

APÉNDICE B. ANÁLISIS ESTADÍSTICO DE AMINOÁCIDOS

Como el análisis de aminoácidos se hizo de la misma manera que el de luteína, solo se presentan los datos mas significativos.

METIONINA

The ANOVA Procedure

Class Level Information

Class	Levels	Values
VAR	25	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Number of observations 50

The ANOVA Procedure

Dependent Variable: MET

R-Square	Coeff Var	Root MSE	MET Mean
0.809370	19.70171	3.728778	18.92617

Source	DF	Anova SS	Mean Square	F Value	Pr >F
VAR	24	1475.804342	61.491848	4.42	0.0002

Tukey's Studentized Range (HSD) Test for MET

Minimum Significant Difference 15.229

Tukey Grouping	Mean	N	VAR
A	31.401	2	12
A			
B A	26.995	2	14
B A			
B A	26.635	2	11
B A			
B A	25.919	2	7
B A			
B A C	22.544	2	19
B A C			
B A C	22.488	2	8
B A C			
B A C	22.426	2	9
B A C			
B A C	21.357	2	10
B A C			
B A C	20.825	2	13
B A C			
B A C	20.802	2	4
B A C			
B A C	20.508	2	18
B A C			
B A C	19.079	2	15
B A C			
B A C	18.584	2	17
B A C			
B A C	17.728	2	23
B A C			
B A C	17.680	2	2
B A C			
B A C	17.153	2	25
B A C			
B A C	16.772	2	3
B A C			
B A C	16.464	2	24
B A C			
B A C	16.281	2	21
B A C			
B C			

B	C	15.197	2	6
B	C			
B	C	14.534	2	1
B	C			
B	C	13.016	2	16
	C			
	C	10.187	2	20
	C			
	C	10.034	2	22
	C			
	C	8.546	2	5

The GLM Procedure

Class Level Information

Class	Levels	Values
COL	3	1 2 3

R-Square	Coeff Var	Root MSE	MET Mean
0.148720	30.36444	5.746826	18.92617

Source	DF	Type I SS	Mean Square	F Value	Pr >F
COL	2	271.1764962	135.5882481	4.11	0.0227
Source	DF	Type III SS	Mean Square	F Value	Pr >F
COL	2	271.1764962	135.5882481	4.11	0.0227

Tukey's Studentized Range (HSD) Test for MET
Critical Value of Studentized Range 3.42257

Comparisons significant at the 0.05 level are indicated by ***.

COL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
1 - 2	4.381	-1.807	10.568	
1 - 3	5.062	0.354	9.770	***
2 - 1	-4.381	-10.568	1.807	
2 - 3	0.682	-6.272	7.636	
3 - 1	-5.062	-9.770	-0.354	***
3 - 2	-0.682	-7.636	6.272	

The GLM Procedure

Class Level Information

Class	Levels	Values
AN	2	2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	MET Mean
0.161949	29.81210	5.642290	18.92617

Source	DF	Type I SS	Mean Square	F Value	Pr >F
AN	1	295.2981618	295.2981618	9.28	0.0038

Source	DF	Type III SS	Mean Square	F Value	Pr >F
AN	1	295.2981618	295.2981618	9.28	0.0038

Tukey's Studentized Range (HSD) Test for MET

Minimum Significant Difference 3.7566

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	AN
A	23.251	12	2

B 17.561 38 3

The GLM Procedure

Class Level Information

Class	Levels	Values
HUM	2	1 2

Number of observations 50

R-Square	Coeff Var	Root MSE	MET Mean
0.033137	32.02137	6.060419	18.92617

Source	DF	Type I SS	Mean Square	F Value	Pr >F
HUM	1	60.42277963	60.42277963	1.65	0.2058

Source	DF	Type III SS	Mean Square	F Value	Pr >F
HUM	1	60.42277963	60.42277963	1.65	0.2058

Tukey's Studentized Range (HSD) Test for MET

Minimum Significant Difference		3.5177		
Tukey Grouping	Mean	N	HUM	
A	20.273	20	1	
A	18.029	30	2	

TRIPTOFANO

The ANOVA Procedure

Dependent Variable: TRP

R-Square	Coeff Var	Root MSE	TRP Mean
0.746846	14.45706	0.886964	6.135158

Source	DF	Anova SS	Mean Square	F Value	Pr >F
VAR	24	58.02285136	2.41761881	3.07	0.0035

Tukey's Studentized Range (HSD) Test for TRP

Minimum Significant Difference		3.6225		
Tukey Grouping	Mean	N	VAR	
A	7.9768	2	4	
A	7.9357	2	7	
A	7.6536	2	8	
A	7.2306	2	13	
A	7.1801	2	2	
A	7.0313	2	12	
A	6.8950	2	10	
A	6.7550	2	25	
B	6.6803	2	19	
B	6.3646	2	3	
B	6.3629	2	9	
B	6.1720	2	6	

