

Figure S3.1: Swimming: men 100 meters backstroke

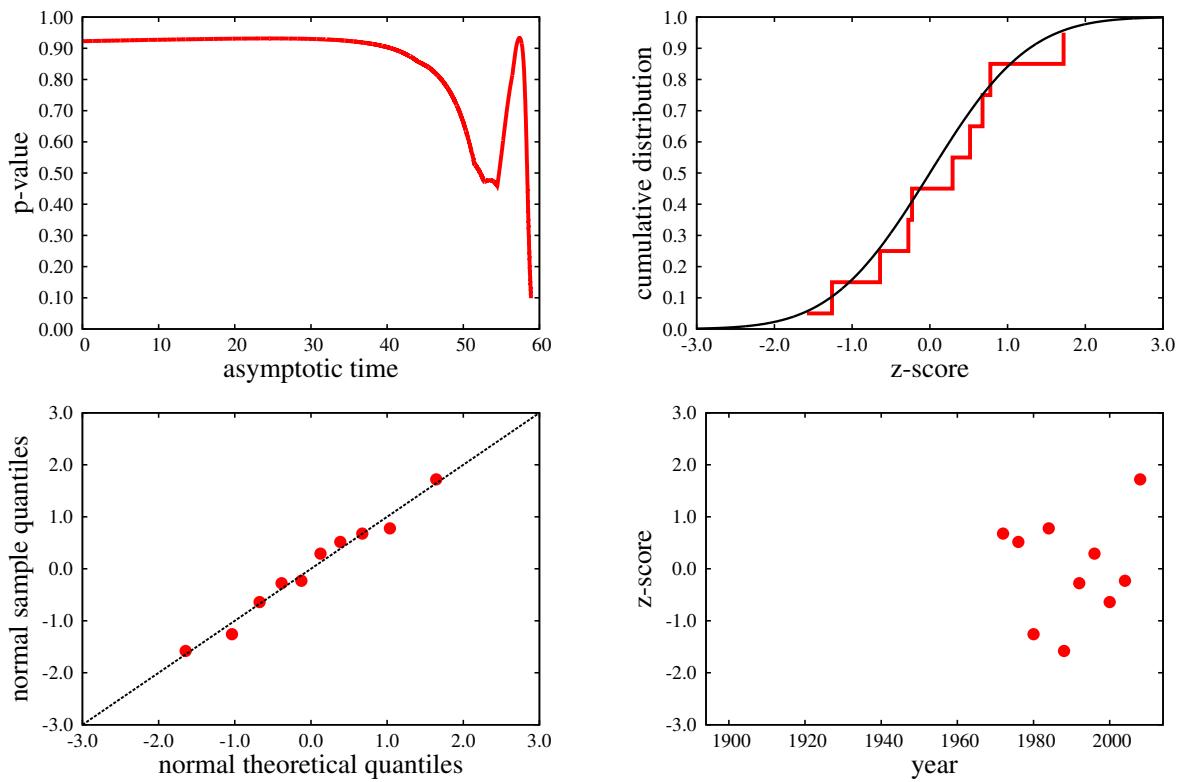


Figure S3.2: Swimming: men 100 meters breaststroke

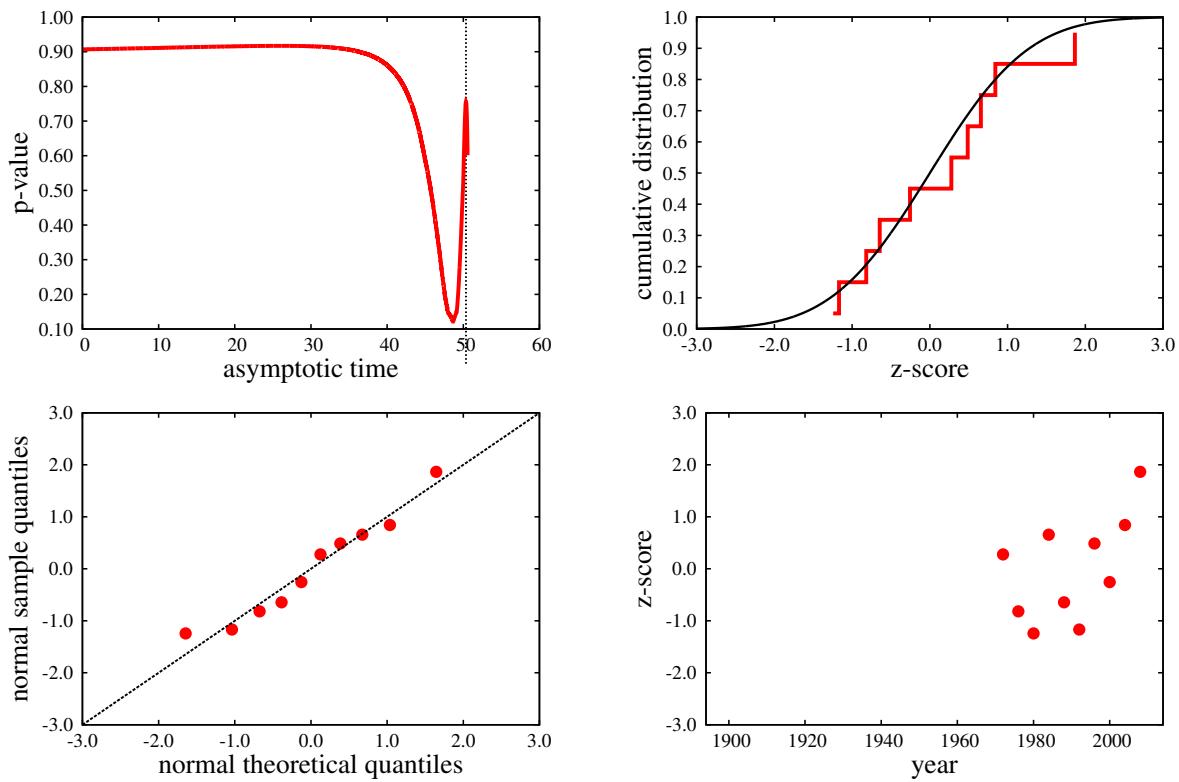


Figure S3.3: Swimming: men 100 meters butterfly

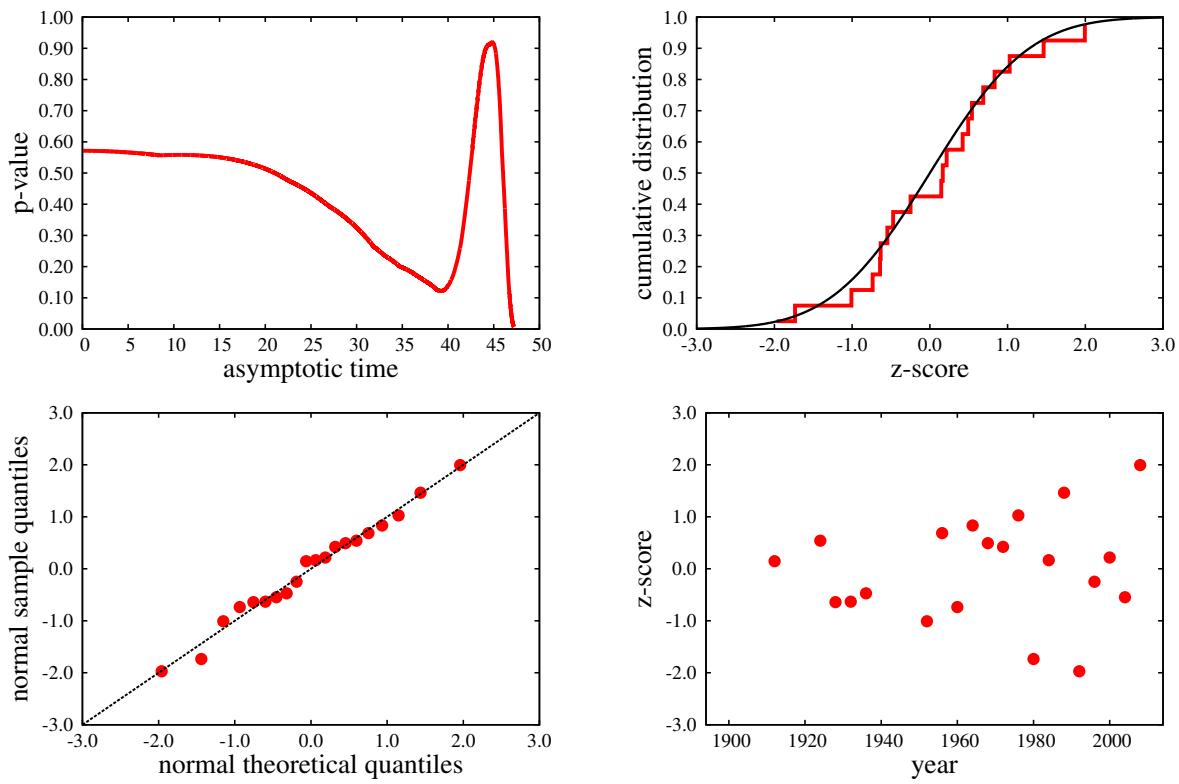


Figure S3.4: Swimming: men 100 meters freestyle

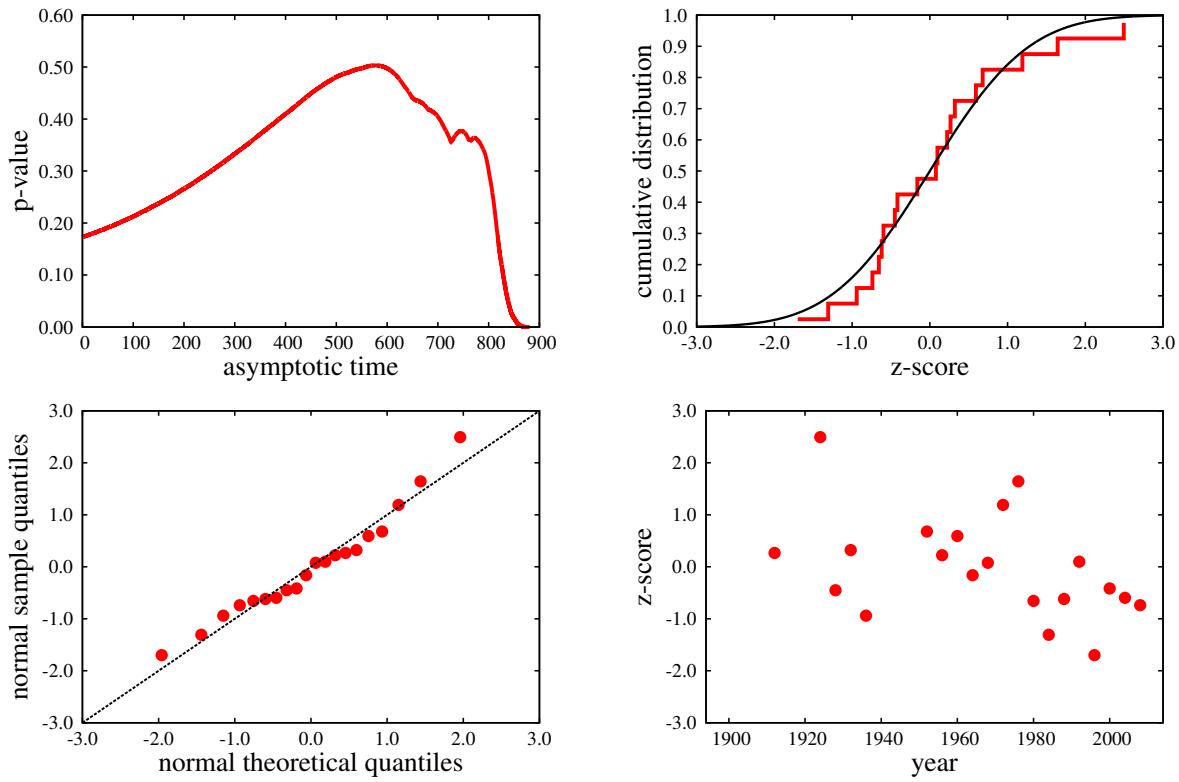


Figure S3.5: Swimming: men 1500 meters freestyle

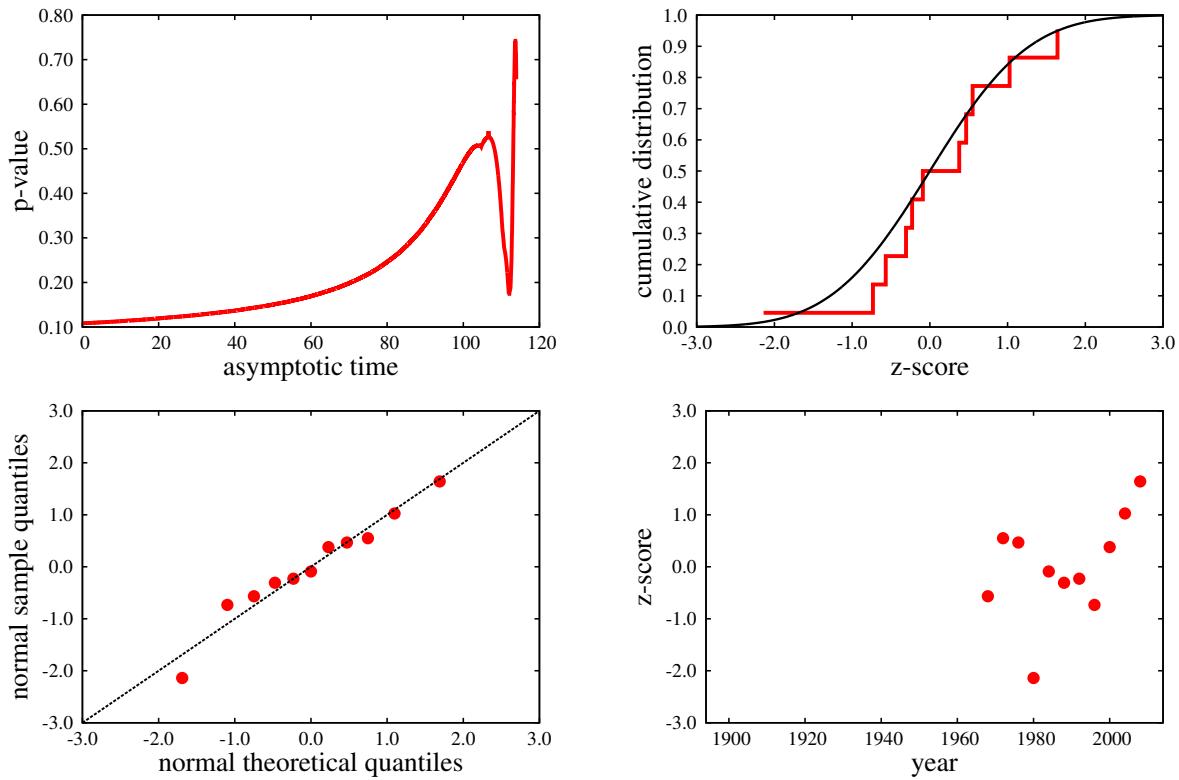


Figure S3.6: Swimming: men 200 meters backstroke

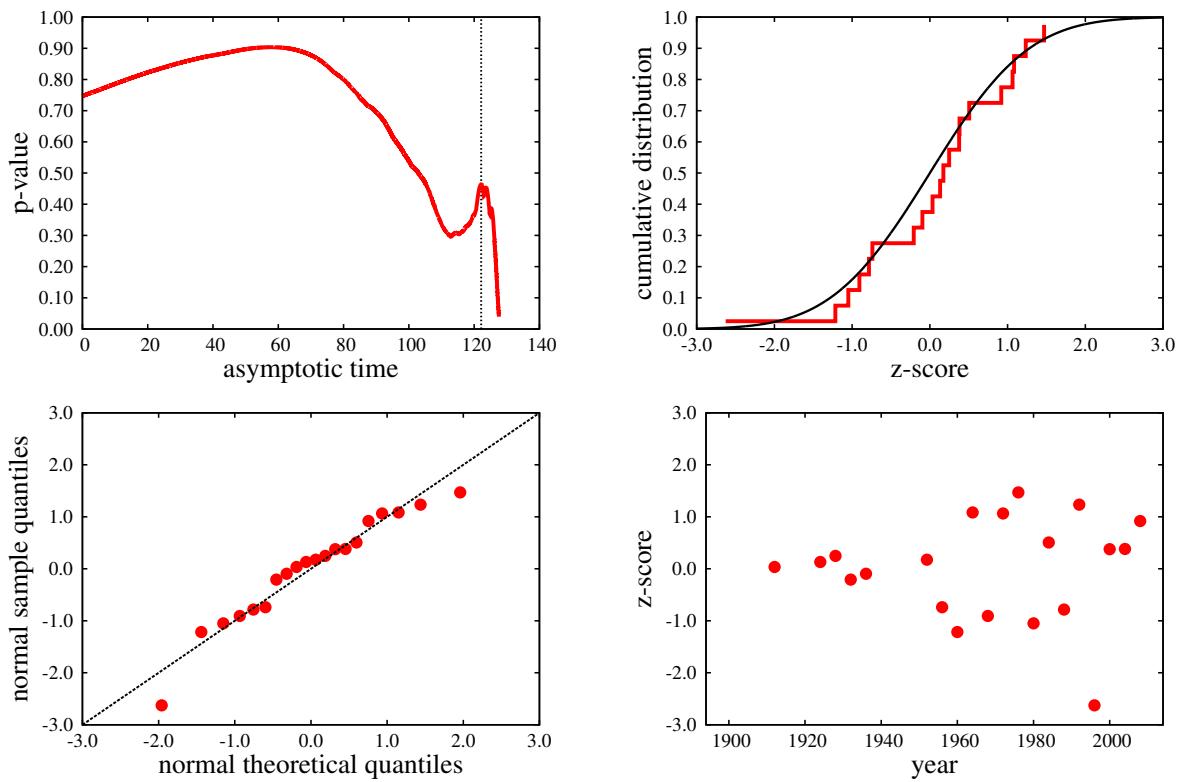


Figure S3.7: Swimming: men 200 meters breaststroke

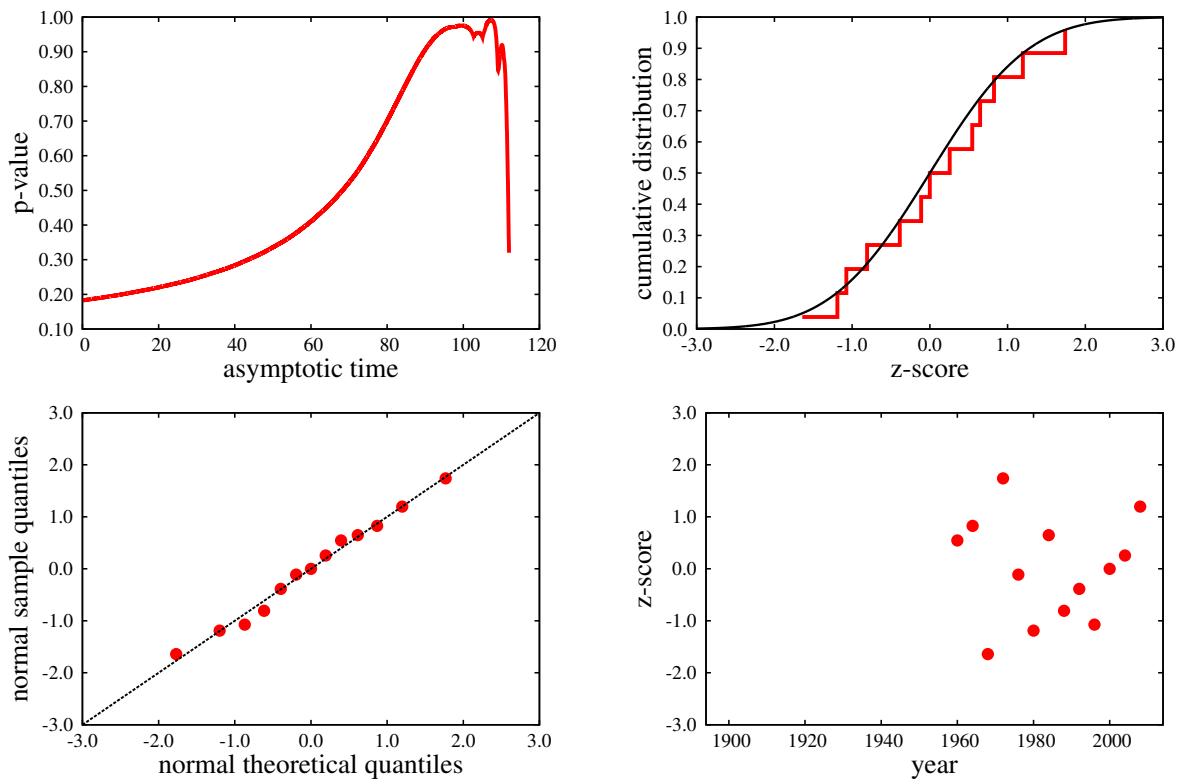


Figure S3.8: Swimming: men 200 meters butterfly

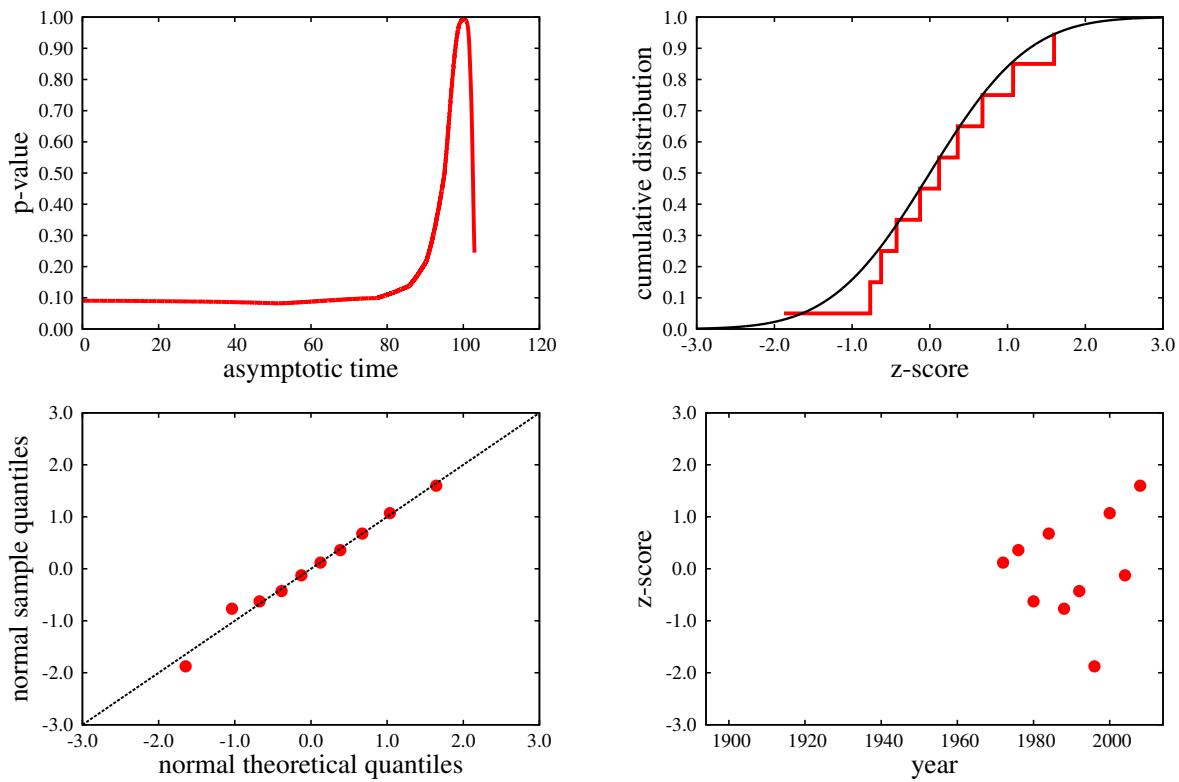


Figure S3.9: Swimming: men 200 meters freestyle

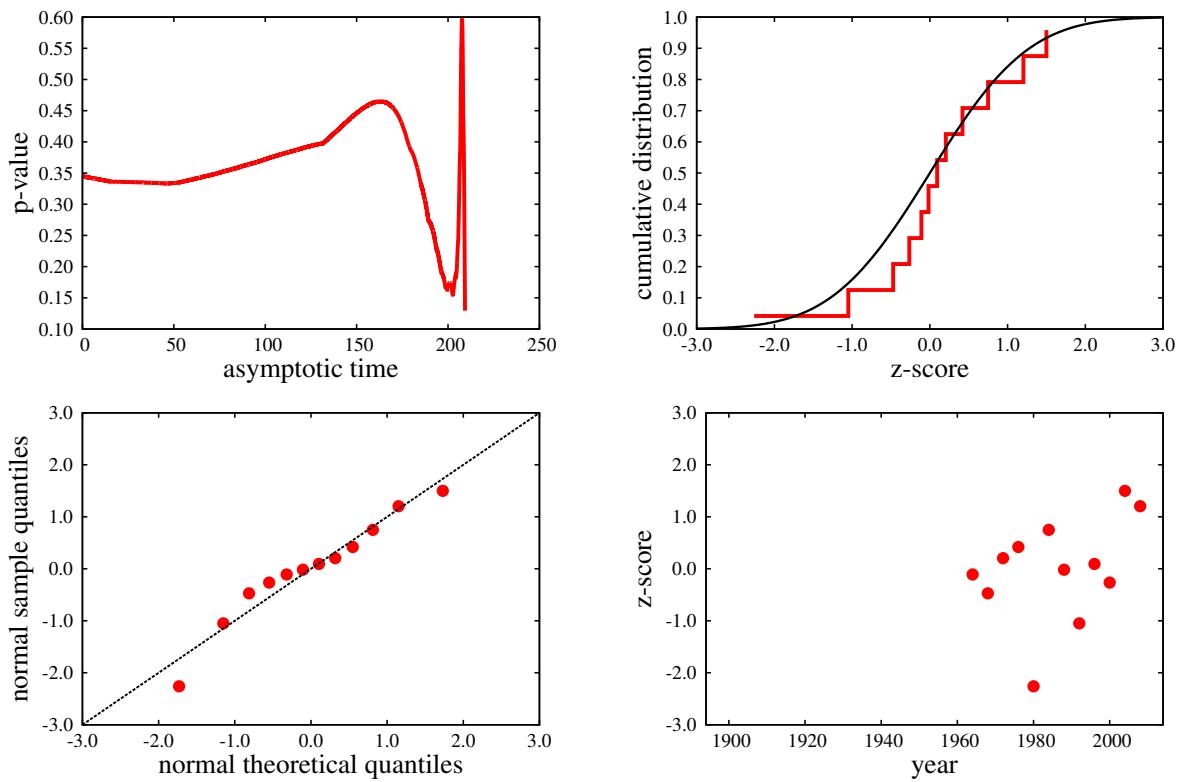


Figure S3.10: Swimming: men 4 x 100 meters medley relay

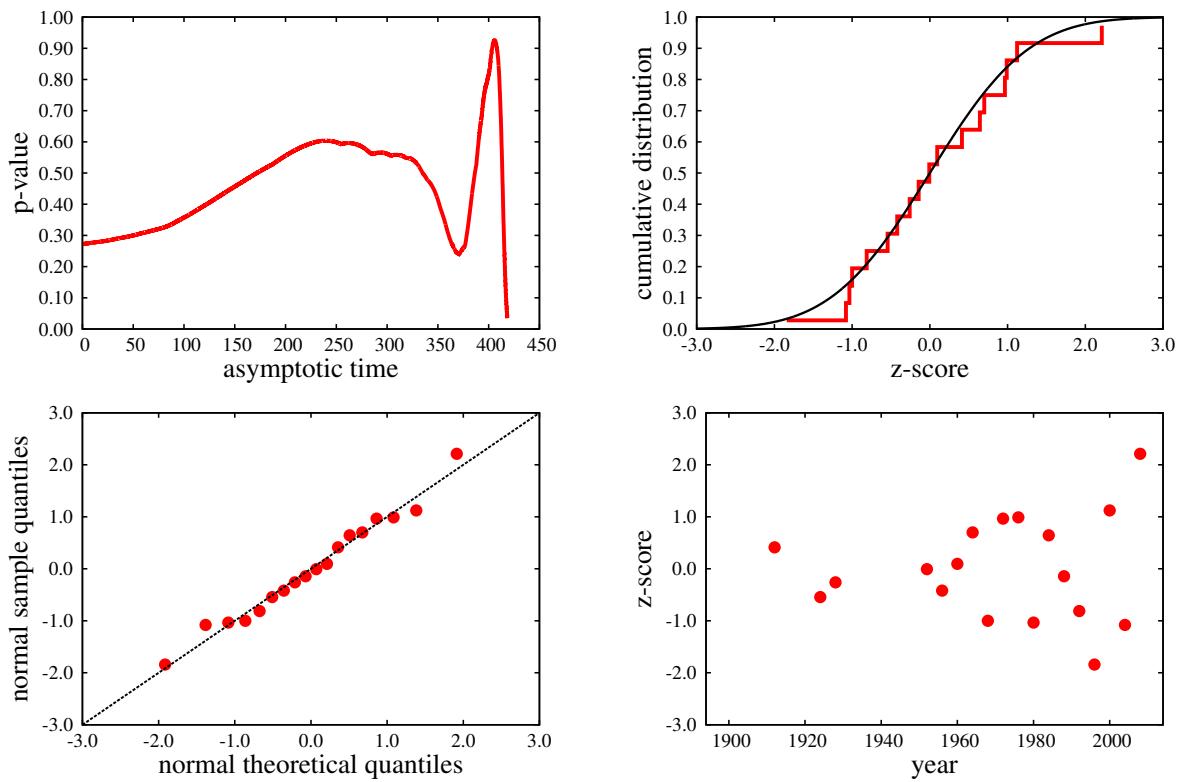


