Co-funded by the Prevention of and Fight
against Crime Programme of the European Union

EXPERIENCES WITH NEW SYNTHETIC OPIOIDS OBTAINED IN THE FRAMEWORK OF EU CO-FUNDED PROJECT RESPONSE

EUROPEAN PROJECT RESPONSE to challenges in forensic drugs analyses

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“RESPONSE” project in brief

The main topic of forensic drugs investigations addressed by the RESPONSE project

(http://www.policija.si/eng/index.php/generalpolicedirectorate/1669-nfl-page-response **)**

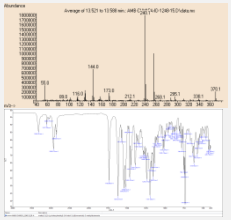
- **New psychoactive substances** (NPS) identification - challenges
  - unexpected growth in the number and type of NPSs [1]
  - easy availability of NPS, which are advertised and sold over the Internet
  - lack of availability of reference materials (RM) and specific reliable MS and FTIR spectra databases are the main problem for accurate NPS identification
- **Drugs profiling** where the main problem is the recognized gap between customers (law enforcement, judicial system, EU policy makers) needs and ForL capacities, methodologies and staff competencies.

[1] New Psychoactive substances in Europe, EMCDDA, March 2015, (http://www.emcdda.europa.eu/publications/2015/new-psychoactive-substances)

NPS facts & project objectives

FACTS:

- NPS are mainly detected in forensic and customs labs.
- Identifying of NPS means to elucidate compoud structure, to give the substance a name and formula
- To identify new substance reference material (RM) or special techniques are needed
- RM are not available (in real time)
- Most of laboratories have to realy:
  - on comparison of their results to available MS and/or FTIR spectra in searchable electronic libraries (not updated in real time)
  - or existing information exchange channels and/or open source data



PROJECT OBJECTIVES:

- to provide numerous spectral data MS, FTIR-ATR and FTIR-condensed phase on newly appearing NPS
- to implement spectra into electronic data repositories of European Network of Forensic Institutes - Drugs Working Group (ENFSI - DWG).
- to share analytical data, knowledge and information efficiently through different communication platforms (SI EWS, EMCDDA, EUROPOL, cooperation /communication with other complementary projects) and open source repositories
- By internet purchasing of NPSs the project will aim at implementing a pro-active forensics respond to the NPS phenomena and form " NPS material bank".

Sources of materials & Chemical characterizations methods

Type of material	Analytical methods
Reference materials (Different vendors; around 200)	GC-MS, FTIR-ATR, GC-MS-FTIR-(condensed phase) - optional
Test purchases (Internet based vendors; 200 to 300 samples)	GC-MS FTIR ATR GC-MS-FTIR (Condesed Phase) HPLC-TOF IC NMR (^{1}H, ^{13}C, ^{1}H–^{1}H *gs-COSY)*
Seized samples (Police/ Customs)	
Collected samples (NGO – anonymous users, project partners, other)	

The compounds are identified in the Slovenian forensic laboratory (NFL). Structures are confirmed by NMR at the Faculty of Chemistry and Chemical technology (FKKT). Spectra are provided to EI-MS and IR libraries of ENFSI DWG.

Test purchases over the internet -challanges

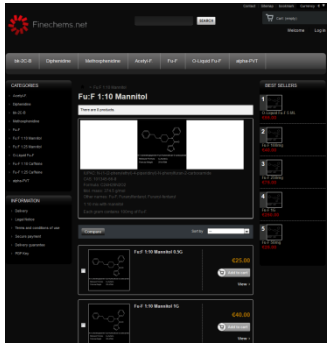
Detection of new substances [L. Ask Reitzel et all, Systematical methodology for finding novel NPS (New Psychoactive Substances) over the Internet, EAFS-2015, Prague, 2015]

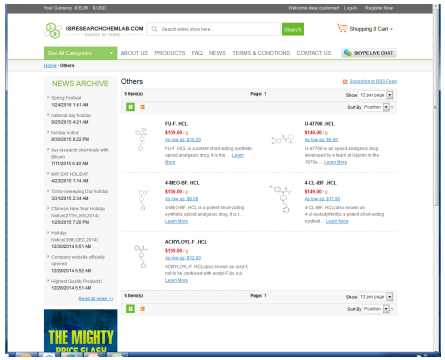
- use a Google engine and simple keyword search and possibly filters
- follow social networks related to recreational drugs (blogs/discussion forums/chats)
- follow already evaluated reliable internet vendors

Find a internet vendor(s) and evaluate its reliability

- use information (and updates) from the internet
- check the payment options
- check minimum required order (some only sell bulk quantities)
- test vendors by small orders (few samples) first
- Preferable pure substances

https://www.reddit.com/r/RCSources/wiki/vendors





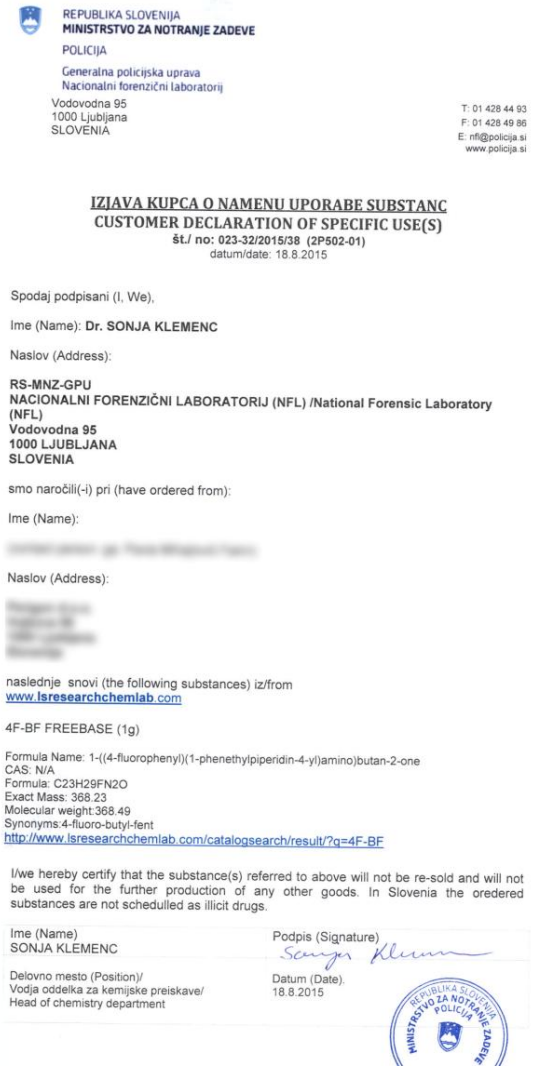
- Europe
  - Belgium
  - Czech Republic
  - Germany
  - Hungary
  - The Netherlands
  - Poland
  - Spain
  - Sweden
  - United Kingdom
- North America
  - Canada
  - USA
- Asia
  - China
  - India
  - Japan
- Treat with Caution
- Scammers

Purchasing procedure:

- shall follow institutional and national rules (quite complicated)
- information exchange system between national authorities concerning internet orders has been established. (Co-operation of the Police (NFL), the Customs, and the Ministry of Health about every purchase in advance and after receiving the samples).

Test purchases - procedures

- Substances are purchased via four reliable “importing companies” in SI
- All data about the desired substance, internet links and desired quantities are provided by NFL; further comunication with internet vendor is done by importing company
- First the inquiry at the chosen internet vendor is performed (all the communication is done via e-mail)
- After a positive response, NFL issues a customer declaration which is forwarded to the importing company in SI and to the liaison officer between the Police and the Customs
- Importing company orders and pays the substances to the internet vendor
- All the samples are delivered directly to the NFL
- NFL confirms the receipt of samples to importing company and to lisiation oficer
- Importing company issues the receipt which is paid from the financial departement of MNZ
- In chemistry lab each sample is labeled with an unique identification number and is photographed
- Identification of the substance by different chemical methods follows
- In the case of a new substance (first time identified in SI) EMCDDA and SI EWS are informed
- Chemical characterisation data and analytical report are published in public open database created in the frame of the response project



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA NOTRANJE ZADEVE
POLICIJA
Generalna policijska uprava
Nacionalni forenzični laboratorij
Vodovodna 95
1000 Ljubljana
SLOVENIA

T: 01 428 44 93
F: 01 428 49 86
E: nfl@policija.si
www.policija.si

IZJAVA KUPCA O NAMENU UPORABE SUBSTANC
CUSTOMER DECLARATION OF SPECIFIC USE(S)
št./ no: 023-32/2015/38 (2P502-01)
datum/date: 18.8.2015

Spodaj podpisani (I, We),

Ime (Name): **Dr. SONJA KLEMENC**

Naslov (Address):

RS-MNZ-GPU
NACIONALNI FORENZIČNI LABORATORIJ (NFL) /National Forensic Laboratory (NFL)
Vodovodna 95
1000 LJUBLJANA
SLOVENIA

smo naročili(-i) pri (have ordered from):

Ime (Name):

Naslov (Address):

naslednje snovi (the following substances) iz/from
www.lsresearchchemlab.com

4F-BF FREEBASE (1g)

Formula Name: 1-((4-fluorophenyl)(1-phenethylpiperidin-4-yl)amino)butan-2-one
CAS: N/A
Formula: C23H29FN2O
Exact Mass: 368.23
Molecular weight:368.49
Synonyms:4-fluoro-butyl-fent
http://www.lsresearchchemlab.com/catalogsearch/result/?q=4F-BF

I/we hereby certify that the substance(s) referred to above will not be re-sold and will not be used for the further production of any other goods. In Slovenia the oredered substances are not schedulled as illicit drugs.

