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Acknowledgement:

Sample was kindly provided by Swedish National Forensic Centre (NFC), where the compound was identified. IN NFC structure has been verified by means of GC-MS, FT-IR and NMR. Original NFC`s report is available in EMCDDA EDND database. See at:
http://www.emcdda.europa.eu/activities/action-on-new-drugs
(pasword is required).

In the Slovenian National Forensic laboratory (NFL) sample was additionally analysed. The main goal of analyses performed in NFL-SI was to obtain FTIR-ATR and IR condensed phase spectra. NFL analytical report shown in this document.

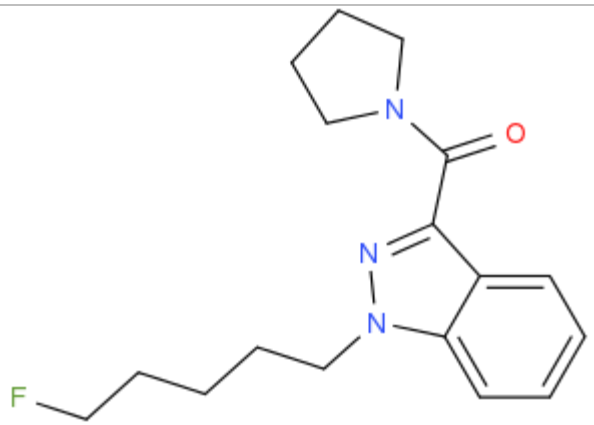
ANALYTICAL REPORT[1] (NFL-SI)

5F-PY-PINACA (C17H22FN3O)

[1-(5-fluoropentyl)indazol-3-yl]-pyrrolidin-1-yl-methanone

Remark – other NPS detected: none

Sample ID:	1258-15
Sample description:	crystalinic -
Sample type:	collected /OTHER (kindly provided by Swedish NFC
Date of sample receipt (M/D/Y):	8/24/2015
Date of entry (M/D/Y) into NFL database:	11/5/2015
Report updates (if any) will be published here:	http://www.policija.si/apps/nfl_response_web/seznam.php

Substance identified (in SFC)-structure[2] (base form)	
Systematic name	[1-(5-fluoropentyl)indazol-3-yl]-pyrrolidin-1-yl-methanone
Other names	
Formula (per base form)	C17H22FN3O
M_w (g/mol)	303,37
Salt form	base
StdInChIKey	GSCLIRQNUBFUJA-UHFFFAOYSA-N
Compound Class	Cannabinoids
Other NPS detected	none
Add.info (purity..)	impurities were not detected by GC-MS, HPLC-TOF (at NFL SI)

[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/6413). 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

Report updates

date	comments (explanation)
10th Jan 2016	Typing error was corrected. Empirical formula was changed from C17H22FN3O3 to C17H22FN3O.

Instrumental methods (if applied) in NFL

1. GC-MS (Agilent): GC-method is RT locked to tetracosane (RT=9.53 min). Injection volume 1 ml and split mode (1:50) . Injector temperature: 280 ^{0}C. Chromatographic separation: on column HP1-MS (100% dimethylpolysiloxane), length 30 m, internal diameter 0.25 mm, film thickens 0.25 mm. Carrier gas He: flow-rate 1.2 ml/min. GC oven program: 170 ^{0}C for 1 min, followed by heating up to 293 ^{0}C at a rate of 18 ^{0}C/min, hold for 6.1 min, than heating at 50 ^{0}C/min up to 325 ^{0}C and finally 2.8 min isothermal. MSD source EI = 70 eV. GC-MS transfer line T= 235^{0}C, source and quadropole temperatures 280^{0}C and 180^{0}C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.

2. HPLC-TOF (Agilent): 6230B TOF with Agilent 1260 Infinity HPLC with binary pump, column: Zorbax Eclipse XDB-C18, 50 x 4.6 mm, 1.8 micron. Mobile phases (A) 0.1% formic acid and 1mM ammonium formate in water; (B) 0.1% formic acid in methanol (B). Gradient: starting at 5% B, changing to 40% B over 4 min, then to 70% over 2 min and in 5 min to 100%, hold 1 min and back to 5%, equilibration for 1.7 min. The flow rate: 1.0 ml/min; Injection volume 1 µl. MS parameters: 2GHz, Extended Dynamic range mode to a maximum of 1700 amu, acquisition rate 1.30 spectra/sec. Sample ionisation: by Agilent Jet Stream technology (Dual AJS ESI). Ion source: positive ion scan mode with mass scanning from 82 to 1000 amu. Other TOF parameters: drying gas (N2) and sheath temperature 325 °C; drying gas flow rate 6 l/min; sheath gas flow rate 8 l/min; nebulizer 25 psig; Vcap. 4000 V; nozzle 2000 V; skimmer 65 V; fragmentor 175 V and Octopole RF 750 V.

