

Biochemistry Lab Lec (1)

(summary)

1st: safety, 2nd: Efficiency

General rules

- ① Keep shelves clean.
- ② Avoid ^{bl's} contaminating chemicals.
- ③ Plan for experiment before.
- ④ Pay attention.
- ⑤ Don't work alone.
- ⑥ Unauthorized experiment → (not allowed X)
- ⑦ No (Eating, drinking & smoking)
- ⑧ Become familiar with location of standard safety features: (fire extinguishers, eye washes & first aid kit)
- ⑨ Eye should be protected with glasses (safety one)
- ⑩ Contact lenses → not recommended
- ⑪ Make sure that electrical appliances are: (grounded) before using.
- ⑫ a - Turn off → electrical appliances
b - extinguish → gas burners.
c - close → tip water

Special rules

- ① Don't point mouth of glassware containing the solution to be heated, toward anyone.
- ② Handling Strong (acids + bases) requires special attention.
- ③ Acid $\xrightarrow{\text{poured}}$ H₂O when diluting (not opposite X)
- ④ Pipettes shouldn't be filled with dangerous solution by mouth.
- ⑤ Toxic (volatile liquids/solids) should be handled under fume hoods (صندوق الأبخرة)
- ⑥ Flammable liquids:
 - Not used with naked flame (Burners & Matches)
 - Not be stored near heat source (oven)
 Eg.: (Ether, Alcohols & Benzene)

* Poisoning: Have prompt medical treatment.

*** all injuries must be reported to instructor

What to do in accidents?

A * If chemical splatters into eye:

- ① - Open eyelid with thumb & index.
- ② - 1% NaHCO₃ → acid
1% Boric acid → Base
- ③ Use eye wash kit.
- ④ victim → Doctor

B * Burning:

- 1 * Treat with (water + special bandage)
- 2 * go to Doctor

Waste Disposal

③ types of containers

Discarded items (Container)

Radio-active Isotopes (Container)

