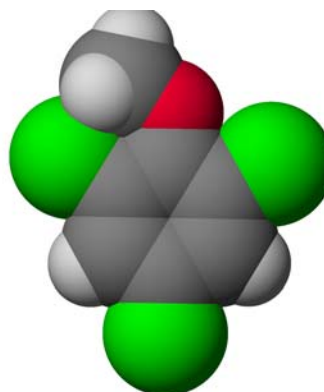
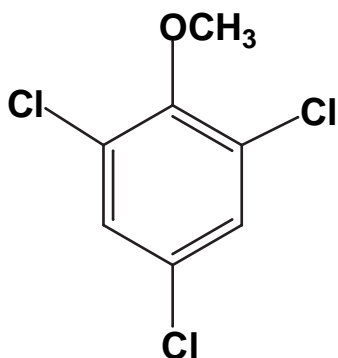


Molecule of the week: 2,4,6-trichloroanisole
Concepts: Electrophilic Aromatic Substitution



2,4,6-trichloroanisole (TCA) is the chief source of “**cork taint**”, a term used to describe the undesirable smells or tastes found in wine, especially detected after bottling. Though other factors may be responsible for taint, it is the cork that is believed to be responsible for spoilage. Thus, a bad wine is said to be “corked”. Corked wine containing TCA has a characteristic odor, variously described as resembling a moldy newspaper, wet dog, or damp basement. The human threshold for detecting TCA is measured in the single-digit parts per trillion. Production of TCA in wine is results when airborne fungi convert chlorophenols into chloroanisole. Chlorophenols taken up by cork trees are an industrial pollutant found in many pesticides and wood preservatives.

For a recent paper: <http://aem.asm.org/cgi/content/abstract/68/12/5860>

Cork Taint of Wines: Role of the Filamentous Fungi Isolated from Cork in the Formation of 2,4,6-Trichloroanisole by O Methylation of 2,4,6-Trichlorophenol

M. L. Álvarez-Rodríguez et al. Applied and Environmental Microbiology, December 2002, p. 5860-5869, Vol. 68, No. 12

Question: Propose a synthesis of TCA starting from phenol.

