Self-defined variables in Decelerate\_data\_test\_DOT.

1. DecelerateData: the dataset for all parameters to be saved
2. Decelerate\_light: the dataset for the light evoked response related parameters
3. First\_decelerate\_min\_speed: minimal speed after the first light evoked deceleration
4. First\_decelerate\_speed\_change: change in minimal speed after first light evoked deceleration
5. First\_decelerate\_ratio: ratio of change in minimal speed after first light evoked deceleration
6. First\_decelerate\_time: time duration of first light evoked deceleration
7. First\_decelerate\_deceleration: average rate of speed change in the first light evoked deceleration
8. Headtheta\_light\_frame: the frame number of the light evoked headtheta peak
9. Headomega\_light\_frame: the frame number of the light evoked headomega peak
10. Headtheta\_light\_value: value of the light evoked headtheta peak
11. Headomega\_light\_value: value of the light evoked headomega peak
12. Point\_min: point of minimal speed, including frame number and value of speed
13. Point\_touch\_light\_t: number of the first frame that larva enters light
14. Point\_end\_light\_t: number of the last frame that larva stays in light before leaving
15. Pairs\_decelerate\_t: frame number of the start and end of the minimal speed of decelerate
16. Pairs\_decelerate\_value\_t: value of the start and end minimal speed of decelerate
17. First\_point\_min\_light\_ID: frame number of the first minimal speed in light
18. First\_point\_min\_light: value of minimal speed in light
19. Threshold\_tailspeed: threshold value for tailspeed
20. Sub\_threshold\_segments\_s: the time window of the period in which tailspeed is below threshold
21. Cast\_max\_frames\_t: frame number of headtheta peaks
22. Headomega\_peak\_t: frame number of headomega peaks
23. Omega\_zero\_frame\_t: frame number of headomega zeros
24. Light\_window: the time window to judge the headomega peaks evoked by light
25. Pairs\_decelerate\_light\_t: light evoked decelerate minimal speed pairs
26. Decele\_corr\_headomega\_peaks\_t: the frame number of headomega peak that related to decelerate
27. Decele\_corr\_headtheta\_peaks\_t: the frame number of headtheta peak related to decelerate
28. Fpp\_decelerate\_t: frames per period of deceleration
29. Fpp\_before\_decelerate\_t: frames per period before deceleration
30. Periods\_change\_ratio: ratio of change in frames per period before and after deceleration
31. Distance\_decelerate\_pairs\_cm\_t: distance traveled per period during decelerate by centroid
32. Distance\_decelerate\_pairs\_tail\_t: distance traveled per period during decelerate by tail
33. Distance\_before\_decelerate\_pairs\_cm\_t: distance traveled per period before decelerate by centroid
34. Distance\_before\_decelerate\_pairs\_tail\_t: distance traveled per period before decelerate by tail
35. Distance\_pairs\_tail\_change\_ratio\_t: ratio in distance change by tail
36. Distance\_pairs\_cm\_change\_ratio\_t: ratio in distance change by centroid
37. first\_decelerate\_light\_ID\_t\_temp: all decelerate in the light define time window
38. first\_decelerate\_light\_ID\_t: the decelerates in light window
39. headtheta\_light\_temp: frame number of light evoked headtheta peaks in the time window
40. headomega\_light\_temp: frame number of light evoked headomega peaks in the time window
41. headtheta\_light\_temp\_maxID: frame number of the largest headtheta peak in the time window
42. headtheta\_light\_frame\_t: frame number of the selected headtheta peak (with maximal headtheta peak)
43. headomega\_light\_frame\_t: frame number of the selected headomega peak