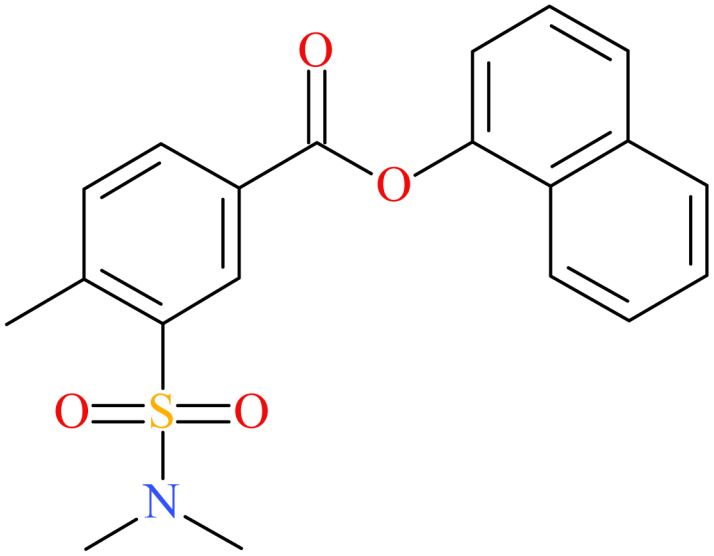
NMDMSB



NPS SUBCLASS
Synthetic Cannabinoid
REPORT DATE
November 22, 2023
SAMPLE RECEIVED
May 3, 2023
SAMPLE TYPE
Drug Material

Preferred Name	NMDMSB
Synonyms	Not Applicable
Formal Name	1-naphthyl 3-(dimethylsulfamoyl)-4-methyl-benzoate
InChI Key	PNUYASIDNIWYQI-UHFFFAOYSA-N
CAS Number	Not Available
Chemical Formula	$C_{20}H_{19}NO_4S$
Molecular Weight	369.43
Molecular Ion [M⁺]	369
Exact Mass [M+H]⁺	370.1108

Characterization & Intelligence

The following information was compiled in November 2023 and is subject to change as new research is conducted and as new information becomes available:

Description: NMDMSB is a novel synthetic cannabinoid. NMDMSB is structurally similar to 2F-QMPSB; however, no structurally similar drugs have been detected by our laboratory. In early 2023, forensic laboratories in the United States shared their identifications of this novel synthetic cannabinoid, although the structure of NMDMSB was not confirmed nor reported early on. In May 2023, NMDMSB was detected for the first time at our laboratory; however, the case was not confirmed until October 2023 after acquiring standard reference material. Due to its novelty, little information is currently known about NMDMSB.

Sample Source: Beaumont Police Department, NMS Labs – Drug Chemistry

Sample Appearance: Red powder, paper samples

Pharmacology: No information is available at this time.

Toxicology: NMDMSB has not been detected in toxicology cases at the CFSRE.

Drug Materials: NMDMSB has been detected in three drug materials at the CFSRE.

Demographics / Geographics: Drug materials originated from the states of Texas, New York, and Illinois.

Legal Status: NMDMSB is not explicitly scheduled in the United States.

References:

- Cayman Chemical: NMDMSB

About: In collaboration with medical examiner and coroner offices, crime laboratories, clinical partners, and other stakeholders, the Center for Forensic Science Research and Education (CFSRE) is documenting first confirmations of NPS through analysis of drug materials and/or toxicology samples. These reports are generated using comprehensive analytical techniques (e.g., GC-MS, LC-QTOF-MS, NMR) and include available information about the new substances identified at the time of reporting, as well as the analytical data generated during testing. Our new drug monographs are intended to assist with the rapid identification of NPS in forensic casework and related disciplines, and should not be used for confirmatory purposes alone.

Analytical Notes: All identifications were made based on evaluation of analytical data (GC-MS and LC-QTOF-MS) in comparison to analysis of acquired reference material.

Acknowledgements: This report was prepared by Alex J. Krotulski, Marsha Cox, Nicole Lattanzio, Sara E. Walton, Robert M. Schelkun, Donna M. Iula, Melissa F. Fogarty, and Barry K. Logan at the Center for Forensic Science Research and Education (CFSRE) at the Fredric Rieders Family Foundation. The authors acknowledge scientists at the CFSRE and NMS Labs for their involvements and contributions. For more information, contact npsdiscovery@cfsre.org or visit www.npsdiscovery.org.

Funding: CFSRE's NPS Discovery is supported by the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice (Award Number 15PNIJ-22-GG-04434-MUMU, "Implementation of NPS Discovery – An Early Warning System for Novel Drug Intelligence, Surveillance, Monitoring, Response, and Forecasting using Drug Materials and Toxicology Populations in the US"). The opinions, findings, conclusions and/or recommendations expressed in this publication are those of the author(s) and do not necessarily represent the official position or policies of the U.S. Department of Justice.

