




Version 2 ▼

Aug 09, 2022

# IB BIO SL IA M23 - A study on the conditions that affect yeast fermentation V.2

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1 Works for me

 Share[dx.doi.org/10.17504/protocols.io.261geny6jg47/v2](https://dx.doi.org/10.17504/protocols.io.261geny6jg47/v2)

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## ABSTRACT

This protocol is designed to aid me in the research for my International Baccalaureate Biology Internal Assignment

## DOI

[dx.doi.org/10.17504/protocols.io.261geny6jg47/v2](https://dx.doi.org/10.17504/protocols.io.261geny6jg47/v2)

## PROTOCOL CITATION

Marcy Roca Cugat 2022. IB BIO SL IA M23 - A study on the conditions that affect yeast fermentation . **protocols.io**

<https://protocols.io/view/ib-bio-sl-ia-m23-a-study-on-the-conditions-that-affect-yeast-fermentation>

Version created by [Marcy Roca Cugat](#)



## KEYWORDS

biology, fermentation, yeast, ib, ia

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## CREATED

Aug 09, 2022

## LAST MODIFIED

Aug 09, 2022

PROTOCOL INTEGER ID

68407

GUIDELINES

None

MATERIALS TEXT

- Flask (3 mouths)
- Thermometer
- Holed plugs x2
- Glass tube
- Rubber tube
- Gas recovery flask
- Basin
  
- Water
- Sugar
- Yeast

SAFETY WARNINGS

None

Preparation

5m 30s

1 Check that all reagents and materials are ready.

30s

2 Assemble the instrumentation

5m

- 2.1 One end of the flask must be plugged with a holed stopper and a thermometer.  
The other end should be plugged with a holed stopper and a glass tube.  
The middle opening should be covered with plastic and secured with a rubber band.
- 2.2 A long and shallow recipient must be filled with water as much as possible.  
The gas recovery flask should also be filled with water as much as possible.  
Then, the latter should be inverted and suspended inside the former.
- 2.3 The tube should be connected from the glass tube to the gas recovery flask.

3 The block of compressed yeast must be cut in 4 parts

Processing

30m

- 4 Several factors must be checked and accounted for: pressure, temperature and initial weight of the full gas recovery flask (GRF). To check the ambiental conditions, we will use a thermometer and the Google Science Notebook (discontinued) phone application, which uses the phone's integrated barometer to tell the pressure. To measure the GRF weight we will use a scale.
- 5 One quarter of the yeast block must be dissolved in sugary water (concentration undetermined, volume undetermined, temperature undetermined). This should then be placed in the flask.
- 6 Wait for fermentation: ⌚ 00:30:00 30m
- 7 Weigh the GRF. The difference from the first measurement is the gas generated. Convert it to moles of  $\text{CO}_2 + \text{H}_2\text{O}$  for a universal measurement that is constant through different temperatures and pressures.
- 8 ↻ go to step #4 Repeat as many times as needed