

ASTRA SEC-MALS – Wyatt Technology

INTRODUCTION

The Lumetics LINK™ software platform scans network locations for new measurement data files, copies data directly to a centralized database, and provides a powerful user interface for rapid multi-measurement multi-technique data aggregation, visualization, analysis, and reporting. LINK employs a client/server-based architecture where the LINK server hardware is provided by the end user and resides on the end user's network. The LINK client is a portable web-based application that may be placed on any computer with network connectivity to the LINK server. For successful import, the LINK webserver requires read access to the folders where user data resides.

ASTRA SEC-MALS is a luminary software for macromolecular and nanoparticle separation and characterization.

DETAILS

LINK requires the XML (typically **report.xml**), which contains a key element of the Peak Names and associated content. These peak names are also what tie the data to the optional raw data CSV files for The Differential Refractive Index curve (which optionally includes absorbance raw data) and Light Scattering Intensity curve CSV files.

The ASTRA XML file example is as follows:

```

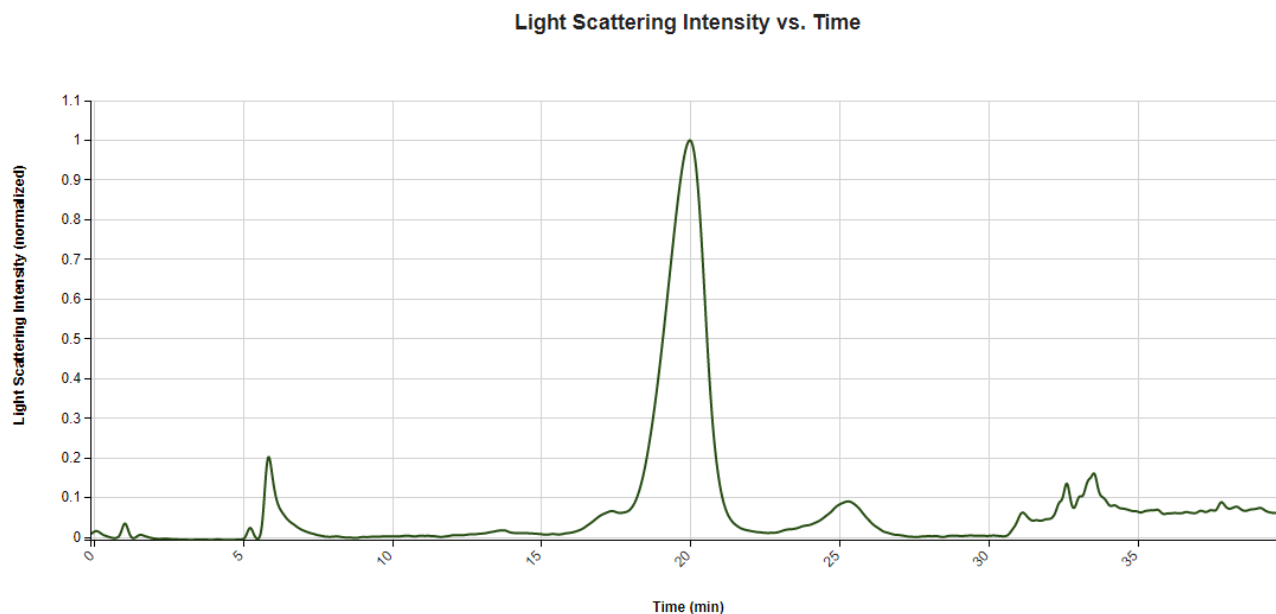
1  <?xml version="1.0" encoding="utf-8" ?>
2  <experiment xmlns="http://www.wyatt.com/schemas/ExperimentR
3  <name>Lumetics LINK Data</name>
4  <settings>
10 <settings>
73 <graphs>
114 <configuration>
539 <sample>
577 <procedures>
1195 <results>
1196 <result type="common">
1197   <name>laser monitor average</name>
1198   <scalar units="V">9.995980129e-01</scalar>
1199 </result>
1200 <result type="common">
1201   <name>Forward Monitor Average</name>
1202   <scalar units="V">9.845279575e-01</scalar>
1203 </result>
1204 <result type="common">
1205   <name>laser current average</name>
1206   <scalar units="amps">1.507617862e-01</scalar>
1207 </result>
1208 <result type="common">
1209   <name>laser voltage average</name>
1210   <scalar units="V">-2.332091570e+05</scalar>
1211 </result>
1212 <result type="mass">
1213   <name>Calculated Mass</name>
1214   <scalar units="µg" peak="1">8.376778000e+00</scalar>
1215   <scalar units="µg" peak="2">3.436780177e-01</scalar>
1216   <scalar units="µg" peak="3">5.879897680e-01</scalar>
1217   <scalar units="µg" peak="4">4.727889829e-01</scalar>
1218   <scalar units="µg" peak="5">1.041503417e+01</scalar>
1219 </result>
1220 <result type="mass">
1221   <name>Mass Recovery</name>
1222   <scalar units="%" peak="1">8.376778000e+01</scalar>
1223   <scalar units="%" peak="2">3.436780177e+00</scalar>
1224   <scalar units="%" peak="3">5.879897680e+00</scalar>
1225   <scalar units="%" peak="4">4.727889829e+00</scalar>
1226   <scalar units="%" peak="5">1.041503417e+02</scalar>
1227 </result>
1228 <result type="mass">
1229   <name>Mass Fraction</name>