Ime (Name)
SONJA KLEMENC

Podpis (Signature)

Delovno mesto (Position)/
Vodja oddelka za kemijske preiskave/
Head of chemistry department

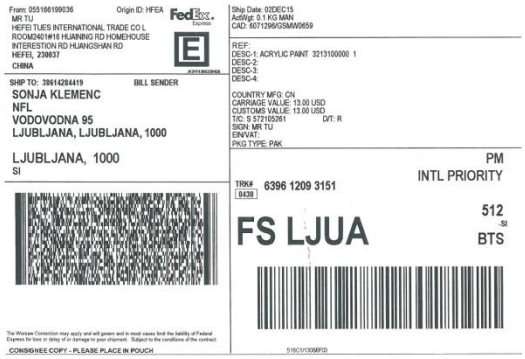
Datum (Date).
18.8.2015

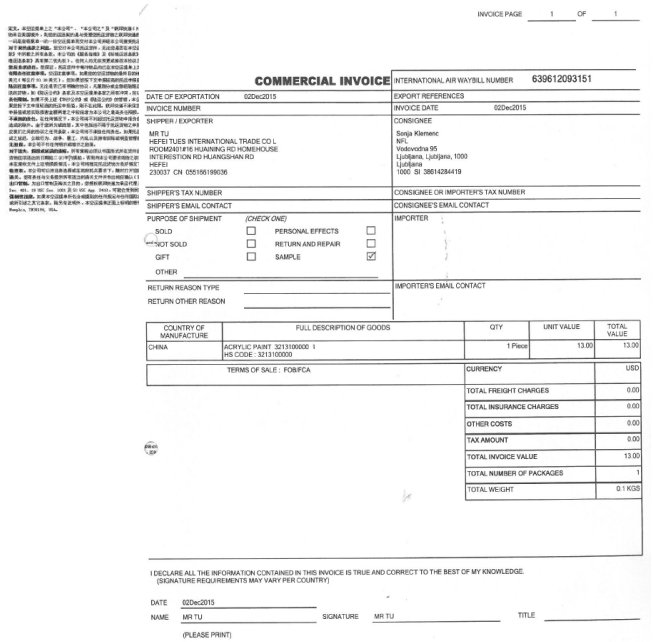
REPUBLIKA SLOVENIJA MINISTRSTVO ZA NOTRANJE ZADEVE POLICIJA

Experiences of test purchases

- Purchases within EU are relatively easy (no Customs), the substances are delivered with correct invoice and mostly suitable labeling (although often wrong substance)
- Purchases from Canada run relatively smoothly, appropriate documentation and bills (sometimes wrong substance)
- Purchases from China:

- some pages have very good selection (e.g. Drugs Power Store); but we couldn`t established any contact (they were non responsive)
- Communications by internet vendor trough e-mails
- Shipments - track&trace (using courier delivery services company, e.g. FEDEX etc.)
- Sometimes long delivery time
- Few samples have not been delivered
- Attached documentation usually describes the shippment as a **free sample** (real price is not given)
- Substances are wrongly declared (e.g. as sample of ammonium polyphosphate, acrylic paint etc.) with different Common Customs Tariff to mislead the Customs (to avoid taxation of goods)
- “Proforma invoices” do not correspond to the real price, the seller`s company data on invoices is mostly “faked” (and this is a problem for the imprting company which purchase for NFL)
- Sample containers (bags) are labeled only by numbers – no chemical information





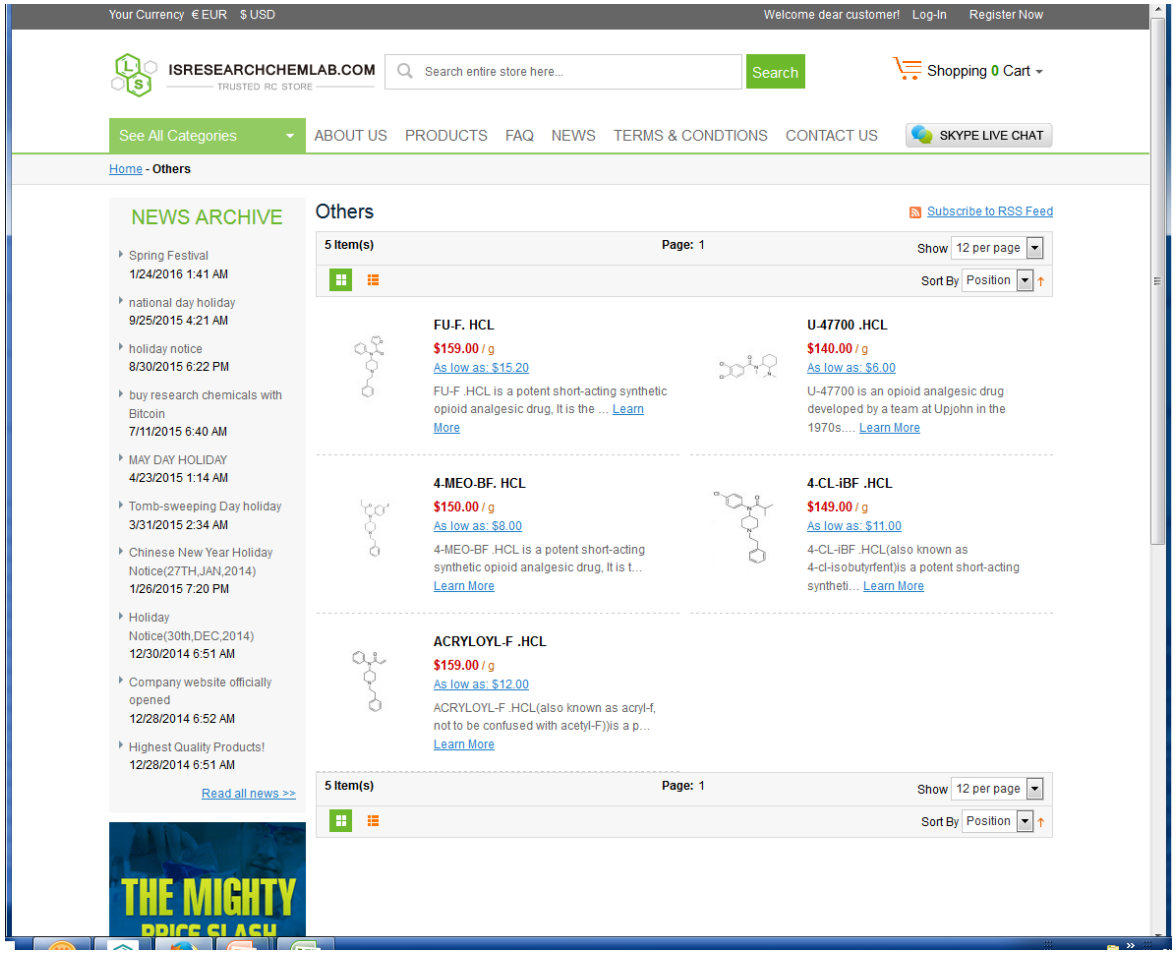
Changes on the internet market

- Chinese Food and Drug Administration announced the control of 116 new psychoactive substances, effective from 1st October 2015 (*Non-medicinal drugs and psychotropic narcotic drug control varieties*).

- The newly scheduled NPS include also Acetylfentanyl, AH-7921, Butyrylfentanyl, β-Hydroxythiofentanyl, Isobutyrfentanyl, Ocfentanyl which almost dissapeared from China vendors web pages

- Consequently new synthetic opioids appeared on the China (and EU) market (Acryloil-F, 4Cl-iBF, FU-F, U 47700, etc.)

New synthetic opioids, received within RESPONSE project



So far all synthetic opioids samples, purchased within the RESPONSE project, were obtained from one site.

- 4F-BF
- 4-MeO-BF
- FU-F
- U-47700

All the synthetic opioids have been offered in HCl salt form.

Two were received from FSI Zurich:

- AH-7921
- W-15

Two were received from Laboratorie de Police Scientifique de Lyon:

- Ocfentanil (A-3217)

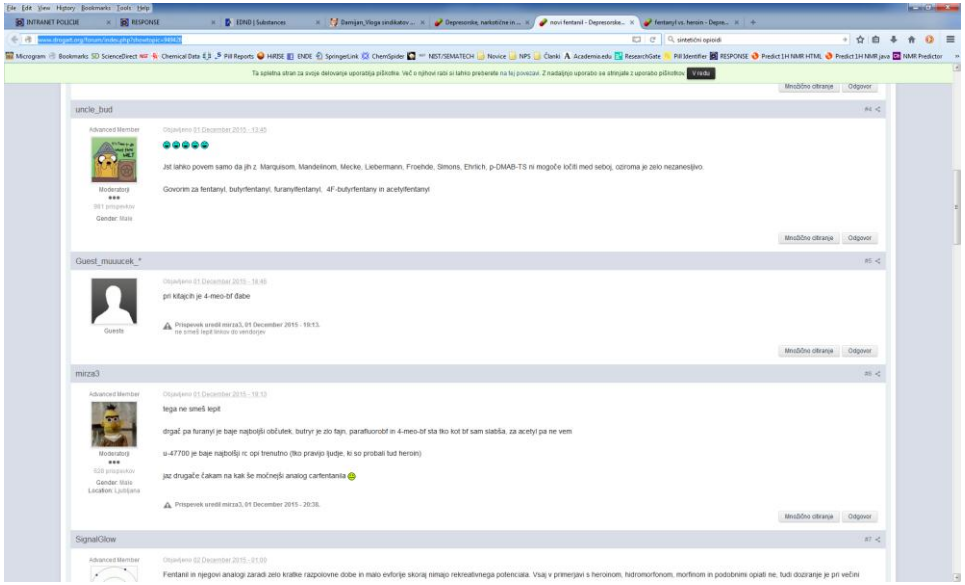
All these synthetic opioids have been characterized, the data has been included in the online database.

