

# Microgram

## *Bulletin*

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- AUGUST 2007 -

- INTELLIGENCE ALERT -

### “GANJA BUTTER” IN SAN BERNARDINO, CALIFORNIA

The San Bernardino County Sheriff's Scientific Investigations Division (California) recently received five mason jars, each containing a thick green liquid covering a layer of apparent minced plant material suspended in a brown liquid, alleged to be an intermediate preparation of “ganja butter” (marijuana extracted with butter; see Photo 1). The exhibits were seized from a refrigerator at a San Bernardino residence by agents from the San Bernardino County Sheriff's Department Narcotics Unit, pursuant to a search warrant. Each mason jar contained approximately 400 milliliters of material (combined green liquid and brown liquid), for a net total of approximately 2 liters. Analysis of the green liquid by Duquenois-Levine color test and TLC confirmed the presence of cannabinoids (not quantitated, but primarily THC with small amounts of cannabinol



Photo 1

and cannabidiol). The suspect indicated that he was making the “ganja butter” for medicinal use, and that he had been told that ingesting the “butter” was healthier than smoking the marijuana. This is the first such submission to the laboratory.

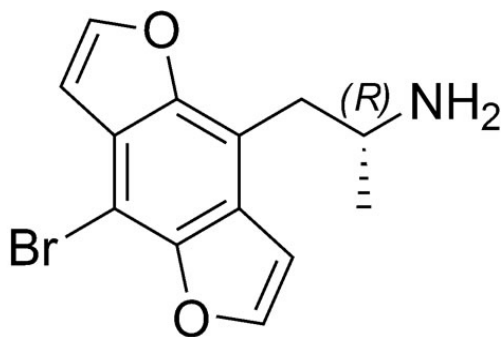
[Editor’s Notes: A very similar exhibit of “ganja butter” was reported in the July, 2007 issue of *Microgram Bulletin*; that seizure was made in Fayetteville, Arkansas. The green color of the upper (butter) layer is apparently due to extraction of the chlorophyll from the marijuana.)

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**- INTELLIGENCE ALERT -**

**“BROMO DRAGONFLY” (BROMO-BENZODIFURANYL-ISOPROPYLAMINE)  
IN ASHLAND, OREGON**

The Oregon State Police Central Point Laboratory recently received a small amber dropper bottle containing approximately 3 milliliters of a clear colorless liquid, submitted as “Bromo” and suspected to be a solution of 2,5-dimethoxy-4-bromoamphetamine (DOB) (no photos). The exhibit was seized at a residence in Ashland, Oregon by the Ashland Police, pursuant to a consent search. A small amount of marijuana and a set of scales were also seized. The solution was determined to be aqueous, with a pH of approximately 5. Analysis by GC/MS, UV/Vis, and FTIR/ATR, however, indicated not DOB but rather bromo-benzodifuranyl-isopropylamine (also known as “Bromo Dragonfly”; see Figure 1). The identification was not confirmed due to lack of a standard; however, the mass spectrum matched the literature. The solution was not quantitated but was a moderate loading based on the TIC. This is the first submission of this type to the Oregon State Police laboratory system.



**Figure 1 - “Bromo Dragonfly”  
(1-(8-Bromobenzo[1,2-*b*:4,5-*b'*]difuran-4-yl)-2-aminopropane  
C<sub>13</sub>H<sub>12</sub>BrNO<sub>2</sub>; mw = 294.14**

[Editor’s Notes: Currently, there is only sparse information available on this compound. It is allegedly a long-lasting, DOB-like hallucinogen with a dosage unit of approximately 0.5 milligrams. In contrast to most amphetamine-like compounds, the R configuration is reportedly the more active enantiomer. This is the first report of this compound in *Microgram*.]

