

# CHEM 104b - Technique Kits

## Individual Research Projects

The techniques you have used this semester are listed below. If you request one of these techniques in your proposal to your TA, certain reagents and equipment will automatically be set up in your lab. This is what we call the technique "kit." Please check your technique and the corresponding "kit" items. If you require something other than those items, you must include it in your proposal.

When requesting reagents, you must specify a quantity and a concentration, where applicable. In most cases, you will be required to prepare your own solutions. In other words, if you request six different pH buffers, you should be prepared to make them yourself, given instruction. If you wish to request something out of the ordinary, please do so early, as it may not be possible to provide it to you, and you may have to choose something else.

## Post-Proposal Requests

If you discover you have forgotten to request something, click on "Post-Proposal Requests" above or on "Special Requests" on your course page. Please understand that we need at least 24 hours to fill a request for something we have in stock, longer for something that we don't have. Furthermore, we are not adequately staffed to respond to requests "on demand." In other words, if you request something during your lab period, there are no guarantees that you will receive it that day. The lesson here is PLAN AHEAD.

### Acid-base Titrations, Volumetric

- 0.1M Sodium hydroxide
- Potassium hydrogen phthalate (KHP) for standardizing NaOH
- Phenolphthalein
- Available for Check-out: Buret, stirbar

### Acid-base Titrations, Potentiometric

- 0.1M Sodium hydroxide

- Potassium hydrogen phthalate (KHP) for standardizing NaOH
- Phenolphthalein
- pH meter, w/pH electrode
- Buffer, pH 4 and 7 (for calibration)
- Available for Check-out: Buret, stirbar

## Complexometric Titrations

- EDTA, solid
- Buffer, pH 10
- Eriochrome Black T indicator, solid
- Available for Check-out: Buret, stirbar

## Spectroscopy

- Ocean Optics Spectrometer
- Cuvettes, plastic
- Cuvettes, glass

## Ion Selective Electrodes (ISE)

- $\text{Ca}^{2+}$ ,  $\text{NO}_3^-$ ,  $\text{Cl}^-$ , and  $\text{K}^+$

We have a few different ISEs for your use. They include calcium, nitrate, chloride, and potassium. Currently, there are no sodium or fluoride electrodes available. All of the electrodes come with a separate reference electrode, except chloride. Each electrode is labeled, identifying the sensing ion and the solution in which it is to be stored. This is very important! Storing an electrode in the wrong solution can ruin it, at a cost of \$200-\$400 each. The chloride electrode is a combination electrode, meaning the reference cell is located inside the electrode itself. This electrode has a different interface than the others, and can be scratched easily. Please be careful with it, as it costs over \$400. All of the electrodes must be filled with a specific solution. If you see fluctuating readings, check to make sure the electrode is filled. If it is not, please contact the Preproom.

When you request a specific ISE, the following will be set up in the lab:

- Meter
- Ion Selective Electrode
- Calcium chloride, sodium nitrate, sodium chloride, or potassium chloride, solid (for making standards)

- Ionic Strength Adjuster (specific to the ISE)
- Available for Check-out: Stirbar, volumetric kit

## Qualitative Analysis

- You must specify the ions for which you will be testing. The reagents will be dispensed in dropper bottles in the lab.

## Glucose Determination

- Spectronic 20
- o-Toluidine
- Glucose HK
- Glucose, solid
- Available for Check-out: Auto pipet, volumetric kit

[Undergraduate](#)<sup>[1]</sup>[Courses](#)<sup>[2]</sup>

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### Links:

[1] <http://www.chem.arizona.edu/taxonomy/term/11>

[2] <http://www.chem.arizona.edu/taxonomy/term/16>