

Marks
6

- Butyric acid, $\text{CH}_3\text{CH}_2\text{CH}_2\text{COOH}$, is found in rancid butter and parmesan cheese. The $\text{p}K_{\text{a}}$ of butyric acid is 4.83.

(a) What is the pH of a 0.10 M water solution of butyric acid?

Answer:

(b) Calculate the pH of the solution formed when 0.050 mol of NaOH(s) is added to 1.0 L of 0.10 M butyric acid.

Answer:

(c) Using equations, comment on how the final solution in (b) will respond to additions of small amounts of acid or base in comparison to 1 L of water.