

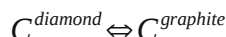
EPSC 220: Principles of Geochemistry Laboratory 1

Group 1

Solve the following equation for x:

$$3x^3 + 2x^2 + 5x - 37.2 = 0$$

Using the attached data calculate the ΔH , ΔS , and ΔG of the following reaction at 1 bar, 298 K:



Group 2

Integrate the following equation from 1 to 100 using both numerical methods (e.g., Scilab) and analytically using integration by parts:

$$\ln(x) + 3x^2 + 2x - 5 = 0$$

Using the attached data calculate the ΔH , ΔS , and ΔG of the following reaction at 1 bar, 298 K:

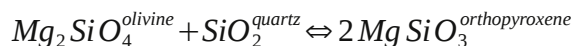


Group 3

Using Newton's method find the solution of

$$5\ln(x) + 6\ln(x^2) - 3x + 7 = 0$$

Using the attached data calculate the ΔH , ΔS , and ΔG of the following reaction at 1 bar, 298 K:

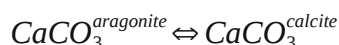


Group 4

Find the solution to the following set of equations

$$\begin{aligned} 2x + 4y - 7z &= 0.4482643 \\ 3x + 7y + 1.5z &= 31.445008 \\ x + y - z &= 2.8390049 \end{aligned}$$

Using the attached data calculate the ΔH , ΔS , and ΔG of the following reaction at 1 bar, 298 K:



NOTE: DATA NOT ATTACHED DUE TO COPYRIGHT RESTRICTIONS