Suggested Citation: Krotulski, AJ; Cox, M; Lattanzio, N; Walton, SE; Schelkun, RM; Iula, DM; Fogarty, MF; Logan, BK. (2023) *NMDMSB — NPS Discovery New Drug Monograph*, Center for Forensic Science Research and Education, United States.

Gas Chromatography Mass Spectrometry (GC-MS)

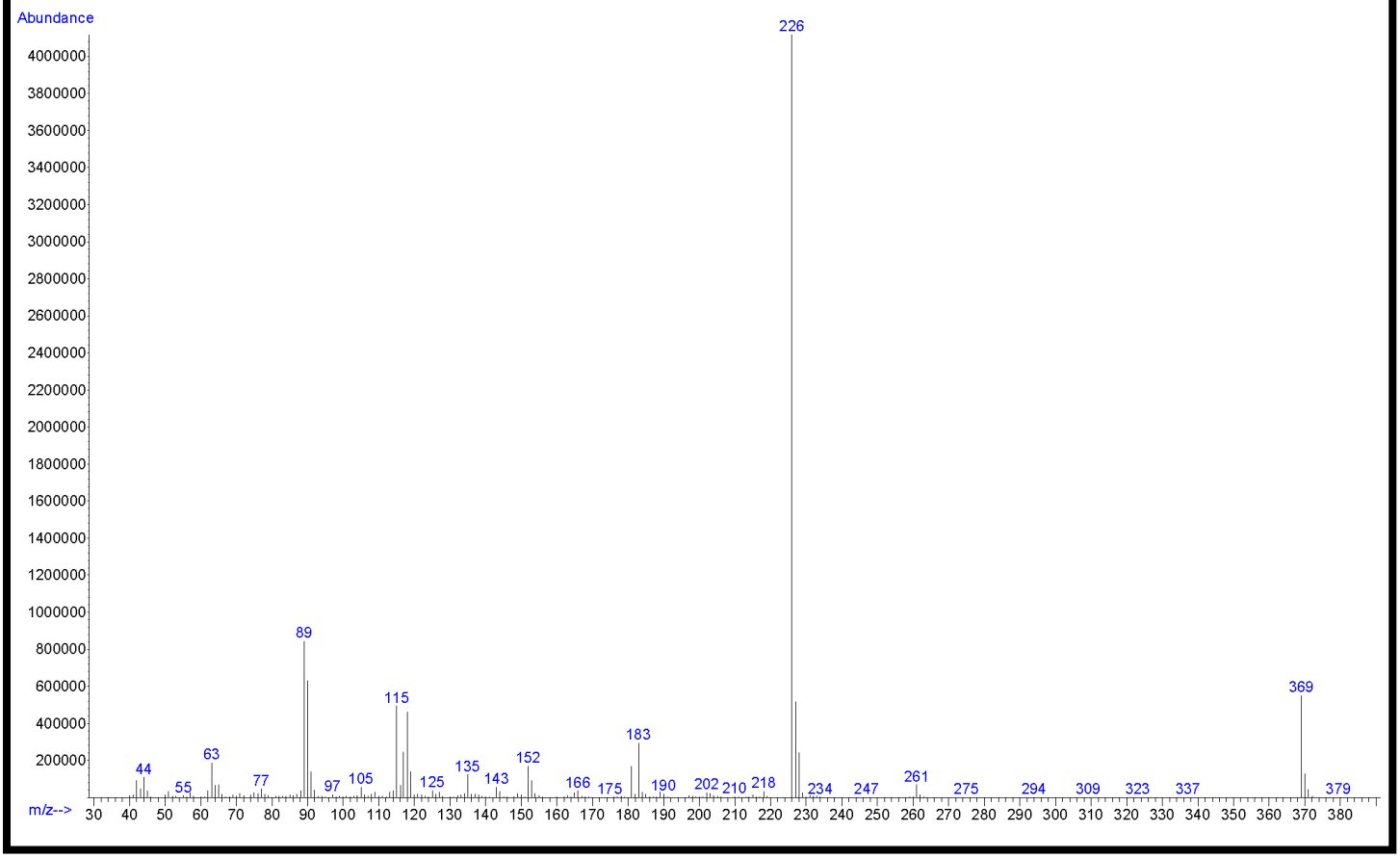
Laboratory: Center for Forensic Science Research and Education (CFSRE, Willow Grove, PA, USA)

Sample Preparation: Dilution in methanol

Instrument: Agilent 5975 Series GC/MSD

Methods: www.cfsre.org/nps-discovery/monographs
GC-MS Method Details

GC-MS: Mass Spectrum (EI 70 eV)



Confirmation Using Drug Standard: *Reference material (Batch: 0679269-2, prepared in DMSO) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be NMDMSB based on retention time (sample: 8.532 min vs. standard: 8.529 min) and mass spectral data comparisons.*

