

Table S1. Comparison between the experimental and prediction data for producing L-asparaginase by *A. arenarioides* EAN603 in SmF process with soybean as a production substrate.

	x_1	x_2	x_3	x_4	y_a	y_p
1	34.00	8.50	7.00	10.00	123.00	145.69
2	34.00	8.50	5.00	10.00	115.10	110.36
3	34.00	5.50	5.00	2.50	65.25	47.81
4	31.00	7.00	6.00	-1.25	1.00	10.09
5	31.00	7.00	6.00	6.25	87.00	81.82
6	34.00	8.50	7.00	2.50	108.87	93.52
7	31.00	7.00	6.00	6.25	88.06	81.82
8	31.00	7.00	8.00	6.25	143.00	126.26
9	31.00	7.00	6.00	6.25	80.90	81.82
10	31.00	7.00	4.00	6.25	72.12	81.13
11	28.00	5.50	5.00	10.00	104.04	110.40
12	28.00	5.50	5.00	2.50	81.46	75.48
13	34.00	8.50	5.00	2.50	0.48	15.01
14	31.00	7.00	6.00	6.25	84.07	81.82
15	31.00	7.00	6.00	13.75	114.00	97.17
16	31.00	4.00	6.00	6.25	50.00	45.21
17	28.00	8.50	5.00	10.00	131.17	124.54
18	28.00	5.50	7.00	10.00	74.82	77.01
19	25.00	7.00	6.00	6.25	148.32	154.78
20	31.00	7.00	6.00	6.25	78.70	81.82
21	31.00	10.00	6.00	6.25	81.00	78.05
22	28.00	8.50	7.00	2.50	105.13	109.02
23	28.00	5.50	7.00	2.50	89.53	85.28
24	28.00	8.50	5.00	2.50	56.95	47.73
25	31.00	7.00	6.00	6.25	72.18	81.82
26	28.00	8.50	7.00	10.00	134.19	142.64
27	34.00	5.50	7.00	2.50	51.47	74.82
28	37.00	7.00	6.00	6.25	144.34	130.15
29	34.00	5.50	5.00	10.00	88.44	101.27
30	34.00	5.50	7.00	10.00	84.86	85.10

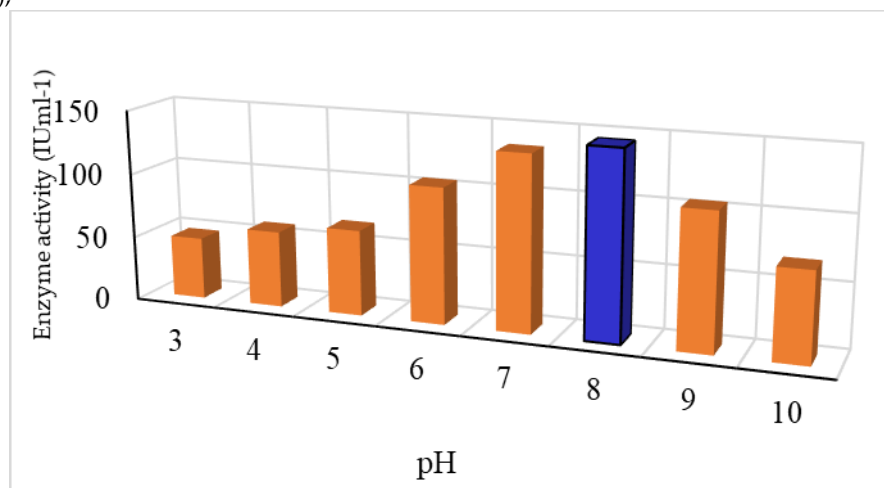
Temperature ($^{\circ}\text{C}$) (x_1), pH (x_2), incubation time (days) (x_3) and soybean concentration (gL^{-1}) (x_4); actual results (y_a), predicted results (y_p)

Table S2. Analysis of the variance (ANOVA) of the quadratic model for producing L-asparaginase by *A. arenarioides* EAN603 in SmF process with soybean.

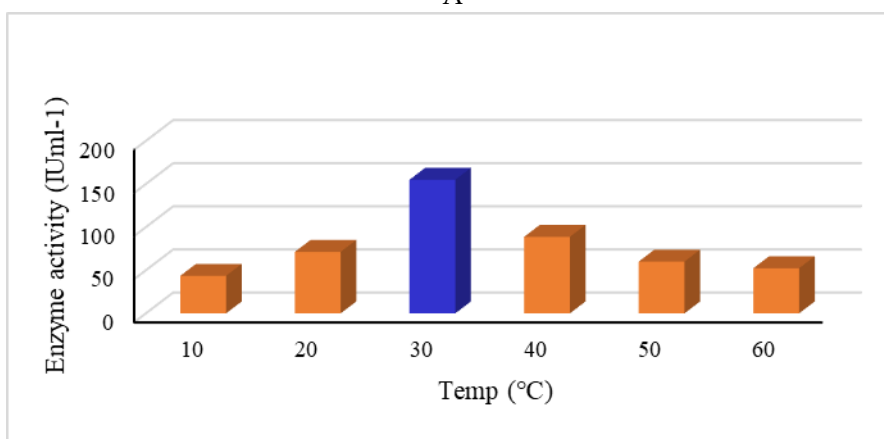
	Sum of squares	df	Mean squares	Coefficient estimate	SE	F value	p value
Model	34377.92	14.00	2455.57	81.82	6.23	10.56	0.00
x_1	909.94	1.00	909.94	-6.16	3.11	3.91	0.07
x_2	1617.39	1.00	1617.39	8.21	3.11	6.95	0.02
x_3	3054.38	1.00	3054.38	11.28	3.11	13.13	0.00
x_4	11374.78	1.00	11374.78	21.77	3.11	48.90	0.00
x_1x_2	25.42	1.00	25.42	-1.26	3.81	0.11	0.75
x_1x_3	296.52	1.00	296.52	4.30	3.81	1.27	0.28
x_1x_4	343.91	1.00	343.91	4.64	3.81	1.48	0.24
x_2x_3	2652.22	1.00	2652.22	12.87	3.81	11.40	0.00
x_2x_4	1755.17	1.00	1755.17	10.47	3.81	7.55	0.01
x_3x_4	1865.14	1.00	1865.14	-10.80	3.81	8.02	0.01
x_1^2	6304.75	1.00	6304.75	15.16	2.91	27.10	0.00

x_2^2	698.48	1.00	698.48	-5.05	2.91	3.00	0.10
x_3^2	820.28	1.00	820.28	5.47	2.91	3.53	0.08
x_4^2	1361.85	1.00	1361.85	-7.05	2.91	5.85	0.03
Residual	3489.33	15.00	232.62				
Lack of Fit	3314.99	10.00	331.50			9.51	0.01
Pure Error	174.34	5.00	34.87				
Cor Total	37867.25	29.00					

$R^2=0.9079$; Temperature ($^{\circ}\text{C}$) (x_1), pH (x_2), incubation time (days) (x_3) and soybean concentration (g L^{-1}) (x_4);



A



B

Figure S1. Enzyme stability as a response for pH (A); and Temperature (B).