

12. Periodicity

- Note that SO_2 is polar, while SO_3 is non-polar, however, note that SO_2 still has a lower melting point. I suppose that in this case, the effects of an increased id-id interaction that SO_3 experiences outweighs the effect of the pd-pd interactions between SO_2 molecules, thus the melting point of SO_3 is still higher.

Questions

1. Question on hydrolysis when group II and III chlorides dissolve in water.

Ans: The small highly polarising cation weakens the O-H bond of the water molecules in its surrounding sphere of coordination and results in the release of hydroxonium ions in the solution. However since Mg^{2+} has a lower charge density than Al^{3+} , it undergoes hydrolysis to a lower extent thus... has a pH of about 6.5 compared to...which has a pH of about 3.