

# **ANNEX II + III : TECHNICAL SPECIFICATIONS + TECHNICAL OFFER**

**Contract title: “Laboratory for analysis of evidence required for crime case processing”**

**p 1 / 89**

**Publication reference: EuropeAid/135634/IH/SUP/RS**

## **Lot 2 - Equipment for chemistry and toxicology labs**

**Columns 1-2 should be completed by the Contracting Authority**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the Contractor's technical offer

The tenderers are requested to complete the template on the next pages:

- Column 2 is completed by the Contracting Authority shows the required specifications (not to be modified by the tenderer),
- Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words “compliant” or “yes” are not sufficient)
- Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offered specifications.

**Unless otherwise specified, the requirements in these Technical Specifications are presented as a minimum standard which the offered goods must meet.**

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
2.1	<b>Gas chromatograph – mass spectrometer (GC-MS) Quantity: 1 set</b>							
	<b>2.1.1 Gas chromatograph (GC)</b> Column oven: <ul style="list-style-type: none"> <li>▪ column oven for minimum two capillary columns;</li> <li>▪ programmable controlled column oven;</li> <li>▪ column oven temperature range between: ambient +5 °C to 450 °C in 1 degree increments;</li> <li>▪ temperature accuracy ± 1 %;</li> <li>▪ minimum 20 oven ramps;</li> <li>▪ max. ramp rate ≥120°C per minut;</li> </ul> Flow control: <ul style="list-style-type: none"> <li>▪ programmable flow and pressure control for all gases, including septum purge, split and detectors gases;</li> <li>▪ carrier gas control modes – constant pressure and flow modes;</li> <li>▪ gas saving mode;</li> <li>▪ supported gas pressure range for carrier gas minimum 0 – 100psi, setpoint resolution minimum 0.001psi.;</li> <li>▪ total flow range of minimum 0-200 ml/min for nitrogen and 0-1.000 ml/min for hydrogen and helium;</li> <li>▪ user selectable for pressure or flow mode;</li> </ul>	<b>Quantity</b>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	Injection port: <ul style="list-style-type: none"> <li>▪ installed temperature controlled capillary injection port;</li> <li>▪ split and splitless injection modes;</li> <li>▪ settable temperature ambient +5 °C to 400 °C</li> </ul>	Piece	1					
	<b>2.1.2 Liquid and Head Space Sampler:</b>	<b>Quantity</b>						
	Automated device for gas chromatograph enabling robotized and synchronized sample preparation and its introduction into GC using different techniques; <ul style="list-style-type: none"> <li>▪ XYZ robot, with position feedback and control;</li> <li>▪ sample insertion into different injectors: split and splitless, PTV and devices: static headspace and Solid Phase Micro Extraction.</li> <li>▪ programmable speed of filling and injection: minimum 0,1–400 µl/s syringe volume;</li> <li>▪ programmable depth of needle's penetration: minimum 0-42 mm particular vial;</li> <li>▪ range of sample volume to be introduced into the injector: 1,5 µl – 2.5 ml;</li> <li>▪ sampler tray capacity:               <ul style="list-style-type: none"> <li>minimum 90 for 2 ml vials;</li> <li>minimum 30 for 20 ml vials;</li> </ul> </li> <li>▪ heated agitator (shaker) with maximum temperature 190 °C;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<ul style="list-style-type: none"> <li>▪ two different syringes covering volumes for sample injection (0,5–25 µl) and sample preparation (100–2500 µl);</li> <li>▪ automated operation of solid phase micro extraction (SPME).</li> </ul>	Piece	1						
	<b>2.1.3 Mass selective detector (MSD) Instrument</b>		<b>Quantity</b>						
	GC/MS interface: <ul style="list-style-type: none"> <li>▪ type – direct connection with capillary column, temperature settable 350 °C;</li> </ul> Mass analyser detector: <ul style="list-style-type: none"> <li>▪ heated compact quadrupole mass filter;</li> <li>▪ mass stability +/-0.1 amu/48 hrs (constant temperature);</li> <li>▪ detector – electron multiplier;</li> <li>▪ dynamic range (electronic) 10e<sup>6</sup>;</li> </ul> Ion source: <ul style="list-style-type: none"> <li>▪ ionization mode – EI, dual filament, programmable selected;</li> <li>▪ heated ion source settable 350°C,</li> </ul> user selectable ionization energy: 5 – 240 eV.           Vacuum system: <ul style="list-style-type: none"> <li>▪ main pump – differential pumping system with turbomolecular pump;</li> </ul> Performance: <ul style="list-style-type: none"> <li>▪ mass range m/z 2 to 1000;</li> </ul>								

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ EI scan sensitivity – 1 pg octafluoronaphthalene (OFN) standard scanning (m/z 272) S/N &gt; 1500;</li> <li>▪ EI SIM sensitivity instrument detection limit – minimum 10fg of OFN;</li> <li>▪ scan rate minimum 10,000 u/sec.</li> <li>▪ Simultaneous SCAN and SIM data acquisition;</li> <li>▪ independent heating zones – ion source, quadrupole, transfer line;</li> <li>▪ operating temperature range 4 °C to 35°C;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1					
	<b>2.1.4 PC, Printer and Software</b>	<b>Quantity</b>						
	<b>2.1.4.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP 64MB cache;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					
	<p><b>2.1.4.2 B/W Laser printer:</b></p> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8</li> <li>▪ Connectivity: LAN, USB 2.0</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>	Piece	1					
	<p><b>2.1.4.3 Software:</b></p> <ul style="list-style-type: none"> <li>▪ control of full gas chromatograph, autoinjector (autoinjectors), detectors remote, data collection, data reprocessing and storage, mass spectra search, reports generation;</li> <li>▪ last edition of NIST mass spectra library;</li> </ul>	Set	1					
		<b>Quantity</b>						
	<p><b>2.1.5 Analytical column</b></p> <p>30 m × 0,25 mm (i.d.) × 0,25 µm (film thickness) PH ME siloxane 5% crosslinked, HP-5MS or analogue low bleeding capillary column.</p>	Pieces	2					
		<b>Quantity</b>						
	<p>2.1.6.1</p> <ul style="list-style-type: none"> <li>▪ 10 µl syringe;</li> </ul>	Pieces	8					
	<p>2.1.6.2</p> <ul style="list-style-type: none"> <li>▪ high temperature resistant injector inlet seal (septum);</li> </ul>	Pieces	200					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.1.6.3 ▪ glass liner with inserted quartz wool for split mode analysis;	Pieces	30					
	2.1.6.4 ▪ glass liner for splitless mode analysis;	Pieces	10					
	2.1.6.5 ▪ O-ring for liner;	Pieces	75					
	2.1.6.6 ▪ kit of ferrules for column connection (inlet and outlet ferrule);	Kits	2					
	2.1.6.7 ▪ ion source (filament);	Pieces	10					
	2.1.6.8 silicon vacuum pump oil;	Liter	3					
	2.1.6.9 ▪ 1,5 or 2 ml capacity clear glass vials, wide crimp opening, suitable for inserts;	Pieces	2000					
	2.1.6.10 ▪ plastic crimp caps for 1,5 or 2 ml capacity glass vials, with central hole and sealing disc;	Pieces	2000					
	2.1.6.11 ▪ 200 µl glass insert with plastic bottom spring;	Pieces	200					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.1.6.12 ▪ carrier gas (Helium) cartridge filter system (for easy changing) mounted on dedicated base plate; three separate filters connected in series for removing: moisture (with colour indicator), oxygen (with colour indicator) and hydrocarbons; indicator changes colour when trap is full; outlet gas quality >99.9999%; typical life time for all three filter cartridges >2 years; max pressure minimum 11 bar. max flow rate minimum 7 L/min; all tubing – 1/8 in.;	Piece	1					
2.2	<b>Gas chromatograph with different consecutive columns with time-of-flight – mass spectrometer (GC×GC TOF-MS) with multifunctional autosampler and sample preparation robot</b> <b>Quantity: 1 set</b>							
	<p>Two-dimensional gas chromatograph must be able to perform a comprehensive orthogonal GC×GC operation, i.e. all sample components pass through both primary and secondary column within one run using thermal modulation.</p> <p>Secondary column should be placed in the closest proximity to thermal modulator due to required high performance. Both secondary oven and thermal modulator have to be temperature controlled independently from main GC oven.</p>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.2.1 Gas chromatograph (GC×GC)	Quantity						
	<p>Column oven:</p> <ul style="list-style-type: none"> <li>▪ column oven must accommodate primary capillary (up to 105 m × 0,530 mm id) column in GC mode, temperature modulator, secondary capillary (up to 10 m × 0,530 mm id) column;</li> <li>▪ programmable and electronically controlled primary and secondary column ovens and modulator independently from first oven;</li> <li>▪ Temperature ramping with defined offset above GC temperature has to be enabled as well as possibility of different temperature programming has to be possible for comprehensive optimization of GC×GC run;</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ primary column oven temperature range (ambient+5 °C) to 400 °C in 1 degree increments;</li> <li>▪ temperature accuracy <math>\pm 1\%</math>;</li> <li>▪ dual stage thermal modulator positioned between primary and secondary columns;</li> <li>▪ minimum than 20 primary oven ramps;</li> <li>▪ max. ramp rate <math>\geq 120</math> °C /min (GC oven), 30°C for secondary oven and thermal modulator;</li> <li>▪ consumable-free thermal modulator.</li> </ul> <p>Flow control:</p> <ul style="list-style-type: none"> <li>▪ programmable flow and pressure control for intended carrier gases (H<sub>2</sub>, He, N<sub>2</sub>);</li> <li>▪ carrier gas control modes – constant pressure and flow modes;</li> <li>▪ gas saving mode;</li> <li>▪ supported gas pressure range for carrier gas up to 950 kPa.</li> <li>▪ total flow range of 0-200 ml/min for nitrogen and 0-1000 ml/min for hydrogen and helium;</li> <li>▪ user selectable pressure or flow modes;</li> <li>▪ multiple flow rate ramp programming;</li> </ul> <p>Injection port:</p> <ul style="list-style-type: none"> <li>▪ installed temperature controlled capillary split and splitless injection port;</li> </ul>					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes						
	<ul style="list-style-type: none"> <li>▪ split/splitless injection modes;</li> <li>▪ programmable temperature and gas pressure/flow control;</li> <li>▪ settable temperature ambient +5 °C to 400 °C;</li> <li>▪ operating temperature range 18 °C to 26°C;</li> <li>▪ power requirements – AC 230 V, 50/60 Hz</li> </ul>	<p>Piece    1</p>											
	<b>2.2.2 GCxGC modulator:</b>	<b>Quantity</b>					<p>The GCxGC thermal modulator should be capable of effectively (and quantitatively) modulating analytes within the range of C9 - C40 n-alkane</p> <ul style="list-style-type: none"> <li>▪ Must contain fittings and connections including regulators needed for automated operation;</li> <li>▪ Liquid nitrogen free system;</li> <li>▪ Modulation process (neither cold pulses nor hot pulses) does not require any nitrogen flow;</li> <li>▪ Modulation cycle time from 1 to 40 sec in steps of 0.1 sec;</li> <li>▪ Electronically controlled;</li> <li>▪ Possibility to monitor its status and control it through the GCxGC-TOF MS software;</li> <li>▪ Variable secondary column dimensions, Internal diameter from 0.05 to 0.53 mm, length up to min. 10m;</li> </ul>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Independent control of the second oven with programming rate min. 30 °C/min;</li> <li>▪ Variable modulation parameters (modulation periods and length of thermal pulses) programmable across the chromatographic run.</li> </ul>	Piece	1					
	<b>2.2.3 Multifunctional autosampler and sample preparation robot</b>	<b>Quantity</b>						
	<p>Automated device for gas chromatograph enabling robotized and synchronized sample preparation and its introduction into GC using different techniques</p> <ul style="list-style-type: none"> <li>▪ XYZ robot, with position feedback and control;</li> <li>▪ sample introduction/injection into different injectors (split and splitless, PTV) and devices (e.g. dynamic headspace and thermal desorption);</li> <li>▪ programmable speed of filling and injection (min 0,1 – 400 µl/s depending on a liquid syringe volume)</li> <li>▪ programmable depth of needle's penetration (0-42 mm depending on the particular vial);</li> <li>▪ different syringes for liquid injections could be used without changing of the syringe holder(s);</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ range of liquid sample volume to be introduced into the injector: 1,5 µl – 1 ml;</li> <li>▪ Headspace sampling;</li> <li>▪ Heated syringe (minimum 140°C) with volumes minimum 2mL;</li> <li>▪ Multiple headspace sample enrichment for LODs improvement (repeated sampling from sample) with focusing analytes in the PTV injector;</li> <li>▪ Multiple sample preparation overlap – i.e. samples are prepared (conditioned) while previous GCxGC-TOF MS run is active. System has to have a capacity of preparation of 4 samples in the same time during the GCxGC-TOF MS run;</li> <li>▪ Possibility of HS syringe flushing (cleaning) by inert gas;</li> <li>▪ System has to be capable of vial pressurizing by the same volume of inert gas before sampling due to Multiple headspace sample enrichment;</li> <li>▪ sampler tray capacity: <ul style="list-style-type: none"> <li>minimum 90 for 2 ml vials;</li> <li>minimum 30 for 20 ml vials;</li> </ul> </li> <li>▪ heated agitator (shaker) with max. temperature 190°C or higher;</li> <li>▪ other requested functions: <ul style="list-style-type: none"> <li>• standard addition, dilution;</li> <li>• liquid extraction</li> </ul> </li> </ul>					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>• heated agitation and mixing;</li> <li>• condition at a predefined temperature; <ul style="list-style-type: none"> <li>▪ automated thermal-desorption system:</li> </ul> </li> <li>• desorption of sorption tubes (cartridges);</li> <li>• thermal extraction of solid and liquid materials;</li> <li>• desorption of cartridges sorbed in device for dynamic headspace (this device is not part of delivery);</li> <li>• robotic autosampler has to be ready for future upgrade with dynamic headspace device compatible with current configuration and fully controlled by SW for robotic sampler;</li> <li>• range of desorption temperatures; 30 °C – 330 °C with heating rate up to 700 °C/min;</li> <li>• active cooling of thermal desorption device without consumption of liquid media (such as LN2, or CO2);</li> <li>• thermal desorption device has to use a PTV inlet as a cold trap for focusing of desorbed components.</li> <li>• thermal desorption device working modes: Solvent venting (removing of water from cartridges), split, splitless. The same modes has to be available for PTV operation in conjunction with thermal desorption;</li> <li>• thermal desorption has to</li> </ul>					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p>enable its cooling down immediately after cartridge desorption for decreasing of sorbent's bleed level, however, without any influence onto PTV run (used as cold trap);</p> <ul style="list-style-type: none"> <li>▪ automated operation of solid phase micro extraction (SPME): <ul style="list-style-type: none"> <li>• injection (i.e. SPME desorption) into S/SL and/or PTV injector;</li> <li>• connection of thermal desorption device with PTV without transferline for leak elimination. I.e. direct connection of thermal desorption device and PTV is required.</li> <li>• programmable (user defined) incubation of a sample (2, 10 and 20 ml vials) and sorption onto the fiber in heated shaker; <ul style="list-style-type: none"> <li>▪ programmable temperature vaporizing injector (PTV): <ul style="list-style-type: none"> <li>• programmable temperature, max. operational temperature minimum 440°C, max. heating rate minimum 11 °C/s;</li> <li>• pressure range 10-90 psi (controlled by EPC);</li> <li>• injection modes – hot and cold split, hot and cold splitless, solvent elimination (solvent vent);</li> <li>• active cooling without consumption of liquid media (LN<sub>2</sub> and/or CO<sub>2</sub>) down to temperature</li> </ul> </li> </ul> </li> </ul> </li> </ul>					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<p>&lt; 12°C at the temperature of main oven 65°C;</p> <ul style="list-style-type: none"> <li>▪ operating temperature range 4 °C to 35°C;</li> <li>• power requirements – AC 230 V, 50/60 Hz</li> </ul>	Piece	1						
	<p><b>2.2.4 Time of flight – mass selective (TOF-MS) detector Instrument:</b></p>		<b>Quantity</b>						
	<p>2.2.4.1 GC/MS interface:</p> <ul style="list-style-type: none"> <li>▪ type – direct connection with type – direct connection with capillary column, temperature controlled;</li> </ul> <p>Mass analyzer/detector:</p> <ul style="list-style-type: none"> <li>▪ time of flight detector;</li> <li>▪ maintenance-free ion source;</li> <li>▪ ionization mode – electron ionisation;</li> <li>▪ mass range m/z 5 to 1000;</li> <li>▪ spectra acquisition rate – up to 500 full ms spectra/sec;</li> <li>▪ sensitivity – maximum 4 pg of hexachlorobenzene injected on column monitored with acquisition speed of more than 15 full spectra/s has to provide chromatographic peak that will be found by peak find algorithm of delivered GCxGC-TOF MS SW and identifiable against the NIST mass spectral database;</li> </ul>								

