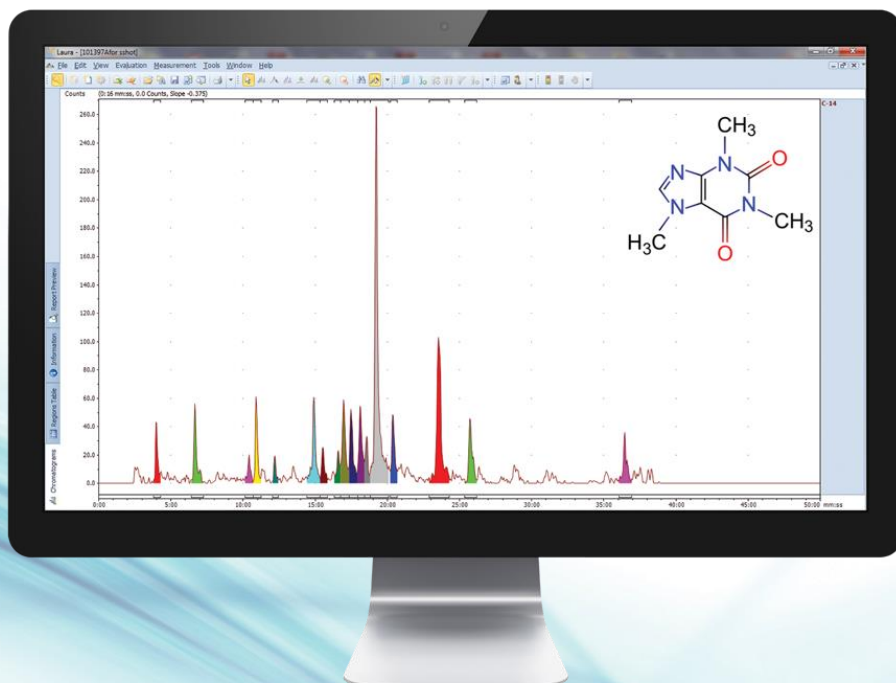


# Target Platform



**Laura**<sup>TM</sup>  
Radiochromatography Data  
Collection and Analysis Software



## Considerations

The requirements specification details the initial requirements for the target platform i.e. the user's choice of system and interface.

Laura is a 32-bit Windows application. The supported operating systems are:

- Windows Vista (32-bit or 64-bit)
- Windows 7 (32-bit or 64-bit)
- Windows 8/8.1 (32-bit or 64-bit)
- Windows 10 (32-bit or 64-bit)
- Windows Server 2008 (32-bit or 64-bit)
- Windows Server 2012 (32-bit or 64-bit)
- Windows Server 2016 (32-bit or 64-bit)

The minimum hardware requirements are:

Component	Minimum Specification
Processor	Intel Dual Core i5
Hard Disk	10 GB of free space for installation and data (7200 RPM)
Memory	2 GB RAM
Network	100 Mbps
Display	SVGA at 1024 x 768

For improved response times, usability and for use with more complicated instrumentation, we recommend the following specification:

Component	Recommended Specification
Processor	Intel Quad Core i7
OS	Windows 7 or later
Hard Disk	20 GB of free space for installation and data (SSD)
Memory	4 GB RAM
Network	1 Gbps
Display	SVGA at 1280 x 800 or better

Thin clients are not supported for data acquisition, but may be used for evaluation of data. With this technology

it is recommended that the server and bandwidth are optimised for acceptable performance.

Laura requires a database to connect to for purposes of storing security access and default reports etc. The database will be Oracle 10/11/12, MSSQL 2016, MSSQL 2014, MSSQL 2012 or MSSQL 2008.

Recommended database server requirements for up to 5 instances of Laura:

Component	Recommended Specification
Processor	Intel Xeon
OS	Windows Server 2012 or later
Hard Disk	20 GB of free space for installation and data
Memory	8 GB RAM
Network	1 Gbps
Database	SQL Server 2014 Express

In order to connect to an MSSQL database a suitable connection must be made. Laura will connect to the database via the Microsoft SQL Native Client.

In order to connect to the Oracle database a suitable connection must be made. Laura will connect to the database via the Oracle Client interface.

Minimum versions of these are:

Software Component	Minimum Version
SQL Native Client	10.50 or later
Oracle Client	10.0 or later

For the creation of temporary files (e.g. during print preview), 100 MB of free disk space is required by Laura.

Memory usage by Laura is estimated to be 50-500 MB.

The following radio-detectors/TLC scanners are supported by Laura.

Radio HPLC detector/ Radio TLC scanner	Interface Requirements
LabLogic B-RAM model 2, model 3 and model 4	1 x RS232 serial port
LabLogic B-RAM model 5	1 x USB port
LabLogic Scan-RAM	1 x USB port
LabLogic Flow-RAM	1 x USB port
Canberra iScan	1 x USB port
Canberra Unispec MCA	1 x USB port
Canberra Osprey MCA	1 x USB port or 1 x Ethernet
Perkin Elmer FSA 505/515/525/610/625	1 x RS232 serial port
Berthold LB509 (or upgraded LB507)	1 x RS232 serial port (or 2 x with optional PEARL)
Bioscan AR-2000	1 x RS232 serial port
Bioscan System-200	1 x RS232 serial port

Other associated instruments supported by Laura.

