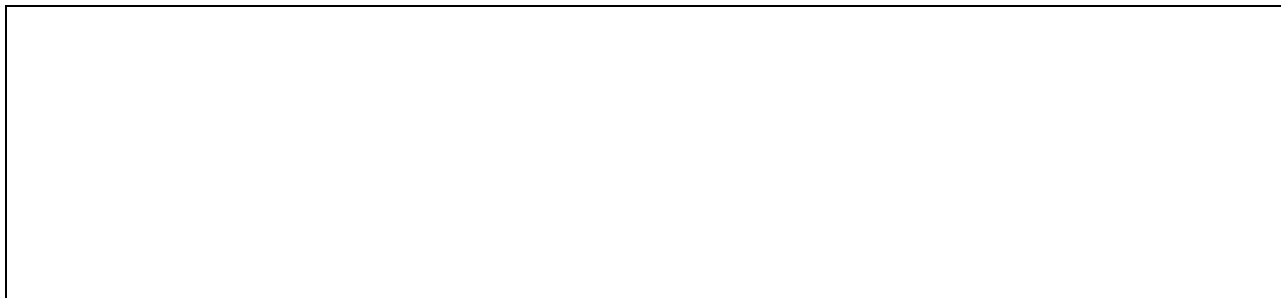
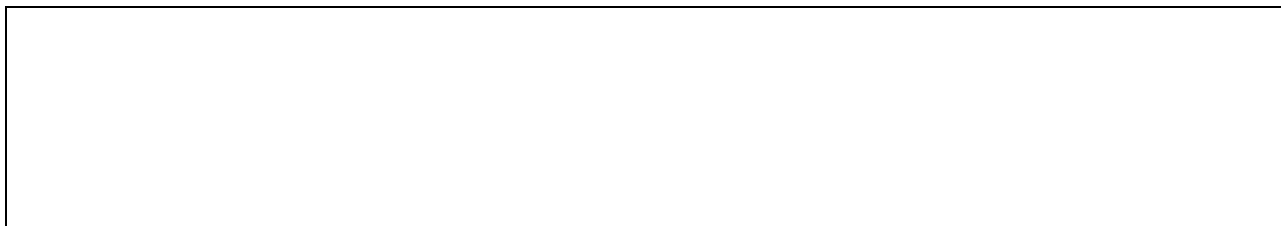


- Dissolution of iron(II) chloride in water leads to formation of $\text{Fe}^{2+}(\text{aq})$ and $\text{Cl}^{-}(\text{aq})$ ions. Draw a picture of the complex ion present, clearly showing the stereochemistry and which atoms are bonded to the Fe(II) ion.



This complex is paramagnetic. Using the box notation to represent atomic orbitals, account for this property.



Solutions containing the $\text{Fe}^{2+}(\text{aq})$ ion are acidic. Account for this property and write the chemical equation for the reaction that leads to this acidity.

