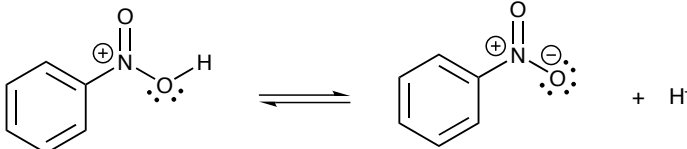
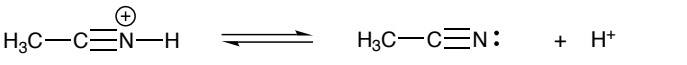
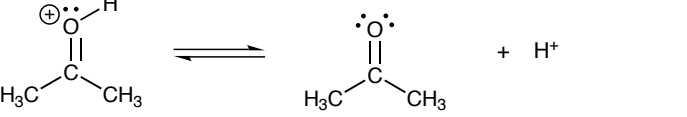
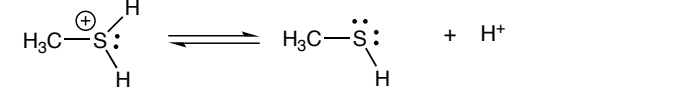
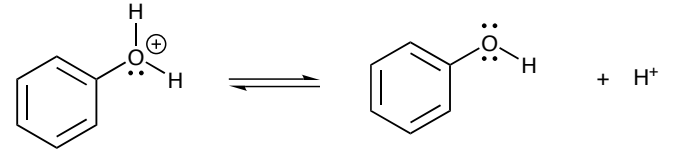
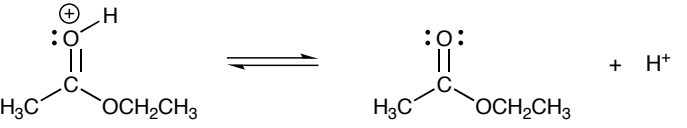
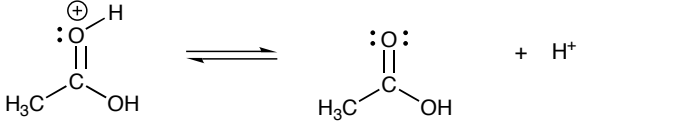
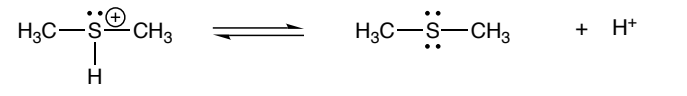
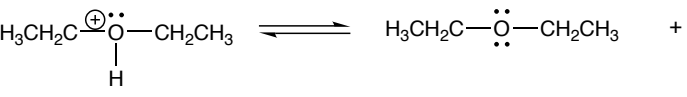
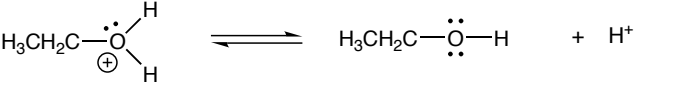
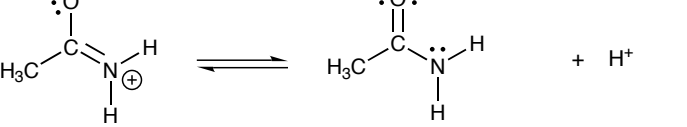
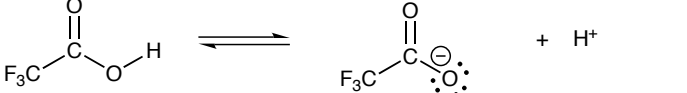
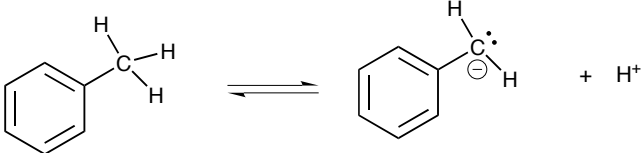
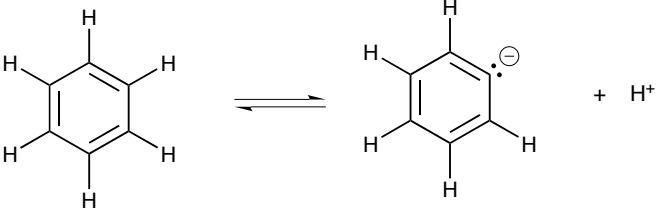


		<u>pKa</u>
nitro		-11.3
nitrile		-10.1
ketone		-7.2
thiol		-6.8
phenol		-6.7
ester		-6.5
carboxylic acid		-6.1
sulfide		-5.4
ether		-3.6
alcohol		-2.4
amide		0
carboxylic acid		0.2

