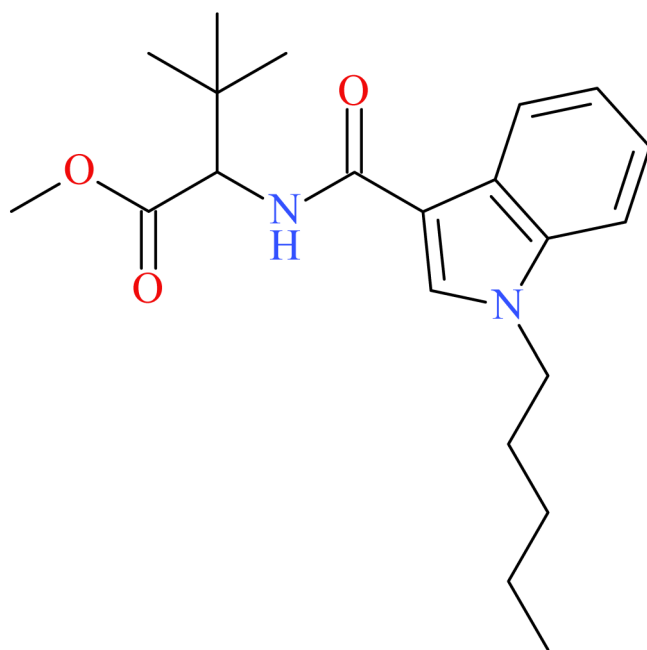


## MDMB-PICA



| NPS SUBCLASS    | Synthetic Cannabinoid |
|-----------------|-----------------------|
| REPORT DATE     | November 28, 2023     |
| SAMPLE RECEIVED | September 8, 2023     |
| SAMPLE TYPE     | Toxicology            |

|                                 |   |
|---------------------------------|---|
| Preferred Name                  | MDMB-PICA   |
| Synonyms                        | Not Applicable  |
| Formal Name                     | methyl 3,3-dimethyl-2-[(1-pentylindole-3-carbonyl)amino]butanoate |
| InChI Key                       | BZLLFCKQFCOOSL-UHFFFAOYSA-N                                       |
| CAS Number                      | 1971007-98-3  |
| Chemical Formula                | C <sub>21</sub> H <sub>30</sub> N <sub>2</sub> O <sub>3</sub>     |
| Molecular Weight                | 358.47  |
| Molecular Ion [M <sup>+</sup> ] | 358   |
| Exact Mass [M+H] <sup>+</sup>   | 359.2329  |

# 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:** MDMB-PICA is a novel synthetic cannabinoid with structural similarity to MDMB-PINACA, 5F-MDMB-PICA, and other synthetic cannabinoids. MDMB-PICA was first detected in September 2023 by our laboratory and was confirmed in October 2023 after acquiring standard reference material.

**Sample Source:** Northern Tier Research (Pennsylvania)

**Sample Appearance:** Toxicology specimens (extracts)

**Pharmacology:** MDMB-PICA is an active and potent synthetic cannabinoid.<sup>1,2</sup>

**Toxicology:** MDMB-PICA has been detected in seven toxicology samples at the CFSRE.

**Drug Materials:** MDMB-PICA has not been identified in drug materials to date at the CFSRE.

**Demographics / Geographics:** Samples originated from the state of Illinois.

**Legal Status:** MDMB-PICA is not explicitly scheduled in the United States.

## References:

- ▶ Cayman Chemical: [MDMB-PICA](#)
- ▶ <sup>1</sup>Banister *et al.* (2016) [Pharmacology of Valinate and tert-Leucinate Synthetic Cannabinoids 5F-AMBICA, 5F-AMB, 5F-ADB, AMB-FUBINACA, MDMB-FUBINACA, MDMB-CHMICA, and Their Analogues](#)
- ▶ <sup>2</sup>Gioe-Gallo *et al.* (2023) [Pharmacological insights emerging from the characterization of a large collection of synthetic cannabinoid receptor agonists designer drugs](#)

**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 (LC-QTOF-MS) in comparison to analysis of acquired reference material.

**Acknowledgements:** This report was prepared by Alex J. Krotulski, Larissa Sorochka, Michael Coyer, Sara E. Walton, 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](mailto:npsdiscovery@cfsre.org) or visit [www.npsdiscovery.org](http://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-CG-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; Sorochka, L; Coyer, M; Walton, SE; Fogarty, MF; Logan, BK. (2023) *MDMB-PICA — NPS Discovery New Drug Monograph*, Center for Forensic Science Research and Education, United States.

