IBI_targets: {'target': 3000, 'width': 2000, 'max': 4000} baseline_targets: {'target': 1.5, 'width': 1, 'max': 3} rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEl tau2 inl tau2 ex burstAmp Fitness: {'Value': 0.05748281775673714, 'Fit': 1000.0} tau1_inh burst_peak_frequency_fitness: {'Value': 1.4492753623188408, 'Fit': 808.8812935052295} IBI_fitness: {'Value': 768.0, 'Fit': 3.1259437952142988} baseline fitness: {'Value': 0.9417659115198125, 'Fit': 1.7475836956409594} slopeFitness: {'Value': -0.00021078786207677283, 'Fit': 1.000421664599688} thresh: {'Value': 0.9232246218885424, 'Fit': 1000} probF sustain_oscillation_fitness: {'Value': 80.95238095238095, 'Fit': 45.1289437756197} nrohEf anabar rate fitness: {'Value': 2.8736772486772484, 'Fit': 11.699874456299364} maxFitness: 1000 average_fitness: 358.9480076115754 average scaled fitness: 358.30604307502495 Raster plot of spiking Middlemost 1 second of simulation Time [ms]

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8}

rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEl tau2 inl tau2 exc burstAmp Fitness: {'Value': 0.03897486469672848, 'Fit': 1000.0} tau1_inh burst_peak_frequency_fitness: {'Value': 0.8281573498964803, 'Fit': 19.471348928224575} IBI_fitness: {'Value': 1310.0, 'Fit': 2.441839034445351} baseline_fitness: {'Value': 0.2658273940390802, 'Fit': 3.4355348034125894} slopeFitness: {'Value': 0.0002521725131077934, 'Fit': 1.0005044722295522} thresh: {'Value': 0.2619058963115594, 'Fit': 1000} probE sustain_oscillation_fitness: {'Value': 86.90476190476191, 'Fit': 13.722648170944307} nrohEf gnabar rate fitness: {'Value': 0.6898148148149, 'Fit': 1000.0} maxFitness: 1000 average_fitness: 380.00898442615704 average_scaled_fitness: 379.3880594040718 Middlemost 1 second of simulation 3500 Time [ms]

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8}
IBI_targets: {'target': 3000, 'width': 2000, 'max': 4000}
baseline targets: {'target': 1.5, 'width': 1, 'max': 3}

rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEE tau2_inh tau2 exc burstAmp Fitness: {'Value': 0.010072620550873743, 'Fit': 1000.0} tau1_inh burst_peak_frequency_fitness: {'Value': 0.8281573498964803, 'Fit': 19.471348928224575} IBI fitness: {'Value': 1480.0, 'Fit': 2.4654545404362382} baseline_fitness: {'Value': 0.08965752555179689, 'Fit': 4.097358404370214} slopeFitness: {'Value': -0.00013784825353478175, 'Fit': 1.0002757345148443} thresh: {'Value': 0.0892864193506538, 'Fit': 1000} probE sustain_oscillation_fitness: {'Value': 92.21556886227546, 'Fit': 4.7440264044634315} probE rate fitness: {'Value': 0.15277777777778, 'Fit': 1000.0} maxFitness: 1000 average_fitness: 378.9723080015012 average_scaled_fitness: 378.35048707835267 Raster plot of spiking Middlemost 1 second of simulation 400 350 250 0.6 0.4 100 0.2 50 Peak Amplitude Target **Baseline Target** 1000 2000 3000 4000 Time [ms] Time (ms)

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8} IBI_targets: {'target': 3000, 'width': 2000, 'max': 4000} baseline_targets: {'target': 1.5, 'width': 1, 'max': 3}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8} IBI targets: {'target': 3000, 'width': 2000, 'max': 4000} baseline_targets: {'target': 1.5, 'width': 1, 'max': 3} rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEl tau2_inh tau2_exc burstAmp Fitness: {'Value': 2.3937976267152266, 'Fit': 801.505458500289} tau1_inh burst_peak_frequency_fitness: {'Value': 1.1185682326621924, 'Fit': 111.2087867213552} IBI_fitness: {'Value': 960.0, 'Fit': 2.8278689861206865} baseline fitness: {'Value': 19.746015699817992, 'Fit': 1000} slopeFitness: {'Value': -0.03249495056875247, 'Fit': 1.067148247346363} thresh: {'Value': 19.161977167541217, 'Fit': 1000} probE sustain_oscillation_fitness: {'Value': 82.73809523809523, 'Fit': 31.57548260054749} probE rate fitness: {'Value': 43.52579365079365, 'Fit': 502.68426883186083} maxFitness: 1000 average_fitness: 431.3586267359399 average_scaled_fitness: 430.751153827443 Raster plot of spiking Middlemost 1 second of simulation --- Peak Amplitude Target Baseline Target 25 300 250 0.4 100 50 Time [ms]

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

IBI targets: {'target': 3000, 'width': 2000, 'max': 4000} baseline_targets: {'target': 1.5, 'width': 1, 'max': 3} rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEE tau2_inh tau2_exc burstAmp Fitness: {'Value': 3.066261840373395, 'Fit': 674.2847527168175} tau1_inh burst_peak_frequency_fitness: {'Value': 0.7299270072992701, 'Fit': 10.800171825753667} IBI_fitness: {'Value': 1800.0, 'Fit': 1.9132686400131809} baseline fitness: {'Value': 21.00646434532045, 'Fit': 1000} slopeFitness: {'Value': -0.029645828888674036, 'Fit': 1.0610846692105558} thresh: {'Value': 20.67183995837613, 'Fit': 1000} probE probE rate fitness: {'Value': 44.363095238095234, 'Fit': 507.5859455374021} maxFitness: 1000 average_fitness: 407.5181645567566 average_scaled_fitness: 406.8888233801078 Raster plot of spiking Middlemost 1 second of simulation --- Peak Amplitude Target 400 Baseline Target 300 250 0.4 100 50 1000 2000 2500 Time [ms]

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8}

rate_slope: {'target': 0, 'width': 0.5, 'max': 0.5} thresh_target: {'target': 5, 'width': 1, 'min': 3, 'max': 7} sustained osci: {'target': 100, 'width': 5, 'min': 75} weightEE tau2_inh tau2_exc burstAmp Fitness: {'Value': 0.2501488601348787, 'Fit': 1000.0} tau1_inh burst_peak_frequency_fitness: {'Value': 1.0351966873706004, 'Fit': 67.43607581631763} IBI fitness: {'Value': 1087.5, 'Fit': 2.6154419831070417} baseline fitness: {'Value': 1.3909153014625095, 'Fit': 1.1152568069616986} slopeFitness: {'Value': -0.0004430302461372862, 'Fit': 1.0008864531598398} thresh: {'Value': 1.3914360839734552, 'Fit': 1000} probE probE rate fitness: {'Value': 4.427248677248677, 'Fit': 10.119922638306656} maxFitness: 1000 average_fitness: 260.94775921854034 average scaled fitness: 260.20731073771105 Raster plot of spiking Middlemost 1 second of simulation 400 350 0.8 250 0.6 Peak Amplitude Target 200 0.4 100 0.2 50 2000 3000 4000 Time [ms] Time (ms)

rate_targets: {'E': {'target': 7.5, 'width': 2.5, 'min': 1}, 'I': {'target': 30, 'width': 10, 'min': 2}}

burts_peak_targets: {'target': 15, 'width': 2, 'min': 8}
IBI_targets: {'target': 3000, 'width': 2000, 'max': 4000}
baseline_targets: {'target': 1.5, 'width': 1, 'max': 3}