**- INTELLIGENCE ALERT -**

**“LIQUID OXYCONTIN” IN PORT ST. LUCIE, FLORIDA**

The Indian River Crime Laboratory (Fort Pierce, Florida) recently received a plastic 35-mm film vial containing an odorless, syrupy yellow liquid, suspected “Liquid Oxycontin” (no photo). The exhibit was obtained in Port St. Lucie in an undercover operation by the Port St. Lucie Police Department (no further information). Analysis of the liquid (total net volume (mass) 3.5 milliliters (4.2 grams)) by Marquis, UV/Vis, and GC/MS confirmed a solution of oxycodone, cut with sorbitol (or mannitol or another diastereomer of sorbitol). The solution was not quantitated, but an unusually strong UV absorption by the neat solution, and a very strong TIC peak from an extract following acid/base workup, indicated a high concentration of oxycodone. This was the first ever submission of “Liquid Oxycontin” to the laboratory, and informal inquiries suggest that it is the first such submission to any forensic/crime laboratory in Florida.

[*Analyst’s Notes:* The solution does not appear to be oxycodone tablets dissolved in water or alcohol. As similar liquid pharmaceutical formulations of oxycodone containing sorbitol are known, the solution is likely a diverted pharmaceutical preparation. *Editor’s Notes:* A similar suspected liquid pharmaceutical formulation of oxycodone was reported by the Charleston (South Carolina) Police Forensic Laboratory in the October, 2005 issue of *Microgram Bulletin*.]

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**- INTELLIGENCE ALERT -**

**N-BENZYL METHYLAMINE HCL AND N-BENZYLETHYLAMINE HCL (“ICE” AND CRYSTAL METHAMPHETAMINE MIMICS) IN THE SOUTHWEST**

The DEA Southwest Laboratory (Vista, California) has recently received various exhibits of white, crystalline powders and “Ice”-like crystals, presumed methamphetamine (see Photos 2 and 3). The exhibits were also packaged similar to bulk methamphetamine (for example, in plastic containers wrapped with cellophane and tape, in zip-lock plastic bags, etc.). Analyses by Marquis (negative), nitroprusside (positive), GC/MS, and FTIR/ATR, however, indicated not



**Photo 2 - N-Benzylmethylamine Hydrochloride**



**Photo 3 - N-Benzylethylamine Hydrochloride**

methamphetamine but rather N-benzylmethylamine or N-benzylethylamine, in some cases uncut and in others cut with dimethylsulfone. Some of the exhibits were co-packaged with other methamphetamine exhibits, and at least one exhibit contained a mixture of methamphetamine and N-benzylmethylamine. Exhibits have been submitted both from the southwest border and from within the United States, including from Nogales and Phoenix, Arizona, San Diego, California, and Las Vegas, Nevada. The Southwest Laboratory has previously encountered various methamphetamine mimic samples, but not of N-benzylmethylamine or N-benzylethylamine, and not on such a widespread scale. Neither N-benzylmethylamine or N-benzylethylamine are controlled, and neither give any noticeable CNS stimulant effects.

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**- INTELLIGENCE ALERT -**

**MULTICOMPONENT ECSTASY TABLETS IN HOUSTON, TEXAS**

The DEA South Central Laboratory (Dallas, Texas) recently received a submission containing 5008 tablets of four different types, suspected Ecstasy (see Photos 4 - 7; note that the scale varies between the photos, and also that the colors are not true). The tablets were seized in Houston by agents from the FBI Houston Field Division (no further details). The subexhibits included: A) 1011 blue tablets with a flower logo (total net mass 250 grams); B) 1989 green tablets with the same flower logo (total net mass 500 grams); C) 1005 orange tablets with an apple logo (total net mass 247 grams); and D) 1003 light blue tablets with a duck logo (total net mass 262 grams). Analyses were conducted by GC/FID, GC/MS, and HPLC, and indicated: A) Blue tablets/flower logo: MDMA (94.1 milligrams/tablet), ketamine (not quantitated), methamphetamine (<5 percent), caffeine (not quantitated), procaine (not quantitated), and dimethyl sulfone (not quantitated). B) Green tablets/flower logo: MDMA (72.8 milligrams/tablet), ketamine (not quantitated), methamphetamine (<5 percent), procaine (not quantitated), and caffeine (not quantitated). C) Orange tablets/apple logo: MDMA (87.4 milligrams/tablet), ketamine (not quantitated), methamphetamine (<5 percent), caffeine (not quantitated), and dimethyl sulfone (not quantitated). D) Light blue tablets/duck logo: MDMA (92.4 milligrams/tablet), ketamine (not quantitated), and caffeine (not quantitated). Once unusual, these multicomponent type Ecstasy tablets have recently become very common in the region served by the South Central Laboratory.



