

Información general de la comparación

Código del proyecto: V2M-EP09-21

Área: Química sanguínea

Laboratorio: 20220207 - Ayudas diagnosticas sura

Fecha de inicio: 2022-02-08

Método de prueba

Variant II Turbo

HPLC

Automático

%

Método de comparación

Premier HB 9210-TRINITY

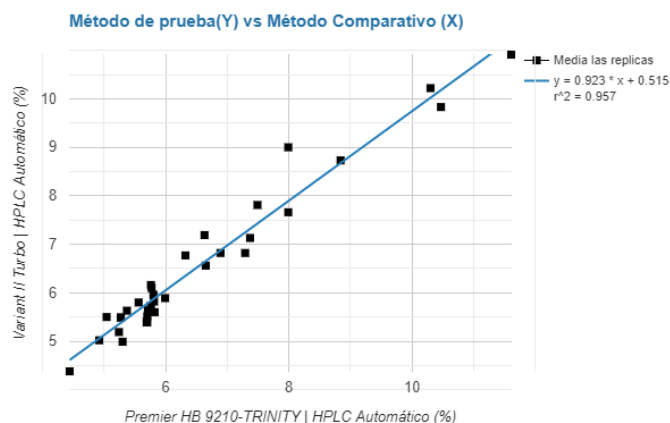
HPLC

Automático

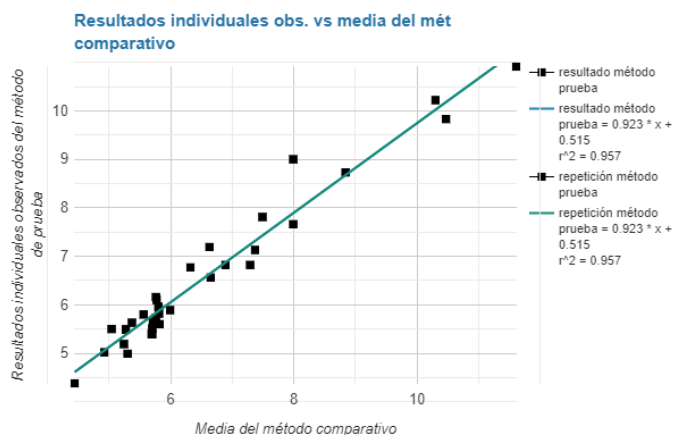
%

Gráficos de correlación

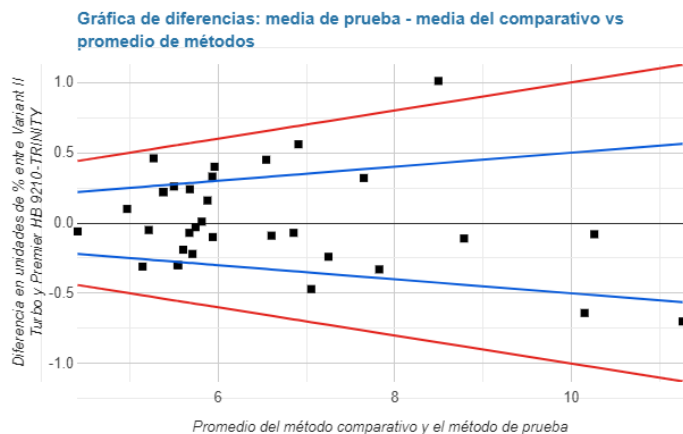
B1. Gráfico de dispersión para la media de las replicas



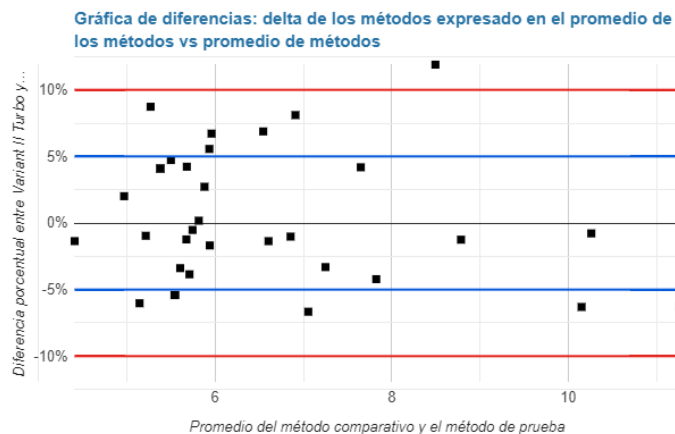
B2. Gráfico de dispersión para todos los resultados



B3. Delta de la media de las replicas en unidades vs. la media del método de prueba y el comparativo



B4. Delta de la media de las replicas en porcentaje vs. la media del método de prueba y el comparativo



