Vita Green Health Products Co. Ltd

Date:

Tender notice no.: T2019-01

Re: Request for Quotation for the Provision of LC/MS system at

Vita Green Health Products Co. Ltd

This tender invitation is for the acquisition of one set of High Resolution Mass Spectrometer with Ultra High Pressure Liquid Chromatograph. High resolution mass spectrometer and the Ultra High Pressure Liquid Chromatography come from single vendor to provide a seamless application and service support will be an advantageous.

This tender notice consists of two parts: (1) this tender invitation, and (2) a tender form (Appendix 1).

**Requirements**

The High Resolution Mass Spectrometer and the Ultra High Pressure Liquid Chromatograph will be used for: 1) target screening for pesticides based on the Regulation in HK CAP132CM and; 2) unknown identification of pesticides and traditional Chinese Medicine.

**Goods to be Provided**

The Ultra High Pressure Liquid Chromatograph and High Resolution Mass Spectrometer system shall include the following components:

1. Ultra-High Pressure Liquid Chromatograph (UHPLC)
2. High Resolution Mass Spectrometer (HRMS)
3. Software for target screening and unknown identification (comply with GMP and 21 CFR Part 11)
4. Nitrogen generator
5. Warranty and service support

The required specifications of each component are:

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| Item No. | Description/Specifications |
| 1. | **Ultra-High Pressure Liquid Chromatograph (UHPLC)** |
| 1.1 | The UHPLC should consist of following components:Solvent Rack, High Pressure Gradient Pump, Autosampler, Column Compartment, Diode Array Detector and the cable for connecting it to HRMS. |
| 1.1.1 | **Solvent Rack** |
| 1.1.1.1 | The solvent Rack should consist of degasser channels. |
| 1.1.1.2 | The solvent channel should be 6 or more. |
| 1.1.2 | **High Pressure Gradient Pump** |
| 1.1.2.1 | The flow accuracy should be ±0.1% or lower.  |
| 1.1.2.2 | The flow precision should be less than 0.05% RSD or 0.01min SD, whichever is greater. |
| 1.1.2.3 | The default gradient delay volume should be 200µL or lower. |
| 1.1.2.4 | The gradient formation should be High Pressure Proportioning. |
| 1.1.2.5 | The Pressure Range is from 2 to 103.4 MPa, or wider, up to 5mL/min and from 2 to 80 MPa, or wider, up to 8mL/min. |
| 1.1.2.6 | The number of eluent lines should be 2 or more. |
| 1.1.2.7 | The proportioning accuracy should be ±0.2% (full scale) or lower. |
| 1.1.2.8 | The proportioning precision should be less than 0.15% SD. |
| 1.1.2.9 | The pressure ripple should be less than 0.2MPa or 1% typically, whichever is greater. |
| 1.1.2.10 | The maximum flow rate of the pump should be 8.0mL/min or higher. |
| 1.1.2.11 | The minimum flow rate of the pump should be 0.0001mL/min or lower.  |
| 1.1.2.12 | The type of pump should be Binary Solvent Mixing (High Pressure Gradient Mixing) and the operating principle should be serial dual-piston. |
| 1.1.2.13 | It should consist of active rear-seal wash and floating pistons to maximize seal lifetime and pump uptime.  |
| 1.1.3 | **Autosampler** |
| 1.1.3.1 | The injection cycle time should be less than 15 seconds. |
| 1.1.3.2 | The injection volume precision should be less than 0.25%. |
| 1.1.3.3 | The injection volume range should be from 0.01 to 500µL, or wider. |
| 1.1.3.4 | The injection type should be split loop. |
| 1.1.3.5 | The maximum pressure should be 1034 bar / 15000 psi or higher. |
| 1.1.3.6 | The linearity should be high than 0.9999. |
| 1.1.3.7 | The carryover should be less than 0.004%. |
| 1.3.3.8 | It should consist of sample thermostatting function to protect thermally-sensitive analytes. |
| 1.3.3.9 | It should consist of ceramic injection needle and titanium injection valve to enhance biocompatibility. |
| 1.1.4 | **Column Compartment** |
| 1.1.4.1 | The temperature range should be from 5oC to 110oC, or wider. |
| 1.1.4.2 | The temperature accuracy should be ±0.5oC, or less. |
| 1.1.4.3 | The cool down time should be 15min or shorter, from 50oC to 20oC at ambient temperature of 25oC. |
| 1.1.4.4 | The temperature stability should be ±0.1oC, or less. |
| 1.1.4.5 | The temperature precision should be ±0.1oC, or less.  |
