

▼ File: Untitled1.syz

IMPORT successfully completed. Processed 9 variables and 114 cases.
Successfully saved file E:\QASS.syz
Processed 9 Variables and 114 Cases.

```
> REM -- Following commands were produced by the MANOVA dialog:  
> MANOVA  
> SAVE 'C:\Users\FernandaT\SYSTAT\SYSTAT_13\Data\QASSBIO' / RESIDUALS  
> MODEL LOGPH LOGCOND LOGTURB LOGOD = CONSTANT+BIOTOPO  
> ESTIMATE /SS = TYPE3
```

▼ Multivariate Analysis of Variance

3 case(s) are deleted due to missing data.
N of Cases Processed: 111

Dependent Variable Means

LOGPH	LOGCOND	LOGTURB	LOGOD
1,796	2,219	2,109	1,748

Regression Coefficients $B = (X'X)^{-1}X'Y$

Factor	LOGPH	LOGCOND	LOGTURB	LOGOD
CONSTANT	1,846	2,531	2,398	1,788
BIOTOPO	-0,015	-0,091	-0,084	-0,012

Information Criteria

AIC	-421,088
AIC (Corrected)	-413,654
Schwarz's BIC	-372,317

Multiple Correlations

LOGPH	LOGCOND	LOGTURB	LOGOD
0,431	0,602	0,362	0,159

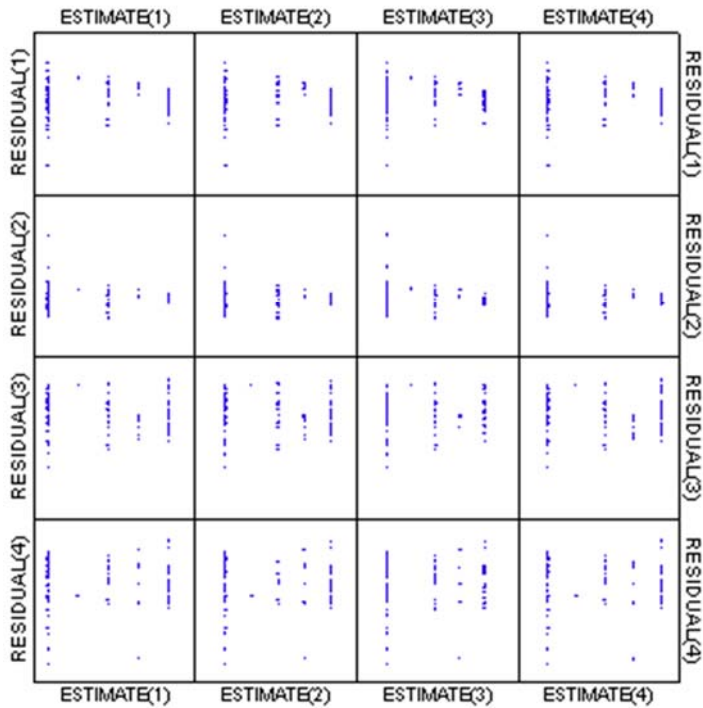
Adjusted $R^2 = 1 - (1 - R^2) * (N - 1) / df$, where $N = 111$, and $df = 109$

Adjusted R^2

LOGPH	LOGCOND	LOGTURB	LOGOD
0,179	0,356	0,123	0,016

Residuals have been saved.

Plot of Residuals vs. Predicted Values



```
> REM -- End of commands from the MANOVA dialog
> REM -- Following commands were produced by the MANOVAHYPO dialog:
> HYPOTHESIS
```

▼ Hypothesis Tests

Univariate F-Tests

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
LOGPH	358,008	2	179,004	65.235,126	0,000
Error	0,299	109	0,003		
LOGCOND	549,377	2	274,688	6.393,585	0,000
Error	4,683	109	0,043		
LOGTURB	496,170	2	248,085	1.789,885	0,000
Error	15,108	109	0,139		
LOGOD	339,067	2	169,533	10.690,359	0,000
Error	1,729	109	0,016		

Multivariate Test Statistics

Statistic	Value	F-Ratio	df	p-Value
Wilks's Lambda	0,001	1.127,155	8, 212	0,000
Pillai Trace	1,280	47,548	8, 214	0,000
Hotelling-Lawley Trace	1.362,699	17.885,420	8, 210	0,000

