

Chemistry Admissions Test Sample Questions

1. Approximately how many atoms are in 64g of sulfur dioxide gas?

- a) 3
- b) 6×10^{23}
- c) 1.2×10^{24}
- d) 1.8×10^{24}

2. What is the oxidation number of sulfur in $\text{S}_2\text{O}_3^{2-}$?

- a) -2
- b) +2
- c) +3
- d) +6

3. Which of the following compounds is a tertiary alcohol?

- a) Propan-2-ol
- b) 2-methylpropan-2-ol
- c) 3-methylhexan-2-ol
- d) 1,2-dimethylhexan-3-ol

4. Which of the following bonds is the most polar?

- a) C-H
- b) C-O
- c) C-F
- d) C-S

5. Phosphorus pentachloride dissociates according to the following equilibrium



The forward reaction is endothermic. Phosphorus pentachloride is placed in a gas syringe and the system allowed to come to equilibrium. Which of the following statements is true?

- a) The degree of dissociation will be pressure independent
- b) The degree of dissociation will be temperature independent
- c) The degree of dissociation will decrease if the volume of the syringe is decreased
- d) The dissociation reaction must have zero activation energy