The SAS System

The RSREG Procedure

Coding Coefficients for the Independent Variables		
Factor	**Subtracted off**	**Divided by**
sugar	24.000000	4.000000
ph	5.500000	0.500000
temp	25.000000	5.000000

Response Surface for Variable overall	
Response Mean	3.177333
Root MSE	0.170978
R-Square	0.9024
Coefficient of Variation	5.3812

Regression	DF	Type I Sum of Squares	R-Square	F Value	Pr > F
Linear	3	0.669700	0.4470	7.64	0.0258
Quadratic	3	0.638127	0.4260	7.28	0.0284
Crossproduct	3	0.044100	0.0294	0.50	0.6968
Total Model	9	1.351927	0.9024	5.14	0.0431

Residual	DF	Sum of Squares	Mean Square
Total Error	5	0.146167	0.029233

Parameter	DF	Estimate	Standard Error	t Value	Pr > |t|	Parameter Estimate from Coded Data
Intercept	1	-55.077500	14.164592	-3.89	0.0115	3.546667
sugar	1	0.791875	0.371717	2.13	0.0864	0.232500
ph	1	16.511667	4.138340	3.99	0.0104	-0.132500
temp	1	0.321667	0.278769	1.15	0.3007	-0.110000
sugar*sugar	1	-0.010365	0.005561	-1.86	0.1214	-0.165833
ph*sugar	1	-0.022500	0.042744	-0.53	0.6211	-0.045000
ph*ph	1	-1.503333	0.355918	-4.22	0.0083	-0.375833
temp*sugar	1	-0.004500	0.004274	-1.05	0.3406	-0.090000
temp*ph	1	0.012000	0.034196	0.35	0.7399	0.030000
temp*temp	1	-0.006033	0.003559	-1.70	0.1508	-0.150833

The SAS System

The RSREG Procedure

Factor	DF	Sum of Squares	Mean Square	F Value	Pr > F
sugar	4	0.574491	0.143623	4.91	0.0554
ph	4	0.673691	0.168423	5.76	0.0410
temp	4	0.216803	0.054201	1.85	0.2566

