Table 4: Three level CCD and the experimental responses of dependent variable, Y

		Factor 1	*Factor 2*	*Factor 3*	*Response 1*	*Predicted Values*
Std	Run	A:Inoculum conc	B:Nutrient	C: Temperature	Ethanol yield	
					mg/ml	
18	1	4	2	32	4.5	4.47
2	2	6	1	30	10.3	9.95
3	3	2	3	30	4	3.83
11	4	4	1	32	6.9	7.11
17	5	4	2	32	4.5	4.47
9	6	2	2	32	4.4	4.25
5	7	2	1	34	7.4	7.25
14	8	4	2	34	5.2	5.05
1	9	2	1	30	6.5	6.65
16	10	4	2	32	4.5	4.47
20	11	4	2	32	4.5	4.47
19	12	4	2	32	4.5	4.47
4	13	6	3	30	6.1	6.23
13	14	4	2	30	4.2	4.45
8	15	6	3	34	7	6.83
10	16	6	2	32	6.4	6.65
15	17	4	2	32	4.5	4.47
7	18	2	3	34	5	5.33
12	19	4	3	32	4.4	4.29
6	20	6	1	34	9.5	9.65

Table 5: ANOVA for the quadratic polynomial model for ethanol production

Analysis of variance table [Partial sum of squares - Type III]						
	Sum of		Mean	F	p-value	
Source	Squares	df	Square	Value	Prob > F	
Model	60.20	9	6.69	110.36	< 0.0001	significant
A-Inoculum conc	*14.40*	*1*	*14.40*	*237.59*	*< 0.0001*	
B-Nutrient	*19.88*	*1*	*19.88*	*328.02*	*< 0.0001*	
C-Temperature	*0.90*	*1*	*0.90*	*14.85*	*0.0032*	
AB	*0.40*	*1*	*0.40*	*6.68*	*0.0272*	
AC	*0.40*	*1*	*0.40*	*6.68*	*0.0272*	
BC	*0.41*	*1*	*0.41*	*6.68*	*0.0272*	
A^2	*2.65*	*1*	*2.65*	*43.74*	*< 0.0001*	
B^2	*4.17*	*1*	*4.17*	*68.85*	*< 0.0001*	
C^2	*0.22*	*1*	*0.22*	*3.60*	*0.0869*	
Residual	0.61	10	0.061			
Lack of Fit	*0.61*	*5*	*0.12*			
Pure Error	*0.000*	*5*	*0.000*			
Cor Total	60.81	19				