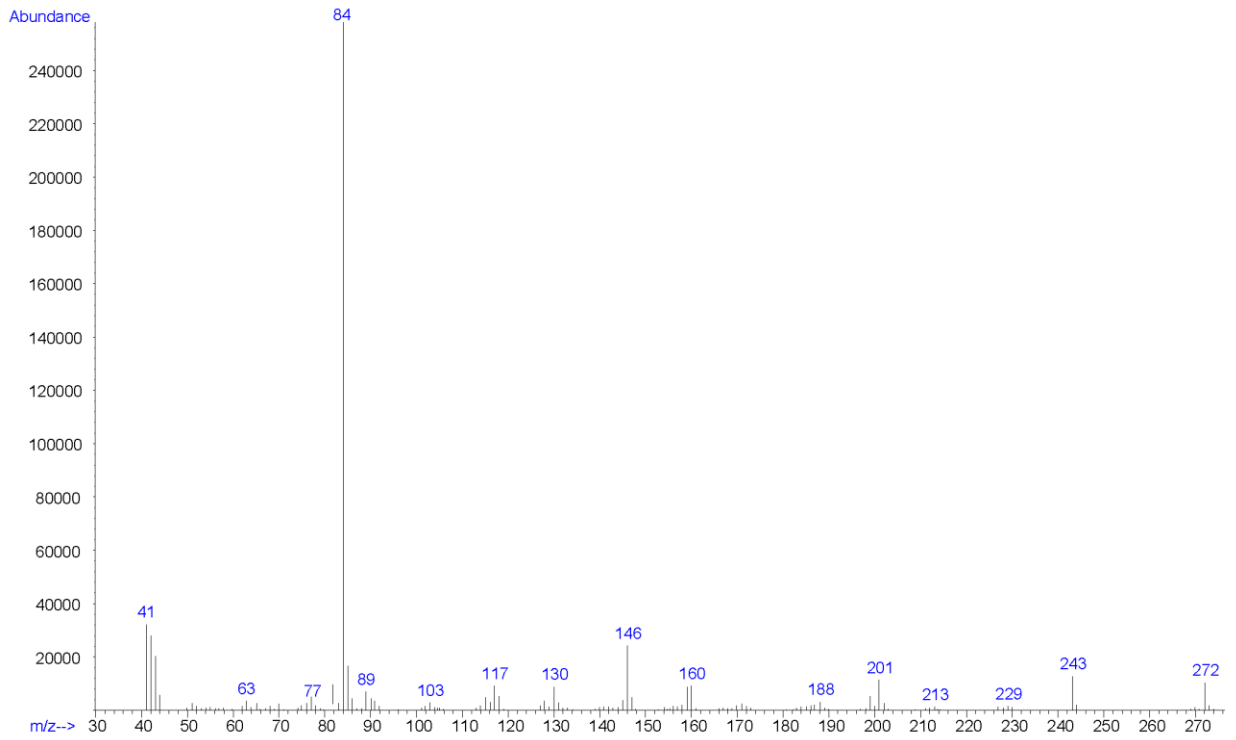
Retention Time: 6.799 min

Chromatogram: 4-Acetoxy-MALT



Additional peaks present in chromatogram: internal standards (3.206 min and 6.286 min)