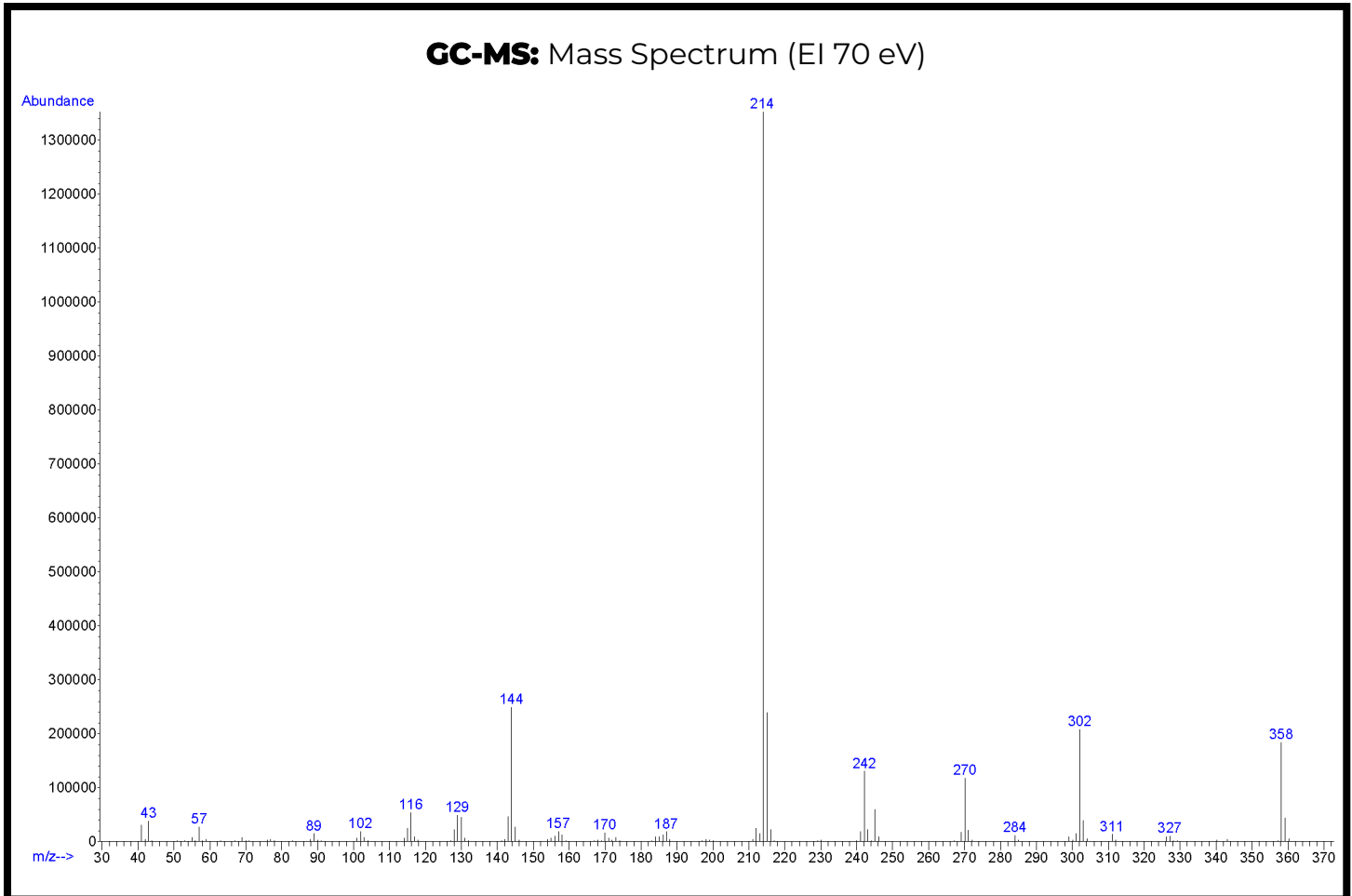
# Gas Chromatography Mass Spectrometry (GC-MS)

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

**Sample Preparation:** Standard diluted in methanol

**Instrument:** Agilent 5975 Series GC/MSD

**Methods:** [www.cfsre.org/nps-discovery/monographs](http://www.cfsre.org/nps-discovery/monographs)  
[GC-MS Method Details](#)



