Quick Start PVD
(Updated August 2016)

1. Fill in the logbook
2. Turn on Neslab and mechanical pump if off.
3. Check that the thermocouple gauges are on.
4. Close vent valve, D, roughing valve, C, and diffusion pump valve, A,
5. Open foreline valve, B.
6. Wait for forline pressure < 10 mTorr
7. Turn on diff pump
8. Open valve on N_2 supply and vent valve
9. Open bell jar
10. Load source and sample
11. Clean the sealing gasket and surfaces
12. Make sure shutter is in proper position
13. Place the shield back
14. Determine tooling factor and enter on the thickness monitor
15. Evacuate chamber
    a. Close foreline valve, B.
    b. Open roughing valve, C
16. Enter input to thickness monitor.
17. Fill diff pump trap.
18. When bell jar pressure <20 mTorr, close roughing valve, C,
19. Open foreline valve, B and wait for foreline pressure <10 mTorr.
20. Slowly open diff pump valve, A; Keep foreline pressure > 20 mTorr.
21. Wait 30 minutes. Refill LN2 dewar as needed.
22. Turn on ion gauge controller.
23. Wait till pressure is as lower as you need.
24. Refill LN2 Dewar if needed.
25. Turn on filament slowly. Turn on thickness monitor.
26. Pre-wet filament if possible.
27. Open shutter
28. Wait for deposition to finish
29. Turn off filament and wait 20 minutes.
30. When done:
    a. Turn off diff pump
    b. Close diff pump valve, A, check that roughing valve, C, is closed and foreline valve, B. is open.
    c. Turn off ion gauge.
    d. Open N_2 supply valve, and vent valve/
    e. Open bell jar and remove samples.
    f. Close vent valve and N_2 supply valve.
    g. Clear bell jar seal and close bell jar.
    h. Close foreline valve, B.
    i. Open roughing valve, C

j.   Wait till bell jar < 30 mTorr
k.   Wait for ~20 minutes for diff pump to cool.
l.   Shut roughing valve, C, open foreline valve.
m.   Open diff valve slowly.
n.   Turn off Neslab
o.   Leave on the mechanical pump on.
p.   Valves: Leave diff pump valve, A, and Foreline valve open and roughing valve, C and vent Valve D Closed.
q.   If bell jar pressure increases after 30min, add some more LN2
31. Fill out log book and make sure diff pump is off.

32.

Bell Jar

Ion Gage

To N$_2$ in overhead rack

Bell Jar Thermocouple

D
Vent Valve

C
Roughing Valve

Diffusion Pump Valve
A

Foreline Valve
B

Foreline Pressure Meter

Mechanical Fore Pump

Diffusion Pump