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

4. 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 ^{0}C. Chromatographic separation as above **(1).** Split MS : IR = 1:9.
MSD source EI = 70 eV. GC-MS transfer line T= 235^{0}C, source and quadropole temperatures 280^{0}C and 180^{0}C, respectively. Scan range m/z scan range: from 50 (40) to 550 amu.
IR (condesed phase): IR scan range 4000 to 650, resolution 4 cm^{-1}.

5. **IC** (anions) (Thermo Scientific, Dionex ICS 2100), Column: IonPac AS19, 2 x 250mm; Eluent: 10mM from 0 to 10 min, 10-58 mM from 10 to 40min; Flow rate: 0.25 ml/min; Temperature: 30˚C; Suppressor: AERS 500 2mm, suppressor current 13mA; Inj. Volume: 25 µl

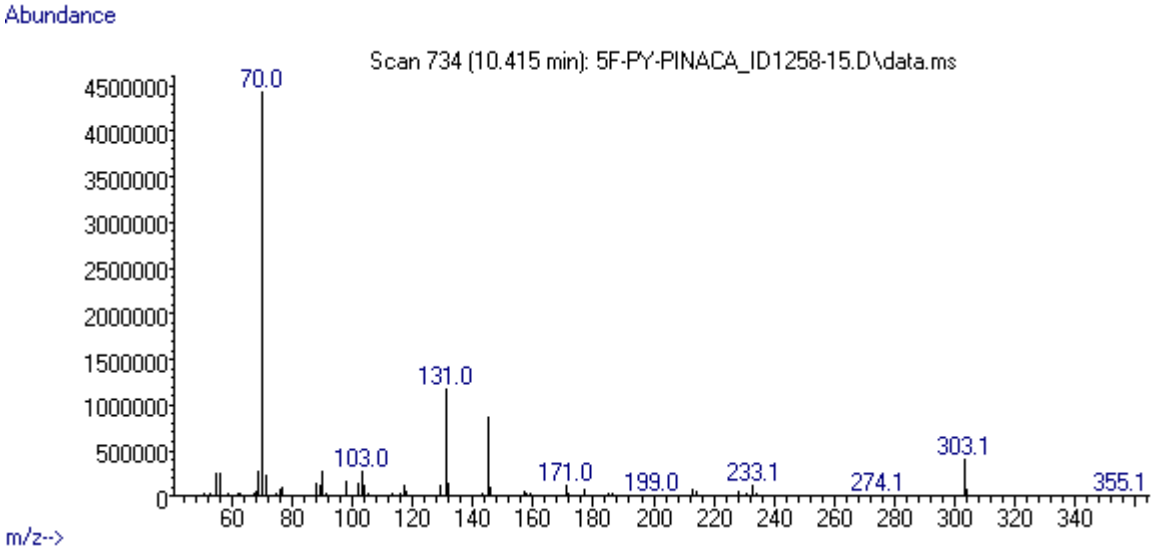
Supporting information

Solubility in	result/remark
CH_2Cl_2	not soluble
MeOH	soluble
H_2O	

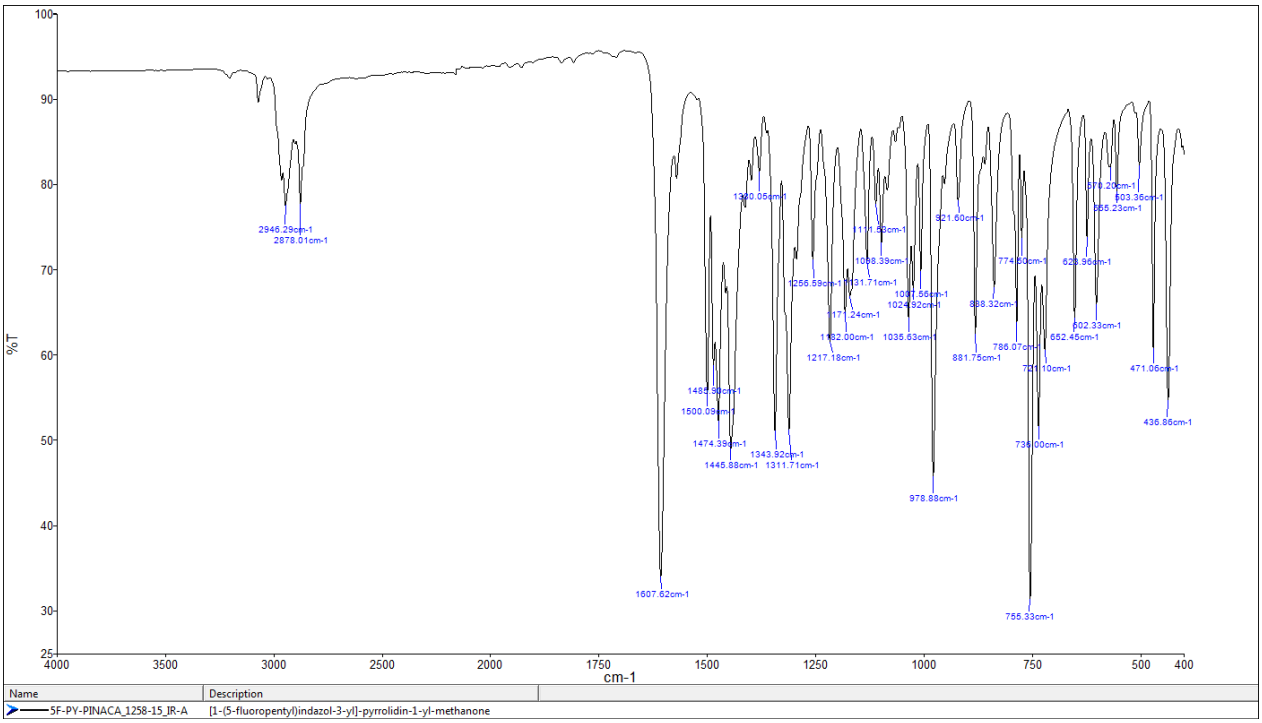
Analytical technique:	applied	remarks
GC-MS (EI ionization)	+	NFL GC-RT (min): 10,41 BP(1): 70; BP(2): 131,BP(3) :145,
HPLC-TOF	+	Exact mass (theoretical): 303,1747; measured value Δppm:-0,26; formula:C17H22FN3O
FTIR-ATR	+	direct measurement
FTIR (condensed phase) always as base form	+	extract in CH2Cl2
IC (anions)	+	
NMR	-	*structure has been verified by Swedish National Forensic Centre*
validation		
other		

ANALYTICAL RESULTS

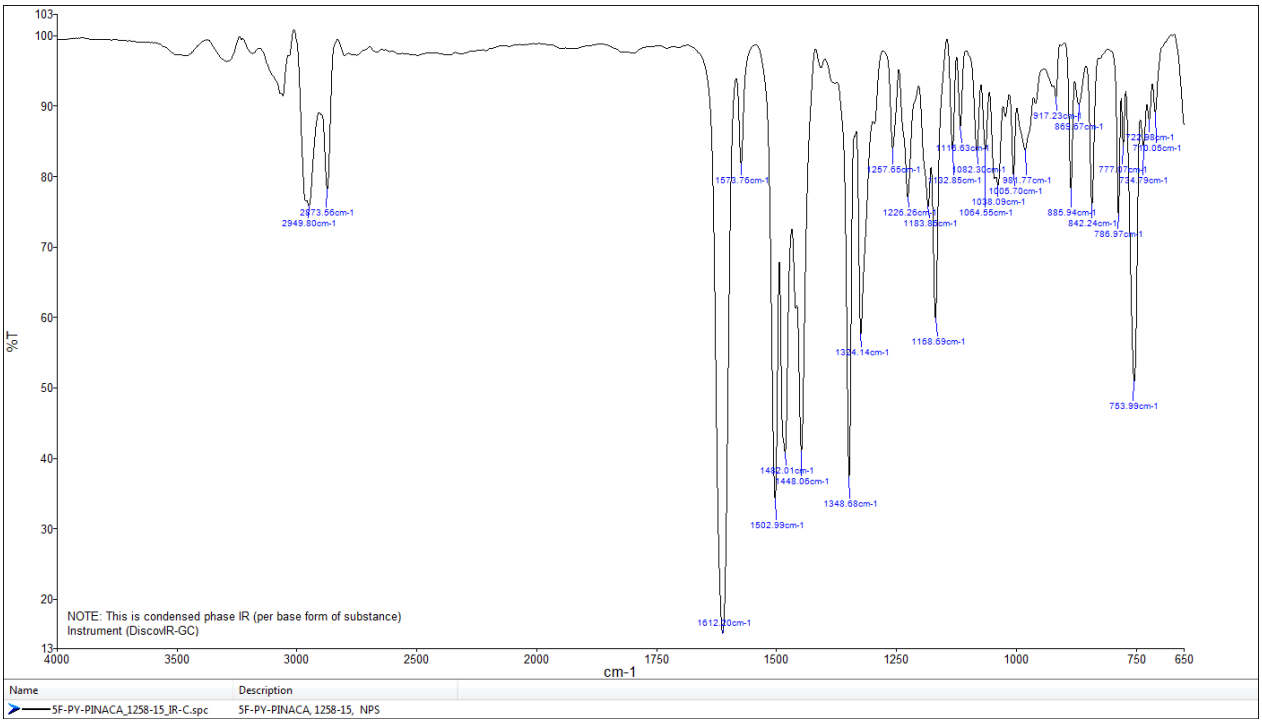
MS (EI)