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ linear range up to 4 orders of magnitude;</li> <li>Vacuum system:               <ul style="list-style-type: none"> <li>▪ main pump – differential pumping system with turbomolecular pump system;</li> <li>▪ fore-pump – rotary pump (more than to 300 L/min)</li> <li>▪ Open (space) design ensuring "no clean" operation, i.e. not requiring any cleaning procedure (neither physical manual cleaning of source's surfaces nor any other operation e.g. introducing any active gas in the source or baking out of source chamber deposit)</li> <li>▪ operating temperature range 18 °C to 26°C;</li> <li>▪ power requirements – AC 230 V, 50/60 Hz</li> </ul> </li> </ul>	Piece	1					
	2.2.4.2 <ul style="list-style-type: none"> <li>▪ solid phase microextraction (SPME) unit;</li> <li>SPME fibre assembly, for use with autosampler, fibre type – polydimethylsiloxane, 100 µm; fibre size 1 cm;</li> </ul>	Pieces	6					
	2.2.4.3 <ul style="list-style-type: none"> <li>▪ solid phase microextraction (SPME) unit;</li> <li>SPME fibre assembly, for use with autosampler, fibre type – polydimethylsiloxane/divinylbenzene, 65 µm.; fibre size 1 cm.</li> </ul>	Pieces	6					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<b>2.2.5 PC, Printer and Software</b>		<b>Quantity</b>						
	<b>2.2.5.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V,50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache, 64-bit;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP 64MB cache;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>		Piece	1					
	<b>2.2.5.2 B/W Laser printer:</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>		Piece	1					

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<p><b>2.2.5.3 Software:</b></p> <p>Control software (all functions mentioned below has to be available for both GC-TOF MS and GCxGC-TOF MS)</p> <p>Full gas chromatograph, primary, secondary column ovens and temperature modulator control, autosampler/autoinjector, detectors control, data collection and GCxGC data reprocessing and storage, mass spectra search against MS libraries in NIST MS format, reports generation.</p> <p>Instrument software should provide full control of GCxGC-TOF-MS, including the automated instrument tune, data acquisition and data processing comprising the functions of:</p> <ul style="list-style-type: none"> <li>▪ Automated peak finding (at individual single ion chromatograms not on TIC) at user-defined S/N ratios;</li> <li>▪ Fully automated ass spectral deconvolution;</li> <li>▪ Identification based on library comparison;</li> </ul>							

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ Automated combination of modulated peaks based on retention times and spectral criteria (combining slices of the original modulated one dimensional peak based on the similarity of spectra with user-selected level of matching);</li> <li>▪ Automated sample comparison based on retention times and spectral criteria (similar spectra with user-selected level of matching);</li> <li>▪ Classifications – defining the specific regions in the 2D contour plot, processing unknown samples using these regions allowing to employ the spectral filtering based on the user-defined criteria (specified below);</li> <li>▪ Automated quantitative analysis (calibration, quantitation, automated target data processing based on RT and full spectra information);</li> <li>▪ User-defined (customized) reports;</li> <li>▪ Possibility to filter peaks by user-created mass spectral filters (e.g. using ion ratios and/or isotopic ratios);</li> <li>▪ Possibility of statistical compare option for comparing the chemical composition of groups of samples and finding markers, as an option;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ last edition of NIST mass spectra library</li> </ul>	Set	1				
	<b>2.2.6 Standard Kit for GC:</b>	<b>Quantity</b>					
	2.2.6.1 <ul style="list-style-type: none"> <li>▪ 10 µl syringe;</li> </ul>	Pieces	8				
	2.2.6.2 <ul style="list-style-type: none"> <li>▪ high temperature resistant injector inlet seal (septum);</li> </ul>	Pieces	200				
	2.2.6.3 <ul style="list-style-type: none"> <li>▪ glass liner with inserted quartz wool for split mode analysis;</li> </ul>	Pieces	30				
	2.2.6.4 <ul style="list-style-type: none"> <li>▪ glass liner for splitless mode analysis;</li> </ul>	Pieces	10				
	2.2.6.5 <ul style="list-style-type: none"> <li>▪ O-ring for liner;</li> </ul>	Pieces	50				
	2.2.6.6 <ul style="list-style-type: none"> <li>▪ kit of ferrules for column connection (inlet and outlet ferrule);</li> </ul>	Kit	1				
	2.2.6.7 <ul style="list-style-type: none"> <li>▪ 1,5 or 2 ml capacity clear glass vials, wide crimp opening (suitable for inserts);</li> </ul>	Pieces	2000				
	2.2.6.8 <ul style="list-style-type: none"> <li>▪ plastic crimp caps (for 1,5 ml and 2 ml capacity glass vials), with central hole and sealing disc;</li> </ul>	Pieces	2000				
	2.2.6.9 <ul style="list-style-type: none"> <li>▪ 200 µl glass insert with plastic bottom spring;</li> </ul>	Pieces	200				

