

BCH 303

BCH303 [Practical]

Mark Distribution

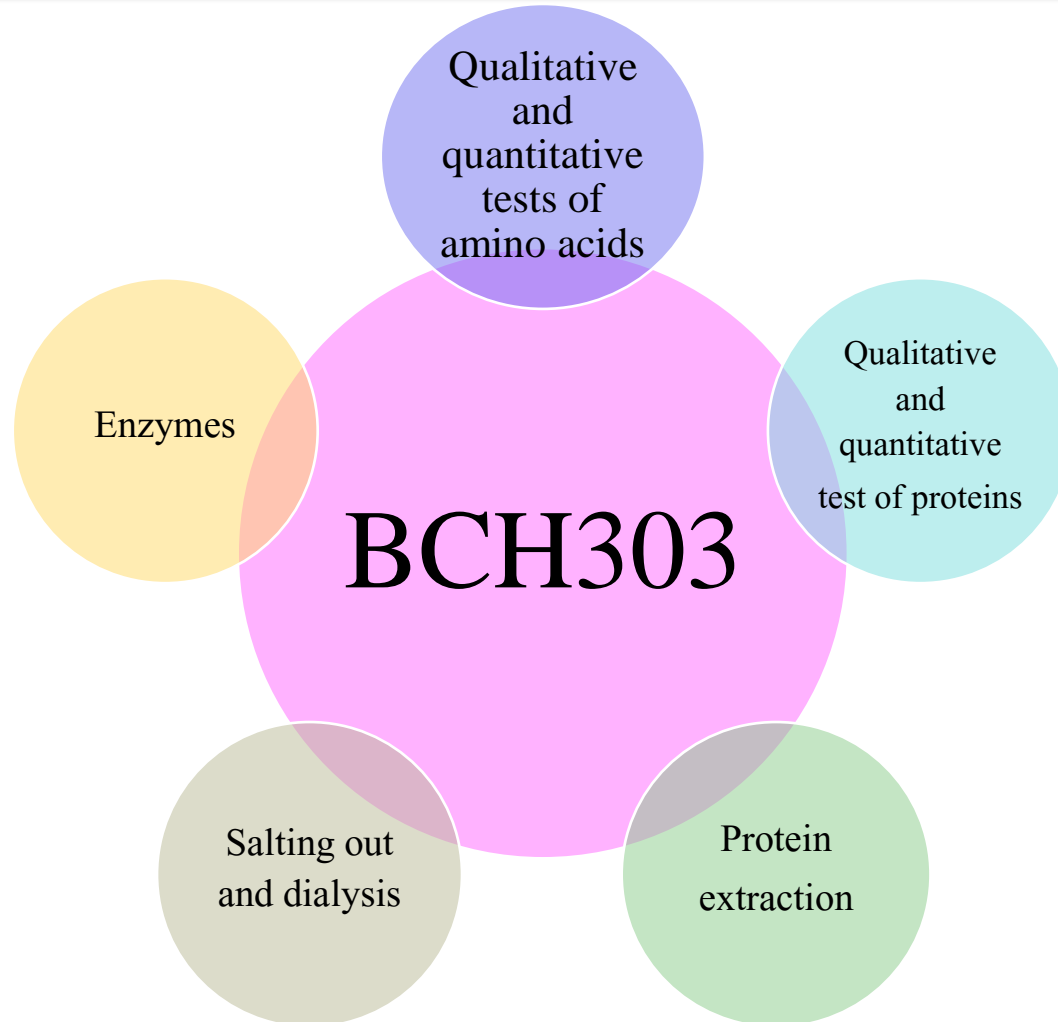
	Marks	
Conducting the experiment	2 Mark	
Report	6 Marks	
Quiz	5 Marks	
Homework	3 Marks	
Final	Practical	10 Marks
	Theoretical	4 Marks
Total	30 Marks	

- **Final exam date:**

10/5/1443 H
14-Dec-2021

Outline:

Biochemistry of proteins

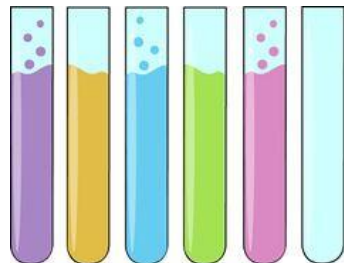


Types of assay:

Assays

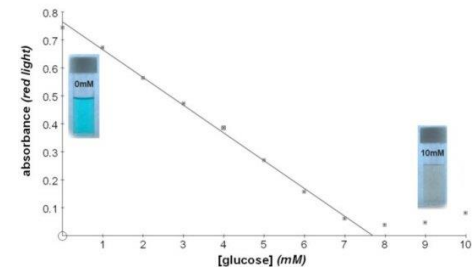
Qualitative assays

Determine if specific substance is there or not, by color or some other quality.