Instrument	Interface Requirements
LabLogic SoFie control unit	1 x USB interface
Stop-Flow control unit	1 x RS232 serial port
LabAlliance isocratic scintillant pump	1 x RS232 serial port
Lablogic PEARL	1 x RS232 serial port or 1xUSB

The following HPLC Systems are supported and unless otherwise stated require a standard null-modem serial cable to connect to a PC.

Note: As many new workstations do not include serial ports, the use of USB to serial converters has increased. We have had tried a variety of cables and observed many

different results and levels of performance when attaching instruments using a converter. We advise that you try a cable before deciding to use it to connect an instrument.

HPLC system modules	Interface Requirements and information
Agilent 1100/1200/1220/1260/1290 (HP1100)	
G1156A Capillary 6-Col Valve G1157A 2/10 Valve G1158A 2/6 Valve G1159A 6-Column Valve G1160A 12/13 Valve G1162A 2/6 Valve G1163A 2/10 Valve G1310A Isocratic Pump G1311A Quaternary Pump G1311B Quaternary Pump G1311C Quaternary Pump G1312A Binary Pump G1312A Binary Pump/SSV G1312B Binary Pump SL G1312B Binary Pump SL/SSV G1312C Binary Pump VL G1313A ALS G1314A VWD G1314B VWD G1314C VWD SL G1314D VWD G1314E VWD SL+ G1314F VWD G1315A DAD G1315B DAD G1315C DAD SL G1315D DAD G1316A TCC G1316B TCC SL G1316C TCC G1321A FLD G1322A Degasser G1329A ALS G1329B ALS SL G1330A ALSTherm G1330A ALSTherm with AFC	1 x RS232 serial port or 1 x Ethernet  This can be connected either by using a serial cable or if you have the optional 'Ethernet Card' installed in one of the modules then you can connect using an ethernet cable. This is required if you have a Diode Array Detector and want to collect a broad (>80 channels) spectrum.

HPLC system modules	Interface Requirements and information
Agilent 1100/1200/1220/1260/1290 (HP1100) Continued	
G1330B ALSTherm G1330B ALSTherm with AFC G1362A RID G1364A AFC G1364B Prep FC G1364C Analyt FC G1364D Micro FC G1365A MWD G1365B MWD G1365C MWD SL G1365D MWD G1367A WPALS G1367B HiP ALS G1367C HiP ALS SL G1367D HiP ALS SL+ G1367E HiP ALS G1376A Capillary Pump G1379A Degasser G1379B Degasser G4212A DAD G4212B DAD G4220A Binary Pump G4220A Binary Pump/SSV G4226A ALS G4280B Isocratic Pump G4281B Binary Pump G4282B ALS G4283A TCC G4284B VWD G4285B DAD G5611A Bio-Inert Quat Pump G5654A Bio-Inert Quat Pump G5664A Bio-Inert Analyt FC G5667A Bio-Inert HiP ALS SL	

HPLC system modules	Interface Requirements and information
Agilent 1200/1220/1260/1290 Infinity II Continued	
G7104A Flexible Pump G7110B Isocratic Pump G7111A Quaternary Pump VL G7111B Quaternary Pump G7112B Binary Pump G7112B Binary Pump with SSV G7114A VWD G7114B VWD G7115A DAD WR G7116A Multicol Therm G7116A Multicol Therm (10) G7116A Multicol Therm (2) G7116A Multicol Therm (6) G7116B Multicol Therm G7116B Multicol Therm (10) G7116B Multicol Therm (2) G7116B Multicol Therm (6) G7117A DAD FS G7117B DAD G7117C DAD HS G7120A HS Pump G7120A HS Pump with SSV G7121A FLD G7121B FLD Spectra G7129A Vialsampler G7129B Vialsampler G7130A Integrated Column G7162A RID G7162B RID (micro) G7165A MWD	1 x Ethernet
<b>Gilson</b>	
204 Fraction Collector 231XL Sampling Injector 401C Dilutor 402 Syringe Pump 832 Temperature Regulator	1 x RS232 serial port (requires a 9F-25F model serial cable)

HPLC system modules	Interface Requirements and information
<b>Jasco</b>	
AS-1550 Autosampler AS-1555 Autosampler AS-1559 Autosampler AS-2050 Autosampler AS-2055 Autosampler AS-2057 Autosampler AS-2059 Autosampler AS-950 Autosampler AS-951 Autosampler X-LC 3059 Autosampler	1 x RS232 serial port (requires a 9F-25M serial cable)
PU-1580 Pump PU-2080 Pump PU-2085 Pump PU-980 Pump X-LC 3085 Binary Pump	1 x RS232 serial port (requires a 9F-25M serial cable) <i>Note: Multiple pumps may be linked using Jasco supplied cables.</i>
LG-xxxx-xx Ternary Gradient Unit	1 x RJ-45 type cable for connection to the pump, from Jasco
UV-1570 Detector UV-1575 Detector UV-2070 Detector UV-2075 Detector UV-970 Detector UV-975 Detector X-LC 3070 UV-Visible detector	1 x RS232 serial port (requires a 9F-25M serial cable)
FP-920 Fluorescence Detector	1 x RS232 serial port (requires a 9F-25M serial cable)
<b>Knauer</b>	
K-2500 UV Detector K-2501 UV Detector S1000 Pump S2550 UV Detector S100 Rinse Pump	1 x RS232 serial port for each unit (requires a non-standard power cable)

