

Grinding and pelleting instructions/ Reminders:

A) Grinding:

- Take the crucible out of the furnace
- Choose a medium mortar, clean it with acetone.
- Put the pellet in the mortar, break it up into powder (you can place some weighing paper on top of the mortar to limit flyaway particles). Rinse out the crucible with acetone, pour excess into the mortar.
- Grind until you get fine powder, add acetone and regrind. Do this a few times. (you can put on your favourite playlist/ podcast to help pass the time <3)
- Ask Qiang how to prepare the sample for Xray
- Scrape the sides of the mortar and pestle with the weighing paper. Once you get all of/ most of the powder in the center of the mortar, you're ready for re-pelleting.

B) Pelleting:

- Take out the pellet pressing set from the cabinet (should be in the first or second drawer, case labeled 3T). If you can't find it, ask someone for help. Find the wide tweezers and clean them with acetone.
- Put a sheet of paper on the table, place all pieces of the pressing set on the clean paper. Clean all the components with acetone.
- Coat the contact surfaces using a piece of cotton (clear liquid in small unlabeled bottle)
- Start assembling the set, place the disk in the cylinder. Press gently with the wide tweezers.
- Using the corner of a piece of weighing paper, carefully transfer the powder into the cylinder.
- Place the second disk into the cylinder. Again, gently press with the tweezers.
- Finish assembling the set.
- Go to the press, make sure the dial on the side is open (pressure gauge reads 0)
- Carefully slide the two stacked anvil things towards you.
- Remove the top one and place to the side. Take out the heavy plaque from under the big anvil and set atop of the big anvil. Slide the stacked plaque+ anvil to the back of the press (until you hit the ridges).
- Make sure the plaque is centered.
- Carefully place the pressing set on the plaque (by holding the set from the bottom). Align it with the press.
- Close the dial. Pump the press until the gauge reads 20 (or just below). LOCK the handle.
- Leave for about 10 minutes. In the meantime, clean your workstation. Use acetone to wipe the mortar and pestle, then use hydrochloric acid (small unlabeled beaker). Then use acetone again. Once clean, you can put the mortar + pestle in the drawer labeled "Mortars".
- Go back to the press, open the dial. Take the pressing set (again, make sure to take it from the bottom)
- Flip the set and place it onto the clean surface (paper). Take off the topmost component. With the tweezers, remove one of the small disks.
- Stuff the toroidal component with $\frac{1}{4}$ of a tissue, place onto the pressing set.
- Flip the set and place back onto the plaque. Make sure it's aligned with the press.

- Close the dial, gently pump the press handle until you see the black cap of the pressing set fall.
- Open the dial, take the pressing set and place onto the clean surface again.
- Disassemble the set, place the pellet in the crucible.
- Go find Qiang and tell him you're ready for re-firing.