

## 5F-AEB (5F-EMB-PINACA)

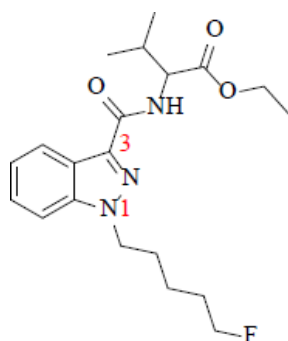
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### Introduction:

In recent years, various synthetic cannabinoids (e.g., JWH-018, UR-144, AKB48, etc.) laced on plant material have been encountered by law enforcement and are smoked for their psychoactive effects. In response to Federal control of these synthetic cannabinoids, a transition to new synthetic cannabinoids laced on plant material has been observed. 5F-AEB is a synthetic cannabinoid recently encountered on the designer drug market and has been found laced on plant material and marketed under the guise of herbal incense products.

### Chemistry:

The chemical structure for 5F-AEB<sup>1</sup> is shown below.



5F-AEB is classified as an indazole. 5F-AEB is based on an indazole core structure, where the 1- and 3-positions of the indazole ring system are substituted. The 1-position of 5F-AEB is substituted with a linear five carbon chain terminated with a fluorine (F) atom. The 3-position is substituted with an amide linker, and the nitrogen atom (N) of this linker is further substituted with a 1-ethoxy-3-methyl-1-oxobutan-2-yl group.

### Pharmacology:

Data from preclinical studies show that 5F-AEB binds to and acts as an agonist at the CB1 receptor. In drug discrimination studies in rats, 5F-AEB generalized to Δ9-THC, i.e. produced subjective effects similar to those of Δ9-THC.

There are no published studies on the safety of 5F-AEB for human use.

### Licit Uses:

There are no commercial or medical uses for 5F-AEB.

### Illicit Uses:

5F-AEB has been encountered in numerous synthetic cannabinoid products that are smoked for their psychoactive effects.

### User Population:

Information on user population in the U.S. is limited. 5F-AEB 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 synthetic cannabinoids and this abuse is both a public health and safety concern. Serious adverse effects have been reported following the use of 5F-AEB.

### Illicit Distribution:

According to DEA's National Forensic Laboratory Information System (NFLIS) Drug database, which collects scientifically verified data on drug items and cases submitted to and analyzed by federal, state, and local forensic laboratories, there have been over 200 reports of 5F-AEB since it was first reported in 2016.

### Control Status

5F-AEB is a positional isomer of 5F-ADB (methyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3,3-dimethylbutanoate), as defined by 21 CFR § 1300.01, and is therefore a Schedule I controlled substance under the Federal Controlled Substances Act as of April 10, 2017.

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@dea.gov](mailto:DPE@dea.gov).

<sup>1</sup> Chemical name: Ethyl 2-(1-(5-fluoropentyl)-1H-indazole-3-carboxamido)-3-methylbutanoate