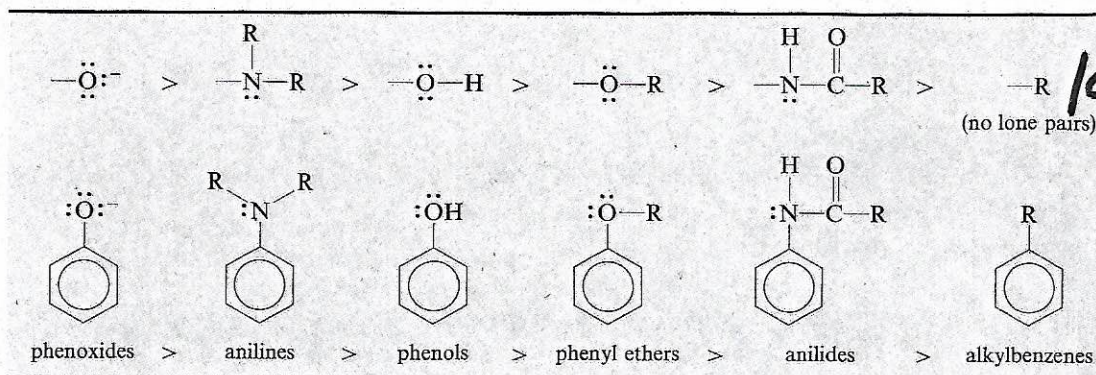
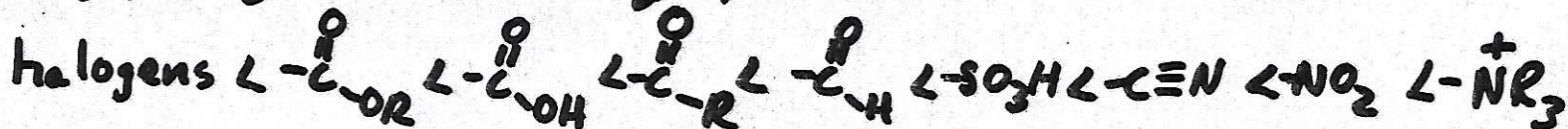


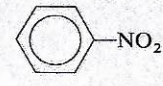
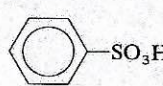
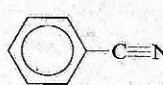
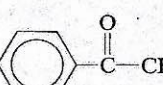
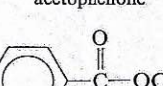
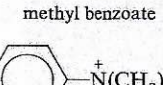
8



~ order of deactivating "power":



DEACTIVATING META-DIRECTORS

Group	Resonance Structures	Example
--NO_2 nitro	$\left[\text{--}\overset{+}{\text{N}}\overset{\text{O}}{\text{=}}\ddot{\text{O}}\text{:} \longleftrightarrow \text{--}\overset{+}{\text{N}}\text{:}\overset{\text{O}}{\text{=}}\ddot{\text{O}}\text{:}^- \right]$	 nitrobenzene
$\text{--SO}_3\text{H}$ sulfonic acid	$\left[\begin{array}{c} \ddot{\text{O}}\text{:} \\ \text{--}\overset{\text{O}}{\text{S}}\text{--}\ddot{\text{O}}\text{--H} \\ \ddot{\text{O}}\text{:} \end{array} \longleftrightarrow \begin{array}{c} \text{:}\ddot{\text{O}}\text{:}^- \\ \text{--}\overset{+}{\text{S}}\text{--}\ddot{\text{O}}\text{--H} \\ \ddot{\text{O}}\text{:} \end{array} \longleftrightarrow \begin{array}{c} \ddot{\text{O}}\text{:} \\ \text{--}\overset{+}{\text{S}}\text{--}\ddot{\text{O}}\text{--H} \\ \text{:}\ddot{\text{O}}\text{:}^- \end{array} \right]$	 benzenesulfonic acid
$\text{--C}\equiv\text{N}$ cyano	$\left[\text{--}\text{C}\equiv\text{N} \longleftrightarrow \text{--}\overset{+}{\text{C}}\text{=}\ddot{\text{N}}\text{:}^- \right]$	 benzonitrile
$\begin{array}{c} \text{O} \\ \parallel \\ \text{--C--R} \end{array}$ ketone or aldehyde	$\left[\begin{array}{c} \ddot{\text{O}}\text{:} \\ \text{--}\overset{\text{O}}{\text{C}}\text{--R} \\ \ddot{\text{O}}\text{:} \end{array} \longleftrightarrow \begin{array}{c} \text{:}\ddot{\text{O}}\text{:}^- \\ \text{--}\overset{+}{\text{C}}\text{--R} \end{array} \right]$	 acetophenone
$\begin{array}{c} \text{O} \\ \parallel \\ \text{--C--O--R} \end{array}$ ester	$\left[\begin{array}{c} \ddot{\text{O}}\text{:} \\ \text{--}\overset{\text{O}}{\text{C}}\text{--}\ddot{\text{O}}\text{--R} \\ \ddot{\text{O}}\text{:} \end{array} \longleftrightarrow \begin{array}{c} \text{:}\ddot{\text{O}}\text{:}^- \\ \text{--}\overset{+}{\text{C}}\text{--}\ddot{\text{O}}\text{--R} \\ \ddot{\text{O}}\text{:} \end{array} \longleftrightarrow \begin{array}{c} \ddot{\text{O}}\text{:} \\ \text{--}\overset{+}{\text{C}}\text{--}\ddot{\text{O}}\text{--R} \\ \text{:}\ddot{\text{O}}\text{:}^- \end{array} \right]$	 methyl benzoate
--NR_3^+ quaternary ammonium	$\text{--}\overset{+}{\text{N}}\begin{array}{l} \text{R} \\ \text{R} \\ \text{R} \end{array}$	 trimethylanilinium iodide