

$$\Delta G^\circ = -RT \ln K$$

$$\Delta G = \Delta H - T\Delta S$$

$$\Delta G = \Delta G^\circ + RT \ln Q$$

$$\Delta G^\circ = (n \sum \text{Prod}) - (n \sum \text{react})$$

$$Q/K = \frac{[P]^{\text{coeff}}}{[R]^{\text{coeff}}} \quad \Delta H, \Delta H = 0$$

Elemental form

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(1978B)

TABLE C



$$\Delta G^\circ = \left[ 2(\text{HCl}) + \text{Br}_2 \right] - \left[ 2(\text{HBr}) + \text{Cl}_2 \right]$$

$$= \left[ 2(-95.27) + (3.14) \right] - \left[ 2(-53.22) + 0 \right]$$

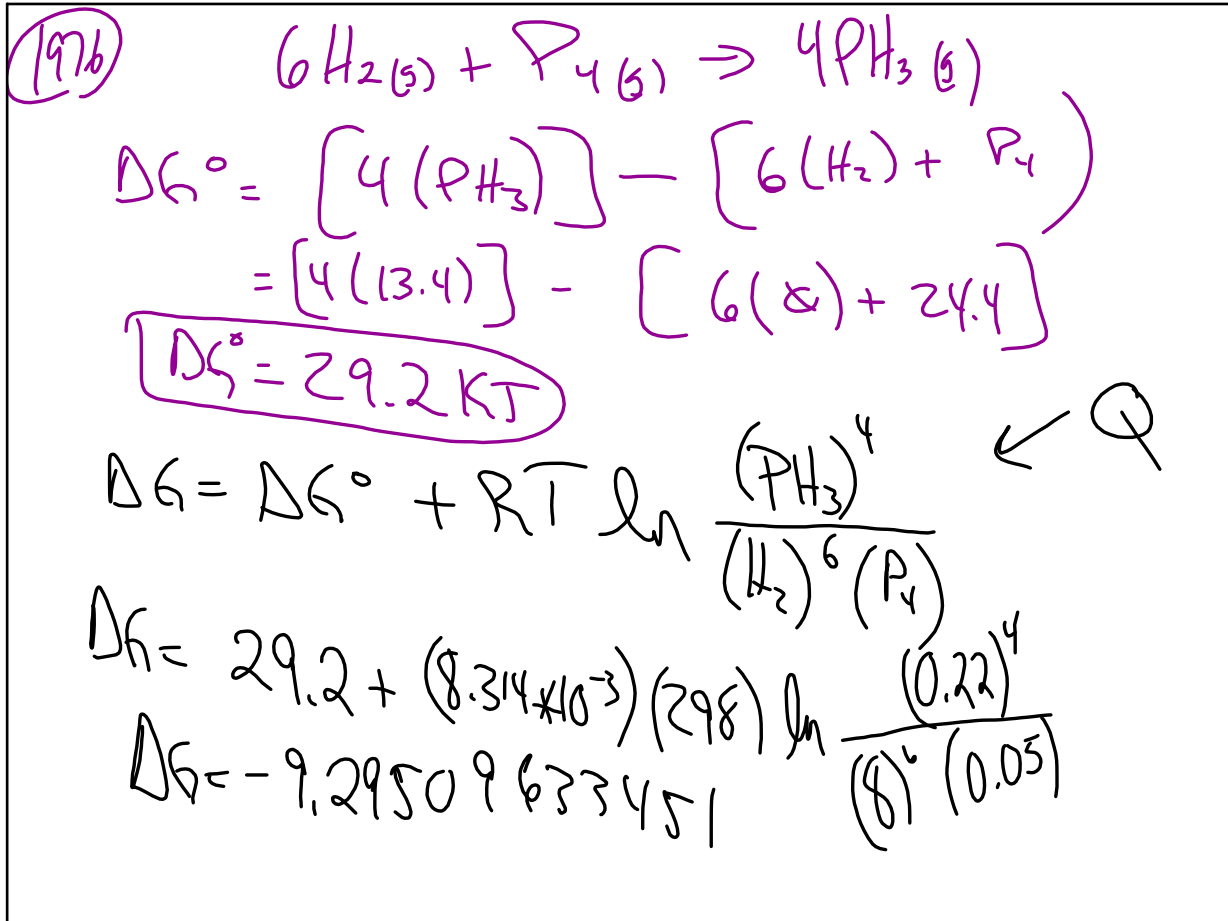
$$\Delta G^\circ = -80.96 \text{ kJ}$$

$$\Delta G^\circ = -RT \ln K$$