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.2.6.10 ▪ carrier gas (Helium) cartridge filter system (for easy changing) mounted on dedicated base plate; three separate filters connected in series for removing: moisture (with colour indicator), oxygen (with colour indicator) and hydrocarbons; indicator changes colour when trap is full; outlet gas quality >99.9999%; typical life time for all three filter cartridges >2 years; max pressure minimum 11 bar. max flow rate minimum 7 L/min; all tubing – 1/8 in.;	Piece	1					
	<b>2.2.7 Standard Kit for MS/TOF</b>	<b>Quantity</b>						
	2.2.7.1 ▪ kit of ferrules and nuts for column connection;	Kit	1					
	2.2.7.2 ▪ silicon vacuum pump oil;	Liter	4					
	2.2.7.3 ▪ kit of sample trays to fulfil all requested applications;	Kit	1					
	2.2.7.4 ▪ kit of syringes to fulfil all requested applications;	Kit	1					
<b>2.3</b>	<b>Gas Chromatograph with flame ionization detector and Nitrogen/Phosphorous detector (GC-FID-NPD).</b>							
	<b>2.3.1 Gas Chromatograph (GC)</b>	<b>Quantity</b>						
	Column oven: ▪ column oven for minimum two capillary columns;							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ programmable controlled column oven</li> <li>▪ column oven temperature range (ambient + 5 °C;) – 450 °C; in 1 degree increments;</li> <li>▪ temperature accuracy ± 1 %;</li> <li>▪ minimum 20 oven ramps;</li> <li>▪ ramp rate minimum 120 °C/min;</li> </ul> Flow control: <ul style="list-style-type: none"> <li>▪ programmable flow and pressure control for all gases, including septum purge, split and detectors gases;</li> <li>▪ carrier gas control modes – constant pressure and flow modes;</li> <li>▪ gas saving mode;</li> <li>▪ supported gas pressure range for carrier gas minimum 0-100psi, setpoint resolution minimum 0,001psi.</li> <li>▪ total flow range of 0-200 mL/min for nitrogen and 0-1,000 mL/min for hydrogen and helium minimum;</li> <li>▪ user selectable for pressure or flow mode;</li> </ul> Injection port: <ul style="list-style-type: none"> <li>▪ installed temperature controlled capillary injection port;</li> <li>▪ split and splitless injection modes;</li> <li>▪ settable temperature ambient +5 °C to 400 °C;</li> </ul>	Pieces	2					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<b>2.3.2 Autoinjector:</b> <ul style="list-style-type: none"> <li>▪ sample management – sample capacity 2 ml vials;</li> <li>▪ samples tray with carousel capacity – minimum 100 vials;</li> <li>▪ sample sequencing – random access, priority sample and method insertion, variable speed, sampling depth, dwell time and viscosity delay;</li> <li>▪ possible syringe capacity – 1, 5, 10, 25, 50, 100 µl;</li> <li>▪ minimum two syringe rinse solvents</li> <li>▪ programmable controlled number of sample prewashes, sample injection volume, selection of rinsing solvent, number of rinses.</li> </ul>		Quantity						
	<b>2.3.3 Flame ionization detector</b> <ul style="list-style-type: none"> <li>▪ temperature range ≤ 450 °C;</li> <li>▪ min. detected quantity 1.5 pg C/s</li> <li>▪ Linear dynamic range 10<sup>7</sup></li> <li>▪ Auto shutdown for hydrogen gas leakage, flameout detection and automatic flame reignition.</li> <li>▪ counters of consumables;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>		Quantity						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.3.4 Nitrogen-phosphorous detecetor (NPD)</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>• Min. Decettrion level &lt;0,1 pg N/s, &lt;0,03 pg P/s with azobenzene and malathion;</li> <li>• Dynamic range &gt;10<sup>5</sup> N, &gt;10<sup>5</sup> P;</li> <li>• Selectivity 25000 to 1 g N/g C, 200000 to 1 gP/g C;</li> <li>• Gases – electronically controlled: air 0-200 ml/min, H2 0-30 ml/min, make up gas 0-100 ml/min;</li> <li>• Operating temp.: Settable 400°C.</li> </ul>	Piece	1					
	<b>2.3.5 PC, Printer and Software</b>	<b>Quantity</b>						
	<b>2.3.5.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop,Midi Tower AC 230V, 50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache, 64-bit;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP 64MB cache;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.3.5.2 B/W Laser printer:</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8</li> <li>▪ Connectivity: LAN, USB 2.0</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>	Piece	1					
	<b>2.3.5.3 Software:</b> full contor of all acqiuition parameters for gas chromatograph, autoinjector, autoinjectors, detectors remote, data collection, data reprocessing and storage, reports generation.	Set	1					
	<b>2.3.6 Analytical column</b>	<b>Quantity</b>						
	30 m × 0,25 mm internal diameter × 0,25 µm film thickness, PH ME siloxane 5% crosslinked, HP-5 or analogue low bleeding capillary column.	Pieces	4					
	<b>2.3.7 Standard kit for GC-FID-NPD</b>	<b>Quantity</b>						
	2.3.7.1 ▪ 10 µl syringe;	Pieces	12					
	2.3.7.2 ▪ high temperature resistant injector inlet seal (septum);	Pieces	200					
	2.3.7.3 ▪ glass liner with inserted quartz wool for split mode analysis;	Pieces	30					
	2.3.7.4 ▪ glass liner for splitless mode analysis;	Pieces	10					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.3.7.5 ▪ O-ring for liner;	Pieces	50					
	2.3.7.6 ▪ kit of ferrules for column connection (inlet and outlet ferrule);	Kit	1					
	2.3.7.7 ▪ 1,5 or 2 ml capacity clear glass vials, wide crimp opening (suitable for inserts);	Pieces	2000					
	2.3.7.8 ▪ plastic crimp caps (for 1,5 or 2 ml capacity glass vials), with central hole and sealing disc;	Pieces	2000					
	2.3.7.9 ▪ 200 µl glass insert with plastic bottom spring;	Pieces	200					
	2.3.7.10 carrier gas (Helium) cartridge filter system (for easy changing) mounted on dedicated base plate; three separate filters connected in series for removing: moisture (with colour indicator), oxygen (with colour indicator) and hydrocarbons; indicator changes colour when trap is full; outlet gas quality >99.9999%; typical life time for all three filter cartridges >2 years; max pressure minimum 11 bar. max flow rate minimum 7 L/min; all tubing – 1/8 in.	Pieces	2					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes										
2.4	<b>Gas chromatograph – mass spectrometer with electron capture detector (GC-MS-ECD)</b> <b>Quantity: 1 set</b>															
	<b>2.4.1 Gas chromatograph (GC)</b> Column oven: <ul style="list-style-type: none"> <li>▪ column oven for minimum two capillary columns;</li> <li>▪ programmable controlled column oven;</li> <li>▪ column oven temperature range (ambient+5 °C) – 450 °C in 1 degree increments;</li> <li>▪ temperature accuracy ± 1 %;</li> <li>▪ minimum 20 oven ramps;</li> <li>▪ ramp rate minimum 120 °C /min;</li> </ul> Flow control: programmable flow and pressure control for all gases, including septum purge, split and detectors gases; <ul style="list-style-type: none"> <li>▪ carrier gas control modes – constant pressure and flow modes;</li> <li>▪ gas saving mode;</li> <li>▪ supported gas pressure range for carrier gas minimum 0 100psi, setpoint resolution minimum 0.001psi.</li> <li>▪ total flow range of minimum 0-200 mL/min for nitrogen and 0-1,000 mL/min for hydrogen and helium;</li> <li>▪ user selectable for pressure or flow mode;</li> </ul>	<b>Quantity</b>														

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	Injection port: <ul style="list-style-type: none"> <li>▪ installed temperature controlled capillary injection port;</li> <li>▪ split and splitless injection modes;</li> </ul> settable temperature ambient +5 °C to 400 °C;	Piece	1					
	<b>2.4.2 Liquid autosampler:</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ sample management – sample capacity 2 ml vials;</li> <li>▪ samples tray with carousel capacity – minimum 100 vials;</li> <li>▪ sample sequencing – random access, priority sample and method insertion, variable speed, sampling depth, dwell time and viscosity delay;</li> <li>▪ possible syringe capacity – 1, 5, 10, 25, 50, 100 µl;</li> <li>▪ minimum two syringe rinse solvents</li> <li>▪ programmable controlled number of sample prewashes, sample injection volume, selection of rinsing solvent, number of rinses.</li> </ul>	Piece	1					
	<b>2.4.3 Mass selective detector (MSD)</b>		<b>Quantity</b>					
	Instrument GC/MS interface: <ul style="list-style-type: none"> <li>▪ type – direct connection with capillary column, temperature settable 350 °C;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<p>Mass analyzer/detector:</p> <ul style="list-style-type: none"> <li>▪ heated compact quadrupole mass filter;</li> <li>▪ mass stability +/-0.1 amu/48 hrs (constant temperature);</li> <li>▪ detector – electron multiplier;</li> <li>▪ dynamic range (electronic) 10<sup>6</sup>;</li> </ul> <p>Ion source:</p> <ul style="list-style-type: none"> <li>▪ ionization mode – EI dual filament, programmable selected;</li> <li>▪ heated ion source settable 350 °C</li> <li>▪ user selectable ionization energy: 5 – 240 eV.</li> </ul> <p>Vacuum system:</p> <ul style="list-style-type: none"> <li>▪ main pump – differential pumping system with turbomolecular pump;</li> </ul> <p>Performance:</p> <ul style="list-style-type: none"> <li>▪ mass range m/z 2 to 1000;</li> </ul> <p>EI scan sensitivity – 1 pg octafluoronaphthalene (OFN) standard scanning (m/z 272) S/N &gt; 1500;</p> <ul style="list-style-type: none"> <li>▪ scan rate minimum 10,000 u/sec.</li> <li>▪ Simultaneous SCAN and SIM data acquisition</li> <li>▪ Independent heating zones – ion source, quadrupole, transfer line</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<b>2.4.4 ECD detector</b> <ul style="list-style-type: none"> <li>▪ Min. detection level: &lt;5,5 fg lindale;</li> <li>▪ Linear dynamic range: &gt;5x10<sup>4</sup></li> <li>▪ Data acquisition rate minimum 50 Hz;</li> <li>▪ Maximum operating temp.: 400°C</li> </ul>		<b>Quantity</b>  Piece	1			
	<b>2.4.5 PC, Printer and Software</b>		<b>Quantity</b>				
	<b>2.4.5.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP 64MB cache;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating system: Windows 7 Professional 64-bit or equivalent.</li> </ul>		Piece	1			

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.4.5.2 B/W Laser printer:</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 600 dpi;</li> <li>▪ memory: minimum 512 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed: minimum 25 ppm;</li> </ul>	Piece	1					
	<b>2.4.5.3 Software:</b> <ul style="list-style-type: none"> <li>▪ control of full gas chromatograph, autoinjector / autosampler, detectors remote, data collection, data reprocessing and storage, mass spectra search, reports generation;</li> <li>▪ different levels of instrument management access;</li> <li>▪ last edition of NIST mass spectra library.</li> </ul>	Set	1					
	<b>2.4.6 Analytical column</b>	<b>Quantity</b>						
	30 m × 0,25 mm internal diameter × 0,25 µm film thickness PH ME siloxane 5% crosslinked, HP-5 MS or analogue low bleeding capillary column.	Pieces	4					
	<b>2.4.7 Standard kit for GC-MS-ECD</b>	<b>Quantity</b>						
	2.4.7.1 ▪ 10 µl syringe;	Pieces	12					
	2.4.7.2 ▪ high temperature resistant injector inlet seal (septum);	Pieces	200					
	2.4.7.3 ▪ glass liner with inserted quartz wool for split mode analysis;	Pieces	30					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.4.7.4 ▪ glass liner for splitless mode analysis;	Pieces	10					
	2.4.7.5 ▪ O-ring for liner;	Pieces	50					
	2.4.7.6 ▪ kit of ferrules for column connection (inlet and outlet ferrule);	Kit	1					
	2.4.7.7 ▪ ion source (filament);	Pieces	8					
	2.4.7.8 ▪ silicon vacuum pump oil;	Liter	4					
	2.4.7.9 ▪ 1,5 or 2 ml capacity clear glass vials, wide crimp opening (suitable for inserts);	Pieces	2000					
	2.4.7.10 ▪ plastic crimp caps (for 1,5 or 2 ml capacity glass vials), with central hole and sealing disc;	Pieces	2000					
	2.4.7.11 ▪ 200 µl glass insert with plastic bottom spring;	Pieces	200					
	2.4.7.12 carrier gas (Helium) cartridge filter system (for easy changing) mounted on dedicated base plate; three separate filters connected in series for removing: moisture (with colour indicator), oxygen (with colour indicator) and hydrocarbons;							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	indicator changes colour when trap is full; outlet gas quality >99.9999%; typical life time for all three filter cartridges >2 years; max pressure minimum 11 bar. max flow rate minimum 7 L/min; all tubing – 1/8 in.;	Pieces 2					
2.5	<b>Liquid chromatography system with diode array detector (HPLC-DAD)</b> <b>Quantity: 1 set</b>						
	<b>2.5.1 HPLC system</b>						
	Solvent delivery – binary high pressure gradient (requires two SDU)						
	<b>2.5.1.1 Solvent delivery unit (SDU):</b>	<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ flow rate 0,001 – 5 ml/min;</li> <li>▪ flow rate precision minimum 0,07% RSD</li> <li>▪ max. pressure 60 MPa, 600 bar;</li> <li>▪ Composition range : 0-100%</li> <li>▪ Composition precision: minimum 0.15% RSD</li> <li>▪ leek sensor for detecting mobile phase leakage;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece 1					
	<b>2.5.1.2 Online vacuum degasser</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ number of degassed solvents channels minimum 3;</li> <li>▪ flow rate minimum 5 ml/min.</li> </ul>	Piece 1					
	<b>2.5.1.3 Column oven</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ temperature control range – ambient +10 °C to 80 °C;</li> <li>▪ Temperature stability: ±0.15°C</li> <li>▪ Temperature accuracy: ±0.8°C</li> </ul>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Heat-up/cool down time: 5 min from ambient to 40°C ; 10 min from 40°C to 20°C</li> <li>▪ leak sensor for detecting mobile phase leakage;</li> <li>▪ minimum 3 HPLC columns 4,6 cm x 30 cm;</li> <li>▪ operating voltage 220-240 V, 50-60 Hz</li> </ul>	Piece	1					
	<b>2.5.1.4 Autoinjector</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ variable injection volume range minimum 0,1 µL to 50 µL</li> <li>▪ injection volume precision ≤ 0,25% RSD;</li> <li>▪ carry over ≤ 0,1%;</li> <li>▪ temperature controlled (Peltier) sample tray</li> <li>▪ compartment with dehumidifier , temperature range minimum 4 °C to 40 °C</li> <li>▪ thermostated tray, capacity minimum 70 vials 1,5 ml;</li> <li>leak sensor for detecting mobile phase leakage;</li> <li>▪ operating voltage 220-240 V, 50-60 Hz.</li> </ul>	Piece	1					
	<b>2.5.2 UV-VIS PDA detector</b>	<b>Quantity</b>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ wavelength range – minimum 190-600 nm</li> <li>▪ number of diode elements minimum 1024;</li> <li>▪ wavelength accuracy <math>\pm 1</math> nm;</li> </ul> Slit width programmable; <ul style="list-style-type: none"> <li>▪ noise <math>0,7 \times 10^{-5}</math> AU;</li> <li>▪ drift <math>\leq 1 \times 10^{-3}</math> AU/hr</li> <li>▪ linearity: <math>&gt; 2.0</math> AU (5%);</li> </ul>							
	<ul style="list-style-type: none"> <li>▪ flow cell optical length 10 mm;</li> <li>▪ Signal data rate: minimum 80 Hz</li> <li>▪ leak sensor for detecting mobile phase leakage;</li> <li>▪ operating voltage 220-240 V, 50-60 Hz.</li> </ul>	Piece	1					
	<b>2.5.3 Controller to coordinate module's proceeding</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ operating voltage – AC 230 V, 50-60 Hz;</li> </ul>	Piece	1					
	<b>2.5.4 PC, Printer and Software</b>	<b>Quantity</b>						
	<b>2.5.4.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					
	<p><b>2.5.4.2 B/W Laser printer:</b></p> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8</li> <li>▪ Connectivity: LAN, USB 2.0</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>	Piece	1					
	<p><b>2.5.4.3 Software:</b></p> <ul style="list-style-type: none"> <li>▪ single point control of the entire HPLC system;</li> <li>▪ data collection, data reprocessing and storage, UV spectra search, reports generation;</li> <li>▪ option to create UV spectra library;</li> <li>▪ detector lamp calibration and optimization software;</li> <li>▪ HPLC system diagnostic function with built in diagnostics tests;</li> <li>▪ toxicology UV spectra library.</li> </ul>	Set	1					
	<b>2.5.5 Standard kit for HPLC-DAD</b>	<b>Quantity</b>						
	<p>2.5.5.1</p> <ul style="list-style-type: none"> <li>▪ installation and start kit;</li> </ul>	Kit	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	2.5.5.2 ▪ column – 250 mm × 4,6 mm (HPLC) analytical RP-18 column (round particle, size 5 µm, pore size 100 Å);	Pieces	3					
	2.5.5.3 ▪ column – 70 mm × 2 mm (UHPLC) analytical RP-18 column;	Pieces	2					
	2.5.5.4 ▪ guard column RP-18 kit for HPLC column;	Pieces	3					
	2.5.5.5 ▪ guard column RP-18 kit for UHPLC column;	Pieces	2					
	2.5.5.6 1,5 or 2,0 ml clear glass vials with screw plastic caps with centre hole and sealing disc;	Pieces	2000					
	2.5.5.7 ▪ D <sub>2</sub> lamp;	Piece	1					
	2.5.5.8 ▪ W lamp;	Piece	1					
	2.5.5.9 ▪ SS ferrules;	Pieces	30					
	2.5.5.10 ▪ SS tubing, outer diameter 1/16 in., internal diameter 0,007 in.	m	2					
	2.5.5.11 ▪ sample loop for autoinjector 0,5 ml capacity;	Piece	1					
	2.5.5.12 ▪ sample loop for autoinjector 2,0 ml capacity;	Piece	1					
	2.5.5.13 ▪ plunger for SDU;	Pieces	8					