Figure S3.11: Swimming: men 4 x 200 meters freestyle relay

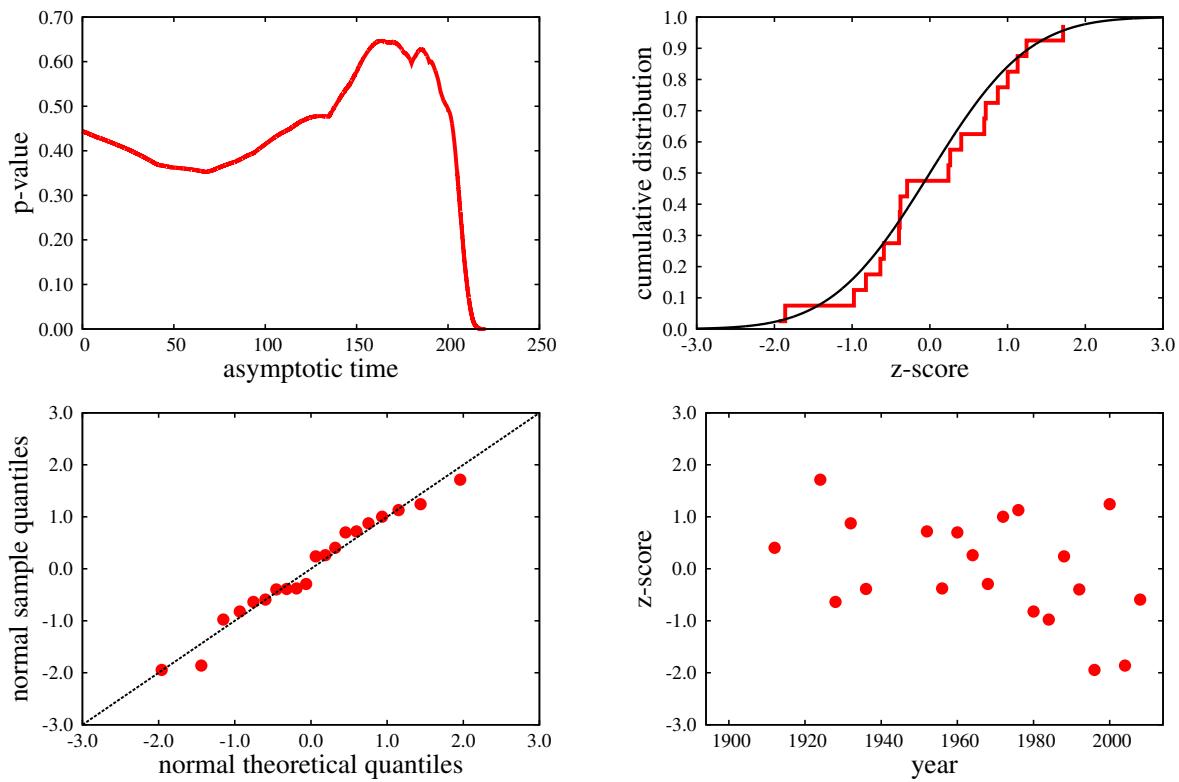


Figure S3.12: Swimming: men 400 meters freestyle

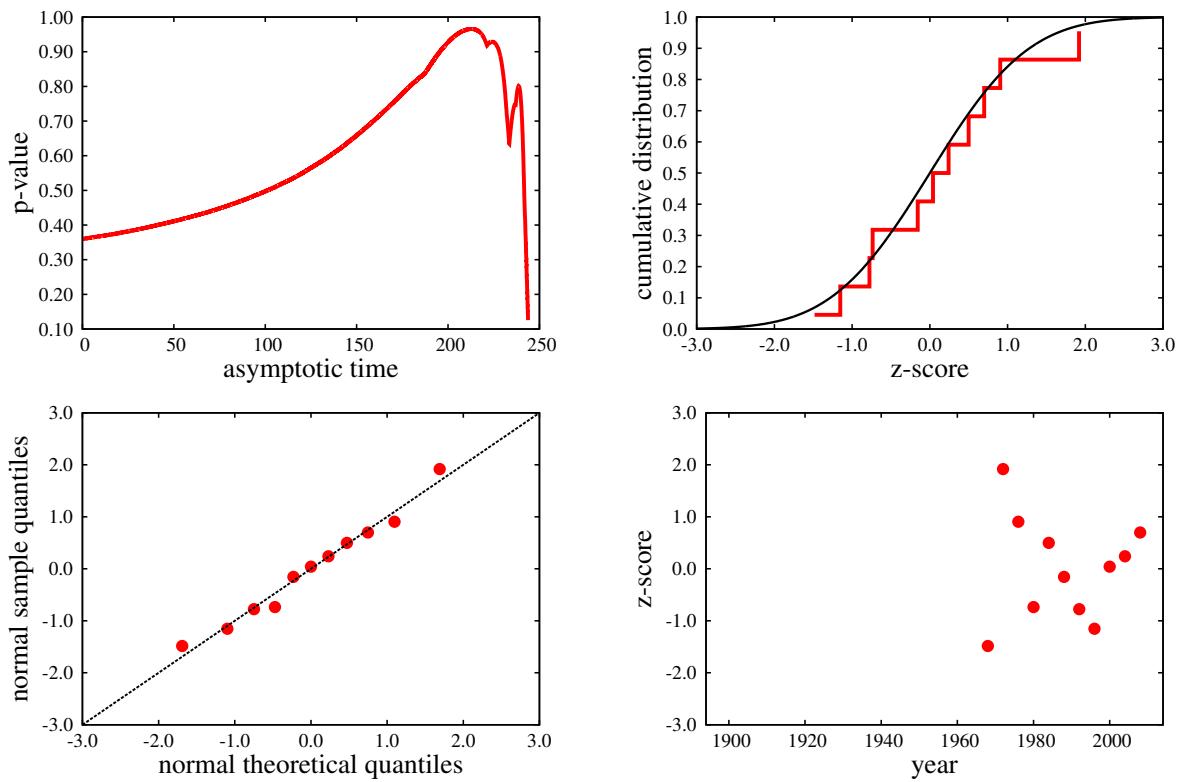


Figure S3.13: Swimming: men 400 meters individual medley

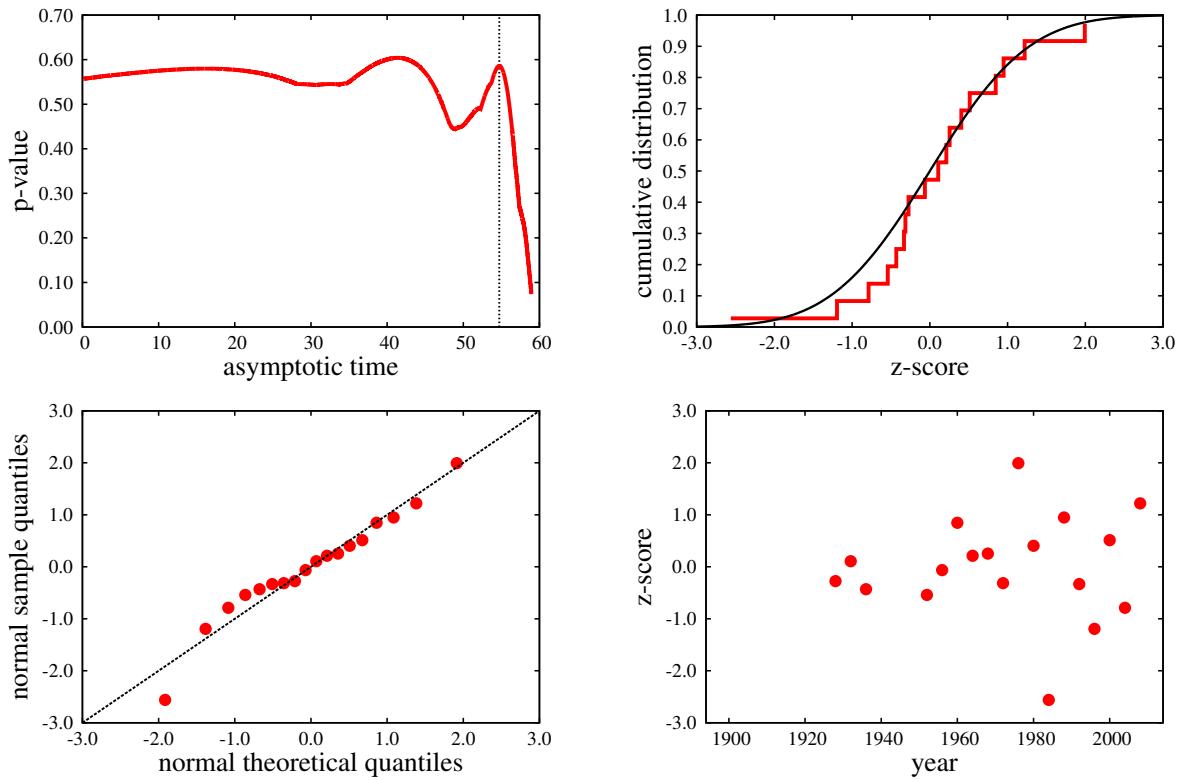


Figure S3.14: Swimming: women 100 meters backstroke

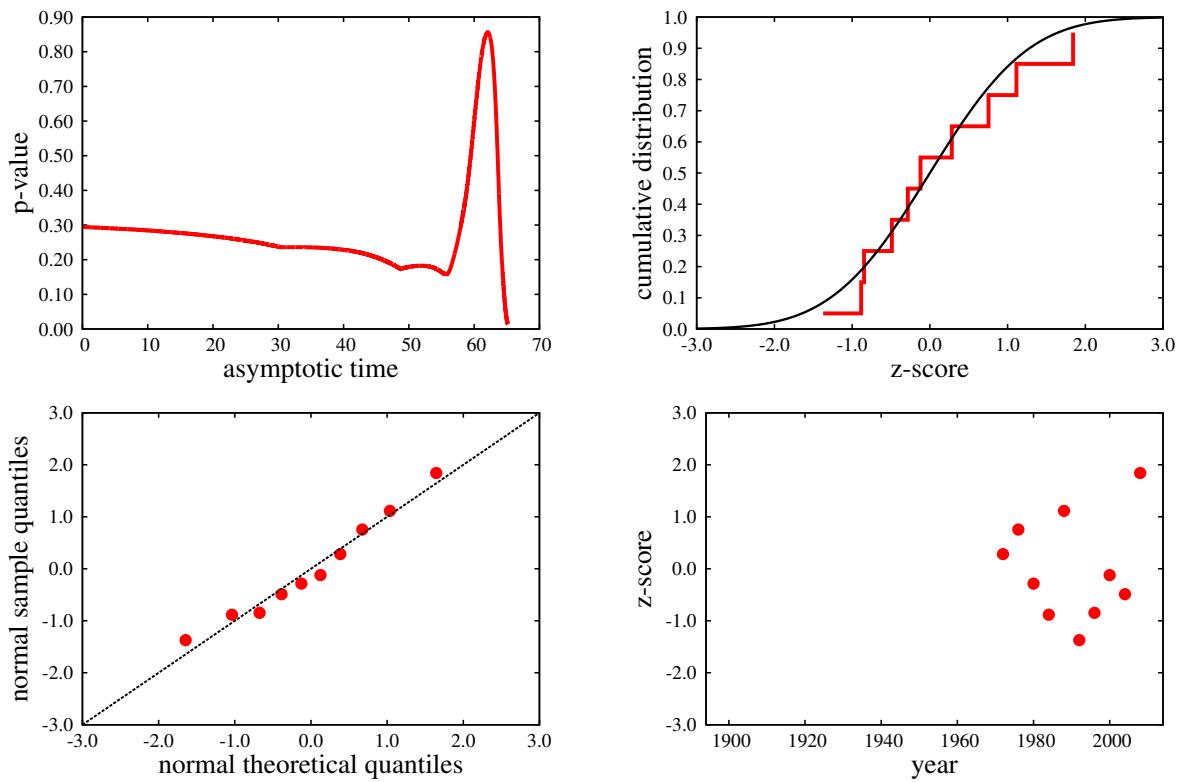


Figure S3.15: Swimming: women 100 meters breaststroke

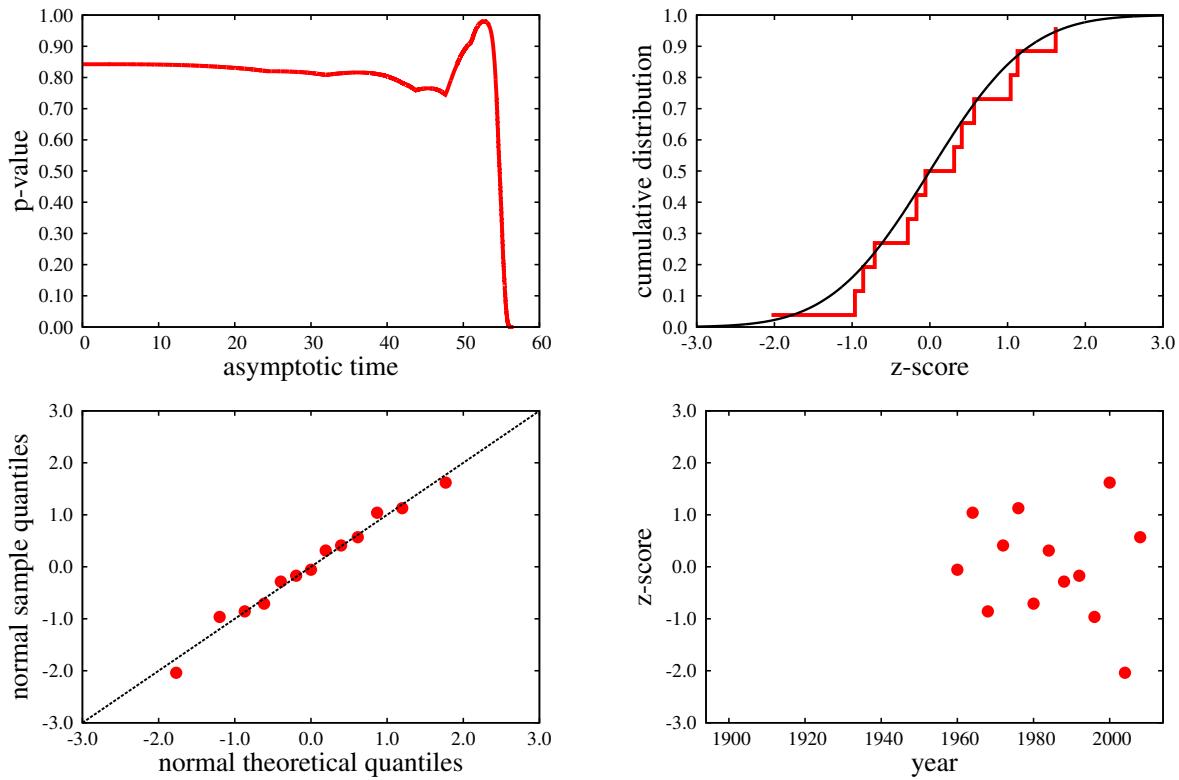


Figure S3.16: Swimming: women 100 meters butterfly

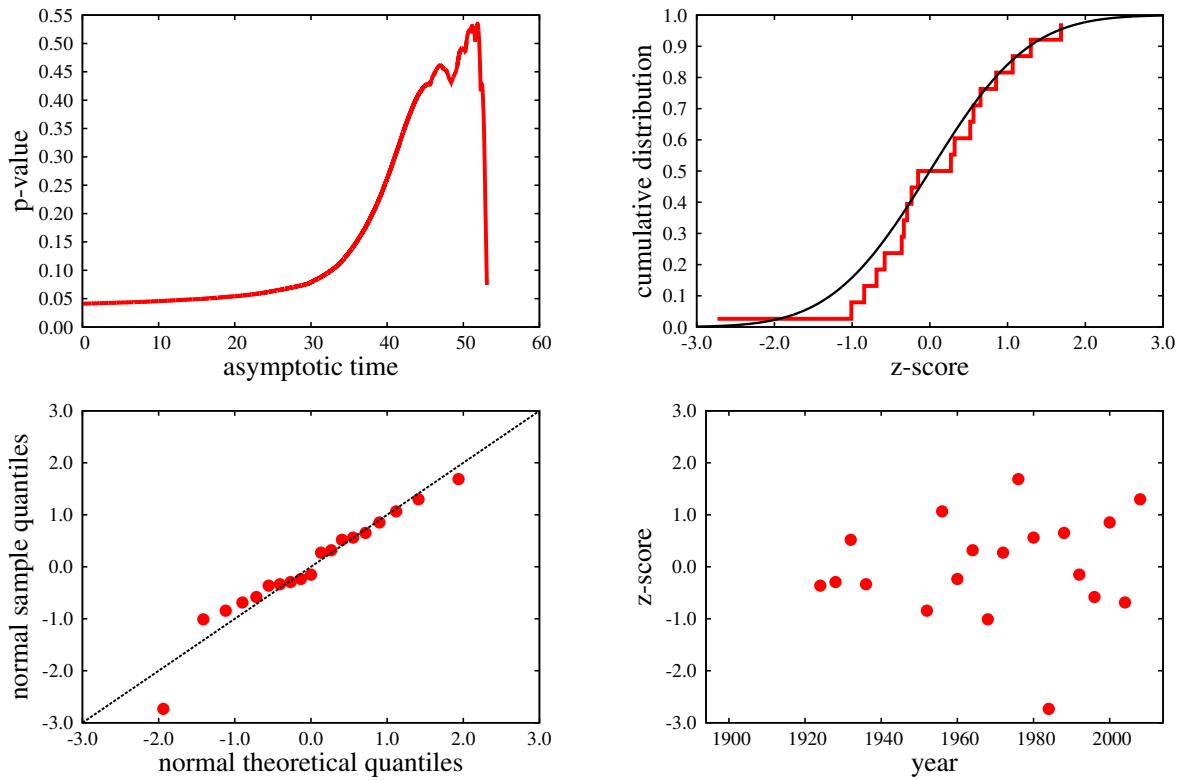


Figure S3.17: Swimming: women 100 meters freestyle

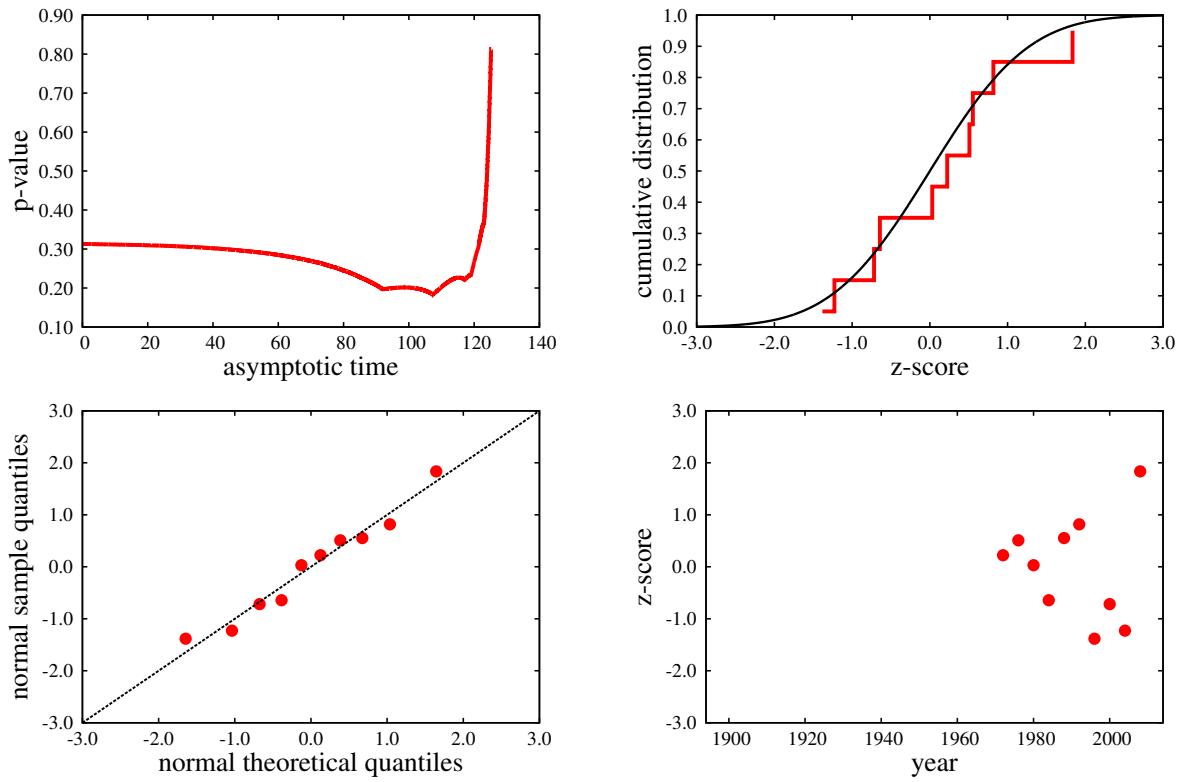


Figure S3.18: Swimming: women 200 meters backstroke

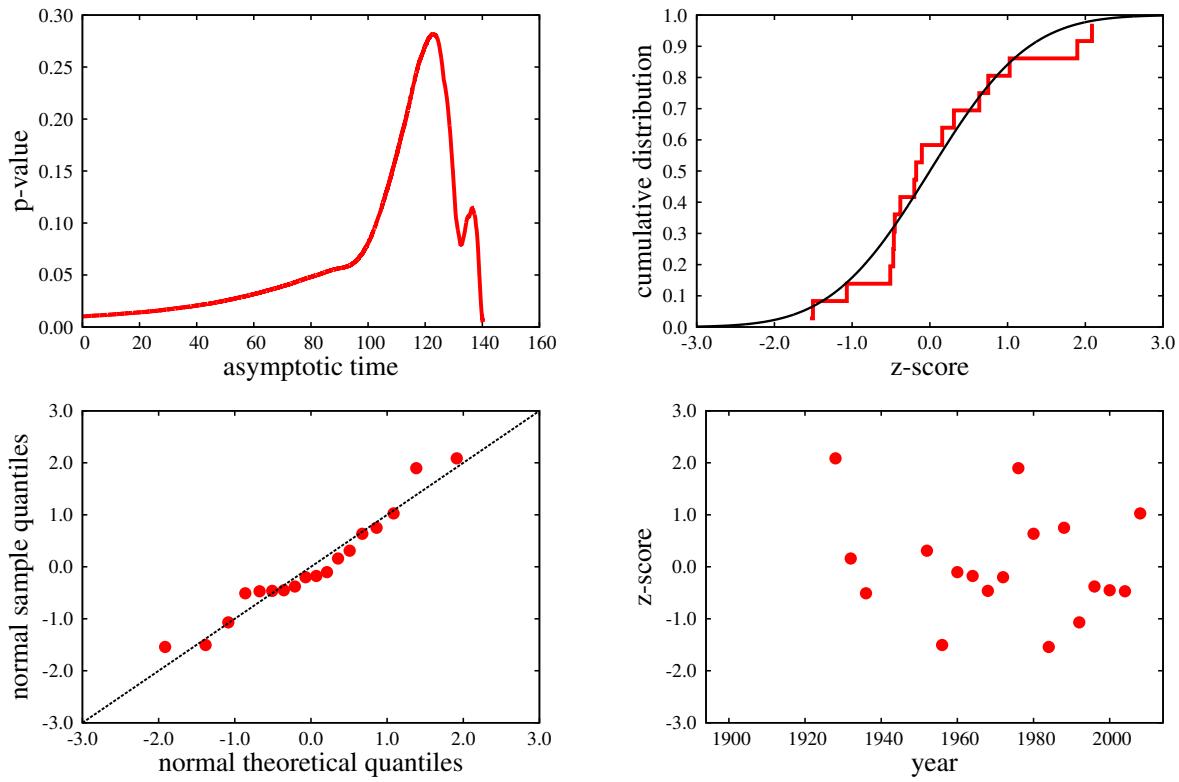


Figure S3.19: Swimming: women 200 meters breaststroke

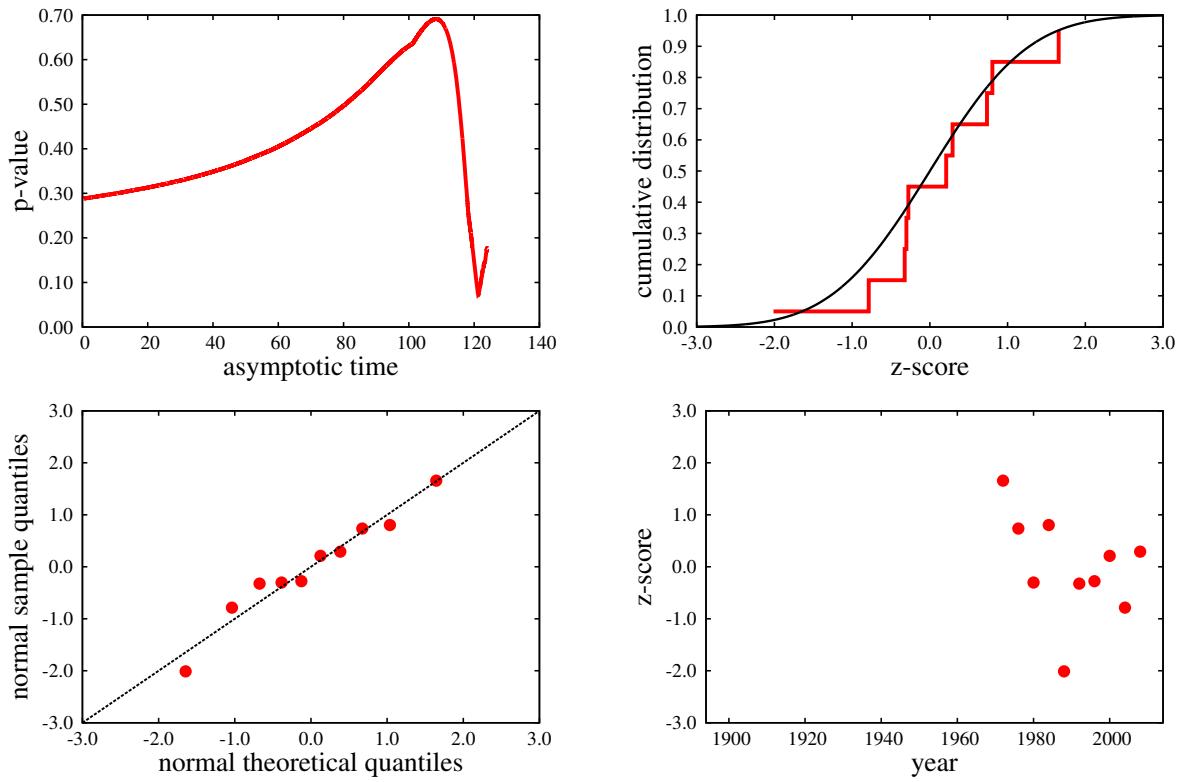


Figure S3.20: Swimming: women 200 meters butterfly

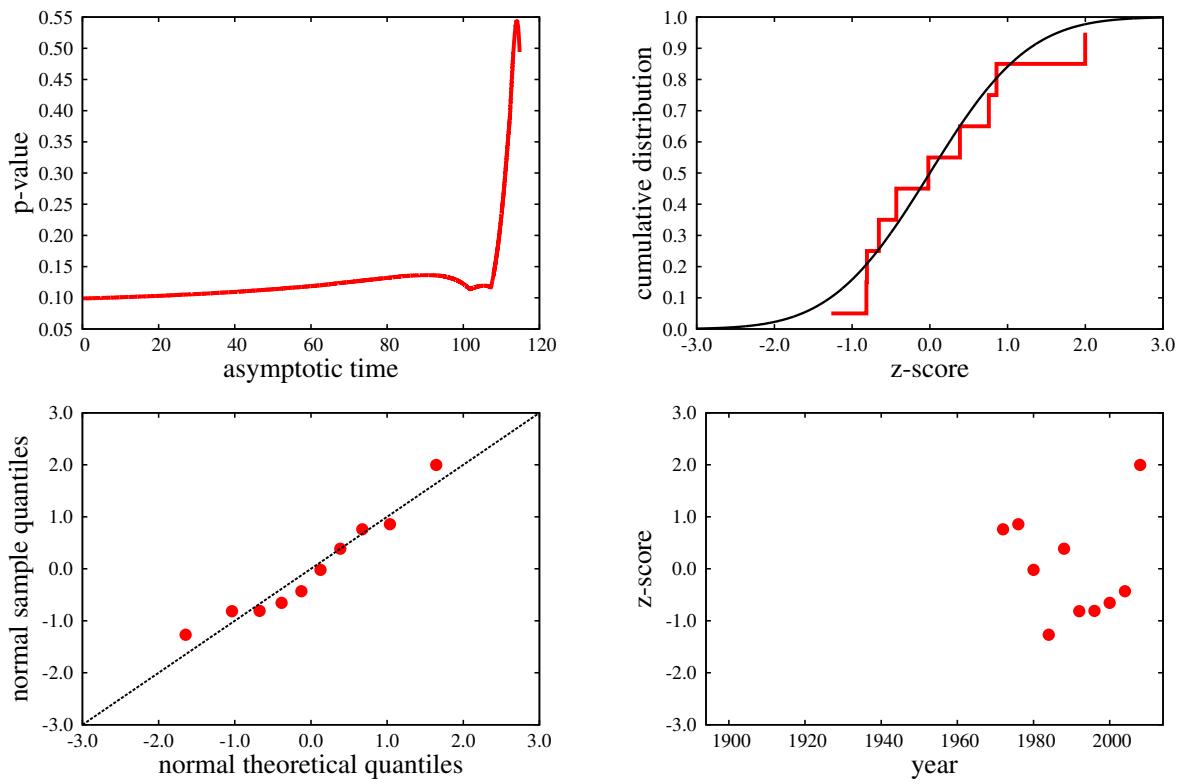


