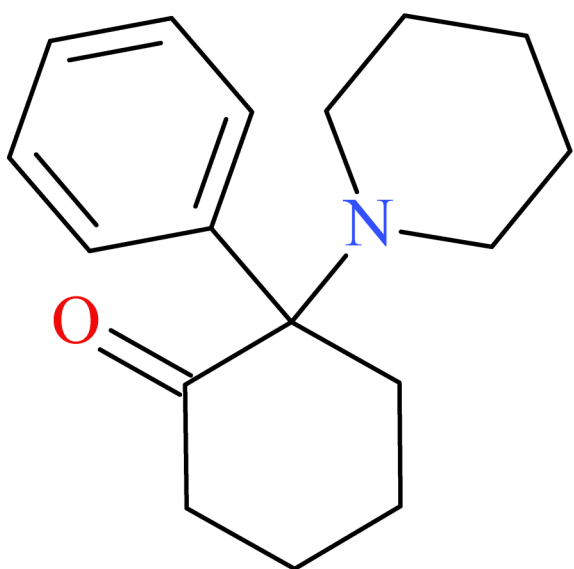




2oxo-PCP



NPS SUBCLASS	Hallucinogen
REPORT DATE	February 12, 2026
SAMPLE RECEIVED	August 27, 2025
SAMPLE TYPE	Toxicology

Preferred Name	2oxo-PCP				
Synonyms	2-oxo Phencyclidine, 2-oxo-PCP, 2-oxo PCP				
Formal Name	2-phenyl-2-(1-piperidiny)-cyclohexanone				
Chemical Formula	C ₁₇ H ₂₃ NO				
Molecular Weight	257.4	Molecular Ion [M ⁺]	257	Exact Mass [M+H] ⁺	258.1852

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 or visit www.npsdiscovery.org.

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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: 20xo-PCP is a novel hallucinogen characterized as an arylcyclohexylamine and bears structural similarity to other phencyclidine (PCP) and eticyclidine (PCE) analogues (e.g., 3Me-PCP, 3MeO-PCP, 20xo-PCE). No pharmacology data is currently available for 20xo-PCP; however, it is hypothesized to be a potent *N*-methyl-*D*-aspartate (NMDA) receptor antagonist.^{1,2} 20xo-PCP has been detected in one postmortem blood specimen to date at the CFSRE. The toxicology specimen originated from Illinois and 20xo-PCP was found alongside methidone (also known as IC-26) and *N*-piperidinyll methidone (also known as DPP-26). 20xo-PCP has not been detected in any drug materials to date at the CFSRE. 20xo-PCP was identified by our laboratory in August 2025 and confirmed in March 2026 after acquiring standard reference material. 20xo-PCP is not currently scheduled in the United States.

References:

- ▶ Cayman Chemical: [2-oxo PCP](#)
- ▶ ¹Pelletier et al. (2022) [Arylcyclohexylamine Derivatives: Pharmacokinetic, Pharmacodynamic, Clinical...](#)
- ▶ ²Roth et al. (2013) [The Ketamine Analogue Methoxetamine and 3- and 4- Methoxy Analogues of Phencyclidine ...](#)

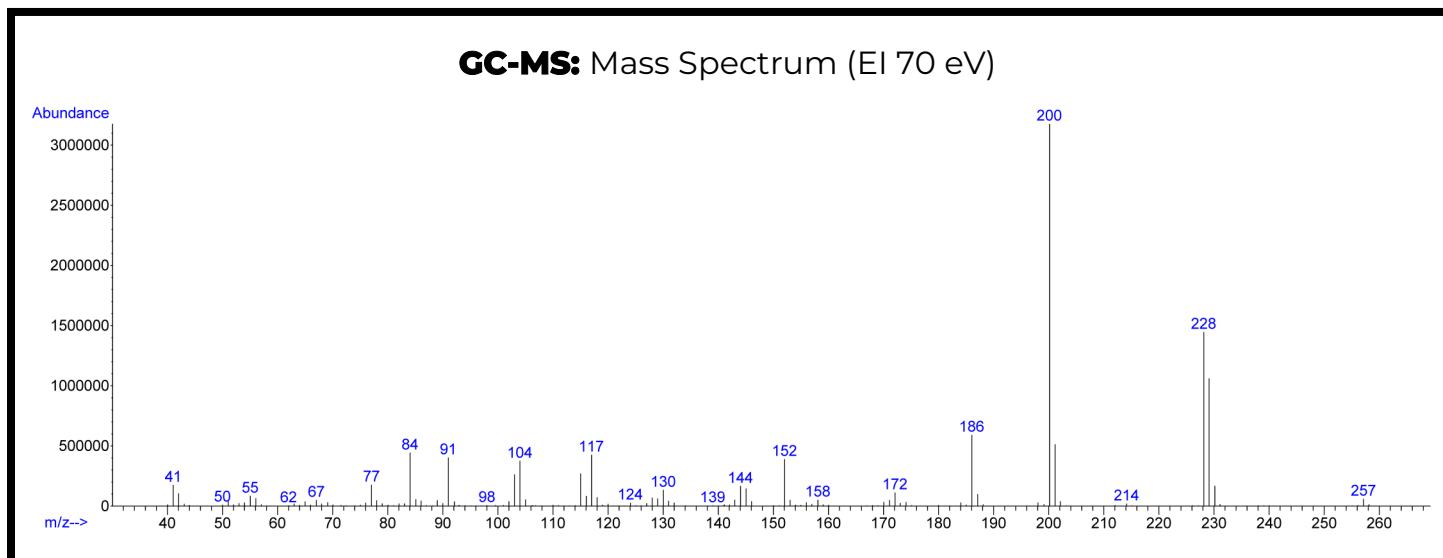
Gas Chromatography Mass Spectrometry (GC-MS)

