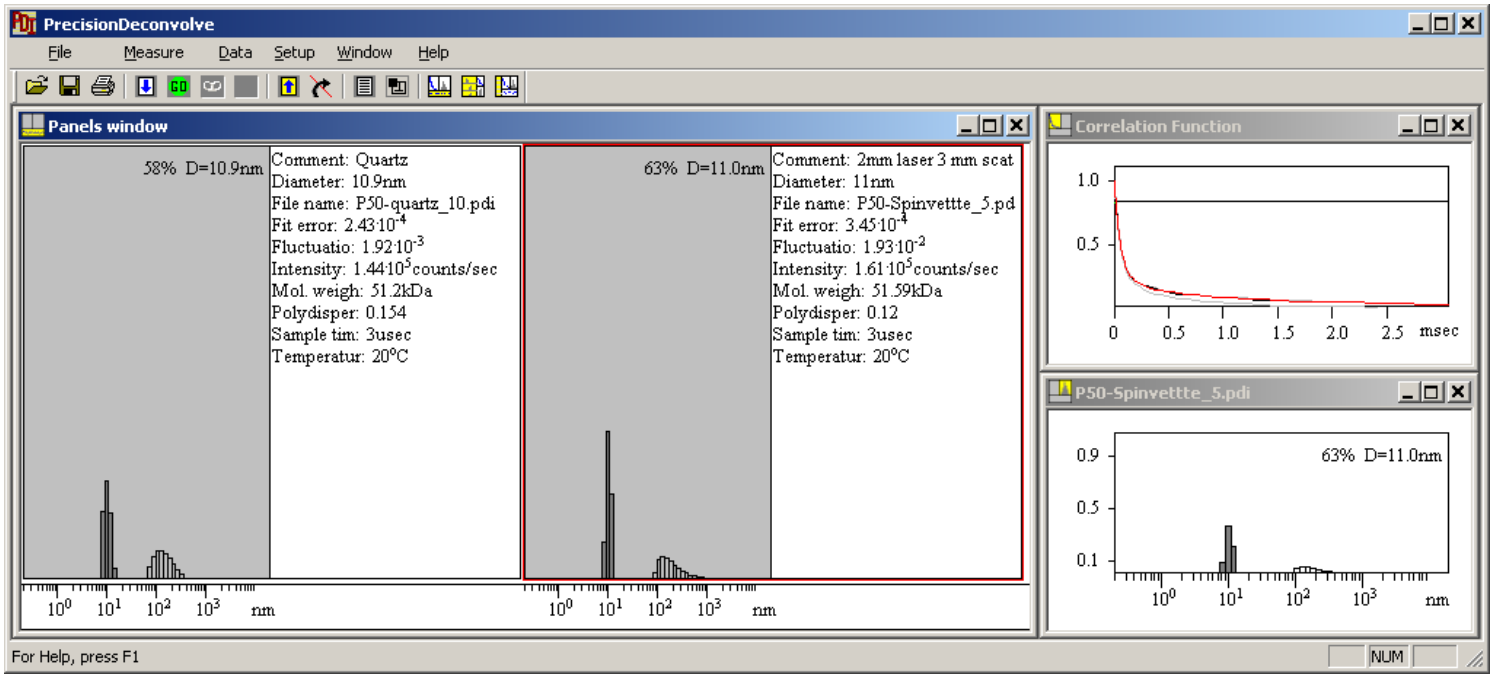
Comparison at 90 Degrees Scattering Angle

Cusop Technology (Cusoptechnology.com)

Introduction

When the Dynamic Light Scattering (DLS) measurement is back scatter mode the photons scattered pass back through the same window that the laser beam entered. The degree of background scattering is very managable. But for a 90 degree measurement. Simular to the PDCool-Batch. Then the distance of the cuvette walls can be critical to the measurement. The CoolBatch was sold with a standard 7mm quartz square cuvette available from either Starna or Helma these cuvettes ranged from $230 to 400 in price. And could work with volumes of about 150 microliters In a recent study while testing a CoolBatch system for a client.

A simple comparison was made between the Starna Quartz cuvette. and the Spinvette



The sample used here is a P50 - Pullulan with a molecular weight of about 48,000 Daltons dissolved in pure water (A very easy test sample) measured at 20 C
The Quartz cuvette gave an unperturbed size of 10.9 nm (Dia.) and produced 144,000 counts per second interestingly the Spinvette produced 161,000 counts per second and size of 11 nm. The fluctuations were almost identical the fit error from the regulaization program were of a similar order. The Spinvette was able to match the performance of the Quartz cuvette at a fraction of the price and the distributions generated were almost identical.

The Spinvette can be used in 90 degree based systems and only require the user to purchase the correct holder for the particular manufactures system.

A standard can be produced in the spinvette and stored for future use and also be spun to remove unwanted dust / contamination.