

Microgram

Bulletin

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- SEPTEMBER 2007 -

- INTELLIGENCE ALERT -

UNUSUALLY SHAPED ECSTASY COMBINATION TABLETS (CONTAINING MDMA, METHAMPHETAMINE, CAFFEINE, PROCAINE, AND 1-(3,4-METHYLENEDIOXYPHENYL)-2-PROPANOL) IN RICHMOND, VIRGINIA

The Virginia Department of Forensic Science, Central Laboratory (Richmond) recently received six small ziplock bags, each containing two unusually shaped, dark blue tablets, apparent Ecstasy (see Photo 1). The tablets were seized by the Petersburg Police pursuant to a local traffic stop, and were submitted as an unknown/suspected drug (Petersburg is about 25 miles south of Richmond). The tablets were approximately 8 millimeters in diameter, with a round base flat on one side and a six-sided pyramid shape on the other side. Analysis of the tablets (total net mass 3.81 grams) by color tests, TLC, and GC/MS indicated MDMA, methamphetamine, caffeine, procaine, and 1-(3,4-methylenedioxyphenyl)-2-propanol in an approximate ratio of 24:12:50:12:2 (based on the TIC; not formally quantitated). This is the first known submission of tablets with this unusual shape to the laboratory; however,

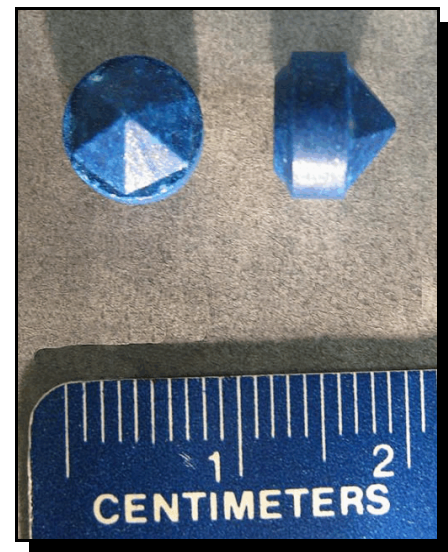


Photo 1

Ecstasy combination tablets are becoming more common at the Central Laboratory, especially those containing methamphetamine and caffeine.

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- INTELLIGENCE ALERT -

**UNUSUALLY PACKAGED AND SIZED HEROIN PACKAGES
IN RUSSELLVILLE, ARKANSAS**

The Arkansas State Crime Laboratory (Little Rock) recently received four cucumber-shaped bundles containing a total of 191 small, bright green, cylindrical packages, each containing a compressed light brown powder, suspected heroin (see Photo 2). The exhibits were seized by the 5th Judicial District Drug Task Force pursuant to a traffic stop in Russellville (no further details; Russellville is about 75 miles north of Little Rock). The bundles were approximately 8 inches long and about 5 inches in circumference, and were composed of layers of brown tape, plastic, mustard, and blue balloon material. The packets were cylindrical, 2.5 centimeters in length by 1.5 centimeters in diameter. The powder was wrapped in clear plastic, which in turn was encased in a thin layer of hard, green plastic-like material (not identified). Analysis of the powder (total net mass 977.5 grams) by TLC, GC/FID, GC/MS, and FTIR confirmed 88.2 percent heroin hydrochloride. This was the first submission of heroin packaged in this unusual fashion to the laboratory.

[Editor's Notes: The cylinders are smaller than typical heroin pellets (and most heroin pellets are usually rounded for easier swallowing). It is unclear why the heroin was packaged in this manner.]



Photo 2

- INTELLIGENCE ALERT -

“FLYING STAR” AND “RED DRAGON” TABLETS (CONTAINING BENZYLPIPERAZINE (BZP) AND TRIFLUOROMETHYLPHENYLPYPERAZINE (TFMPP)) IN COMMERCIAL-STYLE PACKAGING IN SINGAPORE

