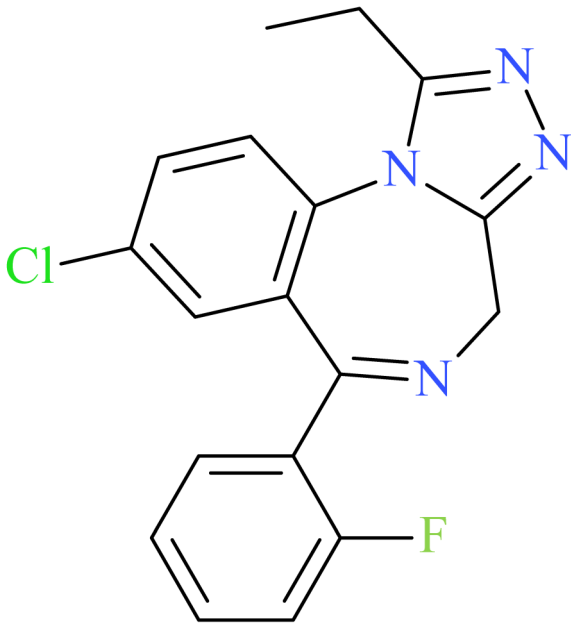
Ethylflualprazolam



NPS SUBCLASS
Benzodiazepine
REPORT DATE
April 28, 2026
SAMPLE RECEIVED
April 6, 2026
SAMPLE TYPE
Drug Material

Preferred Name	Ethylflualprazolam				
Synonyms	Ethyl Flualprazolam				
Formal Name	8-chloro-1-ethyl-6-(2-fluorophenyl)-4H-[1,2,4]triazolo[4,3-a][1,4]benzodiazepine				
Chemical Formula	$C_{18}H_{14}ClFN_4$				
Molecular Weight	340.8	**Molecular Ion [M⁺]**	340	**Exact Mass [M+H]⁺**	341.0964

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

Acknowledgements: This report was prepared by Sara E. Walton, Brianna Stang, 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: Walton SE, Khorozov N, Stang BN, Denn MT, Quinter AD, McDowell A, DeBord JS, Logan BK, Krotulski AJ. (2026) *Ethylflualprazolam — 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: Ethylflualprazolam is a novel benzodiazepine classified as a triazolobenzodiazepine and bears structural similarity to other traditional and novel benzodiazepines (e.g., flualprazolam, alprazolam). There is little data in the literature investigating the pharmacology and potency of ethylflualprazolam; however, it is hypothesized to have similar pharmacological activity to flualprazolam. Studies show flualprazolam has a greater binding affinity for $GABA_A$ receptors than other designer benzodiazepines including clobromazolam, desalkylgidazepam, and gidazepam.[1,2] Ethylflualprazolam has been detected in one drug material to date at the CFSRE and was identified alongside 4'-Cl deschloroalprazolam. The sample was a rectangular blue tablet labeled "B707" and originated from Georgia. Ethylflualprazolam has not been detected in toxicology specimens to date at the CFSRE. Ethylflualprazolam is not currently scheduled in the United States.

References:

- Cayman Chemical: Ethylflualprazolam
- [1]Manchester et al. (2022) The blood-to-plasma ratio and predicted $GABA_A$-binding affinity of designer benzodiazepines
- [2]Waters et al. (2018) The use of a (QSAR) model to predict GABA-A receptor binding of newly emerging benzodiazepines

Gas Chromatography Mass Spectrometry (GC-MS)

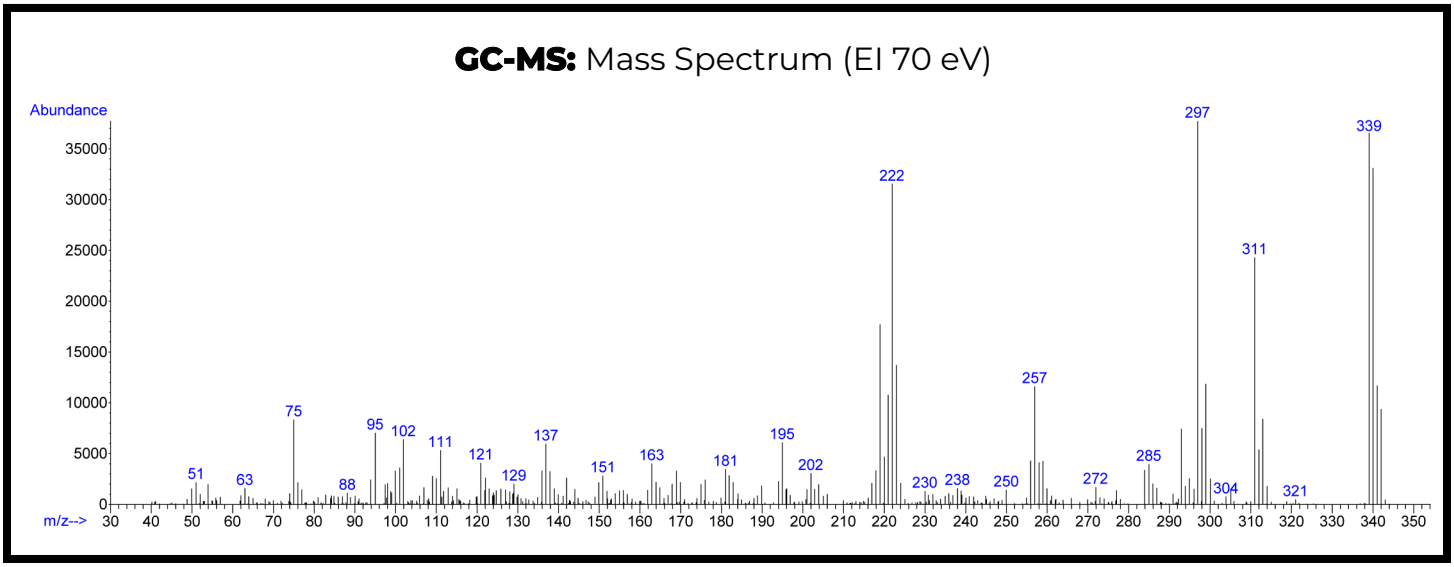
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham PA, USA)

