Enthalpy Change worksheet.doc

1. $263 g Ni \times \dfrac{1 mol}{58.69 g} \times \dfrac{17.6 kJ}{mol} = 78.9 kJ$
exothermic

2. $1750 g H_2O \times \dfrac{1 mol}{18.02 g} \times \dfrac{40.7 kJ}{mol} = 3952.6 kJ$
-exothermic

3. $125 g S_8 \times \dfrac{1 mol}{256.48 g} \times \dfrac{1.73 kJ}{mol} = 0.843 kJ$
endoth.

4. $4400 g Pb \times \dfrac{1 mol}{207.2 g} \times \dfrac{179.5 kJ}{mol} = 3811.8 kJ$
endothermic

5. $700 g \times \dfrac{1 mol}{46.08 g} \times \dfrac{43.5 kJ}{mol} = 660.8 kJ$
endoth.

6. $98 g H_2O \times \dfrac{1 mol}{18.02 g} \times \dfrac{6.01 kJ}{mol} = 32.68 kJ$
endoth.

7. $50 g H_2 \times \dfrac{1 mol}{2.02 g} \times \dfrac{0.9 kJ}{mol} = 22.28 kJ$
exoth

8. $600 g NH_3 \times \dfrac{1 mol}{17.04 g} \times \dfrac{5.65 kJ}{mol} = 198.94 kJ$
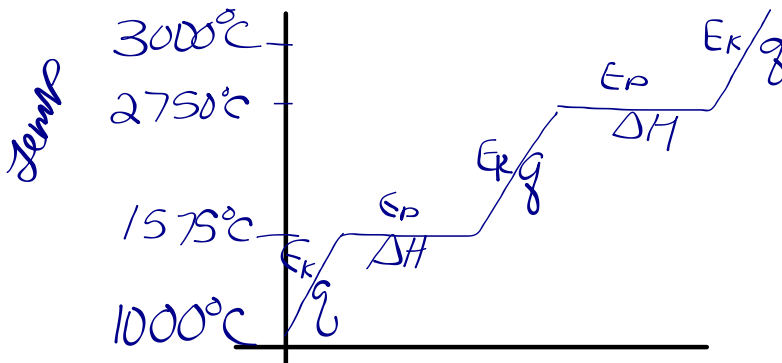exoth

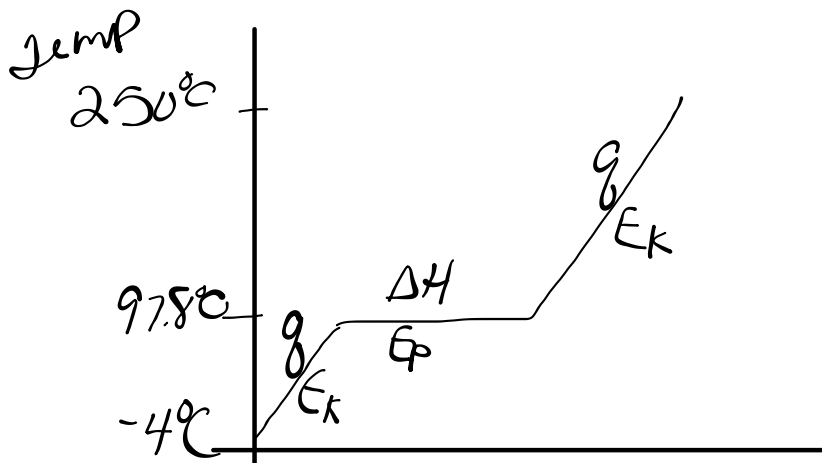9. Draw an energy graph for H_2O as it is cooled from 135°C to 19°C.
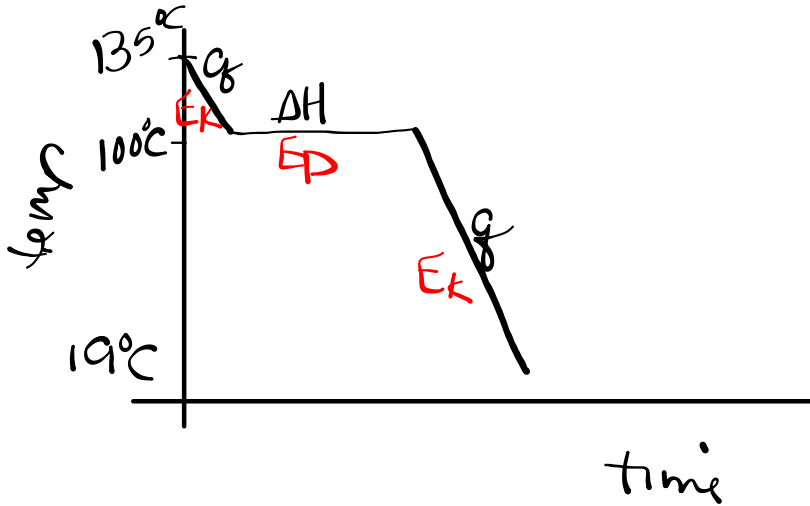
10. Draw an energy graph for Fe as it is heated from 1000°C to 3000°C.

   a. (Melting point of Fe = 1535 °C ; Boiling point of Fe = 2750 °C

11. Draw an energy graph for sodium (Na) as it is heated from -4°C to 250°C.

   a. (Melting point of Na = 97.8 °C ; Boiling point of Fe = 883 °C

Attachments

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