

1. F, F, T, F, F, T, F, F, F, T
2. 8.2×10^{-4}
3. 1.9%
4. $\text{NH}_3/\text{NH}_4^+$, $\text{HCO}_3^-/\text{CO}_3^{2-}$
5. 0.01 M HNO_3
6. 6.66
7.18
7. $\text{Ag}_2\text{C}_2\text{O}_4 + \text{H}_2\text{O} \rightleftharpoons 2\text{Ag}^+ + \text{HC}_2\text{O}_4^- + \text{OH}^-$
8. $\text{SO}_3^{2-} + \text{H}_2\text{O} \rightleftharpoons \text{HSO}_3^- + \text{OH}^-$
$$K_b = \frac{[\text{HSO}_3^-][\text{OH}^-]}{[\text{SO}_3^{2-}]}$$
9. A
A
B
N
10. 12.50
11. 1.8×10^{-5}
12. H_5O_2^+
HCl or HBr or HI
 HIO_3
linear