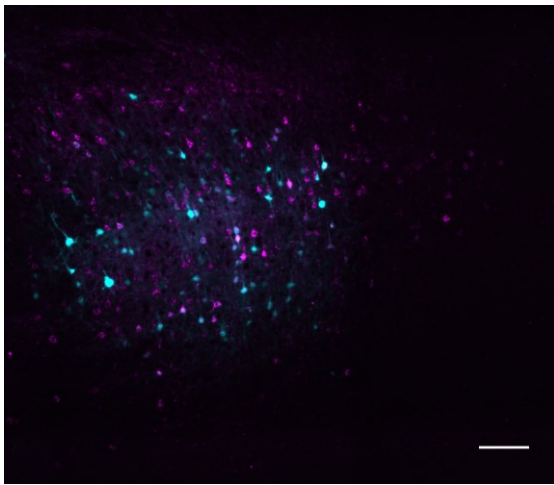
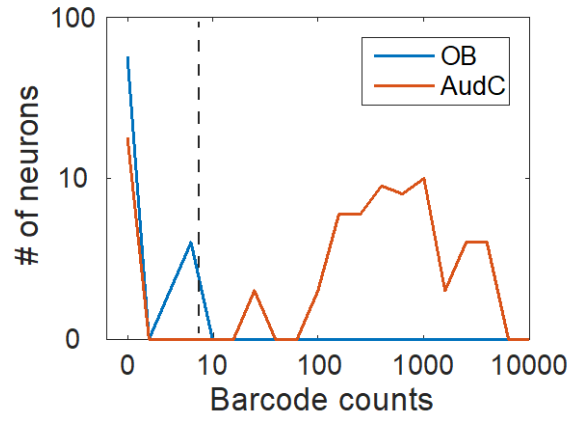
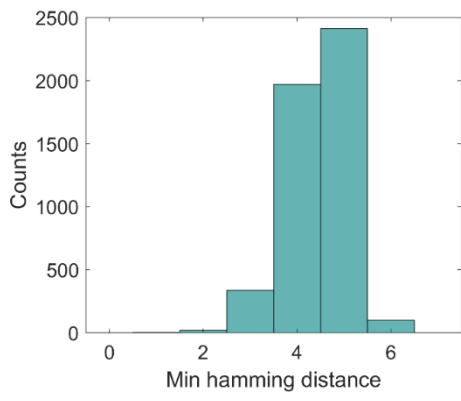
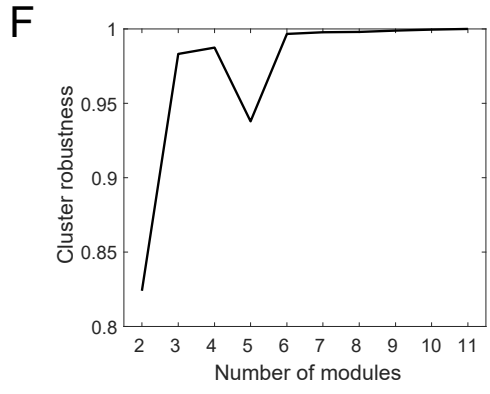
