



Microgram

Bulletin

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The U.S. Attorney General has determined that the publication of this periodical is necessary in the transaction of the public business required by the Department of Justice. Information, instruction, and disclaimers are published in the January issues.

- AUGUST 2010 -

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 which is provided by the abstracting service. Patents and Proceedings are reported only by their *Chemical Abstracts* citation number.]

1. Buchanan HAS, Daeid NN, Kerr WJ, Carter JF, Hill JC. **Role of Five Synthetic Reaction Conditions on the Stable Isotopic Composition of 3,4-Methylenedioxymethamphetamine.** *Analytical Chemistry* 2010;82(13):5484-5489. [Editor's Notes: The identification of links between seizures of illicit 3,4-methylenedioxymethamphetamine (MDMA or "ecstasy") has been a global target of law enforcement agencies in recent years. Previous work has shown that, when the reaction conditions are carefully repeated from batch to batch, stable isotope ratios allow the discrimination of MDMA-hydrochloride batches according to synthetic route used for manufacture. In this study, the effects of altering five reaction conditions relating to the Pt/H₂ reductive amination synthesis were, for the first time, systematically investigated using a two level, five factor factorial design. Results indicate that the $\delta^2\text{H}$ values of MDMA hydrochloride are affected by the length of imine stir time, and the $\delta^{15}\text{N}$ values are affected by the degree of excess methylamine employed. Furthermore, the $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ values have been shown to be affected by the efficiency of the

reaction, despite the similarity in carbon and oxygen composition of the starting material and product molecules. In addition to being of theoretical importance in this field of analytical science overall, this work is essential in order to more fully contextualize the interpretation of IRMS data which may be used as potential forensic evidence. Contact: Centre for Forensic Science, Department of Pure & Applied Chemistry, University of Strathclyde, Glasgow G1 1WX, UK.]

2. Maher HM, Awad T, DeRuiter J, Clark CR. **GC- IRD methods for the identification of some tertiary amines related to MDMA.** Forensic Science International 2010;199 (1-3):18-28. [Editor's Notes: Presents title study. Contact: Department of Pharmaceutical Analytical Chemistry, Faculty of Pharmacy, Alexandria University, Alexandria 21521, Egypt.]

Additional References of Possible Interest:

1. Anderson M, Wilcox K, Guericke M, Chu H, Wilson MV, Wilson E, Lucas K, Holmes AE. **Enantiodiscrimination of methamphetamine by circular dichroism using a porphyrin tweezer.** Chirality 2010;22(4):398-402. [Editor's Notes: Exciton-coupled circular dichroism (ECCD) spectroscopy was able to differentiate between the two enantiomers of methamphetamine using a commercially available porphyrin tweezer as an achiral host. The host-guest complex formed with (+)-(S)-methamphetamine produced a negative bisignate-shaped ECCD spectrum, whereas the complex formed with (-)-(R)-methamphetamine produced a positive one. This sensitive technique could serve as an alternative method for the enantiodiscrimination of chiral methamphetamine. Contact: Department of Chemistry, Doane College, Crete, NE 68333, USA.]
2. Rodomonte AL, Gaudiano MC, Antoniella E, Lucente D, Crusco V, Bartolomei M, Bertocchi P, Manna L, Valvo L, Alhaique F, Muleri N. **Counterfeit drugs detection by measurement of tablets and secondary packaging colour.** Journal of Pharmaceutical and Biomedical Analysis 2010, 53(2), 215-220. [Editor's Notes: Presents title study. Contact: Istituto Superiore di Sanita, Dipartimento del Farmaco, Viale Regina Elena 299, Rome 00161, Italy.]

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THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

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CRC Handbook of Chemistry and Physics, 49th Edition (1968-1969)

Journal of Forensic Sciences:

1991: March (#2)

1992: January (#1), March (#2), July (#4), September (#5), November (#6)

1993: January (#1), March (#2), May (#3), July (#4), September (#5)

1998: September (#5)

Journal of Forensic Sciences:

2000: January (#1), March (#2), May (#3), July (#4), September (#5)
2001: Complete set
2002: Complete set
2003: Complete set
2004: Complete set
2005: Complete set
2006: Complete set
2007: January (#1), March (#2), November (#6)
2008: Complete set
2009: Complete set

Forensic Science Review:

1999: December (#2)
2000: January (#1-2)
2006: January (#1), July (#2)

Forensic Science International:

2004: July (#2-3), August (#1), October (#2-3), November (#1), December (#2-3),
December (Supplemental)
2005: January (#1), January (#2-3), March (#2-3)

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**THE DEA FY 2011 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR
SCHEDULE**

The FY 2011 schedule for the State and Local Forensic Chemists Seminar is as follows:

November 1-5, 2010
March 7-11, 2011
June 6-10, 2011
September 12-16, 2011

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 this issue of *Microgram Bulletin*. 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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SCIENTIFIC MEETINGS

Title: 2010 Midwestern Association of Forensic Scientists 39th Annual Meeting

Sponsoring Organization: Midwestern Association of Forensic Scientists

Inclusive Dates: October 4 - 8, 2010

Location: Kansas City Marriott Downtown (Kansas City, MO)

Contact Information: See Website

Website: www.mafs.net

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Title: The 2010 NEAFS & NEDIAI Joint Meeting

Sponsoring Organization: North Eastern Association of Forensic Scientist and the New England Division IAI Program

Inclusive Dates: November 8 - 12, 2010

Location: Equinox Golf Resort and Spa (Manchester, VT)

Contact Information: NEAFS2010@gmail.com

Website: www.neafs.org

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DEA State and Local Forensic Chemist Seminar Application

Name: (PRINT NAME EXACTLY AS IT IS TO APPEAR ON CERTIFICATE)	Title:
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Employer:

Your Office Mailing Address (include city, state, and zip code):	Length of Service:
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Business Telephone: () -	Business Fax: () -	Date of Application:
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Email Address:

Education

College or University	Degree	Major

Please Check Which Techniques or Equipment Are Used in Your Laboratory

Color Tests	UV
Column Chromatography	IR
Microcrystal Tests	CE
Thin Layer Chromatography	GC/MS
GC	IR
HPLC	Other (please specify)

Indicate Analytical Problem(s) Nominee Would Like to Have Covered:

Choice of Seminar Dates:
1st Choice: _____ 2nd Choice: _____

Laboratory Chief/Director:

Printed Name: _____ Signature: _____

Title: _____ Date: _____

Phone: _____