



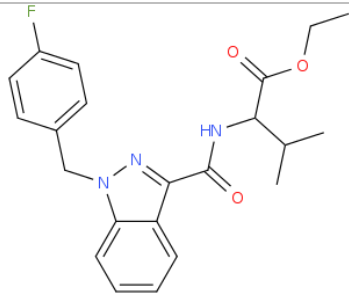
ANALYTICAL REPORT

EMB-FUBINACA (C₂₂H₂₄FN₃O₃)

ethyl 2-({1-[(4-fluorophenyl)methyl]-1H-indazol-3-yl}formamido)-3-methylbutanoate

Remark – other active cpd. detected: **none**

Sample ID:	1686-16
Sample description:	powder - white
Sample type:	RM-reference material
Comments ¹ :	CAY Lot#0473498; I-SEE project RM and report
Date of entry:	10/10/2016

Substance identified-structure ² (base form)	
Systematic name:	ethyl 2-({1-[(4-fluorophenyl)methyl]-1H-indazol-3-yl}formamido)-3-methylbutanoate
Other names:	5-fluoro EMB-FUBINACA; FU-AEB; ethyl (1-(4-fluorobenzyl)-1H-indazole-3-carbonyl)-L-valinate (Cayman);
Formula (per base form)	C ₂₂ H ₂₄ FN ₃ O ₃
M _w (g/mol)	397,44
Salt form:	base
StdInChIKey	YOECWCNJGHHTMN-UHFFFAOYSA-N ; remark Cayman`s InchKey YOECWCNJGHHTMN-IBGZPJMESA-N (stereochemistry defined)
Compound Class	Cannabinoids

¹ This report has been produced with the financial support of the Prevention of and fight against crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6426). The contents of this report are the sole responsibility of the National Forensic Laboratory and can in no way be taken to reflect the views of the European Commission.

² Created by OPSIN free tool: <http://opsin.ch.cam.ac.uk/> DOI: 10.1021/ci100384d

Other active cpd. detected	none
Add.info (purity..)	98 %

Report updates

date	comments (explanation)
14/11/2016	New issue of the report.

Supporting information

Analytical technique:	applied	remarks
GC-MS (EI ionization)	+	NFL GC-RT (min): 12,02 BP(1): 253; BP(2): 109,BP(3) :324,
FTIR-ATR	+	
GC-IR (condensed phase)	+	

1. GC-MS (Agilent): GC-method is RT locked to tetracosane (9.258 min). Injection volume 1 ml and split mode (1:50). Injector temperature: 280 °C. Chromatographic separation: on column HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickness 0.25 µm. Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 °C for 1 min, followed by heating up to 190 °C at rate 8 °C/min, then heating up to 293 °C at a rate of 18 °C/min, hold for 6.1 min, then heating at 50 °C/min up to 325 °C and finally 6.1 min isothermal. MSD source EI = 70 eV. GC-MS transfer line T= 235 °C, source and quadrupole temperatures 280 °C and 180 °C, respectively. Scan range m/z scan range: from 50 (30 until 6 min.) to 550 (300 until 6 min) amu.

2. FTIR-ATR (Perkin Elmer): scan range 4000-400 cm⁻¹; resolution 4cm⁻¹

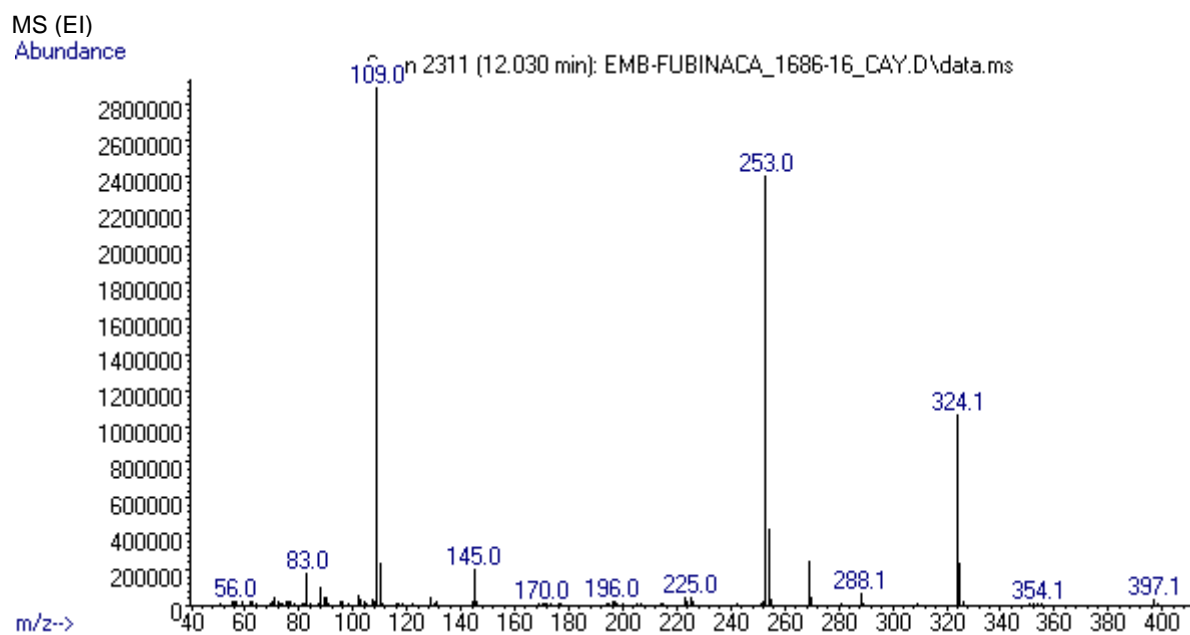
3. GC- (MS)-IR condensed phase (GC-MS (Agilent) & IR (Spectra analyses-Danny)