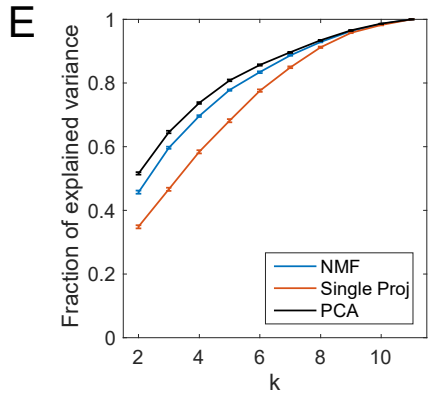
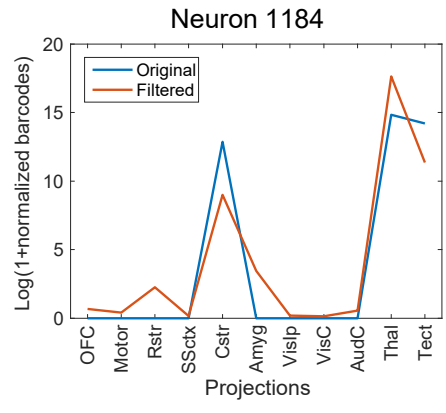
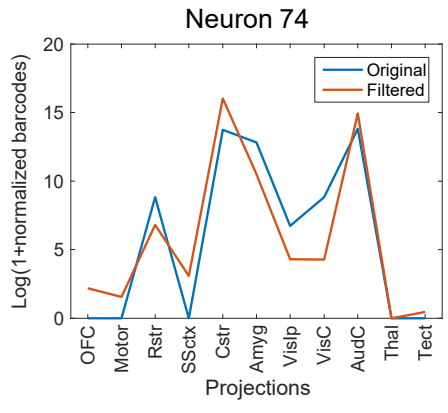
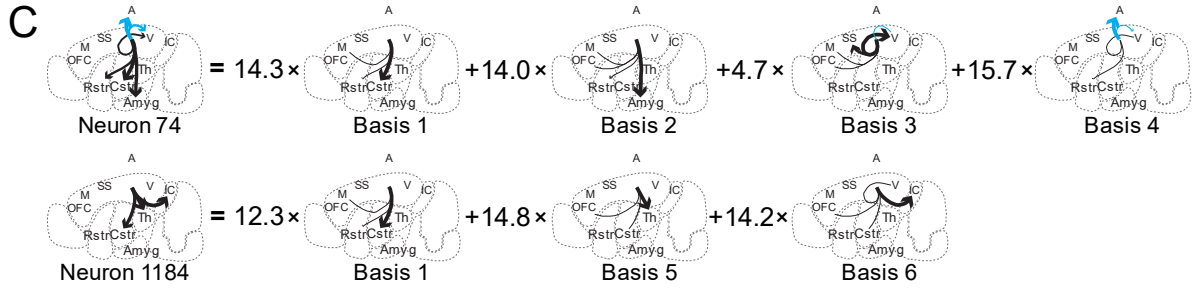
