

Author's Accepted Manuscript

Investigation of Gas Phase Absorption Spectral Similarity for Stable-Isotopically Labeled Compounds in the 125 – 240 nm Wavelength Range

Courtney Weston, Jonathan Smuts, James X. Mao, Kevin A. Schug



PII: S0039-9140(17)30977-3
DOI: <http://dx.doi.org/10.1016/j.talanta.2017.09.033>
Reference: TAL17936

To appear in: *Talanta*

Received date: 30 July 2017
Revised date: 10 September 2017
Accepted date: 11 September 2017

Cite this article as: Courtney Weston, Jonathan Smuts, James X. Mao and Kevin A. Schug, Investigation of Gas Phase Absorption Spectral Similarity for Stable-Isotopically Labeled Compounds in the 125 – 240 nm Wavelength Range, *Talanta*, <http://dx.doi.org/10.1016/j.talanta.2017.09.033>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Investigation of Gas Phase Absorption Spectral Similarity for Stable-Isotopically Labeled Compounds in the 125 – 240 nm Wavelength Range

Courtney Weston,¹ Jonathan Smuts,² James X. Mao,¹ Kevin A. Schug^{1*}

1. Department of Chemistry & Biochemistry, The University of Texas at Arlington, Arlington TX
2. VUV Analytics, Inc., Cedar Park TX

*address correspondence to: 700 Planetarium Pl.; Box 19065; Arlington, TX 76019; (ph) 817-272-3541; (email) kschug@uta.edu

Prepared for submission as an original research article to a special issue (SD) of:

Talanta

Abstract

Stable-isotopically-labeled internal standards are commonly incorporated in methods for trace analysis that utilize mass spectrometric detection. They closely mimic the physicochemical properties of the analyte, but their signal is easily differentiable based on a change in molecular mass. To investigate the potential to transfer methods incorporating such internal standards for analysis by vacuum ultraviolet detection, a study was conducted to compare the spectral shape (from 125 – 240 nm) of stable-isotopically-labeled compounds with their non-labeled counterparts. Gas chromatography – vacuum ultraviolet spectroscopic analysis was performed for a series of benzene isotopologues, as well as for clinically- and environmentally-relevant

Download English Version:

<https://daneshyari.com/en/article/7677238>

Download Persian Version:

<https://daneshyari.com/article/7677238>

[Daneshyari.com](https://daneshyari.com)