

Microgram

Bulletin

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- FEBRUARY 2010 -

DEATH OF LABORATORY DIRECTOR VICKIE A. BAILEY



Vickie A. Bailey

DEA Southeast Laboratory (Miami, Florida) Director Vickie Bailey, 53, died Tuesday, January 12th in Miramar, Florida of complications from cancer. Vickie had a distinguished 26½ year career in the Office of Forensic Sciences. She became a Forensic Chemist at the DEA Southwest Laboratory (then located in San Diego, California) in 1983. She was promoted to Supervisory Forensic Chemist in 1992, serving in that position at both the DEA South Central Laboratory (Dallas, Texas) and then at the DEA Southeast Laboratory (Miami, Florida). In 1997, she became a Program Manager at DEA Headquarters (Arlington, Virginia), also serving details in the Office of Training and Office of Inspections. She was promoted to Associate Laboratory Director of the DEA Northeast Laboratory (New York, New York) in 2001. She was promoted to Laboratory Director of the DEA Southeast Laboratory (Miami, Florida) in 2005, serving in that position until her death. Vickie had a vivacious and engaging

personality, was well liked by her compatriots, and will be missed. She was interred January 19th in Rome, Georgia, and is survived by her mother and two sisters.

THOMAS J. JANOVSKY RETIRES

Thomas J. Janovsky, the Deputy Assistant Administrator for DEA's Office of Forensic Sciences, retired in January 2010. Mr. Janovsky started his career in 1974 as a Forensic Chemist at the DEA North Central Laboratory (Chicago, Illinois). During his 35 years of service he held many positions within DEA. He served as a Supervisory Chemist in both the DEA Northeast Laboratory (New York, New York) and the DEA Special Testing and Research Laboratory (then located in McLean, Virginia). He also served as a Program Manger at DEA Headquarters (Arlington, Virginia). In 1995, he became the Laboratory Director of DEA's Southeast Laboratory (Miami, Florida). In 1998, he was promoted to Associate Deputy Assistant Administrator and then became the Deputy Assistant Administrator for the Office of Forensic Sciences in 1999. The DEA Office of Forensic Sciences extends Mr. Janovsky their best wishes for a long, happy, and healthy retirement.



Thomas J. Janovsky

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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. Awad T, Belal T, DeRuiter J, Clark, CR. **GC/IRD studies on regioisomeric ring substituted methoxy methyl phenylacetones related to 3,4-methylenedioxy-phenylacetone.** *Forensic Science International* 2010;194(1-3):39-48. [Editor's Notes: The methoxy methyl phenylacetones share an isobaric relationship (equivalent mass but different elemental composition) to the controlled precursor substance 3,4-methylenedioxyphenylacetone (3,4-methylenedioxyphenyl-2-propanone; 3,4-MDP-2-P). The ten ring substituted methoxy methyl phenylacetones are resolved by capillary gas chromatography on a modified cyclodextrin stationary phase. All ten regioisomeric ketones eluted before the controlled precursor substance 3,4-methylenedioxyphenylacetone. The vapor phase IR spectra generated from the capillary column effluent clearly differentiated 3,4-MDP-2-P from the various methoxy methyl phenylacetones. Additionally, the methoxy methyl phenylacetones provide unique individual IR spectra. IR absorption frequencies and patterns confirmed the relative position of the methoxy-group and the acetone side-chain for the regioisomeric ketones. Contact: Department of Pharmacal Sciences, Harrison School of Pharmacy, 3306B Walker Building, Auburn University, Auburn, AL 36849, USA.]
2. Hargreaves MD, Burnett AD, Munshi T, Cunningham, JE, Linfield EH, Davies AG, Edwards, HGM. **Comparison of near infrared laser excitation wavelengths and its influence on the interrogation of seized drugs-of-abuse by Raman spectroscopy.** *Journal of Raman Spectroscopy* 2009;40(12):1974-1983. [Editor's Notes: The laser excitation wavelength is an important parameter in obtaining Raman spectra from drugs-

of-abuse. This article compares the effect of near IR wavelengths, 785 nm, using both benchtop and portable instrumentation and benchtop 1064 nm on the Raman spectra of seized drugs-of-abuse, including cocaine hydrochloride, cocaine base, 3,4-methylenedioxymethamphetamine, amphetamine, heroin, and cannabis. The significant benefit of using 1064 nm for the interrogation of this type of sample is highlighted. Contact: Raman Spectroscopy Group, Division of Chemical & Forensic Sciences, School of Life Sciences, University of Bradford, Bradford BD7 1DP.]

