16th ENFSI Drugs Working Group Meeting
May 18-20, 2010
Bled, Slovenia

PROGRAM
and
abstracts

Bled, Slovenia, 2010

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Welcome

It is a great pleasure to host the **16th ENFSI DRUGS WORKING GROUP MEETING,** 2010 taking place in Bled, in the beautiful Alpine part of Slovenia.

The aim of the meeting is to gather scientists from European Forensic Laboratories and guests from other relevant organisations all over the world, willing to share their thoughts, knowledge, skills and research projects in the area forensic drug investigation.

The scientific program will include oral and poster presentations, presentations from guests and new members. Reports of Drugs working group subcommittees and discussion about the future activities will be the part of the meeting as well.

We hope that the beauty of the mountains reflected on the lake Bled, the sun, the serenity and the fresh air will inspire scientifically and socially and arouse pleasant feeling.

We would especially like to thank our sponsors for their generous contributions that helped significantly the organisation of the Meeting.

Dr. Sonja Klemenc

PROGRAM

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PROGRAM

Time	**Tuesday, May 18**
14.00 -16.00	Registration (conference fee) and get together at meeting hotel.
16.00	Welcome by Head of Forenisc Research Centre /Ministry of the Interior, Slovenia, Mr. Franc Sablič. Welcome and practical issues. **Michael Bovens**, Scientific Forensic Service, Zürich, Switzerland and **Sonja Klemenc,** Ministry of the Interior, Forensic Research Centre, Slovenia
16.15	Session I: Scientific session/Short presentations **Chair: Maja Jelena Petek,** Ministry of the Interior, Forensic Science Centre "Ivan Vučetić", Croatia **1.** Profiling of Cannabis Sativa Samples from Different Seizures on the Area of Southern Serbia. **Nataša Radosavljević-Stevanović-Vuksan,** Ministry of Interior, National Crime-Techniques Center, Serbia. (15 min) **2.** Cocaine Chemically Bonded into Copper-cocaine-iodine Complex? **Sonja Klemenc** and Tomaž Gostič**,** Ministry of the Interior, Forensic Research Centre, Slovenia. (20 min) **3.** Quantification of Heroin by UHPLC, **Grith Kastorp**, Department of Forensic Medicine, University of Århus, Denmark. (10 min)
17.00 -	Experimental session – Social time. Key Words- • Questions/Answers: We Don't Dare to Ask • Special cases we want to share in an informal way[1]

[1] follow link to: Special cases

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Time **Wednesday, May 19**

09.00 Session II: DWG activities

Chair: Júlia Nagy, Institute of Forensic Sciences, Hungary.

Reports of subcommittees and discussion about the future activities

- **QA Subcommittee - Udo Zerell**, Bundeskriminalamt, Wiesbaden, Germany. (15 min)
- Results & Conclusions of **Proficiency Test - Wolf Rainer Bork**, Landeskriminalamt KT 41, Berlin, Germany. (30 min)
- **Drug profiling subcommittee - Sylvia Burns**, Forensic Science Service, Birmingham, UK. (30 min)
  Results and conclusions of heroin profiling proficiency test.

10.15 Coffee Break – Poster session / exhibitions from sponsors

1. An Overview of New Active Substances on Croatian Illicit Drug Market in 2009. Ivana Antunović and **Maja Jelena Petek,** Ministry of the Interior, Forensic Science Centre "Ivan Vučetić", Zagreb, Croatia.
2. Illicit Drug Laboratories in Hungary 2009-2010. **Edina Bánfai**, Tibor Varga, Institute for Forensic Sciences, Budapest, Hungary.
3. Sample preparation for HPLC determination of total cannabinoid content of marijuana samples**.** Róbert Berde*, Jenő Fekete*, **Júlia Nagy****, Tibor Veress**, Budapest University of Technology and Economics, Department of Inorganic and Analytical Chemistry Hungary; **Institute for Forensic Sciences, Hungary
4. The mass spectrometric properties and identification of some N,N-di-(β-arylisopropyl)formamides related to arylisopropyl-amines chemistry. **Blachut Dariusz,** Forensic laboratory Internal security, Poland.

P5 – P12. Posters from Ministry of the Interior, Forensic Research Centre, Slovenia.

