

# Determination of the heat of hydration of bivalent copper sulphate pentahydrate

Afanasev S.M., Nesterov I.D.

**Keywords:** heat of formation, crystalline hydrate, copper sulphate

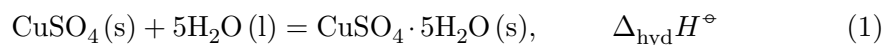
## Contents

<b>1</b>	<b>Introduction</b>	<b>2</b>
<b>2</b>	<b>Methods</b>	<b>2</b>
<b>3</b>	<b>Results</b>	<b>2</b>
3.1	First experiment . . . . .	2
3.2	Second experiment . . . . .	3
3.3	Third experiment . . . . .	3
<b>4</b>	<b>Conclusions</b>	<b>3</b>
<b>5</b>	<b>References</b>	<b>4</b>

# 1 Introduction

**Purpose of work:** to determine the heat of formation of crystalline hydrate  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ .

The heat of formation of crystalline hydrate  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  will correspond to the reaction of addition of 5 moles of water to 1 mole of anhydrous salt according to the equation:



The thermal effect cannot be determined experimentally, because the formation of a new phase from liquid to solid phase is very slow and incomplete. Theoretical calculation of the thermal effect is carried out on the basis of Hess's law on the basis of the following cycle:

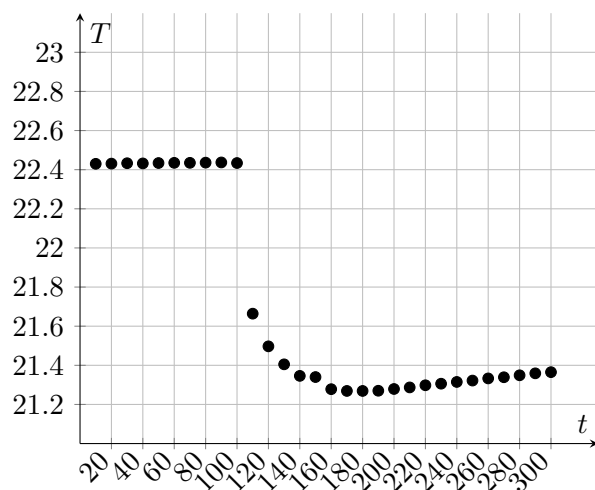
## 2 Methods

do this, then this, and so on

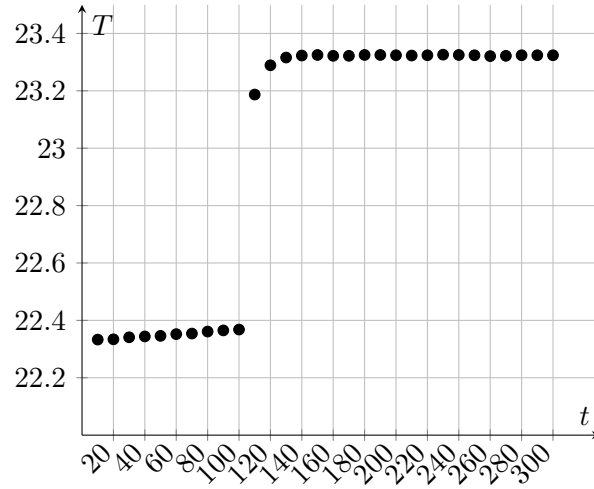
## 3 Results

Impressive Results

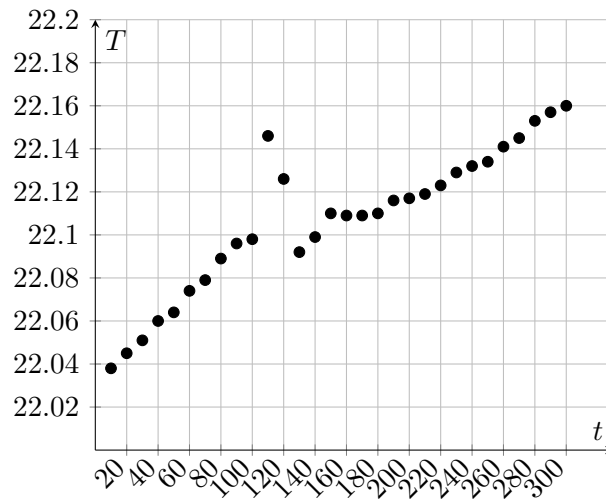
### 3.1 First experiment



### 3.2 Second experiment



### 3.3 Third experiment



## 4 Conclusions

bla-bla-bla

## 5 References

1 2 3 4