Quantitative assays

Determine the concentration of a substance.



Writing a Report:

1. **Cover page:** Title, course code, student name.
2. **Introduction:** In this part you a background that will help to understand your topic.
3. **Objectives:** you will write it by your own words.
4. **Materials and method:** As in the lab sheet.
5. **Results:** You should report all your results that you got from your experiments. Any tables, figures or calculation.
6. **Discussion:** You must write a description and reasons for why you got your results.
7. **References.**



References:

The disease begins as a benign adenomatous polyp, which develops into an advanced adenoma with high-grade dysplasia and then progresses to an invasive cancer ⁽¹⁾.

Like other cancers, colorectal cancers arise through a multistep process in which genetic and epigenetic alterations accumulate in a sequential order ⁽²⁾.

References:

1. Markowitz SD, Bertagnolli MM. Molecular origins of cancer: Molecular basis of colorectal cancer. *N Engl J Med* 2009;361: 2449-60.
2. Pancione M, Remo A, Colantuoni V. Genetic and epigenetic events generate multiple pathways in colorectal cancer progression. *Patholog Res Int* 2012; 509348:11.

Legend of tables and figures:

Table number

Table legend

Table 2. Effects of Lipofundin 20% on hepatic lipid peroxidation biomarkers.

Biomarkers	Control group	Lipofundin group
MDA ($\mu\text{mol/L/mgPr}$)	3.89 ± 0.75	$7.63 \pm 0.31^*$
TH ($\mu\text{mol/L/mgPr}$)	35.27 ± 4.22	$67.32 \pm 5.89^*$
PP ($\mu\text{mol/L of MDA/mg Pr}$)	5.06 ± 0.48	$9.74 \pm 0.42^*$

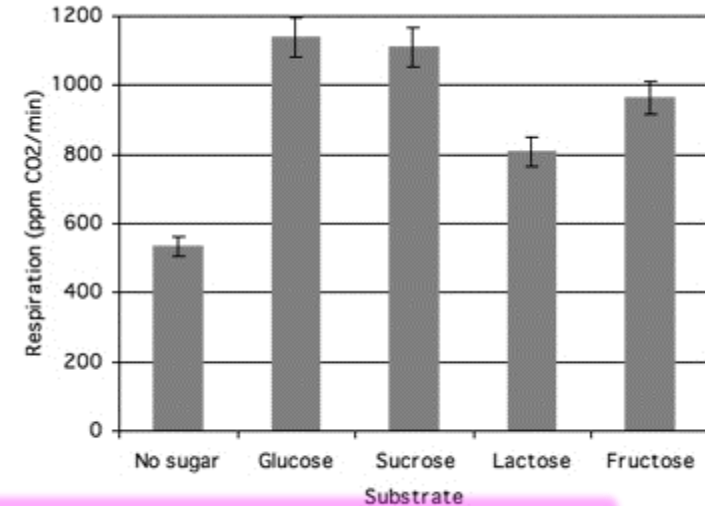


Figure 1. The Effect of Substrate on Yeast Respiration.

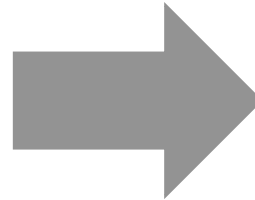
Figure number

Figure legend

Justify the text:

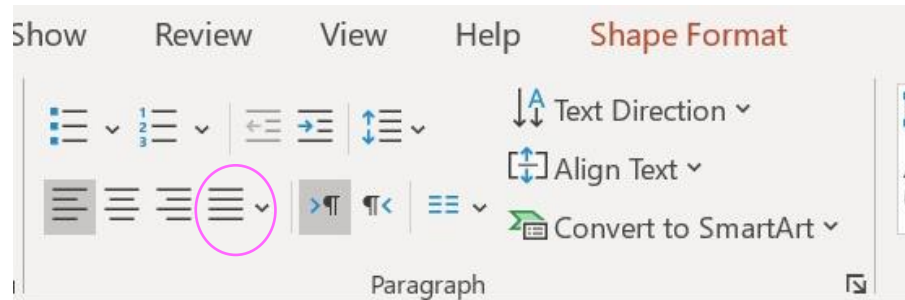
Example:

It's consist of glass electrode which contain a very thin bulb, blown onto a hard glass tube which is sensitive to pH. The bulb contains a solution of hydrochloric acid and is connected to a platinum lead via silver -silver chloride electrode which is reversible with respect to hydrogen ions.



