

Operating procedure of Schlenk line (for mixing two liquids)

1. The mixing of titanium isopropoxide (1 ml) to acetic acid (2 ml) is done using the Schlenk line in FH 1 (**Fig. 1**)
2. A two neck Schlenk flask (100 ml / 250 ml) fitted with a septum (**Fig. 2**) and a reflux condenser is connected to the line and evacuated and refilled with nitrogen thrice
[Note:
 - a) Upper horizontal pipe is connected to nitrogen and the lower one is connected to the vacuum pump
 - b) The lines can be opened or closed using the circular knobs marked with arrow showing the direction of opening or closure
 - c) There are four lines connected to nitrogen / vacuum through a two-way valve.
 - d) When the black valves are in horizontal position the line is closed. When the tapered side of the valve points upward the line is connected to nitrogen and when the valve points downward the line is connected to pump
 - e) There are two oil traps at the entry and at the exit of nitrogen from the Schlenk line. These traps shows nitrogen flow as bubbles through oil (paraffin / silicone oil) and also prevents air from entering into the line
 - f) There is a cold trap in the fore line of the pump to prevent solvents to flow into pump. (**Fig. 3**)Liq N₂ should be used in the cold trap while evaporating solvents]
3. Oleic acid (39 ml) taken in a beaker is syringed out and injected in the flask through the septum. Heated and cooled as described in procedure.
4. Titanium isopropoxide taken in a small Schlenk flask or tube fitted with a septum inside glove box and then taken out and connected to the Schlenk line.
5. The line connected to Titanium isopropoxide is evacuated and refilled thrice with stop-cock in closed position
6. Then the stop-cock is opened
7. A cannula is pierced through the septa to connect both the flasks
8. One end of cannula is dipped in Titanium isopropoxide and the flask containing oleic acid is connected to vacuum momentarily to syphon out Titanium isopropoxide to acetic acid

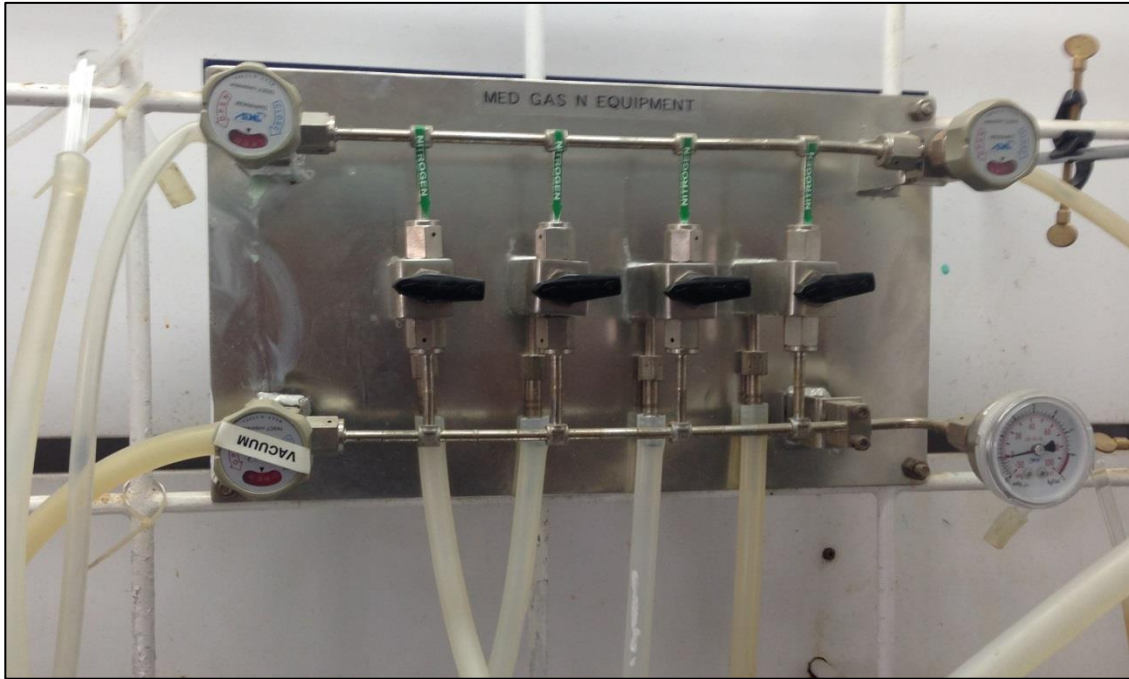


Fig. 1

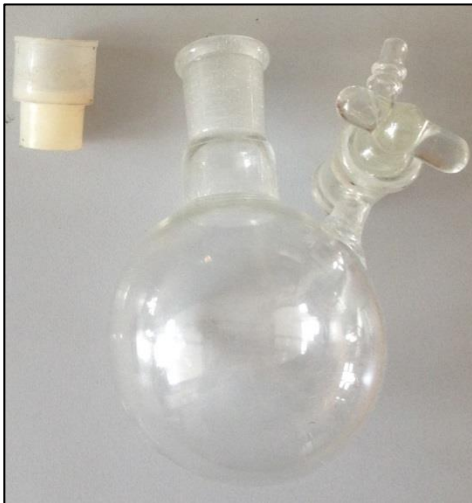


Fig. 2



Fig. 3