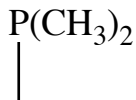
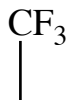


Exercise 115 - Directing/Activation

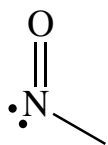
Question

Classify each of the following as either ortho/para or meta-directing, activating or deactivating groups.



Question

i) Make a case for the nitrosyl group as acting as an ortho/para directing group.



ii) Make a case for the nitrosyl group as a meta directing group.

iii) Based on the chemical shift effects this group exerts on the protons of a benzene ring, does this appear to be an ortho/para directing group, a meta directing group or neither?

iv) Based on the chemical shift effects, is this an activating or deactivating group?

Question

Naphthalene has two possible sites for electrophilic aromatic substitution as shown below. Explain why the "alpha" product is preferred and explain why naphthalene undergoes EAS much more quickly than does benzene.

