

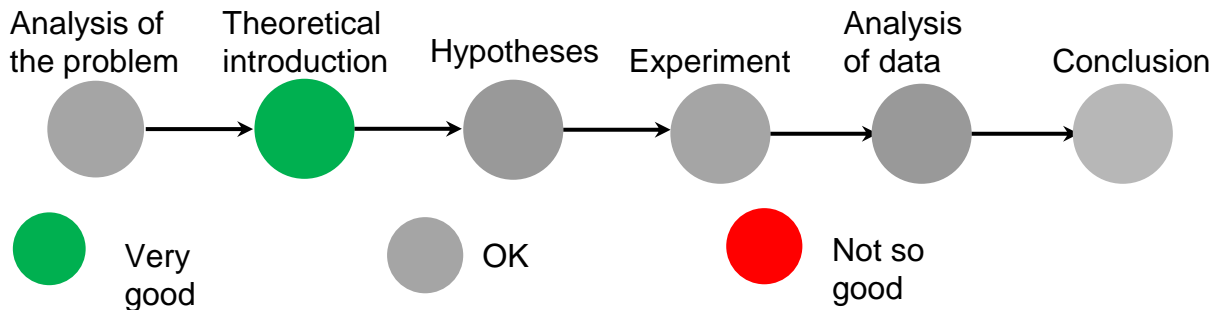
# 11. HYDROGEN RELEASE

Team Croatia  
Reviewer: Marko Drozdek



# REPORTER

- straightup point of study
  - only **two salts** had **quantitative** results
    - BUT then said experimenting with different salts
  - residue of copper shown **BUT** not proven that it was only copper
  - chemical process -> redox reactions and charge *explained* - hypothesis based
  - unclear effect of **temperature and correlation with energy** - opponent asked
  - didn't measure the **pressure** in the watherbath- important parameter (could have affected the volume of the hydrogen)
  - Failed to notice the pressure changing (said it is irrelevant)
  - had error bars but did not state from how many repetitions were they derived from in the questions said only **3**
  - said that it was exothermic
    - but didnt check or measure the temperature
- > used a waterbath - good contol idea



# OPPONENT

- Asked about source of aluminum - not explained in the report
  - Change of charge
  - Area of aluminium foil
  - pH level
  - Energy reaction measurement
- Noticed that there was no theory and experimental side for more than two salts
  - we agree that there is a large error
- Missed a few large errors in experimental setup  
-> **pressure, repetitions, concentration points**

**stated that temperature dependance is important unlike what the presenter stated**

- we strongly agree with the opponent - energy

# DISCUSSION

- High temperature making a difference:
  - Does 90 degrees celsius make the water significantly evaporate?
  - Agree with the reporter -> no boiling point, no significant evaporation
- Discussed importance of consistent stirring:
  - Reporter used a magnetic stirrer - **constant** (does not affect the experiment)

Questioned if they had quantitative proof of homogenization of their solutions and constant of mixing - great discussion points

a few errors missed

but generally well covered all presentation

**great questions asked -> productive discussion**

THANK YOU!

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