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SYNAPT XS HDMS System

Quotation No. 22568310 - Expiration Date : 18.04.2021

General information

207757/11547352

Provider:

Waters Pacific Pte Ltd
Joanna Ang
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Quotation

SYNAPT XS HDMS System

Price Details in SGD

Please reference this quotation when purchase order is issued

Itm	Part No.	Description	Unit Price	Qty	Gross Price	Disc %	Net Price
SYNAPT System							
With the following configuration:							
1	176004475	SYNAPT XS HDMS 4k	992,800.00	1	992,800.00		992,800.00
2	186010222	SYNAPT XS 2,5kHz MALDI Option	229,900.00	1	229,900.00		229,900.00
3	176003946	Dry Vacuum EBARA pump	27,800.00	1	27,800.00		27,800.00
4	176002525	MassLynx Performance Workstation	27,500.00	1	27,500.00		27,500.00
5	668000419	Monitor, 27"	1,700.00	1	1,700.00		1,700.00
6	176002514	MS Ref Stds: SYNAPT G2-S HDMS Install	2,867.00	1	2,867.00		2,867.00
7	186009340	Nitrogen Generator, Genius XE35, 230V	33,300.00	1	33,300.00		33,300.00
8	741000308	MALDI SYNAPT SYSTEM INSTALL CERT	36,200.00	1	36,200.00		36,200.00
9	741000335	Synapt HDMS Installation Certificate	34,100.00	1	34,100.00		34,100.00
10	750000839	4-day On-Site MS App Training w/eLearn	24,100.00	1	24,100.00		24,100.00
11	176003950	Analytical LC-MS Solvent Install Kit	2,677.00	1	2,677.00		2,677.00
12	176002530	HD Imaging	14,900.00	1	14,900.00		14,900.00
13	176003497	EZ Info	9,400.00	1	9,400.00		9,400.00
14	176015109	ACQ. I-Class PLUS Sys. (CH-A) w/SM-FTN-I	128,200.00	1	128,200.00		128,200.00

Total		1,565,444.00	1,565,444.00
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System Discount	35.00 %	-503,035.40
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Total excluding GST		934,208.60
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GST	7.00 %	59,871.95
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Total		999,603.20
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Joanna Ang
Account Manager

Chloe Lee
Sales Manager

Quotation

SYNAPT XS HDMS System

Price Details in SGD

Please reference this quotation when purchase order is issued

Terms of Payment

30 Days - document date

Shipping Information

DDP

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SYNAPT XS HDMS System

Optional Products

Please reference this quotation when purchase order is issued

Itm	Part No.	Description	Unit Price	Qty	Gross Price	Disc %	Net Price
<i>With the following configuration:</i>							
15	176600010	FlexCHOICE™ Coverage for SYNAPT System	92,100.00	1	92,100.00	-35.00%	59,865.00

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm	Part No.	Description
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1	176004475	SYNAPT XS HDMS 4k
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SYNAPT XS The most comprehensive and versatile High Resolution Mass Spectrometer ever produced providing resolution in three dimensions. Chromatography. Mobility. Mass.

When mass resolution and chromatography are not enough, high-efficiency T-Wave ion mobility gives you an additional dimension of separation, based on molecular size and shape. That's the power of molecular collision cross section (CCS) and SYNAPT High Definition Mass Spectrometry. SYNAPT XS delivers a third dimension to your analysis, proven to transform your analytical perspective whatever the application:

Please Note that the Lockspray source is supplied as standard in all orders. If the nanoLockspray (176001752) source is required, this should be ordered separately.

LockSpray source with ESI probe

This is a dual inlet atmospheric pressure ionization (API) LC interface. The source and spraying elements are visible through a transparent window in the enclosure and are easily accessible via a quick-release mechanism. The source elements may be removed for cleaning without the need for tools and without breaking vacuum. The nebulized spray is orientated orthogonally and positioned off axis for maximum source longevity. ESCI™ capability is available with this source option (allowing rapid switching between ESI and APCI in the same run). All source voltages and gases are under data system control. A reference sprayer and rotating baffle allows exact mass measurements to be obtained with the greatest degree of confidence with no interference to analyte spectra.

