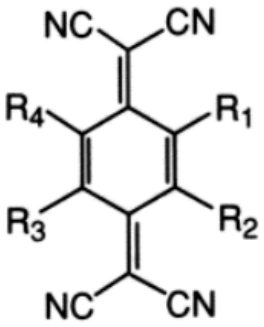
Quiz:

This figure shows a plot of the redox potential (measured in a cyclic voltammetry) against the Hammett substituent constant σ for various TCNQ's.

1) What is "redox potential"?

2) What is "Hammett σ constant"?

3) Why are they correlated? A molecular-orbital level diagram would be helpful.



a : F_4TCNQ	$R_1 = R_2 = R_3 = R_4 = F$
b : CF_3TCNQ	$R_1 = CF_3$
c : F_2TCQ	$R_1 = R_3 = F$
d : FTCNQ	$R_1 = F$
e : TCNQ	
f : MeTCNQ	$R_1 = CH_3$
g : $(MeO)_2TCNQ$	$R_1 = R_3 = OCH_3$
h : $(EtO)_2TCNQ$	$R_1 = R_3 = OC_2H_5$
i : Me_2TCNQ	$R_1 = R_3 = CH_3$
j : Et_2TCNQ	$R_1 = R_3 = C_2H_5$