Figure S3.21: Swimming: women 200 meters freestyle

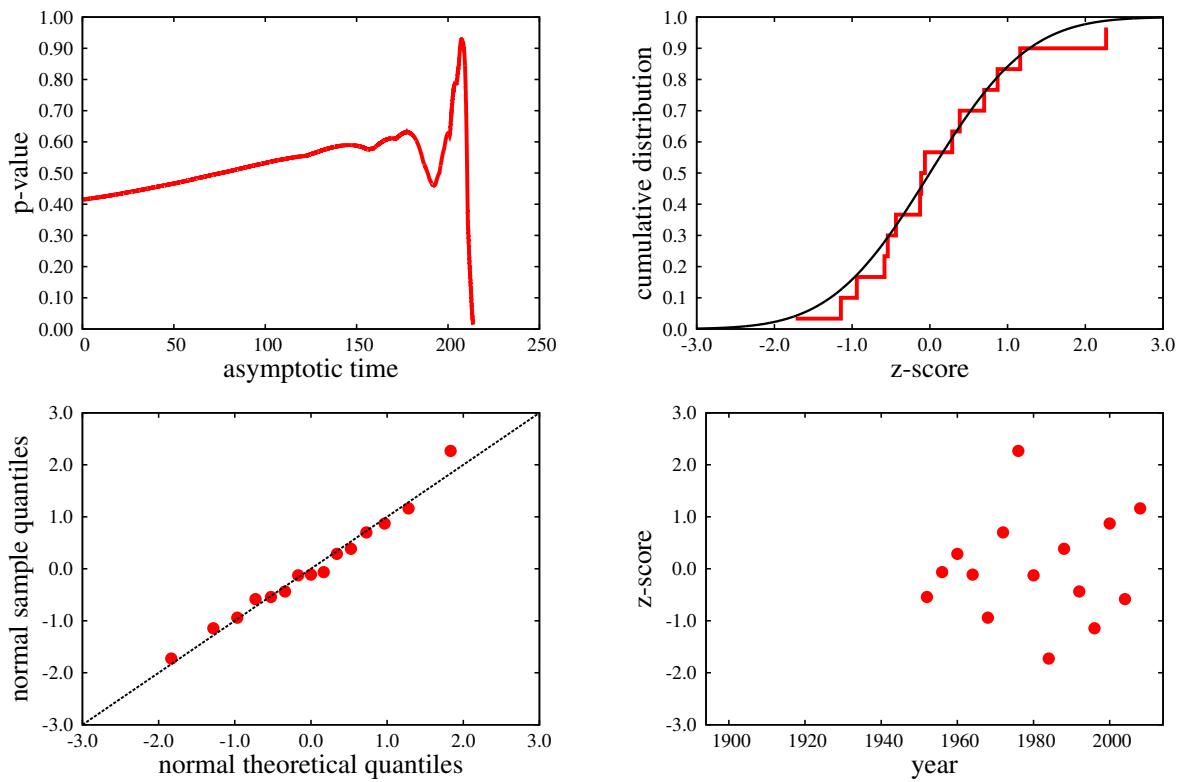


Figure S3.22: Swimming: women 4 x 100 meters freestyle relay

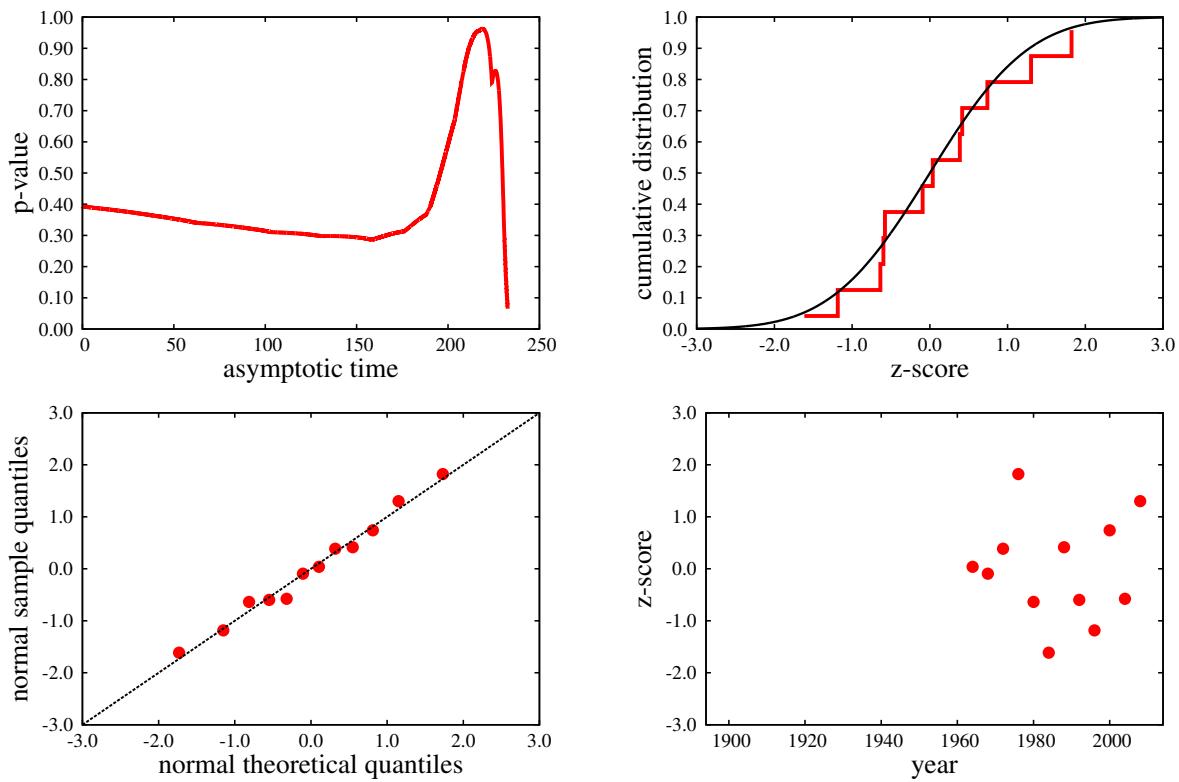


Figure S3.23: Swimming: women 4 x 100 meters medley relay

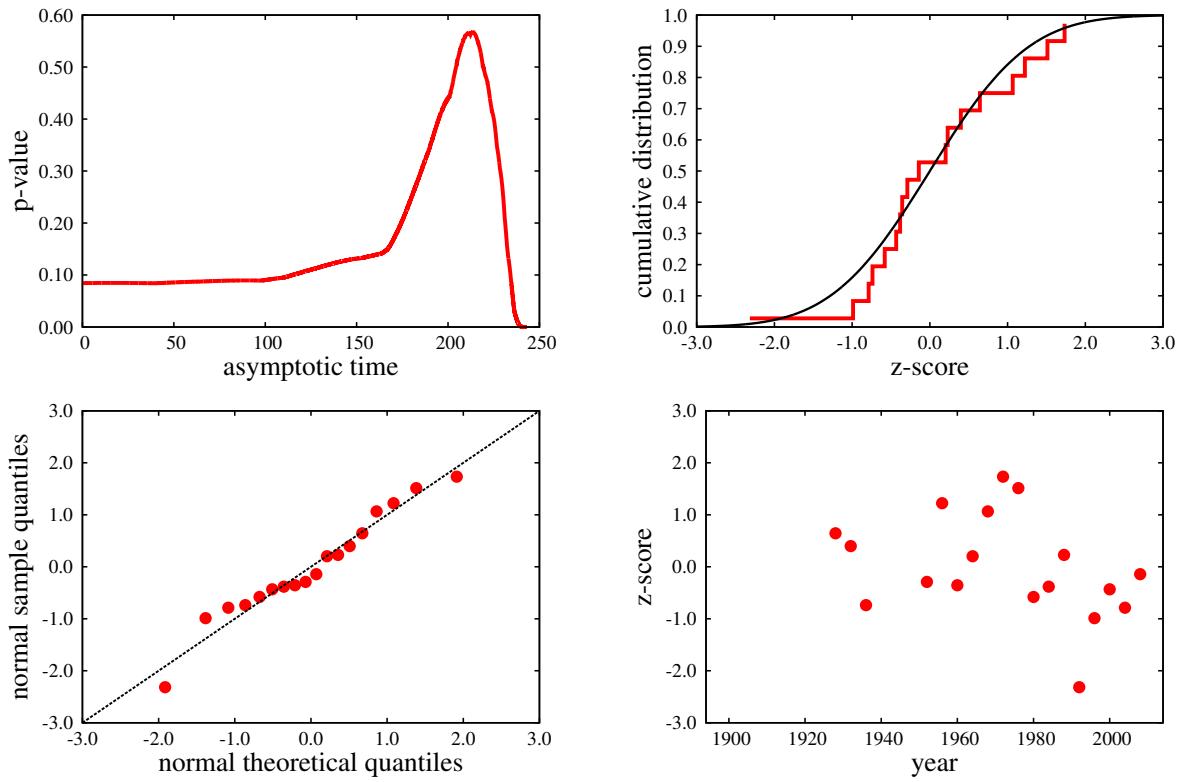


Figure S3.24: Swimming: women 400 meters freestyle

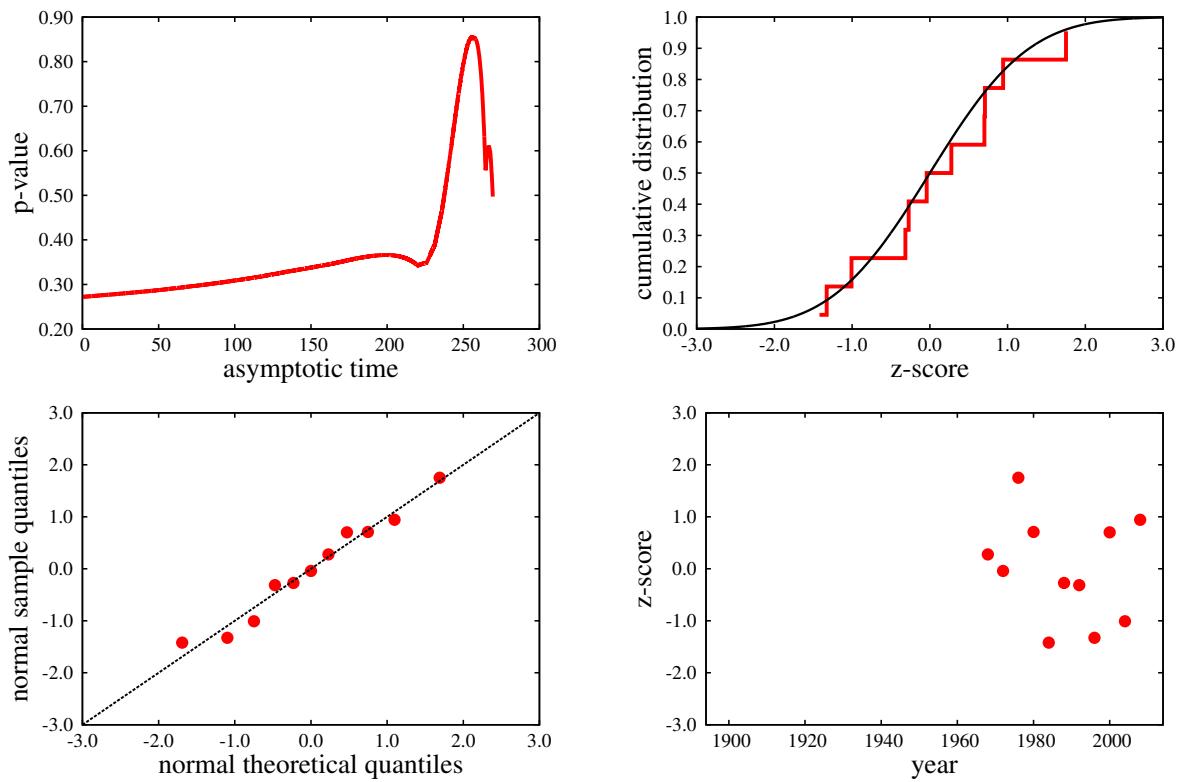


Figure S3.25: Swimming: women 400 meters individual medley

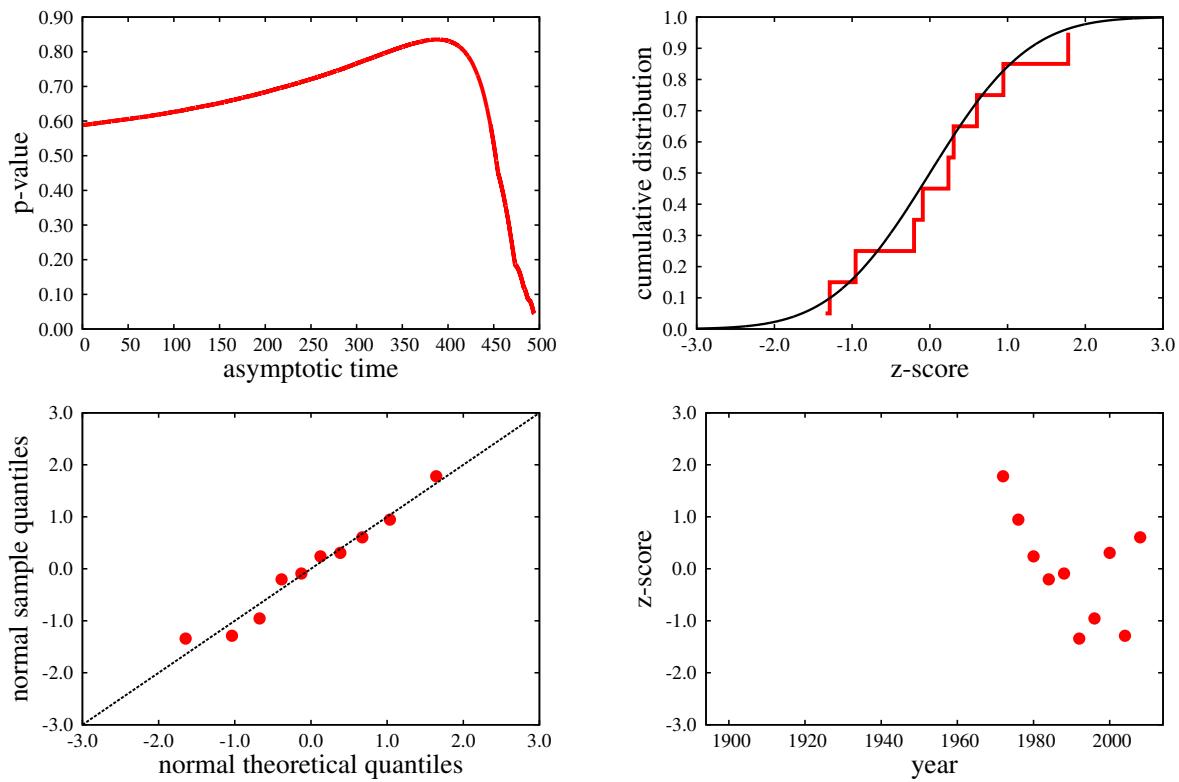


Figure S3.26: Swimming: women 800 meters freestyle

| specialty                            | $\hat{p}_\infty$ | $\hat{\mu}$ | $\hat{\sigma}$ | $A^{*2}$ | p-value | $\hat{p}_\infty^{(u)}$ | nr. events |
|--------------------------------------|------------------|-------------|----------------|----------|---------|------------------------|------------|
| men 100 meters backstroke*           | 48.98            | 0.09        | 0.11           | 0.20     | 0.93    | 52.53                  | 22         |