B	A	6.1107	2	11
B	A	6.0308	2	24
B	A	5.7028	2	15
B	A	5.6875	2	5
B	A	5.6168	2	14
B	A	5.5556	2	1
B	A	5.5483	2	17
B	A	5.5401	2	20
B	A	5.2493	2	23
B	A	5.0665	2	21
B	A	5.0434	2	16
B	A	4.8968	2	18
B		3.0924	2	22

The GLM Procedure

Class Level Information

Class	Levels	Values
COL	3	1 2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	TRP Mean
0.194734	18.80524	1.153731	6.135158

Source	DF	Type I SS	Mean Square	F Value	Pr > F
COL	2	15.12895019	7.56447510	5.68	0.0062
Source	DF	Type III SS	Mean Square	F Value	Pr > F
COL	2	15.12895019	7.56447510	5.68	0.0062

Tukey's Studentized Range (HSD) Test for TRP

Critical Value of Studentized Range 3.42257

Comparisons significant at the 0.05 level are indicated by ***.

	COL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
1	- 3	0.7934	-0.1517	1.7386	
1	- 2	1.5672	0.3251	2.8094	***
3	- 1	-0.7934	-1.7386	0.1517	
3	- 2	0.7738	-0.6223	2.1699	
2	- 1	-1.5672	-2.8094	-0.3251	***
2	- 3	-0.7738	-2.1699	0.6223	

The GLM Procedure

Class Level Information

Class	Levels	Values
AN	2	2 3

Number of observations 50

Dependent Variable: TRP

R-Square Coeff Var Root MSE TRP Mean
 0.065821 20.04253 1.229641 6.135158

Source	DF	Type I SS	Mean Square	F Value	Pr >F
AN	1	5.11366034	5.11366034	3.38	0.0721

Source	DF	Type III SS	Mean Square	F Value	Pr >F
AN	1	5.11366034	5.11366034	3.38	0.0721

Tukey's Studentized Range (HSD) Test for TRP

Harmonic Mean of Cell Sizes 18.24

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	AN
A	6.7042	12	2
A	5.9554	38	3

The GLM Procedure

Class Level Information

Class	Levels	Values
HUM	2	1 2

Number of observations 50

R-Square Coeff Var Root MSE TRP Mean
 0.111099 19.55079 1.199472 6.135158

Source	DF	Type I SS	Mean Square	F Value	Pr >F
HUM	1	8.63130619	8.63130619	6.00	0.0180

Source	DF	Type III SS	Mean Square	F Value	Pr >F
HUM	1	8.63130619	8.63130619	6.00	0.0180

Tukey's Studentized Range (HSD) Test for TRP

Minimum Significant Difference 0.6962

Tukey Grouping	Mean	N	HUM
A	6.6440	20	1
B	5.7959	30	2

ISOLEUCINA

The ANOVA Procedure

Class Level Information

Class	Levels	Values
VAR	25	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Number of observations 50

R-Square Coeff Var Root MSE ILE Mean
 0.813793 13.61890 5.176405 38.00899

Source	DF	Anova SS	Mean Square	F Value	Pr >F
VAR	24	2927.619177	121.984132	4.55	0.0002

Tukey's Studentized Range (HSD) Test for ILE
 Minimum Significant Difference 21.141

Tukey Grouping	Mean	N	VAR
A	50.006	2	4
A			
A	48.475	2	8
A			
A	48.236	2	7
A			
B	44.489	2	2
B			
B	44.478	2	25
B			
B	43.357	2	12
B			
B	43.282	2	13
B			
B	42.787	2	3
B			
B	42.233	2	19
B			
B	39.186	2	10
B			
B	38.865	2	24
B			
B	38.573	2	16
B			
B	37.600	2	17
B			
B	37.192	2	6
B			
B	37.098	2	20
B			
B	36.491	2	9
B			
B	36.362	2	5
B			
B	35.599	2	15
B			
B	35.181	2	18
B			
B	35.113	2	1
B			
B	A C	34.715	2 14
B	A C		
B	A C	34.153	2 11
B	A C		
B	A C	29.427	2 23
B			
B	C	23.445	2 21
B			
B	C	13.883	2 22

The GLM Procedure

Class Level Information

Class	Levels	Values
COL	3	1 2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	ILE Mean
0.273069	19.62509	7.459297	38.00899

Source	DF	Type I SS	Mean Square	F Value	Pr >F
COL	2	982.3660648	491.1830324	8.83	0.0006

Source	DF	Type III SS	Mean Square	F Value	Pr >F
COL	2	982.3660648	491.1830324	8.83	0.0006

Tukey's Studentized Range (HSD) Test for ILE

Critical Value of Studentized Range 3.42257

Comparisons significant at the 0.05 level are indicated by ***.

