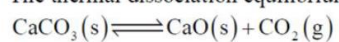


*28. The thermal dissociation equilibrium of $\text{CaCO}_3(\text{s})$ is studied under different conditions.



For this equilibrium, the correct statement(s) is(are)

- (A) ΔH is dependent on T
- (B) K is independent of the initial amount of CaCO_3
- (C) K is dependent on the pressure of CO_2 at a given T
- (D) ΔH is independent of the catalyst, if any

Sol. (A, B, D)

For the equilibrium $\text{CaCO}_3(\text{s}) \rightleftharpoons \text{CaO}(\text{s}) + \text{CO}_2(\text{g})$. The equilibrium constant (K) is independent of initial amount of CaCO_3 where as at a given temperature is independent of pressure of CO_2 . ΔH is independent of catalyst and it depends on temperature.

Hence (A), (B) and (D) are correct.