Observaciones

Apendice A y B

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|--------------|----------------------|-------|----------------------|------------------------|-------|----------------------|--|---|---------------------------------|---|---|---|
| Muestra # | Método de Prueba (Y) | | | Método Comparativo (X) | | | Valor absoluto diferencia resultados método prueba | Valor absoluto diferencia resultados método comparativo | Promedio de ambos métodos | Promedio de método de prueba menos método comparativo | R1 mét prueba - mét Comparativo | R2 mét prueba - mét Comparativo |
| | R1 | R2 | X de repeticiones | R1 | R2 | X de repeticiones | | | | | | |
| 1 | 9 | 9 | 9 | 7.99 | 7.99 | 7.99 | 0 | 0 | 8.5 | 1.01 | 1.01 | 1.01 |
| 2 | 5.49 | 5.49 | 5.49 | 5.27 | 5.27 | 5.27 | 0 | 0 | 5.38 | 0.22 | 0.22 | 0.22 |
| 3 | 7.81 | 7.81 | 7.81 | 7.49 | 7.49 | 7.49 | 0 | 0 | 7.65 | 0.32 | 0.32 | 0.32 |
| 4 | 7.19 | 7.19 | 7.19 | 6.63 | 6.63 | 6.63 | 0 | 0 | 6.91 | 0.56 | 0.56 | 0.56 |
| 5 | 6.1 | 6.1 | 6.1 | 5.77 | 5.77 | 5.77 | 0 | 0 | 5.94 | 0.33 | 0.33 | 0.33 |
| 6 | 5.96 | 5.96 | 5.96 | 5.8 | 5.8 | 5.8 | 0 | 0 | 5.88 | 0.16 | 0.16 | 0.16 |
| 7 | 6.16 | 6.16 | 6.16 | 5.76 | 5.76 | 5.76 | 0 | 0 | 5.96 | 0.4 | 0.4 | 0.4 |
| 8 | 6.77 | 6.77 | 6.77 | 6.32 | 6.32 | 6.32 | 0 | 0 | 6.55 | 0.45 | 0.45 | 0.45 |
| 9 | 8.73 | 8.73 | 8.73 | 8.84 | 8.84 | 8.84 | 0 | 0 | 8.79 | -0.11 | -0.11 | -0.11 |
| 10 | 10.22 | 10.22 | 10.22 | 10.3 | 10.3 | 10.3 | 0 | 0 | 10.26 | -0.08 | -0.08 | -0.08 |
| 11 | 6.82 | 6.82 | 6.82 | 6.89 | 6.89 | 6.89 | 0 | 0 | 6.86 | -0.07 | -0.07 | -0.07 |
| 12 | 5.6 | 5.6 | 5.6 | 5.82 | 5.82 | 5.82 | 0 | 0 | 5.71 | -0.22 | -0.22 | -0.22 |
| 13 | 6.82 | 6.82 | 6.82 | 7.29 | 7.29 | 7.29 | 0 | 0 | 7.06 | -0.47 | -0.47 | -0.47 |
| 14 | 10.91 | 10.91 | 10.91 | 11.61 | 11.61 | 11.61 | 0 | 0 | 11.26 | -0.7 | -0.7 | -0.7 |
| 15 | 9.83 | 9.83 | 9.83 | 10.47 | 10.47 | 10.47 | 0 | 0 | 10.15 | -0.64 | -0.64 | -0.64 |
| 16 | 5.39 | 5.39 | 5.39 | 5.69 | 5.69 | 5.69 | 0 | 0 | 5.54 | -0.3 | -0.3 | -0.3 |
| 17 | 7.66 | 7.66 | 7.66 | 7.99 | 7.99 | 7.99 | 0 | 0 | 7.83 | -0.33 | -0.33 | -0.33 |
| 18 | 5.51 | 5.51 | 5.51 | 5.7 | 5.7 | 5.7 | 0 | 0 | 5.61 | -0.19 | -0.19 | -0.19 |
| 19 | 4.99 | 4.99 | 4.99 | 5.3 | 5.3 | 5.3 | 0 | 0 | 5.15 | -0.31 | -0.31 | -0.31 |
| 20 | 7.13 | 7.13 | 7.13 | 7.37 | 7.37 | 7.37 | 0 | 0 | 7.25 | -0.24 | -0.24 | -0.24 |
| 21 | 5.4 | 5.4 | 5.4 | 5.7 | 5.7 | 5.7 | 0 | 0 | 5.55 | -0.3 | -0.3 | -0.3 |
| 22 | 6.56 | 6.56 | 6.56 | 6.65 | 6.65 | 6.65 | 0 | 0 | 6.61 | -0.09 | -0.09 | -0.09 |
| 23 | 5.89 | 5.89 | 5.89 | 5.99 | 5.99 | 5.99 | 0 | 0 | 5.94 | -0.1 | -0.1 | -0.1 |
| 24 | 5.73 | 5.73 | 5.73 | 5.76 | 5.76 | 5.76 | 0 | 0 | 5.75 | -0.03 | -0.03 | -0.03 |
| 25 | 5.82 | 5.82 | 5.82 | 5.81 | 5.81 | 5.81 | 0 | 0 | 5.82 | 0.01 | 0.01 | 0.01 |
| 26 | 5.64 | 5.64 | 5.64 | 5.71 | 5.71 | 5.71 | 0 | 0 | 5.68 | -0.07 | -0.07 | -0.07 |
| 27 | 5.8 | 5.8 | 5.8 | 5.56 | 5.56 | 5.56 | 0 | 0 | 5.68 | 0.24 | 0.24 | 0.24 |
| 28 | 5.49 | 5.49 | 5.49 | 5.27 | 5.27 | 5.27 | 0 | 0 | 5.38 | 0.22 | 0.22 | 0.22 |
| 29 | 5.02 | 5.02 | 5.02 | 4.92 | 4.92 | 4.92 | 0 | 0 | 4.97 | 0.1 | 0.1 | 0.1 |
| 30 | 5.5 | 5.5 | 5.5 | 5.04 | 5.04 | 5.04 | 0 | 0 | 5.27 | 0.46 | 0.46 | 0.46 |
| 31 | 4.38 | 4.38 | 4.38 | 4.44 | 4.44 | 4.44 | 0 | 0 | 4.41 | -0.06 | -0.06 | -0.06 |
| 32 | 5.63 | 5.63 | 5.63 | 5.37 | 5.37 | 5.37 | 0 | 0 | 5.5 | 0.26 | 0.26 | 0.26 |
| 33 | 5.19 | 5.19 | 5.19 | 5.24 | 5.24 | 5.24 | 0 | 0 | 5.22 | -0.05 | -0.05 | -0.05 |