**Photo 4 - "A" Tablets**



**Photo 5 - "B" Tablets**



**Photo 6 - "C" Tablets**



**Photo 7 - "D" Tablets**

**- INTELLIGENCE ALERT -**

**VERY LARGE SEIZURE OF DIMETHCATHINONE IN TAMPA, FLORIDA**

The DEA Southeast Laboratory (Miami, Florida) recently received 25 large cardboard boxes containing brown or off-white powders in large plastic bags, suspected dimethcathinone (see Photo 8). The exhibits were seized at the Tampa Customs Air Cargo warehouse by United States Border Patrol personnel. The boxes had been shipped from China, and were labeled either as “Green Tea Extract” or “Talcum Powder.” A preliminary analysis was conducted by the Florida Department of Law Enforcement/Tampa Laboratory, and identified dimethcathinone. Further analysis of the powder (total net mass 649.4 kilograms) by Southeast Laboratory personnel using GC/FID and GC/MS, and comparison with a reference standard (provided by the DEA North Central Laboratory), confirmed dimethcathinone (not quantitated, but some of the subexhibits were apparently high purity, while others were adulterated or cut). This is the first such submission to the Southeast Laboratory.



**Photo 8 (15 of 25 Boxes)**

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**- INTELLIGENCE ALERT -**

**HEROIN CONCEALED IN MOTORCYCLE HELMETS IN NEW YORK, NEW YORK**

The DEA Northeast Laboratory (New York, New York) recently received two motorcycle helmets, each containing a concealed plastic bag of beige colored powder, suspected heroin (see Photo 9). The exhibits were seized in New York City by agents from the DEA New York Field Division (no further details). The bags were secreted between the shell and the liner. Analysis of the powders (total net mass 703 grams) by GC/FID, GC/MS, and FTIR/ATR confirmed 62 percent heroin hydrochloride, adulterated with thiamine (not quantitated). The Northeast Laboratory routinely receives heroin concealed in various types of containers and packaging, but this is believed to be the first submission where heroin was smuggled in motorcycle helmets.