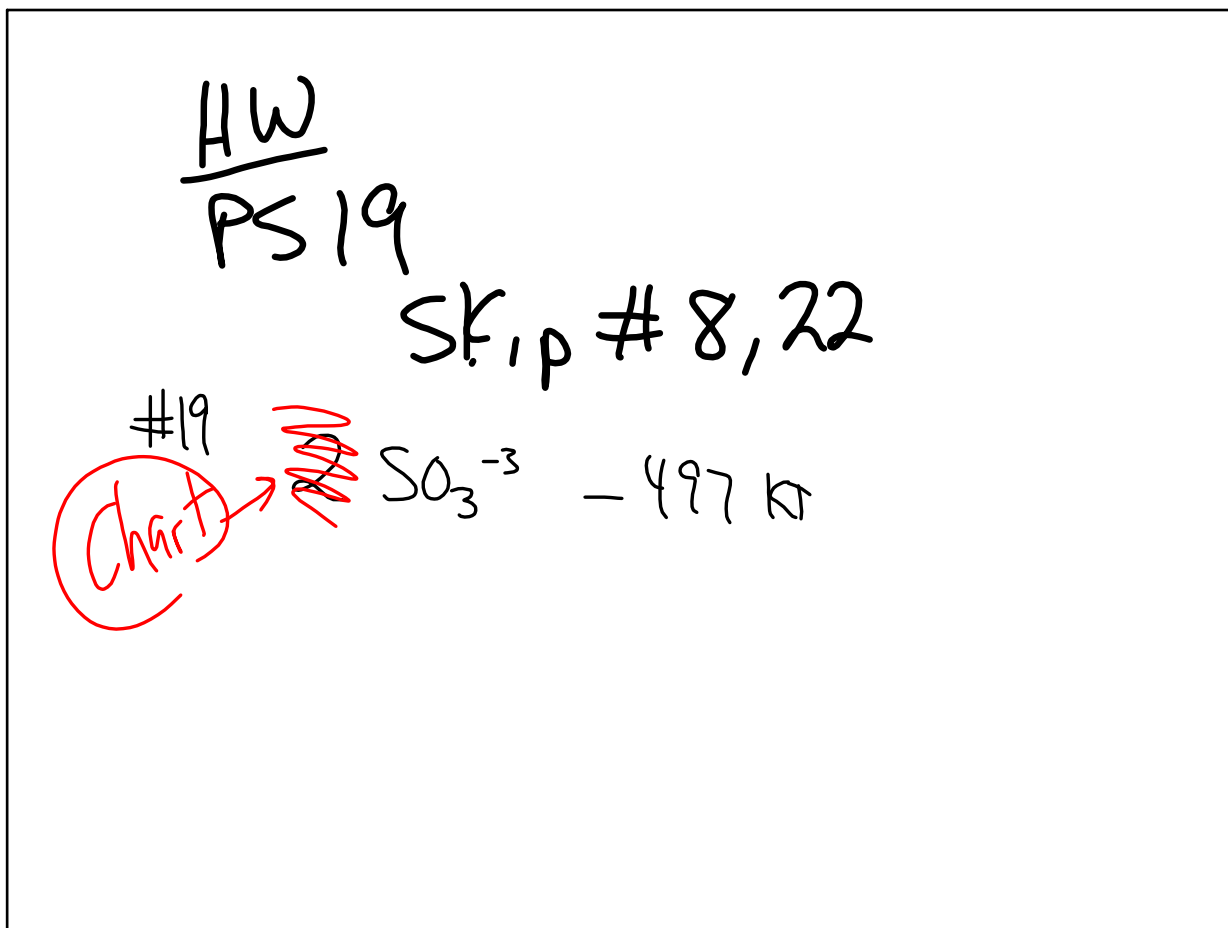
$$-80.96 = -(8.314 \times 10^{-3})(298) \ln K$$

$$K = 1.55 \times 10^{14}$$

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Lab  
Graphs / Data table

DISCUSSIA Explain how/why the graph has that shape.

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$$\Delta G^\circ = -RT \ln K$$

$$|R| = 4.184 \text{ J}^\circ \text{K}^{-1}$$

$$= -(8.314 \times 10^{-3})(473) \ln K$$

$$\Delta G^\circ = \Delta H^\circ - T \Delta S^\circ$$

$$\Delta G^\circ = (1815 \text{ J}^\circ) - 473 (0.215 \text{ J}^\circ \text{K}^{-1})$$

$$\Delta G^\circ = -79.4 \text{ kJ}$$

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