| 1.1.4.6 | The column capacity should be up to 12 columns, depending on column length. The maximum column length should be 30cm or longer. |
| 1.1.5 | **Diode Array Detector** |
| 1.1.5.1 | The detector type is single beam, reverse-optics design with concave holographic grating. |
| 1.1.5.2 | The maximum data collection rate should be 100Hz or higher. |
| 1.1.5.3 | The drift should be less than 1mAU/h at 254 and 520nm with water at 1.0mL/min |
| 1.1.5.4 | The linearity should be less than 3% RSD and corr. Coeff. Is higher than 0.9995 up to 1.5AU. |
| 1.1.5.5 | The light source is deuterium lamp. |
| 1.1.5.6 | The wavelength accuracy should be ±1.0nm or less, self-calibration with D-alpha line, verification with holmium oxide filter. |
| 1.1.5.7 | The pixel resolution should be less than 1nm. |
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| 2. | **High Resolution Mass Spectrometer** |
| 2.1 | The system shall be brand new. |
| 2.2 | The resolution shall be up to 70,000 (FWHM) at m/z 200. |
| 2.3 | The scan speed shall be up to 12Hz or higher. |
| 2.4 | The instrument must be able to operate in laboratory conditions that the temperature is ranged from 15-26oC or wider with relative humidity between 40-70% or wider. |
| 2.5 | Other than nitrogen, no additional gas is required for the ionization of the sample and for the collision gas in the collision cell. |
| 2.6 | **Ion source** |
| 2.6.1 | The instrument must be equipped with an atmospheric pressure ionization (API) interface that includes the source and spraying elements. Samples may be introduced by direct infusion or the system may be interfaced directly to either a HPLC/UPLC system. |
| 2.6.2 | It must be possible to introduce sample or calibration solution, either directly or combined with the LC eluent, automatically via an integrated fluidics assembly. |
| 2.6.3 | Tool free access to the ion source must be incorporated to allow easy success for cleaning without the need to remove the ion source enclosure. A toughened glass window must be incorporated into the door to allow easy viewing of the source. |
| 2.6.4 | Positive and negative ionization capabilities must be included as standard on the instrument. |
| 2.6.5 | A high efficiency travelling wave device must serve as an ion guide between the source and the analyser. |
| 2.7 | **API Source** |
| 2.7.1 | An electrospray ionization (ESI) source must be provided as standard with the instrument. The source should incorporate a heated gas flow, separate from the probe nebuliser, for efficient desolvation. No supplement heater or probe should be required to work over the 5-2000µL/min flow range. The probe must incorporate the facility to adjust the sprayer tip length in-situ to allow easy optimisation of ionisation. |
| 2.7.2 | It shall consist of metal needle kits for high- and low-flow analyses. |
| 2.8 | **Ion Optics** |
| 2.8.1 | It shall consist of RF lens stacked-ring radio frequency (RF) ion guide captures and efficiently focuses the ions into a tight beam. Large variable spacing between electrodes allows for better pumping efficiency and improved ruggedness. |
| 2.8.2 | It shall consist of bent flatapole ion guide reduces noise by preventing neutrals and high-velocity clusters from entering the quadrupole. |
| 2.9 | **Quadrupole Analyser** |
| 2.9.1 | The instrument should be configured with a quadrupole mass filter to maximize resolution and transmission while preventing contamination and selection of precursor ions for MS/MS analysis. |
| 2.9.2 | Variable precursor isolation width selection from 0.4Da to full mass range. |
| 2.10 | **Vacuum System** |
| 2.10.1 | It shall be a differentially pumped vacuum system with final vacuum <1 x 10-9 mbar. |
| 2.10.2 | It shall consist of two split-flow air-cooled turbomolecular pumps and one rotary pump. |
| 2.10.3 | It shall consist of seven vacuum regions. |
| 2.11 | **Mass Analyser** |
| 2.11.1 | The resolving power shall be 70,000 or higher at m/z of 200. |
| 2.11.2 | The mass range shall be from 50 to 3,000 m/z or wider. |
| 2.11.3 | The scan rate shall be up to 12 Hz or higher at resolution setting of 17,500 at m/z 200. |
| 2.11.4 | The mass accuracy shall be less than 1ppm RMS (internal) and less than 3ppm RMS (external). |
