

# Microgram

## *Bulletin*

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- OCTOBER 2009 -

### **DIMETHYLTRYPTAMINE AND ECSTASY MIMIC TABLETS (ACTUALLY CONTAINING 5-METHOXY-METHYLISOPROPYLTRYPTAMINE) IN OREGON**

The Oregon State Police Forensics Lab recently received a multiple exhibit submission including suspected dimethyltryptamine (DMT) and MDMA. Also included in the case were exhibits containing marijuana and heroin. The first exhibit of interest consisted of two bags of tan powder (total net mass 0.27 grams). Analysis of the powder by Marquis, UV, and GC/MS identified DMT (not quantitated, but a high loading based on the TIC). The second exhibit of interest contained 45 round, light green tablets embossed with an alien head logo (total net mass 8.7 grams) (See Photo 1). The green tablets were well made and contained small, tan flecks. Analysis of the tablets using Marquis (green to brown) and GC/MS (methanol extract) yielded not MDMA, but rather 5-methoxy-methylisopropyltryptamine (5-MeO-MiPT) (not quantitated, but a high loading based on the TIC). No additional peaks were present in the chromatogram. This is believed to be the first submission of 5-MeO-MiPT in the state of Oregon.



**Photo 1**

## COCAINE CONCEALED IN AN AUTOMOTIVE DRIVE SHAFT IN NEW YORK



**Photo 2**

The DEA Northeast Laboratory recently received a submission from Immigration and Custom Enforcement consisting of an automotive drive shaft (See Photo 2). White powder was extracted from the drive shaft (See Photos 3 and 4), and analysis of the powder (total net mass 892.6 grams) by FTIR, GC-FID, and GC/MS

confirmed 77% cocaine hydrochloride and phenyltetrahydroimidazothiazole. The laboratory typically receives numerous submissions of cocaine hydrochloride in a variety of containers.



**Photo 3**



**Photo 4**

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## HYDROCODONE MIMIC TABLETS (ACTUALLY CONTAINING HEROIN) IN MARYLAND

The Maryland State Police Forensic Science Division recently received 33 oval, light blue tablets of suspected hydrocodone. The tablets were in a ziplock plastic bag and were imprinted with “WATSON 540” on one face and a half score on the opposite face (See Photo 5). Presumptive identification of hydrocodone was based upon information obtained from The Drug Identification Bible, 2008 edition. The tablets were not well manufactured, and exhibited a crumbling effect when scraped. Analysis of the tablets by UV, GC/FID, and GC/MS identified not hydrocodone, but rather heroin (not quantitated, but a low loading based on the TIC). The laboratory has received various submissions of manufactured tablets containing hydrocodone, but this was the first submission of hydrocodone mimic tablets that contained heroin.



**Photo 5**

## PHENTERMINE MIMIC TABLETS (ACTUALLY CONTAINING SIBUTRAMINE AND FENFLURAMINE) SEIZED IN FLORIDA

The Florida Department of Law Enforcement Tampa Regional Crime Laboratory received two different cases involving white oval tablets with blue specks. All of the tablets were marked with "A 159" with a half score between the "A" and "159," and appeared to be legitimate pharmaceutical tablets. The tablets were presumptively identified by the markings to contain 37.5 milligrams of phentermine.

The first case consisted of 90 tablets (total net mass 27.7 grams) submitted as suspected phentermine tablets (See Photos 6 and 7). Analysis of three individual tablets and a combination of five tablets using GC/MS identified sibutramine (not quantitated, but a very low loading based on the TIC). The tablets were tested using four different extractions: methanol, sodium

bicarbonate/chloroform, sodium hydroxide/chloroform, and 0.1 N HCl, which was then made basic with sodium carbonate and extracted into chloroform. Sibutramine is not a controlled substance in the state of Florida.