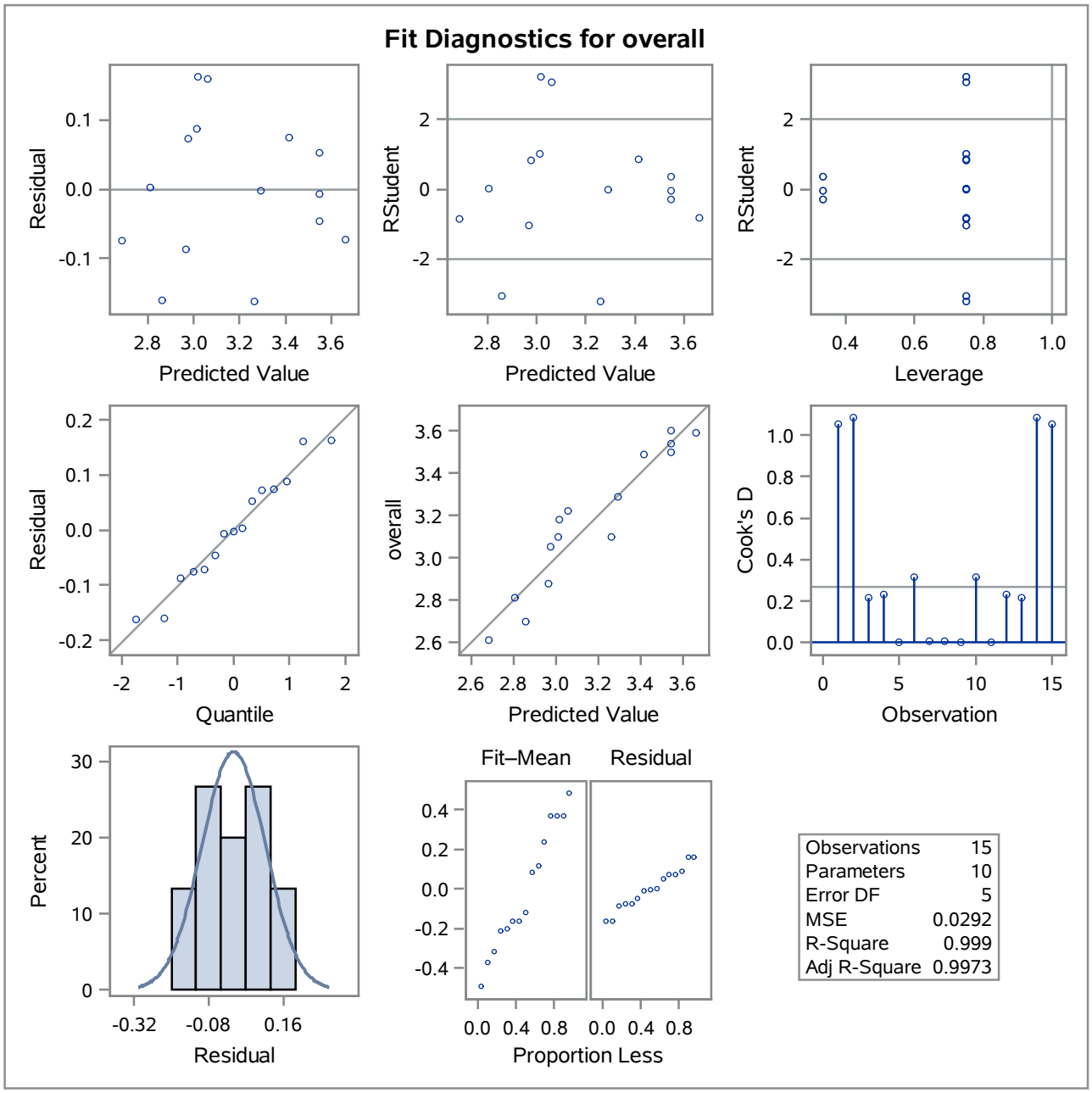
The SAS System

The RSREG Procedure
Canonical Analysis of Response Surface Based on Coded Data

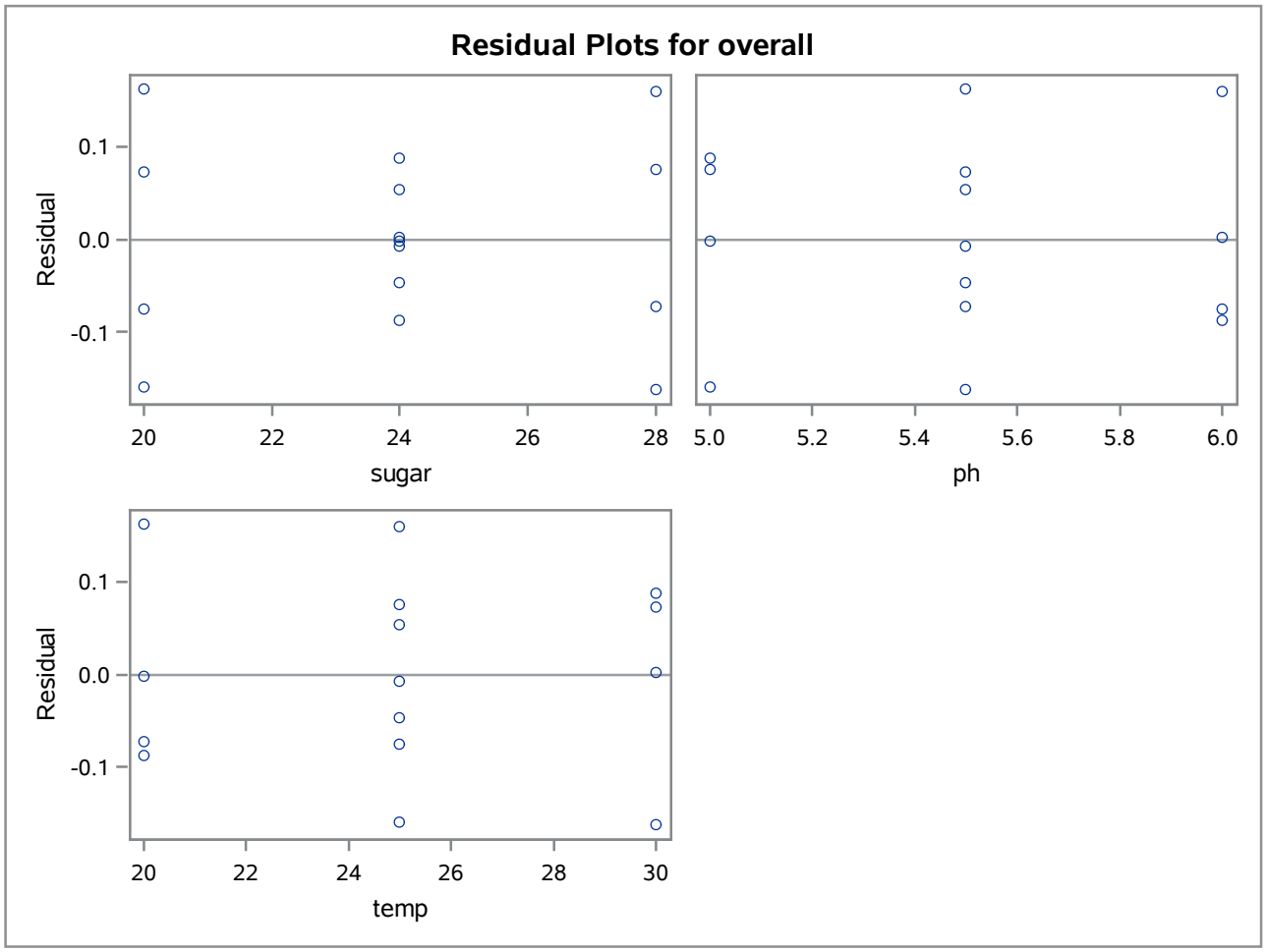
Factor	Critical Value	
	Coded	Uncoded
sugar	0.916012	27.664050
ph	-0.257597	5.371202
temp	-0.663544	21.682281
Predicted value at stationary point: 3.706714		

Eigenvalues	Eigenvectors		
	sugar	ph	temp
-0.110165	-0.649203	0.097573	0.754331
-0.203643	0.754629	-0.041562	0.654835
-0.378692	0.095246	0.994360	-0.046649
Stationary point is a maximum.			

The RSREG Procedure



The RSREG Procedure



The RSREG Procedure