THETA	S	M	N	p-Value
0,999	2	0,500	52,000	0,000

```
> TEST
```

```

> REM -- End of commands from the MANOVAHYPO dialog
> REM -- Following commands were produced by the MANOVA dialog:
> MANOVA
> SAVE 'C:\Users\FernandaT\SYSTAT\SYSTAT_13\Data\QASSCOL' / RESIDUALS
> MODEL LOGPH LOGCOND LOGTURB LOGOD = CONSTANT+COLETA
> ESTIMATE /SS = TYPE3

```

▼ Multivariate Analysis of Variance

3 case(s) are deleted due to missing data.
N of Cases Processed: 111

Dependent Variable Means

LOGPH	LOGCOND	LOGTURB	LOGOD
1,796	2,219	2,109	1,748

Regression Coefficients B = (X'X)⁻¹X'Y

Factor	LOGPH	LOGCOND	LOGTURB	LOGOD
CONSTANT	1,833	2,221	1,944	1,784
COLETA	-0,016	-0,001	0,071	-0,016

Information Criteria

AIC	-384,789
AIC (Corrected)	-377,354
Schwarz's BIC	-336,018

Multiple Correlations

LOGPH	LOGCOND	LOGTURB	LOGOD
0,299	0,004	0,194	0,134

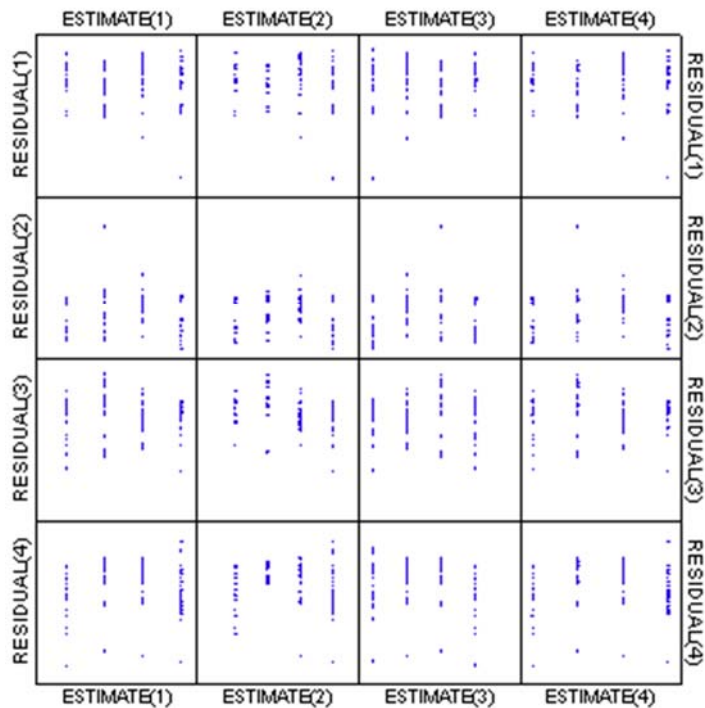
Adjusted R² = 1-(1-R²)*(N-1)/df, where N = 111, and df = 109

Adjusted R²

LOGPH	LOGCOND	LOGTURB	LOGOD
0,081	0,000	0,029	0,009

Residuals have been saved.

Plot of Residuals vs. Predicted Values



```
> REM -- End of commands from the MANOVA dialog
> REM -- Following commands were produced by the MANOVAHYPO dialog:
> HYPOTHESIS
```

▼ Hypothesis Tests

Univariate F-Tests

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
LOGPH	357,973	2	178,986	58.322,380	0,000
Error	0,335	109	0,003		
LOGCOND	546,720	2	273,360	4.059,677	0,000
Error	7,340	109	0,067		
LOGTURB	494,539	2	247,270	1.610,210	0,000
Error	16,738	109	0,154		
LOGOD	339,053	2	169,527	10.609,127	0,000
Error	1,742	109	0,016		

Multivariate Test Statistics

Statistic	Value	F-Ratio	df	p-Value
Wilks's Lambda	0,001	953,135	8, 212	0,000
Pillai Trace	1,066	30,529	8, 214	0,000
Hotelling-Lawley Trace	1.274,416	16.726,708	8, 210	0,000