Photo 6

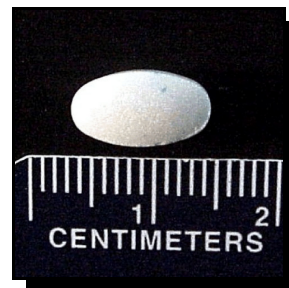


Photo 7

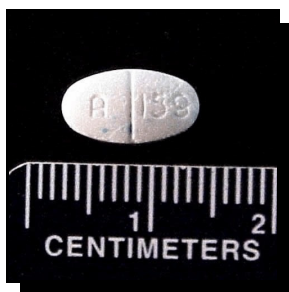


Photo 8

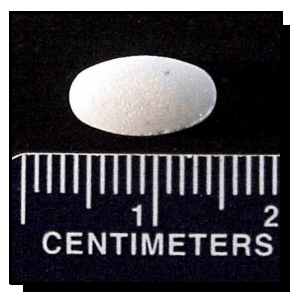


Photo 9

The second case consisted of 2.5 tablets (total net mass 0.6 grams) submitted as suspected amphetamine tablets (See Photos 8 and 9). Analysis of one tablet by GC/MS and GC/FID using a sodium bicarbonate/chloroform extract confirmed the presence of fenfluramine (not quantitated, but a high loading based on the TIC). Fenfluramine is a controlled substance in the state of Florida.

[Editor's Note: Sibutramine and Fenfluramine are listed as Schedule IV controlled substances in Title 21 Code of Federal Regulation (CFR) Part 1308.]

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## LARGE SEIZURE OF DILUENT CONTAINING QUININE IN GEORGIA

The Georgia Bureau of Investigation Headquarters Laboratory recently received a submission containing 20 large cylindrical bottles containing fine white powder, totaling approximately 10 kilograms. Three bottles were labeled as containing room deodorizer, with the remaining seventeen being unlabelled. Analysis by GC/MS, FTIR, TLC, and UV confirmed the presence of mannitol and quinine (not quantitated, but a moderate loading based on the TIC). Submissions of cutting agents containing quinine are rarely seen by the Georgia Bureau of Investigation Headquarters Laboratory.

## MIMIC ALPRAZOLAM TABLET (ACTUALLY CONTAINING MELATONIN) IN NEW YORK

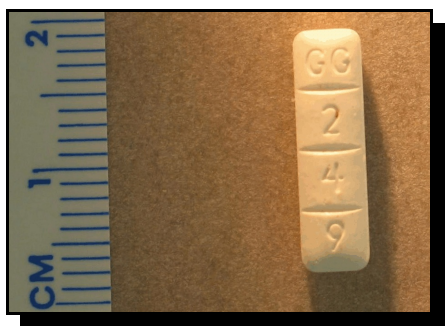


Photo 10

The New York State Police Mid-Hudson Regional Crime Laboratory received a submission containing one rectangular, white tablet imprinted with “GG 249” (See Photo 10). The tablet was presumptively identified by its physical characteristics to contain 2 milligrams of alprazolam. Analysis of the tablet (total net mass 0.38 grams) by GC/MS indicated the tablet contained melatonin (not quantitated, but a moderate loading based on the TIC). This is the first alprazolam mimic tablet this laboratory has received.

[Editor’s Note: Similar appearing “GG 249” mimic tablets were reported earlier this year by the Florida Department of Law Enforcement, Pensacola Regional Operation Center; those tablets contained melatonin or a non-controlled benzodiazepine; see: Microgram Bulletin 2009;42(1):2.]

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## HEROIN SMUGGLED IN A CHESS BOARD IN NEW YORK

The DEA Northeast Laboratory recently received a chess board (See Photo 11) from United States Customs and Border Protection agents. Analysis of the powder found within the board (total net mass 232.4 grams) by FTIR, GC/MS and GC/FID confirmed 35% heroin (salt form undetermined) and caffeine. The laboratory typically receives numerous submissions of heroin in a variety of containers.



