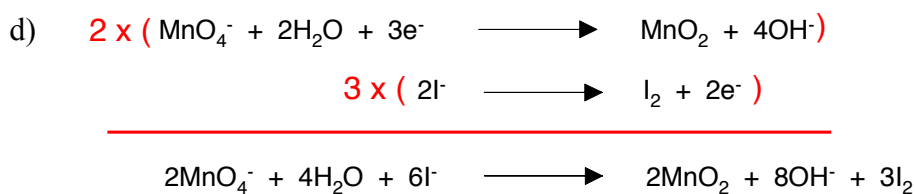
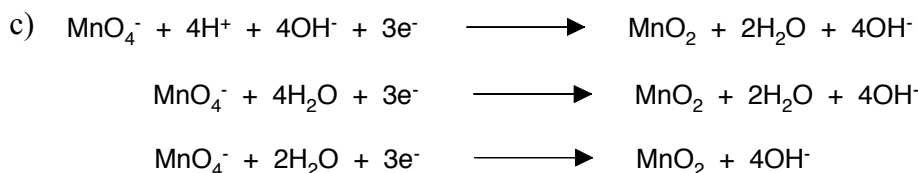
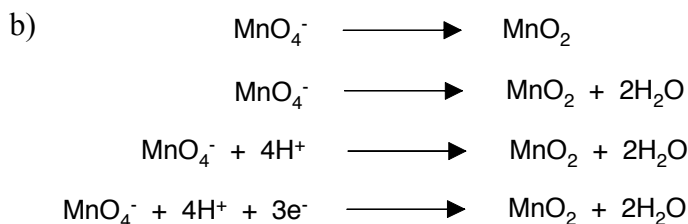
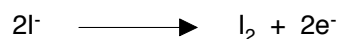


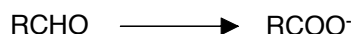
Chemguide – answers

REDOX EQUATIONS under alkaline conditions

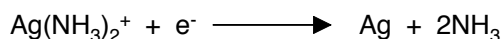
1. a) Don't forget to balance the iodines.



2. You need to work out electron-half-equations for the two parts of the reaction, starting from the facts you know:

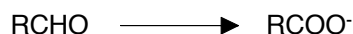


The first equation is simple to sort out.

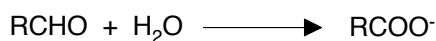


Your thinking for the second equation goes through these stages:

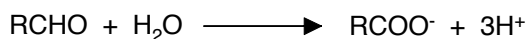
Starting from what you know:



Add water to get the other oxygen you need:



Add hydrogen ions to balance the hydrogens:

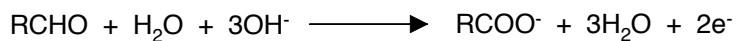


Chemguide – answers

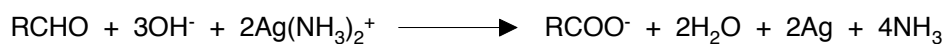
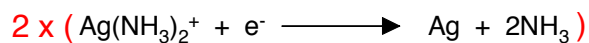
Add electrons to balance the charges:



And now convert it to alkaline conditions by adding enough hydroxide ions to both sides to neutralise the hydrogen ions.



Now you have got this final version of the half-reaction, you can combine it with the silver half-reaction.



If you got this right first time, well done! This is about as hard as it will get at this level.