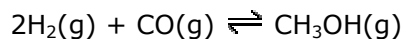


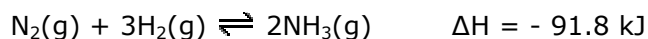
Exercise 6.27 – Industrial processes

Q627-01 Methanol is made in industry by means of the reaction below. The equilibrium expression for this reaction is:



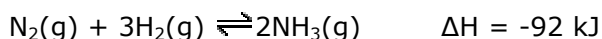
- A. $\frac{[\text{CH}_3\text{OH}]}{2[\text{H}_2][\text{CO}]}$
- B. $\frac{[\text{CH}_3\text{OH}]}{[\text{H}_2]^2[\text{CO}]}$
- C. $\frac{2[\text{H}_2][\text{CO}]}{[\text{CH}_3\text{OH}]}$
- D. $\frac{[\text{H}_2]^2[\text{CO}]}{[\text{CH}_3\text{OH}]}$

Q627-02 The industrial synthesis of ammonia is based on the reaction below. Which factor(s) will increase the equilibrium concentration of ammonia?



- I increase in pressure
II increase in temperature
- A. I only
B. II only
C. I and II
D. Neither I nor II

Q627-03 In the reaction below:

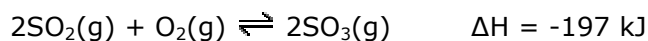


Which of the following changes will produce more ammonia at equilibrium?

- I Increasing the pressure
II Increasing the temperature
III Adding a catalyst
- A. I only
B. II only
C. I and II only
D. II and III only

Exercise 6.27 – Industrial processes

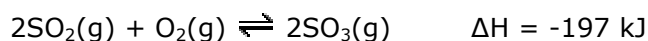
Q627-04 The reaction between sulphur dioxide and oxygen occurs according to the following equation:



A higher equilibrium concentration of SO_3 will be produced by all of the following changes in reaction conditions except:

- A. Increasing the pressure
- B. Adding more O_2
- C. Adding a catalyst
- D. Decreasing the temperature

Q627-05



The reaction above is an important step in the production of sulphuric acid. An increase in which of the following, will increase the ratio of $\text{SO}_3(\text{g})$ to $\text{SO}_2(\text{g})$ at equilibrium

- A. Pressure only
 - B. Temperature
 - C. Both pressure and temperature
 - D. Neither pressure nor temperature
-