

**Nonlinear Regression**

segunda-feira, março 02, 2015, 19:59:56

**Data Source:** Cinética de Michaelis in Octil, PEI e Treolase Cinética**Equation:** Single Substrate; Michaelis-Menten in enzyme kinetics

$$v = V_{\max} * S / (K_m + S)$$

R	Rsqr	Adj Rsqr	Standard Error of Estimate
0,9900	0,9801	0,9772	0,0449

	Coefficient	Std. Error	t	P
Vmax	1,0369	0,0457	22,6873	<0,0001
Km	0,1002	0,0204	4,9163	0,0017

**Analysis of Variance:**

	DF	SS	MS
Regression	2	5,2437	2,6219
Residual	7	0,0141	0,0020
Total	9	5,2578	0,5842

Corrected for the mean of the observations:

	DF	SS	MS	F	P
Regression	1	0,6943	0,6943	344,1766	<0,0001
Residual	7	0,0141	0,0020		
Total	8	0,7084	0,0886		

**Statistical Tests:**
**Normality Test (Shapiro-Wilk)** Passed (P = 0,1017)

W Statistic= 0,8624 Significance Level = &lt;0,0001

**Constant Variance Test** Passed (P = <0,0001)
**Fit Equation Description:**

[Variables]

S = col(35)

V = col(36)

' Weighting Functions

reciprocal\_V=if(V&lt;=0; 0/0; 1/V)

reciprocal\_Vsquare=if(V&lt;=0; 0/0; 1/V^2)

[Parameters]

Vmax = max(V)\*2 "Auto {{previous: 1,03685}}

Km = x50(S;V;0,1) "Auto {{previous: 0,100224}}

[Equation]

v=Vmax\*S/(Km+S)

fit v to V

"fit v to V with weight reciprocal\_V

"fit v to V with weight reciprocal\_Vsquare

[Constraints]

Vmax&gt;0

Km&gt;0

[Options]  
tolerance=0,00001  
stepsize=1  
iterations=200

Number of Iterations Performed = 7