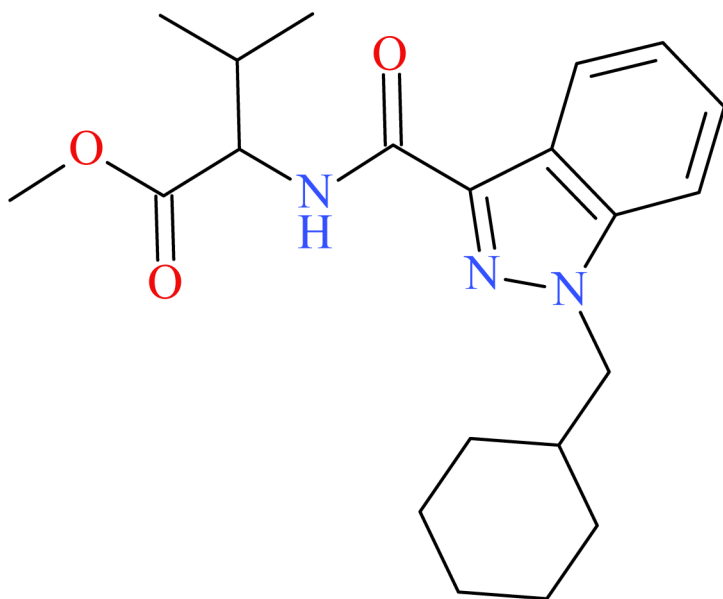




## MMB-CHMINACA



NPS SUBCLASS	Cannabinoid
REPORT DATE	April 7, 2026
SAMPLE RECEIVED	February 18, 2026
SAMPLE TYPE	Toxicology

Preferred Name	MMB-CHMINACA				
Synonyms	MA-CHMINACA, MAB-AB-CHMINACA, AMB-CHMINACA, AMB N-Methylcyclohexyl Analog				
Formal Name	N-[[1-(cyclohexylmethyl)-1H-indazol-3-yl]carbonyl]-valine, methyl ester				
Chemical Formula	C <sub>21</sub> H <sub>29</sub> N <sub>3</sub> O <sub>3</sub>				
Molecular Weight	371.5	Molecular Ion [M <sup>+</sup> ]	371	Exact Mass [M+H] <sup>+</sup>	372.2282

**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.

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**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 Brianna Stang, Sara E. Walton, Isabella Buttacavoli, Savannah Baker, Lauren Eccarius, 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](mailto:npsdiscovery@cfsre.org) or visit [www.npsdiscovery.org](http://www.npsdiscovery.org).

**Suggested Citation:** Stang BN, Walton SE, Buttacavoli I, Baker S, Eccarius LK, Logan BK, Krotulski AJ. (2026) *MMB-CHMINACA* — *NPS Discovery New Drug Monograph*, Center for Forensic Science Research and Education, United States.

## Characterization & Intelligence

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

**Description:** MMB-CHMINACA is a synthetic cannabinoid bearing structural similarity to other indazole-based synthetic cannabinoids (e.g., MDMB-CHMINACA, AB-CHMINACA, MAB-CHMINACA). MMB-CHMINACA is reported to be a potent cannabinoid receptor agonist (CB<sub>1</sub>: pEC<sub>50</sub>=8.64±0.09, E<sub>max</sub>=115%; CB<sub>2</sub>: pEC<sub>50</sub>=9.92±0.08, E<sub>max</sub>=80%) with greater efficacy and potency in comparison to delta-9 THC (CB<sub>1</sub>: pEC<sub>50</sub>=7.47±0.16, E<sub>max</sub>=51%; CB<sub>2</sub>: pEC<sub>50</sub>=6.62±0.25, E<sub>max</sub>=21%).<sup>2</sup> MMB-CHMINACA pharmacological potency falls in range of other reported synthetic cannabinoids at cannabinoid (CB<sub>1</sub>: EC<sub>50</sub>=0.45-36 nM, CB<sub>2</sub>: EC<sub>50</sub>=4.6-128 nM) receptors in the brain.<sup>1-3</sup> MMB-CHMINACA was first identified at the CFSRE in a urine specimen received from Michigan and was detected alongside other synthetic cannabinoids. MMB-CHMINACA is not currently a scheduled drug in the United States.

### References:

- ▶ Cayman Chemical: [MMB-CHMINACA](#)
- ▶ <sup>1</sup>Banister et al. (2016): [Pharmacology of valinate and tert-leucinate synthetic cannabinoids 5F-AMBICA, 5F-AMB, ...](#)
- ▶ <sup>2</sup>Gioe-Gallo et al. (2023): [Pharmacological insights emerging from the characterization of a large collection of SCRAs ...](#)
- ▶ <sup>3</sup>Sparkes et al. (2024): [Synthesis and Functional Evaluation of SCRAs Related to ADB-HEXINACA](#)

