A collaborative LaTeX document

Class of ID2090, Third Trimester of 2021 batch

June 14, 2022

Contents

List of Figures

List of Tables

1 Introduction

This file includes tex files from the folders of each student. The students are expected to update the file named after their roll number and place any images in the same folder. Students do not have to edit this master document. Once the student has sent a pull request which is accepted and processed successfully, his/her assignment submission is deemed to be complete.

You are also welcome to add references and cite them. Examples on how to do that are on the course repository [**?**].

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Assignment 4 Arambh Khanderao, CE21B021 July 2022

Gibb's Free Energy Change

$$\Delta G = \Delta H - T\Delta S \tag{1}$$

Gibbs free energy, also known as the Gibbs function, Gibbs energy, or free enthalpy, is a quantity that is used to measure the maximum amount of work done in a thermodynamic system when the temperature and pressure are kept constant. Gibbs free energy is denoted by the symbol 'G'. Its value is usually expressed in Joules or Kilojoules. Gibbs free energy can be defined as the maximum amount of work that can be extracted from a closed system. If the reactants and products are all in their thermodynamic standard states, then the defining equation is written as

$$\Delta G^\circ = \Delta H^\circ - T\Delta S^\circ \tag{2}$$

Gibbs free energy was originally defined graphically. In 1873, American scientist **Willard Gibbs** published his first thermodynamics paper, "Graphical Methods in the Thermodynamics of Fluids", in which Gibbs used the two coordinates of the entropy and volume to represent the state of the body.

Symbols	**Meaning**
ΔG°	Gibb's free energy
ΔH°	Change in enthalpy
T	Temperature
ΔS°	Change in entropy

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44 Conclusions

If this master tex file could be compiled successfully, it means that the class has learnt the concepts of Git as well as LaTeX properly.

45 References

References

[1] Repository for id2090 course. `https://github.com/gphanikumar/mm2090`. Accessed: 2022-06-13.