

Chirascan: Continuous Temperature Ramping Experiments

The data below was collected on Chirascan in June 2010 as part of a customer evaluation. Details of the sample have been removed.

CD Temperature ramp data at 220nm

Cell: **0.5 mm** pathlength
 Wavelength range: 180 to 260 nm in 1 nm steps
 Bandwidth: 1 nm
 Step: 1 degC
 Temperature range: 20 to 95 degC
 Temp. ramp rate: 1 degC / minute (75 minute experiment)

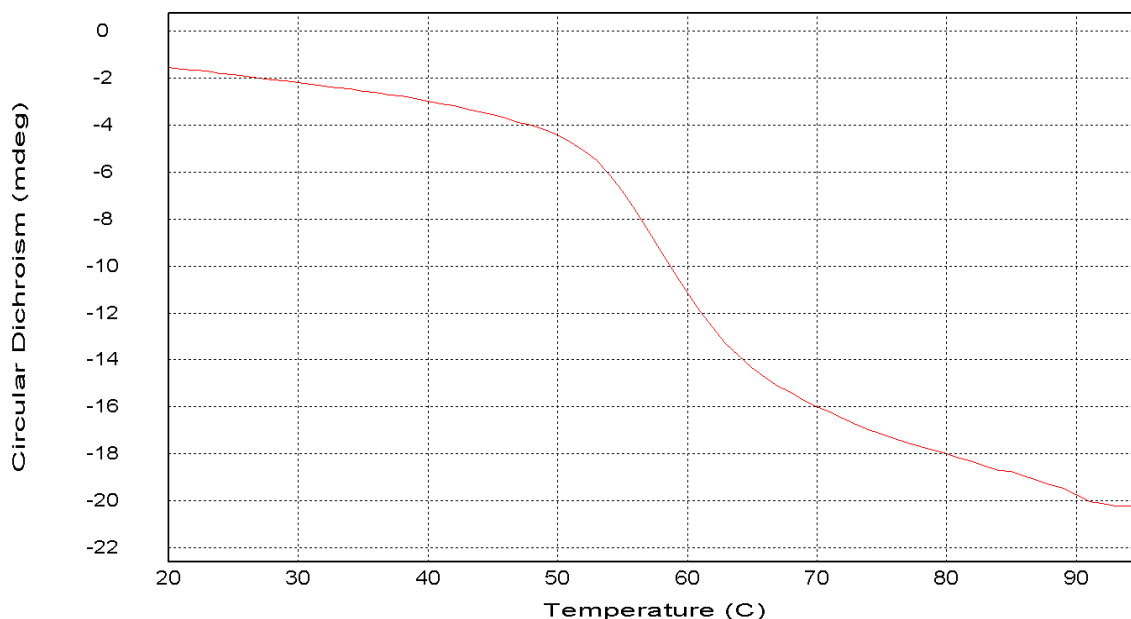


Figure 1 Temperature ramp at 220nm.