| 2.11.5 | The sensitivity for full MS shall be 500fg buspirone on column S/N 100:1 or better. |
| 2.11.6 | The sensitivity for SIM shall be 50fg buspirone on column S/N 100:1 or better. |
| 2.11.7 | The dynamic range shall be 5,000:1 or larger. |
| 2.11.8 | The polarity switching shall be one full cycle in less than 1 second (one full positive mode scan and one full negative mode scan at a resolution setting of 35,000) |
| 2.12 | **Waste solvent drainage** |
| 2.12.1 | A waste solvent drainage system must be integrated into the main chassis of the instrument to allow safe drainage of LC solvent from the source in the event of a nitrogen supply failure to the instrument. A connection must be made to the rear of the instrument for draining solvent safely to a suitable reservoir. |
| 3. | **The computer and software** |
| 3.1 | The data system shall consist a high-performance PC with Intel microprocessor, high-resolution LCD color monitor, Microsoft Windows 7 or higher operating system, Microsoft software package, an instrument control and data processing software and a workflow-based method editor and tune software. |
| 3.2 | The data system shall be a single-point instrument control and data processing software capable of full integrated control of the system components as well as processing of the data acquired, without the assistance of remote panel. Fully integrated control of both the UPLC and high resolution mass spectrometer systems must be provided within the MS acquisition software.  |
| 3.3 | The software shall include ALL NECESSARY modules for identification of peaks to their molecular structure. This capability should apply to metabolites, traditional Chinese Medicine and pesticides. The algorithm shall account for information from the accurate precursor mass, retention time, isotope patterns, and MS/MS productions (if required). The algorithm shall perform identification automatically in a high-throughput manner and provide the data support for each identification (if any). The algorithm shall provide untargeted screening capability by performing chemical structure database search. |
| 3.4 | The software should have a function which is able to combine the database similarity searching (MS2 and MSn) with structure similarity matching to rank putative database results, for example, ChemSpiderTM hits, mass list hits, and mapped compounds.  |
| 3.5 | The software should be secure, administrator-controlled user access and permissions to ensure integrity and enable compliance with GMP and 21 CFR Part 11. |
| 3.6 | Two computer systems should be provided. One computer is for operating the High Resolution Mass Spectrometer. The other computer with higher storage (2TB or higher) should be provided with two 27” monitors (or larger screen) for data processing. |
| 4. | **Analytical Performance** |
| 4.1 | The mass spectrometer system shall have the following analytical performance or better and the following specification should be demonstrated on-site after installation. |
| 4.1.1 | Test of Long term mass accuracy and stability:Inject 100fg of reserpine repeatedly in 48h, target mass 609.28066< 2ppm, without any kind of mass recalibration or using lockmass (internal calibration). A report should be included in response to this tender. |
| 4.1.2 | Test of Sensitivity:Sensitivity CANNOT drop when resolution increased. Inject 100fg reserpine on column in ESI positive mode at a resolution setting of 35,000 and 70,000 respectively, use target mass of 609.28066 to calculate area counts, the area difference must be no more than 8% in these two resolution setting, and RSD% of area must be no more than 5% (n=6). A report should be included in response to this tender. |
| 4.1.3 | The Ultra High Pressure Liquid Chromatography with the High Resolution Mass Spectrometer system should be able to screen more than 280 pesticides based on the regulation CAP132CM. The application note for this method should be provided with the tender document. |
| 5 | **Nitrogen generator** |
| 5.1 | A nitrogen generator with flow rate 30 SLPM or high should be provided. |
| 5.2 | The output pressure should from 0 to 7bar g, or wider. |
| 6 | **UPS** |
| 6.1 |  A UPS should be included. The UPS should be able to back-up the whole system for approx.. 10 minutes or more. |

