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- APRIL 2008 -

- INTELLIGENCE ALERT -

RECORD SEIZURE OF *PSILOCYBE* MUSHROOMS IN POTTAWATTAMIE COUNTY, IOWA

The Iowa Criminalistics Laboratory (Ankeny) recently received 199 large zip-lock plastic bags of dried mushrooms, suspected *Psilocybe* mushrooms (see Photo 1). The exhibits, originally packed in various boxes and large garbage bags, were seized by the Iowa State Patrol pursuant to a traffic stop of a large pickup truck on Interstate 80 in Pottawattamie County (southwestern Iowa). Analysis of the mushrooms (total net mass 92.96 kilograms) by TLC and GC/MS confirmed psilocin and psilocybin at a typical levels (not formally quantitated). This is the largest ever seizure of dry *Psilocybe* mushrooms in Iowa.

Photo 1

- INTELLIGENCE ALERT -

AROMATHERAPY OIL (ACTUALLY CONTAINING A STEROID COCKTAIL) IN HUMMELSTOWN, PENNSYLVANIA

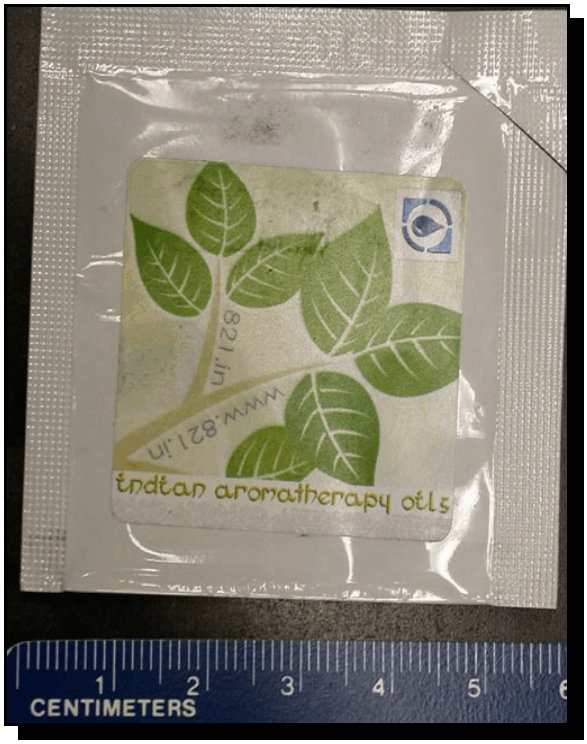

Photo 2

The Pennsylvania State Police, Bureau of Forensic Services, Harrisburg Regional Laboratory recently received a small package of purported aromatherapy oil, suspected to contain a mixture of anabolic steroids (see Photo 2). The package was seized at the residence of a known steroid abuser in Hummelstown (a small town between Harrisburg and Hershey), pursuant to a consent search by the Hummelstown Borough Police. The suspect in the case admitted to steroid abuse and indicated that the package actually contained "Sustanon" (which is a steroid cocktail containing the following testosterone esters: Propionate 30 milligrams, phenylpropionate 60 milligrams, isocaproate 60 milligrams, and decanoate 100 milligrams). The package markings included the website "821.in," and indicated that the contents were Indian Aromatherapy Oils. The oil fluoresced when concentrated sulfuric acid was added and the resulting mixture was subjected to UV irradiation. Analysis of a methanol extract of the oil (total net volume 3.1 milliliters) by GC/MS confirmed testosterone propionate, cypionate, and decanoate in an approximate 4 : 3 : 1 ratio based on the TIC. The results indicated that the oil was not actually "Sustanon," but rather a substitute or mimic steroid cocktail. This was the first submission of this type of packaging encountered anywhere within the Pennsylvania State Police Crime Laboratory system.

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- INTELLIGENCE ALERT -

VERY LARGE SEIZURE OF N-ISOPROPYLBENZYLAMINE HYDROCHLORIDE IN BAKERSFIELD, CALIFORNIA

The DEA Western Laboratory (San Francisco, California) recently received 11 gallon-sized zip lock bags and two plastic containers, all containing white crystalline materials, presumed "Ice" methamphetamine (see Photos 3 and 4, next page). The exhibits were seized by DEA Special Agents from within a hidden electronic compartment in a van during a buy-bust operation in Bakersfield, California. Analysis of the crystals in one zip lock bag (total net mass 432.7 grams) by Raman, GC/MS, NMR, ATR, GC/IRD, LC/MS/MS, and CE identified 1.3 percent methamphetamine (isomer and salt undetermined) and N-isopropylbenzylamine hydrochloride

