14. INVENT YOURSELF: CHEMICAL OSCILLATORS

Team Croatia
Opponent: Marita Machata

PROBLEM TEXT

Determine how **temperature and concentrations** affect the period of Bray-Liebhafsky reaction.

THE SOLUTION - THEORY

Pros:

- explained that the reaction time depends on concetration
- had the formulas in chemical kinematics, but did not explain them

Cons:

- *Bray Liebhafsky is not a chemical oscillator it is just a reaction that goes through periodic changes
- did not explain what are chemical oscillators
- said that the energy of the oscillator is restored which would mean that it violates the second law of thermodynamics?!

THE SOLUTION - EXPERIMENT

Pros:

- divided experiment
- 5 repetitions -

Cons:

- no axis - graphs are not understandable
- variation of results not explained
- no hypotheses link to mathematical background
- proved his experiment from literature NOT from HIS experiment

THE SOLUTION - RESULTS AND CONCLUSION

Pros:

graphical results

Cons:

- Graphs were only shown and explained poorly without any explanation (and no error bars)
- Absolutely no conclusions

POINTS FOR DISCUSSION

- Why is this reaction a chemical oscillator and not just a reaction that goes through a sequence of changes?
- Repetitions
- What is happening after 20 seconds?
- Counting periods?
- Did it reach equilibrium ?

THANK YOU!

Team Croatia
Opponent: Marita Machata