THETA	S	M	N	p-Value
0,999	2	0,500	52,000	0,000

```
> TEST
```

```

> REM -- End of commands from the MANOVAHYPO dialog
> REM -- Following commands were produced by the MANOVA dialog:
> MANOVA
> SAVE 'C:\Users\FernandaT\SYSTAT\SYSTAT_13\Data\QASSPTS' / RESIDUALS
> MODEL LOGPH LOGCOND LOGTURB LOGOD = CONSTANT+PONTOS
> ESTIMATE /SS = TYPE3

```

▼ Multivariate Analysis of Variance

3 case(s) are deleted due to missing data.
N of Cases Processed: 111

Dependent Variable Means

LOGPH	LOGCOND	LOGTURB	LOGOD
1,796	2,219	2,109	1,748

Regression Coefficients B = (X'X)⁻¹X'Y

Factor	LOGPH	LOGCOND	LOGTURB	LOGOD
CONSTANT	1,835	2,495	2,298	1,784
PONTOS	-0,002	-0,015	-0,010	-0,002

Information Criteria

AIC	-408,226
AIC (Corrected)	-400,791
Schwarz's BIC	-359,454

Multiple Correlations

LOGPH	LOGCOND	LOGTURB	LOGOD
0,354	0,561	0,250	0,151

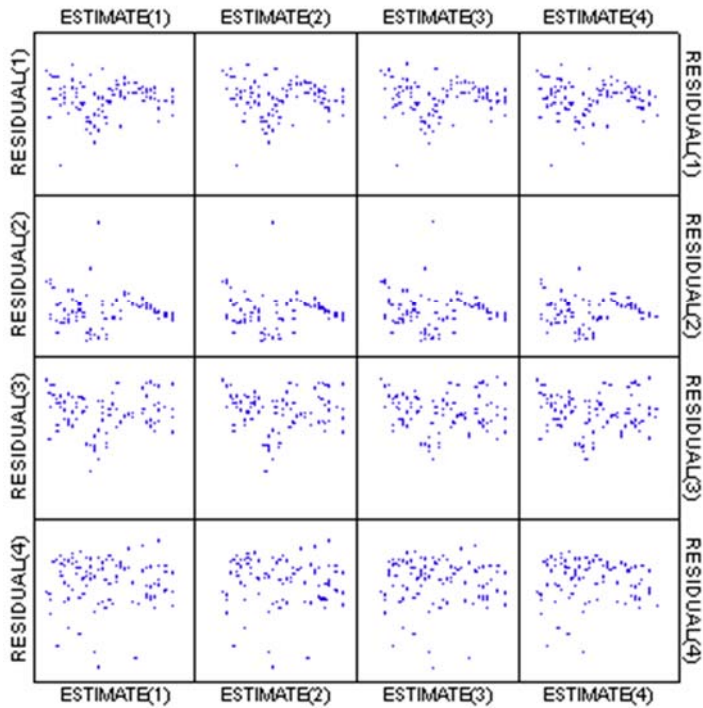
Adjusted R² = 1-(1-R²)*(N-1)/df, where N = 111, and df = 109

Adjusted R²

LOGPH	LOGCOND	LOGTURB	LOGOD
0,117	0,308	0,054	0,014

Residuals have been saved.

Plot of Residuals vs. Predicted Values



```
> REM -- End of commands from the MANOVA dialog
> REM -- Following commands were produced by the MANOVAHYPO dialog:
> HYPOTHESIS
```

▼ Hypothesis Tests

Univariate F-Tests

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
LOGPH	357,986	2	178,993	60.679,655	0,000
Error	0,322	109	0,003		
LOGCOND	549,027	2	274,513	5.945,189	0,000
Error	5,033	109	0,046		
LOGTURB	494,972	2	247,486	1.654,360	0,000
Error	16,306	109	0,150		
LOGOD	339,062	2	169,531	10.663,335	0,000
Error	1,733	109	0,016		

Multivariate Test Statistics

Statistic	Value	F-Ratio	df	p-Value
Wilks's Lambda	0,001	1.062,212	8, 212	0,000
Pillai Trace	1,251	44,677	8, 214	0,000
Hotelling-Lawley Trace	1.262,227	16.566,736	8, 210	0,000

