

# **REVERSIBLE REACTIONS**

## MARKING SCHEME

1. Solution turns from Orange to yellow (1mk)  
Potassium hydroxide produces OH<sup>-</sup> ions which remove H<sup>+</sup> ions from the solution as water (1/2mk) making equilibrium to shift to the left. (favours backward reaction)  
(1/2mk)
  
2.
  - (i) Equilibrium shift to the right (1mark)
  - (ii) Shift to the right  
(1mark)
  - (iii) Shifts to the left (equivalent to increase in pressure)  
(1mark)
  
3. (a) rates equal [1]  
concentrations do not change / macroscopic properties remain constant [1]  
accept amounts do not change  
(b) endothermic [1]  
cond favoured by high temperatures [1]  
(c) (i) move to left [1]  
cond bigger volume / more moles etc [1]  
do not insist on "gas"  
(ii) less yellow solid / more brown liquid [1]  
accept yellow to brown / less solid more liquid / goes brown