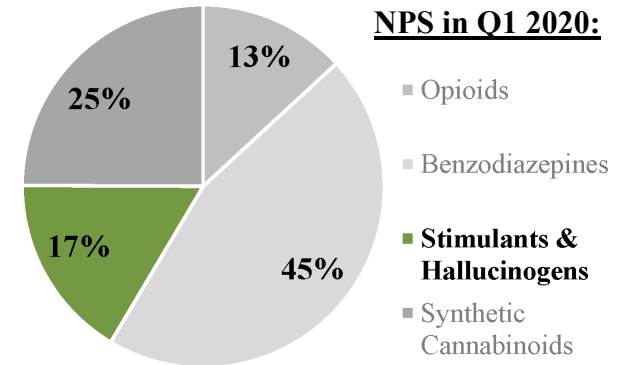


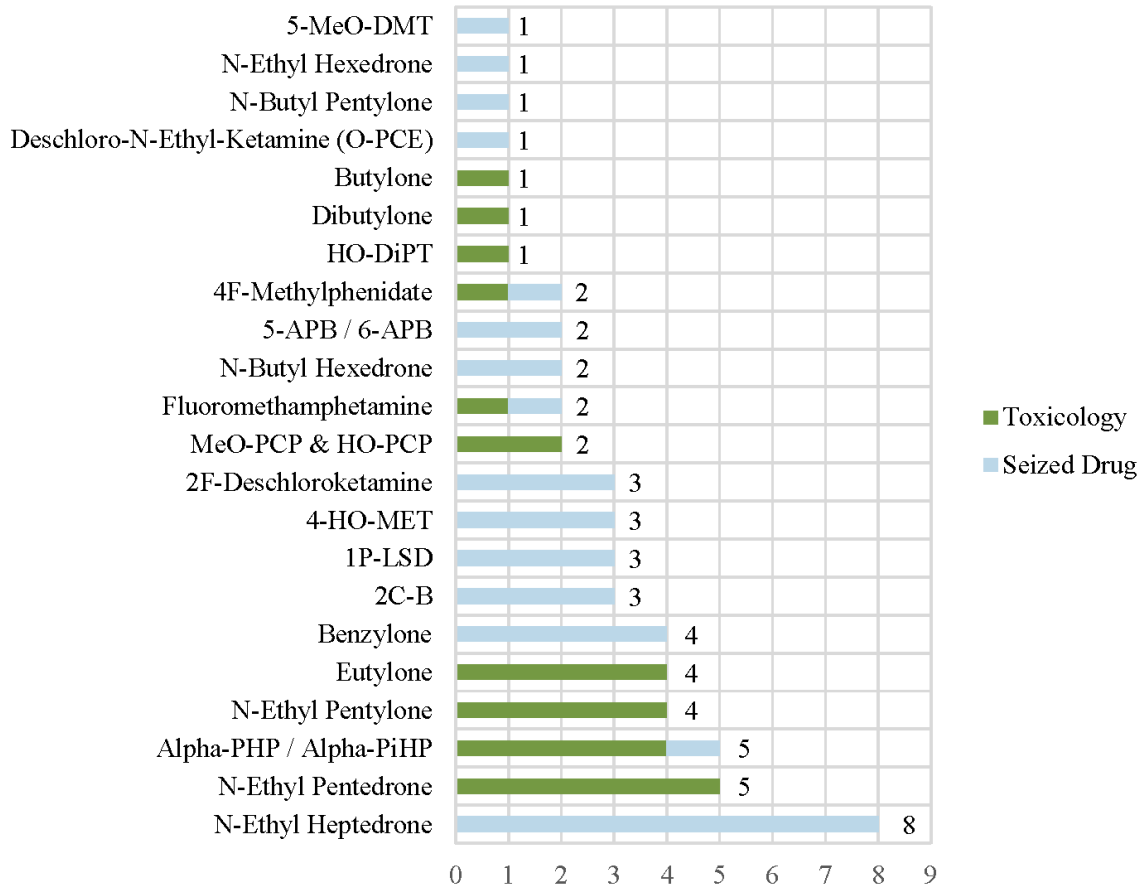
Purpose: This report provides up-to-date information regarding NPS stimulant & NPS hallucinogen prevalence and positivity within the United States.