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How?



Font and size text:

➤ **Font:** Times New Roman.

➤ **Size:**

-Subtitle: 14 pt.

-Body: 12 pt.

➤ **Color:**

Black

General Laboratory Safety

Safe working protects:

- You.
- Other lab workers and visitors.
- Your work.



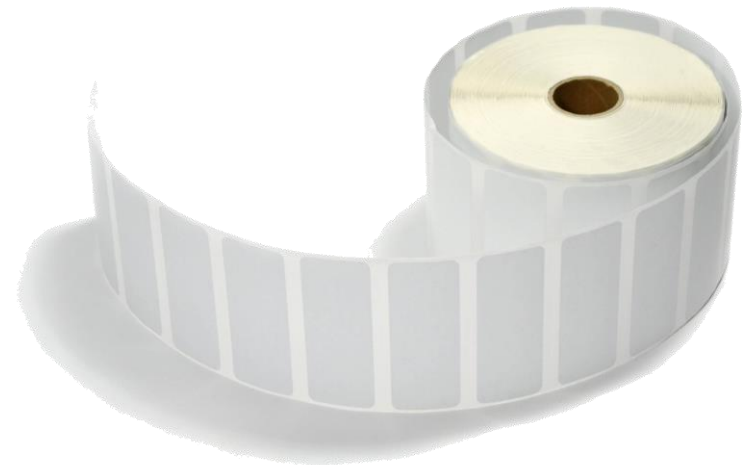
General consideration:

- Never **eat, drink** or chew gum in the lab.
- Do **not** taste , smell or touch any chemical.
- Tell your instructor about any accident .
- Tie your hair before doing an experiment.
- Closed-toed shoes should be worn at all times.
- Wash your **hands** with soap after an experiment.
- You must know all exits in your lab, eye washer, and fire extinguisher, first aid kit.
- Do **not** touch any electrical sources .



Before starting :

- Before start working, be sure to **label** the glassware.
- Glassware should be **clean** before using.



After work:

- After finishing the experiment turn off all the equipment, clean your work bench.
- **Glassware must be cleaned and kept back at the proper place.**



Personal Protective Equipment :



- Place your bag in the correct area.



- Lab coat should be worn all the time in the lab.