5. Heroin in Slovenia - An Overview for 2009 and Quick Look into the Past, S. Klemenc, C. Kalinger.
6. Unusual Ways of Cocaine Smuggling, T. Gostič, B. Koštrun, S. Klemenc
7. Some Validation Experiments on Microscopic Examination Combined with »NIK E« Cannabis Field Test, B. Nemec, S. Klemenc
8. New on Slovenian Illicit Drug Market, B. Koštrun, M. Janežič, S. Klemenc.
9. Cannabis Yield Estimation, A. Hiti, Ž. Zajec, T. Premuš, R. Koren.
10. Cocaine Samples Seized in Slovenia – an Overview, T. Gostič, C. Kalinger
11. Cannabis Seizures - an Overview, A.Hiti, Ž. Zajec, R. Koren
12. An Overview of Illicit Tablets seized in Slovenia in the Period 2007-2009, M. Janežič, B. Nemec, K. Kos

11.15 Session II (continues): DWG activities

- Education and training subcommittee – **Irene Breum Müller**, Department of Forensic Chemistry, University of Copenhagen, Denmark. (15 min)

- Sampling for quantification – **Michael Bovens**, Scientific Forensic Service, Zürich, Switzerland (20 min)

- Communication Subcommittee – information of the homepage – update of MS-library - **Mogens Johannsen,** University of Århus, Denmark and **Crista Van Haeren,** National Institute of Criminlistics and criminology, Belgium. (10 min)

12.00 New activities (subcommittees)- discussion.

12.15 Lunch

13.45 Session III: Scientific session
Chair: Celia Dyke, Scottish Police Services Authority, Forensic Services, Dundee

1. Carbamate formation during two-phase liquid extraction of phenethylamines from alkaline water solution into the ethanol stabilized chloroform**, Mojca Janežič,** Ministry of the Interior, Forensic Research Centre, Slovenia (20 min)
2. A study of regional cocaine market in Denmark using profiling of alkaloids and residual solvents. **Christian Lindholst,** Department of Forensic Medicine, University of Aarhus, Denmark (20 min)

3. The Cannabis Trail - The potential use of Cannabis DNA in the investigation of cannabis factories. Matthew Hickson, Anne Franc**,** LGC Forensics, Abingdon Oxon, England (20 min)

14.50 Coffee break.
Poster session/ exhibitions continues

15.40 Session IV: Scientific session
Chair: Peep Rausberg, Estonian Forensic Science Institute, Tallinn, Estonia.

Presentations from Guests and new members:

1. New updates from SWGDRUG, **Scott Oulton**, DEA, Southwest Laboratory, Vista, California, USA.(15 min)
2. European Early warning system on new drugs - How technological innovation challenge, how we think about and respond to drugs, **Ana Gallegos**, EMCDDA, Portugal. (15 min)
3. "New updates from UNODC and cooperation in quality assurance", **Iphigenia Naidis**, UNODC. (20 min)
4. MSMS Library searching in forensic samples using Liquid-Chromatography Quadrupole-Time-of Flight Mass spectrometry Hardware Performance and Search Strategies, **Bernhard Wüst**, Agilent Technologies Sales und Service GmbH & Co.KG, (30 min)

17.00 End of Day 2

17.30 Social program

20.00 Dinner

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Time	**Thursday, May 20**
09.00	Session V: Scientific Session / Reports **Chair: Halim Topal**, Gendarmerie Forensic Department, JKBD, Ankara, Turkey. Sampling uncertainty in quantification of illicit drugs - principles and practice. **Tamás Csesztregi,** Institute for Forensic Sciences, Hungary. (20 min).
09.25	Presentation of Report from National Academy of Science, **Scott Oulton,** DEA. Discussion about this NAS report, specially on harmonisation of terminology in reporting conclusions.
10.10	Outcome of the discussions and presentations, future activities arising from these.
10.30	Coffee break
11.00	Evaluation form to be answered
11.15	Conclusions and closing of scientific meeting Short announcement of the next 17th ENFSI DWG meeting in 2011, Ankara, Turkey.
11.30	Lunch
13.00	Session VI: Business Meeting **Chair: Michael Bovens,** Scientific Forensic Service, Zürich, Switzerland (one member per laboratory)
15.15	Conclusions and closing of business meeting
15.45	Steering committee meeting, UNODC, SWGDRUG and EMCDDA **Chair: Michael Bovens**, Scientific Forensic Service, Zürich, Switzerland

ORAL PRESENTATIONS ABSTRACTS

(not available for all presenations)

PROFILING OF *CANNABIS SATIVA* SAMPLES FROM DIFFERENT SEIZURES ON THE AREA OF SOUTHERN SERBIA

Natasa Radosavljevic-Stevanovic[1], Milena Jovanovic[1], and Niko Radulovic[2]

[1]Ministry of Interior, National Crime-Techniques Center, 11000 Belgrade, Serbia
[2]Faculty of sciences and mathematics, University of Nis, 18000 Nis, Serbia

natasa.radosavljevicstevanovic@mup.gov.rs

Key words: *Cannabis sativa,* GC/MS, cannabinoids

Abstract. In order to supply the characterization of the marijuana samples from the seizures of the planted material on the area of the southern part of Serbia, 10 different samples were examined. The content of the cannabinoids was determined. The GC/MS method was used for the purpose of the analyses. The obtained results showed that the territory of the southern Serbia has extremely good geographical and climate conditions for the marijuana production.