C1. Dentro-Método Duplicados Check (Sección 4.1)

| | | | | | | | |
|----------------------------|------|---|------|---|---|---|---|
| X_{11} | 7.99 | X_{12} | 7.99 | $DY_1 = Y_{11} - Y_{12} $ | 0 | $\vec{Y_1} = \frac{(Y_{11} + Y_{12})}{2}$ | 9 |
| Y_{11} | 9 | Y_{12} | 9 | $DX'_1 = \frac{ X_{11} - X_{12} }{\vec{X_1}}$ | 0 | $DY'_1 = \frac{ Y_{11} - Y_{12} }{\vec{Y_1}}$ | 0 |
| $DX_1 = X_{11} - X_{12} $ | 0 | $\vec{X_1} = \frac{(X_{11} + X_{12})}{2}$ | 7.99 | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|----------|----------|----------|----------|--------|--------|---------|---------|
| Muestra # | X_{i1} | X_{i2} | Y_{i1} | Y_{i2} | DX_i | DY_i | DX'_i | DY'_i |
| 1 | 7.99 | 7.99 | 9 | 9 | 0 | 0 | 0 | 0 |
| 2 | 5.27 | 5.27 | 5.49 | 5.49 | 0 | 0 | 0 | 0 |
| 3 | 7.49 | 7.49 | 7.81 | 7.81 | 0 | 0 | 0 | 0 |
| 4 | 6.63 | 6.63 | 7.19 | 7.19 | 0 | 0 | 0 | 0 |
| 5 | 5.77 | 5.77 | 6.1 | 6.1 | 0 | 0 | 0 | 0 |
| 6 | 5.8 | 5.8 | 5.96 | 5.96 | 0 | 0 | 0 | 0 |
| 7 | 5.76 | 5.76 | 6.16 | 6.16 | 0 | 0 | 0 | 0 |
| 8 | 6.32 | 6.32 | 6.77 | 6.77 | 0 | 0 | 0 | 0 |
| 9 | 8.84 | 8.84 | 8.73 | 8.73 | 0 | 0 | 0 | 0 |
| 10 | 10.3 | 10.3 | 10.22 | 10.22 | 0 | 0 | 0 | 0 |
| 11 | 6.89 | 6.89 | 6.82 | 6.82 | 0 | 0 | 0 | 0 |
| 12 | 5.82 | 5.82 | 5.6 | 5.6 | 0 | 0 | 0 | 0 |
| 13 | 7.29 | 7.29 | 6.82 | 6.82 | 0 | 0 | 0 | 0 |
| 14 | 11.61 | 11.61 | 10.91 | 10.91 | 0 | 0 | 0 | 0 |
| 15 | 10.47 | 10.47 | 9.83 | 9.83 | 0 | 0 | 0 | 0 |
| 16 | 5.69 | 5.69 | 5.39 | 5.39 | 0 | 0 | 0 | 0 |
| 17 | 7.99 | 7.99 | 7.66 | 7.66 | 0 | 0 | 0 | 0 |
| 18 | 5.7 | 5.7 | 5.51 | 5.51 | 0 | 0 | 0 | 0 |
| 19 | 5.3 | 5.3 | 4.99 | 4.99 | 0 | 0 | 0 | 0 |
| 20 | 7.37 | 7.37 | 7.13 | 7.13 | 0 | 0 | 0 | 0 |
| 21 | 5.7 | 5.7 | 5.4 | 5.4 | 0 | 0 | 0 | 0 |
| 22 | 6.65 | 6.65 | 6.56 | 6.56 | 0 | 0 | 0 | 0 |
| 23 | 5.99 | 5.99 | 5.89 | 5.89 | 0 | 0 | 0 | 0 |
| 24 | 5.76 | 5.76 | 5.73 | 5.73 | 0 | 0 | 0 | 0 |
| 25 | 5.81 | 5.81 | 5.82 | 5.82 | 0 | 0 | 0 | 0 |
| 26 | 5.71 | 5.71 | 5.64 | 5.64 | 0 | 0 | 0 | 0 |
| 27 | 5.56 | 5.56 | 5.8 | 5.8 | 0 | 0 | 0 | 0 |
| 28 | 5.27 | 5.27 | 5.49 | 5.49 | 0 | 0 | 0 | 0 |
| 29 | 4.92 | 4.92 | 5.02 | 5.02 | 0 | 0 | 0 | 0 |
| 30 | 5.04 | 5.04 | 5.5 | 5.5 | 0 | 0 | 0 | 0 |
| 31 | 4.44 | 4.44 | 4.38 | 4.38 | 0 | 0 | 0 | 0 |
| 32 | 5.37 | 5.37 | 5.63 | 5.63 | 0 | 0 | 0 | 0 |
| 33 | 5.24 | 5.24 | 5.19 | 5.19 | 0 | 0 | 0 | 0 |