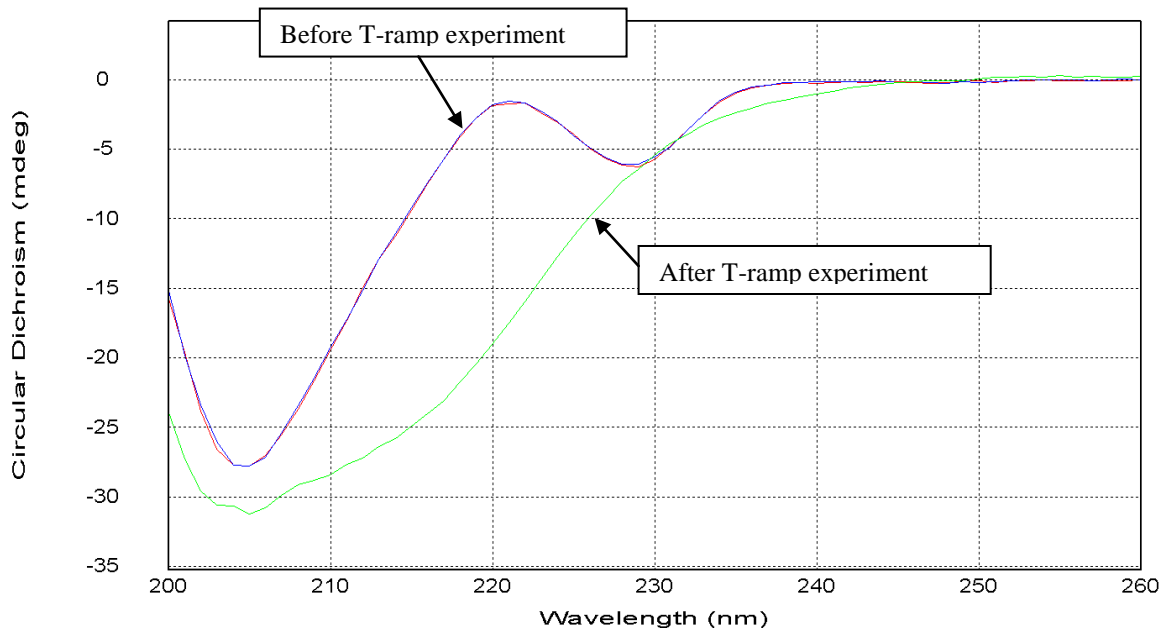


Figure 2 Comparison of the CD spectra (unsmoothed) of the sample at room temperature before (red and blue spectra) and after (green spectra) the temperature ramp experiment. Each spectra took 3 minutes to collect.

CD Temperature ramp Spectra

Chirascan is unique in having the capability to measure at 2 or more wavelengths in the same continuous temperature ramping experiment, saving both time and sample. We show below the CD spectra recorded in a single continuous temperature ramping experiment for the same sample. This experiment takes the same length of time as the T-ramp experiment above – and uses the same amount of sample.

Cell: **0.5 mm** pathlength
 Wavelength range: 204 to 250 nm in 1 nm steps
 Bandwidth: 1 nm
 Step: One CD spectra per degC
 Temperature range: 20 to 95 degC
 Temp. ramp rate: 1 degC /minute (75 minute experiment)

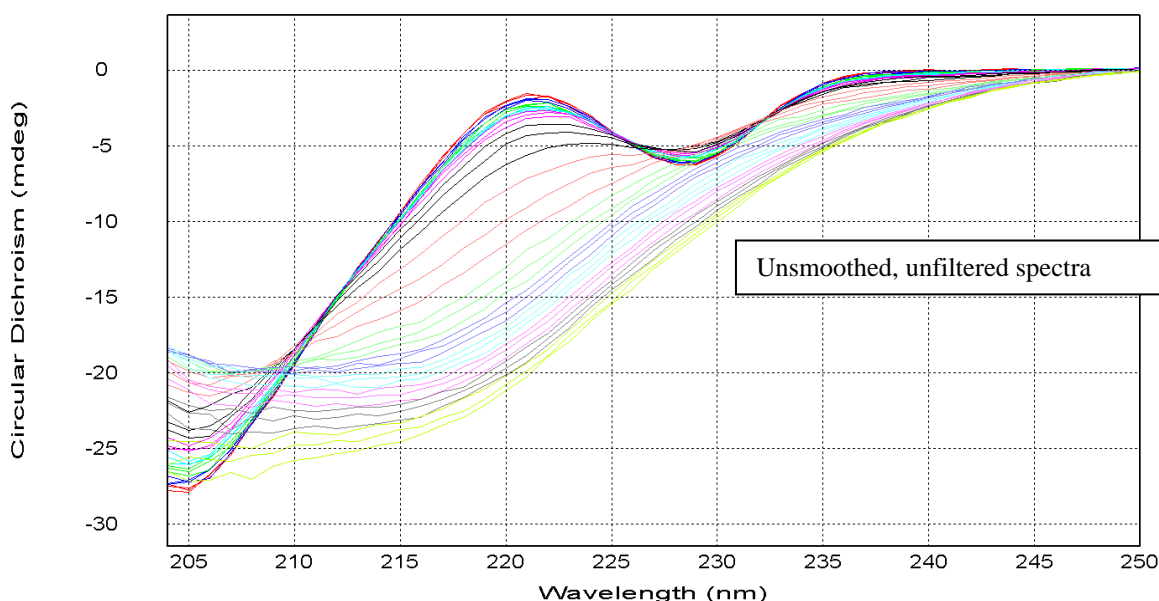


Figure 3 Temperature dependant CD spectra for the sample at the conditions tabulated above.

Because the sample temperature is recorded for each discrete CD measurement, the same dataset can also be shown as a set of continuous-temperature ramping curves at each wavelength – see below.

