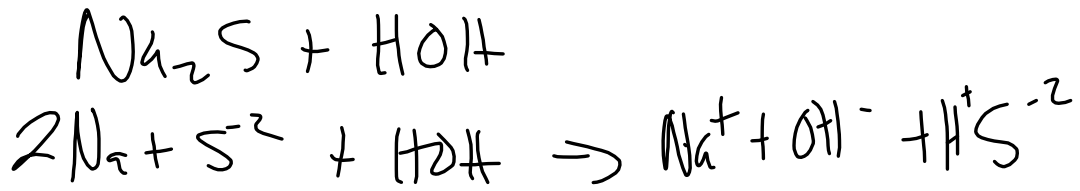


0.035M Na_2S



Mar 1-9:54 AM

$\text{Na}_2\text{CO}_3 + 2\text{H}_2\text{O} \rightarrow 2\text{NaOH} + \text{H}_2\text{CO}_3$

$2\text{Na}^+ + \text{CO}_3^{2-} + 2\text{H}_2\text{O} \rightleftharpoons 2\text{Na}^+ + 2\text{OH}^- + \text{H}_2\text{CO}_3$

$K_b \text{ CO}_3^{2-} + 2\text{H}_2\text{O} \rightleftharpoons 2\text{OH}^- + \text{H}_2\text{CO}_3$

| | | | | |
|---|--------|--|----|----|
| I | 0.08 | | 0 | 0 |
| D | -x | | +x | +x |
| E | 0.08-x | | 2x | x |

