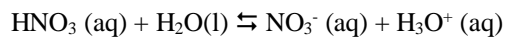


ANSWERS TO "TRY YOURSELF" PROBLEMS FROM STUDY SECTION 8.2

Try Yourself 8.2 a

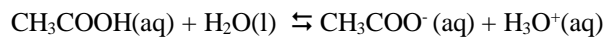


$\text{HNO}_3(\text{aq})$ = Acid

$\text{H}_2\text{O}(\text{l})$ = Base

$\text{NO}_3^-(\text{aq})$ = Conjugate base

$\text{H}_3\text{O}^+(\text{aq})$ = Conjugate acid



$\text{CH}_3\text{COOH}(\text{aq})$ = Acid

$\text{H}_2\text{O}(\text{l})$ = Base

$\text{CH}_3\text{COO}^-(\text{aq})$ = Conjugate base

$\text{H}_3\text{O}^+(\text{aq})$ = Conjugate acid.

Try Yourself 8.2 b

What is the conjugate base of the HCO_3^- ion?

- (1) H_3CO_3^+ (2) HCO_3^- (3) CO_3^{2-}

Which of the following is NOT an acid-base conjugate pair?

- (1) HClO and Cl^- (2) HNO_2 and NO_2^-
 (3) HF and F^- (4) H_2CO_3 and HCO_3^-

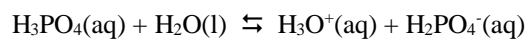
Try Yourself 8.2 c

Complete this table by identifying the correct conjugate acid or conjugate base.

| Acid | Conjugate base | Base | Conjugate acid |
|----------------------|-----------------|--------------------|-------------------------|
| HCOOH | HCOO^- | CN^- | HCN |
| H_2S | HS^- | SO_4^{2-} | HSO_4^- |
| HClO | ClO^- | HSO_3^- | H_2SO_3 |

Try Yourself 8.2 d

Write a balanced equation for the reaction that occurs when H_3PO_4 , phosphoric acid, donates a proton to water to form the dihydrogen phosphate ion. Is the dihydrogen phosphate ion an acid, a base or amphiprotic?



H_2PO_4^- can either donate or accept a proton, therefore, it is amphiprotic.