



MISSISSIPPI STATE
UNIVERSITY™

INVITATION FOR BIDS

OFFICE OF PROCUREMENT & CONTRACTS

1. INSTRUCTIONS FOR BIDDERS

- a. Sealed bids will be received in the Office of Procurement & Contracts, Mississippi State University, for the purchase of the items listed herein.
- b. All bids must be received in the Office of Procurement & Contracts on or before the bid opening time and date listed herein. Delivery of bids must be during normal working hours, 8:00 a.m. to 5:00 p.m. CST, except on weekends and holidays when no delivery is possible.
- c. Bidders shall submit their bids either electronically or in a sealed envelope.
 - i. Sealed bids should include the bid number on the face of the envelope as well as the bidders' name and address. Bids should be mailed to: 245 Barr Avenue, 610 McArthur Hall, Mississippi State, MS 39762.
 - ii. At this time we only accept non-ITS bids electronically. For electronic submission of bids, go to: https://www.ms.gov/dfa/contract_bid_search and use the RFX number on the next page as your reference number.
- d. All questions regarding this bid should be directed to the Office of Procurement & Contracts at 662-325-2550.

2. TERMS AND CONDITIONS

- a. All bids should be bid "FOB Destination"
- b. Bidders must comply with all rules, regulations, and statutes relating to purchasing in the State of Mississippi, in addition to the requirements on this form. General Bid Terms and Conditions can be found here:
https://www.procurement.msstate.edu/procurement/bids/Bid_General_Terms_May_2019_V2.pdf
- c. Any contract resulting from this Invitation for Bid shall be in substantial compliance with Mississippi State University's Standard Contract Addendum:
<https://www.procurement.msstate.edu/contracts/standardaddendum.pdf>

Bid Number/RFX Number: 19-90/RFX #3160003259

Opening Date: November 21, 2019 @2:00 p.m.

Description: Triple Quadrupole Mass Spectrometer

Vendor Name: _____

Vendor Address: _____

Telephone Number: _____

Days the Offer is Firm: _____

Authorized Signature: _____

Name: _____

Title: _____

Item	Quantity	Description	Unit Price	Total Price
1	1	Triple Quadrupole Mass Spectrometer		

We require a triple quadrupole mass spectrometer (LC/MS/MS) to expand the analytical capabilities of our laboratory and provide us with the capability to quantify and identify compounds relevant to food safety and quality enhancement objectives. The following are our needs and specifications.

- The instrument required for this type of analysis is a triple quadrupole mass spectrometer (LC/MS/MS), specifically preferring one equipped with a QTRAP or Orbitrap or equivalent capability technology. The system should be complete with operation software and with the software and license for managing spectra library for structural identification and quantification.
- In order to meet our sensitivity requirements, the instrument must possess a true orthogonal source capable of switching quickly between both electrospray (ESI) and atmospheric pressure chemical ionization (APCI) modes without changing the source.
- The instrument must provide high sensitivity analysis over a wide range of flow rates with quick-change between APCI and the ESI probes.
- The instrument's design should have a low likelihood that any non-charged ions will contaminate the vacuum section of the instrument. We need a source that can be removed from the host system without tools and can be replaced with a different one in less than one minute. We also require a source design that allows for cleaning without breaking vacuum.

- Due to the broad range of analytes we encounter we need to be able to use the widest possible range of LC flow rates, from 5 μ L/min to at least 3mL/min. The ion source should allow us to use the full range of HPLC columns including narrow bore, standard bore, and UHPLC columns.
- We require a LC that is equipped with a binary pump, controller, auto-sampler, solvent degasser, column oven (5-80C) and can deliver with a wide range of flow rate (e.g. 5 microliters to 3-5 mL/min and with adequate high pressure that is consistent with the functions of the MS detector described above.
- Due to the wide range of masses and concentrations of the molecules that we need to analyze, we require a linear dynamic range of greater than five orders of magnitude for the mass spectrometer.
- For increased confidence in the identification of our compounds, while not sacrificing the analytical quantitative capabilities of a quadrupole based mass spectrometer, we require the capability of the instrument to perform as both an ion trap or equivalent capability technology for identification as well a quadrupole based mass spectrometer for quantitation. We need to have the capability of high sensitivity ion scanning while operating in the linear ion trap mode while also retaining all conventional triple quadrupole scan modes, precursor ion, and neutral loss scans. We prefer to have features that will provide for higher levels of analytical confidence by reducing false positive & false negative rates in comparison to other technologies.
- The instrument should provide high sensitivity ion scanning while operating in the linear ion trap mode while also retaining all conventional triple quadrupole scan modes.
- We need the additional capability, within the LC timescale, to acquire true, sensitive, library-searchable MS/MS spectra. Resulting “true” MS/MS spectra can be automatically searched against a library to determine a match and fit.
- We require to access to MS/MS compound spectra library to reduce false-positive.
- As the nature of several of our sample types includes complex matrices with interferences, we would require a system that can provide additional structural identification analyses beyond the quantification capability.
- We prefer to have a curved linear accelerator collision cell to eliminate mass spectral cross-talk while reducing the chemical noise present in our samples.
- We require a polarity switching time of 50 msec or less to reduce the number of injections for mixtures containing analytes that may respond to either positive or negative ionization, but not both.
- We require three years of product warranty and/or service contracts for the instrument.
- We require on-site personnel training/learning to be included.
- We require a standalone nitrogen generator for providing necessary flow rate, purity and pressure for the operation of the instrument.
- We require a boost transformer to supply voltage in the range of 200-230VAC.
- We require a backup battery in case of electrical outage for maintaining the system in operation.