GC-method: Injection volume 1 ml and split mode (1:5). Injector temperature 280 °C. Chromatographic separation as above **(1)**. Split MS : IR = 1 : 9.

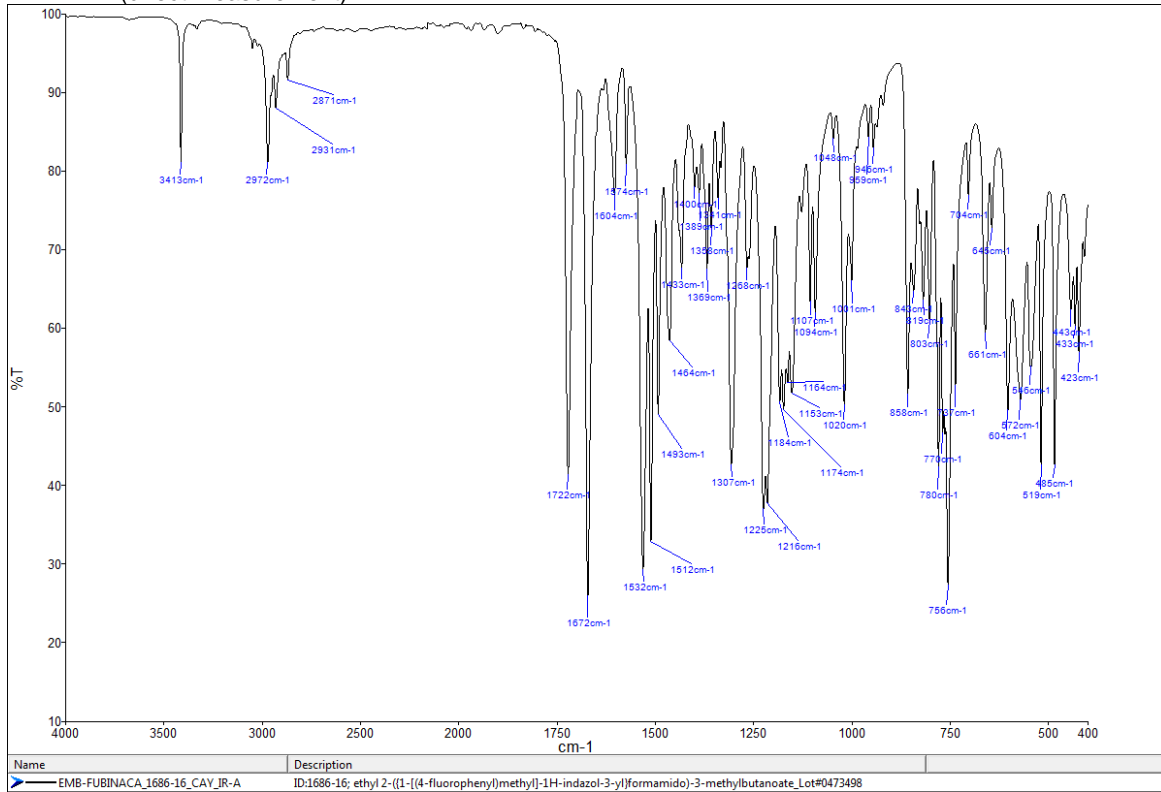
MSD source EI = 70 eV. GC-MS transfer line T= 235 °C, source and quadrupole temperatures 280 °C and 180 °C, respectively. Scan range m/z scan range: from 50 (30 until 6 min.) to 550 (300) amu.

IR (condensed (solid) phase): IR scan range 4000 to 650, resolution 4 cm⁻¹.

FIGURES OF SPECTRA



FTIR-ATR (direct measurement)



GC-IR-Condensed phase