The DEA Special Testing and Research Laboratory (Dulles, Virginia) recently received two apparently commercially produced packages, labelled as “Flying Star” and “Red Dragon,” each containing tablets and labelled as being natural supplements (see Photos 3 and 4). The packages were obtained in Singapore by Indonesian authorities (no further details), and were submitted as an unknown/possible drug substance. The “Flying Star” package contained one white tablet (net mass 0.56 grams), while the “Red Dragon” package contained three red tablets (total net mass 1.6 grams). The tablets were about the same diameter but were about 50 percent thicker than typical Ecstasy tablets. The packaging claimed that the products would boost energy for six to eight hours, and the “Red Dragon” package also claimed that the tablets would provide an “e-sensory experience.” The ingredients listed on both packages were identical, and included: Vitamin C, “amino acids,” and “cayenne pepper piperazine blend.” Analysis of the exhibits by NMR and GC/MS, however, found none of the listed ingredients but rather a mixture of N-benzylpiperazine (BZP; 155 milligrams/tablet in “Flying Star” and 68 milligrams/tablet in “Red Dragon”) and 1-(3-trifluoromethylphenyl)piperazine (TFMPP; not quantitated) in both exhibits. No other active compounds were found in either exhibit. The Special Testing and Research Laboratory has received submissions of BZP on three occasions over the past five years; however, these are the first submissions of BZP tablets in commercial-type packaging to the laboratory.



Photo 3



Photo 4

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- INTELLIGENCE ALERT -

“ICE” METHAMPHETAMINE CONCEALED IN A (PRESUMED CHILD’S) MINI-PURSE/KEYCHAIN IN NEW YORK CITY

The DEA Northeast Laboratory (New York, New York) recently received a small pink bunny, apparently a child’s mini-purse and keychain, containing a white crystalline substance, suspected methamphetamine (see Photo 5; note the zipper along the body and the keychain on the top of the head). The exhibit was seized in New York City by agents from the New York Field Division, pursuant to a federal search warrant (details sensitive). Unusually, the material was not packaged, but instead was loose within the purse compartment. Analysis of the material (total net mass 5.1 grams) by GC/FID, GC/MS, and FTIR/ATR confirmed 96.9 percent d-methamphetamine hydrochloride, cut with a small amount of dimethyl sulfone (not quantitated). The Northeast Laboratory routinely receives methamphetamine concealed in various types of containers and packaging, and smuggling in childrens’ toys is fairly common.



Photo 5

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- INTELLIGENCE ALERT -

ECSTASY MIMIC TABLETS (CONTAINING HEROIN, COCAINE, AND CAFFEINE) IN WASHINGTON, DC

The DEA Mid-Atlantic Laboratory (Largo, Maryland) recently received 18.5 speckled tan tablets, suspected Ecstasy (see Photo 6). The exhibits were seized in Washington, D.C. by agents from the DEA Washington Division Office, pursuant to a search warrant (no further details). The tablets had no logo, but were beveled. Analysis of the tablets (total net mass 5.1 grams) by color testing (cobalt thiocyanate and Marquis), GC, and GC/MS, however, indicated not MDMA but rather a mixture of heroin (approximately 2 percent), cocaine (approximately 1 percent), and caffeine (not quantitated). This is the first known submission of these type tablets to the Mid-Atlantic Laboratory.



Photo 6

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- INTELLIGENCE ALERT -

4-IODO-2,5-DIMETHOXYAMPHETAMINE (DOI) IN MADISON, WISCONSIN

The DEA North Central Laboratory (Chicago, Illinois) recently received a glass bottle containing a clear, colorless, aqueous liquid (pH = 6), purported to contain an analog of DOB (4-bromo-2,5-dimethoxyamphetamine) (no photos). The exhibit was seized by agents from the DEA Madison Resident Office (details sensitive). Analysis of the liquid (total net volume 57.0 milliliters (56.4 grams)) via GC/MS, IR, and LC/MS determined that it contained 4-iodo-2,5-dimethoxyamphetamine hydrochloride (DOI HCl). The solution was not quantitated, but was a moderate concentration based on the GC. No other compounds were detected during the analyses, and the IR of the evaporate gave a good quality match for DOI HCl. This is believed to be the first submission of a solution of DOI to the North Central Laboratory.