| | | | | | |
|------------------|---|---|---|-----------|---|
| \overline{DX} | 0 | Limite De Control = 4* \overline{DX} | 0 | Redondear | 0 |
| \overline{DY} | 0 | Limite De Control = 4* \overline{DY} | 0 | Redondear | 0 |
| $\overline{DX'}$ | 0 | Limite De Control = 4* $\overline{DX'}$ | 0 | | |
| $\overline{DY'}$ | 0 | Limite De Control = 4* $\overline{DY'}$ | 0 | | |

C2. Prueba para resultados atípicos (Sección 4.4)

| | | | | | | | |
|----------|------|----------|------|--|------|--|------|
| X_{11} | 7.99 | X_{12} | 7.99 | $E_{11} = Y_{11} - X_{11} $ | 1.01 | $E_{12} = Y_{12} - X_{12} $ | 1.01 |
| Y_{11} | 9 | Y_{12} | 9 | $E'_{11} = \frac{ Y_{11} - X_{11} }{X_{11}}$ | 0.13 | $E'_{12} = \frac{ Y_{12} - X_{12} }{X_{12}}$ | 0.13 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|----------|----------|----------|----------|----------|----------|-----------|-----------|
| Muestra # | X_{i1} | X_{i2} | Y_{i1} | Y_{i2} | E_{i1} | E_{i2} | E'_{i1} | E'_{i2} |
| 1 | 7.99 | 7.99 | 9 | 9 | 1.01 | 1.01 | 0.13 | 0.13 |
| 2 | 5.27 | 5.27 | 5.49 | 5.49 | 0.22 | 0.22 | 0.04 | 0.04 |
| 3 | 7.49 | 7.49 | 7.81 | 7.81 | 0.32 | 0.32 | 0.04 | 0.04 |
| 4 | 6.63 | 6.63 | 7.19 | 7.19 | 0.56 | 0.56 | 0.08 | 0.08 |
| 5 | 5.77 | 5.77 | 6.1 | 6.1 | 0.33 | 0.33 | 0.06 | 0.06 |
| 6 | 5.8 | 5.8 | 5.96 | 5.96 | 0.16 | 0.16 | 0.03 | 0.03 |
| 7 | 5.76 | 5.76 | 6.16 | 6.16 | 0.4 | 0.4 | 0.07 | 0.07 |
| 8 | 6.32 | 6.32 | 6.77 | 6.77 | 0.45 | 0.45 | 0.07 | 0.07 |
| 9 | 8.84 | 8.84 | 8.73 | 8.73 | 0.11 | 0.11 | 0.01 | 0.01 |
| 10 | 10.3 | 10.3 | 10.22 | 10.22 | 0.08 | 0.08 | 0.01 | 0.01 |
| 11 | 6.89 | 6.89 | 6.82 | 6.82 | 0.07 | 0.07 | 0.01 | 0.01 |
| 12 | 5.82 | 5.82 | 5.6 | 5.6 | 0.22 | 0.22 | 0.04 | 0.04 |
| 13 | 7.29 | 7.29 | 6.82 | 6.82 | 0.47 | 0.47 | 0.06 | 0.06 |
| 14 | 11.61 | 11.61 | 10.91 | 10.91 | 0.7 | 0.7 | 0.06 | 0.06 |
| 15 | 10.47 | 10.47 | 9.83 | 9.83 | 0.64 | 0.64 | 0.06 | 0.06 |
| 16 | 5.69 | 5.69 | 5.39 | 5.39 | 0.3 | 0.3 | 0.05 | 0.05 |
| 17 | 7.99 | 7.99 | 7.66 | 7.66 | 0.33 | 0.33 | 0.04 | 0.04 |
| 18 | 5.7 | 5.7 | 5.51 | 5.51 | 0.19 | 0.19 | 0.03 | 0.03 |
| 19 | 5.3 | 5.3 | 4.99 | 4.99 | 0.31 | 0.31 | 0.06 | 0.06 |
| 20 | 7.37 | 7.37 | 7.13 | 7.13 | 0.24 | 0.24 | 0.03 | 0.03 |
| 21 | 5.7 | 5.7 | 5.4 | 5.4 | 0.3 | 0.3 | 0.05 | 0.05 |
| 22 | 6.65 | 6.65 | 6.56 | 6.56 | 0.09 | 0.09 | 0.01 | 0.01 |
| 23 | 5.99 | 5.99 | 5.89 | 5.89 | 0.1 | 0.1 | 0.02 | 0.02 |
| 24 | 5.76 | 5.76 | 5.73 | 5.73 | 0.03 | 0.03 | 0.01 | 0.01 |
| 25 | 5.81 | 5.81 | 5.82 | 5.82 | 0.01 | 0.01 | 0 | 0 |
| 26 | 5.71 | 5.71 | 5.64 | 5.64 | 0.07 | 0.07 | 0.01 | 0.01 |
| 27 | 5.56 | 5.56 | 5.8 | 5.8 | 0.24 | 0.24 | 0.04 | 0.04 |
| 28 | 5.27 | 5.27 | 5.49 | 5.49 | 0.22 | 0.22 | 0.04 | 0.04 |
| 29 | 4.92 | 4.92 | 5.02 | 5.02 | 0.1 | 0.1 | 0.02 | 0.02 |
| 30 | 5.04 | 5.04 | 5.5 | 5.5 | 0.46 | 0.46 | 0.09 | 0.09 |
| 31 | 4.44 | 4.44 | 4.38 | 4.38 | 0.06 | 0.06 | 0.01 | 0.01 |
| 32 | 5.37 | 5.37 | 5.63 | 5.63 | 0.26 | 0.26 | 0.05 | 0.05 |
| 33 | 5.24 | 5.24 | 5.19 | 5.19 | 0.05 | 0.05 | 0.01 | 0.01 |