COCAINE CHEMICALLY BONDED INTO COPPER-COCAINE-IODINE COMPLEX?

Sonja Klemenc, **Tomaž Gostič**

Ministry of the Interior, Forensic Research Centre, 1000 Ljubljana, Slovenia

e-mail: sonja.klemenc@policija.si

Key words: cocaine- smuggling/cocaine-copper-iodine complex /

Abstract. A case study is presented where the Customs officers in Slovenia checked the material declared as ceramic adhesive/tile grout. The suspicious material was tested for drugs by presumptive tests. Reactions were negative, but anyway, material was sent to the forensic laboratory for further investigation. The total weight of the suspicious material was 250 kg.

In the forensic laboratory the material was tested again by presumptive cobalt (II) thiocyanate reagent on cocaine. Reaction was negative. By the routine laboratory procedure, i. e. extraction of sample into chloroform followed by GC-MS analysis, we found only small amount of cocaine and coca ethylene (≈3%). Since this seemed unreasonably small quantity of drug, we tested different extraction procedures. Finally, after the extraction from alkaline water solution into $CHCl_3$, GC-MS results revealed the presence of cocaine (aprox. 30%) as well cocaethylene, benzoylecgonine and traces of ethanol. We estimated that samples contain over 50% of inorganic material. Confiscated exhibits of a tan powdered material were analyzed by SEM-EDX as well.

Based on GC-MS, SEM-EDX, low solubility of cocaine in $CHCl_3$ and negative results of preliminary testing we presumed that cocaine might have been chemically bonded possibly into a copper-cocaine-iodine complex.

QUANTITATIVE SAMPLING SUBCOMMITTEE UPDATE APRIL 2010 BLED

Anne Franc[a]
(presented by Michael Bovens[b])

[a] LGC Forensics, Abingdon Oxon, England
[b]Scientific Forensic Service, Zürich, Switzerland

e-mail: anne.franc@lgcforensics.com

Key words: sampling theory, preliminary study, uncertainty, guideline

Abstract. Quantitative Sampling Subcommittee outlined a basic sampling concept for large amounts of common drug types in 2008-2009 – based on experimental data (provided by DWG member laboratories in a preliminary sampling study) and theoretical background (Pierre Gy's sampling theory). Results were presented in Athens (April 2009).
Over the last year the Subcommittee received additional data for preliminary sampling study from member laboratories. Preliminary calculations were updated with these new experimental results.
A survey of Sampling techniques and equipment was undertaken to collect information about the currently used techniques and instruments in member laboratories and their experiences (pros and cons) of these methods. Result of this survey will be summarized in this presentation.
Estimation methods of sampling uncertainty (recommended by EURACHEM/CITAC guide) were compared to establish the statistical approach for uncertainty in chapter 'Reporting Considerations'.
Structure of guidelines was refined and detailed topics were assigned to chapters in subcommittee meeting (November 2009, Budapest). Very first drafts of chapters are currently being written by subcommittee members.

CARBAMATE FORMATION DURING TWO-PHASE LIQUID EXTRACTION OF PHENETHYLAMINES FROM ALKALINE WATER SOLUTION INTO THE ETHANOL STABILIZED CHLOROFORM

Mojca Janežič

Ministry of the Interior, Forensic Research Centre, 1000 Ljubljana, Slovenia

e-mail: mojca.janezic@policija.si

Key words: phenethylamines, chloroform, carbamates, two-phase liquid extraction, GC-MS

Phenethylamines and other drugs must be previously extracted from the sample for the analysis by GC-MS. To this purpose two-phase liquid extraction in alkaline water medium with non-polar solvent is used. As non-polar solvent sometimes, especially in toxicology, chloroform is still used, although it is known that certain artifacts form with chloroform by-products while extracted from a strong alkaline aqueous solution.

