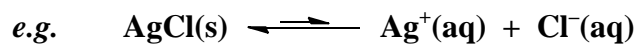


- During lectures a demonstration was performed called the “One pot experiment”. In this experiment, silver ions reacted with an alternating series of anions and ligands to form insoluble precipitates and soluble complexes. Explain how an insoluble precipitate can possibly be “dissolved” by the addition of ligands to the solution.

The insoluble precipitate is actually in equilibrium with its ions, but the equilibrium lies heavily to the left.



When a ligand is added, the $\text{Ag}^{\text{+}}(\text{aq})$ ions form a complex and are removed from the above equilibrium.



Due to Le Chatelier’s principle, more AgCl(s) must dissolve to try and re-establish the equilibrium and eventually all the “insoluble“ precipitate will dissolve.