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)

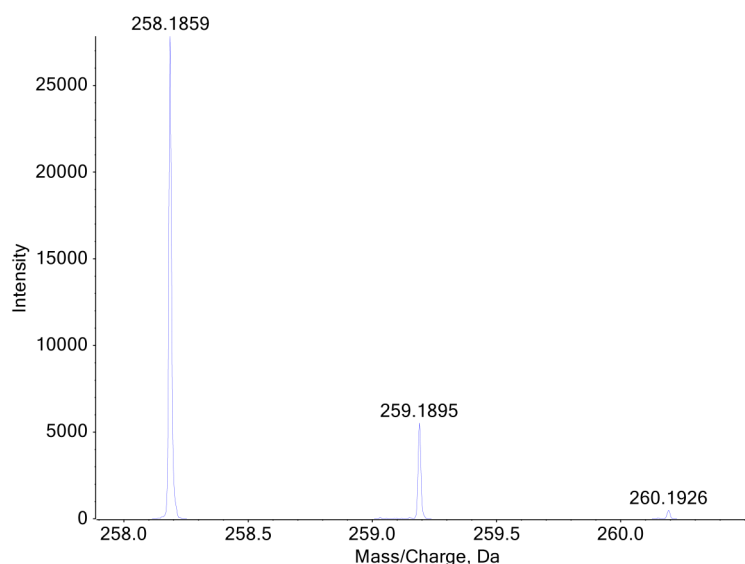
Laboratory: Center for Forensic Science Research and Education (CFSRE, Horsham, PA, USA)

Instrument: Sciex X500R LC-QTOF-MS

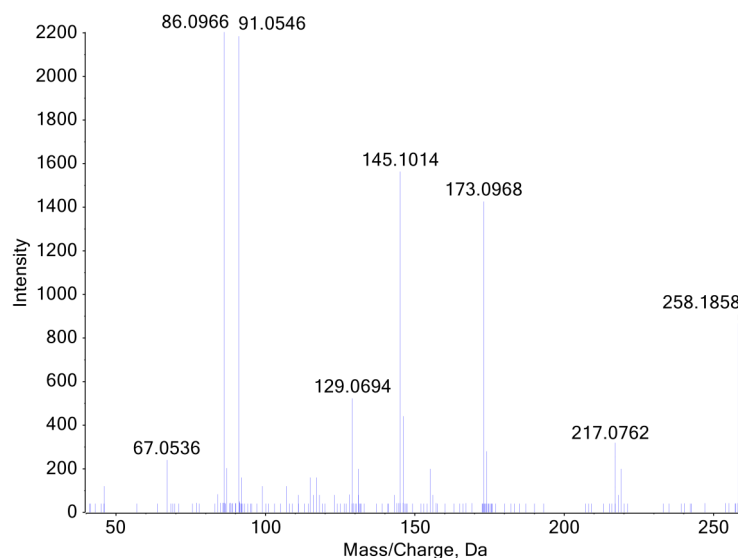
Methods: [LC-QTOF-MS Method Details](#) & [Monographs](#)

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 20xo-PCP (Batch: 0813752-3) was purchased from Cayman Chemical (Ann Arbor, MI, USA). The analyte was confirmed to be 20xo-PCP based on retention time (sample: 4.82 min vs. standard: 4.79 min) and mass spectral data comparisons.