

8949 version 3
Characterise the composition of acid and base solutions
Level: 3 Credit: 4

Determine the chemical species present in acid and base solutions, and characterise acid-base titration curves.

- Determine the chemical species present in acid and base solutions. Experimental evidence is used to qualitatively determine the relative concentration of species present in aqueous solutions of
 - acids
 - alkalis
 - saltsExperimental evidence includes but is not limited to - conductivity, pH, solubility

- K_a or pK_a values are used to calculate the pH of
 - weak acid solutions
 - weak alkaline solutions

- pH values are used to calculate the K_a or pK_a of
 - weak acid solutions
 - weak alkaline solutions

- Characterise acid-base titration curves.
 - strong-acid/strong base titration curves
 - strong-acid/weak base titration curves
 - weak-acid/strong base titration curves
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- The pH of key points of acid-base titration curves are qualitatively predicted.
 - initial pH
 - equivalence point
 - buffer region

- Indicators which will change colour at the equivalence point are selected for a given acid-base titration.