HPLC system modules	Interface Requirements and information
<b>Knauer Continued</b>	
Valve Drive 2-position Azura/BlueShadow 10P pump Azura/BlueShadow 20P pump Azura/BlueShadow 40P pump Azura/BlueShadow P61L pump Azura/BlueShadow 40D UV detector Azura/BlueShadow 50D UV detector Azura/BlueShadow UV2.1L detector	
<b>Logi-CHROM</b>	
Binary Pump (HPG-10mL) Binary Pump (HPG-50mL) Binary Pump SSV (HPG-10mL) Binary Pump SSV (HPG-50mL) Column Thermostat EC Detector UV Detector	Ethernet connection. All units connect through a DHCP switch
<b>Perkin Elmer Series 200</b>	
Series 200 Autosampler Series 200 Pump Series 200 Micro-pump Series 200 Column Oven Series 200 UV/VIS Detector	1 x RS232 serial port for each unit
<b>Shimadzu VP-series</b>	
SCL-10ADvp Controller CTO-10A Oven CTO-10AC Oven CTO-10ACvp Oven CTO-10ASvp Oven CTO-10Avp Oven FCV-10AL FCV-10ALvp	1 x RS232 serial port

HPLC system modules	Interface Requirements and information
FCV-11AL	
Shimadzu VP-series Continued	
FCV-11ALS FCV-15AL LC-10AD Pump LC-10ADvp Pump LC-10Ai Pump LC-10AS Pump LC-10AT Pump LC-10ATvp Pump SIL-10ADvp Autosampler SIL-10AF Autosampler SIL-HTa Autosampler SIL-HTc Autosampler SPD-10A UV Detector SPD-10Ai UV Detector SPD-10AV UV Detector SPD-10AVi UV Detector SPD-10Avp UV Detector SPD-10AVvp UV Detector	
Shimadzu Prominence/Nexera	
CBM-20A CBM CTO-20A Oven CTO-20AC Oven FCV-LPGE LC-20AB Binary Pump LC-20AD Pump LC-20ADXR Pump LC-20AT Pump SIL-20A Autosampler SIL-20AC Autosampler SIL-20ACHT Autosampler SIL-20ACXR Autosampler SIL-20AHT Autosampler SIL-20AXR Autosampler SPD-20A UV Detector SPD-20AV UV Detector SPD-M20A PDA LC-30AD Pump	1 x RS232 serial port or 1 x Ethernet  Note: The SPD-M20A is connected using an Ethernet cable directly to the workstation and does not operate through the CBM. This connection is in addition to the selected CBM connection and will need to be configured separately.

HPLC system modules	Interface Requirements and information
SIL-30AC Autosampler	
Shimadzu Prominence/Nexera Continued	
CTO-30A Oven CTO-30AS Oven	
Teledyne	
Foxy R1 Fraction Collector Foxy R2 Fraction Collector	1 x RS232 serial port
Waters ACQUITY UPLC /Arc System	
Auxillary Solvent Manager Binary Solvent Manager Column Manager Evaporative Light Scattering Detector Fluorescence Detector Flow Through Needle-R Photo Diode Array Detector Quad Solvent Manager Quad Solvent Manager-R Sample Manager Sample Manager Direct Injection Sample Organiser Tunable UV Detector	Ethernet connection
Waters Alliance System	
Alliance 2695 System Alliance 2795 System 2487 Absorbance Detector 2489 Absorbance Detector 2-Column Regeneration valve 3-column selection valve 6-column selection valve	National Instruments IEEE488 interface card (NOT the Waters busLAC/E interface card)

The following GC Systems are supported.

GC system modules	Interface Requirements and information
Agilent GC6850	
Flame Ionisation Detector Manual Injector Auto Injector	Ethernet

From Laura 5, connection to supported GC and HPLC can be made through the Instrument Control Framework (ICF).

GC and LC system modules	Interface Requirements and information
Agilent LC	
38X/1260/1290 ELSD	Ethernet
1100/1200/1260/1290 LC	Ethernet
1120/1220 Compact LC	Ethernet
7100 CE	Ethernet
Agilent GC	
7697 HS	Ethernet
G1888A HS	Ethernet
6850 GC	Ethernet
6890 GC	Ethernet
7820 GC	Ethernet
7890 GC	Ethernet
Shimadzu LC	
Nexera LC	Ethernet
Prominence LC	Ethernet
PDA	Ethernet
i-Series LC	Ethernet