

**S3A Table.** Features and errors for all the traces from Fig 2 (spiking features)

Neuron type	pattern class	$I$ (pA) exp, model	$fsl$ (ms) exp, model, model/exp	$sfa$ exp, model, model/exp	$nISIs$ exp, model, model/exp	$pss$ (ms) exp, model, model/exp
CA1 Bistratified	PSTUT	400, 408	40.48, 37.00, <b>0.91</b>	NA	NA	43.48, 43.75, <b>1.01</b>
	ASP.	600, 602	12.38, 16.00, <b>1.29</b>	$y=0.008x+1.213,$ $y=0.005x+1.187,$ <b>0.8</b>	35, 35, <b>1</b>	9.63, 0, <b>0</b>
EC LV Deep Pyramidal	TSTUT.NASP	400, 410	16.00, 15.00, <b>0.94</b>	NA	NA	164, 126, <b>0.77</b>
DG Granule	TSWB.SLN	200, 208	41.81, 13.00, <b>0.31</b>	NA	1, 1, <b>1</b>	1904.27, 1902.08, <b>1.0</b>
	TSWB.SLN	400, 404	7.79, 7.00, <b>0.9</b>	NA	3, 4, <b>1.33</b>	1943.55, 1943.16, <b>1.0</b>
DG Hilar Ectopic Granule	TSWB.SLN	unknown, 602	14.34, 17.00, <b>1.19</b>	NA	1, 1, <b>1</b>	156.16, 129.95, <b>0.83</b>
	ASP.	700, 699	9.52, 10, <b>1.05</b>	$y=0.791x+0.693,$ $y=0.790x+0.683,$ <b>0.99</b>	2, 2, <b>1</b>	107.94, 109.29, <b>1.01</b>

**S3B Table.** Features and errors for all the traces from Fig 2 (bursting/stuttering features)

Neuron type	pattern class	$I$ (pA) exp, model	$n\_bursts$ exp, model, model/exp	$bw^*$ (ms) exp, model, model/exp	$pbi^*$ (ms) exp, model, model/exp	$b-nISIs^*$ exp, model, model/exp
CA1 Bistratified	PSTUT	400, 408	2, 2, <b>1</b>	83, 70 56, 69, <b>1.04</b>	154, 154, <b>1</b>	3, 3, 2, 2, <b>1</b>
EC LV Deep Pyramidal	TSTUT.NASP	400, 410	2, 2, <b>1</b>	88, 38 3752, 3654, <b>0.7</b>	276, 365, <b>1.32</b>	2, 2, 16, 19, <b>1.09</b>

\*features are reported for each burst in a pattern