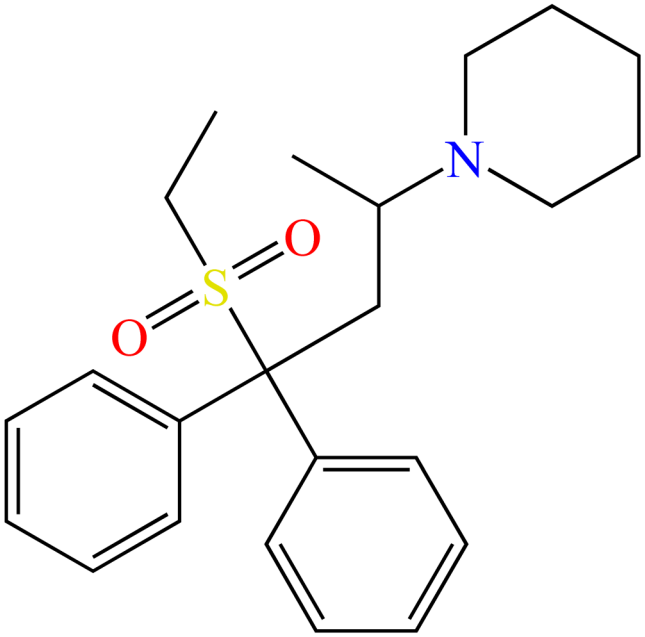
N-Piperidinyl Methiodone



NPS SUBCLASS
Opioid
REPORT DATE
February 10, 2026
SAMPLE RECEIVED
November 5, 2025
SAMPLE TYPE
Drug Material

Preferred Name	*N*-Piperidinyl Methiodone				
Synonyms	DPP-26, Thiodipipanone				
Formal Name	1-(4-(ethylsulfonyl)-4,4-diphenylbutan-2-yl)piperidine				
Chemical Formula	$C_{23}H_{31}NO_2S$				
Molecular Weight	385.6	**Molecular Ion [M⁺]**	385	**Exact Mass [M+H]⁺**	386.2148

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, and should not be used for confirmatory purposes alone.

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-24-GK-00981-COAP, "Novel Psychoactive Substance Discovery, Education, and Reporting Institute"). 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.

Analytical Notes: All identifications were made based on evaluation of analytical data (LC-QTOF-MS) in comparison to analysis of acquired reference material. *N*-Piperidinyl Methiodone was noted to be thermally unstable during GC-MS analysis; therefore, its suspected breakdown product is included (P2).

Acknowledgements: This report was prepared by Brianna N. Stang, Sara E. Walton, Nicholas Khorozov, Max T. Denn,, Alexis D. Quinter, Angel McDowell, Joshua S. DeBord, Barry K. Logan, and Alex J. Krotulski at the Center for Forensic Science Research and Education (CFSRE) at the Fredric Rieders Family Foundation. The authors acknowledge scientists at the CFSRE for their involvements and contributions. For more information, contact npsdiscovery@cfsre.org or visit www.npsdiscovery.org.

Suggested Citation: Stang BN, Walton SE, Khorozov N, Denn MT, Quinter AD, McDowell A, DeBord JS, Logan BK, Krotulski AJ. (2026) *N-Piperidinyl Methiodone — NPS Discovery New Drug Monograph*, Center for Forensic Science Research and Education, United States.

Characterization & Intelligence

The following information was compiled in February 2026 and is subject to change as new research is conducted and as new information becomes available:

Description: *N*-Piperidinyl methiodone (also known as DPP-26) is a novel synthetic opioid bearing structural resemblance to other synthetic opioids (e.g., methiodone, dipyanone, methadone). Currently, no available data investigates the potency and activity of N-piperidinyl methiodone; however, due to structural similarity to studied synthetic opioids, it is hypothesized that *N*-piperidinyl methiodone acts as a mu-opioid receptor agonist and has the potential to induce analgesia, euphoria, and respiratory depression.[1,2] *N*-Piperidinyl methiodone is not currently scheduled in the United States. *N*-Piperidinyl methiodone was first detected at the CFSRE in a white material from New England without the presence of other drugs. Since the initial identification, *N*-piperidinyl methiodone has been identified at the CFSRE in one postmortem blood specimen alongside methiodone and 2oxo-PCP.

References:

- Cayman Chemical: N-Piperidinyl Methiodone
- [1]Berardinelli et al. (2025): Dipyanone, a new methadone-like synthetic opioid: In vitro and in vivo human metabolism ...
- [2]Vandeputte et al. (2023): Detection, chemical analysis, and pharmacological characterization of dipyanone and ...

Gas Chromatography Mass Spectrometry (GC-MS)

