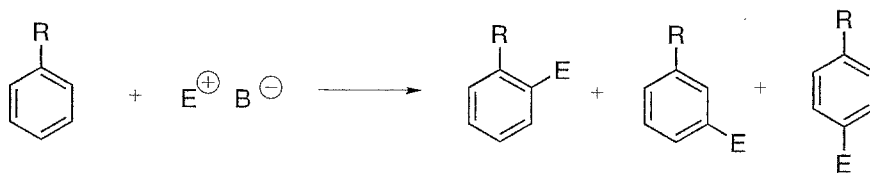



Monosubstituted benzenes. Ortho/Para and Meta-directing Groups



R	Substitution Pattern	Relative Rate of Reaction
H (benzene)	—	1
NH ₂ , NHR, NR ₂ OH OR alkyl NHCOR I, Br, Cl, F	o/p-directors { ortho/para ortho/para ortho/para ortho/para ortho/para ortho/para ortho/para	Much Faster Much Faster Much Faster Faster Faster Slower
 Y = OH, OR, NH ₂ , Cl, aryl, alkyl	m-directors { meta meta meta meta	Slower Slower Slower Slower
SO ₃ H NO ₂ CN NR ₃	m-directors { meta meta meta meta	Slower Slower Slower Slower
		Activators Deactivators

In General: o/p-directors are faster reactions compared to benzene (**except** halides)

meta-directors are slower reactions compared to benzene