**Other Requirements**

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| Item | Description |
| 7.1 | 12 months warranty or more shall be provided for UHPLC, HRMS and nitrogen generator. |
| 7.2 | Basic operator training shall be provided at no additional charge for laboratory staff on-site, which cover instrument working principles, hardware and software operation, routine maintenance and trouble shooting. |
| 7.3 | The qualification test kit, including qualification standards, temperature sensor and PQ kit should be included. |
| 7.4 | The installation service and qualification test should be included. |
| 7.5 | Application training including method development should be free of charge even warranty is expired. |
| 7.6 | Local survey certificate (boiler inspection) of nitrogen generator should be provided. |
| 7.7 | The payment term to be: 50% pre-payment, 20% COD, 30% after installation with satisfactory. |
| 7.8 | Goods to be delivered within 10 weeks from PO. |
| 7.9 | Goods to deliver to 18 Dai Hei Street, Tai Po Industrial Estate, Tai Po, New Territories with no additional cost. |
| 7.10 | All quotations and payments are to be made in Hong Kong Dollars unless otherwise agreed with Vita Green Health Products Company Limited. |
| 7.11 | The successful tenderer is required to enter into a purchase contract with Vita Green Health Products Company Limited with its standard terms including without limitation to the tenderer giving warranties of fitness of purposes of goods, granting of licences for use of the goods, giving indemnities for any infringement of third parties right, agreeing to preserve confidentiality of information of the purchaser, etc. |
| 7.12 | Vita Green Health Products reserves the right to accept or reject any tender of any part of a tender at its discretion. |
| 7.13 | Each tenderer agrees that all information provided in a tender may be disclosed by Vita Green Health Products Company Limited to its professional advisors, sponsoring bodies of the relevant projects, including without limitation to the Government of HKSAR, or any relevant third parties, without asking for the tenderer’s further consent. |

**Validity of Quotation**

The quotation provided by a tenderer shall be valid for at least 6 months from the date of this tender notice.

No unauthorised alteration or erasure to the tender form and documents will be permitted. Any tender containing such alteration or erasure will not be considered. Any qualification of tender (including without limitation to the quotations) may cause the tender to be disqualified.

**Submission of Tender**

Please fill in the form in Appendix 1 and submit with a formal quotation to Rolley Lee by fax at 2801 7147 on or before 15/06/2019.

Please state the subject as “Request for quotation for the provision of LC/MS system at Vita Green Health Products Co. Ltd”.

A Tender once submitted by a Tenderer will be binding on the Tenderer.

Tender closing date and time is (Date) \_15/06/2019\_\_\_ (Time) \_23:59\_\_\_\_\_\_.

Completed tender form must be received by Vita Green Health Products Company Limited before this date and time in accordance with its internal record which is final and conclusive. Late submission will not be considered.

Please note that it is the responsibility of the tenderer to study the specification and requirements before submitting the tender.

**Appendix 1**

**Tender Form**

For the supply of LC/MS system to be delivered to Vita Green Health Products Co. Ltd, 18 Dai Hei Street, Tai Po Industrial Estate, Tai Po, New Territories, Hong Kong

To: Vita Green Health Products Co. Ltd

Name of Tenderer: (English)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(Chinese)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Registered Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Business Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hong Kong Business Registration Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(\* please attach a copy of the Hong Kong Business Registration Certificate)

Contact Person: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tel. Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Fax Number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date of Submission: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Having examined the terms and conditions stipulated in the Tender Notice, I/we hereby offer to supply all of the Goods in conformity with the tender offer details below and the aforesaid mentioned terms and conditions for the sum of Hong Kong Dollars HK$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_only.

Tender Offer Details

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| Description | Summary of Information |
| Description of Goods1. Ultra-High Pressure Liquid Chromatograph (UHPLC)
2. High Resolution Mass Spectrometer (HRMS)
3. Software for target screening and unknown identification (comply with GMP and 21 CFR Part 11)
4. Nitrogen generator
 |  |
| Manufacturer/ Origin |  |
| Delivery Schedule |  |
| Payment Terms |  |
| Warranty and After-sale Service |  |
| Other Terms and Conditions |  |

