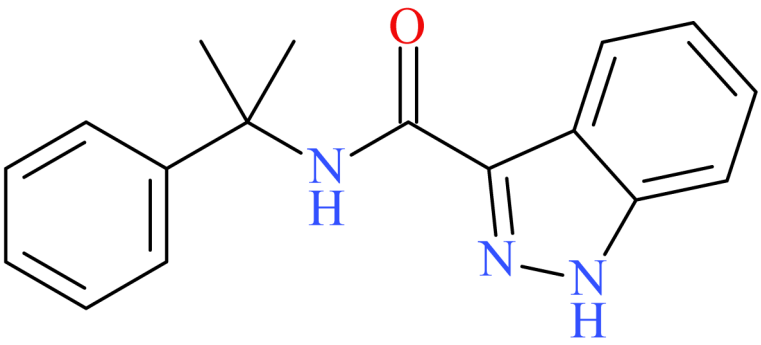
CUMYL-INACA



NPS SUBCLASS
Cannabinoid
REPORT DATE
June 30, 2025
SAMPLE RECEIVED
April 8, 2025
SAMPLE TYPE
Toxicology

Preferred Name	CUMYL-INACA
Synonyms	N/A
Formal Name	N-(1-methyl-1-phenyl-ethyl)-1H-indazole-3-carboxamide
InChI Key	COOPWWXIRLDJCP-UHFFFAOYSA-N
CAS Number	1631075-21-2
Chemical Formula	$C_{17}H_{17}N_3O$
Molecular Weight	279.3
Molecular Ion [M⁺]	279
Exact Mass [M+H]⁺	280.1444

Characterization & Intelligence

The following information was compiled in June 2025 and is subject to change as new research is conducted and as new information becomes available:

Description: CUMYL-INACA is a synthetic cannabinoid precursor that can be used to produce 5F-CUMYL-PINACA, 4CN-CUMYL-BUTINACA, and other structurally related synthetic cannabinoids. Synthetic cannabinoid precursors (e.g., MDMB-INACA, ADB-INACA) began appearing after the implementation of a class-wide synthetic cannabinoid ban imposed by China in July 2021.[1-3] CUMYL-INACA was identified by our laboratory in April 2025 and confirmed after acquiring standard reference material.

Sample Source: Philadelphia Medical Examiner's Office (Philadelphia, PA)

Sample Appearance: Blood specimen

Pharmacology: The activity and potency of CUMYL-INACA are unknown; however, based on structurally similar synthetic cannabinoid precursors, CUMYL-INACA is expected to be inactive or have low potency.

Toxicology: CUMYL-INACA has been detected in one toxicology case to date at the CFSRE.

Drug Materials: CUMYL-INACA has not been detected in drug materials to date at the CFSRE.

Demographics / Geographics: The toxicology specimen originated from Pennsylvania, and CUMYL-INACA was identified alongside other synthetic cannabinoids (e.g., 4CN-CUMYL-BUTINACA and 5F-ADB).

Legal Status: CUMYL-INACA is not currently a scheduled substance in the United States.

References:

- Cayman Chemical: CUMYL-INACA
- [1]Monti *et al.* Tail-less precursors in synthetic cannabinoid production: investigating a clandestine...
- [2]Norman *et al.* Detection in seized samples, analytical characterization, and in vitro metabolism...
- [3]Timmerman *et al.* Waxy– or putty-like materials as novel drug preparation for synthetic...

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 Sara E. Walton, Brianna N. Stang, Alyssa G. Reyes, Savannah M. Baker, 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.

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Gas Chromatography Mass Spectrometry (GC-MS)