Current situation on new synthetic opioids between users in Slovenia

NFL has not received any sample containing new synthetic opioid seized by the Police or collected via NGO so far.

An associated partner DrogArt Association is a private non-profitable volunteer organization with the status of humanitarian organizations . The vision DrogArt Association is to reduce the risks associated with the use of drugs and alcohol in Slovenia.

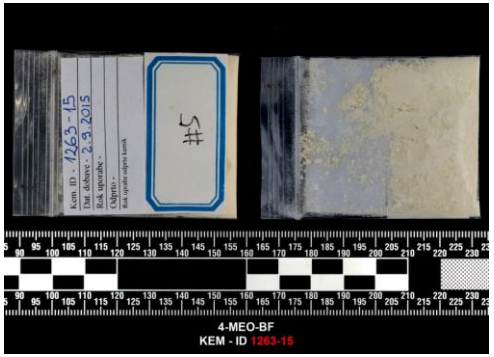
In DrogArt drug related forums, users also report their experiences with synthetic opioids.



Resume from the forum about new synthetic opioids in Slovenia:

- New synthetic opioids are rarely used, only experimentaly
- Users write about experiences with BF series, U-47700, other fentanyles (e.g. furanyl as FU-F, butryr, acetyl, parafluorobf)
- U-47700 and FU-F are currently considered to be the best
- butryr + 3fmp is considered to be a good combination
- MT-45 is allegedly poisonous, causes hair loss

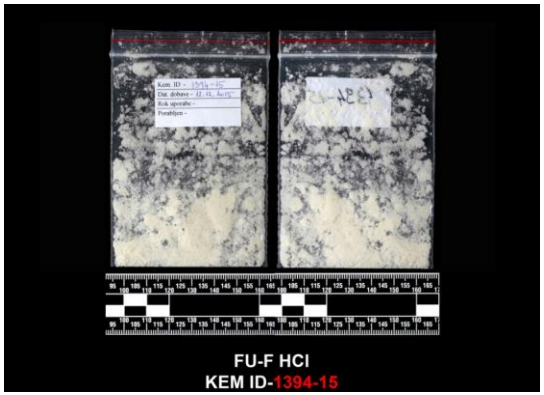
Physical appearance of purchased synthetic opioids



Photos of the samples were taken from both sides and merged.

Similar physical appearance of two different substances, both purchased from China as 4F-BF and 4-MeO-BF freebase. Zip bags with the substances were marked only with a hand written number on a sticker.

Each sample gets its unique identification number in the NFL laboratory.



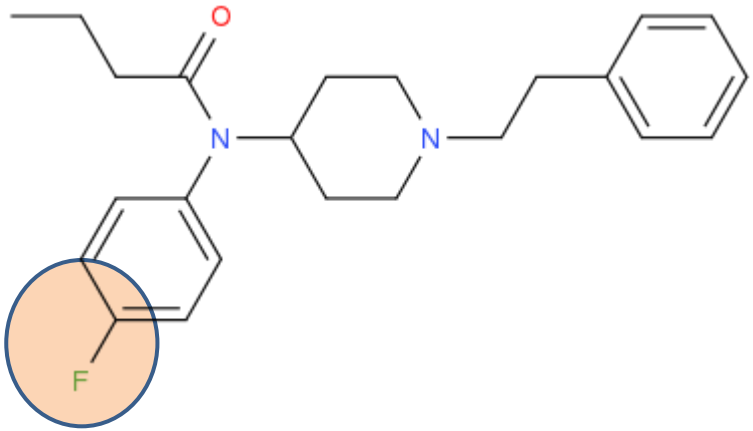
The sample, purchased as U-47700, in a form of white powder, and the sample, purchased as FU-F, in a form of off-white powder.

4F-BF (4-fluoro-butyrfentanyl) and 4-MeO-BF (4-methoxybutyrfentanyl)

Two analogues of butyrfentanyl:

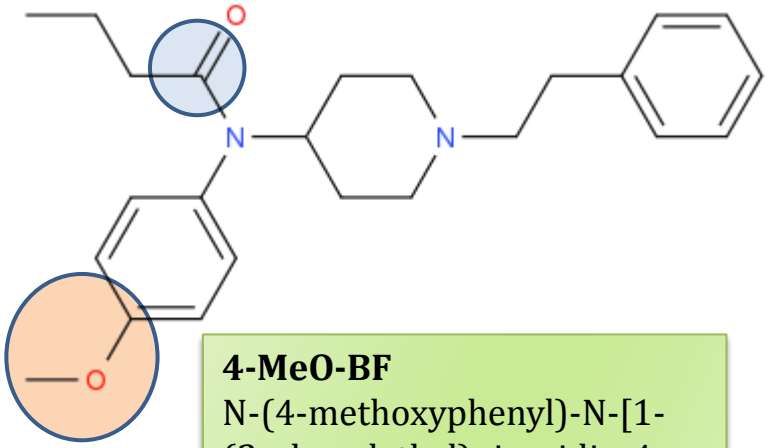
Proposed structures (theroretical):

The structure of 4-MeO-BF given on the web site was different, -CO- was indicated on the position 2



4F-BF
N-(4-fluorophenyl)-N-[1-(2-phenylethyl)piperidin-4-yl]butanamide

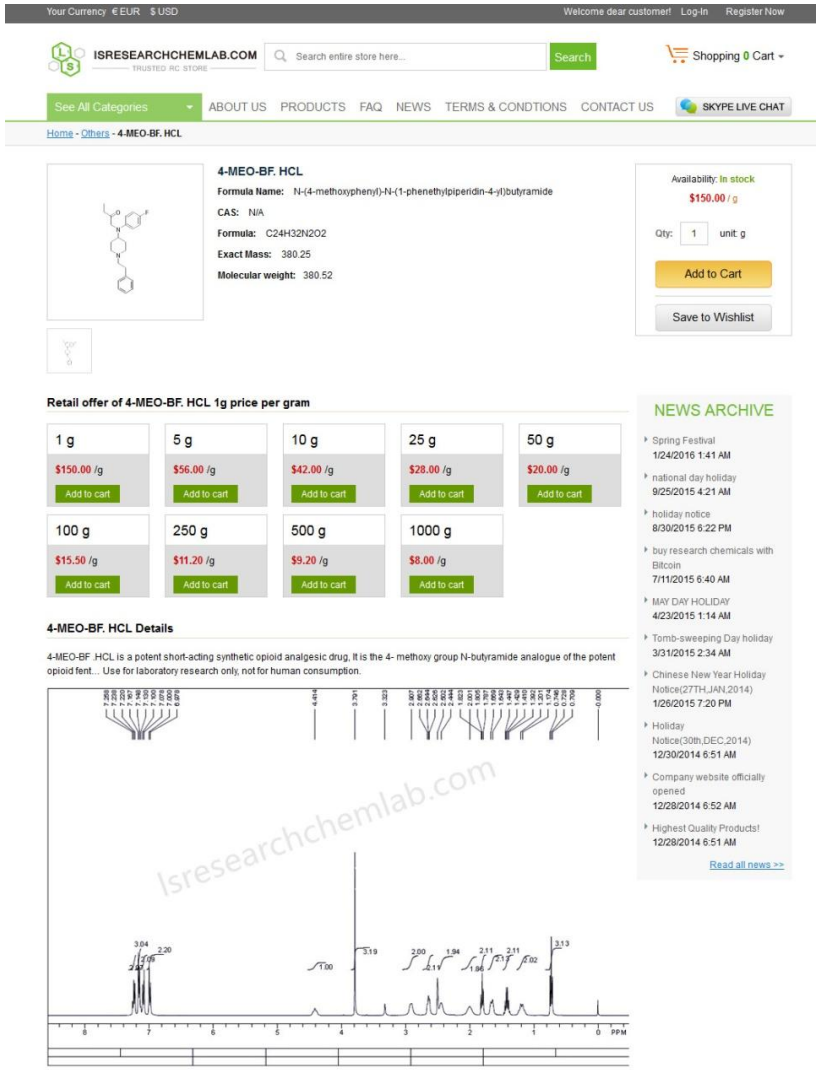
Mass: 368,496
Formula: $C_{23}H_{29}FN_2O$



4-MeO-BF
N-(4-methoxyphenyl)-N-[1-(2-phenylethyl)piperidin-4-yl]butanamide

Mass: 380,532
Formula: $C_{24}H_{32}N_2O_2$

4-MeO-BF: 2-on or 1-on?



The web site describes 4-MeO-BS as N-(4-methoxyphenyl)-N-(1-phenlypiperidin)-4-butyramide with the structure as ketone (as -2-on substance.

Web sites often describe the substances with incomplete or wrong names, empirical formulas, and/or structures.

This web site even displays ^{1}H-NMR of the offered substance.