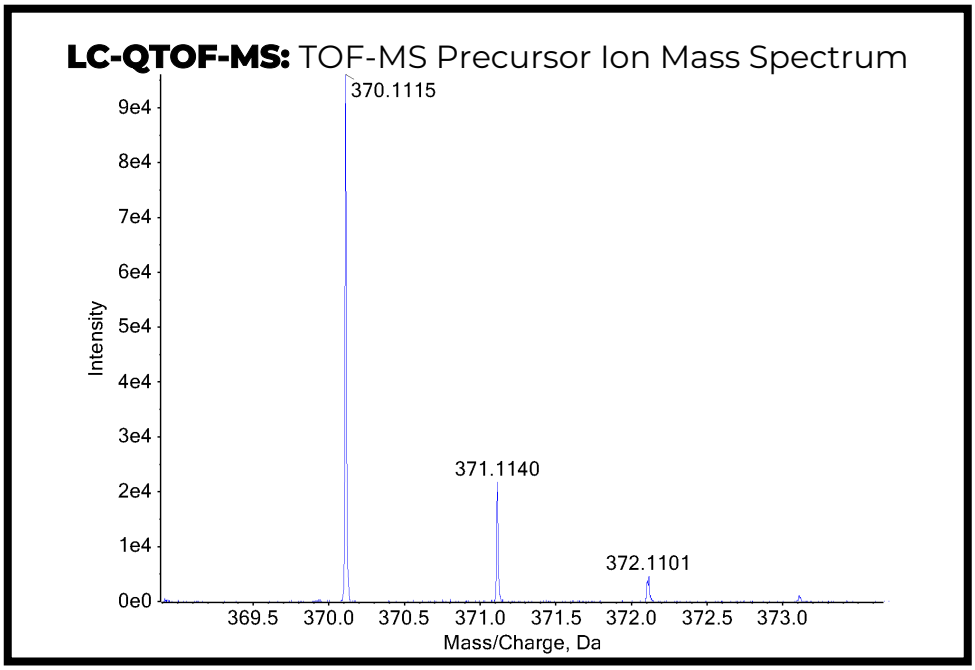
Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS)

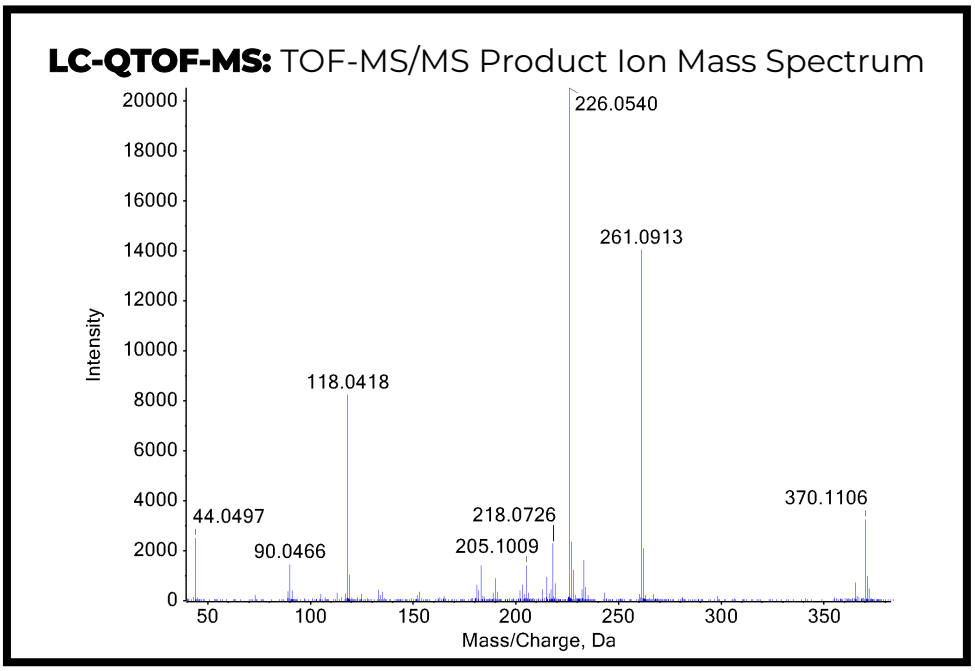
Laboratory: Center for Forensic Science Research and Education (CFSRE, Willow Grove, PA, USA)

Sample Preparation: Dilution in methanol

Instrument: Sciex TripleTOF® 5600+ LC-QTOF-MS

Methods: www.cfsre.org/nps-discovery/monographs
LC-QTOF-MS Method Details





Confirmation Using Drug Standard: *Reference material (Batch: 0679269-2, prepared in DMSO) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be NMDMSB based on retention time (sample: 9.42 min vs. standard: 9.37 min) and mass spectral data comparisons.*