NORTH LOUISIANA CRIMINALISTICS LABORATORY

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DATE: April 20, 2026

TO: The Honorable Members of the Caddo Parish Commission

FROM: Joseph O. Jones, Ph.D., System Director, North Louisiana Criminalistics Laboratory

RE: 2026 Novel Psychoactive Substance (NPS) Intelligence Report — Drug Chemistry Unit Findings

I. Purpose and Background

This report is submitted by the North Louisiana Criminalistics Laboratory (NLCL) to provide the Caddo Parish Commission with current, evidence-based intelligence regarding novel psychoactive substances (NPS) detected in case submissions processed by the NLCL Drug Chemistry Unit during the calendar year 2026. The NLCL serves as the primary forensic laboratory for the 29-parish region of North Louisiana, providing controlled substance identification, toxicological analysis, and related forensic services under ISO/IEC 17025 accreditation awarded through the ANAB accreditation body.

Novel psychoactive substances — commonly referred to as designer drugs or synthetic drugs — represent a rapidly evolving category of compounds engineered to mimic the pharmacological effects of scheduled controlled substances while temporarily evading existing regulatory frameworks. The emergence and proliferation of these compounds constitute one of the most significant and dynamic public health and public safety threats of the current era.

The compounds described herein were identified through rigorous confirmatory analytical methodology, including liquid chromatography-tandem mass spectrometry (LC-MS/MS) and/or gas chromatography-mass spectrometry (GC-MS), as applicable, consistent with accredited forensic laboratory standards. Each compound listed below was detected in at least one case submission to the NLCL Drug Chemistry Unit during the period of January 1, 2026 through the date of this report.

II. Novel Psychoactive Substances Detected in 2026

The following eleven substance categories — comprising thirteen individual compounds — were identified in NLCL Drug Chemistry case submissions during 2026. Each entry provides the compound name, drug classification, a summary of pharmacological mechanism, and an assessment of the public safety danger profile associated with the substance.

Fluorofentanyl (4-Fluorofentanyl)

Drug Class: Synthetic Opioid — Fentanyl Analog (Schedule I)

Mechanism/Profile: A structural analog of fentanyl in which a fluorine atom is substituted at the para-position of the phenethyl ring. It acts as a potent full agonist at the mu-opioid receptor.

Pharmacologically, its potency is estimated to be similar to or exceeding that of fentanyl itself (approximately 100 times more potent than morphine on a weight basis). Onset is rapid; respiratory depression is the primary toxic mechanism.

Public Safety Concern: Fluorofentanyl represents an extreme overdose risk. Doses in the microgram range are sufficient to cause fatal respiratory depression. It is frequently encountered adulterated into counterfeit pharmaceutical tablets and other street-supply drugs, often without the user's knowledge. Standard naloxone dosing may require multiple administrations. Its detection in Caddo Parish indicates direct exposure of the local drug supply to ultra-potent synthetic opioids.

Bromazolam

Drug Class: Designer Benzodiazepine — Novel Psychoactive Substance (Not FDA-Approved)

Mechanism/Profile: Bromazolam is a triazolobenzodiazepine derivative with high binding affinity for the GABA-A receptor complex. It produces dose-dependent CNS depression, anxiolysis, sedation, and anterograde amnesia. It is not approved for medical use in the United States and is not subject to standard benzodiazepine immunoassay detection, allowing it to evade routine urine drug screens.

Public Safety Concern: Bromazolam poses significant risks for sedation-facilitated crimes, polysubstance overdose (particularly in combination with opioids or alcohol), and impaired driving. Its long half-life and high potency increase the risk of accumulation and unexpectedly prolonged impairment. Because it is not detected by standard immunoassay, it may be underreported in overdose and impairment cases.

Mitragynine

Drug Class: Indole Alkaloid / Kratom-Derived Opioid-Active Compound

Mechanism/Profile: Mitragynine is the primary psychoactive alkaloid derived from Mitragyna speciosa (kratom), a Southeast Asian plant. It functions as a partial agonist at mu- and delta-opioid receptors, with additional adrenergic and serotonergic activity. At low doses it produces stimulant-like effects; at higher doses, sedation, analgesia, and opioid-like euphoria predominate. Its metabolite 7-hydroxymitragynine is significantly more potent at opioid receptors.