COL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
1 - 3	3.074	-3.037	9.185	
1 - 2	13.893	5.862	21.925	***
3 - 1	-3.074	-9.185	3.037	
3 - 2	10.819	1.793	19.846	***
2 - 1	-13.893	-21.925	-5.862	***
2 - 3	-10.819	-19.846	-1.793	***

The GLM Procedure

Class Level Information

Class	Levels	Values
AN	2	2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	ILE Mean
0.014218	22.61433	8.595479	38.00899

Source	DF	Type I SS	Mean Square	F Value	Pr >F
AN	1	51.15033305	51.15033305	0.69	0.4095

Source	DF	Type III SS	Mean Square	F Value	Pr >F
AN	1	51.15033305	51.15033305	0.69	0.4095

Tukey's Studentized Range (HSD) Test for ILE

Minimum Significant Difference 5.7229

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	AN
A	39.809	12	2
A	37.441	38	3

The GLM Procedure

Class Level Information

Class	Levels	Values
HUM	2	1 2

Number of observations 50

R-Square	Coeff Var	Root MSE	ILE Mean
0.078984	21.85884	8.308323	38.00899

Source	DF	Type I SS	Mean Square	F Value	Pr >F
HUM	1	284.1436980	284.1436980	4.12	0.0480

Source	DF	Type III SS	Mean Square	F Value	Pr >F
HUM	1	284.1436980	284.1436980	4.12	0.0480

Tukey's Studentized Range (HSD) Test for ILE

Minimum Significant Difference 4.8224

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	HUM
A	40.929	20	1
B	36.063	30	2

LISINA

The ANOVA Procedure

Class Level Information

Class	Levels	Values
VAR	25	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Number of observations 50

Dependent Variable: LYS

R-Square	Coeff Var	Root MSE	LYS Mean
0.699694	27.80909	8.573864	30.83116

Source	DF	Anova SS	Mean Square	F Value	Pr >F
VAR	24	4281.908306	178.412846	2.43	0.0159

Tukey's Studentized Range (HSD) Test for LYS

Minimum Significant Difference 35.017

Tukey Grouping	Mean	N	VAR
A	48.604	2	12
A	48.136	2	14
B	41.478	2	23
B	38.577	2	13
B	38.258	2	18
B	37.509	2	16
B	36.421	2	20
B	35.839	2	7
B	35.219	2	17
B	34.385	2	11
B	34.036	2	15
B	33.163	2	4
B	32.654	2	5
B	32.084	2	1
B	30.990	2	24
B	29.316	2	25
B	25.312	2	8
B	24.368	2	6
B	24.213	2	3
B	23.900	2	21
B	22.866	2	9

B	A			
B	A	18.398	2	22
B	A			
B	A	17.387	2	10
B	A			
B	A	14.410	2	2
B				
B		13.255	2	19

The GLM Procedure

Class Level Information

Class	Levels	Values
COL	3	1 2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	LYS Mean
0.185086	33.41040	10.30081	30.83116

Source	DF	Type I SS	Mean Square	F Value	Pr > F
COL	2	1132.669480	566.334740	5.34	0.0081

Source	DF	Type III SS	Mean Square	F Value	Pr > F
COL	2	1132.669480	566.334740	5.34	.0081

Tukey's Studentized Range (HSD) Test for LYS

Critical Value of Studentized Range 3.42257

Comparisons significant at the 0.05 level are indicated by ***.

COL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
3 - 1	3.366	-5.072 11.805
3 - 2	16.441	3.976 28.905 ***
1 - 3	-3.366	-11.805 5.072
1 - 2	13.074	1.984 24.165 ***
2 - 3	-16.441	-28.905 -3.976 ***
2 - 1	-13.074	-24.165 -1.984 ***

The GLM Procedure

Class Level Information

Class	Levels	Values
AN	2	2 3

Number of observations 50

R-Square	Coeff Var	Root MSE	LYS Mean
0.010432	36.43148	11.23225	30.83116

Source	DF	Type I SS	Mean Square	F Value	Pr > F
AN	1	63.84305510	63.84305510	0.51	.4803

Source	DF	Type III SS	Mean Square	F Value	Pr > F
AN	1	63.84305510	63.84305510	0.51	0.4803

Tukey's Studentized Range (HSD) Test for LYS

Minimum Significant Difference 7.4784

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	AN
A	31.466	38	3
A	28.820	12	2

The GLM Procedure

Class Level Information

Class	Levels	Values
HUM	2	1 2

Number of observations 50

R-Square	Coeff Var	Root MSE	LYS Mean
0.000129	36.62066	11.29057	30.83116

Source	DF	Type I SS	Mean Square	F Value	Pr > F
HUM	1	0.78732651	0.78732651	0.01	0.9377
Source	DF	Type III SS	Mean Square	F Value	Pr > F
HUM	1	0.78732651	0.78732651	0.01	0.9377

Tukey's Studentized Range (HSD) Test for LYS

Minimum Significant Difference 6.5534

Means with the same letter are not significantly different.

Tukey Grouping	Mean	N	HUM
A	30.934	30	2
A	30.677	20	1