APPLICATION NOTE
E189VDJ-001

Isolation and Quantification of Synthetic Cannabinoids

Abstract

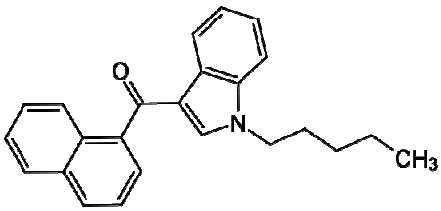
Pharmacologically active synthetic cannabinoids have been used as ingredients for herbal blends which have been sold in so called “smartshops” and were used as an alternative to cannabis. The impact on the health of such synthetic cannabinoids remain uncertain and the substances were meanwhile banned. The present investigation presents a method to isolate and quantify such synthetic cannabinoids from different herbal blends.

Keywords

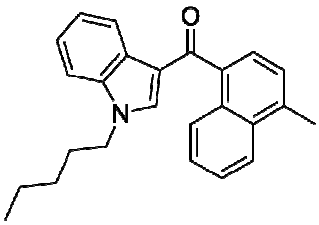
- Synthetic Cannabinoids
- Naphthoylindoles
- JWH-018
- JWH-122
- JWH-210

Compound information

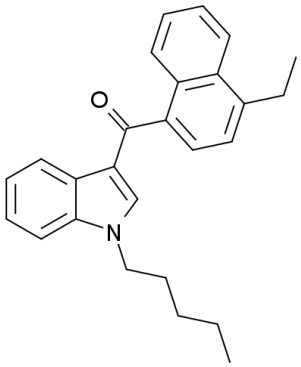
Classification	Compound name
Naphthoylindoles	JWH-018 = Naphthalen-1-yl-(1-pentylindol-3-yl)methanone JWH-122 = (4-methyl-1-naphthyl)-(1-pentylindol-3-yl)methanone JWH-210 = 4-ethylnaphthalen-1-yl-(1-pentylindol-3-yl)methanone



JWH-018



JWH-122



JWH-210

Chromatographic conditions

Column Particle Size, Length × inner diameter Order number	VDSpher® 100 C18-M 5 µm, 250 × 10 mm N2550E189VDJ
Separation mode descriptions	preparative, reversed phase
Mobile Phase	A: 0.1% Formic acid aqueous solution B: Acetonitrile
Elution conditions	Gradient 0-2 min: 70% B 2-12 min: 70% to 100% B 12-15 min: 100% B
Flow rate	5 ml/min
Injection	
Column temperature	ambient
Pressure	
HPLC system	Hitachi LaChrom (Merck) Detection: Hitachi LaChrom L-7400 UV-Detector, wavelength: 315 nm
Sample and sample preparation	100 mg each of 3 herbal mixtures commercially available in Smartshops were extracted with methanol (total volume 1 ml) under sonication for 10 minutes. The extract was filtered through a 0.45 µm filter.

Chromatograms

Please refer to pages 18, 19 and 36 of the reference.

Origin

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References

"A Comprehensive Study of Herbal Blends from Portuguese Smart Shops: Isolation, Analysis and Toxicological Impact"
Inês Costa Lopes
MSc Thesis, July 2014
Instituto Superior de Ciências da Saúde Egas Moniz, Portugal

Year of application: 2014

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