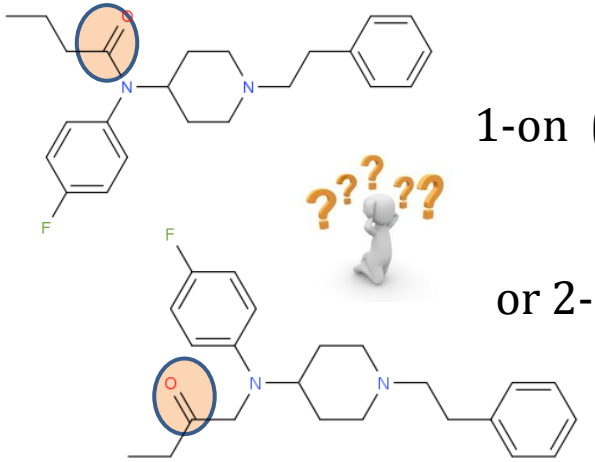
–CO- position can be defined by NMR.

Mass spectra of 4F-BF and 4-MeO-BF

No match with any of available ms libraries (CaymanSpectraLibrary, SWGDRUG, NIST4, etc.)

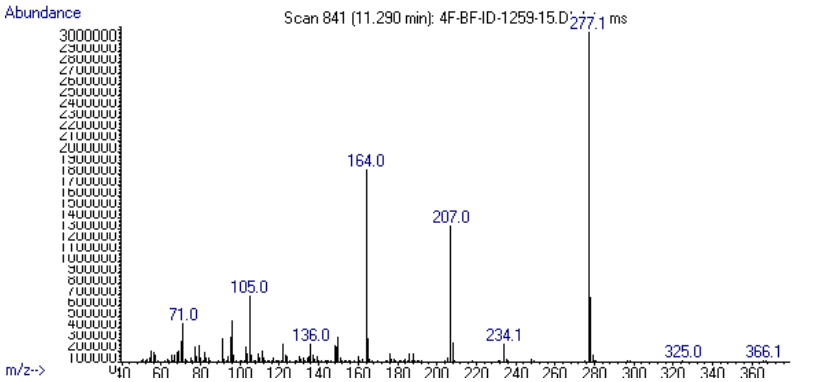
It was not possible to determine the position of –CO- group without reference material or additional analytical method

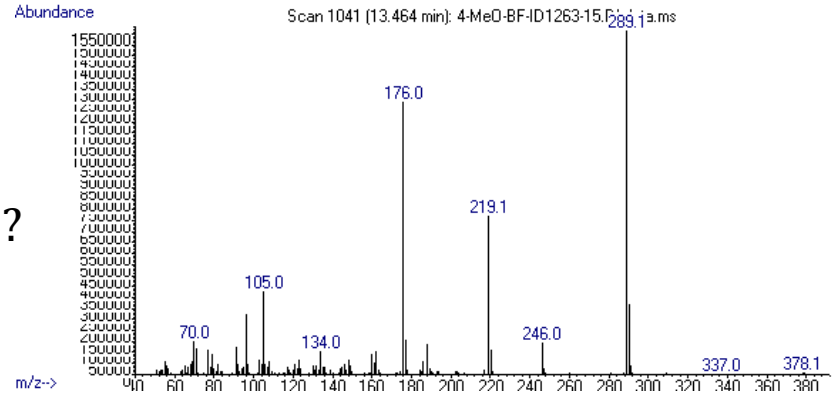
Problem:
-CO- position?



1-on (as amide)

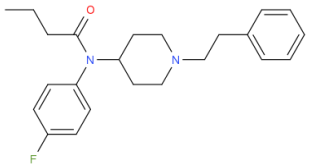
or 2-on (as ketone)?

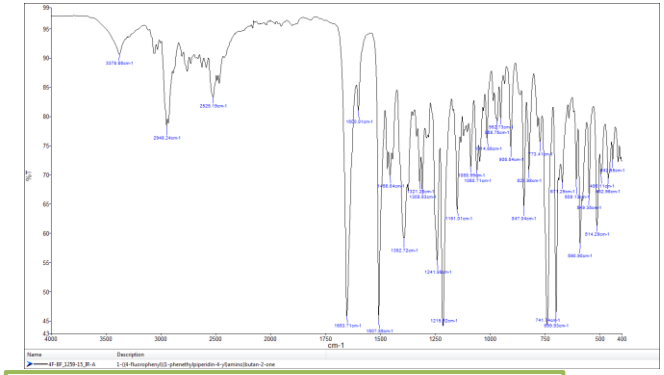




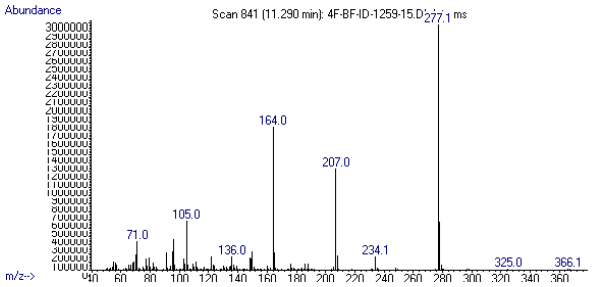
The difference between mayor peaks of both compounds is 12: the difference between mass of MeO group(31) and fluoride (19)

Analytical data of 4F-BF



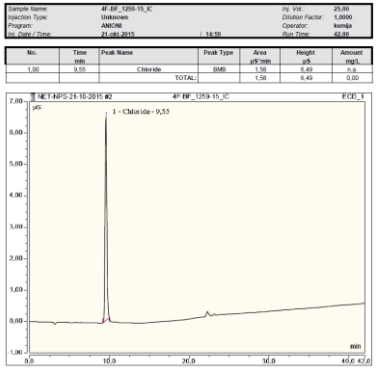


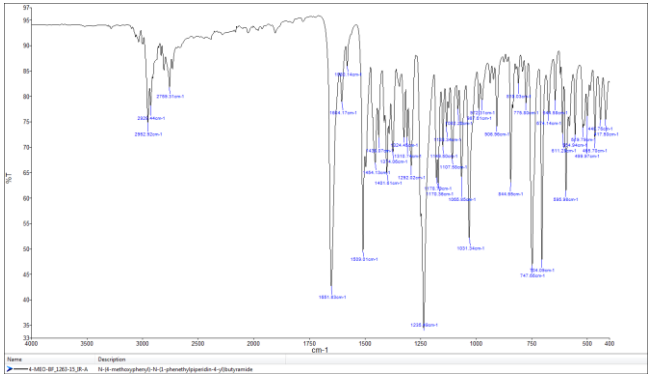
FTIR-ATR: 4F-BF as hydrochloride



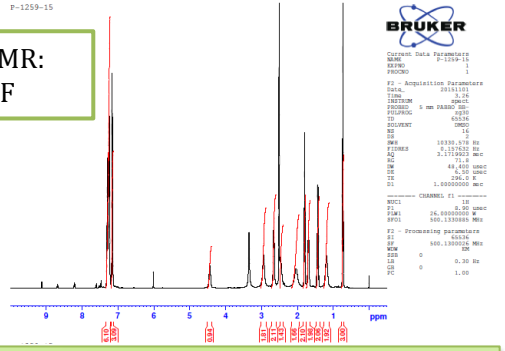
Ms spectrum of a single compound in GC: no match with any of available ms library (CaymanSpectraLibrary, SWGDRUG, NIST4, etc.)

Ion Chromatography: 4F-BF as HCl

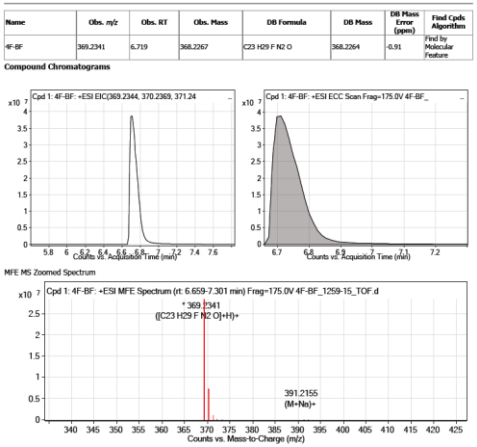




FTIR-Condensed Phase: 4F-BF as base (always)



^{1}H NMR: 4F-BF

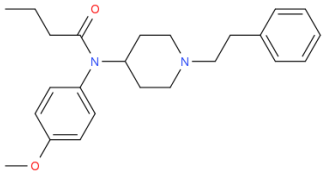


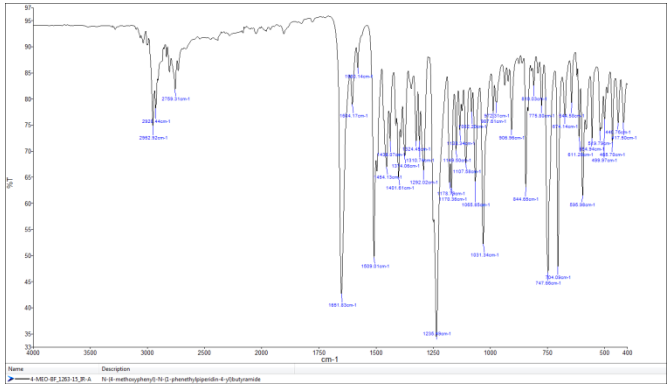
HPLC-TOF: exact mass: 368,2267 (DB Mass error -0,91ppm)
Formula: $C_{23}H_{29}FN_2O$

