

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

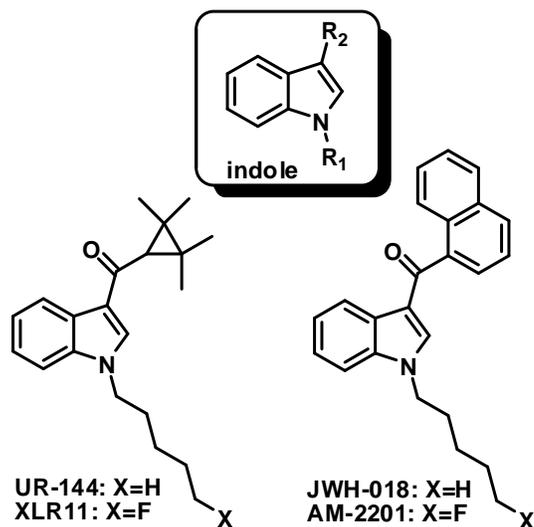
May 2013
DEA/OD/ODE

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. In response to State and Federal control of these synthetic cannabinoids, a transition to new synthetic cannabinoids laced on plant material has been observed. UR-144 and XLR11 are two such synthetic cannabinoids recently encountered on the designer drug market.

Chemistry:

The chemical structures for UR-144¹, XLR11² and the Schedule I substances JWH-018 and AM-2201 are shown below.



UR-144, XLR11, JWH-018, and AM2201 belong to a structural class of substances sharing a core indole structure. This core structure (scaffold) is substituted at the 1- and 3-positions (R₁ and R₂, respectively) to give rise to these substances.

Pharmacology:

Behavioral pharmacology studies show that UR-144 and XLR11, similar to JWH-018, have Δ^9 -THC-like activity in animals. In mice, these 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

¹Chemical names: (1-pentyl-1*H*-indol-3-yl)(2,2,3,3-tetramethylcyclopropyl)methanone

²Chemical names: [1-(5-fluoropentyl)-1*H*-indol-3-yl](2,2,3,3-tetramethylcyclopropyl)methanone

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.

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.

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), 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 and local forensic laboratories contain over 5,200 reports for UR-144 and over 7,200 reports for XLR11 in 2012. 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 202-353-1263, telephone 202-307-7183, or E-mail ODE@usdoj.gov.