Here we present the occurrence of phenethylamine carbamates derived from ethyl carbamate. Ethyl carbamate is an intermediate compound formed with dichlorocarbene in ethanol-stabilized chloroform. We tested a number of different manufacturers of chloroform and identified the resulting carbamates from various phenethylamines solutions. Phenethylamine carbamates were confirmed by the synthesis from phenethylamines using ethylchloroformate. Mass spectra of carbamate phenethylamines will be presented as well.

A STUDY OF A REGIONAL COCAINE MARKET IN DENMARK USING PROFILING OF ALKALOIDS AND RESIDUAL SOLVENTS

Kim B. Gosmer[a], Palle V. Fredsted[b], Christian Lindholst[a]

[a] Section for Toxicology and Drug Analysis, Department of Forensic Medicine, Aarhus University, Brendstrupgaardsvej 100, 8200 Aarhus N, Denmark
[b] Bioinformatics Research Centre, Aarhus University, C.F. Møllers Allé 8, 8000 Aarhus C, Denmark

e-mail: cl@forensic.au.dk

Key words: cocaine, profiling, local drug market, alkaloids, solvents

Abstract.
The illegal cocaine market in Jutland, Denmark, was studied by profiling all seized cocaine samples during a period of 12 months starting July 2008. A total of 179 adulterated samples from 107 cases were subjected to GC-MS analysis for the profiling of alkaloids and HS-GC-MS analysis for the profiling of residual solvents. Comparisons of the samples were conducted using peak area data from a total of 10 cocaine alkaloids and 19 residual solvents, respectively. Pearson and cosine2 distance calculations between samples were performed on 4th root transformed and standardized data. Classification and evaluation of sample data was performed using the calculated distances and to some extent also PCA modeling.
The main objectives of the study were to address issues relating to a regional drug market and to demonstrate that the approach may reveal useful intelligence applicable to the police. How many batches of cocaine are in circulation? How long time is a batch in circulation? Can any local trends (e.g. dealer networks) be established using this approach? Preliminary results indicate that there are numerous different batches of cocaine on the drug market simultaneously. The maximum time span between two linked seizures were 6 months. Local trends can be established from the regional data indicating that batches are sold locally.

SAMPLING UNCERTAINTY IN QUANTIFICATION OF ILLICIT DRUGS – PRINCIPLES AND PRACTICE

Tamás Csesztregi[a]

[a] Institute for Forensic Sciences, 1087 Budapest, Hungary

e-mail: csesztregi.tamas@orfk.police.hu

Key words: sampling, uncertainty, sampling errors, sampling theory, analysis of variances, split absolute difference

Abstract. The Quantitative Sampling Subcommittee prepares recommended sampling plans for various drug types and amounts. Evaluation of uncertainty arising from sampling is a useful tool for performance characterization of these protocols – laboratories can select or develop sampling plans appropriate for their purposes.
Three evaluation methods for sampling uncertainty are described and compared using results of seized materials from real life.

Topics:

- Uncertainty of the validated analytical method
- Complete uncertainty budget of sampling and analysis
- Sources of uncertainty: material and procedure – according to Pierre Gy's sampling theory
- Homogenization of a small seizure versus sampling of a big seizure
- Comparison of methods for quantifying sampling uncertainty – principles and results:
    - Estimation from the characteristics of the material
    - ANOVA method for uniform/diverse sampling targets
    - Split absolute/relative difference method

'THE CANNABIS TRAIL' POTENTIAL USE OF CANNABIS DNA PROFILING IN THE INVESTIGATION OF CANNABIS FACTORIES IN THE UK

Anne Franc[a]
(presented by Matthew Hickson[a]**)**
[a] LGC Forensics, Abingdon, Oxon OX14 3ED
United Kingdom

e-mail: anne.franc@lgcforensics.com

Key words: Cannabis, Cultivation, DNA profiling, Organised Crime Groups, Data base

Abstract. The main aim of this project was to develop a DNA profiling method for Cannabis that would be capable of providing intelligence, that might provide links between cannabis factories, run by specific organised crime groups.
A Cannabis STR DNA profiling method (based on existing published work) was developed and optimized at LGC Forensics using the same equipment employed for human DNA profiling This method was then used to profile known reference plant samples (mother plants and clonal offspring) and then plant samples from local cannabis factories were collected and profiled.
Phase two of the project is the collection and profiling of cannabis plant samples from factories all over the UK to investigate how many different cannabis DNA profiles are represented and their distribution across the UK. The ultimate aim is to construct a Cannabis DNA database.

