Nephelometry + Lumetics LINK^{TM}

INTRODUCTION

LINK is the software solution for automated analytical data import, analysis, and reporting. LINK scans network locations for new measurement files, extracts all useful data, and copies this data directly to a centralized database. The powerful analysis user-interface allows datasets to be aggregated, grouped, and visualized in the form of charts/tables/images. User-customizable analysis templates deliver rapid and error-free data visualization, with the ability to be replicated across many studies and shared within your organization.

All instrument settings and parameters calculated by the instrument software are copied to the LINK database, including full underlying raw data curves. Sample metadata may be easily assigned and incorporated within the analysis to integrate various product/process variables. LINK has been demonstrated to deliver time savings more than 90% and provide a highly affordable fully automated data management and analysis solution.

LINK currently supports the NEPHELOstar instrument from BMG LabTech for nephelometry.

NEPHELOMETRY DETAILS & APPLICATIONS

Nephelometry is the measurement of the intensity of reflected light by means of a nephelometer. This mechanism can be applied to studies of turbidity, as in the determination of particle size or of the amount of suspended matter in chemical analysis. LINK may be utilized to assist directly in the following Nephelometry application areas:

- Compound solubility screens
- Turbidity measurements
- Drug solubility screening
- Protein binding kinetics
- Microbial growth
- Petroleum process control

INSTRUMENT SUPPORT DETAILS – NEPHELOMETER (BMG)

The NEPHELOstar is a microplate nephelometer with a high-intensity laser diode for light-scattering and turbidity measurements. All available instrument/analysis setting information and NEPHELOstar raw data calculations will be imported to LINK.

VISUALIZATIONS – LINK ANALYSIS

LINK's dynamic analytical suite will aggregate data and provide visualization tools to suit your specific needs. Imported Nephelometry Systems measurement data can be analyzed using the LINK platform's customizable charts, tables, calculations, images etc. User-customized analysis templates deliver rapid and error-free data visualization with the ability to be exported as a word report to share across your organization.

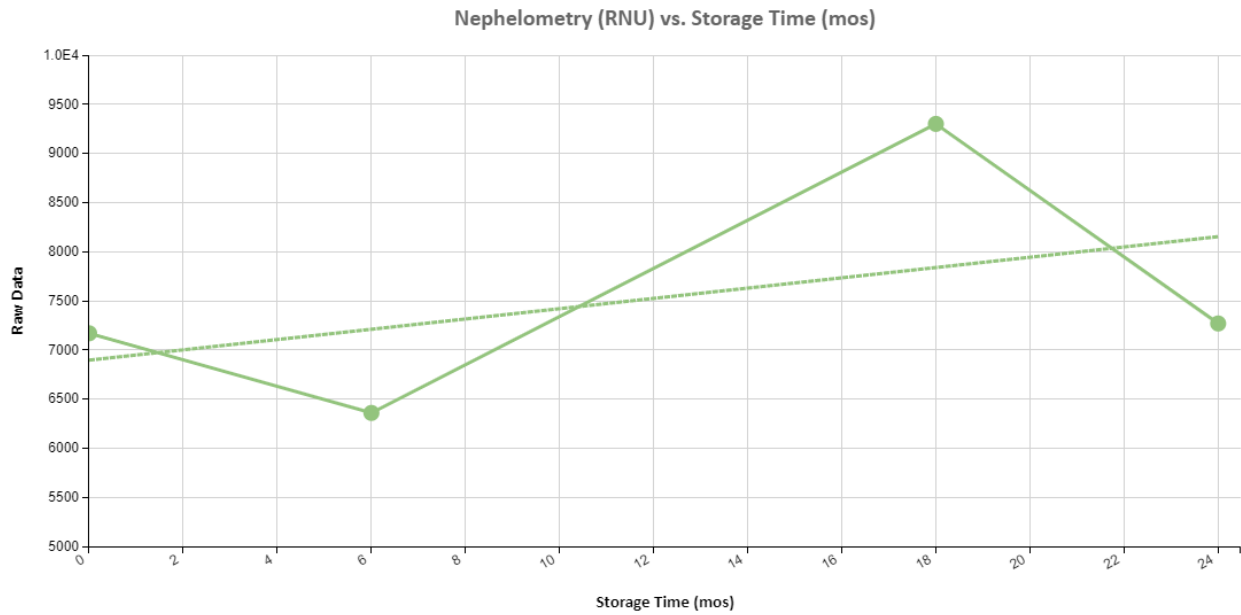**Fig 1. Critical Quality Attribute vs. Sample Metadata**

Nephelometry (RNU) vs. Storage Time (mos)