Result:
N-(4-fluorophenyl)-N-[1-(2-phenylethyl)piperidin-4-yl] butanamide hydrochloride

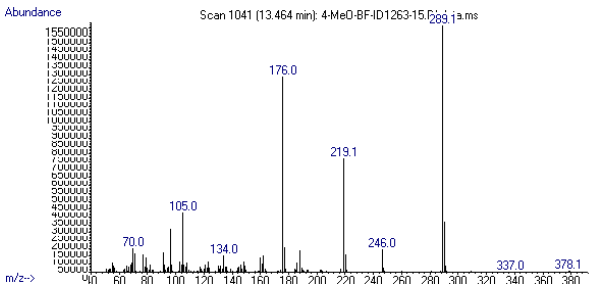
Mass: 368,496 (as base)
Formula: $C_{23}H_{29}FN_2O$ (as base)

Analytical data of 4-MeO-BF



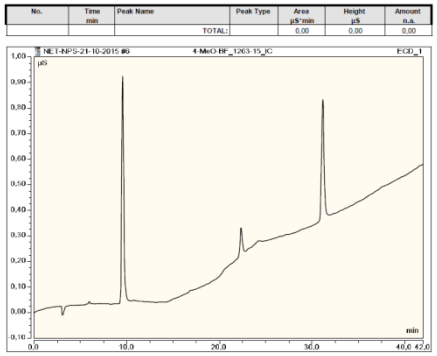


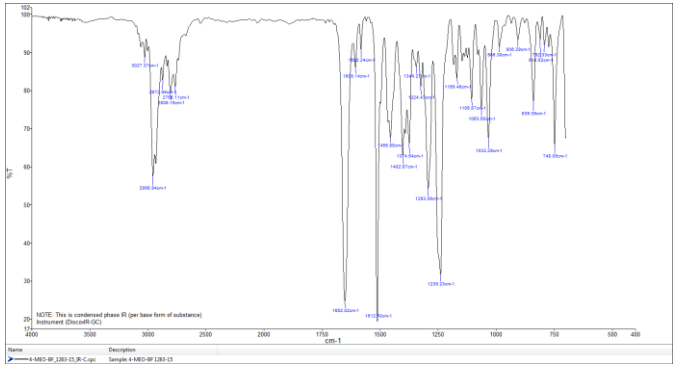
FTIR-ATR: 4-MeO-BF as base



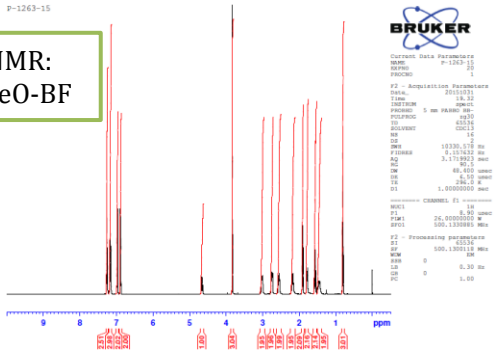
Ms spectrum of a single compound in GC: no match with any of available ms library (CaymanSpectraLibrary, SWGDRUG, NIST4, etc.)

Ion Chromatography: 4-MeO-BF as base

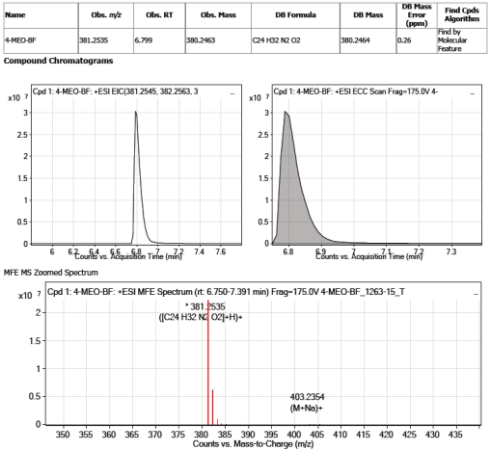




FTIR-Condensed Phase: 4-MeO-BF as base (always)



^{1}H NMR: 4-MeO-BF

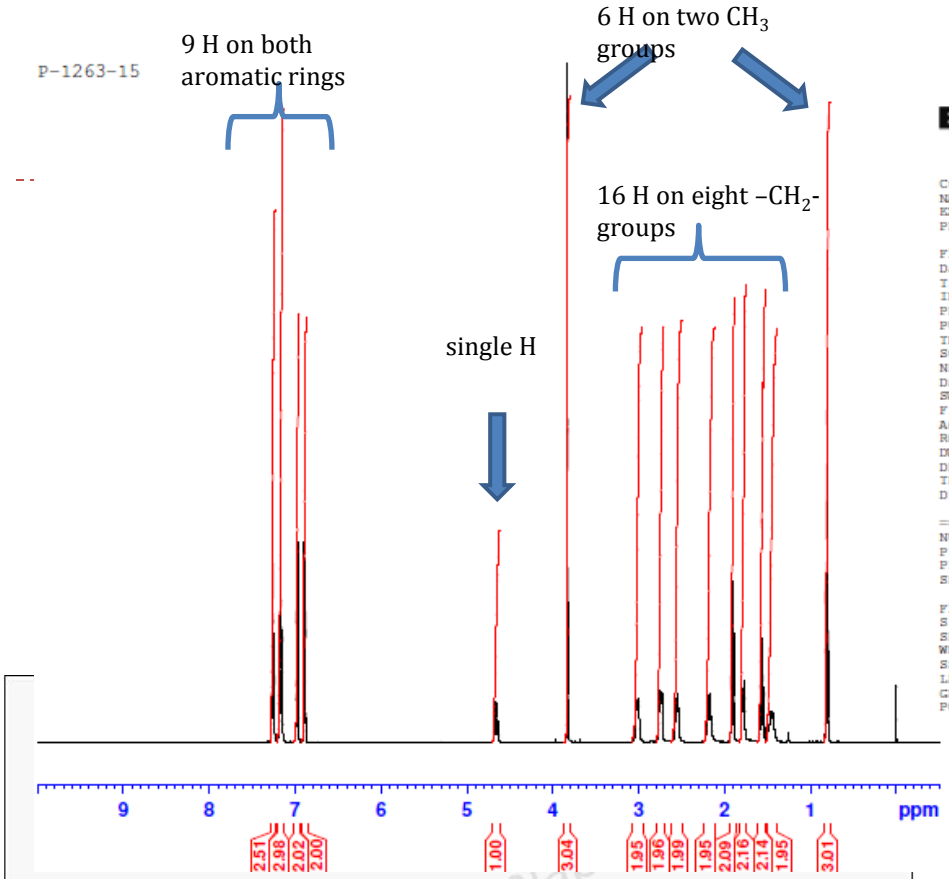


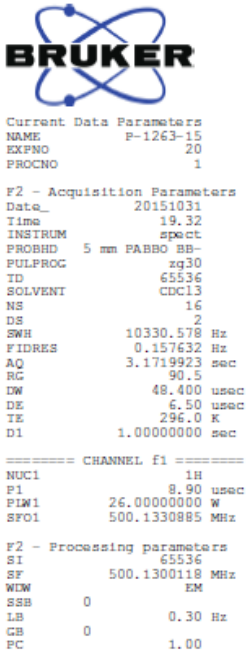
Result:
N-(4-methoxyphenyl)-N-[1-(2-phenylethyl)piperidin-4-yl]butanamide base

Mass: 380,532
Formula: $C_{24}H_{32}N_2O_2$

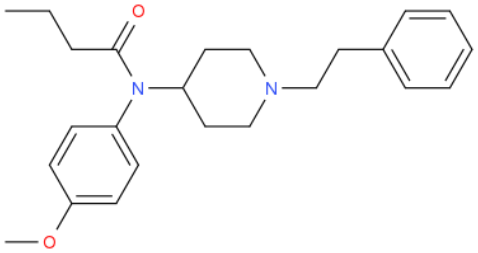
HPLC-TOF: exact mass: 380,2463 (DB Mass error +0,26ppm)
Formula: $C_{24}H_{32}N_2O_2$

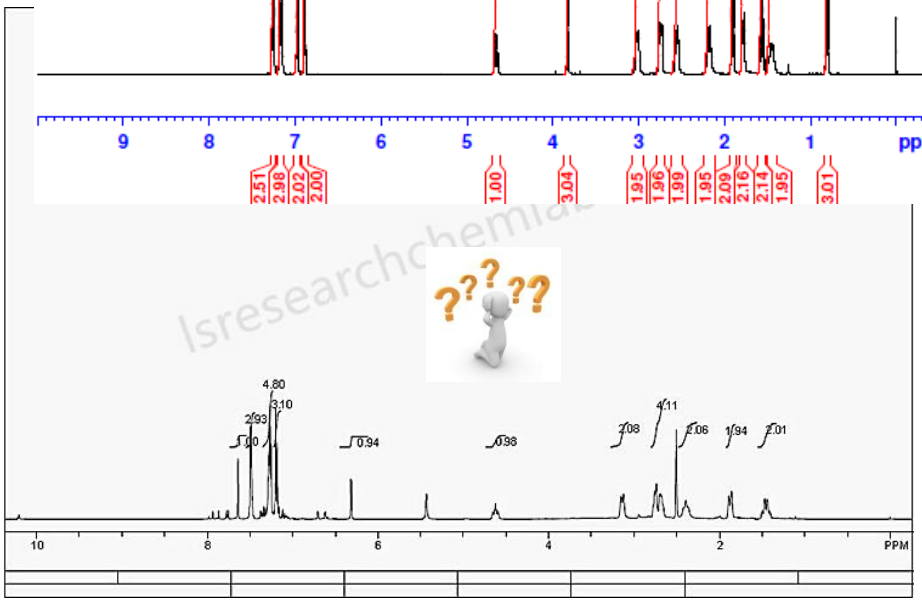
4-MeO-BF ^{1}H-NMR compared





^{1}H-NMR spectrum of 4-MeO-BF , obtained from FKKT (above) compared with the ^{1}H-NMR spectrum from the web site (below).

