

Chemistry Lecture #49: Dissociation of Ionic Compounds

How do ionic compounds break apart when they dissolve in water?

For example, predict the ions that are formed when solid K_3PO_4 is dissolved into water, and write the balanced equation showing the dissociation of K_3PO_4 into ions.

We'll follow the following two guidelines in writing dissociation equations:

1. Write the ions and their charges. If possible, find the charge from the periodic chart or the solubility chart. The formulas for common polyatomic ions and their charges should be memorized.
2. If there is a subscript below the atom, put it in front of the ion. Do not move the subscript if the atom is part of a polyatomic ion. For polyatomic ions, move the subscript outside the parentheses of the ion.

K_3PO_4 dissociates as follows:



Show how the following compounds break apart when placed in water.



Answer:



Note: it is not always necessary to write "H₂O" above the arrow.



Answer:



Answer:

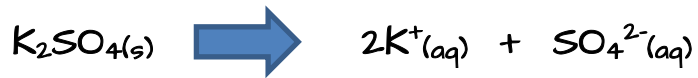


Answer:

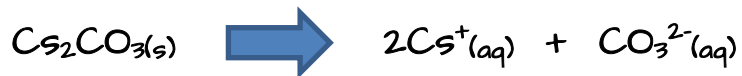




Answer:



Answer:



Answer:



Answer:



Tricky ones-

9. $\text{CuSO}_4(\text{s})$

Answer:



10. $\text{CrBr}_2(\text{s})$

Answer:



11. $\text{Fe}(\text{C}_2\text{H}_3\text{O}_2)_2(\text{s})$

Answer:



12. $\text{Ti}_2(\text{SO}_4)_3(\text{s})$

Answer:

