

Calculate the pH of a buffer 1.0 M CHOOH **HA**

$$K_a = 1.8 \times 10^{-4}$$

1.0 M KCHOO **A<sup>-</sup>**

$$\text{pH} = \text{p}K_a + \log \frac{[\text{A}^-]}{[\text{HA}]} = 3.74 + \log \frac{(0.9)}{(1.1)} = 3.65$$

What is the pH after addition 0.1 mole of HCl to 1.0 L

$\text{HCl} \rightarrow \text{H}^+ + \text{Cl}^-$      $\text{H}^+$  **acid** reacts with  $\text{CHOO}^-$  **base**



	[CHOOH]	[CHOO <sup>-</sup> ]	[H <sup>+</sup> ]	
I	1.1	0.9	0.0	in H <sub>2</sub> O
C	-x	+x	+x	pH = 1
E	1.1 - x	0.9 + x	x	