



H	-394	-635	-1207
S	214	40	93
G	-394	-604	-1129

$$10. \Delta S = 93 - (214 + 40) = -161 \text{ J/mol}\cdot\text{K}$$

$$11. \Delta H = -1207 + (-394 + -635) = -178 \text{ KJ/mol}$$

$$12. \Delta G = -1129 - (-394 + -604) = -131 \text{ KJ/mol}$$

or

$$\Delta G = -178 - (298 \cdot -161/1000) = -130 \text{ KJ/mol}$$

13. ΔG is negative, rxn is spontaneous

14. spontaneous | nonspontaneous



$$0 = -178 - (T^* - 161/1000)$$

$$T = 1105\text{K}$$

15. As $T \uparrow$, $G \uparrow$

look at 2 points created

T	ΔG
298	-130
1105	0

16. $T = 500$, plug into equation

$$\Delta G = -178 - (500 \cdot -161/1000)$$

$$\Delta G = -97\text{kJ/mol}$$