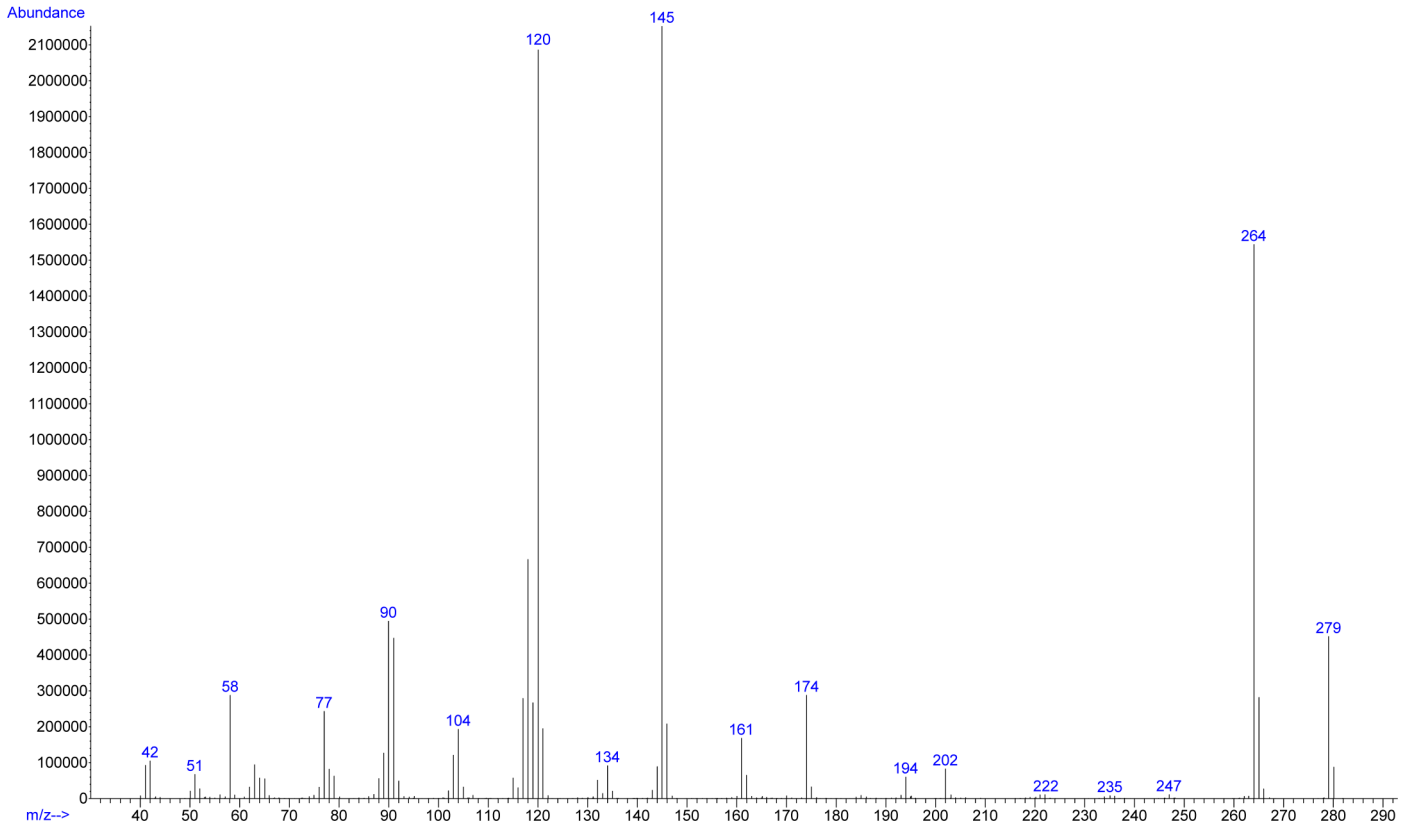
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham PA, USA)

Sample Preparation: Standard diluted in methanol

Instrument: Agilent 5975 Series GC/MSD

Methods: GC-MS Method Details & Monographs

GC-MS: Mass Spectrum (EI 70 eV)



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

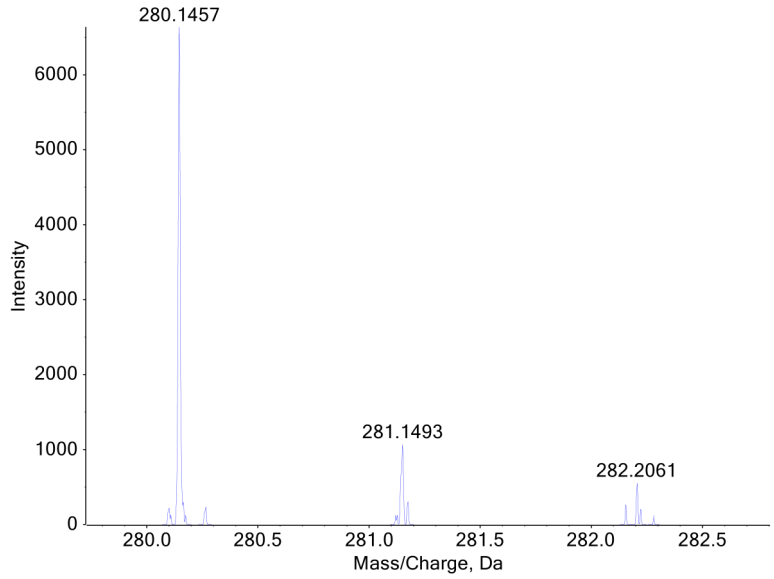
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Sample Preparation: Liquid-liquid extraction

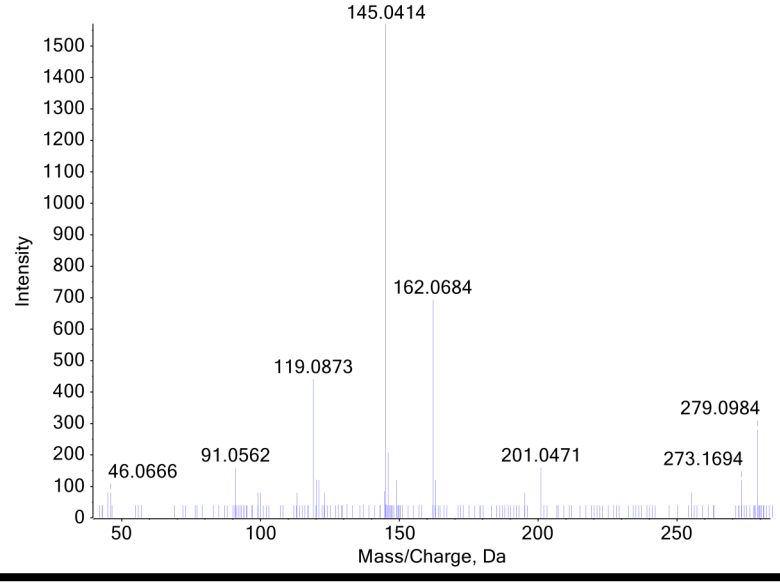
Instrument: Sciex X500R LC-QTOF-MS

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 CUMYL-INACA (Batch: 0654246-2) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be CUMYL-INACA based on retention time (sample: 7.93 min vs. standard: 8.01 min) and mass spectral data comparisons.*