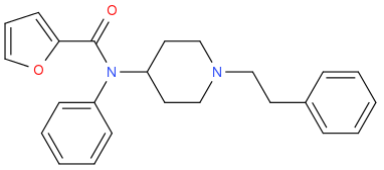


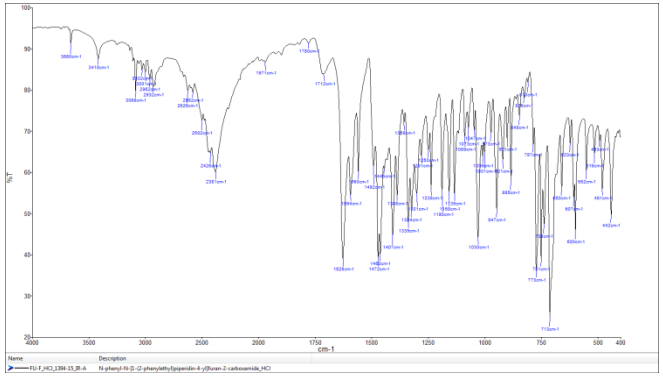


^{1}H-NMR spectrum clearly confirms 1-on structure (amide), and:

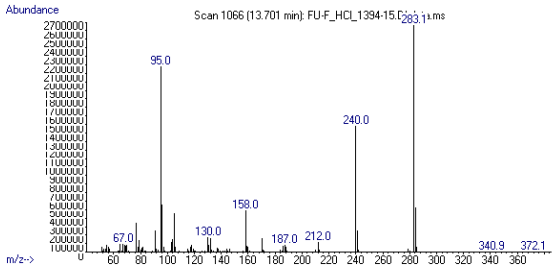
- Structure elucidation based on 1D and 2D NMR spectra
- Compound is pure by NMR.

Analytical data of FU-F



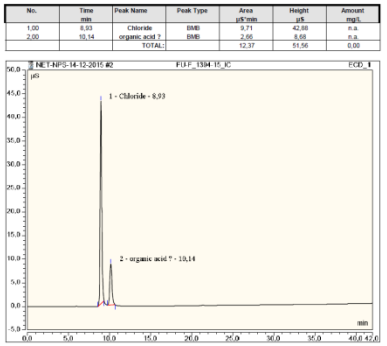


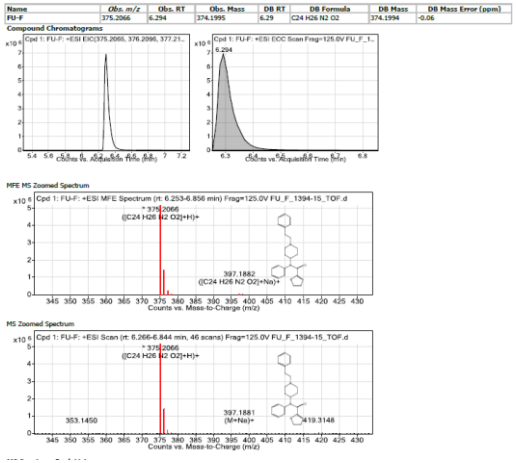
FTIR-ATR: FU-F as hydrochloride

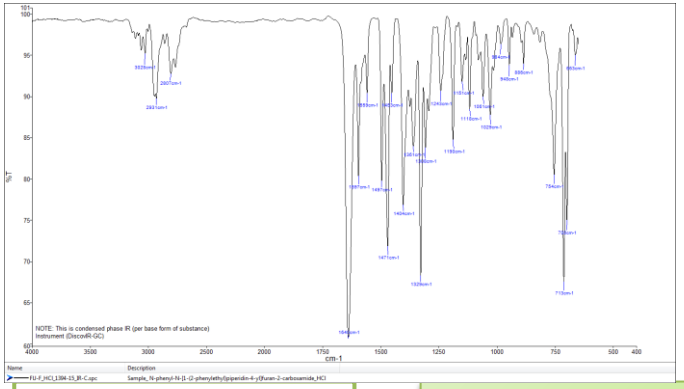


Ms spectrum of a major compound in GC: no match with any of available ms library (CaymanSpectraLibrary, SWGDRUG, NIST4, etc.); 2-Furoic acid was detected as well

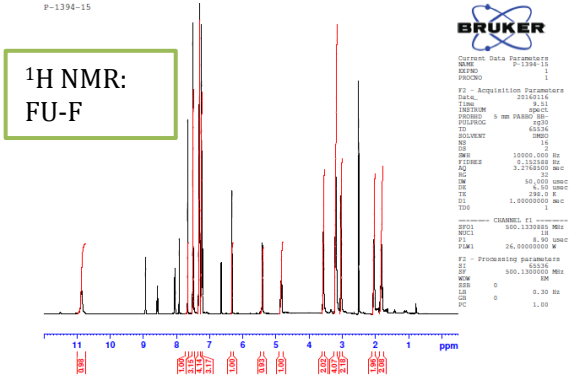
Ion Chromatography:
FU-F as hydrochloride, presence of organic acid







FTIR-Condensed Phase:
FU-F as base (always)



^{1}H NMR:
FU-F

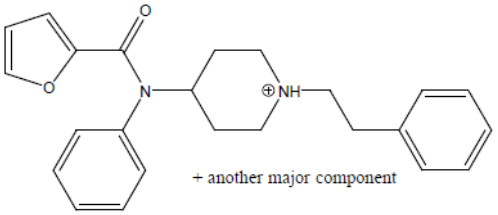
Result:
N-(1-(2-phenylethyl)-4-piperidinyl)-N-phenylfuran-2-carboxamide hydrochloride, with impurities

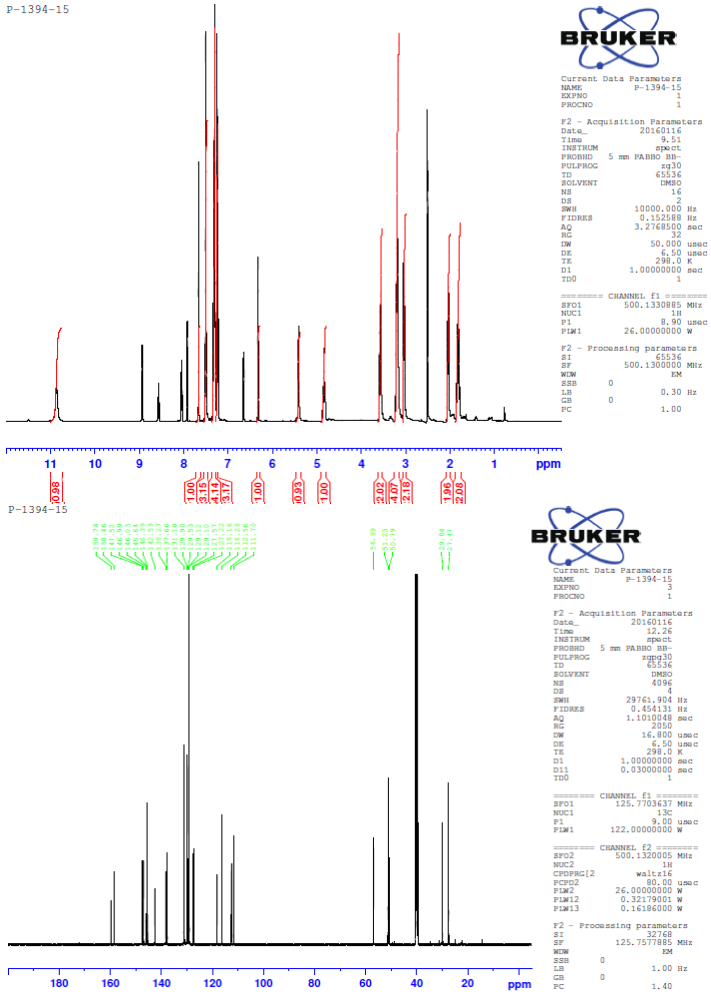
Mass: 374,484 (as base)
Formula: $C_{24}H_{26}N_2O_2$ (as base)

HPLC-TOF: exact mass: 374,1995
(DB Mass error -0,06ppm)
Formula: $C_{24}H_{26}N_2O_2$