**Photo 9**

## SELECTED REFERENCES

[Selected references are 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. Dufey V, Dujourdy L, Besacier F, Chaudron H. **A quick and automated method for profiling heroin samples for tactical intelligence purposes.** *Forensic Science International* 2007;169(2-3):108. [Editor's Notes: Involves the derivation and GC separation of 5 major constituents in heroin (not identified in the abstract), and the computer-based processing of the data for profiling. Comparisons with trace impurity profiling techniques are discussed. Contact: Laboratoire de Police Scientifique de Lyon, 31 Avenue Franklin Roosevelt, Ecully 69134, Fr.]
2. Galimov EM, Sevast'yanov VS, Kul'bachevskaya EV, Golyavin AA. **The identification of the geographical origin of narcotic drugs based on the carbon and nitrogen isotope ratios.** *Mass-Spektrometriya* 2004;1(1):31. [Editor's Notes: Appears to be an overview. The drugs are not specified in the abstract. This article is written in Russian. Contact: Inst. Geokhim. Anal. Khim. Im. B.I. Vernadskogo, RAN, Moscow B-334, Russia.]
3. Gostic T, Klemenc S. **Evidence on unusual way of cocaine smuggling: Cocaine - polymethylmethacrylate (PMMA) solid solution - Study of clandestine laboratory samples.** *Forensic Science International* 2007;169(2-3):210. [Editor's Notes: Describes the analysis of samples taken from an abandoned clandestine laboratory in Slovenia, where cocaine was being extracted from a plastic matrix. Includes discussion concerning the presumed recovery methods. Contact: Forensic Science Institute, Ministry of the Interior, Vodovodna 95, Ljubljana 1000, Slovenia.]
4. Marinetti L. **History and pharmacology of  $\gamma$ -hydroxybutyric acid.** *Chromatographic Methods in Clinical Chemistry and Toxicology* 2007:197. [Editor's Notes: A review. Includes related information on GBL and 1,4-BD, and some analytical data for GHB. Contact: Montgomery County Coroners Office and Miami Valley Regional Crime Laboratory, 361 West Third Street, Dayton, OH 45402.]
5. Qi Y, Evans I, McCluskey A. **New impurity profiles of recent Australian imported "Ice": Methamphetamine impurity profiling and the identification of (pseudo)ephedrine and Leuckart specific marker compounds.** *Forensic Science International* 2007;169(2-3):173. [Editor's Notes: Presents the title study. Contact: Chemistry Building, The University of Newcastle, University Drive, Callaghan NSW 2308, Australia.]
6. Wu G-P, Xiang B-R. **A new method for fast and nondestructive analysis of heroin, 6-acetylmorphine, and codeine in drug by near infrared spectroscopy.** *Fenxi Huaxue* 2007;35(4):552. [Editor's Notes: The results were found to be in good agreement with GC and GC/MS analyses. This article is written in Chinese. Contact: Department of Science Technology, Jiangsu Police Institution, Nanjing 210012, Peop. Rep. China.]

### Additional References of Possible Interest:

1. Balogh MP. **Techniques for structure elucidation of unknowns: Finding substitute active pharmaceutical ingredients in counterfeit medicine.** *LCGC North America* 2007;25(6):554.

[Editor's Notes: A review, focusing on the use of LC-MS/MS. Contact: USA (no further addressing information was provided).]

2. Gross KC. **Passive tagging of pharmaceutical products with noble gas isotopes.** (Patent) Chemical Abstracts 2007;147:39338v.
3. Kelley CM, Zimmer BS, Toomey VM, Jones MB, Gratz SR, Prestridge R. **Differentiating authentic manufacturers of active pharmaceutical ingredients using a variety of techniques.** American Pharmaceutical Review 2006;9(7):96. [Editor's Notes: Methods for profiling of acyclovir, trazadone hydrochloride, and hydrochlorothiazide are presented. Contact: Forensic Chemistry Center, U.S. Food and Drug Administration, USA (no further addressing information was provided).]
4. Inciardi JA, Surratt HL, Kurtz SP, Cicero TJ. **Mechanisms of prescription drug diversion among drug-involved club- and street-based populations.** Pain Medicine 2007;8(2):171. [Editor's Notes: An overview of the varied means by which abusers obtain illicit drugs. Contact: Center for Drug and Alcohol Studies, University of Delaware, Coral Gables, Florida 33134.]
5. Reid G, Devaney ML, Baldwin S. **Drug production, trafficking, and trade in Asia and Pacific Island countries.** Drug and Alcohol Review 2006;25:647. [Editor's Notes: An overview. Contact: Centre for Harm Reduction, Burnet Institute, Melbourne, Victoria, Australia.]
6. Thevis M, Schaezner W. **Emerging drugs - Potential for misuse in sport and doping control detection strategies.** Mini-Reviews in Medicinal Chemistry 2007;7(5):531. [Editor's Notes: A forward looking overview, including discussion of development of methods for detection of new doping agents. Contact: Institute of Biochemistry - Center for Preventive Doping Research, German Sport University Cologne, Cologne 50933, Germany.]
7. Wiseman JM, Laughlin BC. **Desorption electrospray ionization (DESI) mass spectrometry: A brief introduction and overview.** Current Separations and Drug Development 2007;22(1):11. [Editor's Notes: Described applications include counterfeit tablet identifications. Contact: Prosofia, Inc., Indianapolis, IN (zip code not provided).]

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