THETA	S	M	N	p-Value
0,999	2	0,500	52,000	0,000

```
> TEST
```

```

> REM -- End of commands from the MANOVAHYPO dialog
> REM -- Following commands were produced by the MANOVA dialog:
> MANOVA
> SAVE 'C:\Users\FernandaT\SYSTAT\SYSTAT_13\Data\QASSEIXO' / RESIDUALS
> MODEL LOGPH LOGCOND LOGTURB LOGOD = CONSTANT+EIXO
> ESTIMATE /SS = TYPE3

```

▼ Multivariate Analysis of Variance

3 case(s) are deleted due to missing data.
N of Cases Processed: 111

Dependent Variable Means

LOGPH	LOGCOND	LOGTURB	LOGOD
1,796	2,219	2,109	1,748

Regression Coefficients B = (X'X)⁻¹X'Y

Factor	LOGPH	LOGCOND	LOGTURB	LOGOD
CONSTANT	1,757	2,099	2,065	1,708
EIXO	0,032	0,100	0,036	0,033

Information Criteria

AIC	-369,395
AIC (Corrected)	-361,960
Schwarz's BIC	-320,623

Multiple Correlations

LOGPH	LOGCOND	LOGTURB	LOGOD
0,225	0,157	0,037	0,105

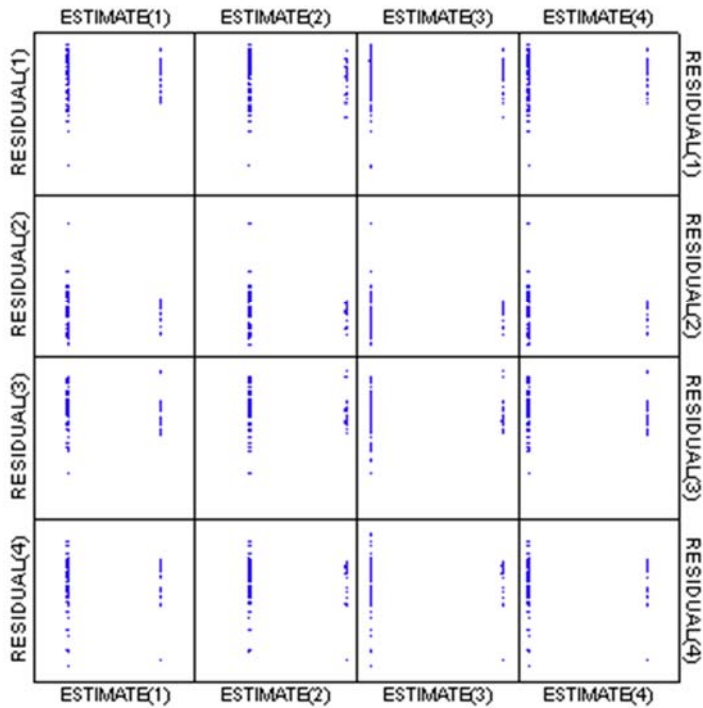
Adjusted R² = 1-(1-R²)*(N-1)/df, where N = 111, and df = 109

Adjusted R²

LOGPH	LOGCOND	LOGTURB	LOGOD
0,042	0,016	0,000	0,002

Residuals have been saved.

Plot of Residuals vs. Predicted Values



```
> REM -- End of commands from the MANOVA dialog
> REM -- Following commands were produced by the MANOVAHYPO dialog:
> HYPOTHESIS
```

▼ Hypothesis Tests

Univariate F-Tests

Source	Type III SS	df	Mean Squares	F-Ratio	p-Value
LOGPH	357,958	2	178,979	55.926,007	0,000
Error	0,349	109	0,003		
LOGCOND	546,901	2	273,451	4.163,719	0,000
Error	7,159	109	0,066		
LOGTURB	493,912	2	246,956	1.550,050	0,000
Error	17,366	109	0,159		
LOGOD	339,041	2	169,521	10.535,414	0,000
Error	1,754	109	0,016		

Multivariate Test Statistics

Statistic	Value	F-Ratio	df	p-Value
Wilks's Lambda	0,001	887,506	8, 212	0,000
Pillai Trace	1,013	27,436	8, 214	0,000
Hotelling-Lawley Trace	1.172,558	15.389,819	8, 210	0,000

THETA	S	M	N	p-Value
0,999	2	0,500	52,000	0,000

```
> TEST
```



```
> REM -- End of commands from the MANOVAHYP0 dialog
```