



<http://olisweb.com>

Mitochondria Metabolism

One of the drawbacks of optical spectroscopy, affecting absorbance in particular, is the effect of light scattering on the measurement. A highly scattering sample will increase the apparent absorbance in the vast majority of spectrophotometers on the market. The instrument cannot differentiate between scattered and absorbed light. In fact, this artifact is commonly used to roughly quantitate bacterial cell cultures by measuring the apparent absorbance at 600 nm. This artifact, however, severely limits true absorbance measurements in turbid samples.

Turbid Samples: In the 1980's, this problem was partially addressed with the introduction of the Aminco [DW2](#) and later the [DW2000](#). Olis still supports these amazing optical benches. However, Olis has now topped this design with the [CLARiTY](#) line of instruments, which have the ability to record true absorbance spectra in the presence of a highly scattering medium, as is the case in many unpurified biological samples. The Olis CLARiTY line of instruments are ideally suited for monitoring absorbance changes in mitochondrial suspensions, whole cells, or other highly scattering environments.

The CLARiTY line includes the [RSM 1000](#), [DM 245](#), and the [DB 620](#) optical benches. The RSM 1000 configuration allows for the collection of rapid scans and is usually configured to measure up to 100 scans per second. The DM 245 and DB 620 are configured for single wavelength measurements over time or for conventional absorbance scans. The CLARiTY chamber includes magnetic stirring and temperature control from 25 to 80 C°.

Common accessories include the [TLC 50](#) (for RSM 1000), StepDisks (for RSM 1000), [Twin Peltier](#) (for DW2/2000), and fluorescence module (for DW2/2000).

Links to client publications:

Download a PDF of client publications related to Mitochondria Metabolism [here](#).