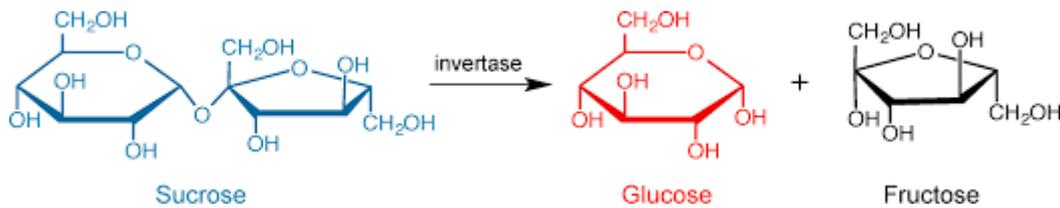


Practical work 1: Extraction of Invertase from baker's yeast. *Saccharomyces cerevisiae*

Recognized substrates (sucrose, raffinose).

Invertase (إنزيم إنفيرتيز) is an enzyme of the hydrolase class (beta-fructofuranosidase: E.C.3.2.1.26) that cleaves the glycosidic bond that links glucose to fructose (alpha 1- beta 2) in a sugar (carbohydrate) substrate such as table sugar, sucrose (dissacharide) which is a non-reducing carbohydrate.



Extraction of invertase from baker's yeast

Preparation of yeast extract:

- Weigh 10 g of baker's yeast, then add 25 ml of cold distilled water.
 - Shake to obtain a homogeneous suspension, centrifuge at 3000 rpm for 5 min.
 - Remove the supernatant and wash the centrifuged pellet with 25 ml distilled water.
- then recentrifuge again.
- Recover the last centrifugation pellet and suspend in 20 ml of cold distilled water.
 - Using a blender, grind this suspension at high speed for 2 x 5 min at 10 min intervals.
 - All these operations should be carried out at a temperature close to 0°C.

- The ground yeast cell suspension is then centrifuged at high speed for 30 min (2500 rpm). The supernatant containing invertase is carefully collected and kept cold.

Extraction de l'invertase de la levure boulangère (*Saccharomyces cerevisiae*) (baker's yeast, خميرة المخبز)

- Levure de boulangerie (*Saccharomyces cerevisiae*)
- Sable stérile (N°2)
- Centrifugeuse
- Mortier et pilon (N°1)
- Tampon citrate de sodium 10 mM (pH 6,0) contenant du beta-mercaptoéthanol 10 mM (N°3)
- Triton X-100 (détergent non ionique) (N°4)
- Tubes à centrifuger (N°5)



How to write a practical lab report

practical work report is a document that details the process and findings of a hands-on project, experiment, or period of work experience. It typically includes sections like an introduction, methodology, results, discussion, and conclusion, with a goal of documenting the work, demonstrating learned skills, and providing a basis for future reference. Key components of the report structure often include a title page, acknowledgements, a table of contents, and a list of references.

Structure and content

Front matter

- **Title page:** Includes the report title, your name and student ID, course information, group members (if applicable), and the submission date.
- **Table of contents:** Lists all sections and sub-sections with corresponding page numbers.
- **Acknowledgements:** A space to thank individuals who helped you during the practical work.

Main body

- **Introduction:**
Provides background information on the topic, states the aims and objectives of the work, and may include a testable hypothesis.
- **Materials and methods:**
Describes the procedures followed, including a list of materials used and a diagram or map of the location, if relevant.
- **Results:**
Presents the data collected, often in summarized form through tables or figures, along with any statistical analysis.
- **Discussion:**
Explains the results, interprets the data, and compares your findings with other studies. This is also where you can discuss any problems encountered and suggest improvements.
- **Conclusion:**

Briefly summarizes the overall findings of the practical work.

Back matter

- **References:** A list of all sources cited in the report, formatted according to a specific style guide (e.g., APA or Harvard).
- **Appendix (optional):** Contains supplementary material like raw data or detailed calculations.

Purpose and goals

- **Documentation:**
To create a formal record of the practical work and its outcomes.
- **Skill development:**
To showcase technical and report-writing skills learned during the experience.
- **Reflection:**
To allow you to reflect on the experience, how it reinforced or changed your career goals, and what new insights you gained.
- **Analysis:**
To interpret the data and the experiment's success, including identifying flaws and suggesting future improvements.