Public Safety Concern: Louisiana law (La. R.S. 40:989.1 et seq.) prohibits the sale of kratom products containing mitragynine and 7-hydroxymitragynine. Despite this, detection in submitted specimens confirms ongoing availability and use in the region. Mitragynine is associated with opioid dependence, withdrawal syndromes, and potentially fatal respiratory depression — particularly in combination with other opioids or CNS depressants. Naloxone may partially reverse its effects.

Phenazolam

Drug Class: Designer Benzodiazepine — Novel Psychoactive Substance (Not FDA-Approved)

Mechanism/Profile: Phenazolam is a potent benzodiazepine analog structurally related to phenazepam and clonazolam. It exerts CNS depressant effects through positive allosteric modulation of the GABA-A receptor. It is reported to be highly potent relative to classic benzodiazepines, with effects including profound sedation, muscle relaxation, and anterograde amnesia.

Public Safety Concern: The high potency and lack of regulatory oversight in its production make dosing unpredictable and dangerous. Phenazolam is not detectable by standard immunoassay drug screens, creating diagnostic challenges in overdose settings. Severe respiratory depression, particularly in polysubstance contexts, has been documented with high-potency designer benzodiazepines of this class.

N-Cyclohexyl Methylone (Substituted Cathinone)

Drug Class: Synthetic Stimulant / Entactogen — Substituted Cathinone (Schedule I Analog)

Mechanism/Profile: N-Cyclohexyl methylone is a structural analog of methylone (beta-keto-MDMA) in which the N-methyl group is replaced by a cyclohexyl moiety. Like other phenethylamine-class cathinones, it is expected to act as a releasing agent and/or reuptake inhibitor at monoamine transporters (dopamine, serotonin, norepinephrine), producing stimulant and entactogenic effects. Limited published human pharmacology data exist for this specific compound.

Public Safety Concern: As an analog of Schedule I controlled methylone, this compound carries significant abuse potential and unpredictable toxicity. The cyclohexyl modification may alter lipophilicity and receptor binding profile relative to its parent compound, making the clinical presentation difficult to predict. Hyperthermia, tachycardia, hypertension, psychosis, and serotonin syndrome are potential toxic sequelae associated with the cathinone class broadly.

Eutylone (Substituted Cathinone)

Drug Class: Synthetic Stimulant / Entactogen — Substituted Cathinone (Schedule I)

Mechanism/Profile: Eutylone (beta-keto-EBDB) is a methylenedioxy-substituted cathinone and structural analog of butylone and MDMA. It functions primarily as a monoamine releasing agent and reuptake inhibitor, with significant serotonergic activity contributing to its entactogenic properties. It is structurally similar to MDMA but with a cathinone (beta-keto) backbone. Eutylone was temporarily placed in Schedule I by the DEA and has been associated with multiple fatalities.

Public Safety Concern: Eutylone has been identified in numerous overdose deaths across the United States, frequently detected in combination with other stimulants or opioids. It produces hyperthermia, sympathomimetic toxidrome, and potentially fatal cardiovascular complications. It is commonly misrepresented as MDMA ('Molly'), placing users at particular risk. Forensic data from the NLCL detection confirm its presence in the regional drug supply.

4'-Chloro Deschloroalprazolam

Drug Class: Designer Benzodiazepine — Novel Psychoactive Substance (Not FDA-Approved)

Mechanism/Profile: This compound represents a structural modification of deschloroalprazolam — itself an analog of alprazolam (Xanax) — with reintroduction of a chlorine substituent at the 4'-position of the phenyl ring. It acts as a GABA-A receptor positive allosteric modulator, producing CNS depressant effects consistent with the benzodiazepine pharmacological class: sedation, anxiolysis, anterograde amnesia, and anticonvulsant activity.