Specification Details

|  |  |  |  |
| --- | --- | --- | --- |
| Item No. | Description/Specifications | Compliance to the Tender Specifications (YES or NO)  | Detail Information |
| 1. | **Ultra-High Pressure Liquid Chromatograph (UHPLC)** |  |  |
| 1.1 | The UHPLC should consist of following components:Solvent Rack, High Pressure Gradient Pump, Autosampler, Column Compartment, Diode Array Detector and the cable for connecting it to HRMS. |  |  |
| 1.1.1 | **Solvent Rack** |  |  |
| 1.1.1.1 | The solvent Rack should consist of degasser channels. |  |  |
| 1.1.1.2 | The solvent channel should be 6 or more. |  |  |
| 1.1.2 | **High Pressure Gradient Pump** |  |  |
| 1.1.2.1 | The flow accuracy should be ±0.1% or lower.  |  |  |
| 1.1.2.2 | The flow precision should be less than 0.05% RSD or 0.01min SD, whichever is greater. |  |  |
| 1.1.2.3 | The default gradient delay volume should be 200µL or lower. |  |  |
| 1.1.2.4 | The gradient formation should be High Pressure Proportioning. |  |  |
| 1.1.2.5 | The Pressure Range is from 2 to 103.4 MPa, or wider, up to 5mL/min and from 2 to 80 MPa, or wider, up to 8mL/min. |  |  |
| 1.1.2.6 | The number of eluent lines should be 2 or more. |  |  |
| 1.1.2.7 | The proportioning accuracy should be ±0.2% (full scale) or lower. |  |  |
| 1.1.2.8 | The proportioning precision should be less than 0.15% SD. |  |  |
| 1.1.2.9 | The pressure ripple should be less than 0.2MPa or 1% typically, whichever is greater. |  |  |
| 1.1.2.10 | The maximum flow rate of the pump should be 8.0mL/min or higher. |  |  |
| 1.1.2.11 | The minimum flow rate of the pump should be 0.0001mL/min or lower.  |  |  |
| 1.1.2.12 | The type of pump should be Binary Solvent Mixing (High Pressure Gradient Mixing) and the operating principle should be serial dual-piston. |  |  |
| 1.1.2.13 | It should consist of active rear-seal wash and floating pistons to maximize seal lifetime and pump uptime.  |  |  |
| 1.1.3 | **Autosampler** |  |  |
| 1.1.3.1 | The injection cycle time should be less than 15 seconds. |  |  |
| 1.1.3.2 | The injection volume precision should be less than 0.25%. |  |  |
| 1.1.3.3 | The injection volume range should be from 0.01 to 500µL, or wider. |  |  |
| 1.1.3.4 | The injection type should be split loop. |  |  |
| 1.1.3.5 | The maximum pressure should be 1034 bar / 15000 psi or higher. |  |  |
| 1.1.3.6 | The linearity should be high than 0.9999. |  |  |
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| 1.1.4 | **Column Compartment** |  |  |
| 1.1.4.1 | The temperature range should be from 5oC to 110oC, or wider. |  |  |
| 1.1.4.2 | The temperature accuracy should be ±0.5oC, or less. |  |  |
| 1.1.4.3 | The cool down time should be 15min or shorter, from 50oC to 20oC at ambient temperature of 25oC. |  |  |
| 1.1.4.4 | The temperature stability should be ±0.1oC, or less. |  |  |
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| 1.1.5.1 | The detector type is single beam, reverse-optics design with concave holographic grating. |  |  |
| 1.1.5.2 | The maximum data collection rate should be 100Hz or higher. |  |  |
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| 1.1.5.6 | The wavelength accuracy should be ±1.0nm or less, self-calibration with D-alpha line, verification with holmium oxide filter. |  |  |
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| 2. | **High Resolution Mass Spectrometer** |  |  |
| 2.1 | The system shall be brand new. |  |  |
| 2.2 | The resolution shall be up to 70,000 (FWHM) at m/z 200. |  |  |
| 2.3 | The scan speed shall be up to 12Hz or higher. |  |  |
| 2.4 | The instrument must be able to operate in laboratory conditions that the temperature is ranged from 15-26oC or wider with relative humidity between 40-70% or wider. |  |  |
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| 3.2 | The data system shall be a single-point instrument control and data processing software capable of full integrated control of the system components as well as processing of the data acquired, without the assistance of remote panel. Fully integrated control of both the UPLC and high resolution mass spectrometer systems must be provided within the MS acquisition software.  |  |  |
| 3.3 | The software shall include ALL NECESSARY modules for identification of peaks to their molecular structure. This capability should apply to metabolites, traditional Chinese Medicine and pesticides. The algorithm shall account for information from the accurate precursor mass, retention time, isotope patterns, and MS/MS productions (if required). The algorithm shall perform identification automatically in a high-throughput manner and provide the data support for each identification (if any). The algorithm shall provide untargeted screening capability by performing chemical structure database search. |  |  |
| 3.4 | The software should have a function which is able to combine the database similarity searching (MS2 and MSn) with structure similarity matching to rank putative database results, for example, ChemSpiderTM hits, mass list hits, and mapped compounds.  |  |  |
| 3.5 | The software should be secure, administrator-controlled user access and permissions to ensure integrity and enable compliance with GMP and 21 CFR Part 11. |  |  |
| 3.6 | Two computer systems should be provided. One computer is for operating the High Resolution Mass Spectrometer. The other computer with higher storage (2TB or higher) should be provided with two 27” monitors (or larger screen) for data processing. |  |  |
| 4. | **Analytical Performance** |  |  |
| 4.1 | The mass spectrometer system shall have the following analytical performance or better and the following specification should be demonstrated on-site after installation. |  |  |
| 4.1.1 | Test of Long term mass accuracy and stability:Inject 100fg of reserpine repeatedly in 48h, target mass 609.28066< 2ppm, without any kind of mass recalibration or using lockmass (internal calibration). A report should be included in response to this tender. |  |  |
| 4.1.2 | Test of Sensitivity:Sensitivity CANNOT drop when resolution increased. Inject 100fg reserpine on column in ESI positive mode at a resolution setting of 35,000 and 70,000 respectively, use target mass of 609.28066 to calculate area counts, the area difference must be no more than 8% in these two resolution setting, and RSD% of area must be no more than 5% (n=6). A report should be included in response to this tender. |  |  |
| 4.1.3 | The Ultra High Pressure Liquid Chromatography with the High Resolution Mass Spectrometer system should be able to screen more than 280 pesticides based on the regulation CAP132CM. The application note for this method should be provided with the tender document. |  |  |
| 5 | **Nitrogen generator** |  |  |
| 5.1 | A nitrogen generator with flow rate 30 SLPM or high should be provided. |  |  |
| 5.2 | The output pressure should from 0 to 7bar g, or wider. |  |  |
| 6 | **UPS** |  |  |
| 6.1 |  A UPS should be included. The UPS should be able to back-up the whole system for approx.. 10 minutes or more. |  |  |

