

Langmuir-Freundlich Fit

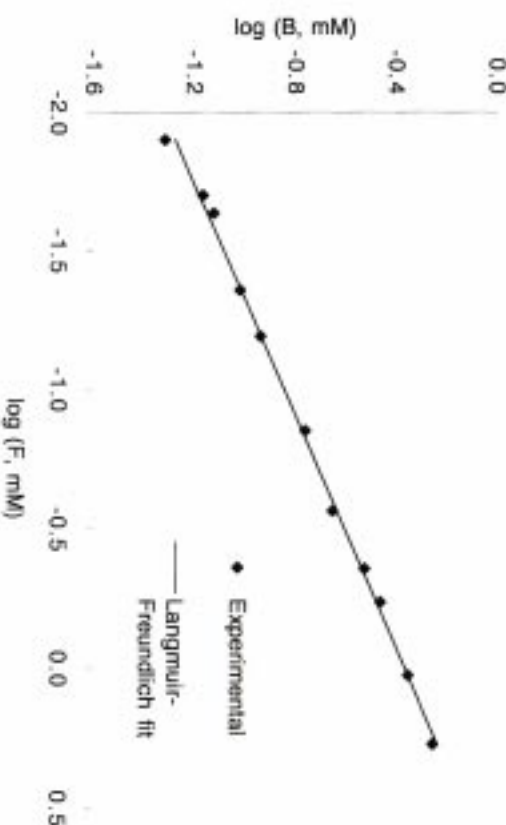
Experimental Values					
F	B	log F	log B	log B*	RS
0.0126	0.0485	-1.8999	-1.3146	-1.2758	0.00151
0.0200	0.0685	-1.7000	-1.1645	-1.1797	0.00023
0.0232	0.0755	-1.6340	-1.1223	-1.1480	0.00066
0.0440	0.0960	-1.3561	-1.0179	-1.0145	0.00001
0.0646	0.1157	-1.1898	-0.9368	-0.9346	0.00000
0.1413	0.1745	-0.8498	-0.7583	-0.7713	0.00017
0.2740	0.2234	-0.5623	-0.6509	-0.6333	0.00031
0.4440	0.2997	-0.3527	-0.5233	-0.5327	0.00009
0.5849	0.3479	-0.2329	-0.4586	-0.4752	0.00028
1.0595	0.4458	0.0251	-0.3509	-0.3515	0.00000
1.8621	0.5589	0.2700	-0.2526	-0.2342	0.00034
					0.2753

Fitting Parameters and Summary Statistics	
l	130.8324
a	0.0033
m	0.4806
RSS	0.0036
TSS	1.2805
R²	0.9972

Definitions

F	concentration of free guest (mM)
B	concentration of bound guest (mM)
B*	calculated concentration of bound guest (mM) $B^* = \text{taF}^m / (1 + \text{aF}^m)$
RS	square of the residual $RS = (\log B - \log B^*)^2$
TS	square of the total deviation from the mean $ST = (\log B - \text{average } \log B)^2$
RSS	residual sum of squares $RSS = \text{SUM}(RS)$
TSS	total sum of squares $TSS = \text{SUM}(TS)$
R ²	coefficient of determination $R^2 = 1 - RSS/TSS$

Binding Isotherm



To use this worksheet, input the experimental data (B and F) in the green area.

Use the solver function (under the tools menu) to set R² (in blue) to a value of 1.00 by changing the fitting coefficients l, a and m (in red).