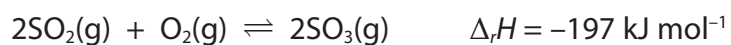


- (b) (i) On the axes provided, sketch the reaction profiles for the uncatalysed and catalysed reaction.



Label the uncatalysed reaction, **A**, and the reaction catalysed by vanadium(V) oxide, **B**.

(3)

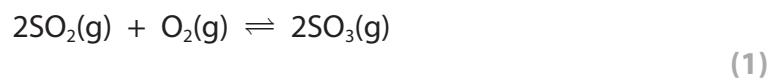


- (ii) On your reaction profile, identify and label both the enthalpy change and the activation energy for the catalysed reaction.

(2)



(c) (i) Write the expression for the equilibrium constant K_c for this reaction.



(ii) What are the units, if any, of the equilibrium constant, K_c ? (1)

- A mol dm^{-3}
- B $\text{dm}^3 \text{mol}^{-1}$
- C no units
- D $\text{mol}^2 \text{dm}^{-6}$

(Total for Question 6 = 13 marks)

