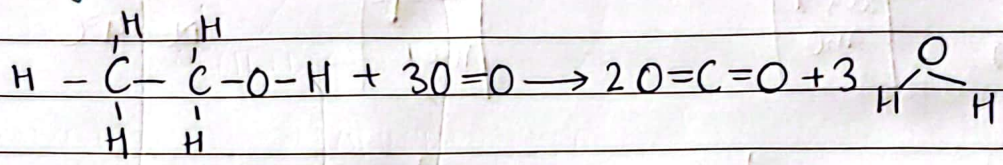
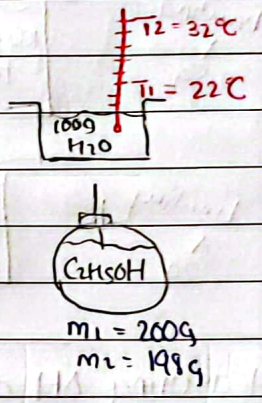
Finding ΔH (energy change) practically:

Combustion | Displacement | Neutralization

Finding ΔH combustion:-



$$C_2H_5OH + 3O_2 \longrightarrow 2CO_2 + 3H_2O$$



$\rightarrow Q = mc\Delta t \Rightarrow \Delta t = \frac{Q}{mc}$

Energy transfer $= 100 \times 4.2 \times 10$

$= 4200J \approx 4.2\ kj$

$4.2\ kj \xrightarrow{\text{produced from}} 2g\ C_2H_5OH$

$\Delta H \quad 96.6\ kj/mol \longleftarrow 1\ mole = 46g\ C_2H_5OH$

$\Delta H = -96.6 kj/mol.$

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* Two fuels A and B, plan an experiment to show which one produce more energy?
- Take a known mass of water with known initial temp. in a copper can.
- " " " " " Fuel A
- Ignite the fuel, and record final mass and final temp. of water.
- Repeat exp. using fuel B.

Conclusion: The fuel which cause more temp. rise per gram of fuel, produce more energy.

↑Q Δt ↑
↑m Δt ↓