| men 100 meters breaststroke          | 57.38            | 0.16        | 0.16           | 0.20     | 0.93    | 58.90                  | 11         |
| men 100 meters butterfly*            | 50.36            | 0.21        | 0.29           | 0.27     | 0.76    | 50.57                  | 11         |
| men 100 meters freestyle             | 44.84            | 0.09        | 0.10           | 0.21     | 0.92    | 46.90                  | 23         |
| men 1500 meters freestyle            | 576.77           | 0.05        | 0.05           | 0.37     | 0.50    | 837.68                 | 23         |
| men 200 meters backstroke            | 113.69           | 0.24        | 0.34           | 0.28     | 0.74    | 113.92                 | 13         |
| men 200 meters breaststroke*         | 122.15           | 0.10        | 0.15           | 0.39     | 0.46    | 127.51                 | 23         |
| men 200 meters butterfly             | 107.24           | 0.13        | 0.14           | 0.15     | 0.99    | 112.01                 | 14         |
| men 200 meters freestyle             | 100.18           | 0.14        | 0.15           | 0.14     | 0.99    | 102.94                 | 12         |
| men 4 x 100 meters medley relay      | 207.67           | 0.21        | 0.20           | 0.33     | 0.59    | 209.30                 | 13         |
| men 4 x 200 meters freestyle relay   | 405.84           | 0.12        | 0.13           | 0.20     | 0.93    | 417.97                 | 22         |
| men 400 meters freestyle             | 163.41           | 0.05        | 0.05           | 0.31     | 0.64    | 211.94                 | 23         |
| men 400 meters individual medley     | 212.73           | 0.07        | 0.08           | 0.18     | 0.96    | 243.79                 | 12         |