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POSTER PRESENTATIONS
ABSTRACTS

AN OVERVIEW OF NEW PSYCHOACTIVE SUBSTANCES ON CROATIAN ILLICIT DRUG MARKET IN 2009

Ivana Antunović[1] and Maja Jelena Petek [1]

[1] Ministry of the Interior, Forensic Science Centre "Ivan Vučetić", Zagreb, Croatia

e-mail: mpetek@mup.hr

Keywords: Mephedrone, Buthylone, Methylone, TFMPP, 2C-B, GC-MS

During 2009 in Croatia there were eight cases with seized material containing psychoactive substances that were not previously encountered on Croatian illicit drug market.

Seized samples were preliminary analysed with thin-layer chromatography (TLC). Since TLC results showed no matches to drugs commonly found in Croatia, in order to determine chemical structure of unknown compounds, we performed qualitative gas chromatography-mass spectrometry (GC-MS) analyses of seized material, using usual screening method suitable for identification of controlled substances. By comparing mass spectra of unknown samples to ENFSIDWG-MSlibrary_2009, we successfully identified following psychoactive substances: mephedrone (in tablets and powder), buthylone (in tablets and capsules), methylone (in tablets), trifluoromethylphenyl-piperazine (TFMPP, in tablets) and 2,5-dimethoxy-4-bromophenethylamine (2C-B, in tablets).

In Croatia, mephedrone, TFMPP and 2C-B are controlled substances, whereas methylone and buthylone currently aren´t. Depending on further quantity of seizures, Government Bodies will asess the risk of these compounds and decide whether to put them on the List of controlled substances. The latest change of Croatian List took place in January 2010, when mephedrone was included.

ILLICIT DRUG LABORATORIES IN HUNGARY 2009-2010

Edina Bánfai, Tibor Varga

Institute for Forensic Sciences, 1087 Budapest, Hungary

e-mail: banfaie@orfk.police.hu

Key words: illicit laboratories, amphetamine, methamphetamine, 2C-B

Abstract. According to the police statistics finding illicit laboratories in Hungary are very rare. In the last year two cases were detected in the central region.

In July 2009 an amphetamine laboratory was seized in the middle of Budapest, operated by a professional chemist. Amphetamine was synthesized from benzaldehyde using nitroethane and $LiAlH_4$, but chemicals and tools for 2C-B synthesis [2-(4-bromo-2,5-dimethoxy-phenyl)ethanamine] were also found. (2C-B laboratory near Budapest was seized in 2007.)

The first methamphetamine laboratory in Hungary was detected in January 2010. Ephedrine was extracted from different medicines to get methamphetamine using ammonia and lithium. The amateur "chemist" learnt this procedure from the television.

Applied methods and equipments are presented on the poster.

THE MASS SPECTROMETRIC PROPERTIES AND IDETIFICATION OF SOME N,N-DI-(β-ARYLISOPROPYL)FORMAMIDES RELATED TO ARYLISOPROPYLAMINES CHEMISTRY

Dariusz Błachut[c], Witold Danikiewicz[b], Marian Olejnik[b], Krystyna Wojtasiewicz[a], Joanna Szawkało[a] and Zbigniew Czarnocki[a]

[a)] Faculty of Chemistry, Warsaw University, Pasteura 1, 02-093 Warsaw, Poland
[b)] Institute of Organic Chemistry, Polish Academy of Sciences, Kasprzaka 44/52, 01-224 Warsaw, Poland
[c)] Forensic Laboratory, Internal Security Agency, 1 Sierpnia 30A, 02-134 Warsaw, Poland

d.blachut@abw.gov.pl

Key words: amphetamines, synthesis, Leuckart impurities

The appearance of illegally prepared novel members belonging to amphetamine family commonly referred to as "designer drugs" required improved method for their unambiguous identification. The best method to investigate the "street" amphetamines seems to be gas chromatography coupled with mass spectrometry (GC-MS), which has been considered as a method of choice, since it provides appropriate sensitivity and specificity. Complementary methods, including infrared spectrometry and nuclear magnetic resonance techniques are sometimes used providing higher level of confidence, especially when dealing with closely related ring-substituted regioisomers.

Another important aspect of forensic drug chemistry is determination of the method of illegal preparation. This is usually done by screening selected impurities including starting materials, intermediates, and product of side-reactions. Due to relatively complex composition and low abundance of these compounds in the final product, the results must basically rely on the GC-MS analysis.