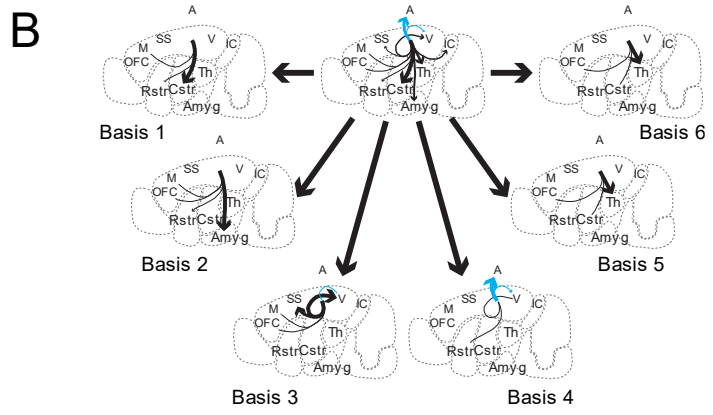
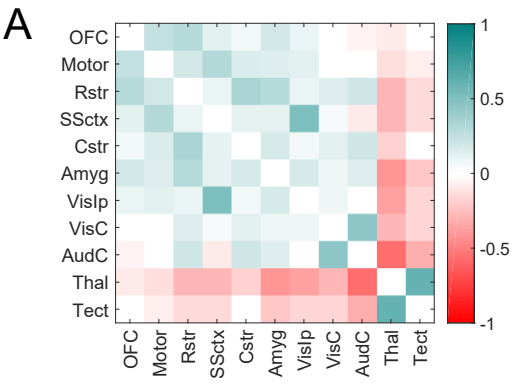
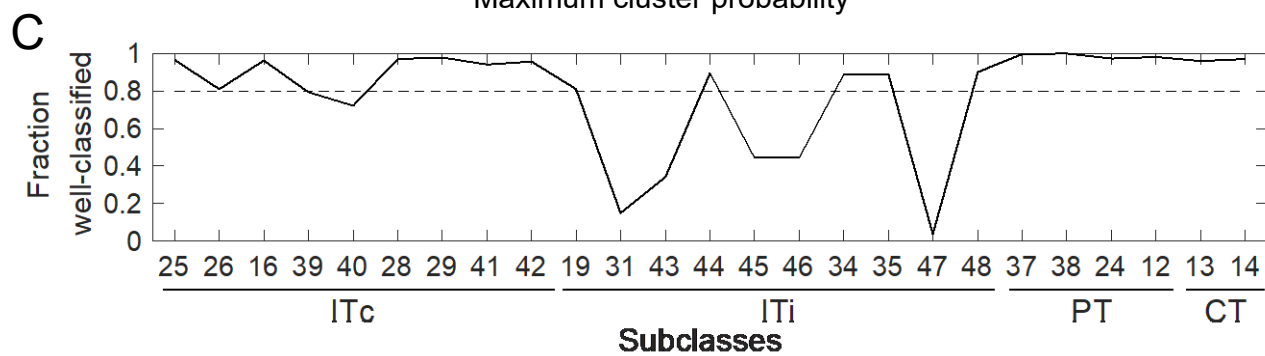
