

17.42

30ml 0.15M KOH \rightarrow SB

0.125M HClO₄ \rightarrow SA

ⓑ 35ml HClO₄

① Neut meter

I 4.38×10^{-3}	4.5×10^{-3}	}
D -4.38×10^{-3}	4.38×10^{-3}	
E	1.2×10^{-4}	
		0.060 l

$0.00185M(OH)$ $pOH = 2.73$ $pH = 11.27$

② Recalc

ⓐ salt!

Mar 8-8:05 AM

30ml 0.15M KOH + 36ml 0.125M HClO₄

4.5×10^{-3} moles

4.5×10^{-3} moles.

Mar 8-8:18 AM

35 ml 0.15M H_2Ac ^{WA}
 34.5 ml 0.15M NaOH ^{SB} NO Buffer ① Mols + sub

$\text{H}_2\text{Ac} + \text{NaOH} \rightarrow \text{NaOAc} + \text{HOH}$

I	5.25×10^{-3}	5.175×10^{-3}	\times	\times
Δ	-5.175×10^{-3}	-5.175×10^{-3}	$+5.175 \times 10^{-3}$	\times
E	7.5×10^{-5} <small>Mols</small>	\times	5.175×10^{-3} <small>Mols</small>	\times

0.0695 l
 $1.08 \times 10^{-3} \text{ M } \text{H}_2\text{Ac}$
 $7.45 \times 10^{-2} \text{ M } \text{OAc}^-$
 ② Recalc M

$\text{pH} = -\log(1.8 \times 10^{-5}) + \log \frac{7.45 \times 10^{-2}}{1.08 \times 10^{-3}}$
 $\text{pH} = 6.58$

Mar 8-8:21 AM

35 ml 0.15M H_2Ac ^{WA}
 35 ml 0.15M NaOH ^{SB} $K_a \times K_b = K_w = 1 \times 10^{-14}$

$\text{H}_2\text{Ac} + \text{NaOH} \rightarrow \text{NaOAc} + \text{HOH}$

I	5.25×10^{-3} <small>mols</small>	5.25×10^{-3}	\times	\times
Δ	-5.25×10^{-3}	-5.25×10^{-3}	$+5.25 \times 10^{-3}$	\times
E	\times	\times	5.25×10^{-3} <small>mols</small>	\times

0.07 l
0.075M OAc^-
 ② Recalc M
pH = ?

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

I	0.075M	\times	\times
Δ	-x	+x	+x
E	0.075-x	x	x

$K_a = 1.8 \times 10^{-5}$
 $K_b = 5.56 \times 10^{-10}$

$K_b = \frac{(x)(x)}{0.075} = 5.56 \times 10^{-10}$
 $x = 6.46 \times 10^{-6} \text{ (OH}^-)$

$\text{pOH} = 5.19$
pH = 8.81

Mar 8-8:32 AM

$$\frac{K_{sp} \quad (Q_{sp})}{\text{At EQ} \quad \text{Before or After EQ}}$$

Solubility Product
constant

P1116 TABLE of K_{sp}

Mar 8-8:40 AM

$$\frac{1}{x} \text{BaCO}_3(s) \rightarrow \frac{1}{x} \text{Ba}^{+2}(aq) + \frac{1}{x} \text{CO}_3^{-2}(aq) \quad K_{sp} = 5 \times 10^{-9}$$

$$K = \frac{(\text{Ba}^{+2})(\text{CO}_3^{-2})}{1}$$

$$5 \times 10^{-9} = (x)(x)$$

$$x = 7.07 \times 10^{-5} \text{ M}$$

$\left\{ \begin{array}{l} \text{Ba}^{+2} \\ \text{CO}_3^{-2} \end{array} \right\}$

Mar 8-8:43 AM

PS 17-1

1-22

Skip #17

Mar 8-8:47 AM