Exercise 7.82 – Titration curves

Q782-01 Separate 20.0 cm^3 solutions of a weak acid and a strong acid of the same concentration are titrated with NaOH solution. Which will be the same for these two titrations?

I. Initial pH
II. pH at equivalence point
III. Volume of NaOH required to reach the equivalence point

A. I only
B. III only
C. I and II only
D. II and III only

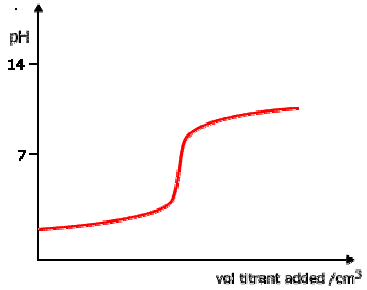
Q782-02 What volume of 0.284 M NaOH is needed to titrate 100.00 cm^3 of 0.124 M HCl to the equivalence point?

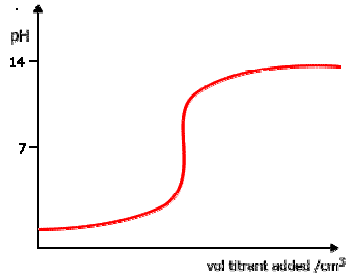
A. 35.2 cm^3
B. 40.8 cm^3
C. 43.7 cm^3
D. 229 cm^3

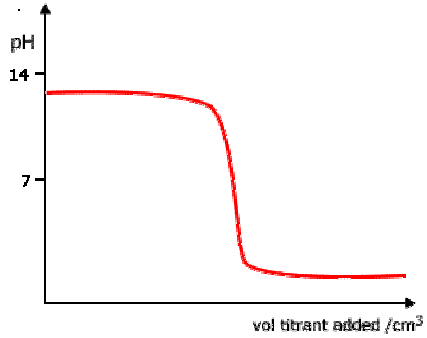
Q782-03 What is the pH at the equivalence point in a titration of 0.020 M NH_3(aq) with 0.020 M HBr(aq)? For ammonia, Kb = 1.8 x 10^{-5}.

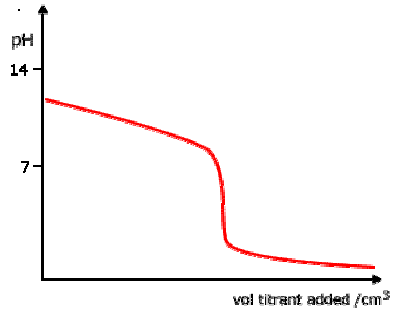
A. 5.5
B. 5.6
C. 7.0
D. 8.5

Q782-04 Which curve is produced by the titration of a 0.1 mol dm-3 weak base with 0.1 mol dm-3 strong acid?









Exercise 7.82 – Titration curves

Q782-05 Which graph shows how the pH changes when a weak base is added to a strong acid?