In the course of our studies [1, 2] on various impurities present in methoxyamphetamine isomers synthesised by the Leuckart method, we have reported the results of electron-impact decomposition of arylisopropyl/arylphenylacetone derived Schiff bases [3]. The present communication deals with the synthesis, identification in final product, and mass spectrometric behaviour of three isomeric *N,N*-di-(β-methoxyphenylisopropyl)formamides, N,N-di-[β-(3,4-methylenodioxyphenyl)isopropyl)formamide and their *des*-methoxy analogue, N,N-di-(β-phenylisopropyl)formamide. According to the high resolution mass measurements as well as B/E and MIKE spectroscopy the main fragmentation routes established for synthesised impurities are given.

The Leuckart synthesis, when applied to any ring substituted arylacetones instead of phenylacetone (BMK), can be readily used for preparation of the number of ring modified amphetamine analogues. In such cases the knowledge of the general fragmentation behaviour of the N,N-di-(β-arylisopropyl)formamides and their closely related derivatives may be helpful in recognition of any ring substituted members of this family, even in the absence of the necessary reference material. This information led us to preliminary identification of new impurity, N,N-di-[β-(4-methylthiophenyl)isopropyl]amine in 4-methylthioamphetamine (4-MTA) produced by the Leuckart method.

This work was supported by the Polish State Committee for Scientific Research, Grant N N204 241834.

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SAMPLE PREPARATION FOR HPLC DETERMINATION OF TOTAL CANNABINOID CONTENT OF MARIJUANA SAMPLES

Róbert Berde*, Jenő Fekete*, Júlia Nagy**, Tibor Veress**

*Budapest University of Technology and Economics, Department of Inorganic and Analytical Chemistry Szt. Gellért tér 4. Budapest, 1111-Hungary

**Institute for Forensic Sciences
P.O. Box 314/4 Budapest, 1903-Hungary

Marijuana is the most frequent drug among illicit drugs encountered in the Hungarian black market. Psychoactive principles of marijuana are delta-9-tetrahydrocannabinol (THC) and potentially, its acidic derivatives, the THC-acids which can easily undergo decomposition via thermal decarboxylation, resulting in THC and carbon dioxide, as it occurs when marijuana is smoked. According to the present legal regulation in Hungary, the determination of only the THC is requested by the law enforcement authorities. Because of the lability of THC-acids, as potentially active ingredients, the quantification of THC chemically equivalent to THC-acids is also reasonable in order to characterize the marijuana as far as its biological activity is concerned. For comparative purposes the knowledge of composition of both neutral and acidic cannabinoids is also an important feature.

According to several authors gas chromatography (GC) is suitable for the direct determination of the so-called total cannabinoid content which is the sum of neutral cannabinoids and ones being equivalent to acidic cannabinoids because the later ones decarboxylate at the conditions of GC[1-2]. Despite thermal lability of cannabinoid acids there are doubts regarding the wasteless decarboxylation of cannabinoid acids at the high temperature of injection for GC analysis.[3] High performance liquid chromatography (HPLC) is a suitable technique for the determination of neutral and acidic cannabinoids separatelly, but application of reliable standards of cannabinoids acids is not simple because of their lability. There are two-stage procedures for determination of both neutral and acidic cannabinoids with HPLC which are based on analysis of heated and non-heated samples, obtaining the total and neutral cannabinoid contents, respectivelly.[4-5]

In this work we aimed to develop a sample preparation based on thermal decarboxylation of cannabinoid acids in the presence of an oil and an antioxidant additive. The proposed procedure allows the wasteless production of neutral cannabinoids being equivalent to acidic ones for the reliable determination of total cannabinoid content of marijuana samples applying normal-phase HPLC analysis.

The performance characteristics of the new method are compared with that of methods suggested in ref. 3.

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HEROIN IN SLOVENIA - AN OVERVIEW FOR 2009 AND QUICK LOOK INTO THE PAST

Sonja Klemenc, **Carmen Kalinger***

[a] Ministry of the Interior, Forensic Research Centre, Vodovodna 95, 1000 Ljubljana, Slovenia

e-mail: sonja.klemenc@policija.si

Key words: illicit heroin /purity /adulterants/Slovenia/

Abstract. An overview of chemical characteristics of illicit heroin samples sized in Slovenia in 2009 and some comparisons with previously sized heroin (from 1995-2001 and 2006-2008) samples will be presented.
Studies revealed that the average purity on street level (22%-23%) is stabile for the last three years. There are only minor differences in different parts of Slovenia. Most of samples contain heroin in the base form. There is no strong evidence for extensive adulteration of samples on the street level. Adulterants in 2009 were 100% paracetamole and caffeine combination. Two atypical gross seizures were confiscated in 2009 (heroin HCl, low heroin concentration, strong transesterification, teophilline detected in some samples).