$K_b = 4.15 = \frac{4x^3}{0.08-x} = \frac{(2x)^2(x)}{0.08-x}$

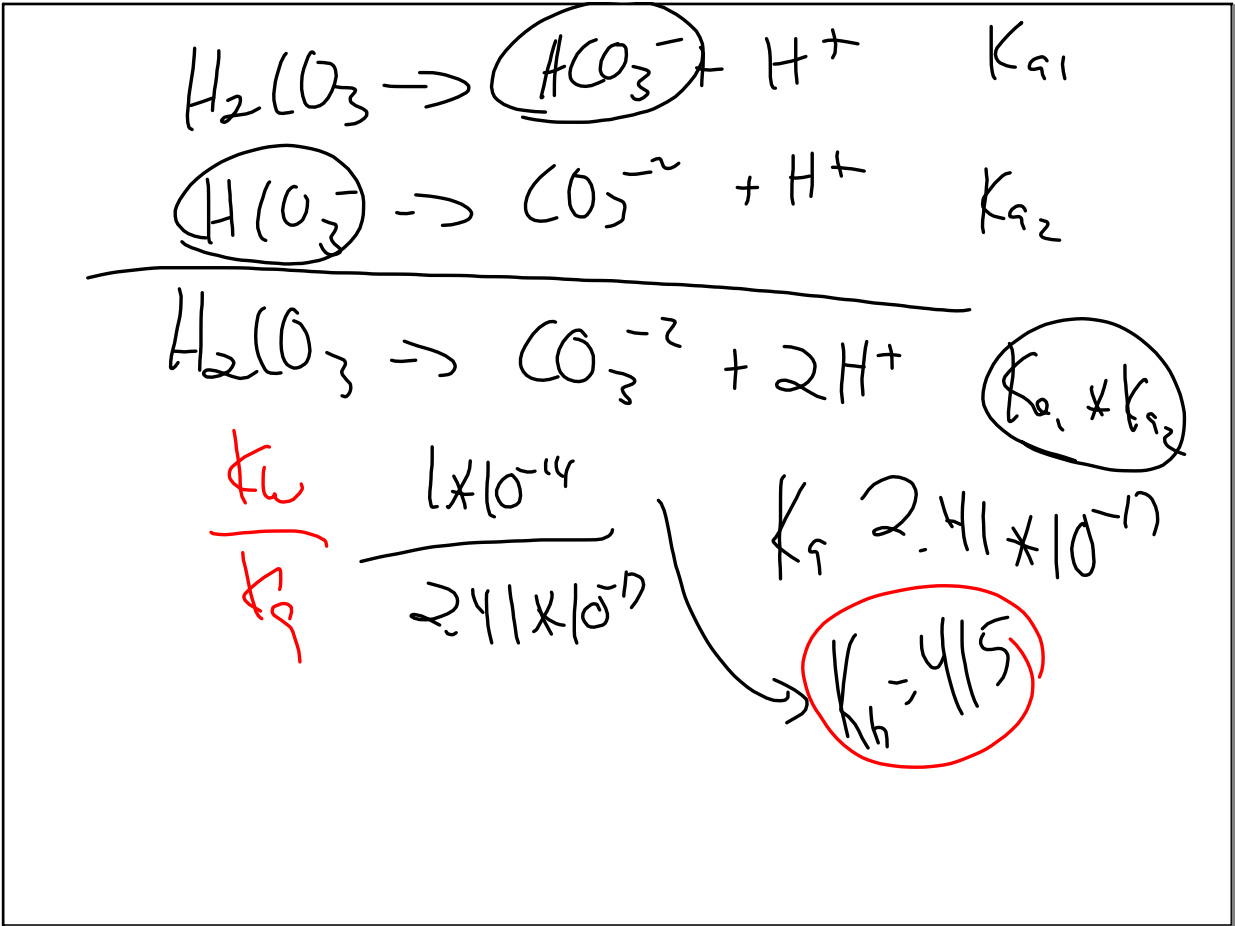
$x = 2.02$

$2x = 4.04 = [\text{OH}^-]$

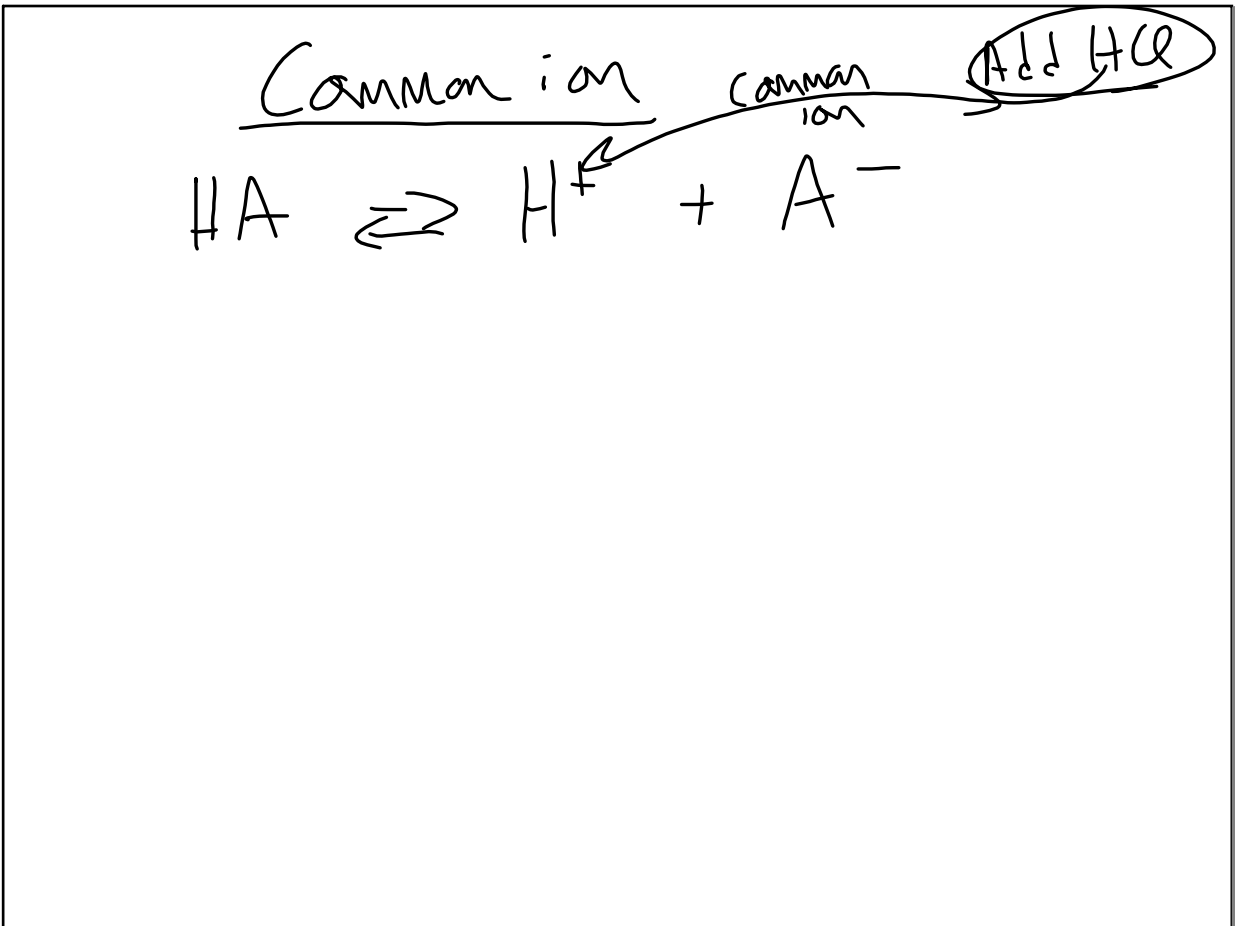
$\text{pOH} = -\log(4.04) = -0.6$

$\text{pH} = 14.6$

Mar 1-10:07 AM



Mar 1-10:11 AM



Mar 1-10:18 AM

$\text{H}_2\text{Ac} \rightarrow \text{H}^+ + \text{Ac}^-$

| | | | | |
|--------------------------------|---------------|--------------|-----|---------------|
| I H_2Ac | \rightarrow | H^+ | $+$ | Ac^- |
| 0.3M | | x | | $+0.1$ |
| Δ | $-x$ | $+x$ | | $+x$ |
| E | $0.3-x$ | x | | $0.1+x$ |

$K_a = \frac{x(0.1+x)}{(0.3-x)} = 1.8 \times 10^{-5}$

Add 0.1M NaOAc
 \swarrow \searrow
 Na^+ Ac^-
 0.1 0.1

Mar 1-10:19 AM

$17/16 \text{ atc}$

Mar 1-10:21 AM