```

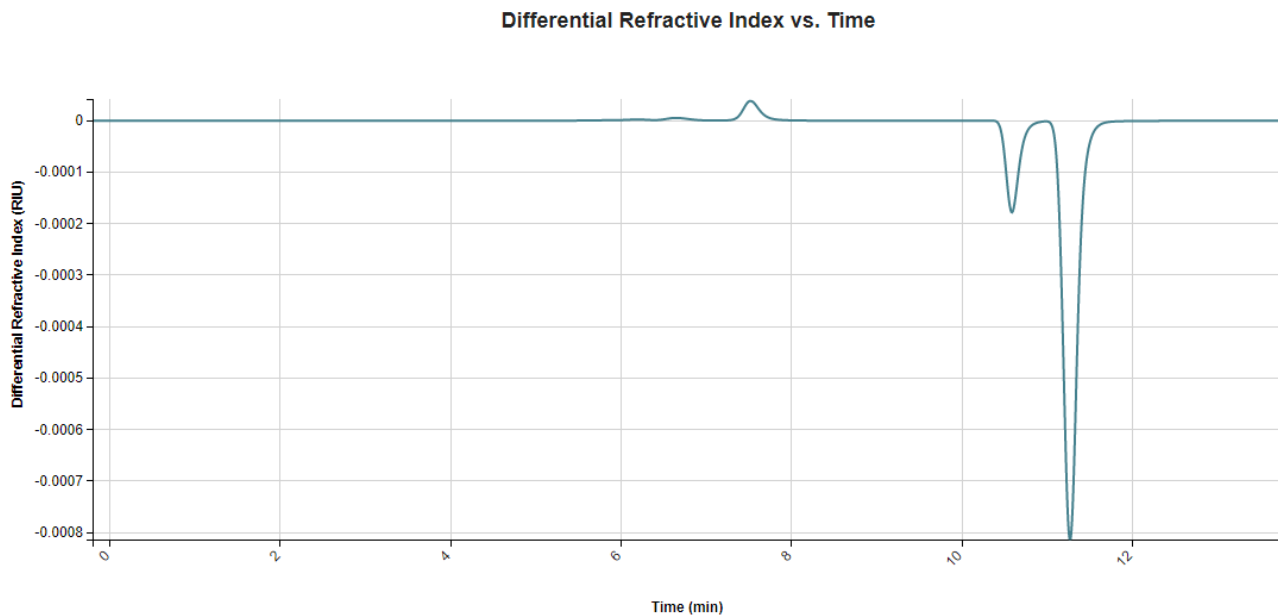
EXAMPLES

Included below are sample dashboards from ASTRA measurement files:

1. Line Chart plotting raw data curves for Light Scattering Intensity vs. Time



2. Line Chart plotting raw data curves for Differential RI vs. Time



3. Tabular Summary examples

Measurement Summary Table – Measurement Results

Sample Name	HMWS 1 Retention Time (min) - AVG	HMWS 1 M(avg) (g/mol) - AVG	HMWS 1 Mw (g/mol) - AVG	HMWS 1 Mp (g/mol) - AVG	HMWS 1 Mn (g/mol) - AVG	HMWS 1 Average concentration (mg/mL) - AVG	HMWS 1 Calculated Mass (µg) - AVG	HMWS 1 Mass Recovery (%) - AVG	HMWS 1 Mass Fraction (%) - AVG	Light Scattering Intensity (normalized) (Time (min) >=1) - AVG	Differential Refractive Index (RIU) (Time (min) >=1) - AVG	Monomer Calculated Mass (µg) - AVG	Total Standard Deviation (min) - AVG
LINK1	25.24	309564.31	650346.74	300622.63	384206.83	1.03e-4	0.47	4.73	4.54	331.13	0.00	8.38	5.32
LINK2										0.00	-0.02		



Measurement Summary Table – Instrument Settings

LINK Record ID #	InstrumentName	Sample Name	Total Skew - AVG	Total Tailing Factor - AVG	Total End (min) - AVG	Experiment	Directory	Collection Version	Collection Time
3	ASTRA	LINK1	-55.17	3.52	30	126_2019-02-0...	C:\Raw data\042...		Tuesday, Februa...
4	ASTRA	LINK2				raw data	D:\171116 - mer...	6.1.2.84	Thursday Nove...

CONTACT LUMETICS

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Website: <http://lumetics.com/>

