

Final review

Correct or incorrect?

1. The COD/TOC ratio of ethylene (C_2H_4) is higher than that of acetylene (C_2H_2).
2. A metal ion located at the center of a complex ion is a Lewis acid.
3. All of the carbon atoms in ethylbenzene are in the same plane.
4. BTEX content is higher in gasoline than in diesel.
5. The pK_a value of 2,4-dichlorophenol is higher than that of phenol.

6. The pK_a value of 3-chlorophenol is higher than that of 2-chlorophenol.

7. Tertiary amine acts as a hydrogen bond donor in an aqueous solution.

8. The molecular volume of a humic substance in an aqueous solution increases as the ionic strength of the solution increases.

9. Persistent organic pollutants (POPs) always show conservative properties in water.

10. Exothermic reactions always occur spontaneously.

11. By halogenation of a hydrocarbon molecule, oxidation reaction becomes more thermodynamically favorable.

12. The rate of an S_N1 -type nucleophilic substitution reaction does not depend on the property of a leaving group.

13. Under the same light radiation condition above the water surface, phenanthrene in clear water exhibits shorter direct photolysis half-life than phenanthrene in turbid water.

14. The higher the wind speed above the water surface, the greater the total resistance (R_{tot}) of air-water interphase mass transfer.

15. For a pulse input of a tracer, the maximum concentration at time t after the pulse input is inversely proportional to t .