Public Safety Concern: The iterative chemical modification of benzodiazepine analogs is a deliberate strategy to circumvent existing Schedule I designations, resulting in novel compounds with uncertain potency and safety profiles. Dosing information is not well-established, and unregulated manufacture introduces significant variability. The compound evades standard immunoassay detection, posing challenges for emergency medicine, forensic toxicology, and law enforcement.

Ethylbromazolam

Drug Class: Designer Benzodiazepine — Novel Psychoactive Substance (Not FDA-Approved)

Mechanism/Profile: Ethylbromazolam is a structural analog of bromazolam in which an ethyl substitution has been made at the nitrogen of the triazole ring. It retains the pharmacological profile characteristic of the triazolobenzodiazepine class: high-affinity GABA-A receptor modulation with CNS depressant, sedative, and amnestic properties. Its pharmacokinetic profile — including half-life and active metabolite formation — has not been well characterized in published literature.

Public Safety Concern: Like bromazolam, ethylbromazolam represents an ongoing pattern of designer benzodiazepine synthesis intended to stay ahead of scheduling actions. The absence of clinical trial data means therapeutic index and lethal dose are unknown. Detection in the Caddo Parish drug supply raises concern for sedation-related crimes, polysubstance overdose with opioids, and impaired operation of motor vehicles. Standard benzodiazepine immunoassay will not detect this compound.

Ethylflualprazolam (Ethyl-Flualprazolam)

Drug Class: Designer Benzodiazepine — Novel Psychoactive Substance (Not FDA-Approved)

Mechanism/Profile: Ethylflualprazolam is a fluoro-substituted alprazolam analog with an ethyl group on the triazole ring. It exerts potent CNS depressant effects through positive allosteric modulation of the GABA-A receptor. It is structurally and pharmacologically related to flualprazolam and is reportedly active at very low doses. Duration of action is prolonged relative to alprazolam.

Public Safety Concern: The combination of high potency, long duration of action, and lack of standard immunoassay detection makes this compound particularly hazardous. Prolonged sedation, respiratory depression in vulnerable populations, and disinhibition facilitating high-risk behavior are primary concerns. Its structural relationship to alprazolam may lead individuals to underestimate its potency, increasing risk of accidental overdose.

N-Propionitrile Chlorphine

Drug Class: Novel Synthetic Opioid — Emerging/Unscheduled Psychoactive Substance

Mechanism/Profile: N-Propionitrile chlorphine is a novel synthetic compound identified through confirmatory mass spectrometric analysis by the NLCL Drug Chemistry Unit. Based on its structural nomenclature, it is consistent with a synthetic opioid scaffold featuring a propionitrile (cyano-propyl) N-substituent. Limited to no published pharmacological or clinical toxicological data exist for this specific compound at the time of this report, which is itself a significant public safety concern.

Public Safety Concern: The detection of a compound for which no established pharmacokinetic, receptor affinity, or lethal dose data are available represents one of the most challenging categories of NPS for emergency responders, clinicians, and forensic scientists. Structural features suggest opioid receptor activity, warranting the same response protocols as other novel synthetic opioids. The absence of published data means that first responders cannot rely on known dosing thresholds, and standard opioid overdose reversal with naloxone should be attempted while awaiting further characterization of this compound.

Benzyl Fentanyl

Drug Class: Synthetic Opioid — Fentanyl Analog (Schedule I)

Mechanism/Profile: Benzyl fentanyl is a fentanyl structural analog in which a benzyl (phenylmethyl) group is incorporated as an N-substituent or in the acyl chain, depending on the specific isomer detected. As a fentanyl analog, it is expected to act as a full agonist at the mu-opioid receptor, with potency dependent on the precise substitution pattern. Several benzyl fentanyl analogs are recognized as Schedule I substances under the Federal Analogue Act.

Public Safety Concern: Fentanyl analogs, including benzyl fentanyl, are responsible for the majority of opioid overdose fatalities nationwide. Their presence in the local drug supply — frequently as adulterants in heroin, counterfeit pills, or other substances — places users at extreme risk of fatal respiratory depression without any forewarning. The compound's detection in Caddo Parish confirms continued infiltration of the local supply chain by ultra-potent synthetic opioid analogs.