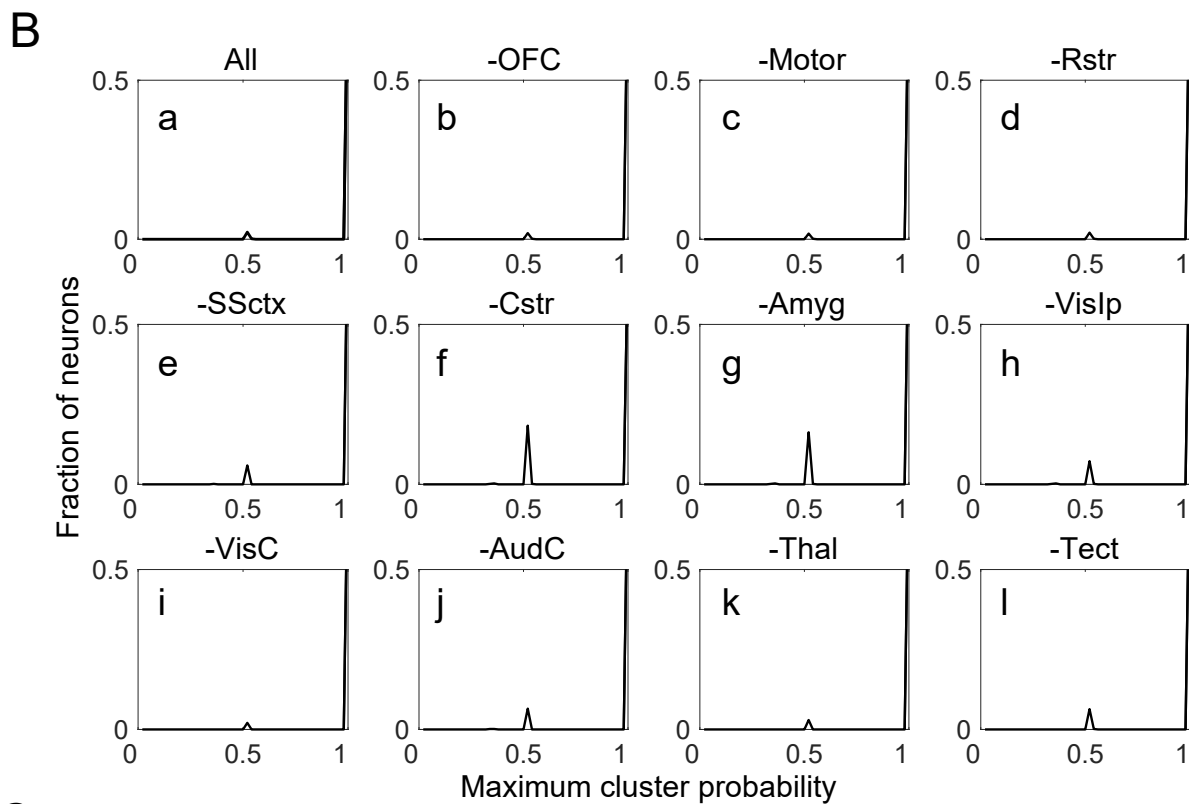
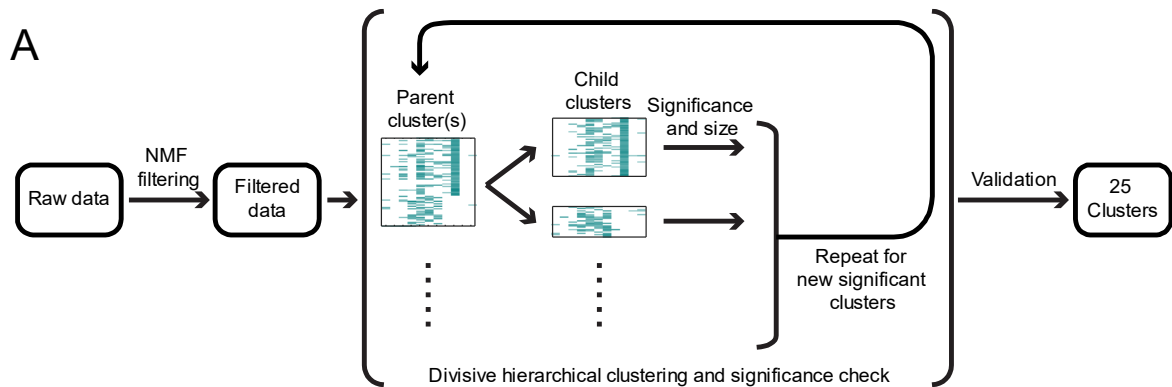
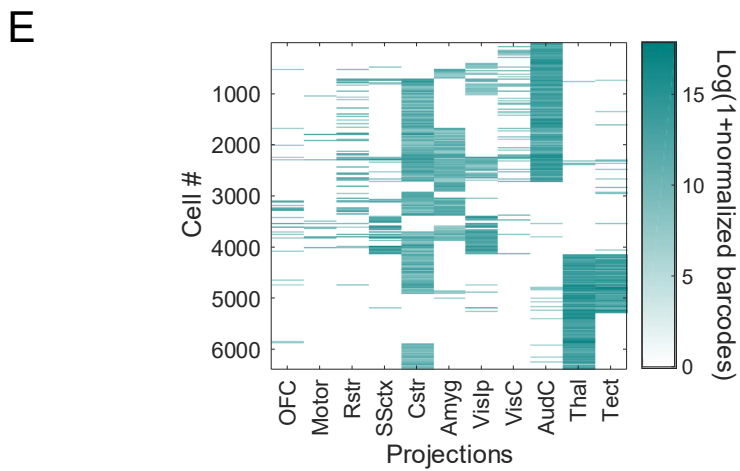
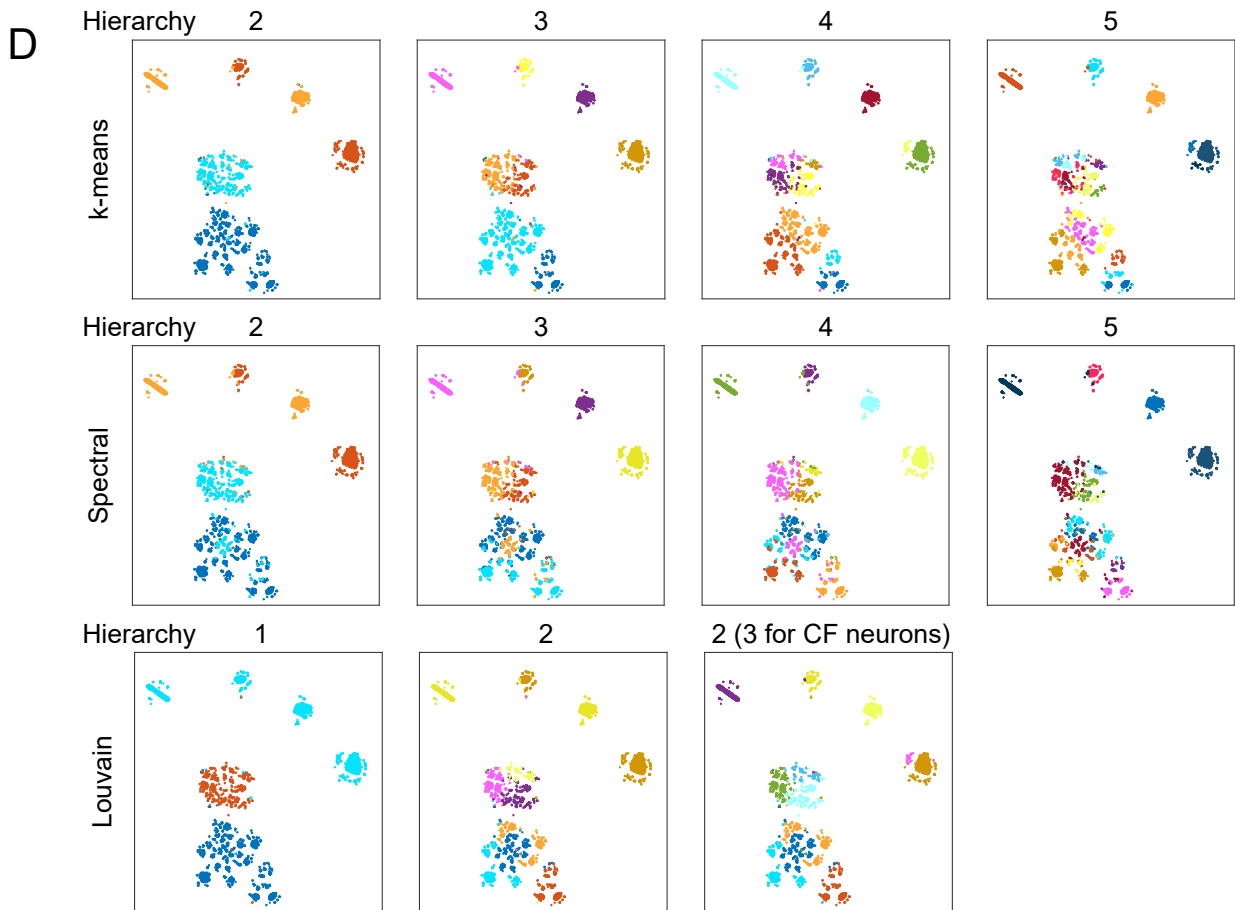


A**B**