StepWave XS ION TRANSFER OPTICS

This instrument is equipped with off-axis StepWave XS™ ion transfer optics delivering enhanced sensitivity, robustness, and reliability; passively removing gas load and undesirable neutral contaminants while actively transferring ions towards the TriWave. The StepWave XS™ ion transfer optics provide improved sensitivity that is reproducible for multiple injections and can deliver reliable quantitation at the very lowest levels. The first stage is modified with a series of horizontal plates that allows a more controlled extraction of ions from the gas flow so that ions collide with gas molecules with less energy. A segmented quadrupole second stage focuses the ion beam to provide more efficient transmission of ions to the detector. The technology employed allows SYNAPT XS to deliver unprecedented levels of sensitivity for detection and quantification of compounds at significantly lower concentrations than previously possible.

The SYNAPT XS HDMS system can operate in two modes;

TOF mode

HDMS mode

The SYNAPT XS HDMS system is comprised the following components;

Atmospheric pressure ionization interface.

Cone gas facility for chemical noise reduction.

Intellistart sample fluidics with a flow rate of 0-400 microlitres / minute.

The API interface requires the use of either the included standard LockSpray or nanoLockSpray (176001752) source option, where the nanoLockSpray (176001752) must be ordered separately.

The source spraying elements are visible through an easily removable enclosure; and may be wiped clean in situ or removed for cleaning without breaking vacuum. The nebulized spray is orientated orthogonally and positioned off axis for maximum source longevity and analyzer protection against 'dirty' samples. The source also includes facilities for de-clustering ions formed at atmospheric pressure. Positive and negative ion capability is included. All source voltages are under data system control.

The standard instrument when configured with a standard LockSpray source has a dual electrospray inlet, which is used to supply a reference compound separately from the analyte spray; selection between the sprays is achieved via a rotating

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm	Part No.	Description
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baffle located in front of the sample cone. This avoids problems associated with post column addition of a reference compound such as ionization suppression, mass interference and solvent gradient effects.

The LockSpray source comprises:

ESI probe

Modular LockSpray source housing

ESI reference sprayer and rotating baffle

Control electronics are incorporated within the instrument

ESCI ionization capability is also included as standard, allowing both ESI and APCI to be performed, during one experiment, with the same source.

NanoLockSpray (176001752)

The standard instrument when configured with a nanoLockSpray source (176001752) has a dual nanospray inlet, which is used to supply a reference compound separately from the analyte spray; selection between the sprays is achieved via a rotating baffle located in front of the sample cone. This avoids problems associated with post column addition of a reference compounds such as ionization suppression, mass interference and solvent gradient effects.

The nanoLockSpray source comprises:

Universal NanoFlow Sprayer probe

Camera for visualization of nanoLockSpray on the Acquisition PC

Reference sprayer and rotating baffle

Control electronics are incorporated within the instrument

This option will require the nanoflow capability kit to be ordered.

This option should be ordered with a ACQUITY UPLC M-Class system

Quadrupole analyzer:

The SYNAPT XS HDMS System is available with three quadrupole options. It is important to select the quadrupole option that best meets the user's requirements, as it will not be possible to change the quadrupole selection after the instrument has been assembled.

Quadrupole 4kDa Option

Part number, 176004475

20 to 4000m/z resolving mode

20 to 16,000 m/z non-resolving mode

Optimized performance up to 4kDa, recommended for 'small molecule', non-MALDI use where MS/MS selection above 4kDa is not required

Programmable Dynamic Range Enhancement (pDRE) (ToF mode only)

The programmable dynamic range enhancement feature of the SYNAPT XS is enabled by the pDRE lens, situated in front of the T-WAVE collision cell. pDRE increases the dynamic range of the instrument up to five orders of magnitude in certain modes of operation.

Triwave Technology

The Triwave cell is the enabling technology of the SYNAPT XS HDMS system and can be operated in two modes; TOF mode (IMS disabled) and HDMS Mode (IMS enabled).