FTIR-ATR - direct measurement



IR (condensed phase)



Target Compound Screening Report

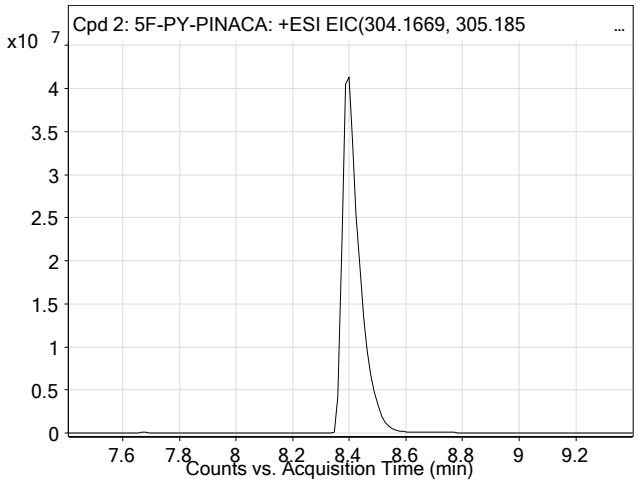
Data File	5F-PY-PINACA_1258-15_TOF.d	**Sample Name**	5F-PY-PINACA
Sample Type	Sample	**Position**	P1-C4
Instrument Name	6230B TOF LC-MS	**User Name**	TG
Acq Method	droge general-13-5-2015-XDB-C18-ESI-poz.m	**Acquired Time**	9/2/2015 5:32:04 PM
IRM Calibration Status	Success	**DA Method**	Droge_Default.m
Comment	extract in MeOH		

