

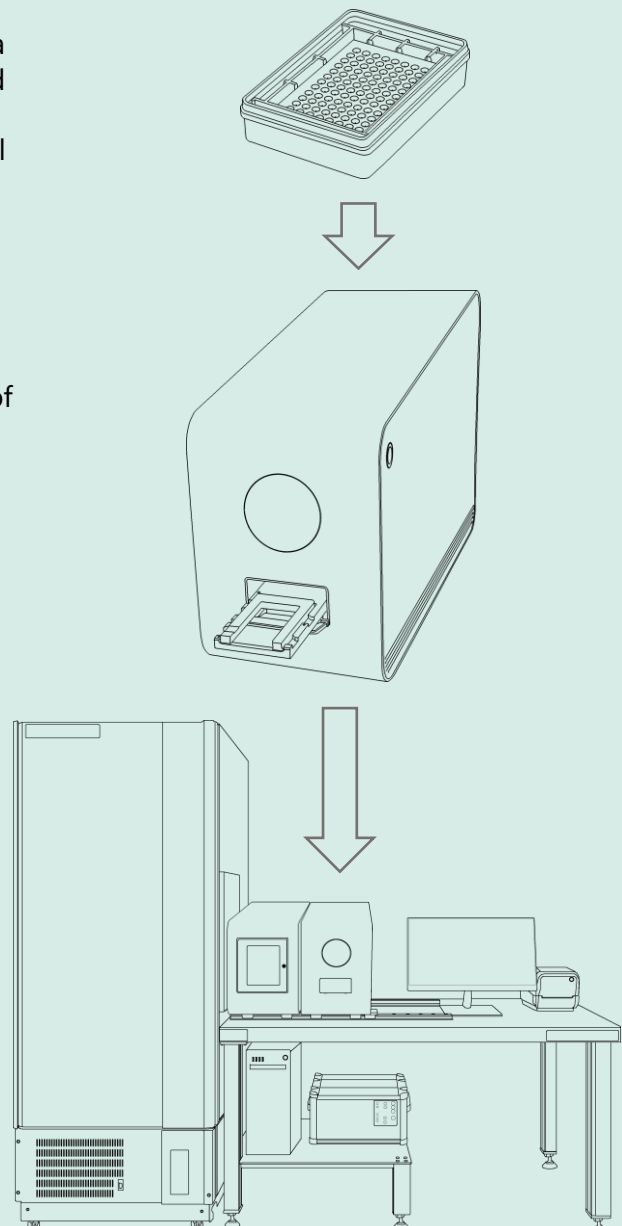
## Automated Repetitive DLS

*In plate* DLS provides the possibility to combine dynamic light scattering (DLS) with a plate hotel-imaging system. This is a powerful combination, since long term stability of a sample is always an issue and it can be monitored on a multitude of samples when plate DLS is combined with an automated incubator system like a plate hotel. Most importantly, the sample has to be kept unaffected over time, particularly evaporation has to be avoided and ambient temperature has to be controlled. Since both requirements are fulfilled, the unique laboratory imaging/DLS-system "**SpectroQ**" is available.

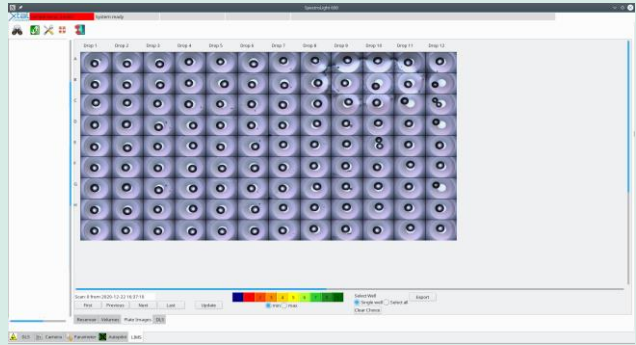
**96 well in plate DLS**, is mostly done in a non-SBS standard plate type. Automated *in plate* works most efficiently when DLS is done in combination with a paraffin oil cover for avoiding evaporation.

**SpectroLight 600** is an integrated unit of a SpectroQ system. Since it provides imaging, UV-imaging based on fluorescence and DLS This can be done fully automated as well.

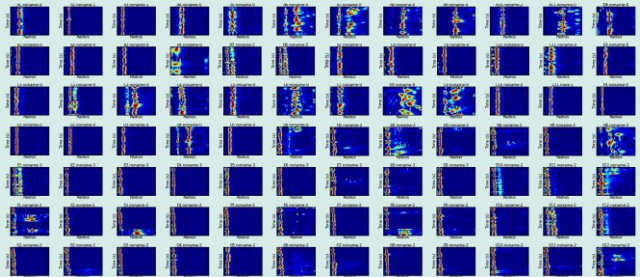
**SpectroQ**, the unique combination of Imaging and DLS, with a hotel and all what is required for automated plate handling. Multiple plates for formulation via DLS monitoring can be combined with the classic imager function in one unit.



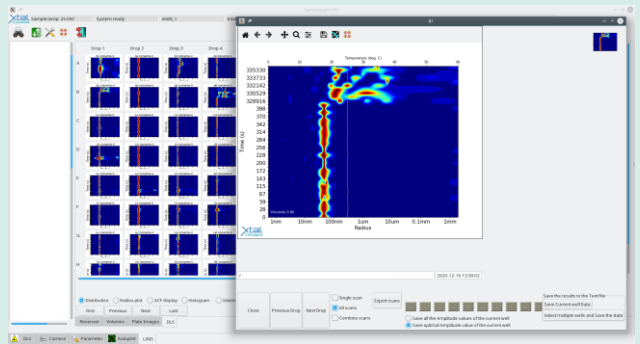
**Automated Imaging** may also reveal much about a sample. Often aggregations are already visible as a solid amorphous phase located at the bottom of a well.



**Automated DLS** allows to monitor multiple samples at once. Sample responses to a variety of buffer conditions, as used in screens, show a vast spectrum of particle sizes, even when such drops remain clear. Some reactions resulting in aggregation are quite slow. Monodispersity over time, as the criteria for suitable buffer conditions is commonly quite rare.



**Long term degradation** is quite common in protein biochemistry and often buffer condition dependent. Repetitive DLS was never before that much easy, comfortable and sample efficient and is a striking tool for identification optimal buffer conditions supporting long term stability of a sample.



**Long term Degradation and Stability**

Here are examples a sample that appeared to be stable at t0 in all shown buffers. A series of DLS measurements had been carried out a different times (t0 + 100 h). Only one condition indicated to be optimal to store the sample. This example shows that also time is one crucial parameter for optimal sample formulation.