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SYNAPT XS HDMS System

Detail Product Descriptions

Item Part No. Description

It is comprised of three main components;

1. TRAP T-Wave:

TOF Mode – Can operate in two modes; 1) the efficient transfer (not trapping) of ions from the quadrupole to the IMS T-Wave, 2) can additionally be operated as a collision cell.

HDMS Mode – Can be operated in two modes; 1) Ensures high-efficiency IMS by trapping, accumulating and releasing ions prior to ion mobility separation, 2) can additionally be operated as a collision cell.

2. IMS T-Wave:

TOF Mode – Provides efficient transfer of ions from the TRAP T-Wave to the TRANSFER T-Wave.

IMS T-Wave incorporates a Helium cell which balances N₂ pressure in main cell, minimizing scattering/fragmentation of ions on entry into the mobility cell.

HDMS Mode - Provides reproducible separation of ions based on their ion mobility, and transfer of the separated ion packets to the TRANSFER T-Wave

3. TRANSFER T-Wave:

TOF Mode – Can operate in two modes; 1) the efficient transfer of ions from the IMS T-Wave to the oa-ToF analyzer for mass analysis, 2) can additionally be operated as a collision cell.

HDMS Mode – Can be operated in two modes; 1) the efficient transfer of IMS separated packets of ions to the oa-TOF analyzer for mass analysis, 2) can also operate as a collision cell.

HDMS Mode functionality

Separation of ions based on their ion mobility (size, shape and charge)

Pre IMS (TRAP T-Wave) and post IMS (TRANSFER T-Wave) fragmentation

Wideband Enhancement (previously known as HDC) for extended detection limits

Drift Time measurements

Record drift times between 33µs and 90 ms

Control of ion mobility separation

Control of IMS T-Wave height and velocity over linear ramps and user defined programs

Mobility (IMS) gas pressure control from ~10⁻⁴ mBar to 3 mBar (nitrogen)

Provision for multiple ion mobility separation gas types

Automated control of ion mobility conditions for routine operation.

Comprehensive manual control of ion mobility and Triwave operation for research use.

QuanTof - Orthogonal acceleration time-of-flight mass spectrometer

Orthogonal acceleration time-of-flight mass spectrometer for MS and MS/MS data acquisition. Comprising:

QuanTof™, which combines a high field pusher and a dual stage high precision reflectron design with a novel ion detection system in an optimised, folded, TOF geometry. QuanTof's high field pusher and dual-stage reflectron, incorporating high transmission parallel wire grids, reduce ion turnaround times due to pre-push kinetic energy spread and improve focussing of high energy ions respectively. The innovative ion detection system combines an ultra-fast electron multiplier and hybrid ADC detector electronics.

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm Part No. Description

There are four resolution modes available; Sensitivity, Resolution, High Resolution and Enhanced Resolution modes. The Sensitivity and Resolution modes are essentially achieved by a single pass (in "V" geometry with varying tuning parameters) through the ToF ion optics whereas the additional ion mirror between the detector and the pusher allows a second round trip of the TOF for High Resolution and Enhanced Resolution modes (in "W" geometry).

Switching between a single pass "V" mode and dual pass "W" mode is achieved by selecting the appropriate icon in the tune software.

Vacuum system

The internal structure of the instrument consists of six differentially pumped regions;

Source

T-Wave Ion Guide

Quadrupole

Triwave under vacuum

Transport

ToF

The backing option must be ordered separately (See Backing Pump Options for part numbers and descriptions).

SONAR – Initial Software Release

SONAR is a mode of operation which collects fragmentation spectra from Data Independent Acquisition (DIA). This is achieved by sliding a resolving quadrupole window over a specified mass range during an MS scan, giving increased selectivity compared to a conventional DIA experiment. With SONAR data comes increased fragmentation spectral clarity and ions of interest are easier to identify. Overall increased selectivity leads to greater knowledge of your samples and confidence in the results and reduces the need for time consuming repeat analyses. Additionally, it has been shown that SONAR experiments exhibit over 3-4 orders linear dynamic range, meaning that it is possible to capture high levels of qualitative and quantitative detail of real-world sample complexity.