		<u>pKa</u>
phosphoric acid	$\text{HO}-\overset{\text{O}}{\parallel}{\text{P}}-\text{OH} \rightleftharpoons \overset{\ominus}{\text{O}}:\ddot{\text{O}}-\overset{\text{O}}{\parallel}{\text{P}}-\text{OH} + \text{H}^+$	2.1
aniline	$\text{C}_6\text{H}_5-\overset{\oplus}{\text{N}}\text{H}_3 \rightleftharpoons \text{C}_6\text{H}_5-\ddot{\text{N}}\text{H}_2 + \text{H}^+$	4.6
carboxylic acid	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH} \rightleftharpoons \text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\overset{\ominus}{\text{O}}:\ddot{\text{O}} + \text{H}^+$	4.7
pyridine	$\text{C}_5\text{H}_5\text{N}^{\oplus}\text{H} \rightleftharpoons \text{C}_5\text{H}_5\ddot{\text{N}} + \text{H}^+$	5.3
imidazole	$\text{C}_4\text{H}_5\text{N}_2^{\oplus}\text{H} \rightleftharpoons \text{C}_4\text{H}_5\text{N}_2\ddot{\text{N}} + \text{H}^+$	7.0
phosphoric acid	$\overset{\ominus}{\text{O}}:\ddot{\text{O}}-\overset{\text{O}}{\parallel}{\text{P}}-\text{OH} \rightleftharpoons \overset{\ominus}{\text{O}}:\ddot{\text{O}}-\overset{\text{O}}{\parallel}{\text{P}}-\overset{\ominus}{\text{O}} + \text{H}^+$	7.2
β -keto thioester	$\text{H}_3\text{CH}_2\text{C}-\overset{\text{O}}{\parallel}{\text{S}}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2-\text{CH}_3 \rightleftharpoons \text{H}_3\text{CH}_2\text{C}-\overset{\text{O}}{\parallel}{\text{S}}-\overset{\text{O}}{\parallel}{\text{C}}-\overset{\ominus}{\text{C}}\text{H}-\text{CH}_3 + \text{H}^+$	8.5
1,3-diketone	$\text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3 \rightleftharpoons \text{H}_3\text{C}-\overset{\text{O}}{\parallel}{\text{C}}-\overset{\ominus}{\text{C}}\text{H}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3 + \text{H}^+$	9
amine	$\text{H}_3\text{C}-\overset{\oplus}{\text{N}}(\text{CH}_3)_2-\text{H} \rightleftharpoons \text{H}_3\text{C}-\ddot{\text{N}}(\text{CH}_3)_2 + \text{H}^+$	9.8

phenol		pKa 10.0
thiol		10.6
b-keto ester		11
iminium ion		11
phosphoric acid		12.4
guanidine		13.2
imidazole		14.4
amide		15.0
alcohol		15.9

		<u>pKa</u>
ketone	$\begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{CH}_3 \\ \\ \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H}-\overset{\ominus}{\text{C}}-\text{C}-\text{CH}_3 \\ \\ \text{H} \end{array} + \text{H}^+$	20
ester	$\begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H}-\text{C}-\text{C}-\text{OCH}_2\text{CH}_3 \\ \\ \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{H} \quad \text{O} \\ \quad \\ \text{H}-\overset{\ominus}{\text{C}}-\text{C}-\text{OCH}_2\text{CH}_3 \\ \\ \text{H} \end{array} + \text{H}^+$	24.5
acetylene	$\text{H}-\text{C}\equiv\text{C}-\text{H} \rightleftharpoons \text{H}-\text{C}\equiv\overset{\ominus}{\text{C}}: + \text{H}^+$	25
nitrile	$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{C}\equiv\text{N} \\ \\ \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{H} \\ \\ \text{H}-\overset{\ominus}{\text{C}}-\text{C}\equiv\text{N} \\ \\ \text{H} \end{array} + \text{H}^+$	25
amine	$\begin{array}{c} \text{H} \\ \cdot \\ \text{H}_3\text{C}-\text{N} \\ \cdot \\ \text{H} \end{array} \rightleftharpoons \text{H}_3\text{C}-\overset{\ominus}{\text{N}}-\text{H} + \text{H}^+$	35
toluene		41
benzene		43
ethylene	$\begin{array}{c} \text{H} \quad \text{H} \\ \backslash \quad / \\ \text{C}=\text{C} \\ / \quad \backslash \\ \text{H} \quad \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{H} \quad \text{H} \\ \backslash \quad / \\ \text{C}=\overset{\ominus}{\text{C}} \\ / \quad \backslash \\ \text{H} \quad \text{H} \end{array} + \text{H}^+$	44
ethane	$\begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C}-\text{C}-\text{H} \\ \\ \text{H} \end{array} \rightleftharpoons \begin{array}{c} \text{H} \\ \\ \text{H}_3\text{C}-\overset{\ominus}{\text{C}}-\text{H} \\ \\ \text{H} \end{array} + \text{H}^+$	50