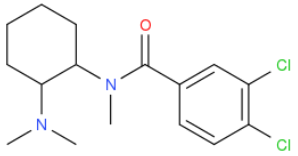
FU-F NMR results

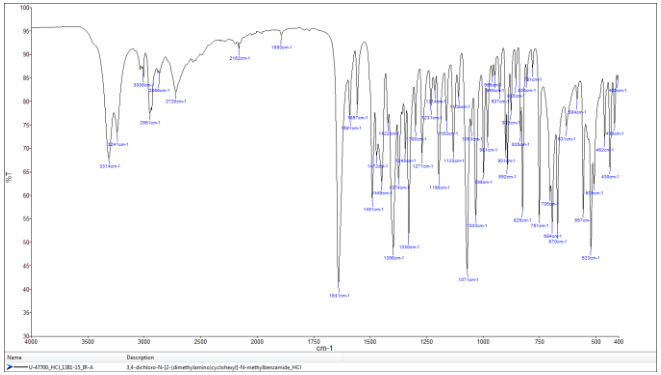
REPORT

Sample ID:	**1394-15**
Our notebook code:	P-1394-15
NMR sample preparation:	15 mg dissolved in 0.7 mL DMSO-d_6
NMR experiments:	^{1}H, ^{13}C, ^{1}H–^{1}H *gs*-COSY, ^{1}H–^{13}C *gs*-HSQC, ^{1}H–^{13}C *gs*-HMBC, ^{1}H–^{15}N *gs*-HMBC.
Proposed structure:	
Chemical name:	1-phenethyl-4-(N-phenylfuran-2-carboxamido)piperidin-1-ium
Comments:	- Structure elucidation based on 1D and 2D NMR spectra - Sample is not pure by NMR, it contains some minor impurities (around 5%). The sample, however, besides the compound with the structure proposed above, contains another major component (possible ratio 2:1) - an organic compound, containing at least one N and (hetero)cyclic ring(s) (8 aromatic/carbonyl signals in ^{13}C NMR and signals in ^{1}H NMR: 8.93, 8.57, 8.05, 7.92, 7.23, 6.65 and possibly others), it seems it has no (or just a few) aliphatic carbons. It is also possible, though unlikely, that the second major constituent is not just one compound, but mixture of more. - NB. In ^{1}H NMR spectrum below only the signals belonging to the structure proposed above are integrated, whereas in ^{13}C all prominent peaks are peak-picked.
Supporting information:	Copies of ^{1}H and ^{13}C NMR spectra
Author:	Prof. Dr. Janez Košmrlj, Doc. Dr. Krištof Kranjc
Date of report:	January 21, 2016

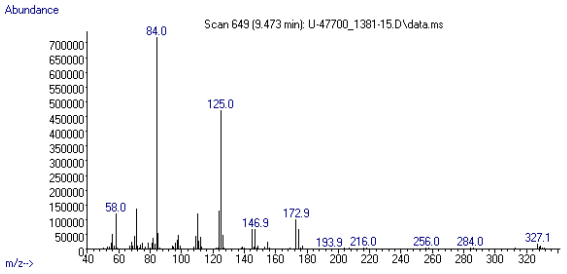


Analytical data of U-47700



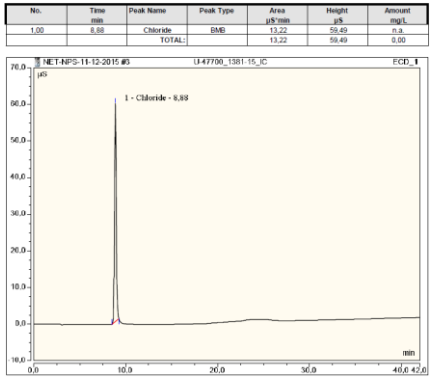


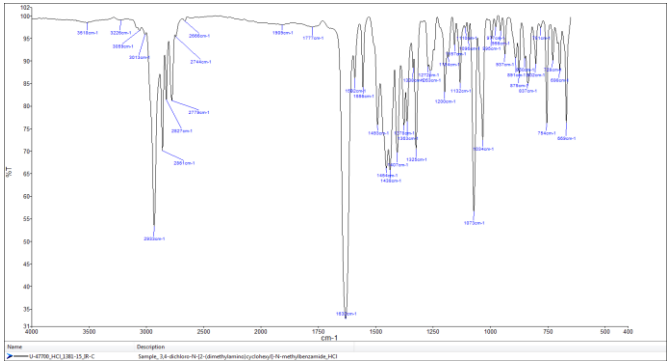
FTIR-ATR: U-47700 as hydrochloride



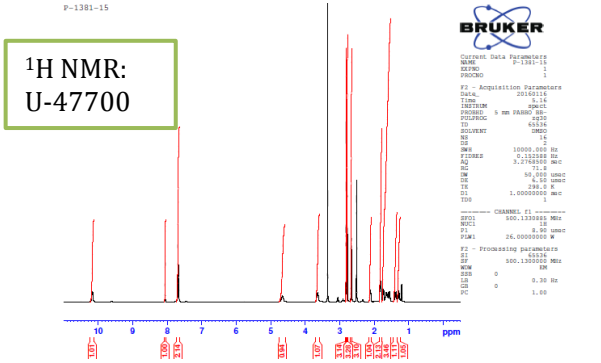
Ms spectrum of a single compound in GC: no match with any of available ms library (CaymanSpectraLibrary, SWGDRUG, NIST4, etc.)

Ion Chromatography: U-47700 as hydrochloride

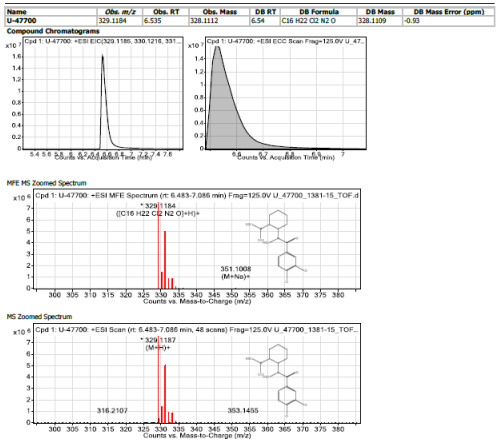




FTIR-Condensed Phase: U-47700 as base (always)



^{1}H NMR: U-47700



Result:
3,4-dichloro-N-[2-(dimethylamino)cyclohexyl]-N-methylbenzamide hydrochloride

Mass: 329,27 (as base)
Formula: $C_{16}H_{22}Cl_2N_2O$ (as base)

HPLC-TOF: exact mass: 328,1112 (DB Mass error -0,93ppm)
Formula: $C_{16}H_{22}Cl_2N_2O_2$

“Drugs monographs” database

- Chemical information on NPSs and related compounds collected in the frame of RESPONSE is joined in the “Drugs Monographs" database – an interactive table searchable along different criteria
  - http://www.policija.si/apps/nfl_response_web/seznam.php

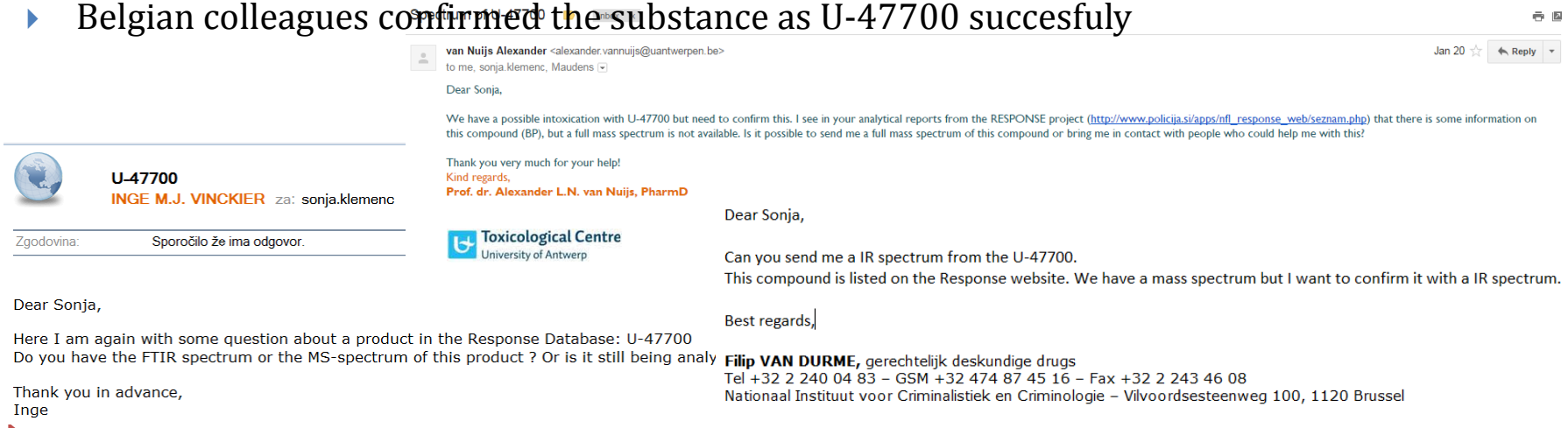
- The free access database already enhanced communications and information exchange between forensic and customs community. (example on the next slide)

Recently some new conributors have enriched the database:

- CLEN2SAND project data on novel opioids (kindly provided by the European Commission Joint Research Centre (JRC), DG TAXUD and the CLEN)
- Analytical data obtained on samples kindly provided by Forensic Institute Zurich Switzerland , HIFS Hungary , FSI Sweden and some other contributors have been implemented into the RESPONSE project database .