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	2.5.5.14 ▪ plunger seals and wash seals;	Pieces	16					
	2.5.5.15 ▪ check-in valve	Pieces	4					
	2.5.5.16 ▪ check-out valve	Pieces	4					
	2.5.5.17 ▪ injector needle with septum	Sets	2					
2.6	<b>Liquid chromatography system with mass detector (LCMS/MS QQQ)</b> <b>Quantity: 1 set</b>							
	<b>2.6.1 HPLC system</b>							
	Solvent delivery – binary high pressure gradient							
	<b>2.6.1.1 Binary pump:</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ Operating pressure 600 bar in whole range – minimum 5 ml/min</li> <li>▪ flow rate 0,001 – 5 ml/min;</li> <li>▪ flow rate precision minimum 0,07 % RSD;</li> <li>▪ Dual piston in series pump with servo-controlled variable stroke drive, floating pistons</li> <li>▪ Composition precision &lt; 0.15 % RSD;</li> <li>▪ Extensive diagnostics, error detection, leak detection, safe leak handling, leak output signal for shutdown of the pumping system:</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1					
	<b>2.6.1.2 Online vacuum degasser</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ number of degassed solvents channels minimum 4;</li> <li>▪ flow rate minimum 5 ml/min.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.6.1.3 Thermostatted Column Compartment</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ temperature control range: from 10°C below ambient–up to +80°C;</li> <li>▪ Temperature stability <math>\pm 0.15</math> °C ;</li> <li>▪ Temperature accuracy <math>\pm 0.8</math> °C with calibration <math>\pm 0.5</math> °C ;</li> <li>▪ Column capacity: minimum three columns, minimum 30 cm per column;</li> </ul>	Piece	1					
	<b>2.6.1.4 Autosampler</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ injection range– 0.1- 100 <math>\mu</math>L in 0.1 <math>\mu</math>L increments</li> <li>▪ sample capacity minimum 100 x 2 ml;</li> <li>▪ carryover &lt; 0,1%;</li> <li>▪ precision <math>\leq 0,25\%</math> RSD.</li> </ul>	Piece	1					
	<b>2.6.2 Mass detector</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ triple quadropole</li> <li>▪ Electrospray ionization source</li> <li>▪ mass range <math>m/z</math> 5 – 3000;</li> <li>▪ Number of MS/MS transitions 450 per time segment</li> <li>▪ &gt; 40,000 ion transactions per method;</li> <li>▪ dynamic range minimum 5 decades;</li> <li>▪ Sensitivity MS/MS positive mode: 1 pg of reserpine injected on column, quantifying on the transition <math>m/z</math> 609 to 195 gives S/N &gt; 10,000:1;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Sensitivity MS/MS negative mode: 1 pg of chloramphenicol injected on column, quantifying on the transition m/z 321 to 152 gives S/N &gt; 3,000:1;</li> <li>▪ operating voltage 230 V, 50-60 Hz.</li> </ul>	Piece	1					
	<b>2.6.3 Nitrogen generator with air compressor</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ nitrogen flow <math>\geq</math> 30l/min.</li> <li>▪ Particles <math>\leq</math> 0,01 <math>\mu</math>m</li> <li>▪ operating voltage 230 V, 50-60 Hz</li> </ul>	Piece	1					
	<b>2.6.4 PC, Printer and Software</b>	<b>Quantity</b>						
	<b>2.6.4.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V, 50-60 Hz</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort</li> <li>▪ CD/DVD +/- RW</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.6.4.2 B/W Laser printer:</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8</li> <li>▪ Connectivity: LAN, USB 2.0</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>	Piece	1					
	<b>2.6.4.3 Software:</b> <ul style="list-style-type: none"> <li>▪ single point control of the entire HPLC/MS system; data collection, data reprocessing and storage, UV spectra search, reports generation;</li> <li>▪ Forensic toxicological MS/MS database containing an MS/MS transition and LCMS/MS conditions for following compounds (cannabinoids, hallucinogens, stimulants, opioids, benzodiazepines, hypnotics, neuroleptics, barbituates, antidepressants, antiepileptics, designer drugs and other compound classes);</li> <li>▪ MS data collection, data reprocessing and storage, MS spectra search, reports generation;</li> <li>▪ option to create MS spectra library.</li> </ul>	Set	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<b>2.6.5 Standard kit for LCMS/MS QQQ</b>		<b>Quantity</b>						
	2.6.5.1 ▪ Set of tools for routine maintenance;	Set	1						
	2.6.5.2 ▪ HPLC column with solid core C18, 2.1x150mm, 2.7um;	Pieces	3						
	2.6.5.3 ▪ HPLC column with solid core C18, 3.0x50mm, 2.7um;	Pieces	2						
	2.6.5.4 ▪ HPLC column end-capped C18 2.1 x 100mm, 3.5um;	Pieces	3						
	2.6.5.5 ▪ 2 ml vials with caps and septa;	Pieces	400						
	2.6.5.6 ▪ Syringe filters for samples, 25mm 0.45um;	Pieces	1000						
2.7	<b>UV-VIS micro-spectrophotometer</b>								
	<b>Quantity: 1 set</b>								
	<b>2.7.1 Microscope</b>		<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ microscope for analysis in transmitted and reflected light;</li> <li>▪ illumination for transmitted and reflected light minimum 100 W halogen lamp;</li> <li>▪ illumination for fluorescence application: fiber based HXP 100 light source;</li> <li>▪ illumination for transmittance: UV-VIS balanced deuterium and tungsten light source;</li> <li>▪ trinocular head with option for CCD camera;</li> </ul>								

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ eyepieces 10×22 adapted for use with eye glasses;</li> <li>▪ achromatic Abbe condenser;</li> <li>▪ lens turret with minimum six objectives;</li> <li>▪ objective 1 – 10×, Numerical Aperture resolution = 0,30</li> <li>▪ objective 2 – 20×, Numerical Aperture resolution = 0,50</li> <li>▪ objective 3 – 10×, Numerical Aperture resolution = 0,25, for reflected light applications: brightfield, fluorescence, polarisation, darkfield;</li> <li>▪ objective 4 – 20×, Numerical Aperture resolution = 0,50 for reflected light applications: brightfield, fluorescence, polarisation, darkfield;</li> <li>▪ objective 5 – 40×, UV transmittance from 240 nm to 780 nm;</li> <li>▪ objective 6 – screening objective, 1,25× magnification;</li> <li>▪ 360° rotatable stage;</li> <li>▪ polarizer for reflected light;</li> <li>▪ polarizer for transmitted light;</li> <li>▪ UV polarizer for transmitted light;</li> <li>▪ filter cube for fluorescence applications;</li> <li>▪ epi-fluorescence Hg UV illumination with installed turnspit mirror with minimum two illuminations for analysis in reflected light;</li> </ul>					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ set of filters for blue and green light epi-fluorescence;</li> <li>▪ colour CCD camera, resolution minimum 1.2 MPix, minimum 15 fps</li> </ul>	Piece	1					
	<b>2.7.2 Spectrometer:</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ diode array detector, number of diode elements minimum 1044; cooled back illuminated CCD for detection;</li> <li>▪ wavelength range minimum 175 nm – 980 nm;</li> <li>▪ resolution <math>\leq 2</math> nm;</li> <li>▪ selectable integration time minimum range from 7 ms to 10 s;</li> <li>▪ control unit with installed power supply; connection to PC by Ethernet;</li> <li>▪ optical path splitter for camera and spectrometer, with adapters, with variable adjustable rectangular diaphragm; diaphragm can be back illuminated by LED light source, diaphragm must not cover sample area in image or field of view;</li> <li>▪ motorized shutter-filterchanger, controlled by spectrometer;</li> <li>▪ minimum 1,5 m optical cable for light source connection, suitable for UV light;</li> <li>▪ motorized neutral optical filters exchanger with aperture, minimum 3 positions;</li> <li>▪ minimum 1,5 m optical cable for spectrometer connection;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Balanced deuterium-tungsten illumination module for UV transmittance microscopy and optical cable, length minimum 1,5 m, including special incoupling device to adapt UV polarizer.</li> </ul>	Piece	1					
	<b>2.7.3 PC, Printer and Software</b>		<b>Quantity</b>					
	<b>2.7.3.1 PC:</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V,50-60 HzProcessor: minimum 3.2GHz, minimum 6MB Cache;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					
	<b>2.7.3.2 B/W Laser printer:</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<b>2.7.3.3 Software:</b> <ul style="list-style-type: none"> <li>▪ Option for fully remote operation of: spectrometer, filter exchanger, camera and apertures and diaphragms;</li> <li>▪ Option for registration of spectra and further analysis colour analysis, comparison of spectra with library information, data collection, data reprocessing and storage, mass spectra search, reports generation;</li> <li>▪ Option to add to existing or create new spectra library;</li> <li>▪ Option to take the measures of observed objects.</li> </ul> Option to save spectra in different formats simultaneously: txt, uvd, spc.	Set	1						
	<b>2.7.4 Standard Kit for UV-VIS micro-spectrophotometer</b>		<b>Quantity</b>						
	2.7.4.1 ▪ quartz microscope slides – 50 pcs.;	Pieces	50						
	2.7.4.2 ▪ quartz cover glass – 10 × 30 pcs.;	Pieces	300						
	2.7.4.3 ▪ Additional kit of bulbs for illumination: Deuterium, HPX100, tungsten bulbs;	Kit	1						
2.8	<b>Portable Infrared-Fourier transformation spectrophotometer and UATR</b> <b>Quantity: 1 set</b>								
	Portability issues: battery pack, wireless router kit and car adapter for USB, wireless and TCP/IP connection between spectrometer and laptop								

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.8.1 Spectrophotometer specifications:</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ wavenumber range 7500 cm<sup>-1</sup> – 400 cm<sup>-1</sup>;</li> <li>▪ resolution 0,5 cm<sup>-1</sup>, 1 cm<sup>-1</sup>, 2 cm<sup>-1</sup>, 4 cm<sup>-1</sup>, 8 cm<sup>-1</sup>, 16 cm<sup>-1</sup>;</li> <li>▪ signal to noise ratio minimum 40000:1</li> <li>▪ data processing functions: arithmetic calculation, peak pick, spectrum subtraction, smoothing, baseline correction, normalize, transmittance-absorbance conversion, peak area integration, spectra comparison, spectrum search, logarithmic conversion;.</li> <li>▪ universal ATR module;</li> <li>▪ polystyrene calibrator;</li> <li>▪ operating temperature range 10°C to 35°C;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> <li>▪ case for FT-IR and case for UATR;</li> <li>▪ UPS battery,</li> <li>▪ USB, wireless, TCP/IP connection;</li> <li>▪ vehicle power adapter;</li> </ul>		Piece	1				
	<b>2.8.2 Laptop</b>		<b>Quantity</b>					
<ul style="list-style-type: none"> <li>▪ minimum 15.6 "LED (1920x1080), screen;</li> <li>▪ processor: minimum 2 GHz,</li> <li>▪ integrated graphics card;</li> <li>▪ memory: minimum 4GB DDR3 1600MHz SDRAM;</li> </ul>								

