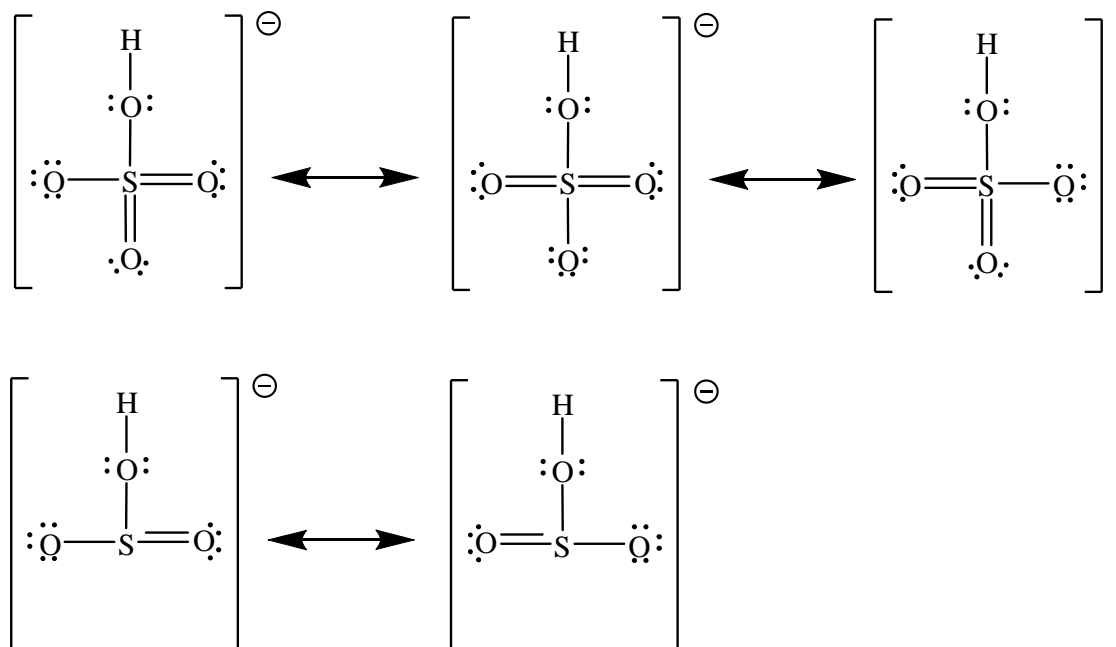


- Explain why H_2SO_4 is a stronger acid than H_2SO_3 .

The acidity of oxo-acids increases as the number of oxygen atoms increases.

This is best understood in terms of the relative stability of the negative charge on the conjugate base, HSO_4^- and HSO_3^- :



The negative charge in HSO_4^- is delocalized over 3 oxygen atoms whereas that in HSO_3^- is delocalized over only 2 oxygen atoms. The greater stability of the HSO_4^- anion leads to the higher acidity of the conjugate acid, H_2SO_4 .