Photo 3 (Ruler is 12 Inch)

(HCl; not quantitated but high purity). Analysis of the crystals in three zip lock bags (total net mass 1309 grams) by Raman, GC/MS, GC/FID, and ATR identified N-isopropylbenzylamine HCl (not quantitated but high purity) and trace dimethylsulfone. Analysis of the crystals in the other seven zip lock bags and the two containers (total net mass 3943 grams) by Raman, GC/MS, GC/FID, and ATR identified N-isopropyl-benzylamine HCl (not quantitated but high purity). To date, this is the largest seizure of N-isopropylbenzyl-amine HCl submitted to the Western Laboratory.

Photo 4

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- INTELLIGENCE ALERT -

OXYCODONE TABLETS SMUGGLED IN "D" BATTERIES IN WARWICK, RHODE ISLAND

The DEA Northeast Laboratory (New York, New York) recently received four "D"-cell batteries, each packed with 12 short, aligned sections of plastic straws containing in total 624 orange colored tablets, suspected oxycodone (see Photo 5). The exhibits were seized in Warwick, Rhode Island, by personnel from the New England HIDTA Office (no further details). The tablets (total net mass 82.7 grams) were marked with a "40" on one face and an "EX" on the opposite face, and appeared to be a legitimate pharmaceutical product. Analysis by GC/MS, TLC, HPLC, GC/FID, and FTIR/ATR confirmed 41.4 milligrams of oxycodone per tablet (calculated as the hydrochloride). The Northeast Laboratory routinely receives tablets concealed in various materials, but this is the first submission of oxycodone tablets in "D"-cell batteries.

Photo 5

- INTELLIGENCE ALERT -

CHOCOLATES CONTAINING TRIFLUOROMETHYLPHENYLPIPERAZINE (TFMPP) IN JACKSONVILLE, FLORIDA

The DEA Southeast Laboratory (Miami, Florida) recently received 75 chocolates, purported to contain psilocybin (see Photo 6). The exhibits were obtained in Jacksonville, Florida, by a Jacksonville Sheriff's Office confidential source (details sensitive). Each chocolate had a smiley face on one side (see Photo 7), and was wrapped in red foil over wax paper. Visual inspection and subsequent workup did not indicate any mushroom parts in the chocolate. Analysis of methanol extracts of the chocolates (total net mass 1.2 kilograms) by GC/MS and GC/FID indicated not psilocybin (or psilocin) but rather 1-[3-(trifluoromethyl)phenyl]piperazine (TFMPP; not quantitated). This is the first known submission of chocolates containing TFMPP to the Southeast Laboratory .

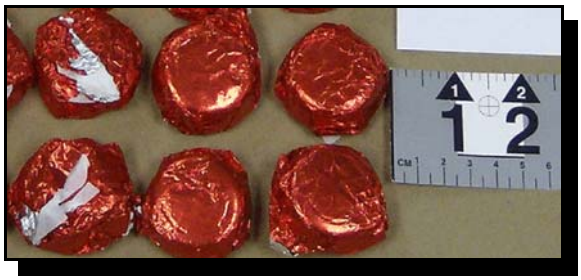

Photo 6

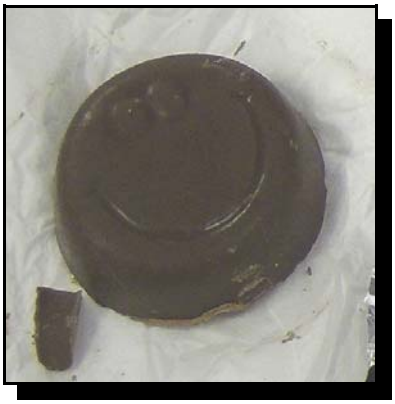

Photo 7

[Editor's Notes: TFMPP has some MDMA mimicking properties, and is commonly abused as such, usually in combination with benzylpiperazine (BZP). It was emergency scheduled (Schedule I) from September 2002 til March 2004; however, it is currently (April, 2008) not controlled.]

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- INTELLIGENCE ALERT -

LARGE SEIZURE OF MDMA POWDER AT THE HIDALGO, TEXAS PORT OF ENTRY

The DEA South Central Laboratory (Dallas, Texas) recently received two plastic packages containing a light brown powder that field-tested positive for heroin (see Photo 8). The exhibits were taped to the inner thighs of a male pedestrian attempting to enter the U.S. at the Hidalgo, Texas Port of Entry, and were seized by Immigration and Customs Enforcement personnel. Analysis of the powder (total net mass 1970.3 grams) by GC/MS, FTIR, NMR, and HPLC, however, indicated not heroin but rather 95.9 percent MDMA hydrochloride (HCl). This is the second largest ever submission of MDMA HCl powder to the South Central Laboratory.

