**Table S1. Comparison of manual and CeleST scores.**  **A**, Average of manually scored head bends is analogous to CeleST Wave initiation rate. Sample size (n) is 108 day 4 adults for manual score of head bends and 101 for automated analysis with CeleST. **B**, CeleST is more sensitive scoring Reverse swimming and Curling, especially for brief events. n=108 for manual score of Reverse swimming, n=36 for manual score of Curling, and n=101 for CeleST automated analysis of Reverse swimming and Curling. All manual scores were executed on a computer screen using recorded videos of the same animals recorded by CeleST. **\*** CeleST automatically measures 10 parameters in a single analysis of one video in about 5min. The 13.3 min is an estimate of the time CeleST takes to analyze one parameter for 101 animals in 27 videos.

**A**

|  |  |
| --- | --- |
|  | **Wave initiation rate** |
| **Procedure** | **Manual** | **CeleST** |
| **Average** | 75.05 | 76.06 |
| **Total n** | 108 | 101 |
| **Time Spent for Analysis** | 108 min | 13.3 min\* |

**B**

|  |  |  |
| --- | --- | --- |
|  | **Reverse Swimming** | **Curling** |
| **Procedure** | **Manual** | **CeleST** | **Manual** | **CeleST** |
| **Percentage of animals Reverse Swimming or Curling** | 3.7 | 20.8 | 30.5 | 43.6 |
| **Total n** | 108 | 101 | 36 | 101 |
| **Range of Percentage of Time Spent Reverse Swimming or Curling in a Swim trial** | 0.92 – 11.21 | 0.18 – 25.39 | 0.37 – 3.68 | 0.36 – 18.98 |
| **Time Spent for Analysis** | 100 min | 13.3 min\* | 295 min | 13.3 min\* |