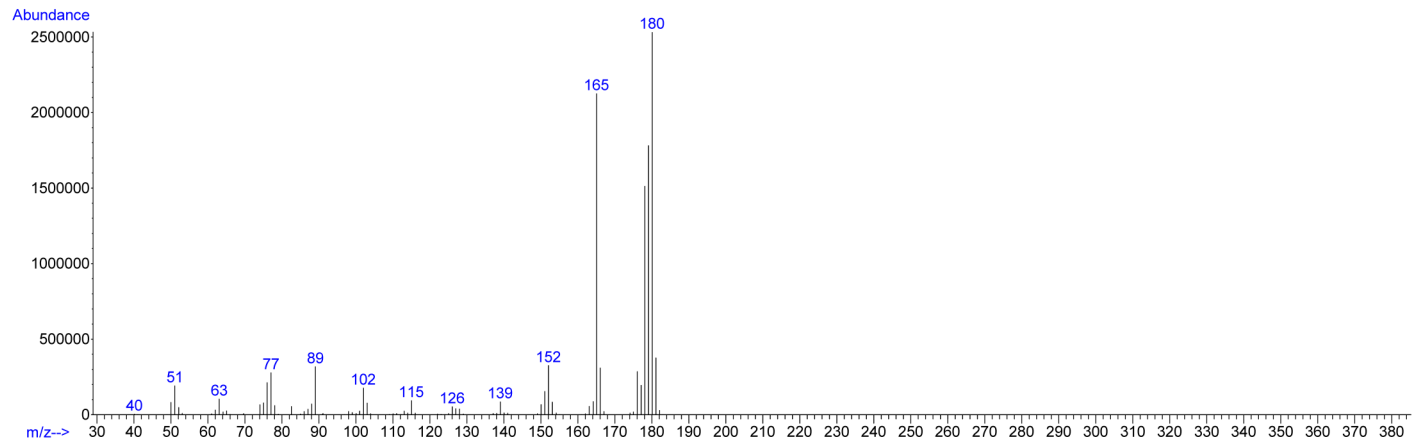
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham PA, USA)

Sample Preparation: Acid-base extraction

Instrument: Agilent 5975 Series GC/MSD

Methods: GC-MS Method Details & Monographs

Suspected Breakdown Product — GC-MS: Mass Spectrum (EI 70 eV)



Confirmation Using Drug Standard: *Reference material for N-piperidinyl methiodone (Batch: 0816939-1) was purchased from Cayman Chemical (Ann Arbor, MI, USA) and analyzed by GC-MS. The above suspected breakdown product was identified and identical after analysis of the sample and reference material based on retention time (sample: 3.88 min vs. standard: 3.89 min) and mass spectral data comparisons.*

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

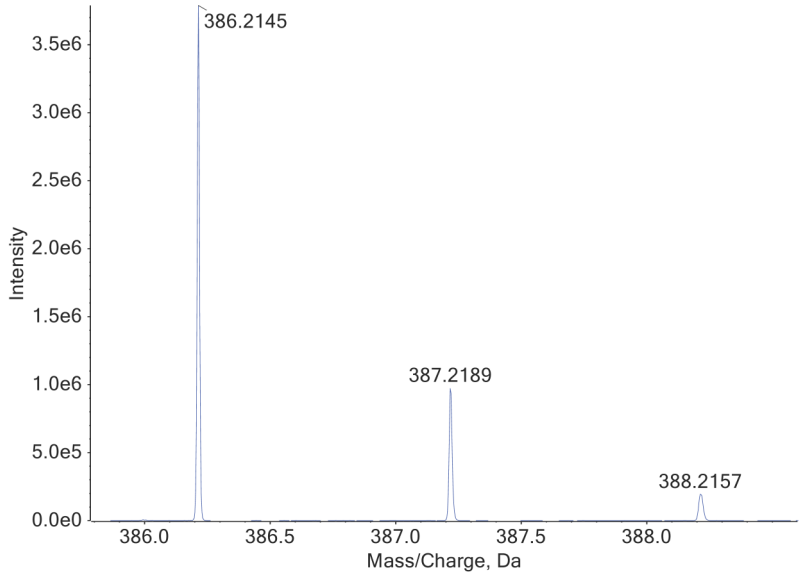
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Sample Preparation: Dilution in mobile phase

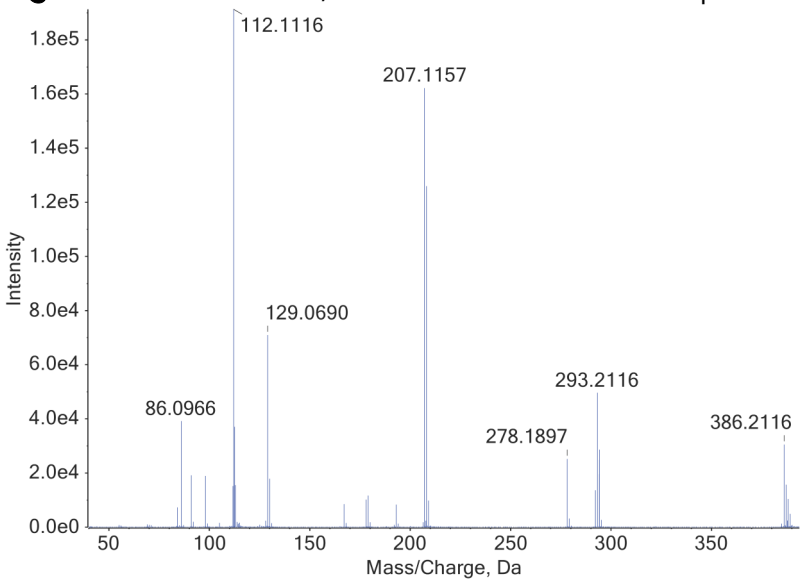
Instrument: Sciex 5600+ LC-QTOF-MS

Methods: LC-QTOF-MS Method Details & Monographs

LC-QTOF-MS: TOF-MS Precursor Ion Mass Spectrum



LC-QTOF-MS: TOF-MS/MS Product Ion Mass Spectrum



Confirmation Using Drug Standard: *Reference material for N-piperidinyl methiodone (Batch: 0816939-1) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be N-piperidinyl methiodone based on retention time (sample: 6.50 min vs. standard: 6.62 min) and mass spectral data comparisons.*