MASSLYNX SOFTWARE

The MassLynx workstation and software for instrument control, data acquisition and processing must be ordered separately (See MassLynx Acquisition System Options section for part numbers and descriptions).

Post acquisition processing and general data manipulation can be carried out by an additional computer workstation and software installation (See the MassLynx Process-only Workstations section of the MassLynx Variant configurator 176706000). The system will also be configured with mobility environment software which will permit the visualization and manipulation of multi -dimensional data.

Inlet control

HPLC and UPLC control (specific systems only - see accessory list)

HPLC / UPLC Autosampler control (specific autosamplers only - see accessory list)

Analogue input: Interfacing of up to four ancillary LC detectors (UV, RI) to MassLynx data system.

External contact start/stop

The standard system does not include the following items, which must be specified separately:

Additional inlet probes and ion source options.

MassLynx Acquisition Software PC data system and monitor.

Additional Workstation data system terminals Printers

Additional MassLynx™ options.

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm	Part No.	Description
2	186010222	SYNAPT XS 2,5kHz MALDI Option
3	176003946	Dry Vacuum EBARA pump The Ebara EV-SA30 incorporates totally clean multi-stage Roots technology with no oil or tip seal dust contamination risk. No annual service is required and it has 80% lower power consumption and 50% smaller footprint compared to two rotary vane pumps giving a similar combined pumping speed.
4	176002525	MassLynx Performance Workstation MassLynx Application Software License and License for OpenLynx™ MassLynx OpenLynx Summary reports for groups of samples. OpenLynx methods may be configured to include: 1) Analytes found/not found. 2) Purity, 3) Chromatograms, 4) Spectra. OpenLynx reports are portable and may be viewed (read-only) with optional Browser utility without MassLynx software. Mass Spectrometer Control Software Contains the performance MS workstation as defined in the MassLynx Variant configurator 176706000 and Product Ordering Guide
5	668000419	Monitor, 27"
6	176002514	MS Ref Stds: SYNAPT G2-S HDMS Install
7	186009340	Nitrogen Generator, Genius XE35, 230V
8	741000308	MALDI SYNAPT SYSTEM INSTALL CERT Maldi SYNAPT System Installation Includes: -System Set up and Specification Testing -Product Familiarization Training -1 Year Manufacturers Warranty -Insight I-Assist Remote Connection
9	741000335	Synapt HDMS Installation Certificate Synapt G2-S HDMS Installation Certificate

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm	Part No.	Description
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Includes:

- System Set up and Specification Testing
- Product Familiarization Training
- 1 Year Manufacturers Warranty
- 1 Year Software Support and Restore Service
- Insight I-Assist Remote Connection

10	750000839	4-day On-Site MS App Training w/eLearn
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11	176003950	Analytical LC-MS Solvent Install Kit
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Analytical LC-MS Solvent Install Kit

The Analytical LC-MS Solvent Install Kit is intended to assist in effectively installing new LC-MS systems by minimizing sources of possible contamination. This kit includes the LC-MS Grade Solvent Kit (186008715) as well as the Waters Certified Container Kit (186007088). Additional kit components also include a formic acid additive, aqueous ammonia additive and nitrile gloves.

Note: Because this is a hazardous material and GHS requirements vary from country to country, Waters Corporation is only able to ship this item to specific countries worldwide. If the destination for this order (i.e. the ship to country) is changed to a non-permitted country at any point after this quote was generated, this item will be excluded from the final order.

12	176002530	HD Imaging
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13	176003497	EZ Info
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14	176015109	ACQ. I-Class PLUS Sys. (CH-A) w/SM-FTN-I
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ACQUITY UPLC I-Class PLUS Core System (CH-A) with SM-FTN-I

The ACQUITY UPLC I-Class PLUS Core System has integrated solvent, sample and column heating configured for binary solvent delivery and sample introduction via a Flow-Through Needle sample manager (SM-FTN-I). The system may be configured with UV-based UPLC optical detectors and any currently supported Waters' mass detector, with a choice of instrument control and data management software.

