

Antwoorden tentamen Fysische Chemie 22-1-2016

1) Verdamping

- a) $\Delta G = 0$
- b) $K = 3.16 \times 10^{-2}$
- c) $\Delta H > 0$ (verdampen is endotherm), $\Delta S > 0$ (Gas heeft meer wanorde/mogelijke toestanden dan vloeistof)

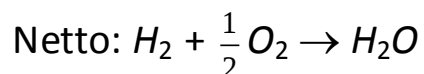
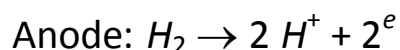
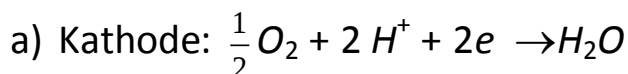
2) Gaskinetiek

- a) $E_{\text{mol}} = 4.65 \text{ kJ/mol} < 463 \text{ kJ/mol}$ dus ontleed niet.
- b) $v = 592 \text{ m/s}$
- c) $s = 2.13 \times 10^3 \text{ km}$

3) Elektrische cel

- a) Reversibel = omkeerbaar, zeer langzaam; isotherm = constante temperatuur; isobaar = constante druk.
- b) $\Delta U = -141 \text{ kJ}$; $\Delta H = -142.9 \text{ kJ}$; $\Delta S = 24.6 \text{ kJ/T}$; $\Delta G = -118.3 \text{ kJ}$
- c) $\Delta G = w_e = \text{maximale niet-volume arbeid}$

4) Brandstofcel



- b) -237 kJ/mol
- c) -49 kJ/mol

5) De Ballon

- a) 70.2 J
- b) -0.240 J/K
- c) -70.2 J