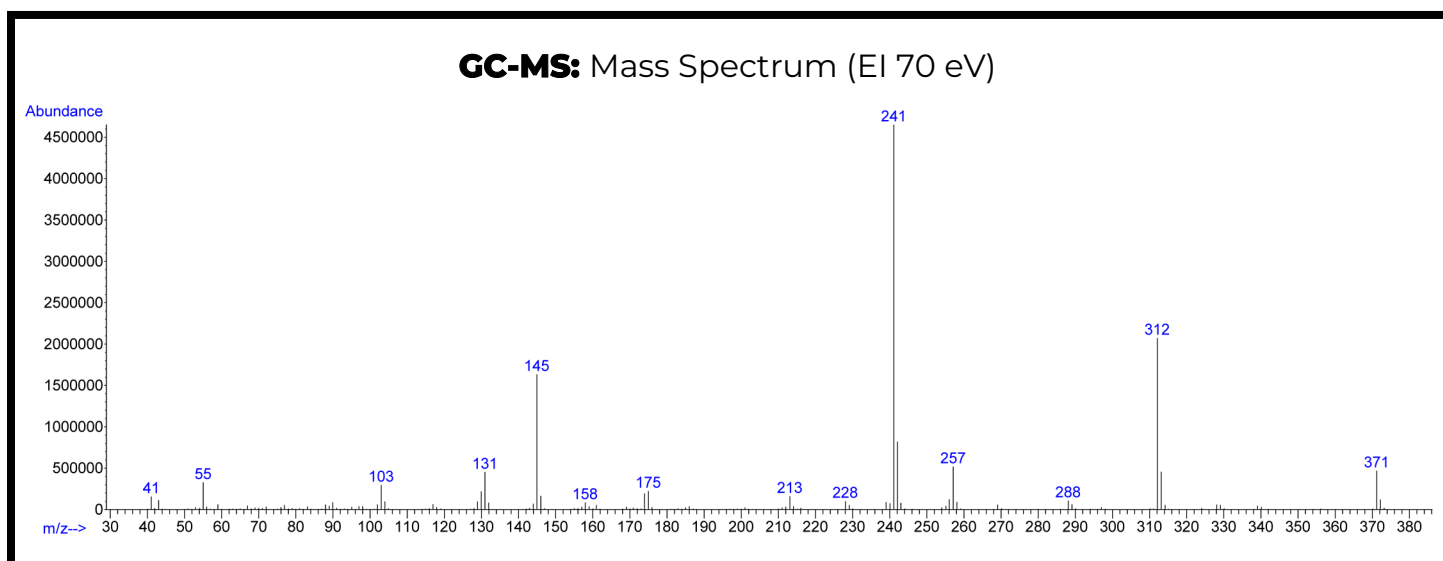
## Gas Chromatography Mass Spectrometry (GC-MS)

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

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

**Methods:** [GC-MS Method Details](#) & [Monographs](#)

**Sample Preparation:** Standard diluted in methanol



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

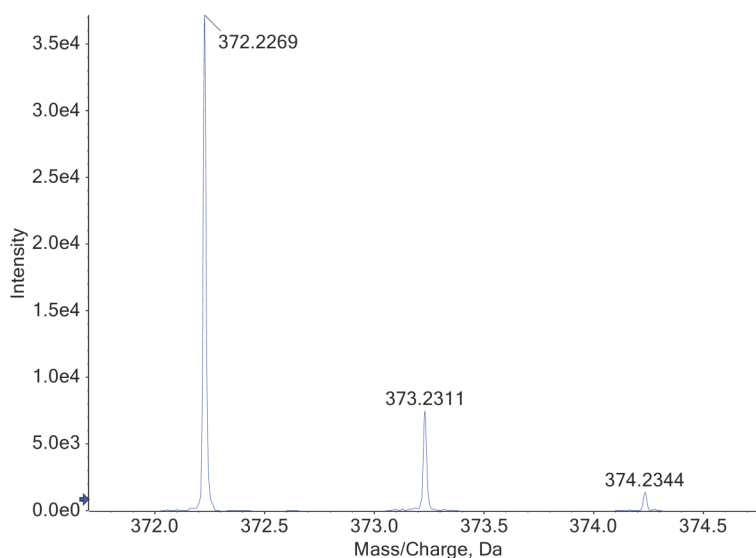
**Laboratory:** Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

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

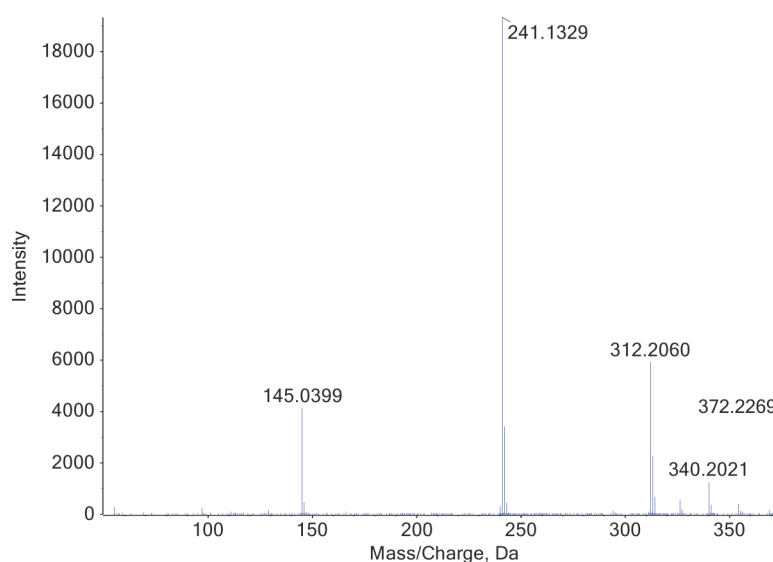
**Methods:** [LC-QTOF-MS Method Details](#) & [Monographs](#)

**Sample Preparation:** Liquid-liquid extraction

**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 MMB-CHMINACA (Batch: 0466743-36) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be MMB-CHMINACA based on retention time (sample: 5.41 min vs. standard: 5.27 min) and mass spectral data comparisons.