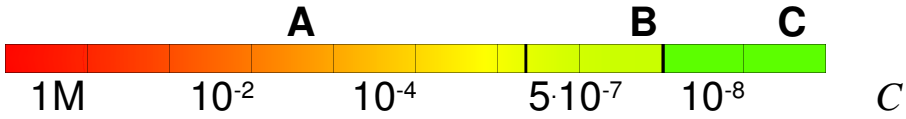
pH cheat sheet – monoprotic acid

Locate solution on the plot and select correct equation:

Strong acid

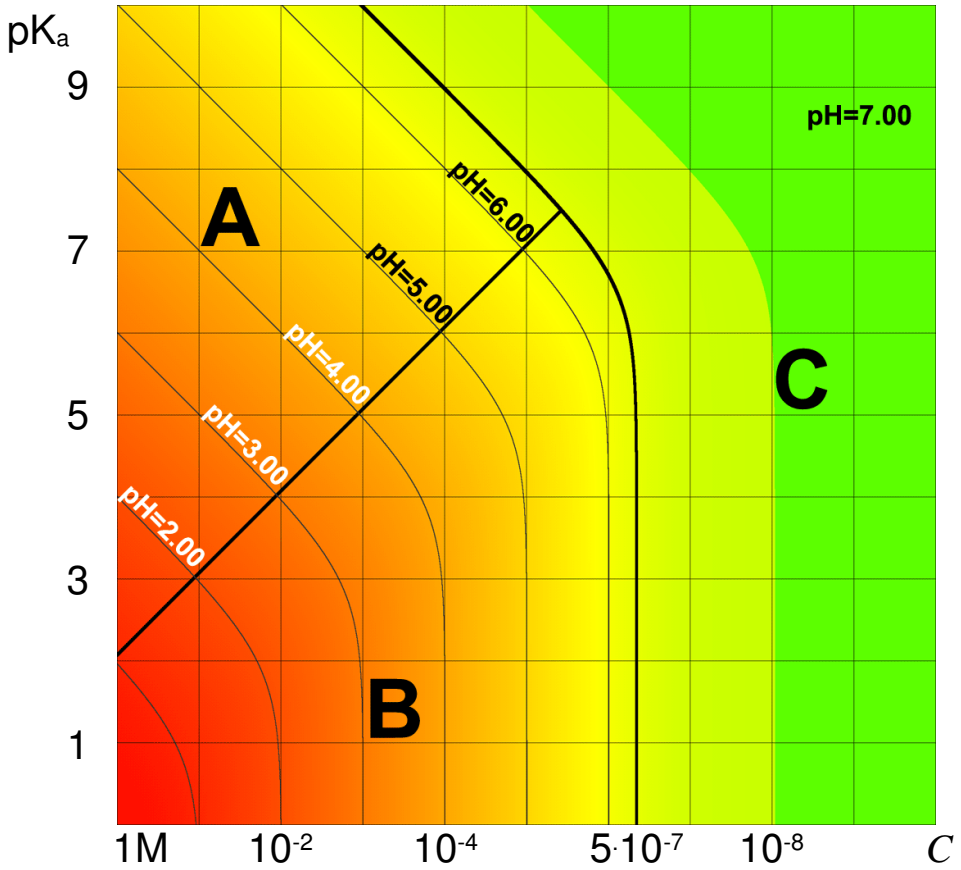


A $pH = -\log(C)$

B $pH = -\log\left(\frac{C + \sqrt{C^2 + 4K_w}}{2}\right)$

C $pH = 7.0$

Weak acid



A $pH = -\log(\sqrt{C\,K_a})$

B $pH = -\log\left(\frac{-K_a + \sqrt{K_a^2 + 4K_a C}}{2}\right)$

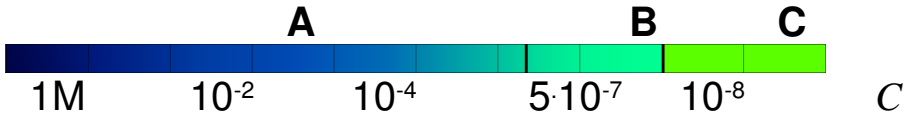
C If pH≠7.00, use BATE pH calculator.

