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Research paper

The effect of temperature of the middle layer extracts of the indigo acacia fruits on the treatment and absorption of the resulting drugs in the human body

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Abstract

After preparing the extract and conducting dilutions for the study, I took the concentration of 100, which is the highest concentration, and conducted physical tests on it, which consisted of detecting the temperature of the extract using a digital thermometer. The temperature was prepared and measured under standard conditions.We found that the temperature of the extract is 34.9 degrees Celsius, but it is known from previous studies that the normal human temperature ranges between (36.1, 37.2), which means that the temperature of the extract is lower than the human temperature, i.e., it is endothermic. This means that it can be used as an antipyretic for fever resulting from Staphylococcus aureus and other types, if the reaction that occurs is endothermic, which adjusts the body temperature and facilitates the process of absorption of the drug inside the body, which makes it maintains its chemical composition. Vacuum chemistry accelerates the healing process.

Keywords *: Absorption Process; Treatment Process; Temperature; Activation Energy; Chemical Reaction; Catalysis.*

1. Introduction

] Chemical reactions in this life are divided into exothermic reactions and endothermic reactions2 In an endothermic reaction, the .[ ] reactants absorb energy from the surrounding medium, and this energy is known as activation energy1 Exothermic reactions are those .[ ] that release energy into the surroundings during the reaction, which increases the temperature of the surroundings7 One of the results [of absorption reactions is the dissolution of table salt in water, as the salt molecules absorb energy from the water to decompose and] produce a solution6 One of the benefits of using heat-absorbing compounds or materials is the use of absorbent materials to collect oil] pollutants present on the surface of the water10 The use of carbon-based composite materials to separate oil present in the water is due .[ ] to their ease of use, low cost, and lack of harmful effects12 The use of absorbent materials in storing solar energyusing]metal hydride 4 .[ ].The thermal decomposition stage, as well as gasification in changing waste into natural gas11 Heat exchange also occurs between the .[reactants andproducts making the energy state more stable. This occurs by forming and breaking chemical bonds [3]. Endothermic reactions are also characterised by the fact that the change in heat content is positive, which causes cooling in the surrounding environment [5].

2. Statistical analysis

Measurement of the heat energy transferred during a reaction during physical and chemical changes

$Q=M.Cs.\Delta T$

Q = thermal energy absorbed during the chemical reaction in joules
Cs = specific heat capacity
TΔ=change in the heat content of the system and surroundings
M = mass of the substance whose temperature changes
M=15
The system temperature is represented by the extract 34. The ambient temperature is represented by the human body at 36.1–37.2°C.

$Cs=c\div m$

C = temperature of the extract

m = mass of the solute in grams

Cs=34÷15=2.266J/g.c°

TΔ=37.2-34=3.2c°

Q=15×2.266×3.2=105.369 J

TΔ=36.1-34= 2.1

Q=15×2.266×2.1=71.379 J

3. Materials and Methods

15 grams of study sample
50 ml of distilled water
250 ml beaker
Filter paper, sterilizer, spoon, 50 ml measuring cylinder
Sensitive balance and digital thermometer
After we prepared the extract by soaking in distilled water, after we carried out the sample preparation process of drying, grinding and weighing the sample using a sensitive balance and soaking it forsome time of 24 hours under standard conditions, then we filtered the soaked and took the resulting extract and diluted it to several concentrations and took the concentration 100 and carried out some physical .properties on it, noting that the weight of the sample is 15 grams and it was soaked in 50 cm of water

4. Results

Table: Shows The Amount of Energy Absorbed During A Chemical Reaction.

System temperature	Ambient temperature	mass of solute	Heat capacity	Heat is absorbed when the ambient temperature is 36.1°C	Heat is absorbed when the ambient temperature is 37.2°C
34 c°	36.1-37.2 c°	15 g	2.266 J/g.c°	71.379 J	105.369 J

5. Discussions

After I measured the temperature of the extract that represents the system and the human body that represents the surrounding environment, I found that the temperature of the system was 34 degrees Celsius, and the normal temperature of the surrounding environment was 36.1-37.2 degrees Celsius. This means that the reaction is endothermic, and this is consistent with the law of thermodynamics [3], which distinguishes the extract in its use as an antipyretic, as it absorbs the excess heat energy in the human body. As we learned previously, it can be used in medicines due to the presence of active substances that have proven their ability.To inhibit and kill Staphylococcus aureus [7].[8].

6. Conclusions

.The extract is endothermic -1-
.It can be used as an antipyretic for fevers caused by infections caused by Staphylococcus aureus -
Its ability to reduce fever increases with increasing gram mass, based on the law of measuring the heat transferred during physical and -.chemical transformations
The temperature of the system represented by the extract is lower than the temperature of the surrounding medium, as represented by the human body. This temperature difference makes the human body more balanced, thus preserving the structure and spatial arrangement of .the solution. The structure and bond lengths are affected by temperature
It produces rapid results during treatment because the extract does not lose any of its energy, and its composition does not change upon analysis and absorption within the human body.

7. Recommendations

After learning about its ability to absorb heat energy, as well as its active compounds and their ability to inhibit and kill Staphylococcus aureus bacteria and its light transmittance, we recommend its use in treatment, especially for diseases caused by Staphylococcus aureus bacteria [7].[8].

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