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ hard disk: minimum 500 GB SMART 5400 rpm;</li> <li>▪ optical drive DVD + /-RW SuperMulti DL</li> <li>▪ WiFi (Wireless) 802.11 a/g/n;</li> <li>▪ Bluetooth 4.0;</li> <li>▪ network card t LAN 10/100/1000 Mbps; Webcam 1.3 MP;</li> <li>▪ display port, VGA port, USB 3.0 port;</li> <li>▪ localized keyboard YU, full-size with a separate numeric part;</li> <li>▪ battery 3 or 6-cell;</li> <li>▪ Windows 7 Professional operating system 64-bit or equivalent;</li> <li>▪ Power requirement – AC 230V, 50-60Hz;</li> </ul>	Piece	1					
	<b>2.8.3 Software</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ control of FT-IR spectrophotometer, with self-diagnostics, hardware monitoring, data processing, spectrum search, print processing, edit, audit trail;</li> <li>▪ self-diagnostics;</li> <li>▪ atmospheric: CO<sub>2</sub> and water vapour; background correction;</li> <li>▪ data format applicable with qualitative IR data processing software;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<ul style="list-style-type: none"> <li>▪ forensic (drugs, narcotics) FT-IR spectra library compatible with software and spectrometer's data format;</li> <li>▪ automatic recognition of accessories.</li> </ul>	Piece	1						
	<b>2.8.4 Standard Kit for Portable Infrared-Fourier transformation spectrophotometer</b>		<b>Quantity</b>						
	2.8.4.1 Additional desiccant cartridge;	Pieces	4						
<b>2.9</b>	<b>Infrared-Fourier transformation spectrophotometer with microscope and ATR</b> <b>Quantity: 1 set</b>								
	<b>2.9.1 Spectrophotometer:</b>		<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ wavenumber range 7800 cm<sup>-1</sup> – 400 cm<sup>-1</sup>;</li> <li>▪ resolution 0,5 cm<sup>-1</sup>, 1 cm<sup>-1</sup>, 2 cm<sup>-1</sup>, 4 cm<sup>-1</sup>, 8 cm<sup>-1</sup>, 16 cm<sup>-1</sup>;</li> <li>▪ signal to noise ratio minimum 40000:1;</li> <li>▪ data processing functions: arithmetic calculation, peak pick, spectrum subtraction, smoothing, baseline correction, normalize, transmittance-absorbance conversion, peak area integration, spectra comparison, spectrum search, logarithmic conversion;.</li> <li>▪ operating temperature range 10°C to 35°C</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.9.2 FT-IR microscope</b>		<b>Quantity</b>					
	<ul style="list-style-type: none"> <li>▪ all reflective cassegrain optical system;</li> <li>▪ transmission and reflectance analysis modes;</li> <li>▪ ATR objective with Ge (Si) crystal;</li> <li>▪ installed HD resolution USB camera for direct on-screen viewing;</li> <li>▪ mirrors system for switching IR and visible mode;</li> <li>▪ motor driven aperture;</li> <li>▪ X-Y motorized stage autofocus;</li> <li>▪ MCT detector with Dewar vessel;</li> <li>▪ wavelength range minimum 7800 cm<sup>-1</sup> - 650 cm<sup>-1</sup>;</li> </ul>	Piece	1					
	<b>2.9.3 Standard Kit for Spectrophotometer</b>		<b>Quantity</b>					
	2.9.3.1	Piece	1					
	2.9.3.2	Piece	1					
	2.9.3.3	Set	1					
	2.9.3.4	Pieces	4					
<b>2.9.4 Software</b>		<b>Quantity</b>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ FT-IR mapping software;</li> <li>▪ software (PC) for control of FT-IR spectrophotometer, with self-diagnostics, hardware monitoring, data processing, spectrum search, print processing, edit, audit trail;</li> <li>▪ self-diagnostics;</li> <li>▪ atmospheric (CO<sub>2</sub> and water vapour) background correction;</li> <li>▪ data format applicable with qualitative IR data processing software;</li> <li>▪ forensic (narcotic drugs, poisons, cutting substances, fibres etc.) FT-IR spectra library compatible with software and spectrometer's data format;</li> <li>▪ automatic recognition of accessories.</li> </ul>	Piece	1					
	<b>2.9.5 PC and Printer</b>	<b>Quantity</b>						
	<b>2.9.5.1 PC</b> <ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V,50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache;</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					
	<b>2.9.5.2 Colour laser printer</b> <ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 600 dpi;</li> <li>▪ memory: minimum 512 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8</li> <li>▪ Connectivity: LAN, USB 2.0</li> <li>▪ print speed: minimum 25 ppm;.</li> </ul>	Quantity						
2.10	<b>Stereomicroscope with digital camera</b> <b>Quantity: 1 set</b>							
	<b>2.10.1</b> <b>16,5:1 zoom ratio stereo microscope with minimum 7,3× 120× magnification range (1× objective, 10× eyepieces):</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ Encoded magnification;</li> <li>▪ Encoded field diaphragm;</li> <li>▪ Planapochromatic objective 1x, working distance minimum 60 mm;</li> <li>▪ Photo tube with 50%/50% light distribution and viewing angle 30°;</li> <li>▪ Eyepieces 10x, field of view 23mm with dioptric adjustment;</li> <li>▪ Transmitted light base, with dark field and blue light filter;</li> <li>▪ Fine-coarse focusing drive;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Multicontrast LED illumination for reflected light, fixed on microscope carrier, different light angles and light distribution directions, controlled by acquisition software;</li> <li>▪ Video adapter;</li> </ul>	Piece	1					
	<b>2.10.2</b> <b>8:1 zoom ratio stereo microscope with minimum 10× 80× magnification range (1× objective, 10× eyepieces).</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ resolution 300 line pairs/mm;</li> <li>▪ depth of field at 80x magnification 70 μm;</li> <li>▪ wide-field eyepieces 10×/23, diopter adjustment;</li> <li>▪ objective 1x, working distance min. 75mm;</li> <li>▪ zoom limits adjustable;</li> <li>▪ video/photo port;</li> <li>▪ optics carrier can be rotated 360°;</li> <li>▪ microscope carrier installable in high or low position;</li> <li>▪ Focusing coarse/fine, parcentric;</li> <li>▪ Incident-light stand with stage plate;</li> </ul>	Pieces	2					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<b>2.10.3</b> <b>Digital colour camera, completely adapted for microscope. Must be from the same manufacturer as the microscopes;</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ Standalone operation without any PC possible;</li> <li>▪ HD live image 1920x1080, 30fps</li> <li>▪ Photo images 3648x2736p, 10 Mpixels;</li> <li>▪ Movie clips HD resolution;</li> <li>▪ Camera control via computer or via remote control;</li> <li>▪ Capture of JPGs or movie directly to SD card;</li> <li>▪ USB2 connection, compatible with PCs and notebooks;</li> <li>▪ Supported OS: Win7 or Win8;</li> </ul>		Pieces	3			
	<b>2.10.4 PC</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V,50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache,</li> <li>▪ minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> </ul>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ LCD minimum 20", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Pieces	3					
	<b>2.10.5 Colour laser printer</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 600 dpi;</li> <li>▪ memory: minimum 512 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ drawer: minimum 250 sheets;</li> <li>▪ Duplex automatic;</li> <li>▪ Compatible: Windows 7 or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed: minimum 25 ppm;</li> </ul>	Piece	1					
	<b>2.10.6 Software</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ appropriate microscope image processing software;</li> </ul>	Sets	3					
	<b>2.10.7 Standard Kit for Stereomicroscope</b>	<b>Quantity</b>						
	2.10.7.1 <ul style="list-style-type: none"> <li>▪ glass microscope slides;</li> </ul>	Packa ges	50					
	2.10.7.2 <ul style="list-style-type: none"> <li>▪ cover glass 24x50mm;</li> </ul>	Packa ges	300					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
2.11	<b>Comparison microscope, with transmitted light, polarized light, incident fluorescence excitation Quantity: 1 set</b>							
	<b>2.11.1 Comparison microscope:</b> <ul style="list-style-type: none"> <li>• Comparison Microscope with motorized system for image compare including size and position of dividing and overlapping line. Motorized magnification 1x and 1.5x;</li> <li>• Variable tube, angle 5°-35°;</li> <li>• Documentation tube;</li> <li>• Fully automated optical light beam path for transmitted light axis for contrasting methods: Bright field, DIC, Polarization;</li> <li>• Fully automated optical light beam path for reflected light axis for contrasting methods: Bright field, Dark field, DIC, Polarization, Fluorescence;</li> <li>• Automatic control of contrasting methods;</li> <li>• System for constant control of light intensity and color temperature;</li> <li>• Automatic condenser with motorized condenser head;</li> <li>• Motorized aperture diaphragm;</li> <li>• Motorized field diaphragm;</li> <li>• Minimum six function buttons for microscope control;</li> <li>• Display for overview of microscope parameters;</li> <li>• Interface 1x USB 2.0;</li> </ul>	<b>Quantity</b>						

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>• Software for microscope control;</li> <li>• Encoded 7- fold objective nosepiece;</li> <li>• LED illumination with constant temperature color of light ;</li> <li>• Eyepieces 10x, field of view 25mm with dioptric adjustment;</li> <li>• Objectives Fluotar class: <ul style="list-style-type: none"> <li>- Objective 5x/0.15</li> <li>- Objective 10x/0.30</li> <li>- Objective 20x/0.45</li> <li>- Objective 50x/0.80</li> <li>- Objective 100x/0.90 dry,</li> </ul> </li> <li>• Fluid light guide for fluorescence light. Fluorescence lamp with 2000 working hours lifetime. At least 23 Lumens per Watt. <ul style="list-style-type: none"> <li>- Fluorescence filter 400nm</li> <li>- Fluorescence filter 455nm</li> <li>- Fluorescence filter 580nm.</li> </ul> </li> </ul>	Piece	1					
	<p><b>2.11.2</b>  <b>Digital colour camera, completely adapted for microscope. Must be from the same manufacturer as the microscopes;</b></p>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ Stand alone operation without any PC possible;</li> <li>▪ HD live image 1920x1080p, 30fps;</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes		
	<ul style="list-style-type: none"> <li>▪ Photo images 3648x2736p, 10 Mpixels;</li> <li>▪ Movie clips HD resolution; Camera control via computer or via remote control;</li> <li>▪ Capture of JPGs or movie directly to SD card;</li> <li>▪ USB2 connection, compatible with PCs and notebooks;</li> <li>▪ Supported OS: Win7 or Win8</li> </ul>	Pieces	2					
	<b>2.11.3 PC</b>	<b>Quantity</b>						
	<ul style="list-style-type: none"> <li>▪ Case: Desktop/Midi Tower AC 230V,50-60 Hz;</li> <li>▪ Processor: minimum 3.2GHz, minimum 6MB Cache minimum USB 2.0x4, minimum USB 3.0 x2;</li> <li>▪ Memory: minimum 8GB DDR3 1600MHz;</li> <li>▪ Hard Drive: minimum 1TB SATA 7200RMP ;</li> <li>▪ Graphic Card: minimum 1GB DDR3, 128-bit, DVI-I, DisplayPort;</li> <li>▪ CD/DVD +/- RW;</li> <li>▪ LCD minimum 24", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ LCD minimum 20", minimum resolution 1920x1080, DisplayPort and DVI input;</li> <li>▪ Operating System: Windows 7 Professional 64-bit or equivalent.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<b>2.11.4 Colour laser printer</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 600 dpi;</li> <li>▪ memory: minimum 512 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed : minimum 25 ppm;</li> </ul>	Piece	1				
	<b>2.11.5 Software</b>		<b>Quantity</b>				
	<ul style="list-style-type: none"> <li>▪ Software for measuring on acquired images, software for automatic image analysis and software for multifocus images.</li> </ul>	Set	1				
	<b>2.11.6 Standard Kit for Comparison microscope</b>		<b>Quantity</b>				
	2.11.6.1	Packa ges	50				
2.11.6.2	Packa ges	300					
<b>2.12</b>	<b>Drying ovens</b> <b>Quantity: 1 set</b>						
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ Temperature range from ambient + 10 °C to 300 °C;</li> <li>▪ setting accuracy ≤ 99.9°C: 0.1 °C, over 100,0°C: 0.5°C</li> <li>▪ interior made of stainless steel;</li> <li>▪ double over-temperature protection, automatic switch-off on over-temperature;</li> <li>▪ microprocessor control;</li> <li>▪ digital timer adjustable from 1 minute to 9 days;</li> <li>▪ forced air circulating for fast drying and heating;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>						