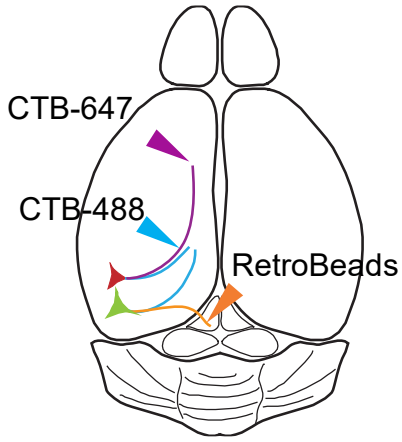




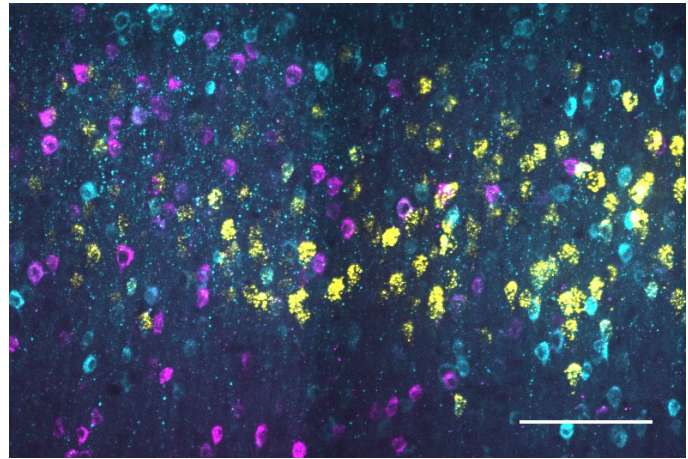




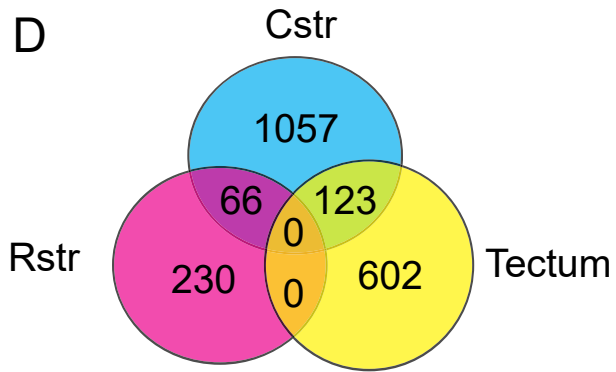