3. Tagliaro F, Pascali J, Fanigliulo A, Bortolotti F. **Recent advances in the application of CE to forensic sciences: A update over years 2007-2009.** *Electrophoresis* 2010;31(1):251-259. [Editor's Notes: Presents a summary of published forensic CE applications covering 2007 through the first few months of 2009. Contact: Department of Medicine and Public Health, Section of Forensic Medicine, University of Verona, Verona, Italy.]
4. West JB, Hurley JM, Dudas FO, Ehleringer JR. **The stable isotope ratios of Marijuana. II. Strontium isotopes relate to geographic origin.** *Journal of Forensic Sciences* 2009;54(6):1261-1269. [Editor's Notes: The $^{87}\text{Sr}/^{86}\text{Sr}$ ratio of marijuana samples grown in 79 counties across the United States was analyzed to determine if a primary geological signal is retained in marijuana, which could therefore be useful for geographical sourcing. The marijuana results were compared with modeled bedrock $^{87}\text{Sr}/^{86}\text{Sr}$ values based on ^{87}Rb decay rates and a generalized geological map of the USA. A significant correlation was observed between marijuana $^{87}\text{Sr}/^{86}\text{Sr}$ and modeled bedrock $^{87}\text{Sr}/^{86}\text{Sr}$. Although values clustered near the 1:1 relationship, there was a predominance of possible anomalies, perhaps attributable to carbonate bedrock. A small number of negative anomalies were also observed, which were generally associated with granitic bedrocks. These results suggest that strontium isotopes in marijuana record the geographical origins of marijuana, and that refinement of the base strontium map (or strontium isoscape) and improved understanding of other strontium sources would be productive. Contact: Department of Biology, University of Utah, Salt Lake City, UT 84112, USA.]

Additional References of Possible Interest:

1. Sugita R, Sasagawa K, Suzuki S. **Illegal route estimation of the seized illicit drug, methamphetamine, by the comparison of striation marks on plastic packaging films.** *Journal of Forensic Sciences* 2009;54(6):1341-1348. [Editor's Notes: It is possible to trace the origin of methamphetamine by analyzing its organic and inorganic impurities and/or byproducts using several methods, such as GC, GC/MS, and inductively coupled plasma-mass spectrometry (ICP-MS). As reported here, one other method includes comparison of the striation lines of polymer sheet layers from packaging using a polarized light method. Other alternative methods include analyzing the heat sealer pattern, layer thickness surface characteristics, and/or components of polymer sheet layers using IR spectroscopy. Several of these alternative methods were used to analyze the origins of 29 packages confiscated from three regions over a 1000 km distance in Japan. Results indicated that packages seized from different regions had some polymer sheet layers which contained striation lines and heat sealer patterns that were similar. Contact: National Research Institute of Police Science, Kashiwa-shi, Chiba 277-0882, Japan.]

2. Trefi S, Gilard V, Balayssac S, Malet-Martino M, Martino R. **The usefulness of 2D DOSY and 3D DOSY-COSY ¹H NMR for mixture analysis: application to genuine and fake formulations of sildenafil (Viagra).** *Magnetic Resonance in Chemistry* 2009;47(S1):S163-S173. [Editor's Notes: Two-dimensional diffusion ordered spectroscopy (DOSY) ¹H NMR is proposed to analyze complex drug mixtures in order to discriminate genuine from fake formulations of sildenafil. The method was applied to the analysis of 17 formulations of sildenafil. DOSY analysis enabled (i) the differentiation of imitations or counterfeit from the authentic formulation, (ii) the detection of sildenafil and/or adulterants, (iii) the detection of various excipients giving a signature of the tablet manufacturer. This study also presents a three-dimensional DOSY-COSY ¹H NMR experiment that provides both virtual separation and structural information. Contact: Groupe de RMN Biomedicale, Laboratoire SPCMIB (UMR CNRS 5068), Universite Paul Sabatier, Toulouse 31062, France.]

3. Westphal F, Roesner P, Junge Th. **Differentiation of regioisomeric ring-substituted fluorophenethylamines with product ion spectrometry.** *Forensic Science International* 2010;194(1-3):53-59. [Editor's Notes: Presents title study. Contact: Sachgebiet Toxikologie/Betaeubungsmittel, Landeskriminalamt Schleswig-Holstein, Muehlenweg 166, Kiel 24116, Germany.]

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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:

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)

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SCIENTIFIC MEETINGS

Title: 2010 Mid-Atlantic Association of Forensic Scientists Annual Meeting

Sponsoring Organization: Mid-Atlantic Association of Forensic Scientists

Inclusive Dates: May 17-21, 2010

Location: Penn State University (State College, PA)

Contact Information: maafs@comcast.net

Website: www.maafs.org

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