| women 100 meters backstroke*         | 54.73            | 0.08        | 0.14           | 0.34     | 0.59    | 58.95                  | 20         |
| women 100 meters breaststroke        | 62.08            | 0.13        | 0.10           | 0.23     | 0.86    | 64.84                  | 11         |
| women 100 meters butterfly           | 52.74            | 0.09        | 0.19           | 0.16     | 0.98    | 55.66                  | 14         |
| women 100 meters freestyle           | 51.87            | 0.12        | 0.19           | 0.36     | 0.54    | 53.11                  | 22         |
| women 200 meters backstroke          | 125.21           | 0.19        | 0.44           | 0.25     | 0.81    | 125.22                 | 11         |
| women 200 meters breaststroke        | 122.64           | 0.08        | 0.07           | 0.49     | 0.28    | 138.99                 | 20         |
| women 200 meters butterfly           | 108.28           | 0.07        | 0.11           | 0.29     | 0.69    | 124.16                 | 11         |
| women 200 meters freestyle           | 114.06           | 0.19        | 0.31           | 0.35     | 0.54    | 114.80                 | 11         |
| women 4 x 100 meters freestyle relay | 207.48           | 0.13        | 0.11           | 0.20     | 0.93    | 213.20                 | 18         |
| women 4 x 100 meters medley relay    | 218.78           | 0.11        | 0.11           | 0.18     | 0.96    | 232.64                 | 13         |
| women 400 meters freestyle           | 213.55           | 0.08        | 0.08           | 0.35     | 0.56    | 235.58                 | 20         |
| women 400 meters individual medley   | 255.76           | 0.11        | 0.18           | 0.23     | 0.86    | 269.40                 | 12         |
| women 800 meters freestyle           | 388.16           | 0.05        | 0.07           | 0.24     | 0.84    | 493.31                 | 11         |

Table S3.1: Summary table for specialties in Swimming. From left to right, we report: the name of the specialty, the best estimate of the asymptotic performance value  $\hat{p}_\infty$ , the best estimate of the average value  $\hat{\mu}$  and standard deviation  $\hat{\sigma}$  of performance improvements, the Anderson-Darling distance  $A^{*2}$  between sample and theoretical normal distributions, the statistical significance (*p*-value) of the normal fit, the upper value at 5% significance level of the limiting performance value  $\hat{p}_\infty^{(u)}$ , and the number of Olympic games that included the specialty. Unless specified, the values of  $\hat{\mu}$ ,  $\hat{\sigma}$ ,  $A^{*2}$  and *p*-value have been calculated at  $p_\infty = \hat{p}_\infty$ . Results annotated with \* have been obtained by identifying the best estimate of the asymptotic time as a local maximum of the *p*-value.