$$E = \frac{1}{80} \cdot \sum_{i=1}^{40} \sum_{j=1}^2 E_{ij}$$

0.23

Limite De Control = 4*E

0.91

$$E' = \frac{1}{80} \cdot \sum_{i=1}^{40} \sum_{j=1}^2 E'_{ij}$$

0.03

Limite De Control = 4*E'

0.14

C3. Rango adecuado Test-Correlación (Sección 4.5)

| | | | | | | | |
|-------------|------|--------------------------------|-------|---|-------|---|------|
| (\bar{X}) | 6.54 | $\sum (\bar{X}_i - \bar{X})^2$ | 91.73 | $\sum (\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})$ | 84.66 | $r = \frac{\sum_{i=1}^N (\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})}{\sqrt{\sum_{i=1}^N (\bar{X}_i - \bar{X})^2} \sqrt{\sum_{i=1}^N (\bar{Y}_i - \bar{Y})^2}}$ | 0.98 |
| (\bar{Y}) | 6.55 | $\sum (\bar{Y}_i - \bar{Y})^2$ | 81.67 | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|-----------|----------|----------|----------|----------|---------------|-------------------------|---------------------------|---------------|-------------------------|---------------------------|--|
| Muestra # | X_{i1} | X_{i2} | Y_{i1} | Y_{i2} | (\bar{X}_i) | $(\bar{X}_i - \bar{X})$ | $(\bar{X}_i - \bar{X})^2$ | (\bar{Y}_i) | $(\bar{Y}_i - \bar{Y})$ | $(\bar{Y}_i - \bar{Y})^2$ | $(\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})$ |
| 1 | 7.99 | 7.99 | 9 | 9 | 7.99 | 1.45 | 2.11 | 9 | 2.45 | 6 | 3.56 |
| 2 | 5.27 | 5.27 | 5.49 | 5.49 | 5.27 | -1.27 | 1.61 | 5.49 | -1.06 | 1.12 | 1.34 |
| 3 | 7.49 | 7.49 | 7.81 | 7.81 | 7.49 | 0.95 | 0.91 | 7.81 | 1.26 | 1.59 | 1.2 |
| 4 | 6.63 | 6.63 | 7.19 | 7.19 | 6.63 | 0.09 | 0.01 | 7.19 | 0.64 | 0.41 | 0.06 |
| 5 | 5.77 | 5.77 | 6.1 | 6.1 | 5.77 | -0.77 | 0.59 | 6.1 | -0.45 | 0.2 | 0.35 |
| 6 | 5.8 | 5.8 | 5.96 | 5.96 | 5.8 | -0.74 | 0.54 | 5.96 | -0.59 | 0.35 | 0.44 |
| 7 | 5.76 | 5.76 | 6.16 | 6.16 | 5.76 | -0.78 | 0.61 | 6.16 | -0.39 | 0.15 | 0.3 |
| 8 | 6.32 | 6.32 | 6.77 | 6.77 | 6.32 | -0.22 | 0.05 | 6.77 | 0.22 | 0.05 | -0.05 |
| 9 | 8.84 | 8.84 | 8.73 | 8.73 | 8.84 | 2.3 | 5.3 | 8.73 | 2.18 | 4.75 | 5.02 |