Fig 2. Critical Quality Attribute vs. Sample Name

Nephelopmetry (RNU)vs. Sample

Fig 3. 2D Histogram Well Plate Heat Map

Nephelometry (RNU) vs. Well Plate Position
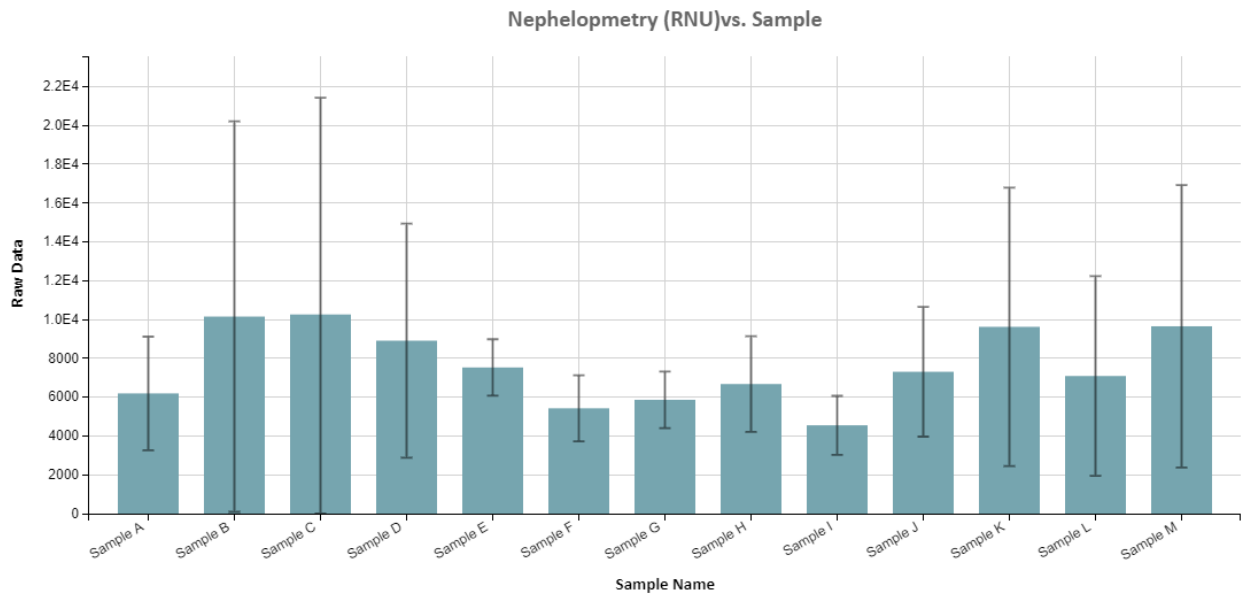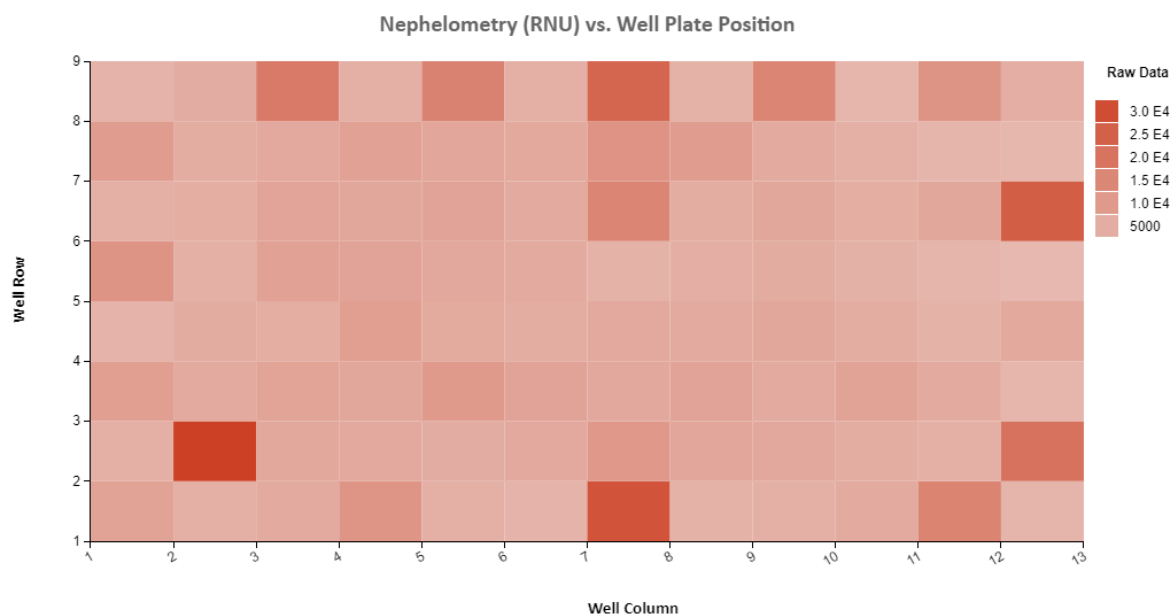
Fig 4. Tabular summaries

Measurement Summary Table

Sample Name	# Meas.	Protein Level - Avg	Protein Level - StDev	Protein Level - RSD
Sample A	6	6191.67	2924.62	0.47
Sample B	6	10150.00	10061.61	0.99
Sample C	6	10258.33	11159.14	1.09
Sample D	6	8908.33	6031.62	0.68
Sample E	7	7528.57	1454.55	0.19
Sample F	8	5425.00	1702.10	0.31
Sample G	8	5862.50	1456.94	0.25
Sample H	8	6675.00	2461.71	0.37
Sample I	8	4550.00	1517.99	0.33
Sample J	8	7306.25	3339.64	0.46
Sample K	7	9621.43	7172.74	0.75
Sample L	9	7088.89	5138.81	0.72
Sample M	9	9650.00	7276.76	0.75

NEPHELOMETRY DASHBOARDS

LINK contains an extensive built-in dashboard library from LINK version 2.4.0.210401 and later. This function contains specific pre-created dashboards for all instruments and application groups.

CONTACT LUMETICS

For direct assistance, please contact Lumetics LINK™ Support:

    E-mail: support@lumetics.com
    Phone: 1.613.614.874
    Website: http://lumetics.com/