CHESS 2013 May Protocol

High Resolution Ripple Phase (18 C, WAXS, D ~ 57.9, Full D ~ 67))

* Sample length along the beam < 2 mm
* Sample with the least mosaic spread
* If time allowed, quickly look at all the five samples at the setup day (Wednesday) and determine the best one. Anneal it at 60 C if necessary.
* S distance ~ 220 mm
* Move the detector horizontally (calculated to be about 2 inches translation)
* The largest qx probed ~ 1.8 - 2 Å-1
* Might need to search for the best spot on the sample
* Negative angle for background
* Start with the ripple phase (18 C), go to the gel phase (10 C), and then go to the fluid phase (30 C) if time allowed. When going up to the fluid phase, make sure to open the hat or the sample will be flooded.
* If possible, another hydration level (62< D < 64)?

Low Resolution Ripple Phase (18 C, LAXS, D ~ 57.9)

* Sample length along the beam < 5 mm
* Sample with the second least mosaic spread
* If time allowed, quickly look at all the five samples at the setup day (Wednesday) and determine the second best one. Anneal it at 60 C if necessary.
* S distance ~ 360 mm
* Probe up to 7th order (k orders up to 4th were visible in 2011)
* Kludged light background will help with higher orders
* Different samx, different hydration level (60 < D < 64)
* Achieve a stable D-spacing, then do low orders with the beam stop off the peaks, and then do high orders with h = 1 and 2 covered. Low orders first because it takes less time to get good data on them. A variation in D will affect less.
* Do a few fixed-angle shots to see how peak intensity depends on the angle of incidence. k = 0 peaks should depend strongly on the angle while side peaks should not.

Low Resolution Tat Samples (37 C, LAXS, WAXS)

* Do WAXS at S ~ 160 mm for samples that did not get looked at in 2012
* Good peak shapes
* Multiple exposures (at least three) with rotation. Use the beam stop finger
* At least one kludged light background (at the average samx?)
* A 2x30 fixed-angle shot at the best spot with a negative angle for background. Use the beam stop finger
* A 2x3 (2x1?) fixed-angle shot with no finger with a negative angle