| 10 | 10.3 | 10.3 | 10.22 | 10.22 | 10.3 | 3.76 | 14.15 | 10.22 | 3.67 | 13.47 | 13.81 |
| 11 | 6.89 | 6.89 | 6.82 | 6.82 | 6.89 | 0.35 | 0.12 | 6.82 | 0.27 | 0.07 | 0.1 |
| 12 | 5.82 | 5.82 | 5.6 | 5.6 | 5.82 | -0.72 | 0.52 | 5.6 | -0.95 | 0.9 | 0.68 |
| 13 | 7.29 | 7.29 | 6.82 | 6.82 | 7.29 | 0.75 | 0.57 | 6.82 | 0.27 | 0.07 | 0.2 |
| 14 | 11.61 | 11.61 | 10.91 | 10.91 | 11.61 | 5.07 | 25.72 | 10.91 | 4.36 | 19.01 | 22.11 |
| 15 | 10.47 | 10.47 | 9.83 | 9.83 | 10.47 | 3.93 | 15.46 | 9.83 | 3.28 | 10.76 | 12.9 |
| 16 | 5.69 | 5.69 | 5.39 | 5.39 | 5.69 | -0.85 | 0.72 | 5.39 | -1.16 | 1.34 | 0.98 |
| 17 | 7.99 | 7.99 | 7.66 | 7.66 | 7.99 | 1.45 | 2.11 | 7.66 | 1.11 | 1.23 | 1.61 |
| 18 | 5.7 | 5.7 | 5.51 | 5.51 | 5.7 | -0.84 | 0.7 | 5.51 | -1.04 | 1.08 | 0.87 |
| 19 | 5.3 | 5.3 | 4.99 | 4.99 | 5.3 | -1.24 | 1.53 | 4.99 | -1.56 | 2.43 | 1.93 |
| 20 | 7.37 | 7.37 | 7.13 | 7.13 | 7.37 | 0.83 | 0.69 | 7.13 | 0.58 | 0.34 | 0.48 |
| 21 | 5.7 | 5.7 | 5.4 | 5.4 | 5.7 | -0.84 | 0.7 | 5.4 | -1.15 | 1.32 | 0.96 |
| 22 | 6.65 | 6.65 | 6.56 | 6.56 | 6.65 | 0.11 | 0.01 | 6.56 | 0.01 | 0 | 0 |
| 23 | 5.99 | 5.99 | 5.89 | 5.89 | 5.99 | -0.55 | 0.3 | 5.89 | -0.66 | 0.44 | 0.36 |
| 24 | 5.76 | 5.76 | 5.73 | 5.73 | 5.76 | -0.78 | 0.61 | 5.73 | -0.82 | 0.67 | 0.64 |
| 25 | 5.81 | 5.81 | 5.82 | 5.82 | 5.81 | -0.73 | 0.53 | 5.82 | -0.73 | 0.53 | 0.53 |
| 26 | 5.71 | 5.71 | 5.64 | 5.64 | 5.71 | -0.83 | 0.69 | 5.64 | -0.91 | 0.83 | 0.75 |
| 27 | 5.56 | 5.56 | 5.8 | 5.8 | 5.56 | -0.98 | 0.96 | 5.8 | -0.75 | 0.56 | 0.73 |
| 28 | 5.27 | 5.27 | 5.49 | 5.49 | 5.27 | -1.27 | 1.61 | 5.49 | -1.06 | 1.12 | 1.34 |
| 29 | 4.92 | 4.92 | 5.02 | 5.02 | 4.92 | -1.62 | 2.62 | 5.02 | -1.53 | 2.34 | 2.48 |
| 30 | 5.04 | 5.04 | 5.5 | 5.5 | 5.04 | -1.5 | 2.24 | 5.5 | -1.05 | 1.1 | 1.57 |
| 31 | 4.44 | 4.44 | 4.38 | 4.38 | 4.44 | -2.1 | 4.4 | 4.38 | -2.17 | 4.71 | 4.55 |
| 32 | 5.37 | 5.37 | 5.63 | 5.63 | 5.37 | -1.17 | 1.36 | 5.63 | -0.92 | 0.85 | 1.07 |
| 33 | 5.24 | 5.24 | 5.19 | 5.19 | 5.24 | -1.3 | 1.69 | 5.19 | -1.36 | 1.85 | 1.77 |

