

**Solvent Purification System
Standard Operating Procedure
(SOP)**

Submitted by

Nai-Jhang, Luo; Yen-Chung, Huang

- I. Step 1, Check the pressure of nitrogen cylinder, it should be above 100 psi (fig 1 b.), If not please turn on the pressure building valve of nitrogen of cylinder and wait to raise the pressure upto 100 psi then turn off the pressure building knob. However, if still you did not get the pressure build up, please contact **manger** and let her know the problem or ask to the change nitrogen cylinder.
- II. Step 2, Check the pressure controlling valve on the wall (fig 1 a., black one), make sure that the needle is between blue markings (about 27.5 psi)



Figure 1.

- III. Step 3, check valve behind solvent system at vertical state (fig 2a., turn on)
- IV. Step 4, check pressure meter on right top of solvent system around 30 psi (fig 2b.)
- V. Step 5, check pressure meter on top of solvent around 5 psi (fig 2c.)

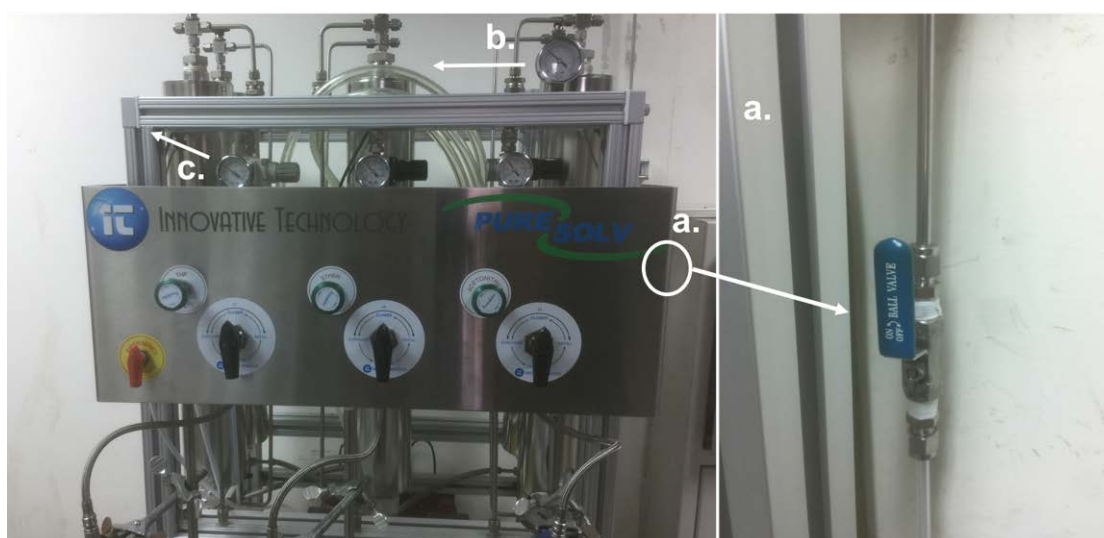


Figure 2.

- VI. Step 6, install trap correctly (fig 3a.)
- VII. Step 7, turn on pump (fig 3b.)
- VIII. Step 8, open bottle valve (fig 3c.)

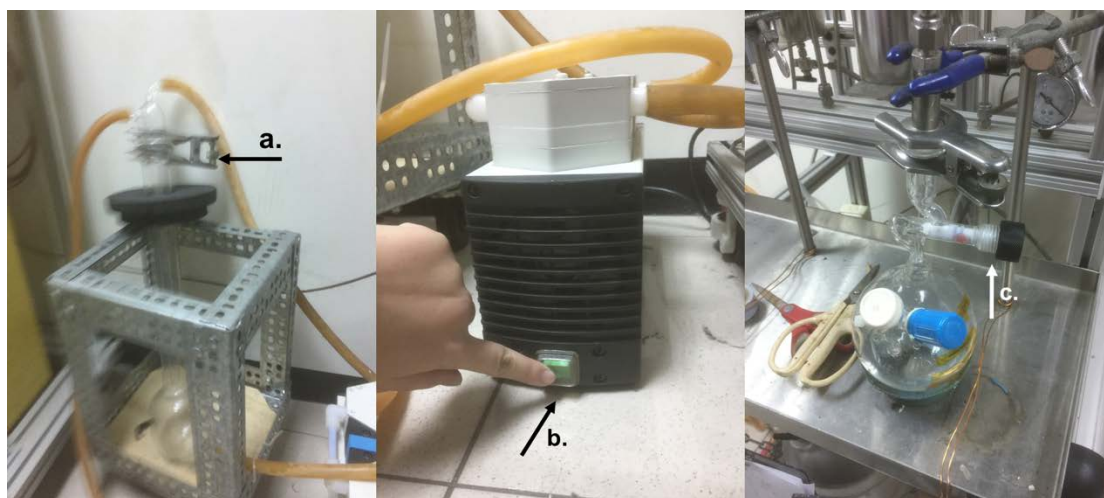


Figure 3.

- IX. Step 9, turn valve counterclockwise from closed to evacuate, also check pressure meter on right side gradually turn to -30 psi (fig 4a.& fig 4I.)
- X. Step 10, turn valve clockwise to refill, also check pressure meter on top of solvent decrease to 0 then back to 5 psi (fig 4b. & fig 4II.)
- XI. Step 11, turn valve counterclockwise to evacuate, also check pressure meter on right side gradually turn to -30 psi(fig 4c.)
- XII. Step 12, repeat step 10→11→10→11 then turn valve to dispense (fig 4d.)

