

CHEM 1154 FALL 2005 FINAL EXAM ANSWERS

1. (a) CH₄O (b) CH₄O
2. (a) 0.02099 M (b) Iodine
3. Barium
4. Pressure of oxygen = 0.75 atm
5. (a) S → P
(b) E
(c) ES
(d) rate = $[k_1k_3/(k_2 + k_3)][E][S]$
6. $K_p = 4.94 \times 10^{-3}$
7. $\Delta H = -120$ kJ
8. (a) 12.30 mL for 1st equivalence point and 24.60 mL for 2nd
(b) 1.85 and 7.07% ionization
(c) 4.85
(d) 6.15 mL and pH = 3.00
(e) 22.14 mL and pH = 7.30
(f) pH = 9.83
(g) Not suitable because we would like the pK_{Ind} to be near one of the two equivalence points pHs.
9. 0.114 V
10. (a) 858 seconds
(b) Metal X was plated out at the cathode and it was attached to the negative terminal of the DC power supply.
11. (a) iv
(b) iv
(c) iii
(d) i
12. (a) ii
(b) v
13. A
14. C
15. A
16. C
17. C
18. D
19. B
20. D
21. (a) ii
(b) iv
22. B
23. (a) B
(b) A
(c) C
(d) D
24. B
25. A