* involved in investigations from 2007 to 2009

UNUSUAL WAYS OF COCAINE SMUGGLING

Bojana Koštrun, **Tomaž Gostič, Sonja Klemenc**

Ministry of the Interior, Forensic Research Centre, 1000 Ljubljana, Slovenia

e-mail: sonja.klemenc@policija.si

Key words: cocaine - smuggling/cocaine-copper-iodine complex /cocaine-styrene solid solution/

Abstract. Analytical findings of three interesting cocaine case studies will be presented. We applied GC-MS, SEM-EDX in some cases, FTIR analyses and different presumptive tests as well. In the first case analyses revealed that a religious statue was made from cocaine-polystyrene solid solution. In the second case we confirmed the presence of cocaine in an oily liquid in hydraulic press. In the last case, where we studied solid mixture which resembled to ceramic adhesive material we assumed that cocaine is most probably chemically bonded with copper and iodine. In that form it can evade detection in field drug tests (based on color reactions) and laboratory analysis can give wrong cocaine quantition, as well.

SOME VALIDATION EXPERIMENTS ON MICROSCOPIC EXAMINATION COMBINED WITH »NIK E« CANNABIS FIELD TEST

Brigita Nemec, Sonja Klemenc
[a] Ministry of the Interior, Forensic Research Centre, 1000 Ljubljana, Slovenia

e-mail: sonja.klemenc@policija.si

Key words: cannabis /microscopic and macroscopic characteristic/NIK A test

Abstract. The starting points of this small study were two articles: "The evidential value of the Duquenois Test for Cannabis - a Survey" [1] and "False positives equal false justice" [2], with a critical viewpoint on the use of field drug tests, especially NIK E. Authors of the first article state that between 270 different non cannabis plant samples, none reacted positive, while authors of the second article numbered several plants which reacts positive with field NIK E test.

In our work we investigated macroscopic and microscopic characteristic and the reaction obtained by NIK E test for about 40 different plant material types that are available in Slovenian market places and can be grown in the gardens as well. Some critical plants from ref. 2 were included in study. The macro and microscopic characteristic of investigated material as well as reaction results will be shown in the poster. Our findings did not confirm the findings from reference 2.

[1] K.Bailey, M. A. D. Phil, The evidential value of the Duquenois Test for Cannabis - a Survey, J. of Forensic Sciences, 24 (4), 1979, str. 817 – 841
[2] False positives equal false justice:
http://209.85.129.132/search?q=cache:_YCHe9wNiDwJ:www.mpp.org/assets/pdfs/library/Report-Final.pdf+False+positive+false+justice&cd=3&hl=sl&ct=clnk&gl=si

NEW ON SLOVENIAN ILLICIT DRUG MARKET

M. Janežič, B. Koštrun, S. Klemenc
Ministry of the Interior, Forensic research Centre, Vodovodna 95,1000 Ljubljana, Slovenia

e-mail: mojca.janezic@policija.si

Key words: designer drugs /Slovenia/ mCPP/ 4- fluoroamphetamine/ benzylpiperazine

Abstract. In recent years some new designer drugs appeared in Slovenian illicit market. Many of them are commercially available on the Internet. Sized samples were analysed using GC-MS, IR, and HPLC in some cases supported by NMR analysis as well.

Before 2008 we identified mCPP in tablets usually in combination of amphetamine and/or MDMA. In 2008 and 2009 we investigated originally packed Spice where CP 47,475 compound was identified by comparing mass spectra of unknown compound to literature data. Beside that we also proved 4-fluoroamphetamine, 4-methylmethcathinone (mephedrone) and benzylpiperazine in limited number of samples. Benzylpiperazine is banned in Slovenia since Decembre 2009, while the use of other compounds, listed above, is not regulated yet.

CANNABIS YIELD ESTIMATION

Andreja Hiti, Rajko Koren, Tomaž Premuš and Žiga Zajec

Ministry of the Interior, Forensic Research Centre, 1000 Ljubljana, Slovenia

e-mail: andreja.hiti@policija.si

Key words: cannabis/yield estimation/indoor/outdoor

Abstract. For study yield estimates of cannabis we have done a survey to determine the quantity of cannabis plant material that is suitable for consumption (dried leaves and buds) and it can be obtained from the individual cannabis plants. In the past we used foreign literature data for yield assess [1,2,3].