Sample Preparation: Acid-base extraction

Instrument: Agilent 5975 Series GC/MSD

Methods: GC-MS Method Details & Monographs

GC-MS: Mass Spectrum (EI 70 eV)



Confirmation Using Drug Standard: *Reference material for ethylflualprazolam (Batch: 0813645) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be ethylflualprazolam based on retention time (sample: 8.17 min vs. standard: 8.17 min) and mass spectral data comparisons.*

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

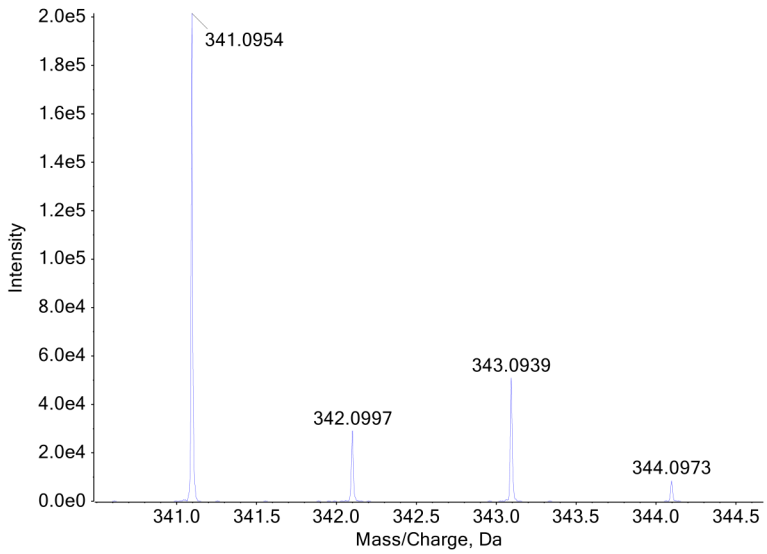
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Sample Preparation: Dilution in mobile phase

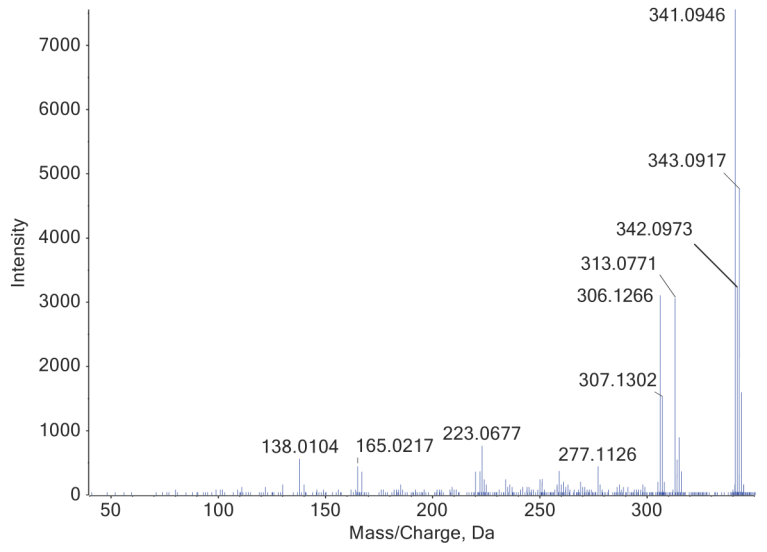
Instrument: Sciex 5600+ LC-QTOF-MS

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 ethylflualprazolam (Batch: 0813645) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be ethylflualprazolam based on retention time (sample: 7.76 min vs. standard: 7.76 min) and mass spectral data comparisons.*