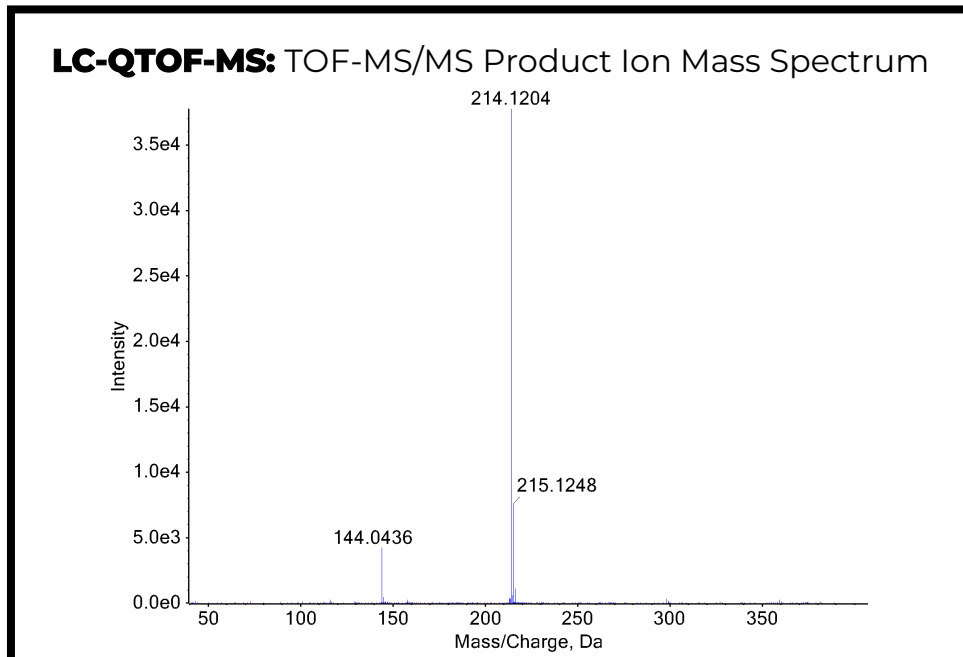
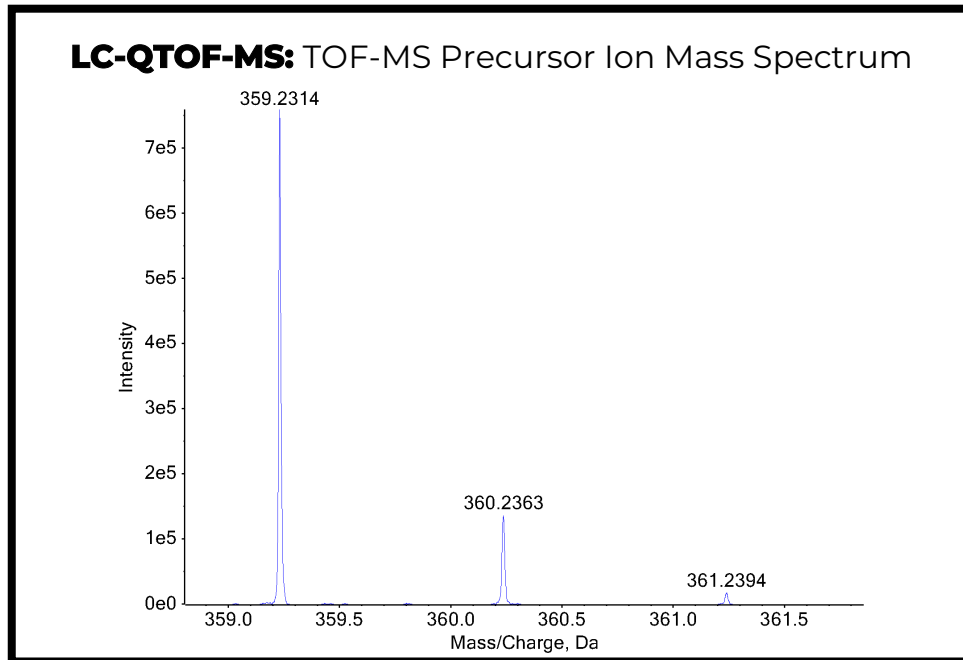
# Liquid Chromatography Quadrupole Time-of-Flight Mass Spectrometry (LC-QTOF-MS)

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

**Instrument:** Sciex X500R LC-QTOF-MS

**Methods:** [www.cfsre.org/nps-discovery/monographs](http://www.cfsre.org/nps-discovery/monographs)  
[LC-QTOF-MS Method Details](#)

**Sample Preparation:** Liquid-liquid extraction



**Confirmation Using Drug Standard:** Reference material (Batch: 0689486-1) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be MDMB-PICA based on retention time (sample: 9.72 min vs. standard: 9.74 min) and mass spectral data comparisons.