The study dealt with six indoor grown plants and nine outdoor grown plants. We selected plants with different characteristics (height, branched and level of maturity of plants). We did not take sex and the variety of plants into account.

Obtained results, that are comparable to literature data, are used to estimate the yield of hemp when giving expert opinions for the courts.

[1]C.Bone, S.J.Waldron, New trends in illicit cannabis cultivation in the United Kingdom of Great Britain and Northern Ireland, UNODC - Bulletin on Narcotics - 1997 Issue 1 - 006
[2] Cannabis Yields 1992: Drug Enforcement Administration.US Dep. Of Justice, DEA
[3] UNODC World Drug Report 2006. Vienna: UNODC

COCAINE SAMPLES SEIZED IN SLOVENIA – AN OVERVIEW

Tomaž Gostič, Carmen Kalinger

Ministry of the Interior, Forensic research Centre, Vodovodna 95, 1000 Ljubljana, Slovenia

e-mail: tomaz.gostic@policija.si
Key words: Cocaine; Adulterants; Slovenia

Abstract. The purpose of this research was to quantify cocaine and major adulterants content in the cocaine samples seized in the period from September 2008 to January 2010.

A purity of cocaine ranged from 2.1% to 87.5%, with an average of 33.3%. During the entire period, the positive trend of the cocaine purity was observed. The level of adulteration was approximately the same in a wide seizure size range from street level to 500 g of packet weight. Levamisol was most frequently encountered adulterant in cocaine samples (20.5%, i.e in 63 of 308 samples). The other most common adulterants in cocaine were lidocaine, creatinine, caffeine, phenacetin, paracetamol and as well aspirin and salyciclic acid. The latter compound most likely originated as a hydrolysed product of aspirin.

Qualitative and quantitative analyses were performed on an Agilent 1100 HPLC instrument.

CANNABIS SEIZURES – AN OVERVIEW

Andreja Hiti, **Žiga Zajec, Rajko Koren**

[a] Ministry of the Interior, Forensic Research Centre, Vodovodna 95, 1000 Ljubljana, Slovenia

e-mail: andreja.hiti@policija.si

Key words: cannabis/Slovenia/THC concentration

Abstract. An overview of cannabis (plants, buds, leaves) and hashish seizures from 2007 to 2009 will be presented. Samples were analysed by GC-MS and HPLC.

Studies revealed that the average THC content (%) is quite stabile for the last two years. Average THC concentrations (%) in plants for 2007, 2008 and 2009 were 0.6%, 3.6% and 3%, respectively. Some extreme values have been observed. More detailed statistical information will be given on the poster.

AN OVERVIEW OF ILLICIT TABLETS SEIZED IN SLOVENIA IN THE PERIOD 2007-2009

Mojca Janežič, Brigita Nemec, Katja Kos

Ministry of the interior, Forensic Centre, 1000 Ljubljana, Slovenia

e-mail: mojca.janezic@policija.si

Key words: illicit tablets /synthetic drugs /amphetamine, methamphetamine, MDMA, mCPP/Slovenia/

Abstract. An overview of logotypes and chemical characteristic of illicit drug tablets seized in Slovenia in the period 2007-2009 will be presented. Identification of drugs and other active compounds was performed by GC-MS and HPLC with diode array detector. Amphetamine, metamphetamine, MDMA, caffeine, phenacetine and mCPP were quantified.

The results revealed that MDMA was the dominant drug in 2007 and 2008. In the year 2009 only one type (logo, balistic characteristic) of illicit tablets contained MDMA while all other types contained mCPP as the major drug, in most of cases in combination with amphetamine and caffeine.

EXPERIMENTAL SESSION

QUESTIONS/ANSWERS: "WE DON'T DARE TO ASK!"

No abstract available. Summary will be given on spot.

Questions (11): anonymous authors

Answers: Received from four labs (DK, FI, FR, SI)

DK: Christian Lindholst, Section for Toxicology and Drug Analysis, Department of Forensic Medicine, Aarhus University (11);

FI: Ulla-Maija Laakkonen, NBI (2);

FR: Fabrice Besacier; INPS (2)

SI: Sonja Klemenc, CFP, Slovenia (7).

SPECIAL CASES WE WANT TO SHARE IN AN INFORMAL WAY

Under this experimental session we do not need a high-end presentation, we want to hear and see your interesting cases, and chat about a bit. Don't be too cautious about your language knowledge. Limitations:

a) You need to inform the organizer about your presentation at latest before the session starts (on spot).
b) Available technical equipment as defined on the meeting web page.

Three presentations already announced.