

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

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DEA/OD/ODE

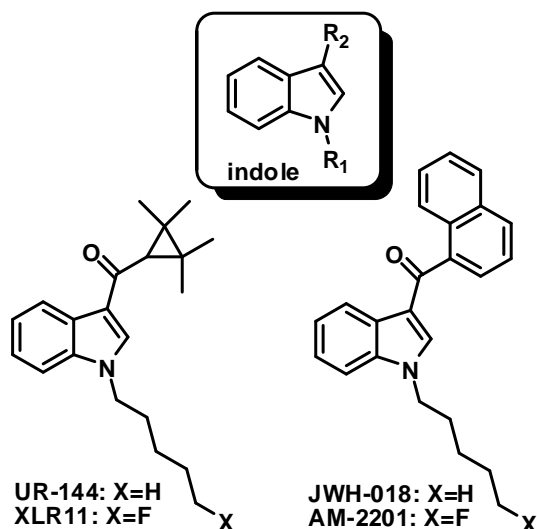
Introduction:

UR-144 and XLR11 are two synthetic cannabinoids recently encountered on the designer drug market. Both UR-144 and XLR11 have been found laced on plant material and marketed under the guise of herbal incense products. UR-144 and XLR11 are likely to share effects with two Schedule I substances also encountered laced on plant material, JWH-018 and AM2201.

In response to State and Federal control of JWH-018 and other synthetic cannabinoids, a transition to new synthetic cannabinoids laced on plant material has been observed.

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 JWH-018 has activity in animals similar to that of Δ⁹-THC but with higher affinity and efficacy than Δ⁹-THC, suggesting that it would have the same effects as Δ⁹-THC *in vivo*.

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

In vitro studies show that UR-144 binds to the brain cannabinoid receptors (CB₁ receptors) similarly to JWH-018 and AM2201. Based on structure-activity relationship studies, XLR11 is expected to bind to CB₁ receptors as well.

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 904 reports for UR-144 and 607 reports for XLR11 in the first six months of 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 not currently scheduled under the Controlled Substance Act (CSA). However, if intended for human consumption, both UR-144 and XLR11 may be treated as a "controlled substance analogue" under the CSA pursuant to 21 U.S.C §§802(32)(A) and 813.

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.