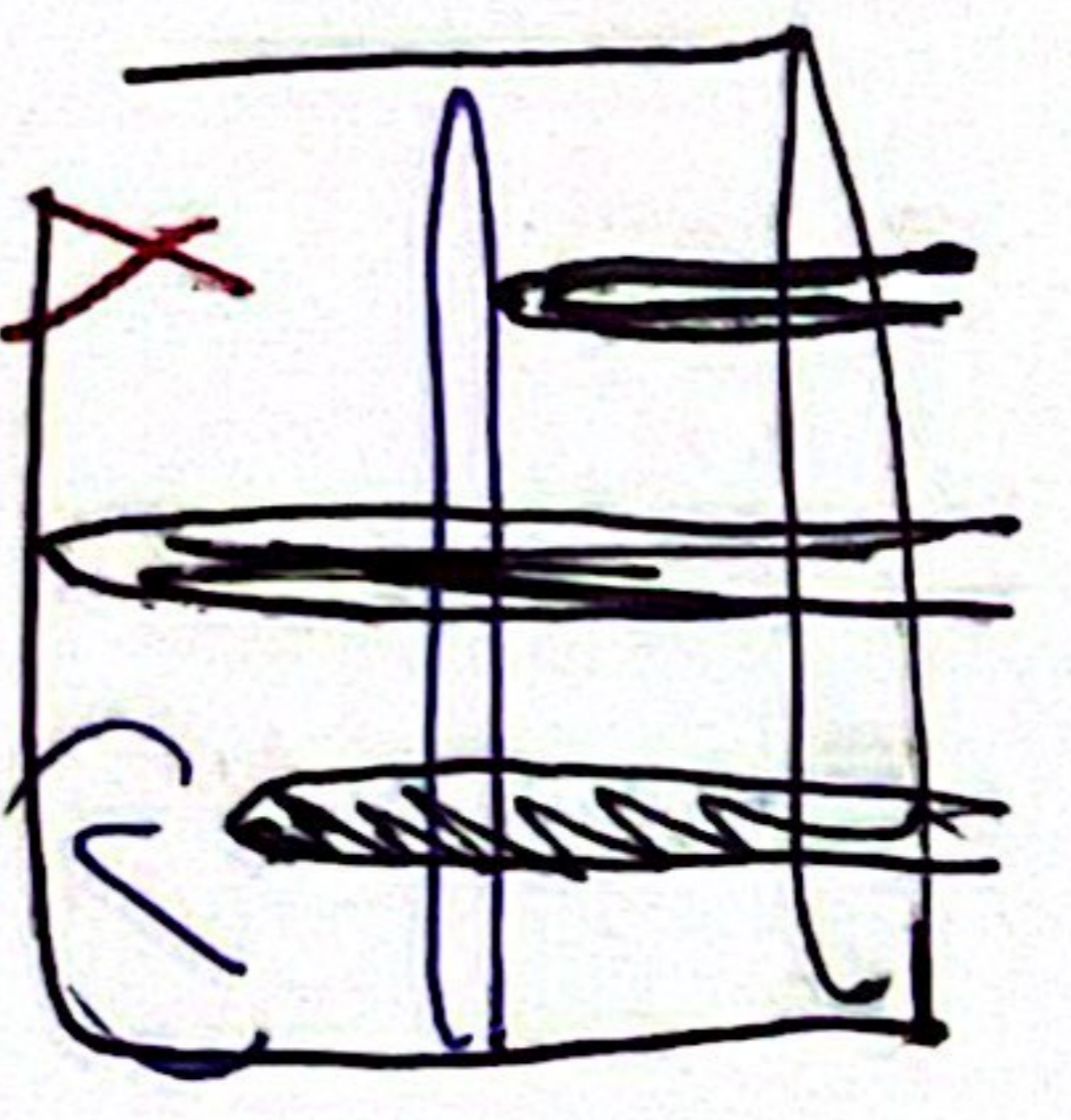
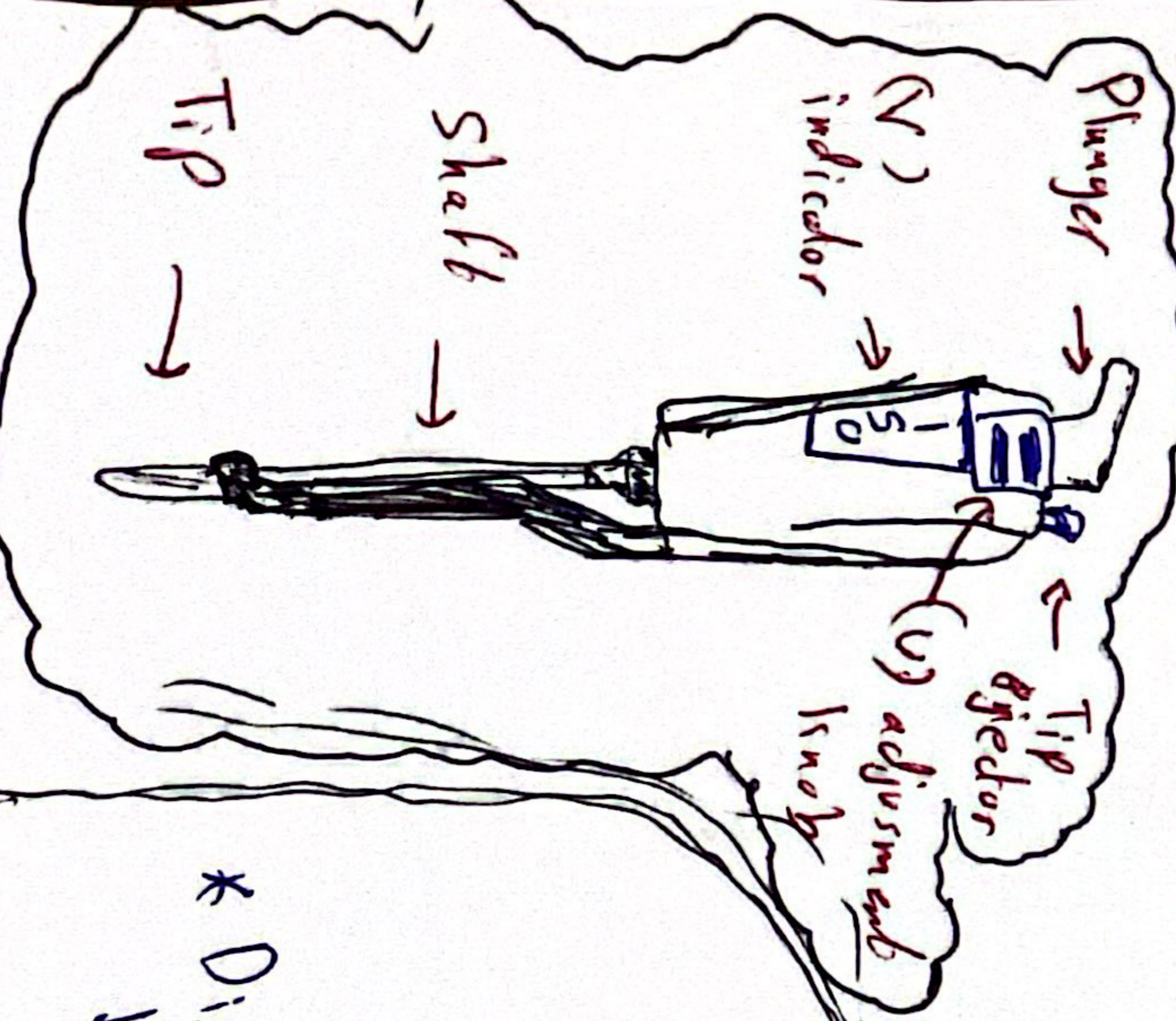
Pipettes

Automatic

* Air displacement micropipettes

* Requires disposable tips

- P10 0.1-10
 - P20 2-20
 - P200 20-200
 - P1000 200-1000 (µm)
- White yellow Blue



* Dissociation of salt may ↓ at both surface & bottom

Non-automatic

* Requires a source of VACUUM

Quantitative

Non-Quantitative

* Pasteur pipette = eye / chemical dropper

* Small amounts. * No particular volume

Fixed Volumetric

* Allow to measure a volume (extremely accurate)



* Volumes: 10, 25, 50 ml

Graduated

Mohr

Serological

* long tubes with series of graduation.

* Volumes: 5, 10, 25, 50 ml