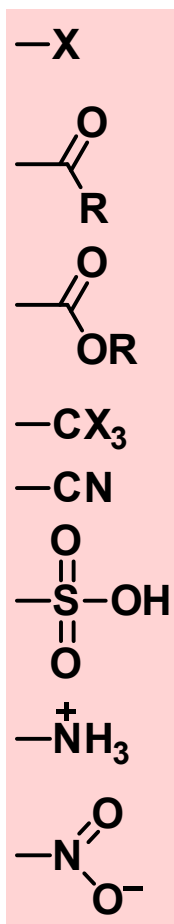
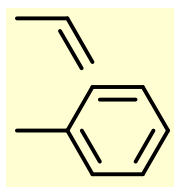
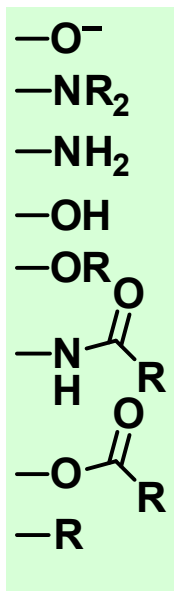
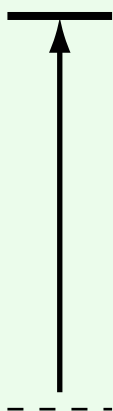
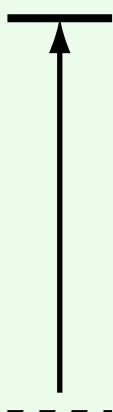


# ENGINEERING MOLECULAR ELECTRONICS



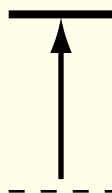
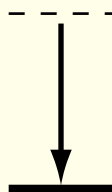
## ELECTRON DONATING SUBSTITUENTS

*raise LUMO*  
*raise HOMO*



## EXTRA CONJUGATION SUBSTITUENTS

*lower LUMO*  
*raise HOMO*



## ELECTRON WITHDRAWING SUBSTITUENTS

*lower LUMO*  
*lower HOMO*

