

IB Chemistry FRQ #10 - Weak base and strong acid titration

50.0 mL of 0.100 M weak base solution of methylamine ($K_b = 4.4 \times 10^{-4}$) is prepared. To this solution 0.100 M HCl (strong acid) is added in the presence of methyl orange.

Determine the pH of the solution at each of the following points:

a. When no strong acid has been added.

b. When 20.0 mL of HCl has been added

c. When 25.0 mL of HCl has been added

d. When 40.0 mL of HCl has been added

e. When 50.0 mL of HCl has been added

f. When 51.0 mL of HCl has been added