

Table S1. Analysis of Variance for Quadratic Response Surface Models: TPH and TSP

Source of variation	Degree of freedom	Sum of squares	Mean square	F-value	Prob. > F
TPH Removal Model	9	1346.27	149.59	560.49	< 0.0001*
A	1	9.95	9.95	37.27	0.0005*
B	1	2.35	2.35	8.82	0.0208*
C	1	97.02	97.02	363.54	< 0.0001*
AB	1	0.86	0.86	3.24	0.1148 ^{ns}
AC	1	15.21	15.21	56.99	0.0001*
BC	1	4.08	4.08	15.29	0.0058*
A ²	1	720.53	720.53	2699.80	< 0.0001*
B ²	1	273.63	273.63	1025.29	< 0.0001*
C ²	1	114.58	114.58	429.31	< 0.0001*
Residual	7	1.87	0.27		
Lack of Fit	3	1.15	0.38	2.15	0.2367 ^{ns}
Pure Error	4	0.72	0.18	560.49	
Total Error	16	1348.14			
Standard deviation	0.52			R ²	0.9986
Mean	54.15			Adjusted R ²	0.9968
Coefficient of variation	0.95			Predicted R ²	0.9855
Press	19.57			Adeq. Precision	57.078
TSP Model	9	1111.86	123.54	1.46E+5	< 0.0001*
A	1	10.90	10.90	12893.78	< 0.0001*
B	1	2.10	2.10	2484.59	< 0.0001*
C	1	68.09	68.09	80517.09	< 0.0001*
AB	1	1.84	1.84	2170.98	< 0.0001*
AC	1	15.80	15.80	18683.17	< 0.0001*
BC	1	1.68	1.68	1982.97	< 0.0001*
A ²	1	719.18	719.18	8.50E+5	< 0.0001*
B ²	1	179.50	179.50	2.12E+5	< 0.0001*
C ²	1	39.02	39.02	46139.55	< 0.0001*
Residual	7	5.92E-3	8.46E-4		
Lack of Fit	3	4.20E-3	1.40E-3	3.26	0.1420 ^{ns}
Pure Error	4	1.72E-3	4.30E-4		
Total Error	16	1111.87	123.54		
Standard Deviation	0.029			R ²	1.0000
Mean	41.97			Adjusted R ²	1.0000
Coefficient of Variation	0.069			Predicted R ²	0.9999
Press	0.070			Adeq Precision	938.432

Legend: * Indicates significant model term; ^{ns} Indicates non-significant model terms at $p \leq 0.05$ level; E: symbol for exponential

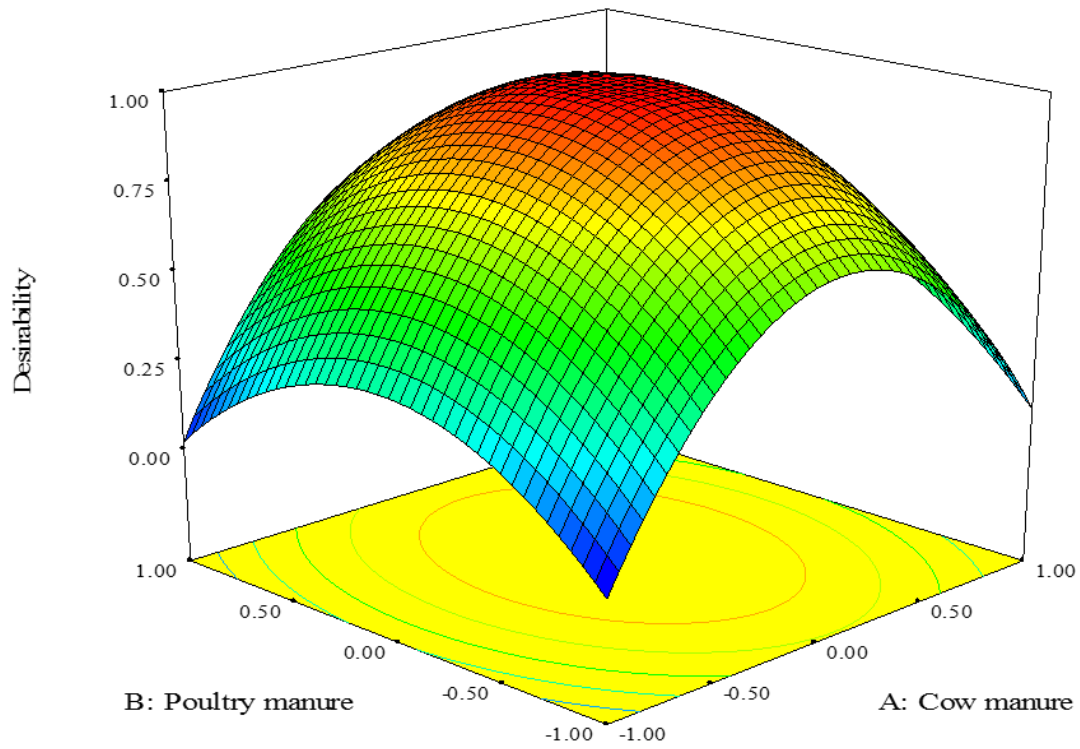


Fig. S1. Response surface plot of optimization results based on desirability.