Overview: Novel psychoactive substances (NPS), including NPS stimulants and NPS hallucinogens, continue to pose great challenges for forensic scientists, clinicians, and public health and safety personnel. Both NPS stimulants and NPS hallucinogens have been implicated in emergency room admissions, death investigations, and/or intoxication events associated with night clubs and music festivals. Maintaining a current scope of analysis can be challenging, often requiring comprehensive analytical methodologies and reference materials for identifications.

Objective: This project employs novel approaches for the analysis of biological samples and seized drug materials using comprehensive non-targeted data acquisition by gas chromatography mass spectrometry (GC-MS) and liquid chromatography quadrupole time-of-flight mass spectrometry (LC-QTOF-MS). The scope of analysis contains more than 800 drugs, including a vast majority of NPS and their metabolites. This model allows for real-time identification of emerging stimulants and hallucinogens, and further data analysis of important trends. This project was conducted in collaboration with the toxicology and criminalistics laboratories of NMS Labs. Forensic case types linked to these results include illicit drug investigations, medicolegal death investigations, and/or driving under the influence of drugs (DUID) investigations. The results in this report represent the total number of NPS identifications at CFSRE during this quarter, including those from sample-mining, data-mining, and/or esoteric testing.



NPS Stimulant & Hallucinogen Positivity



Public Alert: Eutylone and Benzylone

March 2020
Eutylone (bk-EBDB) and Benzylone (BMDP): Increasing Prevalence of New Synthetic Stimulants in the United States

Purpose: The objective of this public announcement is to notify public health and public safety, law enforcement, clinicians, medical examiners and coroners, laboratory personnel, drug treatment providers, and other related communities about new information surrounding the emergent synthetic stimulants **Eutylone** and **Benzylone**.

Background: Synthetic stimulants are chemically manufactured drugs with sub-classifications based on their structural relation to amphetamine or cathinone. Synthetic stimulants, including substituted cathinone analogues (e.g. eutylone and benzylone), can retain both stimulant and hallucinogenic properties, and can cause associated health risks. Synthetic stimulants are often prepared and distributed in powder, capsule, or pressed tablet form, and may be sold as "Kotany," "Molly," or 3,4-methylenedioxymethamphetamine ("MDMA") on illicit drug markets. In the United States, synthetic stimulants have been associated with mortality and linked to cardiac effects resulting in death. Adverse effects can include hyperthermia, dehydration, arrhythmias, hallucinations, and serotonin syndrome.

Summary: Between 2017 and 2019, the substituted cathinone *N*-ethyl pentylone (epylone) was the most commonly encountered emergent synthetic stimulant to appear in forensic casework. Due to its prevalence and contributions to mortality, *N*-ethyl pentylone was federally scheduled by the United States Drug Enforcement Administration (DEA) in August 2019. This statute created a shift in the NPS drug market, noted by proliferation of two new synthetic stimulants, **Eutylone** and **Benzylone**. Eutylone was first identified in seized drug casework in the United States in Q2 2019; however, its popularity did not increase until the end of 2019, around the time when it was first reported in toxicology casework by NPS Discovery (September 2019). Similarly, benzylone was first identified in seized drug casework in the United States in Q1 2020, however, its popularity increased in late 2019 and early 2020, around the time when it was first reported in toxicology casework, driving under the influence of drugs (DUID) investigations.

Prevalence:

- More than 50 cases
- Forensic Cases
- DUID Investigations

Date Range:

- Sept. 2019 to Mar. 2020

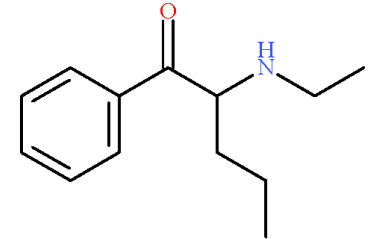
Case Type:

- Seized Drug Testing

Click to access the full report

New Discovery in Q1 2020:

N-Ethyl Pentedrone



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