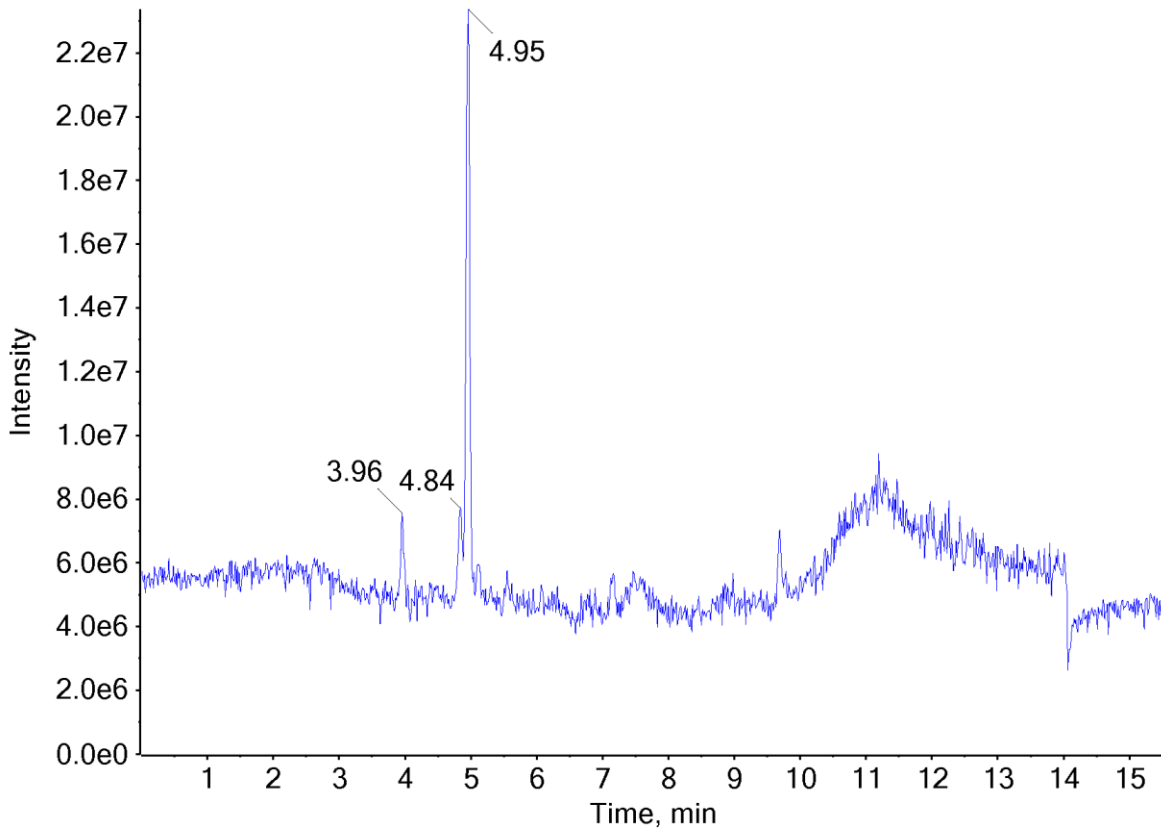
EI (70 eV) Mass Spectrum (Top) and 10x (Bottom): 4-Acetoxy-MALT



5.2 LIQUID CHROMATOGRAPHY QUADRUPOLE TIME OF FLIGHT MASS SPECTROMETRY (LC-QTOF)

Testing Performed At:	The Center for Forensic Science Research and Education at the Fredric Rieders Family Foundation (Willow Grove, PA)
Sample Preparation:	1:100 dilution of acid/base extraction in mobile phase
Instrument:	Sciex TripleTOF® 5600+, Shimadzu Nexera XR UHPLC
Column:	Phenomenex® Kinetex C18 (50 mm x 3.0 mm, 2.6 µm)
Mobile Phase:	A: Ammonium formate (10 mM, pH 3.0) B: Methanol/acetonitrile (50:50) Flow rate: 0.4 mL/min
Gradient:	Initial: 95A:5B; 5A:95B over 13 min; 95A:5B at 15.5 min
Temperatures:	Autosampler: 15 °C Column Oven: 30 °C Source Heater: 600 °C
Injection Parameters:	Injection Volume: 10 µL
QTOF Parameters:	TOF MS Scan Range: 100-510 Da Precursor Isolation: SWATH® acquisition (27 windows) Fragmentation: Collision Energy Spread (35±15 eV) MS/MS Scan Range: 50-510 Da
Retention Time:	4.95 min

Extracted Ion Chromatogram: 4-Acetoxy-MALT



Additional peak present in chromatogram: not a controlled substance (3.96 mins), internal standard (4.84 min)

TOF MS (Top) and MS/MS (Bottom) Spectra: 4-Acetoxy-MALT

