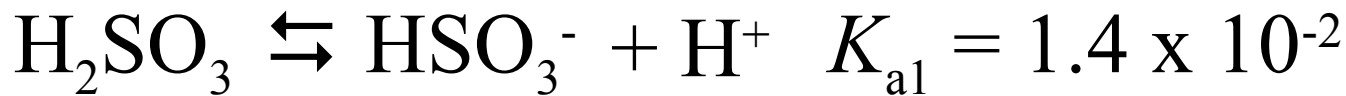
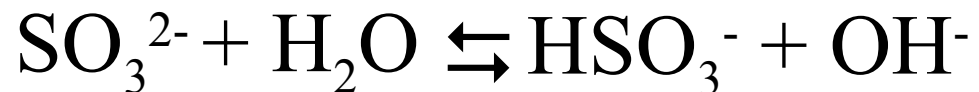


Polyprotic Acid



2 equivalents of base



0.10 M H_2SO_3

0.1 M NaOH

40 mL

80 mL

Final pH $K_{b2} = 1 \times 10^{-14} / 6.5 \times 10^{-8} = 1.54 \times 10^{-7}$

$$1.54 \times 10^{-7} = \frac{[\text{HSO}_3^-][\text{OH}^-]}{[\text{SO}_3^{2-}]} = \frac{x^2}{0.033 - x} \quad x = 7.16 \times 10^{-5}$$

pH = 9.86