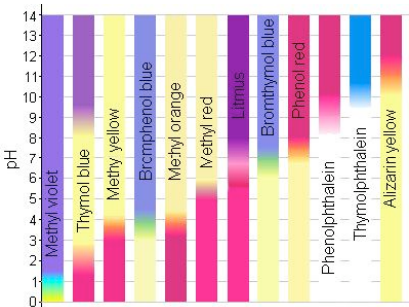


**Chemistry 116
General Chemistry**

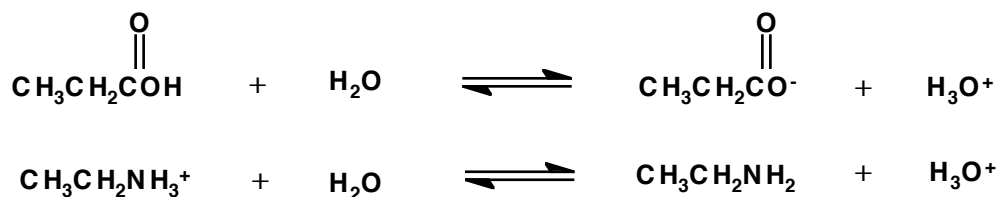


**Acids and Bases
Practice Problems
Answers**

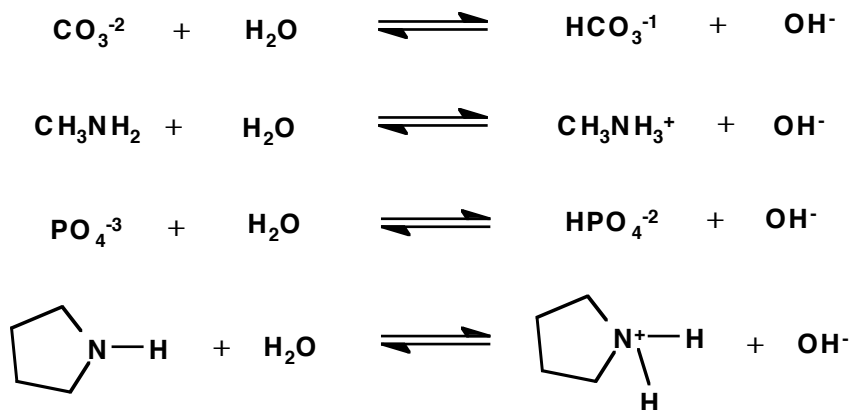
- 1) A DNR limnologist measured the pH of several bodies of water. Report the $[H_3O^+]$ and the pOH for these readings:

pH	$[H_3O^+]$	pOH
6.5	3.16×10^{-7}	7.5
7.05	8.91×10^{-8}	6.95
5.8	1.58×10^{-6}	8.2
8.14	7.24×10^{-9}	5.86

- 2) Calculate the $[H_3O^+]$ and the pH for each of the following solutions.
 a) 0.100 M; pH 1.0 b) 1.00×10^{-4} M; pH 4.0 c) 2.5×10^{-5} M; pH 4.6
- 3) Calculate the $[OH^-]$, $[H_3O^+]$ and pH for each of the following solutions.
 a) 0.00500 M; 2.0×10^{-12} M; pH 11.7 b) 2.00×10^{-3} M; 5.0×10^{-12} M; pH 11.3
 c) 6.67×10^{-4} M; 1.50×10^{-11} M; pH 10.8
- 4) Write down the balanced structural chemical equation for the K_a reactions of the weak acid and salt shown.



- 5) Write down the balanced structural chemical equation for the K_b reactions of the weak bases and salts shown.



- 6) Both in 4 are K_a , so $\text{pH} < 7$. All in 5 are K_b , so $\text{pH} > 7$.