

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JUL 16 2018

OFFICE OF THE  
SCIENCE ADVISOR

Dr. Michael Delaney, Chair  
Environmental Laboratory Advisory Board  
Massachusetts Water Resources Authority  
190 Tafts Avenue  
Winthrop, MA 02152

Dear Dr. Delaney:

Thank you for your letter (dated May 16, 2018) along with the revised set of minimum criteria for Selected Ion Monitoring (SIM) for gas chromatography/mass spectrometry (GC/MS) methods. The revised SIM criteria were reviewed by EPA's environmental measurement community, which provided comments (see attached). If ELAB would like to address these comments to the Agency's satisfaction and submit a final version of the minimum SIM criteria, it would be distributed to the Agency's measurement community for informational purposes.

It is clear that ELAB has made a diligent effort to develop this document and the Agency thanks the Board members for their efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer Orme-Zavaleta".

Jennifer Orme-Zavaleta, Ph.D.  
EPA Science Advisor

## **EPA Comments:**

### Comment 1:

The proposed criteria are scientifically sound but should not be implemented without addition of a specific requirement that ion ratio acceptance ranges for the quantitation ion and each confirmation ion be established using standards, and that an acceptable ion ratio be a requirement, along with retention time, for positive identification of an analyte in an unknown sample. Ion ratios are discussed in section h. of the document, but without mention of acceptance ranges.

### Comment 2:

The ELAB recommendation does not address isotope dilution MS, which is an approach recommended for several methods that are laboratory based and could use SIM MS.

### Comment 3:

Section b. of this document revised by ELAB and now states:

**b. Method Flexibility.** Method modifications that are precluded by the applicable regulation must not be made, including when the use of SIM may be prohibited. Verify that all QC acceptance criteria in the method are met.

This section is still ambiguous regarding methods where SIM cannot be used unless there is a specific provision allowing it. The following language is suggested for section b.: "The flexibility to use SIM with a particular method varies depending on the associated regulation. The determination of whether SIM can be used with a specific method will be determined by each EPA program office. Verify that all QC acceptance criteria are met."