C4. Estimaciones de los parámetros de regresión (Sección 5.1) Pendiente (b): El uso de los datos de la página anterior calculado

$$b = \frac{[\sum_{i=1}^N (\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})]}{\sum_{i=1}^N (\bar{X}_i - \bar{X})^2}$$

0.92

Intercepción (a)

$$a = (\bar{Y}) - b \cdot (\bar{X})$$

0.52

C5. Residuos y error típico de estimación (Sxy) - (Sección 6.1)

| | | | | | | | | | | |
|---|---|------|-------------------------------|---|------|--|---|------|---|--------|
| Valores pronosticados | $\hat{Y} = a + b \cdot \bar{X}_i$ | 7.89 | Suma de cuadrados de residuos | $\sum_{i=1}^{40} (\bar{Y}_i - \bar{Y})^2$ | 3.53 | Desviación estándar de muestra de la regresión = | $\sum_{i=1}^{40} (\bar{Y}_i - \bar{Y})^2$ | 0.34 | Sesgo en un nivel de decisión "c" de 150 = Bc | -11.04 |
| $\sum (\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})$ | $\sum (\bar{X}_i - \bar{X})(\bar{Y}_i - \bar{Y})$ | 1.11 | Grados de libertad = N - 2 | | 31 | | | | | |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|-----------|----------|----------|----------|----------|---------------|-------------------------|---------------------------|---------------|-------------------------|---------------------------|-------------|-----------------------|---------------------------|
| Muestra # | X_{i1} | X_{i2} | Y_{i1} | Y_{i2} | (\bar{X}_i) | $(\bar{X}_i - \bar{X})$ | $(\bar{X}_i - \bar{X})^2$ | (\bar{Y}_i) | $(\bar{Y}_i - \bar{Y})$ | $(\bar{Y}_i - \bar{Y})^2$ | \bar{Y}_i | Residual _i | $(\bar{Y}_i - \bar{Y})^2$ |
| 1 | 7.99 | 7.99 | 9 | 9 | 7.99 | 1.45 | 2.11 | 9 | 2.45 | 6 | 7.89 | 1.11 | 1.23 |
| 2 | 5.27 | 5.27 | 5.49 | 5.49 | 5.27 | -1.27 | 1.61 | 5.49 | -1.06 | 1.12 | 5.38 | 0.11 | 0.01 |
| 3 | 7.49 | 7.49 | 7.81 | 7.81 | 7.49 | 0.95 | 0.91 | 7.81 | 1.26 | 1.59 | 7.43 | 0.38 | 0.15 |
| 4 | 6.63 | 6.63 | 7.19 | 7.19 | 6.63 | 0.09 | 0.01 | 7.19 | 0.64 | 0.41 | 6.63 | 0.56 | 0.31 |
| 5 | 5.77 | 5.77 | 6.1 | 6.1 | 5.77 | -0.77 | 0.59 | 6.1 | -0.45 | 0.2 | 5.84 | 0.26 | 0.07 |
| 6 | 5.8 | 5.8 | 5.96 | 5.96 | 5.8 | -0.74 | 0.54 | 5.96 | -0.59 | 0.35 | 5.87 | 0.09 | 0.01 |
| 7 | 5.76 | 5.76 | 6.16 | 6.16 | 5.76 | -0.78 | 0.61 | 6.16 | -0.39 | 0.15 | 5.83 | 0.33 | 0.11 |
| 8 | 6.32 | 6.32 | 6.77 | 6.77 | 6.32 | -0.22 | 0.05 | 6.77 | 0.22 | 0.05 | 6.35 | 0.42 | 0.18 |
| 9 | 8.84 | 8.84 | 8.73 | 8.73 | 8.84 | 2.3 | 5.3 | 8.73 | 2.18 | 4.75 | 8.67 | 0.06 | 0 |
| 10 | 10.3 | 10.3 | 10.22 | 10.22 | 10.3 | 3.76 | 14.15 | 10.22 | 3.67 | 13.47 | 10.02 | 0.2 | 0.04 |
| 11 | 6.89 | 6.89 | 6.82 | 6.82 | 6.89 | 0.35 | 0.12 | 6.82 | 0.27 | 0.07 | 6.87 | -0.05 | 0 |
