

VOLATILE ACIDITY

Defined as those steam-distillable acids present in the wine sample



FORMATION OF ACETIC ACID

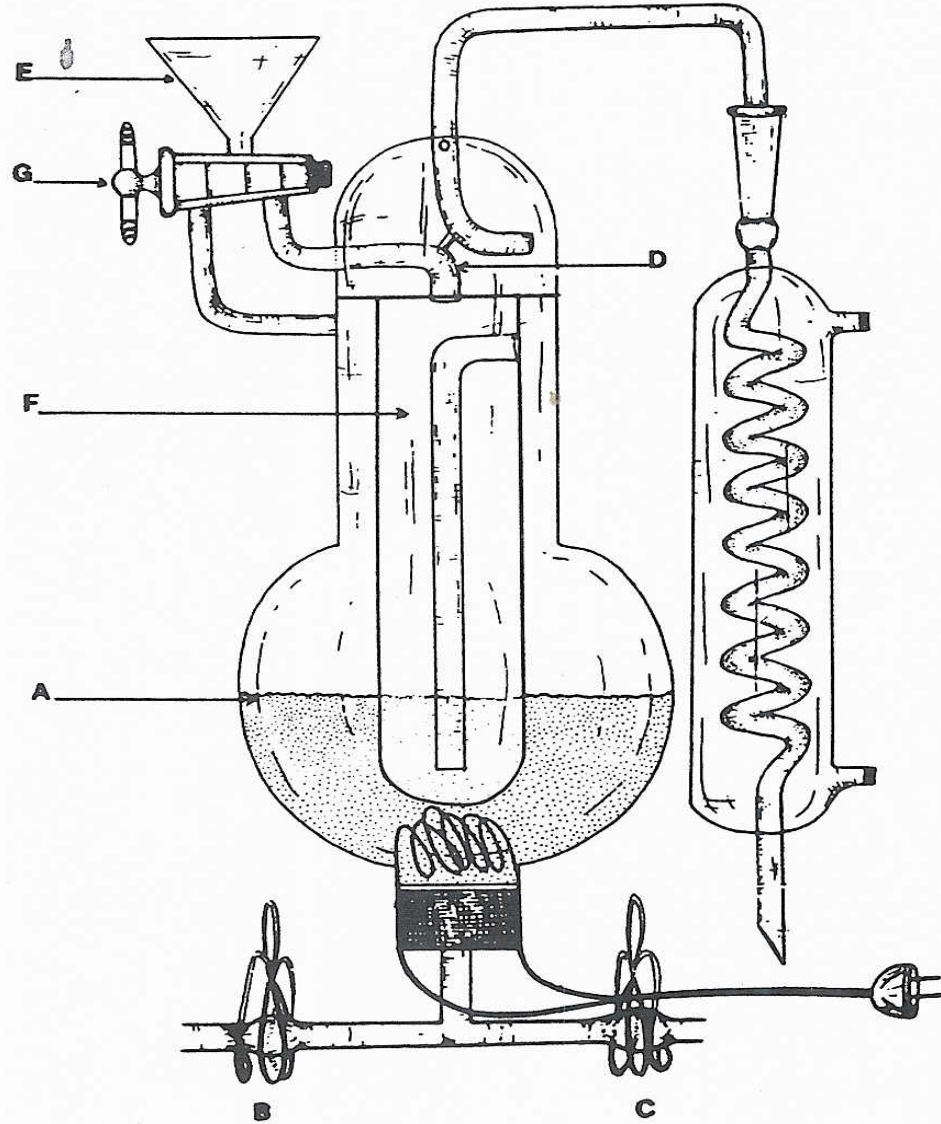
- ▶ Normal fermentation
- ▶ Malo-lactic bacteria
 - ▶ Spoilage yeasts
- ▶ Acetic acid bacteria



METHODS OF ANALYSIS

- ▶ Steam Distillation
- ▶ Enzymatic analysis
- ▶ HPLC and GC procedures
- ▶ Separate file – Steam Dist. Method & overview of enzymatic method







PROCEDURE

- Turn on condenser cooling water
- Through funnel fill boiling chamber A with deionized water to the approximate level indicated in Figure
- Reposition stopcock G so that sample is delivered to the inner chamber
- Volumetrically transfer 10 mL of wine to funnel E. Rinse the sample into inner chamber with deionized water. Add 3–5 drops of 3% H₂O₂.



