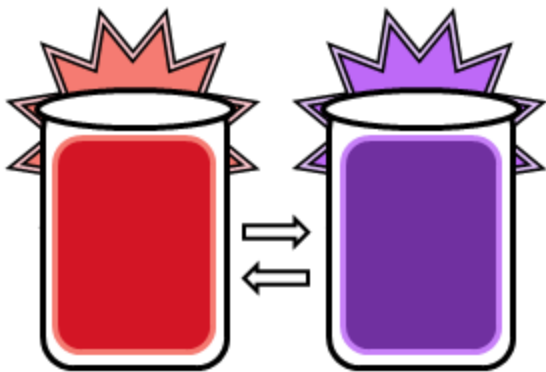


## №14

opponent : Nikolai Maltsev

*Problem Statement:*

Example of an oscillating chemical reaction is the Manganese catalyzed Bromate-Malonic Acid reaction which results in periodic color changes. Investigate how temperature and turbulation affect the velocity of the chemical reaction, number of oscillations and color intensity.



## General Evaluation of the Report:

*Explanation of the Phenomenon: average*

*Theoretical Model: lower than average*

*Experiments and The Comparison: average*

# Report:

## Strong Points:

- Explained the phenomena by the chemical reaction equation
- Explained why the reaction rate was dependent on temperature by Boltzmen law.
- Proved their hypothesis experimentally
- Had a graphical side for the presentation that were explained well experimentally
- Had the critical temperature at which she couldn't reach the oscillation
- Spoke about the energy decrease

## Areas of Improvement:

- Didn't explain the Vortex/turbolation situation
- Didn't explain the experimental setup through outely.
- Error bars
- Didn't have an equation behind their hypothesis
- Had a graphical data where energy became negative

## *Opponent :*

### **Strong Points:**

- Asked about the errors
- Asked for the theoretical provement of the leniar difference
- Asked how the reporter measured the absorption
- Talked about the equilibrium situation
- Asked for the deeper theoretical explanation

### **Areas of Improvement:**

- Didn't ask about the energy getting negative
- Didn't give her an opportunity to explain her experiment setup on a deeper side
- didn't make her explain why turbulence would make a difference