If electrophilic aromatic substitution of a monosubstituted benzene is slower than that of benzene under identical conditions, the substituent in the monosubstituted benzene is called a deactivating group.

eg:

Under identical conditions, Reaction 2 is slower than Reaction 1. Thus, the nitro group is a deactivating group.

All deactivating groups are electron-withdrawing groups.

Common deactivating groups:

- $\text{NO}_2$
- $\text{NO}$
- $\text{NR}_3$ (R = H, alkyl, aryl, or any combination thereof)
- $\text{C}=\text{R}$ (R = H, alkyl, aryl, hydroxy, alkoxy, phenoxy, NH$_2$)
- $\text{X}$ (X = F, Cl, Br, I)
- $\text{CN}$
- $\text{SO}_2\text{H}$

see also activating group, ortho, para directing group, meta directing group

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