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	2.12.1 Drying oven, capacity minimum 50 L, one shelf.	Pieces	3					
	2.12.2 Drying oven, capacity minimum 110 L; two shelves.	Pieces	3					
	2.12.3 Drying oven, capacity minimum 160 L; two shelves.	Piece	1					
2.13	<b>Water baths</b> <b>Quantity: 1 set</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ temperature range from minimum 5 °C above ambient to boiling point;</li> <li>▪ temperature regulation through thermostat;</li> <li>▪ removable recessed lid with 4 – 8 openings and perforated floor above the heating element, made of stainless steel;</li> <li>▪ the openings in the lid are covered by sets of rings made of heat-resistant plastic material;</li> </ul>							
	<ul style="list-style-type: none"> <li>▪ openings Ø: 90 – 135 mm</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>							
	2.13.1 Water bath, 4 L capacity.	Piece	1					
	2.13.2 Water bath, 8 L capacity.	Piece	1					
2.14	<b>Laboratory mixer (blender)</b> <b>Quantity: 6 Pieces</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ blender with stainless steel container, capacity minimum 1 L;</li> <li>▪ with timer;</li> <li>▪ variable 2 speed rotation;</li> <li>▪ rate of revolutions: 19000/23000 min<sup>-1</sup>;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.15	<b>Test tube shaker (Vortex type mixer)</b> <b>Quantity: 6 Pieces</b>					
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ shacking motion;</li> <li>▪ operating modes: touch and continuous;</li> <li>▪ fixed rotating speed minimum 2500 rpm;</li> <li>▪ one 30 mm diameter test tube or vial space, minimum 50 ml capacity;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>					
2.16	<b>Alcohol (spirit) lamp</b> <b>Quantity: 6 Pieces</b>					
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ made of soda lime-glass;</li> <li>▪ with ground sealing cover, with wick;</li> <li>▪ volume minimum 100 ml.</li> </ul>					
2.17	<b>Magnetic stirring hotplate with magnetic bars</b> <b>Quantity: 1 set</b>					
	<b>2.17.1 Magnetic stirring hotplate:</b> <b>Quantity – 7 units</b> <ul style="list-style-type: none"> <li>▪ Max. stirring volume 10 L;</li> </ul>					
	<ul style="list-style-type: none"> <li>▪ working surface – made of ceramic;</li> <li>▪ working surface size <math>\leq 180 \times 180</math> mm;</li> <li>▪ min. heating range: 50 – 450 °C; Temperature setting via digital display (LED);</li> <li>▪ stirring speed range: 0 up to 1500 RPM;</li> <li>▪ stirring bar length max. 80 mm;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>					
	<b>2.17.2 Magnetic bar:</b> Cylindrical, PTFE coated, L $\times$ $\varnothing$ :					
	<b>2.17.2.1</b> 20 $\times$ 6 mm	Pieces	15			
	<b>2.17.2.2</b> 35 $\times$ 8 mm	Pieces	15			
	<b>2.17.2.3</b> 50 $\times$ 8 mm	Pieces	15			

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.18	<b>UV Forensic Lamp</b> <b>Quantity: 3 Pieces</b>						
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ portable, lightweight mini cabinet equipped with removable UV light source that may be used for hand-held applications;</li> <li>▪ dual wavelength UV light source;</li> <li>▪ two wavelengths, 254 and 366 nm;</li> <li>▪ shock resistant housing, shielding out light on three sides;</li> <li>▪ operating temperature range 4 °C to 40 °C.</li> </ul>						
2.19	<b>Vacuum rotary evaporator</b> <b>Quantity: 1 set</b>						
	<b>Specifications:</b>						
	<b>2.19.1</b> <b>Rotary evaporator:</b> Rotary evaporator <ul style="list-style-type: none"> <li>▪ integrated stainless steel water-oil bath;</li> </ul>						
	<ul style="list-style-type: none"> <li>▪ adjustable water bath temperature from ambient to 180 °C with overheat protection;</li> <li>▪ adjustable rotation speed from 20 to 280 rpm.;</li> <li>▪ glass-set – 1 L capacity flasks, condenser;</li> <li>▪ Left-right interval;</li> <li>▪ Lock function for bath;</li> <li>▪ Dry run control;</li> <li>▪ Motorized lift;</li> <li>▪ The heating bath is controlled via IR interface;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	3				

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.19.2</b> <b>Dry diaphragm vacuum pump:</b> <ul style="list-style-type: none"> <li>▪ dual pump head/ PTFE coated membrane, continuous operation, maintenance-free, oil-free;</li> <li>▪ output minimum 10 L/min;</li> <li>▪ working overpressure minimum 1 bar;</li> <li>▪ final pressure (abs.) minimum 8 mbar;</li> <li>▪ connection for tube ID 10 mm;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	3					
2.20	<b>Analytical balance 80g</b> <b>Quantity: 1 Piece</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ weighing capacity minimum 80 g;</li> <li>▪ readability 0,01 mg;</li> <li>▪ reproducibility - <math>\leq \pm 0,05</math> mg;</li> <li>▪ linearity <math>\leq \pm 0,1</math> mg; <ul style="list-style-type: none"> <li>▪ response time faster than 15 seconds;</li> </ul> </li> <li>▪ weighing platform diameter/size minimum 80 mm;</li> <li>▪ monolithic weigh cells system;</li> <li>▪ motorized internal calibration system;</li> <li>▪ <b>LCD</b> display</li> <li>▪ Selectable application programs: mass unit conversion by toggling, tare memory, net total, weighing in percent, counting;</li> <li>▪ built-in bi-directional RS-232 interface;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>							
2.21	<b>Analytical balance 200g</b> <b>Quantity: 4 Pieces</b>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ weighing capacity minimum 200 g;</li> <li>▪ readability 0,1 mg;</li> <li>▪ reproducibility <math>\leq \pm 0,1</math> mg;</li> <li>▪ linearity <math>\leq \pm 0,2</math> mg;</li> <li>▪ response time faster than 5 seconds;</li> <li>▪ weighing platform diameter/size minimum 80 mm;</li> <li>▪ motorized internal calibration system;</li> <li>▪ LCD display ;</li> <li>▪ Selectable application programs: mass unit conversion by toggling, tare memory, net total, weighing in percent, counting;</li> <li>▪ built-in bi-directional RS-232 interface;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>						
2.22	<b>Precision technical balance with printer</b> <b>Quantity: 1 set</b>						
	<b>Specifications:</b> <b>2.22.1</b> <b>Precision technical balance:</b> <ul style="list-style-type: none"> <li>▪ weighing capacity minimum 4000 g;</li> <li>▪ readability 0,01 g;</li> <li>▪ repeatability <math>\leq \pm 0,01</math> g;</li> <li>▪ linearity <math>\leq \pm 0,03</math> g;</li> <li>▪ response time faster than 3 seconds;</li> <li>▪ rectangular weighing platform size minimum 160 mm X 160 mm;</li> <li>▪ monolithic weigh cells system;</li> <li>▪ motorized internal calibration system;</li> <li>▪ LCD display;</li> </ul>	<b>Quantity</b>					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ Selectable application programs: mass unit conversion by toggling, tare memory, net total, weighing in percent, counting;</li> <li>▪ built-in bi-directional RS-232 interface;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	3					
	<b>2.22.2 Standard balances printer:</b> <ul style="list-style-type: none"> <li>▪ Built-in real-time clock;</li> <li>▪ option to print date and time;</li> <li>▪ statistical evaluation of weighing data;</li> <li>▪ GLP/GMP protocol printout generation;</li> <li>▪ printer paper – 5 rolls;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					
2.23	<b>Ultrasonic cleaning devices</b>							
	<b>Quantity: 1 set</b>							
	<b>Specifications:</b>	<b>Quantity</b>						
	<b>2.23.1 Ultrasonic cleaning device, low capacity:</b> <ul style="list-style-type: none"> <li>▪ Capacity minimum 2 L;</li> <li>▪ minimum bath inside dimensions (L×W×H) 150×140×100 mm;</li> <li>▪ HF peak (+/- 10%) 60 W;</li> <li>▪ heating power minimum 200W;</li> <li>▪ timer ≤ 30 min. and continuous;</li> <li>▪ with basket and lid;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.23.2</b> <b>Ultrasonic cleaning device, medium capacity:</b> <ul style="list-style-type: none"> <li>▪ Capacity minimum 4 L;</li> <li>▪ minimum bath inside dimensions (L×W×H) 240×140×150 mm;</li> <li>▪ HF peak (+/- 10%) 60 W;</li> <li>▪ heating power minimum 200 W;</li> <li>▪ timer ≤ 30 min. and continuous;</li> <li>▪ with basket and lid;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					
	<b>2.23.3</b> <b>Ultrasonic cleaning device, large capacity:</b> <ul style="list-style-type: none"> <li>▪ Capacity minimum 9 L;</li> <li>▪ minimum bath inside dimensions (L×W×H) 500×140×150 mm;</li> <li>▪ HF peak (+/- 10%) 60 W;</li> <li>▪ heating power minimum 200 W;</li> <li>▪ timer ≤ 30 min. and continuous;</li> <li>▪ with basket and lid;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz;</li> </ul>	Pieces	2					
2.24	<b>Laboratory refrigerators</b> <b>Quantity: 1 set</b>							
	<b>Specifications:</b>	<b>Quantity</b>						
	<b>2.24.1</b> <b>Laboratory refrigerator, stand alone:</b> <ul style="list-style-type: none"> <li>▪ Capacity minimum 200 L;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ max. cooling temperature variable from 1 to 11 °C;</li> <li>▪ digital temperature display (resolution 0,1 °C);</li> <li>▪ temperature constancy <math>\pm 3</math> °C;</li> <li>▪ low and high temperature alarm functions;</li> <li>▪ automatic defrost;</li> <li>▪ minimum four shelves and one basket – drawer;</li> <li>▪ standard entries for external temperature sensors;</li> <li>▪ with lockable door;</li> <li>▪ reversible doors;</li> <li>▪ maximum dimensions (W×H×D): 60×200×60 cm;</li> <li>power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	5					
	<p><b>2.24.2 Refrigerator with freezing chamber, stand alone:</b></p> <ul style="list-style-type: none"> <li>▪ two chambers;</li> <li>▪ total capacity minimum 160 L;</li> <li>▪ freezer position – bottom;</li> <li>▪ refrigerator capacity minimum 80 L, minimum three shelves;</li> <li>▪ freezer capacity minimum 80L;</li> <li>▪ max. cooling temperature: <ul style="list-style-type: none"> <li>refrigerator – variable from 2 to 10 °C;</li> <li>freezer – minimum -15 °C;</li> </ul> </li> <li>▪ automatic defrost for refrigerator;</li> <li>▪ reversible doors;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ maximum dimensions (W×H×D): 60×160×60 cm;</li> <li>▪ energy consumption – class A.</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					
	<p><b>2.24.3</b> <b>Refrigerator with ice box:</b></p> <ul style="list-style-type: none"> <li>▪ total capacity minimum 92 L;</li> <li>▪ refrigerator capacity minimum 80 L, minimum two adjustable tempered glass shelves;</li> <li>▪ ice box capacity minimum 10 L;</li> <li>▪ max. cooling temperature: refrigerator – variable from 2 to 10 °C; freezer – minimum -15 °C;</li> <li>▪ automatic defrost;</li> <li>▪ reversible doors;</li> <li>▪ maximum dimensions (W×H×D): 60×80×60 cm;</li> <li>▪ noise level – minimum 43 dB;</li> <li>▪ energy consumption – minimum 0,4 kW/h;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	6					
	<p><b>2.24.4</b> <b>Ultra-low temperature laboratory chest freezer:</b></p> <ul style="list-style-type: none"> <li>▪ capacity 70 – 100 L;</li> <li>▪ cooling temperature minimum -80 °C; digital temperature display;</li> <li>▪ LED indicators on operating status;</li> <li>▪ manual defrost;</li> </ul>							