Photo 11

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## 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. Auwaerter V, Dresen S, Weinmann W, Mueller M, Puetz M, Ferreiros N. **'Spice' and other herbal blends: harmless incense or cannabinoid designer drugs?** Journal of Mass Spectrometry 2009;44(5):832-837. [Editor’s Notes: The herbal blend, Spice, was tested for cannabinoid designer drug content. Contact: Institute of Forensic Medicine, Forensic Toxicology, University Medical Centre Freiburg, 79104 Freiburg, Germany.]

2. Noonan KY, Tonge LA, Fenton OS, Damiano DB, Frederick KA. **Rapid classification of simulated street drug mixtures using Raman spectroscopy and principal component analysis.** *Applied Spectroscopy* 2009;63(7):742-747. [Editor's Notes: Presents the title study. Contact: Department of Chemistry, College of the Holy Cross, Worcester, MA 01610 USA.]
3. Westphal F, Junge T, Roesner P, Soennichsen F, Schuster F. **Mass and NMR spectroscopic characterization of 3,4-methylenedioxypropylamphetamine: A designer drug with alpha-pyrrolidinophenone structure.** *Forensic Science International* 2009;190(1-3):1-8. [Editor's Notes: Presents the title study. 3,4-methylenedioxypropylamphetamine (MDPV), a drug variant of propylamphetamine, was first seized in Germany in the year 2007. Contact: Sachgebiet Toxikologie/Betaeubungsmittel, Landeskriminalamt Schleswig-Holstein, Muehlenweg 166, Kiel 24116, Germany.]

**Additional References of Possible Interest:**

1. Dujourdy L, Dufey V, Besacier F, Miano N, Marquis R, Lock E, Aalberg L, Dieckmann S, Zrcek F, Bozenko JS. **Drug intelligence based on organic impurities in illicit MA samples.** *Forensic Science International* 2008;177(2-3):153-161. [Editor's Notes: "Collaborative Harmonisation of Methods for Profiling of Amphetamine Type Stimulants" (CHAMP) consisted of the harmonization of a GC/MS method for the analysis of organic impurities found in illicit methamphetamine (MA) samples in a drug intelligence perspective. Statistical analysis provided a selection of pertinent variables among the 43 organic impurities identified in the chromatograms. The organic impurities profiling method was proved to be relevant for the characterization of samples from different seizures and their synthesis route patterns. Contact: Laboratoire Police Scientifique de Lyon, 69134 Ecully, France.]
2. Galesio M, Rial-Otero R, Capelo-Martinez JL. **Comparative study of matrices for their use in the rapid screening of anabolic steroids by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry.** *Rapid Communications in Mass Spectrometry* 2009;23(12):1783-1791. [Editor's Notes: New data on sample preparation and matrix selection for the fast screening of androgenic anabolic steroids (AAS) by matrix-assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF-MS) is presented. Nine organic and two inorganic matrixes were assessed to determine the best matrix for steroid identification in terms of ionization yield and interference by characteristic matrix ions. The sensitivity achieved by MALDI is comparable with the sensitivity achieved by GC/MS, which is the conventional technique used for AAS detection. Furthermore, the accuracy and precision obtained with MALDI are very good, since an internal mass calibration is performed with the matrix ions. Contact: Departamento de Quimica, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Monte de Caparica, Port. 2829-516.]
3. Li F, Song J, Gao D, Zhang Q, Han D, Niu L. **Simple and rapid voltammetric determination of morphine at electrochemically pretreated glassy carbon electrodes.** *Talanta* 2009;79(3):845-850. [Editor's Notes: Presents the title study. Contact: State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, and Graduate University of the Chinese Academy of Sciences, Chinese Academy of Sciences, Changchun, Peop. Rep. China 130022.]

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## THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

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*Physician's Desk Reference* 2005 Edition

*Physician's Desk Reference* 2004 Edition

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The next offering of journals and textbooks will be in the January 2009 issue of *Microgram Bulletin*.

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### THE DEA FY 2010 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The FY 2010 schedule for the State and Local Forensic Chemists Seminar is as follows:

March 1-5, 2010

May 31-June 4, 2010

September 13-17, 2010

The school is open only to forensic chemists working for law enforcement agencies. It 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 Hotel 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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