

A First Course on Kinetics and Reaction Engineering

Unit 6 Additional Quiz Questions

- Which of the following is true of a stoichiometric number?
 - It is used to balance a chemical reaction
 - It can always be assigned a unique value
 - It can have integer or fractional values
 - It is related to a mechanistic reaction step, not a chemical species
 - It cannot be negative
- Which of the following defines a reactive intermediate?
 - Any species that appears in a reaction mechanism.
 - A species that corresponds to the species at the highest energy point on the reaction coordinate.
 - A species that is neither reactant, nor product, but that instead has a structure somewhere between those of the reactant and product.
 - A free radical that appears in a reaction mechanism.
 - A species that appears in the reaction mechanism, but not in the overall, macroscopically observed reaction.
- True or False? Every step in a chain reaction mechanism occurs the same number of times.
- (Choose all that apply) In a chain reaction mechanism
 - There must be initiation/termination steps
 - There must be chain branching/transfer steps
 - The propagation steps must form a closed sequence
 - There must be a combination of the propagation steps that sums to give the overall reaction
 - The stoichiometric numbers of the steps can be uniquely determined
- True or False? HBr forms from H_2 and Br_2 via a chain reaction mechanism.