Photo 8

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- INTELLIGENCE ALERT -

METHAMPHETAMINE BRICKS AT THE OTAY MESA, CALIFORNIA PORT OF ENTRY

Photo 9

The DEA Southwest Laboratory (Vista, California) recently received a two-part submission consisting of: A) seven heat-sealed food-saver bags of crystalline material, apparent "Ice" methamphetamine, wrapped in black carbon paper, blue-colored grease, and plastic wrap; and B) 12 heat-sealed food-saver bags, each containing a small brick of compressed, off-white material, wet with toluene, wrapped in brown plastic tape, black plastic tape, and plastic wrap, suspected methamphetamine. The exhibits (see Photo 9) were seized by Immigration and Customs Enforcement personnel pursuant to a vehicle search at the Otay Mesa, California Port of Entry. Analysis of the crystalline material (total net mass 3068 grams) by GC, GC/MS, LC, and IR confirmed 95.1 percent d-methamphetamine hydrochloride. The bricks were approximately 4.5 inches square and 1.5 inches thick; six bricks had an impression of "Hecho en Mexico" ("Made in Mexico") over and under an eagle head logo (see Photo 10), while the other six bricks had an impression of the face of a smiling monkey (see Photo 11). The latter design has been previously seen at the Southwest Laboratory, but always in such poor quality as to make a positive identification impossible. All 12 blocks had a rounded edge and a broken edge, and physical matching of the broken edges confirmed that the 12 small bricks were actually six larger bricks that had been broken in half, each reconstructed brick being approximately 9 inches long and 1.5 inches thick, with the "Hecho en Mexico" impression on one half and the smiling monkey impression on the other half. Analysis of the compressed material (total net mass 6115 grams after evaporation of the toluene) by GC, GC/MS, LC, and IR confirmed 95.6 percent d-methamphetamine hydrochloride. It is unclear why the bricks were broken in halves. The Southwest Laboratory has previously received similar bricks of compressed methamphetamine.

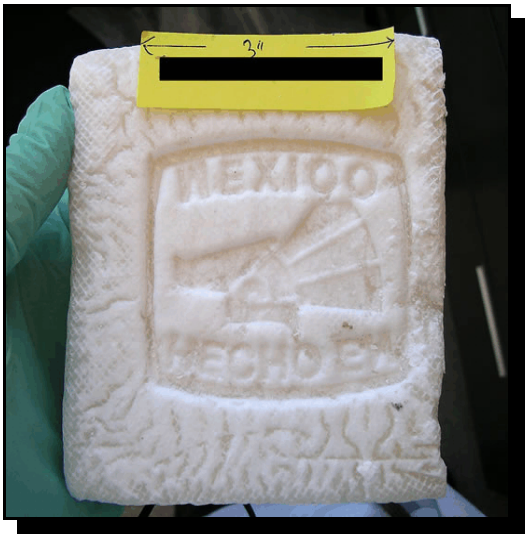

Photo 10

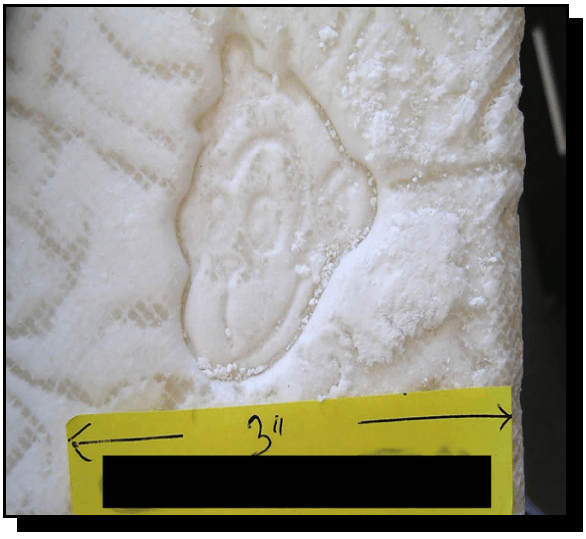

Photo 11

SELECTED REFERENCES

[The Selected References section is a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. Abbreviated mailing address information duplicates that provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number.]