Replaces 176015069

The following items are included as part of the core system:

- ACQUITY UPLC I-Class PLUS Binary Solvent Manager (BSM)
- ACQUITY UPLC I-Class PLUS Sample Manager – Flow-Through-Needle (SM-FTN-I) configured with textured 15µL stainless steel needle
- Column Heater with Active Pre-Heating (CH-A) configured with 0.003"/0.076 mm I.D. Active Solvent Pre-Heater
- ACQUITY UPLC Solvent Tray Module

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SYNAPT XS HDMS System

Detail Product Descriptions

Itm	Part No.	Description
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- ACQUITY UPLC I-Class PLUS System Start Up Kit
- Leak Sensors
- ACQUITY UPLC Absorbance Start-Up Solution (700002669)
- Information Set
- ACQUITY UPLC BEH C18 Column, 2.1 x 50 mm, 1.7 µm
- Vials

15	176600010	FlexCHOICE™ Coverage for SYNAPT System
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Seamless coverage for the 24 months
No. of Performance Maintenance Visits: 1
Service Level: Standard
Response Time: Standard

Covered Modules:
N2PEAK - N2 GENER N110DR 230V
SYNAPTXS - SYNAPT XS

Quotation

SYNAPT XS HDMS System

General Sales Terms and Conditions

1. General
Waters Pacific Pte Ltd ("Seller") hereby agrees to sell the products to buy upon the terms and conditions set forth herewith. Seller shall not be bound by any standard or printed terms furnished by the Buyer in any of its documents, unless the Buyer specifically states in writing separately from such terms that it intends such terms to apply and the Seller acknowledges such notification in writing.
2. Price
 - a. Unless otherwise agreed at the time of sale, the price stated is ex-works and exclusive of Goods & Services Tax which shall be chargeable in addition upon supply of goods.
 - b. All quotations and estimates used by Seller are, unless otherwise stated, based on current costs and are subject to amendment on or after acceptance of order by Seller to meet any rise in such costs.
 - c. Any variation to prices quoted as a result of government taxes and levies will be for the Buyer's accounts.
 - d. Written quotations automatically expire 30 calendar days from the date issued and are subject to termination by notice within that period. All orders based on written quotations are subject to Seller's acceptance at its office in 1 Science Park Road #02-01 The Capricorn, Singapore Science Park II, Singapore 117528.
3. Delivery
 - a. Stock items are processed for prompt delivery. Whilst there is no minimum order value there is a minimum charge in respect of packing, handling and delivery. Details of these charges are available on request.
 - b. Notwithstanding that the Seller and the Buyer may agree to deliver the goods at some specified place the delivery of goods to a carrier for the purpose of transmission to the Buyer is deemed to be a delivery of the goods to the Buyer and risk in the goods shall pass accordingly at the moment of delivery to the carrier.
 - c. Inspection and testing and/or installation of the goods is not provided by Seller unless otherwise agreed at the time of sale.
 - d. Seller retains ownership of the goods the property in which shall not pass to Buyer and Buyer shall keep any goods delivered to it as bailee for and on behalf of Seller until Seller has received payment of the price of all the goods (whether or not the goods are delivered in instalments and some have been paid for by Buyer pursuant to these terms) and until such time the Buyer shall store the goods separately or in some other way ensure that the goods are readily identifiable as the property of Seller and at Seller's request either shall deliver up to the goods to Seller or shall permit Seller to enter Buyer's business or other premises to repossess the goods and subsequently re-sell them.
 - e. The provisions of this clause 3(d) shall survive the determination of the contract for whatever reason.
4. Payment
 - a. Payment terms are strictly Net Cash 30 days after delivery of the goods, provided Buyer's credit has been approved or specified in the quote. If the Buyer's credit had not been established with Seller, terms are payment in advance.
 - b. All payments made by Buyer shall be made without any deduction of deferment in respect of any disputes or claims whatsoever and/or in respect of any taxes imposed by or under the authority of any government or public authority.
 - c. Where Seller does not receive payment of any of its invoices within 30 days of the date thereof interest shall thereafter accrue on the sum due and owing to Seller at the rate of 2% per month calculated on a daily basis without prejudice to Seller's right to receive payment within such 30 day period.
