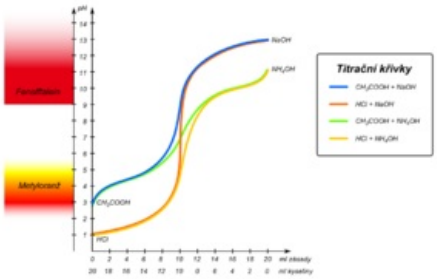
Titration curve



During acid-base (neutralization) titrations in aqueous solutions, during the titration of acids with bases or vice versa, the concentration of hydrogen ions in the titrated solution changes according to the nature of the ongoing equilibrium reactions of the titrated substances and titration reagents. pH can be calculated from their dissociation constants and the ionic product of water, or we can measure with a pH-meter throughout the titration (instructions (https://el.lf1.cuni.cz/p18412439/)). By graphically representing the dependence of pH changes on the amount of added titrant, we get a **titration curve**. E.g. if we titrate a solution of a strong acid with a strong base or vice versa, its salt is formed gradually until the moment when the titrated solution contains a neutral salt at the equivalence point, the pH will be 7. In the case of titration of a weak acid with a strong base due to the hydrolysis of the salt, the pH will be **of the equivalence point** shifted towards a higher pH value, in the case of titration of a weak base with a strong acid, analogously to lower pH values. It is clear from the dependences that the greatest change in pH occurs at the equivalence point, which is already used in the aforementioned indication of the equivalence point of acid-base chemical reactions during titrations. E.g. the measured dependences also show the difference between the **titration and actual (actual) acidity** of a weak acid, the titration acidities are approximately the same for a strong and weak acid, if they are of the same density and of the same concentration, while the actual acidity differs. Furthermore, we can subtract the pK of weak acids and bases from these dependencies.