1. Flemming T, Muntendam R, Steup C, Kayser O. **Chemistry and biological activity of tetrahydrocannabinol and its derivatives.** Topics in Heterocyclic Chemistry 2007;10(Bioactive Heterocycles IV):1-42. [Editor's Notes: A review, covering the chemical properties of THC, its synthesis on an industrial scale, and the synthesis of various metabolites. The biosynthesis of cannabinoids in Cannabis sativa is also detailed. Contact: THC-Pharm Ltd., Frankfurt 60599, Germany.]

2. Fu Q, Liao L-c, Chen L-l, Yan Y-y, Yang L, Hou J-h, Chen Y. **Detecting methamphetamine and amphetamine with high performance liquid chromatography.** Sichuan Daxue Xuebao, Yixueban 2007;38(6):1025-1028. [Editor's Notes: Presents the title study. This article is written in Chinese. Contact: Dept. of Forensic Toxicological Analysis, West China School of Preclinical and Forensic Medicine, Sichuan University, Chengdu 610041, Peop. Rep. China.]

3. Hamano T, Shioda H, Nakajima J, Yasuda I. **Analysis of psychotropic components in commercial botanical drugs.** Tokyo-to Kenko Anzen Kenkyu Senta Kenkyu Nenpo 2006;57:121-126. [Editor's Notes: The abstract is unclear - although analysis of a number of "botanical drugs" is implied, only Salvinorin A is specified. Analytical techniques included TLC, LC/PDA, LC/MS, and GC/MS. This article is written in Japanese. Contact: Med. Pharm. Div., Tokyo Metropolitan Institute of Public Health, Tokyo, Japan 169-0073.]

4. Huhn C, Puetz M, Holthausen I, Pyell U. **Separation of very hydrophobic analytes by micellar electrokinetic chromatography. I. Optimization of the composition of the sample solution for the determination of the aromatic ingredients of sassafras and other essential oils of forensic interest.** Electrophoresis 2008;29(2):526-537. [Editor's Notes: Used an MEKC method with UV and LIF detection; the detection of minor constituents in essential oils was possible despite of the presence of a structurally related compound in a molar ratio excess of 1000:1 (emphasis was analysis of allylbenzenes). Contact: Department of Chemistry, University of Marburg, Marburg, Germany.]

5. Kuwayama K, Inoue H, Phorachata J, Kongpatnitiroj K, Puthaviriyakorn V, Tsujikawa K, Miyaguchi H, Kanamori T, Iwata YT, Kamo N, Kishi T. **Comparison and classification of methamphetamine seized in Japan and Thailand using gas chromatography with liquid-liquid extraction and solid-phase microextraction.** Forensic Science International 2008;175(2-3):85-92. [Editor's Notes: 14 characteristic peaks were selected for comparative analysis, and the data were evaluated by the Euclidean distance of the relative peak areas after logarithmic transformation. 69 samples seized in Japan and 42 seized in Thailand were analyzed, and classified into 4 groups roughly by cluster analysis. SPME made it easy to compare samples of high purity. Contact: National Research Institute of Police Science, 6-3-1, Kashiwanoha, Kashiwa, Chiba 277-0882, Japan.]

6. Nakamoto A, Namera A, Yahata M, Kuramoto T, Nishida M, Yashiki M. **A systematic toxicological analysis for hallucinogenic tryptamines in seized and biological materials.** Hiroshima Daigaku Igaku Zasshi 2007;55(1-3):1-14. [Editor's Notes: Screening of powders was carried out using Simon's, Marquis, and Ehrlich's reagents. It was possible to distinguish between 24 abused drugs (various stimulants and psychotropic drugs, not specified in the

abstract). Similar colors were noted for compounds with similar substitution patterns on the indole rings. The rest of the article was focused on urinalyses. This article is written in Japanese. Contact: Dep. Legal Med., Grad. Sch. Biomed. Sci., Hiroshima University, Japan.]

7. Odell LR, Skopec J, McCluskey A. **Isolation and identification of unique marker compounds from the Tasmanian poppy Papaver somniferum N.** Forensic Science International 2008;175(2-3):202-208. [Editor's Notes: Tasmanian opium poppies contain a unique alkaloid, oripavine, which is the source of various marker impurities in illicit heroin produced from Tasmanian poppy straw. Four of these marker compounds were identified in seized heroin samples from Australia, suggesting that they were of Tasmanian origin. Complete details of the isolation and identification of these compounds are provided. Contact: Chemistry Building, School of Environmental and Life Sciences, The University of Newcastle, Callaghan NSW 2308, Australia.]