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>	Piece	1					
	<p><b>2.24.5 Laboratory upright freezer:</b></p> <ul style="list-style-type: none"> <li>▪ Cooling temperature minimum -20 °C;</li> <li>▪ chamber volume minimum 200 L;</li> <li>▪ digital temperature display;</li> <li>▪ symbols (lights) for indicating operating status;</li> <li>▪ minimum 6 shelves;</li> <li>▪ automatic defrost;</li> <li>▪ lockable door;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>		3					
2.25	<b>Canteen equipment Quantity: 1 set</b>							
	<b>Specifications:</b>	<b>Quantity</b>						
	<p><b>2.25.1 Electric stove</b></p> <ul style="list-style-type: none"> <li>▪ solid coloured glass ceramic surface;</li> <li>▪ cooking area 26 x 41 cm;</li> <li>▪ two heating zones;</li> <li>▪ minimum 8 power settings, 100-2000 W;</li> <li>▪ timer function, minimum 60 min.;</li> <li>▪ LED display;</li> <li>▪ touch control;</li> <li>▪ power requirements: AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.25.2</b> <b>Microwave oven</b> <ul style="list-style-type: none"> <li>▪ capacity minimum 40 L;</li> <li>▪ output microwave power 1000 W;</li> <li>▪ minimum 7 power levels;</li> <li>▪ touch control;</li> <li>▪ cavity interior – ceramic enamel;</li> <li>▪ LED display;</li> <li>▪ turntable for uniform microwave distribution;</li> <li>▪ interior light;</li> <li>▪ installed clock and timer;</li> <li>▪ power requirements: AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					
<b>2.26</b>	<b>Balances table</b> <b>Quantity: 2 Pieces</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ Dimensions (L×D×H) – 900×600×750 mm;</li> <li>▪ Base – metal frame coated with chemical resistant varnish, height adjustable;</li> <li>▪ Work surface – smooth, chemical resistant high pressure laminate panel, thickness minimum 30 mm;</li> <li>▪ Installed shock absorbing weighing block, minimum 40 kg.</li> </ul>							
<b>2.27</b>	<b>Transport trolley</b> <b>Quantity: 1 Piece</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ frame material: stainless steel;</li> <li>▪ with four solid rubber swivel castors;</li> <li>▪ with three shelves, load capacity minimum 40 kg per shelf;</li> <li>▪ total load capacity of trolley minimum 120 kg.</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.28	<b>Examination light</b> <b>Quantity: 3 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ Mobile stand base, 5 castors option for 3 lockable castors;</li> <li>▪ stand height minimum 120 cm;</li> <li>▪ snake hose with multi flex arm and with examination lamp, snake hose length minimum 75 cm;</li> <li>▪ light source – LED matrix; neutral white light (4000 - 3500 °K), life time minimum 30.000 hours, light emission analogue to 35-50 W tungsten halogen bulb;</li> <li>▪ light intensity setting (dimming) between 10% and 100%;</li> <li>▪ light head rotation minimum 270°;</li> <li>▪ built-in power supply;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.29	<b>Draining rack</b> <b>Quantity: 5 Pieces</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ Made of plastic, with easy to remove 72 drainage rods, suitable for narrow-neck vessels;</li> <li>▪ with removable drainage channel;</li> <li>▪ for wall mounting.</li> </ul>			
2.30	<b>Multi-tube vortex shaker</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ orbital (circular), vibrating motion;</li> <li>▪ shacking speed range 250 – 950 min<sup>-1</sup>;</li> <li>▪ shacking duration range from 1 to 99 min, or continuous;</li> <li>▪ suitable for mixing or shacking samples in vials or Erlenmeyer flasks;</li> <li>▪ platform for 6 flasks of 250 ml capacity;</li> </ul>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ platform with clamps-tension roller for securely attaching vessels or racks;</li> <li>▪ minimum two racks for vials and/or test tubes;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.31	<b>Vortex mixer</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ orbital shacking motion, orbital diameter minimum 4,5 mm;</li> <li>▪ load ≤ 0,1 kg;</li> <li>▪ mixing volume ≤50 ml;</li> <li>▪ motor input / output: 1.2 / 0.8 W;</li> <li>▪ speed range 2800 rpm;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>			
2.32	<b>Horizontal shaker</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ reciprocating shaking motion;</li> <li>▪ adjustable speed range 10-300 min<sup>-1</sup>;</li> <li>▪ digital display;</li> <li>▪ build-in timer 0-599 min;</li> <li>▪ load ≤ 8 kg;</li> <li>▪ universal attachment: 1 basic holder, 6 clamping rolls, 12 fastening screws;</li> <li>▪ attachments with clamps for separating funnels: separating funnels capacity 100 ml – clamps per tray 6/11, separating funnel capacity 250 ml – clamps per tray 4/8;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.33	<b>Test sieve shaker</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ for dry samples sieving;</li> <li>▪ electromagnetically driven test sieve shaking system with three-dimensional sieving action;</li> <li>▪ self re-adjusting amplitude;</li> </ul>			

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ built-in control panel with digital display;</li> <li>▪ agitation time frame from 0:10 to 99:50 min, or continuous;</li> <li>▪ diameter of sieves <math>\leq 315</math> mm;</li> <li>▪ load weight minimum <math>\leq 6</math> kg;</li> <li>▪ Power requirements – AC 230 V, 50-60 Hz.</li> </ul>						
2.34	<b>Test sieve set</b> <b>Quantity: 2 Sets</b>						
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ made of stainless steel;</li> <li>▪ sieve stack consisting of 7 test sieves; diameter 300 – 315 mm (12") Ø, 40 – 50 mm half height, mesh size 0,63 mm, 1,25 mm, 2,5 mm, 5 mm, 10 mm, 20 mm, 31,5 mm, and collecting pan.</li> </ul>						
2.35	<b>Mill</b> <b>Quantity: 1 Piece</b>						
	<b>Specifications:</b> Mill for grinding hard, brittle, soft and fibrous materials: <ul style="list-style-type: none"> <li>▪ open lid protection;</li> <li>▪ speed range 5000 to 25000 rpm;</li> <li>▪ motor power 100 W;</li> <li>▪ overload protection;</li> <li>▪ removable grinding chamber;</li> <li>▪ chemicals and low temperature resistant grinding chamber;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>						
2.36	<b>Cartridge burner</b> <b>Quantity: 1 set</b>						
	<b>Specifications:</b>		<b>Quantity</b>				
	<b>2.36.1</b> <ul style="list-style-type: none"> <li>▪ <b>Bunsen burner</b> for use with standard gas cartridge: butane:propane = 80%:20%.</li> </ul>		Pieces	5			

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.36.2</b> ▪ <b>Standard valve gas cartridge,</b> capacity 450 ml filled with mixture of butane and propane;	Pieces	15					
2.37	<b>Centrifuges</b> <b>Quantity: 1 set</b>							
	<b>Specifications:</b>	<b>Quantity</b>						
	<b>2.37.1</b> <b>Centrifuge for 1,5 or 2 mL test tubes:</b> ▪ fixed angle rotor for 1,5 or 2 ml test tubes; capacity minimum 12 tubes; ▪ rotation speed minimum 10.000 rpm.; ▪ open lid protection; ▪ LCD display; ▪ power requirements – AC 230 V, 50-60 Hz.	Piece	1					
	<b>2.37.2</b> <b>Centrifuge for 15 mL test tubes:</b> ▪ fixed angle rotor for standard 15 mL test tubes, capacity minimum 8 tubes; ▪ rotation speed minimum 6.000 rpm.; ▪ open lid protection; ▪ imbalance switch-off; ▪ power requirements – AC 230 V, 50-60 Hz.	Pieces	2					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.37.3 Centrifuge for 5-15 mL test tubes:</b> <ul style="list-style-type: none"> <li>▪ fixed angle rotor for use of following vessels: <ul style="list-style-type: none"> <li>▪ 15 ml standard test tubes (Ø 17 x L 100 mm);</li> </ul> </li> <li>• 5 ml standard test tubes (Ø 12 x L 75-82 mm);</li> <li>• blood sample vessels Ø 11-15 x L 102 mm;</li> <li>• urine test tubes Ø13-16 x L100 mm;</li> <li>▪ capacity minimum 8 tubes;</li> <li>▪ adjustable rotation speed, rotation speed minimum 6000 rpm.</li> <li>▪ open lid protection;</li> <li>▪ running time 1-99 min;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Piece	1					
<b>2.38</b>	<b>Industrial floor scales with printer Quantity: 1 set</b>							
	<b>Specifications:</b>  <b>2.38.1 Industrial floor scales:</b> <ul style="list-style-type: none"> <li>▪ weighing capacity min. 150 kg;</li> <li>▪ readability 10 g;</li> <li>▪ rectangular weighing platform minimum 450 mm X 450 mm;</li> <li>▪ digital display;</li> <li>▪ built-in bi-direction RS-232 interface;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	<b>Quantity</b>						
		Pieces	2					

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<b>2.38.2</b> <b>Printer for balances:</b> <ul style="list-style-type: none"> <li>▪ built-in real-time clock;</li> <li>▪ statistical evaluation of weighing data;</li> <li>▪ GLP/GMP protocol printout generation;</li> <li>▪ Paper for printer 10 rolls</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>	Pieces	2					
<b>2.39</b>	<b>Calibration weights, class E2</b> <b>Quantity: 1 set</b>							
	<b>Specifications:</b> made of corrosion-proof, antimagnetic stainless steel, high-polished, with certificates; weights masses:	<b>Quantity</b>						
	<b>2.39.1</b> 500 mg ± 0,025 mg	Piece	1					
	<b>2.39.2</b> 1 g ± 0,030 mg;	Piece	1					
	<b>2.39.3</b> 5 g ± 0,050 mg;	Piece	1					
	<b>2.39.4</b> 10 g ± 0,060 mg;	Piece	1					
	<b>2.39.5</b> 500 g ± 0,8mg;	Piece	1					
	<b>2.39.6</b> 2000 g ± 3,0 mg;	Piece	1					
	<b>2.39.7</b> 10000 g ± 16 mg.	Piece	1					
	<b>2.39.8</b> Set of class E2 weights 1 – 500mg (12 pieces)	Sets	2					



1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
	<ul style="list-style-type: none"> <li>▪ measuring modes: current, freely adjustable max., min.;</li> <li>▪ visual and audio alarm when temperature limits are exceeded;</li> <li>▪ power requirements: battery;</li> </ul>	Pieces	4					
2.41	<b>Illuminated table stand magnifier</b> <b>Quantity: 2 Pieces</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ table-top base;</li> <li>▪ snake hose (multi flex arm ) with magnifying lens and build-in light source;</li> <li>▪ magnification minimum 3x;</li> <li>▪ aspheric lens diameter minimum 100 mm;</li> </ul>							
	<ul style="list-style-type: none"> <li>▪ light source – LED matrix; neutral white light (4000 - 3500 °K), life time minimum 30.000 hours, light emission analogue to 35-50 W tungsten halogen bulb;</li> <li>▪ light head rotation minimum 200°;</li> <li>▪ built-in power supply;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>							
2.42	<b>Illuminated stand magnifiers</b> <b>Quantity: 2 Piece</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ mobile stand base, 5 castors with 3 lockable castors;</li> <li>▪ stand height minimum 120 cm;</li> <li>▪ snake hose (multi flex arm ) with magnifying lens with build-in light source; length of snake hose (multi flex arm ) minimum 75 cm;</li> <li>▪ magnification minimum 3x;</li> <li>▪ lens diameter minimum 100 mm;</li> <li>▪ light source – LED matrix; neutral white light (4000 - 3500 °K), life time minimum 30.000 hours, light emission analogue to 35-50 W tungsten halogen bulb;</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ light intensity setting (dimming) between 10% and 100%;</li> <li>▪ light head rotation minimum 270°;</li> <li>▪ built-in power supply;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.43	<b>Magnifier spectacles</b> <b>Quantity: 3 Pieces</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ magnification minimum 2x;</li> <li>▪ separately adjustable focus for each eye;</li> <li>▪ working distance minimum 40 cm.</li> </ul>			
2.44	<b>Reading magnifiers</b> <b>Quantity: 4 Piece</b>			
	<b>Specifications:</b> magnification minimum 4x; <ul style="list-style-type: none"> <li>▪ with LED illumination.</li> </ul>			
2.45	<b>pH meter</b> <b>Quantity: 3 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ simultaneous display of pH, mV and temperature measurements;</li> <li>▪ automatic and manual calibration 1 to 3 points;</li> <li>▪ automatic or manual temperature compensation;</li> <li>▪ minimum three technical buffers: 4,00; 7,00; 10,00 stored in memory;</li> <li>▪ self-test and diagnostics electrode efficiency diagnostic, drift control;</li> <li>▪ pH measurement range from -2,00 up to 14,00; accuracy minimum 0,01%;</li> <li>▪ mV measurement range ±3,999 (ISE) and ±1999 (OPR); accuracy minimum ±0,2 (ISE) and ±1 (OPR);</li> <li>▪ temperature measurement range from 0 °C to +100 °C; accuracy ±1 °C;</li> </ul>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ pH glass electrode, suitable for strong acids and bases, temperature range from -5 °C to + 100 °C ceramic diaphragm model, with fixed cable, length minimum 1 m;</li> <li>▪ temperature sensor with fixed cable; cable length minimum 1 m;</li> <li>▪ electrode holder suitable for three electrodes;</li> <li>▪ standard buffer solutions pH 4,01 and pH 7,01</li> <li>▪ potassium chloride solution for pH electrode;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.46	<p><b>Multi-parameter meter</b> <b>Quantity: 1 Piece</b></p>			
	<p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>▪ self-test and diagnostics electrode-probe efficiency diagnostic, drift control;</li> <li>▪ pH analysis mode: pH; range -2 – 14 ± 0,004; mV; range -2000 – +2000 ± 0,2; °C; range 0 – 100 °C ± 0,1 °C;</li> <li>▪ conductivity mode: EC; range 10 µS/cm–2000 mS/cm ±0,5 %; °C; range 0 – 100 °C ± 0,1 °C; TDS; range 0 mg/L – 1999 mg/L ± 0,5 %; salinity; range 0,0 – 70,0 % ±0.5 %;</li> <li>▪ set of corresponding electrodes and sensors with fixed cables; cable length minimum 1 m;</li> <li>▪ electrode holder suitable for three electrodes;</li> <li>▪ set of buffer solutions;</li> <li>▪ set of calibration standards;</li> <li>▪ software (CD-ROM), connection cable (USB);</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			