 - d. Time for payment shall be of the essence.
5. Confidentially/Intellectual Property
 - a. Any order received by Seller will be treated as confidential and will not be disclosed or publicised to any third party for any reason without the prior written consent of Buyer. Neither shall Seller use Buyer's name or other identify for advertising or publicity purposes without Buyer's prior written consent.
 - b. The sale of the goods by Seller to Buyer does not confer any right or license upon buyer to use, exploit or otherwise utilise any intellectual property rights subsisting in or relating to the goods of which Seller is a proprietor or to which Seller is otherwise entitled.
6. Specifications
The characteristics and specifications of Seller's products are documented in Seller's technical literature and are approximately only Seller reserves the right to change product specifications without prior notice.
7. Cancellation
An order accepted by Seller may be cancelled only before delivery of the goods and only with the consent of Seller upon terms that Buyer will indemnify Seller against any loss incurred.
8. Return
In no case are products to be returned without first obtaining the consent of the Seller. Only unused products as currently manufactured which have been invoiced by the Seller within 30 days will be considered for return. Products accepted for credit are subject to a 20 per cent service charge plus all transportation charges. Products built to order or not of the original manufacturer of the Seller are not subject to return for credit under any circumstances. Products must be securely packed to reach the Seller without damaged. No returns shall be authorised after 90 days following shipment to buyer.
9. Warranty
The Products and/or services shall be covered by the applicable Waters' standard warranty, a copy of which is supplied with the Products and/or services or upon request. NO OTHER WARRANTY, WHETHER EXPRESS OR IMPLIED, IS MADE WITH RESPECT TO THE PRODUCTS AND/OR SERVICES. WATERS EXPRESSLY EXCLUDES THE IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE. Any model or sample furnished to the Buyer is merely illustrative of the general types and quality of goods and does not represent that the Products will conform to Waters applicable standard warranty. WATERS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR ANY OTHER INDIRECT DAMAGES RESULTING FROM ECONOMIC LOSS OR PROPERTY DAMAGE SUSTAINED BY BUYER FROM THE USE OF ITS PRODUCTS OR SERVICES.
10. Termination
 - a. It prior to the delivery of the goods (or any instalment thereof) Seller has reason to believe that Buyer is unable to pay its debts or if Buyer enters into liquidation (other than for the purpose of effecting a reconstruction or amalgamation) whether compulsory or voluntary or compounds with or conveys a meeting of its creditors or has a receiver appointed over all or any part of its assets or takes or suffers any similar action in consequence of a debt or ceases for any reason to carry on business, Seller may terminate the contract by notice in writing to Buyer.
 - b. Termination of the contract pursuant to Clause 10(a) shall not effect the accrued rights of the parties arising in any way out of such contract as of the date of termination.
11. Variation
Neither Seller or Buyer shall be bound by any variation, waiver of or an addition to, those terms and conditions except as agreed by both parties in writing.
12. Time
Seller will endeavour to dispatch the products on the promised delivery date but does not guarantee to do so.
13. Force Majeure
Waters shall have no liability for failure to perform or delay in performance, in the delivery of any and all equipment manufactured or sold by Waters including instruments, supplies, components, systems, chemistry, accessories, replacement spare parts, or any and all services provided by Waters, caused by circumstances beyond its reasonable control including, but not limited to, acts of God, acts of nature, floods, fire, explosions, war or military mobilisation, United States governmental action or inaction, request of governmental authority, delays of any kind in transportation or inability to obtain material or equipment, acts of other governments, strikes or labour disturbances.
14. Law
The contract shall be deemed to have been made in Singapore and the Parties to the contract hereby submit to the jurisdiction of Singapore courts. Singapore law shall be the proper law of the contract.