Multiple Synthetic Cannabinoids (Various)

Drug Class: Synthetic Cannabinoid Receptor Agonists (SCRAs) — Schedule I (Various)

Mechanism/Profile: The NLCL Drug Chemistry Unit has detected multiple distinct synthetic cannabinoids in 2026 case submissions. Synthetic cannabinoids are a chemically diverse group of compounds designed to activate the CB1 and CB2 cannabinoid receptors. Unlike delta-9-THC (the principal psychoactive constituent of cannabis), many synthetic cannabinoids are full, high-efficacy agonists at the CB1 receptor, producing effects dramatically more intense and unpredictable than natural cannabis. Commonly encountered scaffolds include indazole-carboxamides, indole-carboxamides, and naphthoylindoles; specific compounds identified by NLCL are available upon formal case request.

Public Safety Concern: Synthetic cannabinoids are associated with a distinct and severe toxidrome that differs substantially from natural cannabis: acute kidney injury, cardiovascular events (myocardial infarction in young users), severe agitation and psychosis, seizures, and death. Clusters of mass-casualty events have been documented nationally in areas with high synthetic cannabinoid prevalence. Because manufacturers continually introduce novel analogs to evade scheduling, no single analytical screen captures all variants. The detection of multiple distinct compounds in 2026 alone underscores the dynamic and ongoing threat they pose to public health in this region.

III. Summary and Recommendations

The breadth and diversity of novel psychoactive substances detected by the NLCL Drug Chemistry Unit during 2026 is a matter of serious public concern. Within a single year, the laboratory has identified compounds spanning at least four major pharmacological classes: synthetic opioids (fluorofentanyl, benzyl fentanyl, N-propionitrile chlorphine), designer benzodiazepines (bromazolam, phenazolam, 4'-chloro deschloroalprazolam, ethylbromazolam, ethylflualprazolam), synthetic stimulants and entactogens (N-cyclohexyl methylone, eutylone), and synthetic cannabinoids. The detection of mitragynine further reflects ongoing noncompliance with Louisiana's kratom prohibition statutes.

Several cross-cutting themes warrant the Commission's attention:

- **Immunoassay Evasion:** The majority of designer benzodiazepines detected are not identified by standard point-of-care or hospital urine drug immunoassay screens. This creates diagnostic and forensic blind spots in overdose, impaired driving, and drug-facilitated crime cases.
- **Extreme Potency**: The synthetic opioid analogs detected in 2026 are active at microgram doses. Even minimal exposure to fluorofentanyl or benzyl fentanyl can produce fatal respiratory depression, and first responders should be trained in appropriate naloxone dosing protocols for fentanyl-class compounds.
- **Dynamic Chemical Landscape**: Manufacturers of NPS routinely modify molecular structures to circumvent scheduling. The detection of compounds such as N-propionitrile chlorphine — for which no published pharmacological data exist — illustrates that the chemical landscape evolves faster than the regulatory and clinical response can track.
- **Polysubstance Risk**: Many of the substances identified are frequently encountered in combination with other psychoactive drugs, dramatically amplifying toxicological risk. CNS depressant combinations (opioid + designer benzodiazepine, for example) represent a particularly lethal combination now documented in the Caddo Parish drug supply.

The North Louisiana Criminalistics Laboratory is committed to ongoing surveillance of the evolving NPS landscape and stands ready to provide technical briefings, expert testimony, educational support, and investigative collaboration to the Commission and to parish law enforcement, public health, and emergency response agencies. Questions regarding this report or the data underlying it may be directed to the NLCL System Director's office.

Respectfully submitted,

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This report is intended for official use by the Caddo Parish Commission. Analytical case data underlying each compound detection is maintained in the NLCL Laboratory Information Management System (LIMS) and is available for review by authorized personnel upon request. This report does not constitute a legal case report or expert opinion for courtroom use.