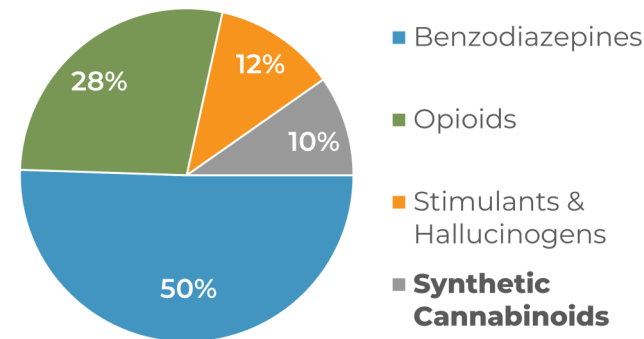


**PURPOSE:** This report provides up-to-date information regarding the status of synthetic cannabinoid prevalence and positivity in the United States.

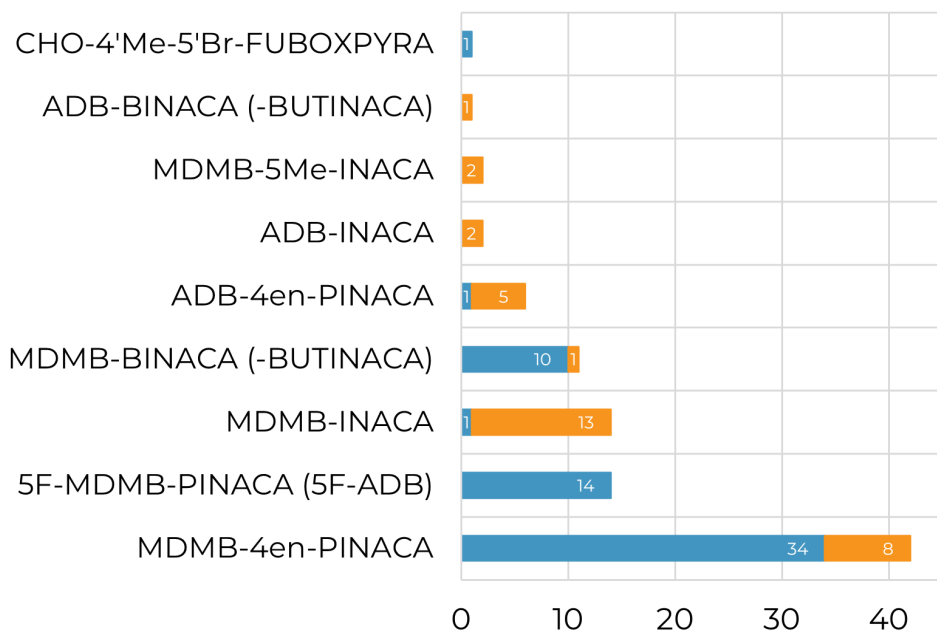
**OVERVIEW:** Novel psychoactive substances (NPS), including synthetic cannabinoids, continue to pose great challenges for forensic scientists, clinicians, and public health and safety personnel. Synthetic cannabinoids have been implicated in an increasing number of emergency room admissions, death investigations, and intoxication events in corrections populations. Maintaining a current scope of analysis can be challenging, requiring comprehensive analytical methodologies and reference materials for identification(s).

**OBJECTIVE:** Our laboratory utilizes novel approaches for the analysis of drugs in toxicology specimens and 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 1,200 drugs, including a vast majority of NPS and their metabolites. This approach allows for real-time identification of novel synthetic cannabinoids and further data analysis of important trends. Cases and sample types linked to these results originate from recreational drug use, medicolegal death investigations, clinical intoxications, and/or driving under the influence of drugs investigations, among other circumstances. The results in this report represent the total number of NPS identifications at the CFSRE during this quarter, including those from sample-mining, data-mining, routine testing, and esoteric testing.



### SYNTHETIC CANNABINOIDS IDENTIFIED

■ Toxicology Specimen ■ Drug Material



### SELECT POSITIVITY: Q4 2021 TO Q3 2024

Positivity plots are derived from a select toxicology data source that has been consistently monitored since 2018. \*Surrogate positivity calculated for Q4 2023 as the average of Q3 2023 and Q1 2024 due to no samples tested that quarter.

