CHEM 3530
Chapters 2 - Homework Answers

2.1 (a) -99 J

(b) -167 J

2.2 -1.25 kJ

2.3 41.9 kJ

2.4 $C_{p,m}$ = 29.9 J/mol-K , $C_{V,m}$ = 21.6 J/mol-K

2.5 q = 2.2 kJ , ΔH = 2.2 kJ , ΔU = 1.6 kJ

2.6 183.3 ºC

2.7

(a)	$q < 0$	$w > 0$	$\Delta U < 0$	$\Delta H < 0$
(b)	$q > 0$	$w \approx 0$	$\Delta U > 0$	$\Delta H > 0$
(c)	$q < 0$	$w > 0$	$\Delta U = 0$	$\Delta H = 0$
(d)	$q = 0$	$w < 0$	$\Delta U < 0$	$\Delta H < 0$

2.8 q = -12.6 kJ , w = +12.6 kJ , ΔU = 0 , ΔH = 0

2.9 q = -79.6 kJ , w = +79.6 kJ , ΔU = 0 , ΔH = 0

2.10 q = +6.88 kJ , w = -1.94 kJ , ΔU = +4.94 kJ , ΔH = +6.88 kJ

2.11 q = +4.94 kJ , w = 0 kJ , ΔU = +4.94 kJ , ΔH = +6.88 kJ

2.12 q = 0 kJ , w = +9.64 kJ , ΔU = +9.64 kJ , ΔH = +13.4 kJ