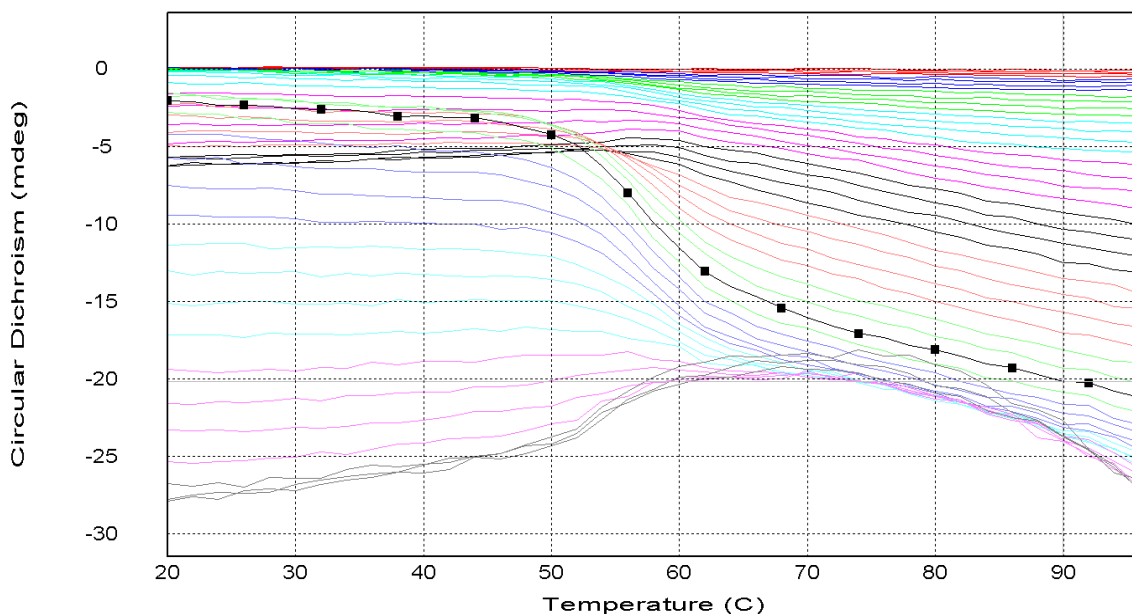


Figure 4 The corresponding T-melt curves at each wavelength. The curve at 220nm is highlighted.

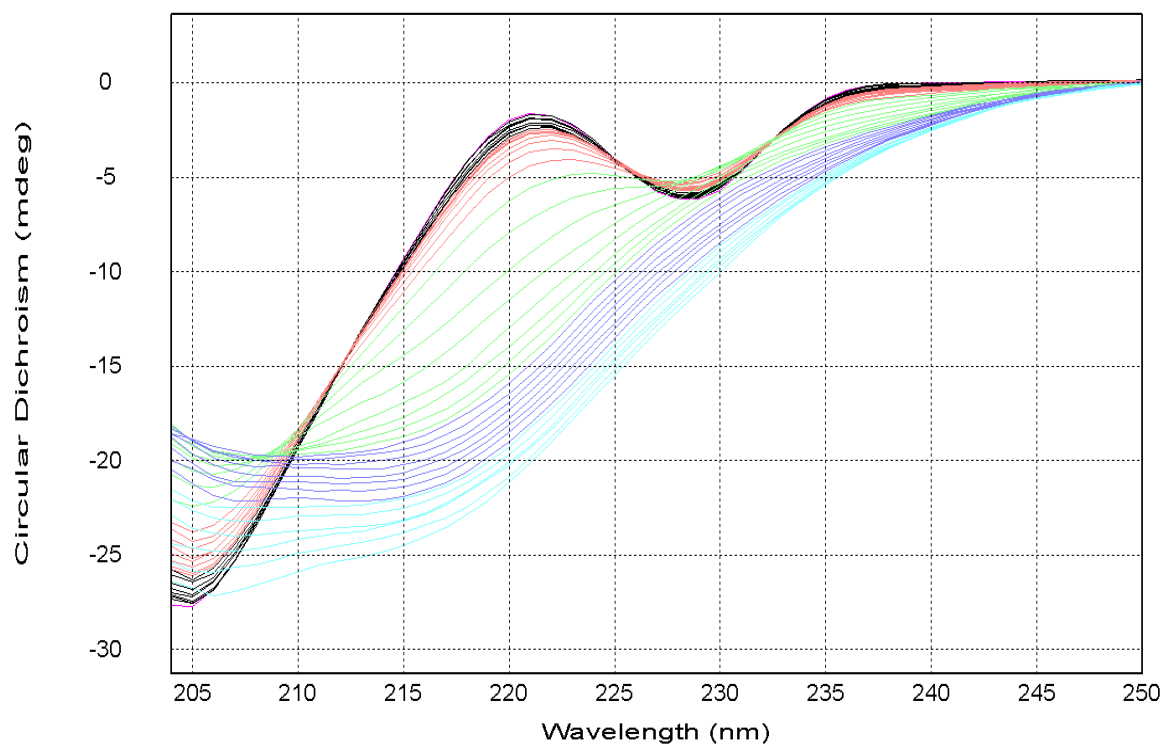


Figure 5 The same dataset shown in figure 3 above following post-acquisition smoothing to remove random noise elements.