8. Pozo OJ, Van Eenoo P, Deventer K, Delbeke FT. **Ionization of anabolic steroids by adduct formation in liquid chromatography electrospray mass spectrometry.** Journal of Mass Spectrometry 2007;42(4):497-516. [Editor's Notes: The ionization of 46 anabolic steroids is presented. Different mobile phases using methanol or acetonitrile and HCOOH, Na^+ or $NH4^+$ as additives were shown to favor adduct formation. The anabolic steroids could be divided into seven different groups depending on both the nature and the relative position of their functional groups. Contact: DoCoLab, Department of Clinical Chemistry, Microbiology and Immunology, UGent, B-9052 Zwijnaarde, Belg.]

9. Shi Y-Q, Yao J, Liu F, Hu C-Q, Yuan J, Zhang Q-M, Jin S-H. **Establishment of an HPLC identification system for detection of counterfeit steroidal drugs.** Journal of Pharmaceutical and Biomedical Analysis 2008;46(4):663-669. [Editor's Notes: A set of simple HPLC methods employing UV detection were developed for detection of counterfeit drugs by the qualitative and quantitative analysis of 9 steroids: Ethinylestradiol, diethylstilbestrol, norethisterone, norgestrel, methyltestosterone, medroxyprogesterone acetate, progesterone, testosterone propionate, and nilestriol. Contact: National Institute for Control of Pharmaceutical and Biological Products, 2 Tiantan Xili, Beijing 100050, Peop. Rep. China.]

Additional References of Possible Interest:

1. Chen X, Lian Y, Li A, Li J, Liu G, He C, Wu X, Wang H, Li H. **An intelligent recognition program for in-situ detection of illicit chemicals by ion mobility spectrometry.** Jisuanji Yu Yingyong Huaxue 2007;24(9):1145-1148. [Editor's Notes: The recognition rate was 90%. The "illicit chemicals" were not detailed in the abstract. This article is written in Chinese. Contact: Dalian Institute of Chemical Physics, Chinese Academy of Sciences, Dalian 116023, Peop. Rep. China.]

2. Funada M. **Uncontrolled newly-abused drugs (law-evading drugs).** Nippon Yakurigaku Zasshi 2007;130(5):433-435. [Editor's Notes: A review of the health hazards of new designer drugs, and legal regulation and prevention of their use. This article is written in Japanese. Contact: National Institute of Mental Health, National Center of Neurology and Psychiatry, Kodaira, Japan 187-8553.]

3. Huo Y, Kok WT. **Recent applications in CEC.** Electrophoresis 2008;29(1):80-93. [Editor's Notes: A review, covering applications in CEC between May 2005 and May 2007; including 2-D systems and nano- and microfluidic devices. Contact: Polymer-Analysis Group, van't Hoff Institute for Molecular Sciences, University of Amsterdam, Amsterdam, Neth.]

4. Tagliaro F, Bortolotti F. **Recent advances in the applications of CE to forensic sciences (2005-2007).** Electrophoresis 2008;29(1):260-268. [Editor's Notes: A review, covering applications of CE in forensic science covering the period from 2005 until the first part of 2007. Contact: Department of Medicine and Public Health, Section of Forensic Medicine, University of Verona, Verona, Italy.]

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THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

The Journal/Textbook Collection Exchange is a service intended to facilitate the transfer of unwanted journals and textbooks to forensic libraries or other *Microgram* subscribers. At present, this service is offered once a quarter (in January, April, July, and October). The current donations are listed below. The offers are First Come/First Serve (except **libraries have preference**). There are no charges to the requestor. Please provide a full mailing address in the request. **Important!:** Do not provide an address that irradiates mail!

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1994 - March (#2), May (#3), and July (#4)
2005 - May (#3) and July (#4)

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The next offering of journals and textbooks will be in the July 2008 issue of *Microgram Bulletin*.

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THE DEA FY 2008 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The remaining FY 2008 schedule for the State and Local Forensic Chemists Seminar is as follows:

May 5 - 9 September 8 - 12

The school is open only to forensic chemists working for law enforcement agencies, and is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge. The course is held at the Hyatt Place Dulles North in Sterling, Virginia (near the Washington/Dulles International Airport). A copy of the application form is reproduced on the last page of the August 2004 issue of *Microgram Bulletin*. (See: http://www.dea.gov/programs/forensicsci/microgram/mg0804/aug04.pdf) Completed applications should be mailed to the Special Testing and Research Laboratory (Attention: J. Head) at: 22624 Dulles Summit Court, Dulles, VA 20166. For additional information, call 703/668-3349.

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