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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. Agg KM, Barnett NW, Lewis SW, Pearson JR. **Preliminary investigations into tris(2,2'-bipyridyl) Ruthenium (III) as a chemiluminescent reagent for the detection of 3,6-diacetylmorphine (heroin) on surfaces.** *Journal of Forensic Sciences* 2007;52(5):1111. [Editor's Notes: Presents the use of the title compound in aqueous and anhydrous forms; the anhydrous form gives a fast, bright response. Contact: School of Life and Environmental Sciences, Deakin University, Pigdons Rd., Waurin Ponds, Vic. 3217, Australia.]
2. Bell SEJ, Fido LA, Sirimuthu NMS, Speers SJ, Peters KL, Cosbey SH. **Screening tablets for DOB using surface-enhanced Raman spectroscopy.** *Journal of Forensic Sciences* 2007;52(5):1063. [Editor's Notes: As little as 15 µg can be detected; analysis times are less than 1 minute. Contact: School of Chemistry and Chemical Engineering, Queen's University, Belfast BT9 5AG, U.K.]
3. Fernandez FM, Green MD, Newton PN. **Prevalence and detection of counterfeit pharmaceuticals: A mini review.** *Industrial & Engineering Chemistry Research* 2007, ACS ASAP (no further citation information). [Editor's Notes: A mini-review, discussing new detection tools being developed to identify and characterize fake drugs. Contact: School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, GA 30332.]
4. Izake EL. **Chiral discrimination and enantioselective analysis of drugs: An overview.** *Journal of Pharmaceutical Sciences* 2007;96(7):1659. [Editor's Notes: An overview and review. Contact: Forensic Chemistry Section, Pathology and Scientific Services, Queensland Health, Queensland Government, Australia.]
5. Nguyen DT, Guillarme D, Heinisch S, Barrioulet MP, Rocca JL, Rudaz S, Veuthey JL. **High throughput liquid chromatography with sub-2µm particles at high pressure and high temperature.** *Journal of Chromatography A* 2007;1167(1):76. [Editor's Notes: A repeatability

and stability study (500 injections); 9 doping agents (not identified in the abstract) were analyzed in less than 1 minute; 8 pharmaceuticals (not identified) were analyzed in 40 seconds.].

Additional References of Possible Interest:

1. Legge R, Hopson T, Maracas G, Bechtel P. **Personal illicit drug detection method in the form of a layer of detecting substance positioned on at least one finger of a user.** (Patent) Chemical Abstracts 2007:718959.
2. Mio MJ. **CSI: Detroit - Can pop culture make chemistry relevant to students?** *Chimica Oggi* 2006;24(2):2. [Editor's Notes: Presents the development of a chemical course based on a TV show that emphasizes forensic science. Contact: Department of Chemistry and Biochemistry, University of Detroit - Mercy, Detroit, MI 48221.]
3. Quest DW, Horsley J. **Field-test of a date-rape drug detection device.** *Journal of Analytical Toxicology* 2007;31(6):354. [Editor's Notes: For GHB and/or ketamine in beverages. The test accuracy was found to be 100 percent in the laboratory, but considerably less so in the hands of consumers. Contact: College of Nursing, University of Saskatchewan, Saskatoon, Saskatchewan, Canada (no further addressing information was provided).]
4. Ratcliffe LV, Rutten FJM, Barrett DA, Whitmore T, Seymour D, Greenwood C, Aranda-Gonzalvo Y, Robinson S, McCoustra M. **Surface analysis under ambient conditions using plasma-assisted desorption/ionization mass spectrometry.** *Analytical Chemistry* 2007, ACS ASAP (no further citation information). [Editor's Notes: Presents the title technique, which can analyze drugs (pharmaceutical or "forensic") with no sample prep. Contact: Centre for Analytical Bioscience, School of Pharmacy, Univ. of Nottingham, Nottingham NG7 2RD, U.K.]
5. Ray R, Sharma JD, Limaye SN. **Variations in the physico-chemical parameters of some N-methyl substituted barbiturate derivatives.** *Asian Journal of Chemistry* 2007;19(5):3382. [Editor's Notes: The specific compounds were not identified in the abstract. Contact: Department of Chemistry and Forensic Science, Dr. H.S. Gour University, Sagar 470 003, India.]
6. Risser D, Uhl A, Oberndorfer F, Honigschnabl S, Stichenwirth M, Hirz R, Sebald D. **Is there a relationship between street heroin purity and drug-related emergencies and/or drug-related deaths?** An analysis from Vienna, Austria. *Journal of Forensic Sciences* 2007;52(5):1171. [Editor's Notes: Based on statistics from 1999. In contrast to commonly held perceptions, the results indicate no obvious correlations. Contact: Department of Forensic Medicine, Medical University of Vienna, Sensengasse 2, 1090 Vienna, Austria.]

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SCIENTIFIC MEETINGS

1. Title: 33rd Annual NEAFS Meeting (Third and Final Bimonthly Posting)
Sponsoring Organization: Northeastern Association of Forensic Sciences
Inclusive Dates: October 31 - November 3, 2007
Location: Sagamore Resort (Bolton Landing, New York)
Contact Information: Adrian S. Krawczeniuk ([Adrian.S.Krawczeniuk -at- usdoj.gov](mailto:Adrian.S.Krawczeniuk-at-usdoj.gov); 212/620-4923)
Website: www.neafs.org

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