



UR-144 (TCMP-018; KM-X1) and XLR11 (5-F-UR-144)

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Introduction:

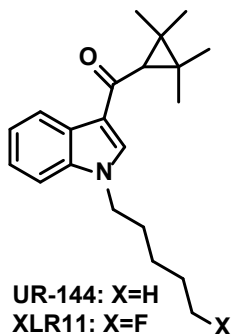
Various synthetic cannabinoids (e.g., JWH-018, JWH-073, etc.) laced on plant material have been encountered by law enforcement in recent years. These are promoted under the guise of herbal incense products. These products laced with synthetic cannabinoids are smoked for their psychoactive effects. UR-144 and XLR11 are two such substances that have been abused for their psychoactive effects.

Licit Uses:

UR-144 was first reported in the scientific literature by Frost and colleagues in 2010 as a research tool in the investigation of the cannabinoid system. XLR11 was not previously reported prior to encountering on the designer drug market. There are no commercial or medical uses for these substances.

Chemistry:

UR-144 and XLR11 are known chemically as (1-pentyl-1*H*-indol-3-yl)(2,2,3,3-tetramethylcyclo-propyl)methanone and [1-(5-fluoropentyl)-1*H*-indol-3-yl](2,2,3,3-tetramethylcyclo-propyl)methanone, respectively. Their chemical structures are shown below.



Pharmacology:

Behavioral pharmacology studies show that UR-144 and XLR11, similar to JWH-018, have Δ 9-THC-like activity in animals. In mice, this decrease overall activity, produces analgesia, decreases body temperature and produces catalepsy. Together, these four effects are used by scientists to predict Δ 9-THC-like psychoactivity in humans.

In drug discrimination studies in mice, UR-144 and XLR11 generalized to Δ 9-THC similarly to JWH-018, i.e. produced subjective effects similar to those of Δ 9-THC.

In vitro studies show that UR-144 and XLR11 bind to the brain cannabinoid receptor (CB1 receptor) similarly to JWH-018 and AM2201.

There are no published studies as to the safety of UR-

144 or XLR11 for human use.

Illicit Uses:

UR-144 and XLR11 have been encountered as adulterants in numerous herbal products that are smoked for their psychoactive effects.

User Population:

Information on user population in the U.S. is limited, and includes information from drug user internet forums. UR-144 and XLR11 abuse is not monitored by any national drug abuse surveys. Poison control centers continue to report adverse health effects in response to the abuse of herbal incense products and this abuse is both a public health and safety concern.

Illicit Distribution:

The System to Retrieve Information from Drug Evidence (STRIDE)/STARLiMS, a federal database for the seized drugs analyzed by DEA forensic laboratories, and the National Forensic Laboratory Information System (NFLIS), a system that collects drug analysis information from state, local, and federal forensic laboratories contain over 5,900 reports for UR-144 and over 9,200 reports for XLR11 in 2012; that has decreased to 26 and 7 reports of UR-144 and 339 and 131 reports of XLR11 in 2017 and 2018, respectively. Bulk quantities and plant material (herbal incense products) laced with UR-144 and XLR11 have been encountered.

Control Status:

UR-144 and XLR11 are schedule I controlled substances under the Federal Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249, or E-mail DPE@usdoj.gov.