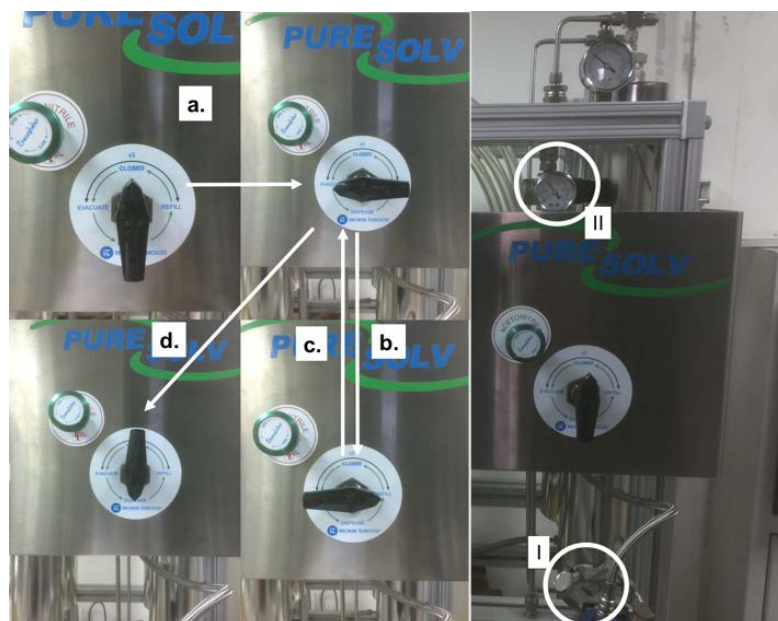


Figure 4.

- XIII.** Step 13, open valve let solvent flow into the bottle, and close it when you got your required volume (fig 5a.)
- XIV.** Step 14, turn valve counterclockwise to refill (fig 5b.)
- XV.** Step 15, open bottle valve and take out the solvent you need (fig 5c.)

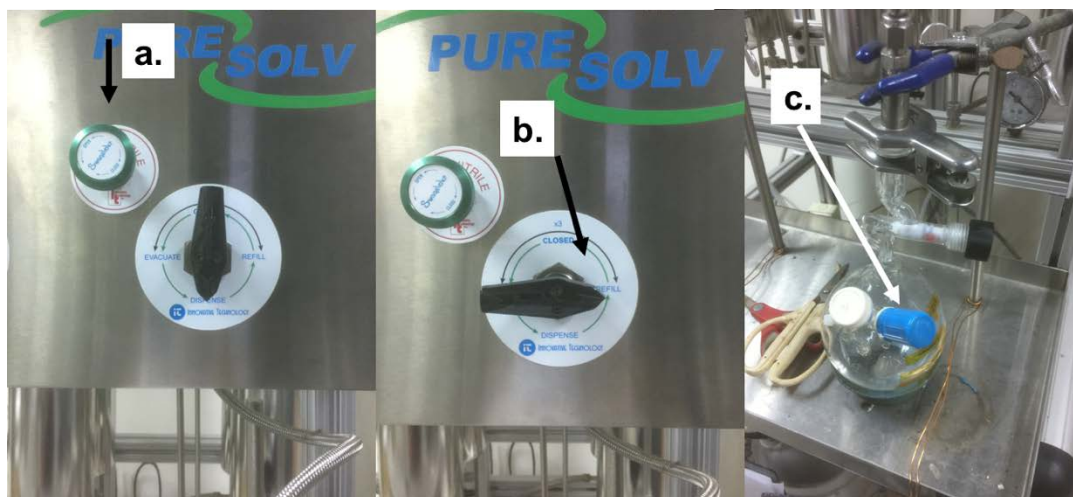


Figure 5.

- XVI.** Step 16, please take out all the residual solvent by syringe until unable to remove by syringe and then close bottle valve then close valve (fig 6a.)
- XVII.** Step 17, turn valve to evacuate to fully dry the bottle (it will take some time, be patient) (fig 6b.)
- XVIII.** Step 18, after bottle is fully dried, close bottle valve (fig 6c.)
- XIX.** Step 19, turn valve clockwise to closed (fig 6d.)

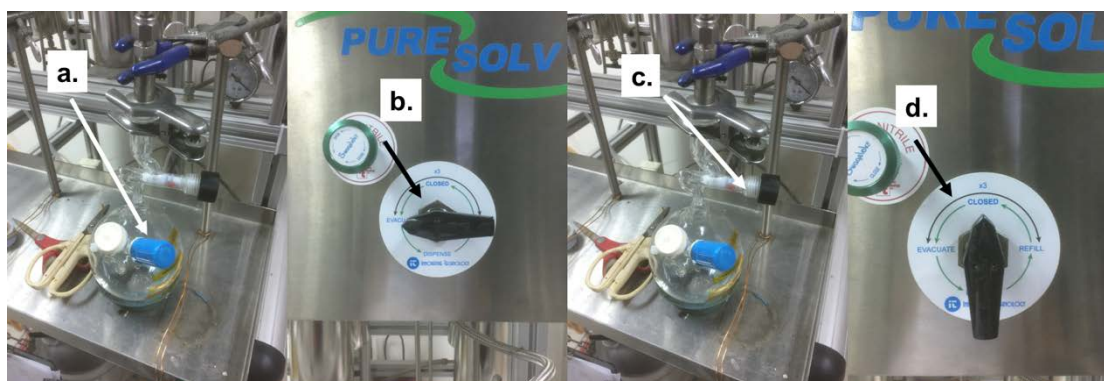


Figure 6.

XX. Step 20, turn off pump (fig 7a.)



Figure 7.