**Other Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Description | Compliance to the Tender Specifications (YES or NO)  | Detail Information |
| 7.1 | 12 months warranty or more shall be provided for UHPLC, HRMS and nitrogen generator. |  |  |
| 7.2 | Basic operator training shall be provided at no additional charge for laboratory staff on-site, which cover instrument working principles, hardware and software operation, routine maintenance and trouble shooting. |  |  |
| 7.3 | The qualification test kit, including qualification standards, temperature sensor and PQ kit should be included. |  |  |
| 7.4 | The installation service and qualification test should be included. |  |  |
| 7.5 | Application training including method development should be free of charge even warranty is expired. |  |  |
| 7.6 | Local survey certificate (boiler inspection) of nitrogen generator should be provided. |  |  |
| 7.7 | The payment term to be: 50% pre-payment, 20% COD, 30% after installation with satisfactory. |  |  |
| 7.8 | Goods to be delivered within 10 weeks from PO. |  |  |
| 7.9 | Goods to deliver to 18 Dai Hei Street, Tai Po Industrial Estate, Tai Po, New Territories with no additional cost. |  |  |
| 7.10 | All other requirements as provided in the Tender notice no.: T2019-01 issued by Vita Green Health Products Company Limited |  |  |

1. I/We agree to abide by this Tender for a period of \_\_\_\_\_\_\_\_ days from the date of submission thereof and that it maybe accepted at any time before the expiry of that period.
2. I/We understand that the buyer is not bound to accept the lowest or any tender he receives.

Name and Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

in the capacity of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

duly authorized to sign this tender for and on behalf of

(Company Name and Chop)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Registered Address of Company \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Witness (Name and Signature) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_