1. Item Number	2. Specifications Required		3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes	
2.47	<b>Solid phase extraction manifold for use with SPE cartridges</b> <b>Quantity: 1 set</b>							
<b>Specifications:</b>		<b>Quantity</b>						
<b>2.47.1</b> <b>Solid phase extraction manifold:</b> <ul style="list-style-type: none"> <li>▪ 12-port screw-type valves within each SPE port for precise flow control;</li> <li>▪ glass basin with installed screw-type solvent-resistant vacuum bleed gauge, vacuum valve and vacuum tubing;</li> <li>▪ PP collection vessel rack suitable for autosampler vials, 1, 3, 6, 15, and 25 mL volumetric flasks.</li> </ul>		Pieces	3					
<b>2.47.2</b> <b>Dry diaphragm vacuum pump:</b> dual pump head; PTFE coated membrane;								
<ul style="list-style-type: none"> <li>▪ continuous operation, maintenance-free, oil-free;</li> <li>▪ output minimum 10 L/min;</li> <li>▪ working overpressure minimum 1 bar;</li> <li>▪ final pressure abs. minimum. 8 mbar;</li> <li>▪ connection for tube ID 10 mm;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>		Pieces	2					

1. Item Number	2. Specifications Required	3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.48	<b>Laboratory glassware washing machine</b> <b>Quantity: 1 set</b>					
<b>Specifications:</b>						
<b>2.48.1</b>						
<b>Laboratory glassware washing machine:</b>						
<ul style="list-style-type: none"> <li>▪ electronic programmable, capable of storing minimum 10 programs;</li> <li>▪ user definable functions: pre-wash, wash, rinse and purified-DI rinse, forced air drying;</li> <li>▪ independent selection of temperatures for pre-wash, wash and final rinse between ambient and minimum 85 °C;</li> <li>▪ fully insulated to reduce heat loss and noise;</li> <li>▪ drop-down door;</li> <li>▪ one rotary spray arm in top of chamber, one rotary spray arm in bottom of chamber, made of sanitary high-grade stainless steel;</li> <li>▪ minimum two chamber load levels with automated rack-to-column connection valves, for racks with injection cleaning;</li> <li>▪ automatic detergent and acid dosing pump;</li> <li>▪ water requirements: tap cold water, pressure range 1,2-8 bar, purified (deionised) water pressure range 1,2-8 bar;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz;</li> </ul>						

1. Item Number	2. Specifications Required			3. Specifications Offered			4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ Dimensions (W×H×D): maximum 600×640×850 mm.</li> </ul>	Piece	1					
	<b>2.48.2 Standard Kit for Laboratory glassware washing machine:</b>	<b>Quantity</b>						
	<b>2.48.2.1</b> injection cleaning spindle rack for glassware with narrow openings;	Piece	1					
	<b>2.48.2.2</b> universal basket;	Piece	1					
	<b>2.48.2.3</b> water purifier (deioniser) with purified water outlet pressure minimum 8 bar; free flow 20 L/min;	Piece	1					
	<b>2.48.2.4</b> pressure vessel for purified/DI water, capacity minimum 50 L;	Piece	1					
	<b>2.48.2.5</b> kit of detergent-rinsing solution;	Pieces	4					
<b>2.49</b>	<b>Personal computer Quantity: 12 Pieces</b>							
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ Brand named PC</li> <li>▪ With or without OS</li> <li>▪ Processor- 64-bit quad core;</li> <li>▪ ports: min. 4x USB 2.0, USB3.0, VGA and/of DVI, audio in, audio out, RJ-45 (LAN port);RAM memory min.4 GB</li> <li>▪ hard disk min. 500GB 7200rpm; SATA;</li> <li>▪ optical drive (DVD) - DVD / CD RW; SATA;</li> <li>▪ monitor- minimum 19, 5", 1920x1080;</li> <li>▪ the keyboard set-YU;</li> <li>▪ optical mouse, scroll,</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>							

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.50	<b>Laptop</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ minimum 15.6 " LED;</li> <li>▪ processor quad core min.2.2 GHz;</li> <li>▪ graphics card minimum 4GB DDR3;</li> <li>▪ memory minimum 8GB;</li> <li>▪ hard disk minimum 500 GB, 5400 rpm;</li> <li>▪ optical drive DVD + /-RW</li> <li>▪ 2x USB 2.0</li> <li>▪ 2x USB 3.0</li> <li>▪ Memory card reader</li> <li>▪ Bluetooth 4.0;</li> <li>▪ Webcam;</li> <li>▪ HDMI port, VGA port, ;</li> <li>▪ localized keyboard YU, full-size with a separate numeric part;</li> <li>▪ battery 6-cell;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.51	<b>B/W Laser printer</b> <b>Quantity: 10 Pieces</b>			
	<ul style="list-style-type: none"> <li>▪ print quality: minimum 1200 x 1200 dpi;</li> <li>▪ memory: minimum 256 MB;</li> <li>▪ standard media sizes: A4, A5, B5;</li> <li>▪ Compatible: Windows 7 or 8;</li> <li>▪ Connectivity: LAN, USB 2.0;</li> <li>▪ print speed: minimum 40 ppm.</li> </ul>			
2.52	<b>Projector</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ method of projection: the ceiling, front, rear;</li> <li>▪ supported platforms: PC</li> <li>▪ lens: <ul style="list-style-type: none"> <li>• minimum equipment lenses: F/2.57;</li> <li>• original equipment lenses: F/2.65;</li> </ul> </li> </ul>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
	<ul style="list-style-type: none"> <li>▪ zoom type: manual and digital;</li> <li>▪ digital zoom factor of 2×;</li> <li>▪ lamp type: P-VIP;</li> <li>▪ lamp life in normal mode 5000 h;</li> <li>▪ lamp life in economy mode 7000 h;</li> <li>▪ Image: <ul style="list-style-type: none"> <li>• standard mode brightness 2700 lm;</li> <li>• supported colors 1.07 Billion Colors (30-bit);</li> <li>• native resolution: 1024×768;</li> <li>• maximum resolution: 1920×1080;</li> <li>• minimum projection distance 100,58 cm;</li> <li>• diagonal image 24 "to 300";</li> <li>• native aspect ratio 4:3;</li> <li>• zoom ratio: 1,1:1;</li> <li>• contrast ratio: 10000:1;</li> <li>• vertical correction: -40 ° / +40 °;</li> <li>• max. vertical sync. 120 Hz;</li> <li>• max. horizontal sync. 100 kHz;</li> <li>• video signal format: SECAM, PAL, NTSC;</li> <li>• video signal standard: HDTV;</li> </ul> </li> <li>▪ audio: <ul style="list-style-type: none"> <li>• number of speakers: 1</li> <li>• speaker output 2 W;</li> </ul> </li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			
2.53	<p><b>Projector screen</b> <b>Quantity: 1 Piece</b></p>			
	<p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>▪ format: 4:3;</li> <li>▪ type: electric;</li> <li>▪ for wall or ceiling mounting;</li> <li>▪ black frame and aluminum body;</li> <li>▪ aluminum pipe inside of the winding fabric;</li> <li>▪ dimensions (W×H): minimum 200×160 cm;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			

1. Item Number	2. Specifications Required	3. Specifications Offered	4. Notes, remarks, ref to documentation	5. Evaluation Committee's notes
2.54	<b>Fixed phone</b> <b>Quantity: 10 Pieces</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ memory store;</li> <li>▪ button for recall a recently dialed number;</li> <li>▪ hands-free function;</li> <li>▪ visual indicator of incoming calls;</li> <li>▪ flash and redial;</li> <li>▪ tone and pulse;</li> <li>▪ flash: 100/300/600 ms;</li> <li>▪ wall mountable;</li> </ul>			
2.55	<b>TV set</b> <b>Quantity: 1 Piece</b>			
	<b>Specifications:</b> <ul style="list-style-type: none"> <li>▪ diagonal minimum 50 "/ 127 cm, maximum 55 "/ 139 cm ;</li> <li>▪ resolution minimum 1920 x 1080;</li> <li>▪ audio output: 10W + 10W;</li> <li>▪ Dolby Digital decoder;</li> <li>▪ smart TV;</li> <li>▪ connections: USB × 3, HDMI × 3, CI slot, ARC port, RF input; full Scart, composite input (CVBS + Audio), component (optical) (Y, Pb, Pr) + Audio, PC audio input, headphone jack;</li> <li>▪ energy class: A +;</li> <li>▪ power consumption in operation / stand-by: 65W / 0.30W;</li> <li>▪ power requirements – AC 230 V, 50-60 Hz.</li> </ul>			

<b>All items</b>	<b>Authorization</b> that the tenderer is approved distributor of the equipment; If the tenderer is not the manufacturer of the equipment, it should provide a proof (certificate or confirmation by the manufacturer) that it is approved/authorized distributor of the equipment in question.			
<b>All items</b>	<b>Installation</b> performed by contractor or authorised service provider. All the equipment must include all necessary parts and standards for its installation.			
<b>All items</b>	<b>Testing</b> of all basic functions of the instrument on a set of producers standard samples commonly used for the corresponding instrument.			
<b>For items 2.1 , 2.2 , 2.3 , 2.4 , 2.5 , 2.6 , 2.7 , 2.8 , 2.9, 2.10 and 2.11</b>	<b>Training</b> for minimum 3 persons (upon delivery) on equipment handling (familiarisation during installation - working with the equipment in all basic and advanced functions of the instrument on set of standard samples, commonly used for the corresponding instrument), instrument maintenance and creating requesting methods in English or Serbian language.  Details of proposed training methodology, shall be presented in the tender proposal and shall refer to the related equipment			
<b>All items</b>	Technical documentation for equipment (Operating manuals/ Users Guide/ Equipment operating instructions/ Cleaning procedures/ Maintenance procedures/ Calibration procedures) upon delivery.			
<b>All items</b>	<b>Warranty</b> Tenderers must provide local reliable warranty service agent providing maintenance and the rapid supply of equipment spare parts and consumables for the Warranty duration of one year. Offer must include warranty service description including:			

	<ul style="list-style-type: none"> <li>• Service organisation contact data including name, postal address, telephone number, fax number and e-mail address;</li> <li>• Help Desk (phone) support, which must be available during working hours, 8AM – 6PM;</li> <li>• Guaranteed maximum response time to submitted maintenance support request (fax or e-mail) of 1 (one) working day;</li> <li>• Guaranteed that any requests for services will be attended to within 24 hours;</li> <li>• Guarantee that all items can be repaired or alternatively replaced within a maximum of 72 hours;</li> <li>• Guarantee that genuine spare parts and consumables will be available for a period of minimum 3 years from the date of final acceptance of the equipment.</li> </ul>			
<p><b>All items</b></p>	<p><b>Commercial warranty</b></p> <p>1 year (after the end of 1 year standard warranty) in accordance with the conditions laid down in Article 32 of the General Conditions and Article 33 of the Special Conditions.</p> <p>Detailed description of the organisation of the proposed service and description of the Manufacturer's commercial warranty shall be included in the offer.</p>			