



Figure S6 Histogram of automated thrashing behavior in N2, *dat-1(ok157)* and *swip* lines generated by SwimR software. For all plots (A-F), the total # of data points for all animals within a genotype were grouped into successive 0.1 Hz bins and plotted as the fraction of the total # of data points. In the *swip* mutants (C-F), the y-axis and first column are broken in order to visualize the patterns of lower frequency bins.