## Metals and their Compounds Lecture 5.3

Transition metals (23.7 and Ch 24 BLB)

Properties of *Transition metals* 

(i) varying degrees of electropositive character 
$$Cr + 2HCl \rightarrow Cr^{2+} + 2Cl^{-} + H_2 \uparrow$$
  
 $Cu + 2HCl \rightarrow \text{no reaction}$ 

(ii) usually have several oxidation states e.g. for Fe Fe<sup>2+</sup> Fe<sup>3+</sup> Fe $O_4^{2-}$ +2 +3 +6 (ferrate ion)

- (iii) ions are usually *coloured* (fig 23.23 BLB)

  Colours give added value!
- (iv) often involved in redox reactions e.g  $5Fe^{2+} + MnO_4^- + 8H^+ \rightarrow 5Fe^{3+} + Mn^{2+} + 4H_2O$
- (v) form many coordination compounds