

**Nonlinear Regression**

terça-feira, março 03, 2015, 15:29:05

**Data Source:** Cinética de Michaelis in Octil, PEI e Treolase Cinética**Equation:** Hyperbola; Single Rectangular, 2 Parameter in Tempo de meia vida

$$f = a \cdot x / (b + x)$$

<b>R</b>	<b>Rsqr</b>	<b>Adj Rsqr</b>	<b>Standard Error of Estimate</b>
0,9762	0,9530	0,9462	0,1031

	<b>Coefficient</b>	<b>Std. Error</b>	<b>t</b>	<b>P</b>
a	2,0097	0,3064	6,5592	0,0003
b	0,4028	0,1371	2,9369	0,0218

**Analysis of Variance:**

	<b>DF</b>	<b>SS</b>	<b>MS</b>
Regression	2	8,4426	4,2213
Residual	7	0,0744	0,0106
Total	9	8,5171	0,9463

Corrected for the mean of the observations:

	<b>DF</b>	<b>SS</b>	<b>MS</b>	<b>F</b>	<b>P</b>
Regression	1	1,5078	1,5078	141,8238	<0,0001
Residual	7	0,0744	0,0106		
Total	8	1,5823	0,1978		

**Statistical Tests:****Normality Test (Shapiro-Wilk)** Passed (P = 0,5464)

W Statistic= 0,9366 Significance Level = &lt;0,0001

**Constant Variance Test** Passed (P = 0,6758)**Fit Equation Description:**

[Variables]

x = col(1)

y = col(2)

reciprocal\_y = 1/abs(y)

reciprocal\_ysquare = 1/y^2

reciprocal\_pred = 1/abs(f)

reciprocal\_predsqr = 1/f^2

[Parameters]

a = max(y) "Auto {{previous: 2,0097}} {{MinRange: -114,522}} {{MaxRange: 343,566}}

b = if(x50(x;y;0,1)&lt;&gt;0; x50(x;y;0,1); 1) "Auto {{previous: 0,402753}} {{MinRange: -0,209038}}

{{MaxRange: 0,627114}}

[Equation]

f = a\*x/(b+x)

fit f to y

"fit f to y with weight reciprocal\_pred

"fit f to y with weight reciprocal\_predsqr

"fit f to y with weight reciprocal\_y

```
"fit f to y with weight reciprocal_ysquare  
[Constraints]  
[Options]  
tolerance=0,0000000001  
stepsize=1  
iterations=200
```

Number of Iterations Performed = 11