BATE pH calculator – multiprotic acids, bases & mixtures, ion speciation, titration curves.

pH cheat sheet – monoprotic base

Locate solution on the plot and select correct equation:

Strong base

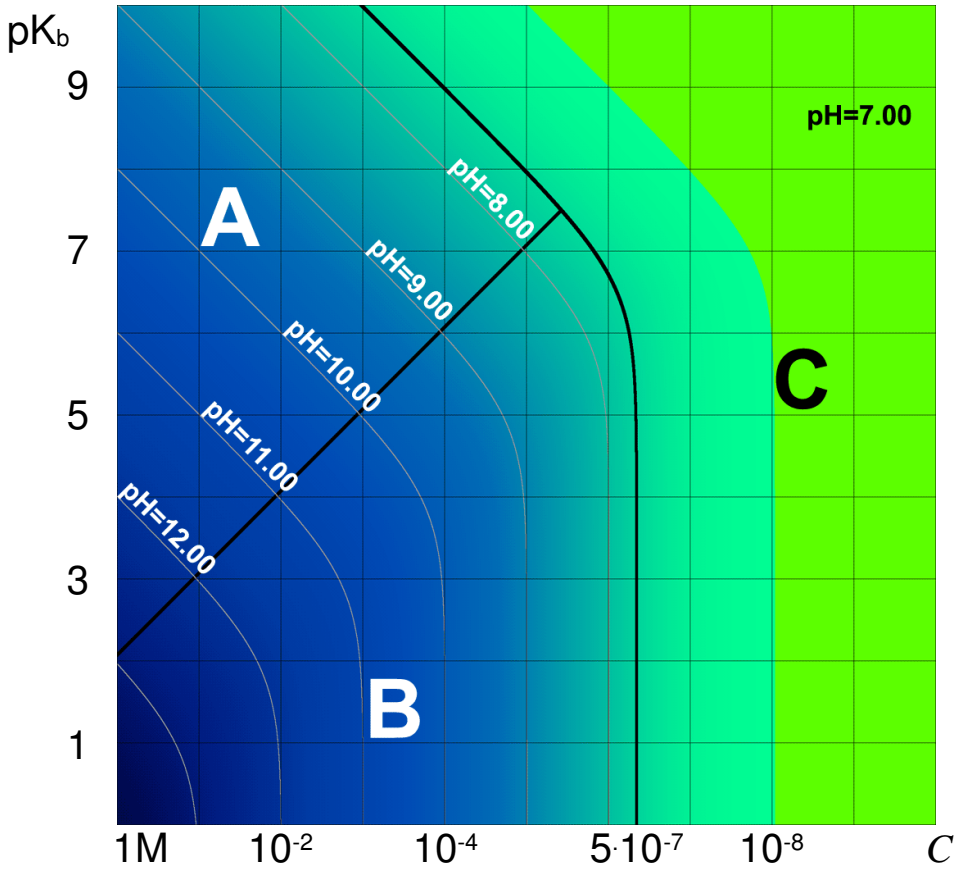


A $pH = 14 - \log(C)$

B $pH = 14 - \log\left(\frac{C + \sqrt{C^2 + 4K_w}}{2}\right)$

C $pH = 7.0$

Weak base



A $pH = 14 - \log\left(\sqrt{C\,K_b}\right)$

B $pH = 14 - \log\left(\frac{-K_b + \sqrt{K_b^2 + 4K_b C}}{2}\right)$

C If pH≠7.00, use BATE pH calculator.

BATE pH calculator – multiprotic acids, bases & mixtures, ion speciation, titration curves.