| 12 | 5.82 | 5.82 | 5.6 | 5.6 | 5.82 | -0.72 | 0.52 | 5.6 | -0.95 | 0.9 | 5.89 | -0.29 | 0.08 |
| 13 | 7.29 | 7.29 | 6.82 | 6.82 | 7.29 | 0.75 | 0.57 | 6.82 | 0.27 | 0.07 | 7.24 | -0.42 | 0.18 |
| 14 | 11.61 | 11.61 | 10.91 | 10.91 | 11.61 | 5.07 | 25.72 | 10.91 | 4.36 | 19.01 | 11.23 | -0.32 | 0.1 |
| 15 | 10.47 | 10.47 | 9.83 | 9.83 | 10.47 | 3.93 | 15.46 | 9.83 | 3.28 | 10.76 | 10.18 | -0.35 | 0.12 |
| 16 | 5.69 | 5.69 | 5.39 | 5.39 | 5.69 | -0.85 | 0.72 | 5.39 | -1.16 | 1.34 | 5.77 | -0.38 | 0.14 |
| 17 | 7.99 | 7.99 | 7.66 | 7.66 | 7.99 | 1.45 | 2.11 | 7.66 | 1.11 | 1.23 | 7.89 | -0.23 | 0.05 |
| 18 | 5.7 | 5.7 | 5.51 | 5.51 | 5.7 | -0.84 | 0.7 | 5.51 | -1.04 | 1.08 | 5.78 | -0.27 | 0.07 |
| 19 | 5.3 | 5.3 | 4.99 | 4.99 | 5.3 | -1.24 | 1.53 | 4.99 | -1.56 | 2.43 | 5.41 | -0.42 | 0.17 |
| 20 | 7.37 | 7.37 | 7.13 | 7.13 | 7.37 | 0.83 | 0.69 | 7.13 | 0.58 | 0.34 | 7.32 | -0.19 | 0.04 |
| 21 | 5.7 | 5.7 | 5.4 | 5.4 | 5.7 | -0.84 | 0.7 | 5.4 | -1.15 | 1.32 | 5.78 | -0.38 | 0.14 |
| 22 | 6.65 | 6.65 | 6.56 | 6.56 | 6.65 | 0.11 | 0.01 | 6.56 | 0.01 | 0 | 6.65 | -0.09 | 0.01 |
| 23 | 5.99 | 5.99 | 5.89 | 5.89 | 5.99 | -0.55 | 0.3 | 5.89 | -0.66 | 0.44 | 6.04 | -0.15 | 0.02 |
| 24 | 5.76 | 5.76 | 5.73 | 5.73 | 5.76 | -0.78 | 0.61 | 5.73 | -0.82 | 0.67 | 5.83 | -0.1 | 0.01 |
| 25 | 5.81 | 5.81 | 5.82 | 5.82 | 5.81 | -0.73 | 0.53 | 5.82 | -0.73 | 0.53 | 5.88 | -0.06 | 0 |
| 26 | 5.71 | 5.71 | 5.64 | 5.64 | 5.71 | -0.83 | 0.69 | 5.64 | -0.91 | 0.83 | 5.79 | -0.15 | 0.02 |
| 27 | 5.56 | 5.56 | 5.8 | 5.8 | 5.56 | -0.98 | 0.96 | 5.8 | -0.75 | 0.56 | 5.65 | 0.15 | 0.02 |
| 28 | 5.27 | 5.27 | 5.49 | 5.49 | 5.27 | -1.27 | 1.61 | 5.49 | -1.06 | 1.12 | 5.38 | 0.11 | 0.01 |
| 29 | 4.92 | 4.92 | 5.02 | 5.02 | 4.92 | -1.62 | 2.62 | 5.02 | -1.53 | 2.34 | 5.06 | -0.04 | 0 |
| 30 | 5.04 | 5.04 | 5.5 | 5.5 | 5.04 | -1.5 | 2.24 | 5.5 | -1.05 | 1.1 | 5.17 | 0.33 | 0.11 |
| 31 | 4.44 | 4.44 | 4.38 | 4.38 | 4.44 | -2.1 | 4.4 | 4.38 | -2.17 | 4.71 | 4.61 | -0.23 | 0.05 |
| 32 | 5.37 | 5.37 | 5.63 | 5.63 | 5.37 | -1.17 | 1.36 | 5.63 | -0.92 | 0.85 | 5.47 | 0.16 | 0.03 |
| 33 | 5.24 | 5.24 | 5.19 | 5.19 | 5.24 | -1.3 | 1.69 | 5.19 | -1.36 | 1.85 | 5.35 | -0.16 | 0.03 |

| | | | | | | |
|--|---|-------|--------|---|-------|-------|
| El límite inferior del 95% de intervalo de confianza de la estimación de sesgo | $B_c - 2 \cdot S_{y,x} \sqrt{\left(\frac{1}{N}\right) + (X_c - \bar{X})^2 / \sum_{i=1}^{40} (\bar{X}_i - \bar{X})^2}$ | 10.11 | -21.15 | $B_c + 2 \cdot S_{y,x} \sqrt{\left(\frac{1}{N}\right) + (X_c - \bar{X})^2 / \sum_{i=1}^{40} (\bar{X}_i - \bar{X})^2}$ | 10.11 | -0.93 |
|--|---|-------|--------|---|-------|-------|