

식품물리화학 연습문제 정답

1. 1) $\Delta S_1 = 21.08 \text{ J/K}$

2) $\Delta S_2 = -28.81 \text{ J/K}$

$\Delta S_{\text{tot}} = \Delta S_1 + \Delta S_2 = -7.73 \text{ J/K}$

2. 1) $w = -5.44 \text{ kJ}$ $q = -w = 5.44 \text{ kJ}$

2) $w = -3.30 \text{ kJ}$ $q = -w = 3.30 \text{ kJ}$

3)

	가역	비가역
ΔS_{sys}	18.27 J/K	18.27 J/K
ΔS_{surr}	-18.27 J/K	-11.09 J/K
ΔS_{tot}	0 J/K	

3. $\log P = -2.61 \times 10^{18}$

따라서, $P = 0$

4. $\Delta S^\circ = -120.63 \text{ J/mol}\cdot\text{K}$

5. $\Delta G^\circ = -104.48 \text{ kJ/mol}$

6. $\Delta H^\circ = -74.85 \text{ kJ/mol}$

$\Delta S^\circ = -80.68 \text{ J/mol}\cdot\text{K}$

$\Delta G^\circ = -50.79 \text{ kJ/mol}$ 또는 -50.81 kJ/mol