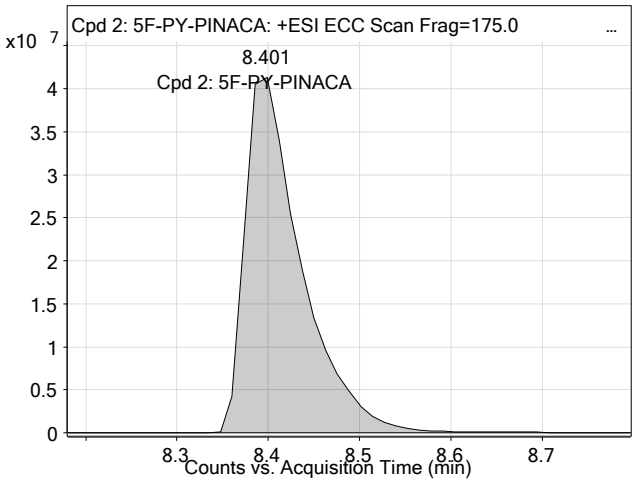
Compound Table

Label	Tgt Name	Obs. RT	Obs. Mass
Cpd 2: 5F-PY-PINACA	5F-PY-PINACA	8.401	303.1748

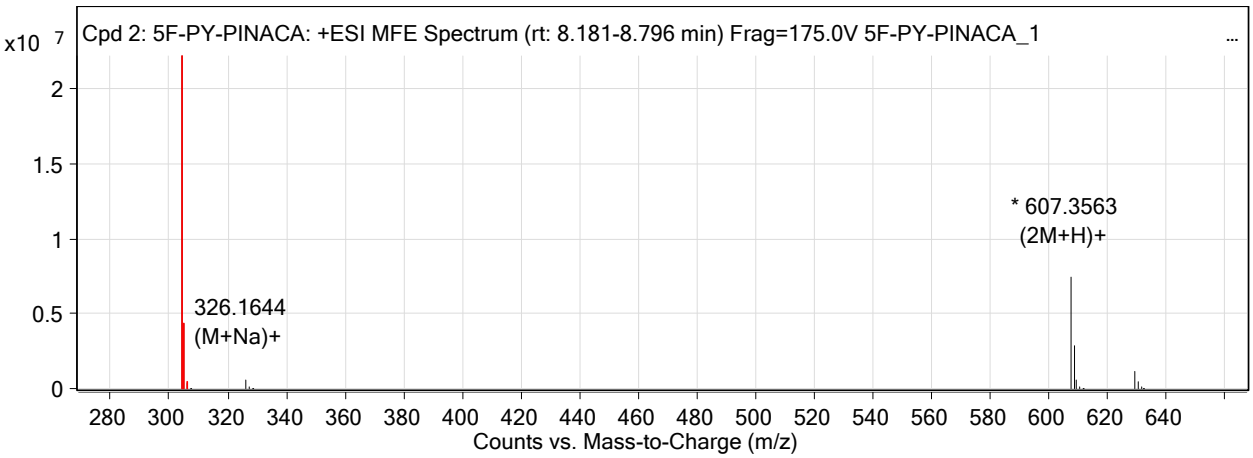
Name	Obs. *m/z*	Obs. RT	Obs. Mass	DB RT	DB Formula	DB Mass	DB Mass Error (ppm)	Find Cpds Algorithm
5F-PY-PINACA	304.182	8.401	303.1748	8.401	C17 H22 F N3 O	303.1747	-0.26	Find by Molecular Feature

Compound Chromatograms





MFE MS Zoomed Spectrum



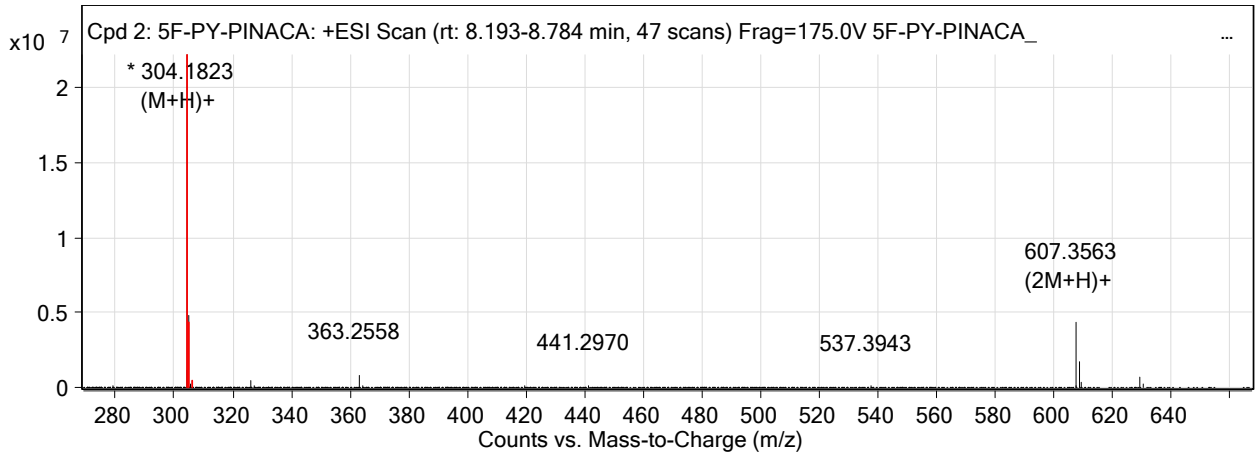
MS Spectrum Peak List

Obs. *m/z*	Charge	Abund	Formula	Ion/Isotope
304.182	1	22205770	C17 H22 F N3 O	(M+H)+
305.1852	1	4303420.16	C17 H22 F N3 O	(M+H)+
306.1886	1	406125.39	C17 H22 F N3 O	(M+H)+
326.1644	1	562438.69		(M+Na)+
327.1672	1	101391.36		(M+Na)+
607.3563	1	7396619		(2M+H)+
608.3597	1	2920685.68		(2M+H)+

Agilent Technologies

609.3632	1	568456.28		(2M+H)+
629.3387	1	1204617		(2M+Na)+
630.3421	1	452523		(2M+Na)+

MS Zoomed Spectrum



--- End Of Report ---

Peak Integration Report

Sample Name:	**5F-PY-PINACA_1258-15_IC**	*Inj. Vol.:*	**25,00**
Injection Type:	**Unknown**	*Dilution Factor:*	**1,0000**
Program:	**ANIONI**	*Operator:*	**kemija**
Inj. Date / Time:	**27-okt-2015 / 23:01**	*Run Time:*	**42,00**

No.	Time min	Peak Name	Peak Type	Area µS*min	Height µS	Amount n.a.
		TOTAL:		0,00	0,00	0,00