Information and data exchange in practice U-47700

- Preliminary characterisation data on U-47700 compound was published in "Dugs monographs" database 18/12/2015 (compound was not yet NMR confirmed at that time)
- At 20th January, 2016 we received two and at 27th January the third request from Begium:
  - From Toxicological Center of University of Antwerpwen (at 10:54 AM) – request for MS spectrum (we delivered the spectrum in electronic format (Agilent) at 11:15 AM)
  - From Customs lab 27/01/16 at 13:34 PM - request for IR and/or MS (we delivered data at 14:49)
  - From forensic lab NICC at 15:20 PM request for IR spectrum (we delivered data at17:18)
- Belgian colleagues confirmed the substance as U-47700 succesfuly



Spectrum MS U-47700

van Nuijs Alexander <alexander.vannuijs@uantwerpen.be> Jan 20 Reply
to me, sonja.klemenc, Maudens

Dear Sonja,

We have a possible intoxication with U-47700 but need to confirm this. I see in your analytical reports from the RESPONSE project (http://www.policija.si/apps/nfl_response_web/seznam.php) that there is some information on this compound (BP), but a full mass spectrum is not available. Is it possible to send me a full mass spectrum of this compound or bring me in contact with people who could help me with this?

Thank you very much for your help!
Kind regards,
Prof. dr. Alexander L.N. van Nuijs, PharmD

Toxicological Centre
University of Antwerp

U-47700
INGE M.J. VINCKIER za: sonja.klemenc

Zgodovina: Sporočilo že ima odgovor.

Dear Sonja,

Here I am again with some question about a product in the Response Database: U-47700
Do you have the FTIR spectrum or the MS-spectrum of this product ? Or is it still being analy

Thank you in advance,
Inge

Dear Sonja,

Can you send me a IR spectrum from the U-47700.
This compound is listed on the Response website. We have a mass spectrum but I want to confirm it with a IR spectrum.

Best regards,

Filip VAN DURME, gerechtelijk deskundige drugs
Tel +32 2 240 04 83 – GSM +32 474 87 45 16 – Fax +32 2 243 46 08
Nationaal Instituut voor Criminalistiek en Criminologie – Vilvoordsesteenweg 100, 1120 Brussel

Final reports: the web database “Drug Monographs”

NPS AND RELATED COMPOUNDS - ANALYTICAL REPORTS

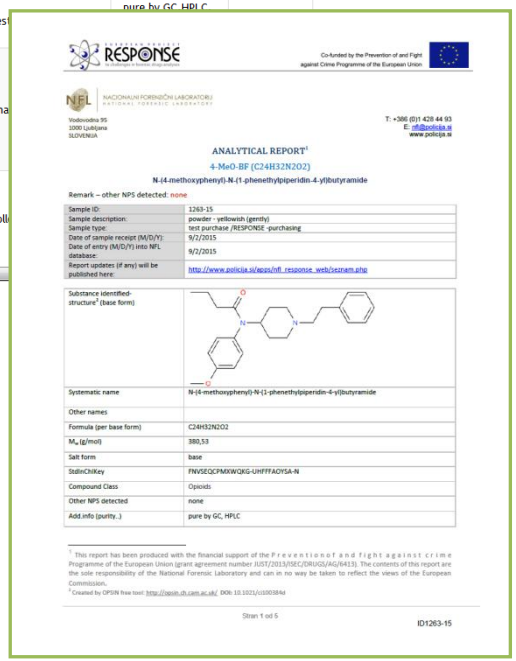
Co-funded by the Prevention of and Fight against Crime Programme of the European Union

Show 8 entries Search: opioids

Substance class	substance (NPS) common name	structure (created by OPSIN free tool)	NPS1 systematic name	other names	Formula per base form	Mw (g/mol) per base form NPS1	MS (BP1)	MS (BP2)	MS (BP3)	GC-MS-RT NFL/min	MS spectrum (picture)	StdIn ChIKey	Type of detection	comments	date of entry	rep upd
Opioids	4-MEO-BF		N-(4-methoxyphenyl)-N-(1-phenethylpiperidin-4-yl)butyramide		C24H32N2O2	380.53	289	176	219	13.46	show	FNVSEQCPMXWQKG-UHFFFAOYSA-N	test purchase		2015-09-02	2015-
Opioids	U_47700		3,4-dichloro-N-[2-(dimethylamino)cyclohexyl]-N-methylbenzamide		C16H22Cl2N2O	329.27	84	125	71	9.46	show	JGPNMZWFVRQNGU-UHFFFAOYSA-N	test purchase	Impurity detected by NMR	2015-12-18	2016-
Opioids	AH-7921		3,4-dichloro-N-[[1-(dimethylamino)cyclohexyl]methyl]benzamide		C16H22Cl2N2O	329.27	126	127	173	10.31	show	JMZROFPPEXCTST-UHFFFAOYSA-N	collected	Sample was kindly provided by Foresic Science Institute Zurich, Switzerland (NMR confirmed)	2016-01-15	
Opioids	4F-BF		1-((4-fluorophenyl)(1-phenethylpiperidin-4-yl)amino)butan-1-one	4F-BF/4-fluoro-butyrfentanyl	C23H29FN2O	368.49	277	164	207	11.29	show	QZFMCYUBPSLOBP-UHFFFAOYSA-N	tes	pure by GC, HPLC		
Opioids	VALERYLFENTANYL		N-phenyl-N-[1-(2-phenylethyl)piperidin-4-yl]pentanamide		C24H32N2O	364.52	273	146	189		show	VCCPXHWAJYWQMR-UHFFFAOYSA-N	ana			
Opioids	W-15		4-chloro-N-[1-(2-phenylethyl)-2-piperidinylidene]-benzenesulfonamide		C19H21ClN2O2S	376.90	207	104	111	15.84	show	VJHXSSVOCOBVMI-UHFFFAOYSA-N	coll			

Showing 1 to 8 of 8 entries (filtered from 303 total entries)

Table updated 22.03.2016
826 hits


RESPONSE

Co-funded by the Prevention of and Fight against Crime Programme of the European Union

NFL NACIONALNI FORENZIČNI LABORATORIJ

ANALYTICAL REPORT[1]

4-MeO-BF (C24H32N2O2)

N-(4-methoxyphenyl)-N-(1-phenethylpiperidin-4-yl)butyramide

Remark – other NPS detected: none

Sample ID:	1263-15
Sample description:	powder - yellowish (gently)
Sample type:	test purchase /RESPONSE -purchasing
Date of sample receipt (M/D/Y):	9/2/2015
Date of entry (M/D/Y) into NFL database:	9/2/2015
Report updates (if any) will be published here:	http://www.policija.si/apps/nfl_response_web/seznam.php

Substance identified-structure[2] (base form)	
Systematic name	N-(4-methoxyphenyl)-N-(1-phenethylpiperidin-4-yl)butyramide
Other names	
Formula (per base form)	C24H32N2O2
M_w (g/mol)	380,53
Salt form	base
StdInChIKey	FNVSEQCPMXWQKG-UHFFFAOYSA-N
Compound Class	Opioids
Other NPS detected	none
Add.info (purity..)	pure by GC, HPLC

[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/2015/ISEC/DRUGS/AG/8413). 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

Stran 1 od 5

ID1263-15

The analytical results are published on the RESPONSE web page: http://www.policija.si/apps/nfl_response_web/seznam.php in a searchable table form containing pdf monographs. The table enables filtering data. The page is regularly updated.

Conclusions and thoughts

❑ New syntehtic opioids are inexpensive and easly available through Internet

❑ Online shop information does not always correspond to the offered substance: incomplete or wrong names, structures and formulas, wrong salts

❑ The test purchases performed in the frame of the RESPONSE project so far, show that:

- ➢ drugs users can never be sure of what they get when buying from internet vendors.
- ➢ the rate of the "false advertised" compounds is at approximately 20% - 30%.
- ➢ this poses a serious health risks for the population of NPS users

❑ Activities which can rise the awareness are welcomed and should be enhanced at all levels (national and international EWS stakeholders are the key actors).

❑ One of the options with regard to harm reduction are also enhanced activity and capacities for the support of "anonymous testing" of samples provided by users (as for example already existing WEDINOS project).

❑ Our impression is that the internet market is still growing.

❑ China ban of 116 substances was a bit "disturbing" but the supplying chain was not seriously "endangered".

❑ What to expect with regard to "UK's Psychoactive Substances Act 2016"? Reduced supply or just movement of the web vendors to new locations?

Acknowledgements

To partners and associate partners
University of Ljubljana, Faculty of Chemistry and Chemical Technology (FKKT), Slovenia
Ministry of the Interior, National Forensic Institute (INPS), France
Hungarian Institute for Forensic Sciences (HIFS), Hungary
National Institute of Criminalistics and Criminology (INCC), Belgium
Institut for Foresic Medicine, Aarhus (UNI Aarhus), Denmark
University of Copenhagen, Faculty of Health (UNI CPHG), Department of Forensic Medicine, Denmark
Ministry of the Interior of the Republic of Croatia, Forensic Science Centre (MUP RH), Croatia

European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Portugal
Forensic Science Lab, Dublin (FSL), R Ireland
Forensic Science and Toxicology Lab, State General Laboratory, Ministry of Health (FSTL), Cyprus
Judiciary Police, Scientific Police Laboratory (SPL), Portugal
National Investigation Service Norway (KRIPOS), Norway
National Institute for Public Health (NIJZ), Slovenija
University of Ljubljana, Faculty of Medicine, Department of Toxicology (UNI LJ FM DT), Slovenia
Association DrogArt (DrogArt), Slovenia

To EU COMMISSION: ***The RESPONSE project is financially supported by the Prevention of and fight against crime Programme of the European Union (grant agreement number JUST/2013/ISEC/DRUGS/AG/6413).*** ***We kindly acknowledge this!*** *The content of this presentation is the sole responsibility of the authors and can in no way be taken to reflect the views of the European Commission.*

Co-funded by the Prevention of and Fight against Crime Programme of the European Union