PROCEDURE

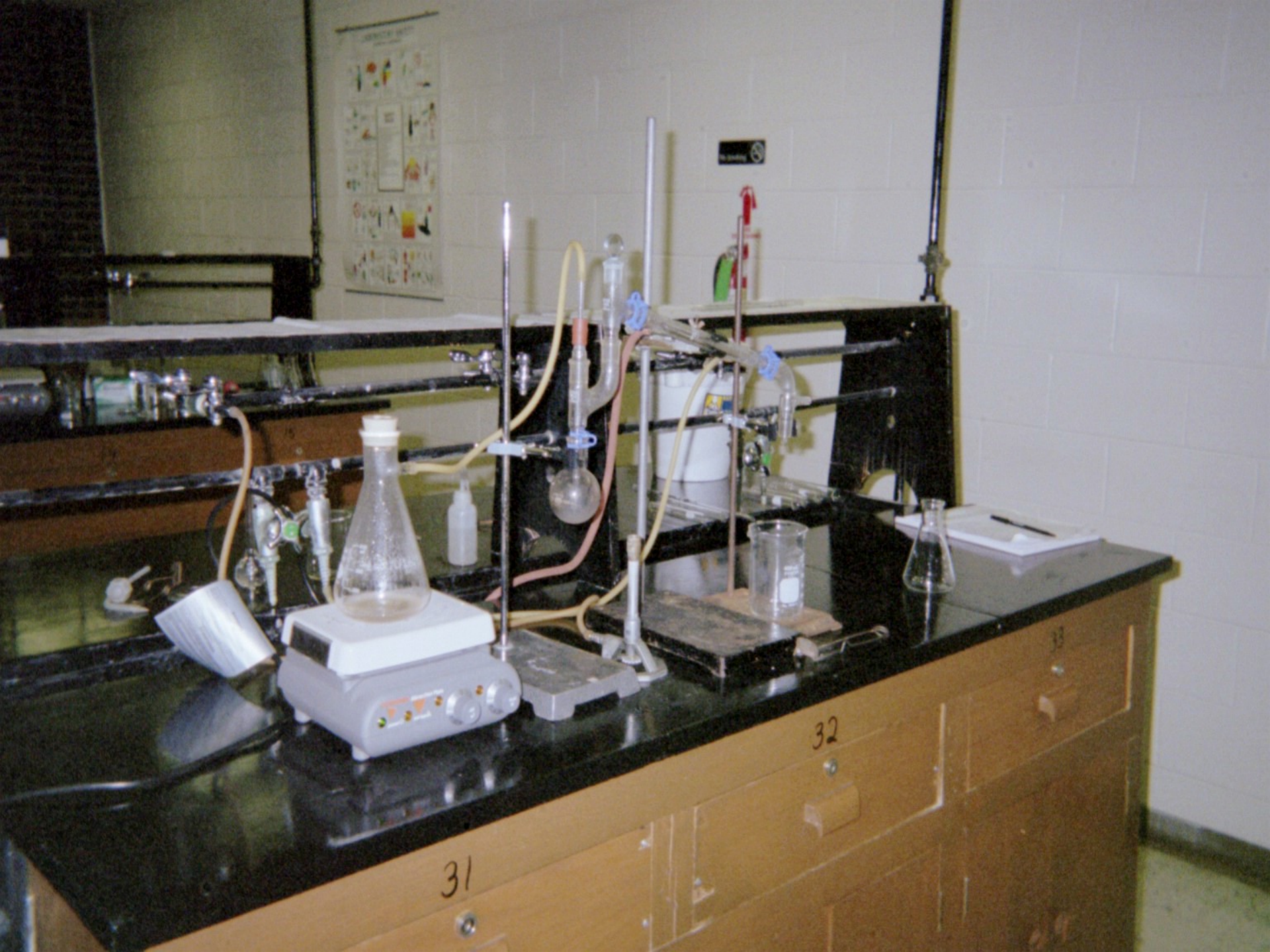
- ▶ Turn heater on and bring water in chamber A to moderate boiling. Carbon dioxide present in water is vented through funnel E for 10–15 sec before closure of stopcock G.
- ▶ Collect 100 mL of distillate into receiving flask.
- ▶ Immediately upon completion, turn the heater unit off
- ▶ Open stopcock to water aspirator and remove the sample from the inner chamber.



PROCEDURE

- ▶ Add 1–2 drops of phenolphthalein indicator to distillate and titrate, using 0.1 N NaOH, to end point lasting 15–20 sec.
- ▶ Record the volume of NaOH used in titration and calculate the volatile acidity (VA in g/L)
- ▶ $VA \text{ (g/L)} = \frac{(\text{mL NaOH}) (\text{N NaOH}) (0.060)}{(1,000) / \text{mL wine}} = V_{\text{NaOH}} \times 0.6$
- ▶ Results should be reported as $\pm 0.05 \text{ g/L}$.





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