

A transient red colour: the aqueous chemistry between iron(III) ions and sulphur oxoanions

If you bubble sulphur dioxide gas into an aqueous solution of iron(III) ions, a chemical reaction takes place: the iron(III) is reduced to iron(II). During this reaction a transient red colour is observed which is also seen when aqueous solutions of sulphur based salts are added to aqueous iron(III) ions.

- Which of the aqueous solutions provided give the transient red colour with aqueous iron(III) ions? By considering the structure of the sulphur compounds suggest an explanation for the red colour.

Health & Safety

In planning this activity, you should consider health and safety. Treat all unknown solutions as hazardous and check your plans with your teacher before implementing them.

Eye protection must be worn.

Iron(III) chloride (FeCl_3) - Corrosive to skin/eyes, harmful if swallowed, hazardous to the aquatic environment.

Credits

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Health & safety checked May 2018

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