| **6/21/23** |  | | | |  |
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| Objectives | Build on techniques used last time out to grow perfectly calibratable crystals. Trying to focus on crystals forming towards the center and away from the edges of the area. | | | |  |
| Accomplishments/  Reflections |  | | | |  |
| Cold stage size | | 51 mm | | |  |
| Cold stage height | | +8 mm | | |  |
| Distance of detector from stage  (5-10mm) | | 5 mm | | |  |
| Probe current (70-90) | | 70 | | |  |
| Accelerating voltage (Vacc) (12-17kV) | | 12 k/v | | |  |
|  | | | | |  |
| Time | Action/observation | Temperature | Pressure (25-150 Pa, 40 most common) | Working Distance  (3 factors: focus, mag, stage height)  Error message if not from 9-11 mm | Magnifi-  cation |
| 11:03 | Setting up the system with conditions used last time. Setting temperature to -31 first, then will lower it to -38. | -31 | 50 |  |  |
| 11:13 | Found an incredibly hexagonal crystal, waiting for it to enlarge for imaging. | -38.3 |  |  |  |
| 11:19 | Crystal roughened before I was able to focus on it. Still seems potential for calibration though. Promising beginning to the day though. Hoping for better results going forward. (Case 1.1) | -38.3 | 50 | 9.1 | x80 |
| 11:24 | Found another crystal that seems interesting. Decided to capture image (case 2.1). Realizing this is much harder to take notes and capture images with one person. | -38.0 | 50 | 9.7 | x60 |
| 11:27 | Melting crystals and trying again. |  |  |  |  |
| 11:36 | Resetting temperature to -31, then will lower to -39. |  |  |  |  |
| 11:44 | Got a perfectly hexagonal crystal that looks probable for calibration. (Case 3.1) | -39.4 | 50 | 9.0 | x80 |
| 3:39 | Back at it again! Case 4.1 seems to be pretty hexagonal and shows calibration promise. (Case 4.1) | -38.3 | 50 | 8.3 | x130 |
| 3:42 | Decided to scrap and go for another attempt, case 4 didn’t appear to be the best case. |  |  |  |  |
| 4:45 | Finally found something promising after many attempts (case 5.1). | -38.9 | 50 | 8.6 | x100 |
| 4:49 | Raised temperature to enhance some roughening and imaged again (case 5.2). **Note: crystal was still growing during imaging.** | -38.4 | 50 | 8.5 | x75 |
| 4:53 | Continuing the process (case 5.3). **Note: crystal was still growing during imaging.** | -35.6 | 50 | 8.5 | x70 |
| 4:55 | Final image, crystal has seemed to flatten substantially (case 5.4). | -33.7 | 50 | 8.5 | x70 |
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