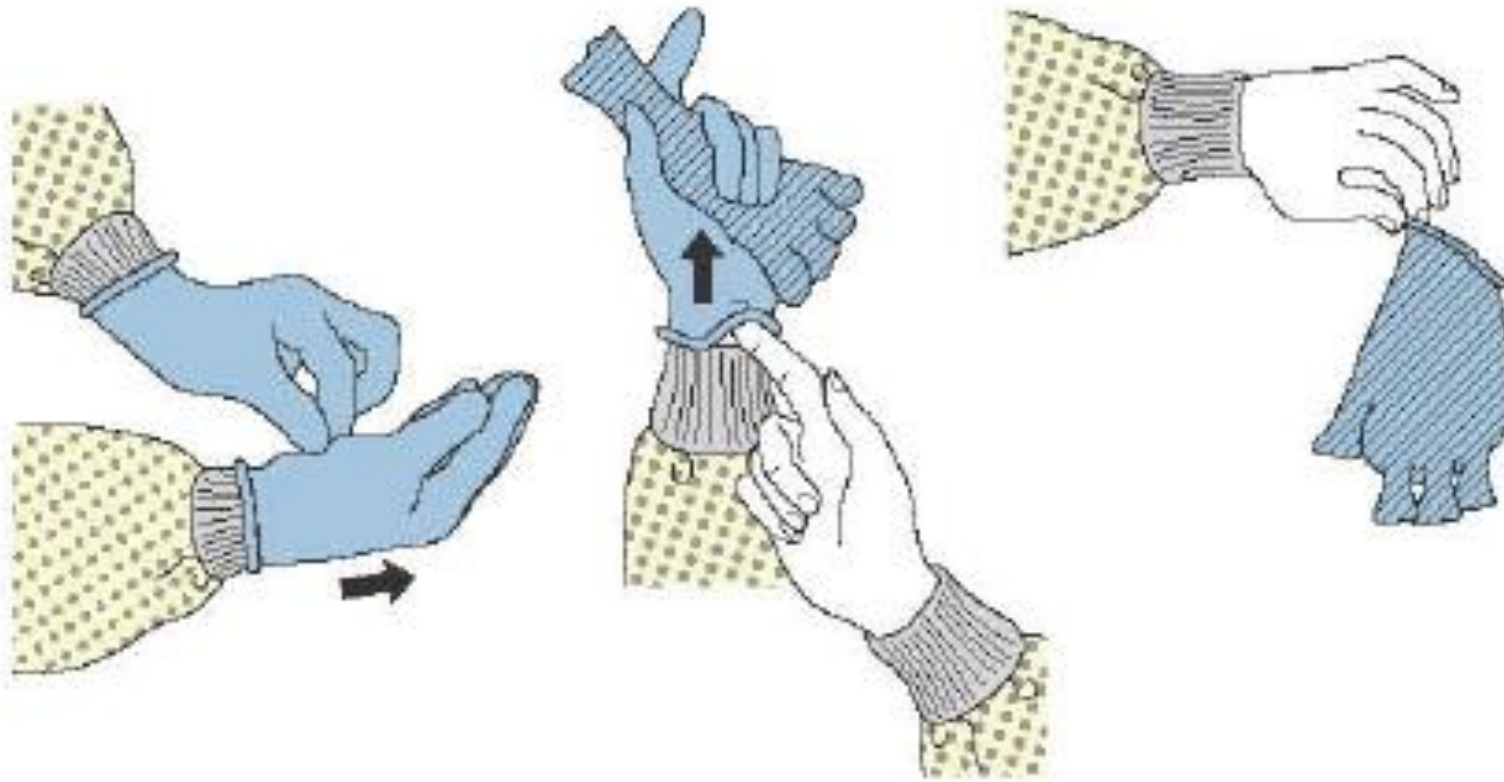


- Protective gloves should be worn when handling hazardous materials.



- Protective glasses should be worn when using hazard chemicals.

How to remove gloves?



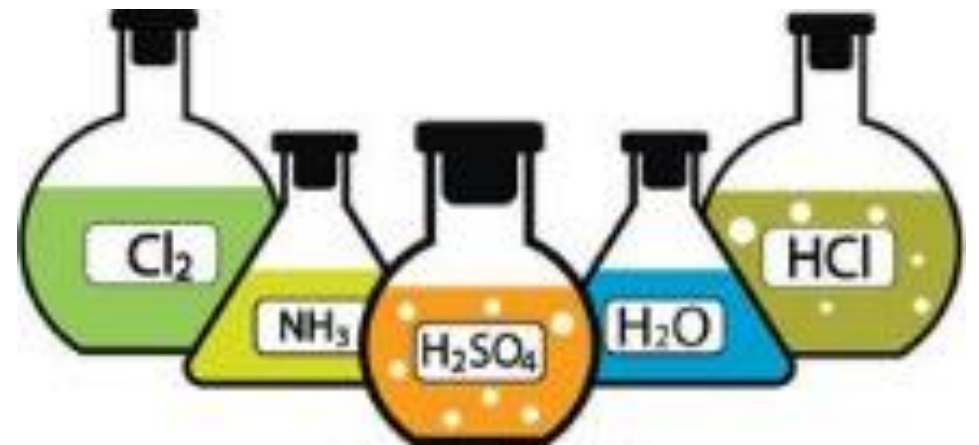
Dealing with chemicals:

- Consider all chemicals to be hazardous.
- Know what chemicals you are using and notice the **hazard symbols**.
- Carefully **read the label** twice before taking anything from a bottle.
- **Never point** a test tube that you are heating at yourself or your neighbour.
- You must work at the **hood** when dealing with a chemical with fumes.
- If chemicals come into **contact with your skin** or eyes, **flush** immediately with water and consult with your instructor.



Dealing with chemicals cont':

- Always pour acids into water. If you pour water into acid, the heat of reaction will cause the water to explode into steam.
- Do not forget to **label your tubes** before starting the lab.
- **Close** all chemical bottles after finishing
- Dispose chemicals properly.



Hazard symbols:

SAFETY PRACTICES



Flammable



Harmful /
Irritant



Corrosive



Poison /
Toxic



Explosion



Biohazard



Oxidizer



Environmental
Hazard



Radioactive

Information about chemicals:

➤ **Material Safety Data Sheet (MSDS)** is a document that contains information on the potential hazards (health, fire, reactivity and environmental) and how to work safely with the chemical product. It also contains information on the use, storage, handling and emergency procedures all related to the hazards of the material.

