

## Answer on Question # 60290 - Chemistry - General Chemistry

In titrating the acid with the base, someone in your group accidentally titrates too far the color is too pink. Explain how this would impact the calculated concentration for the acid.

### Solution

The acid-base titration against phenolphthalein indicator gives color change (colorless in acidic and neutral solution => vibrant pink in alkaline solution). The pink color is the evidence that the equivalence point is reached. The concentration of the acid can be calculated using the equivalent volume of the base:

$$c(\text{acid})V(\text{acid})=c(\text{base})V(\text{base});$$

$$c(\text{acid}) = c(\text{base})V(\text{base})/V(\text{acid}).$$

If the color is too pink, it means that the excessive amount of a base was added and the solution is over-titrated. In this case, the calculated concentration for the acid is

$$c(\text{acid}) = c(\text{base})[V(\text{base})+V(\text{excessive})]/V(\text{acid});$$

as a result, the calculated acid concentration will be greater than the actual value.