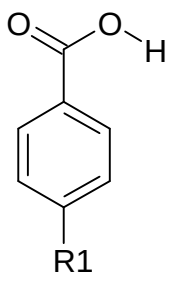
Hammett σ Constants

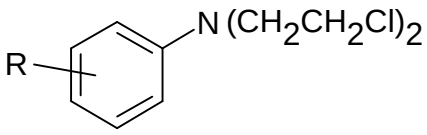
$\log K_a - \log K_{aH} = \sigma$

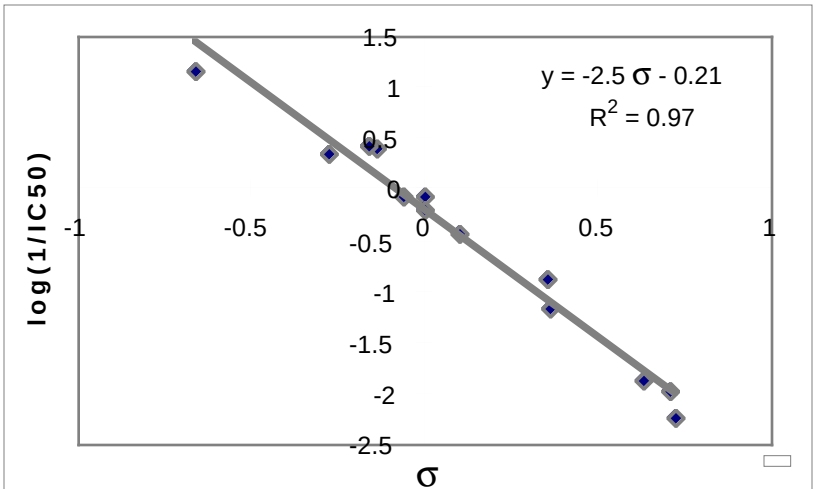


σ_p is for para- and σ_m is for meta-

Group	σ_p	σ_m
$-NH_2$	-0.57	-0.09
-OH	-0.38	0.13
$-OCH_3$	-0.28	0.10
$-CH_3$	-0.14	-0.06
-H	0	0
-F	0.15	0.34
-Cl	0.24	0.37
-COOH	0.44	0.35
-CN	0.70	0.62
$-NO_2$	0.81	0.71

for other equilibria or even reaction rates assume: $\log K_a - \log K_{aH} = \sigma \rho$
where ρ is a proportionality constant for the reaction of interest.





Growth Inhibition for Hamster Ovary Cancer Cells

R	IC_{50}, μM	log(1/IC_{50})	σ
H	1.2	-0.079	0
m-NO_2	96	-1.982	0.71
p-SO_2Me	174	-2.241	0.72
m-SO_2Me	76	-1.881	0.63
p-$CONMe_2$	14.6	-1.164	0.36
m-$CONMe_2$	7.6	-0.881	0.35
p-SMe	1.62	-0.210	0
p-CH_3	0.4	0.398	-0.14
m-CH_3	1.2	-0.079	-0.06
p-OMe	0.45	0.347	-0.28
m-OMe	2.7	-0.431	0.1
p-NH_2•HCl	0.071	1.149	-0.66
m-NH_2•HCl	0.38	0.420	-0.16