 **Science Lab.com**
Chemicals & Laboratory Equipment

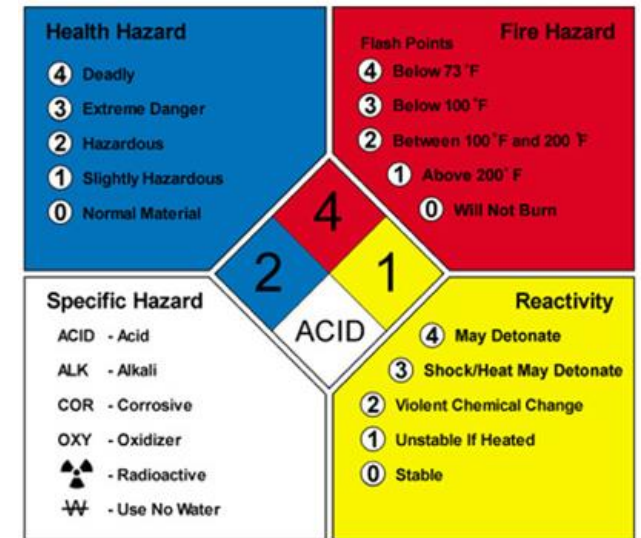


Health	2
Fire	3
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Ethyl alcohol 200 Proof MSDS

Section 1: Chemical Product and Company Identification

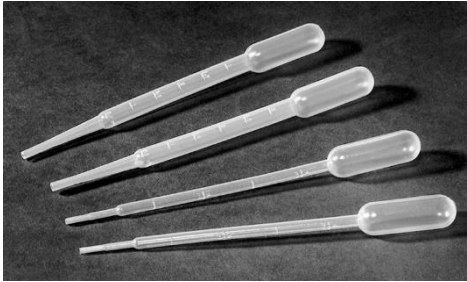
Product Name: Ethyl alcohol 200 Proof	Contact Information:
Catalog Codes: SLE2248, SLE1357	Sciencelab.com, Inc. 14025 Smith Rd. Houston, Texas 77396
CAS#: 64-17-5	US Sales: 1-800-901-7247
RTECS: KQ6300000	International Sales: 1-281-441-4400
TSCA: TSCA 8(b) inventory: Ethyl alcohol 200 Proof	Order Online: ScienceLab.com
CI#: Not applicable.	CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300
Synonym: Ethanol; Absolute Ethanol; Alcohol; Ethanol 200 proof; Ethyl Alcohol, Anhydrous; Ethanol, undenatured; Dehydrated Alcohol; Alcohol	International CHEMTREC, call: 1-703-527-3887
Chemical Name: Ethyl Alcohol	For non-emergency assistance, call: 1-281-441-4400



(HMIS)

General glassware and instrument

Glassware:



Pasteur pipette



Test tubes



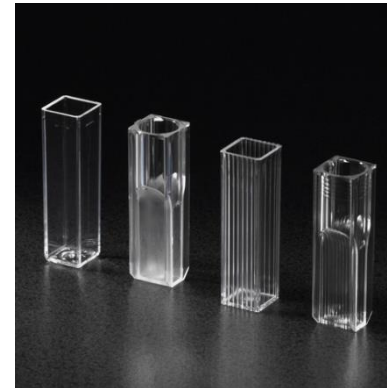
Pipette



Pipette pump

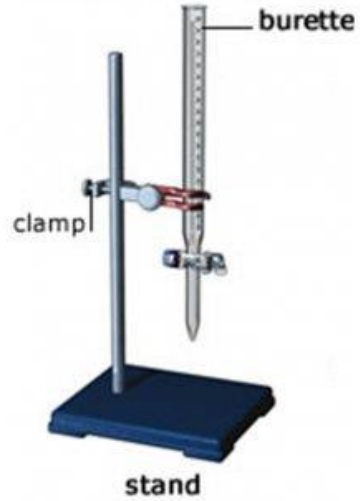


Conical flask



Cuvette

Glassware:



Burette



Reagent bottle



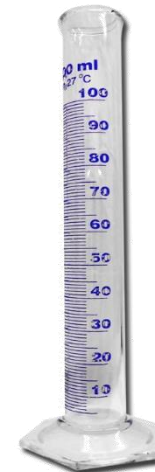
Beaker



Wash bottle



Volumetric flask



Measuring cylinder

instrument:



Water bath



Spectrophotometer



Electronic balance