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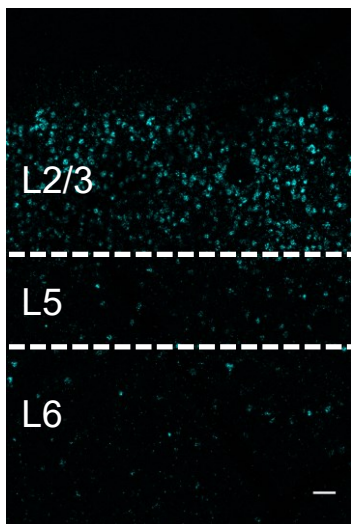
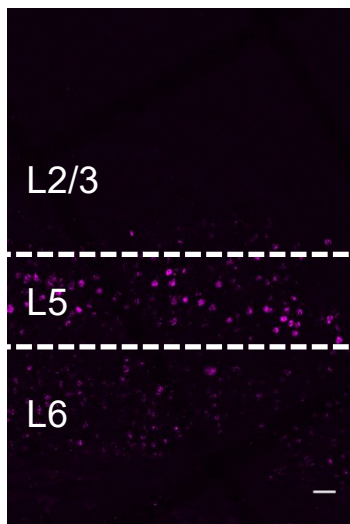
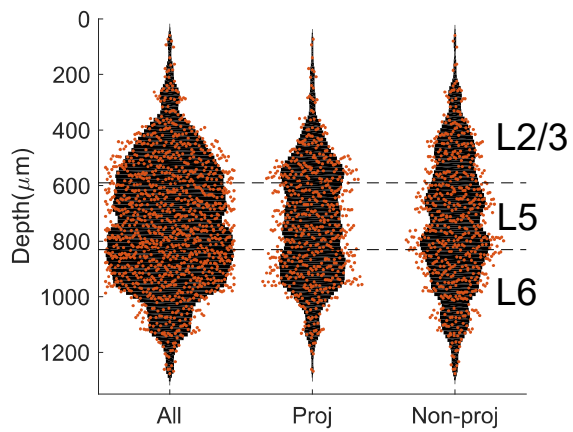


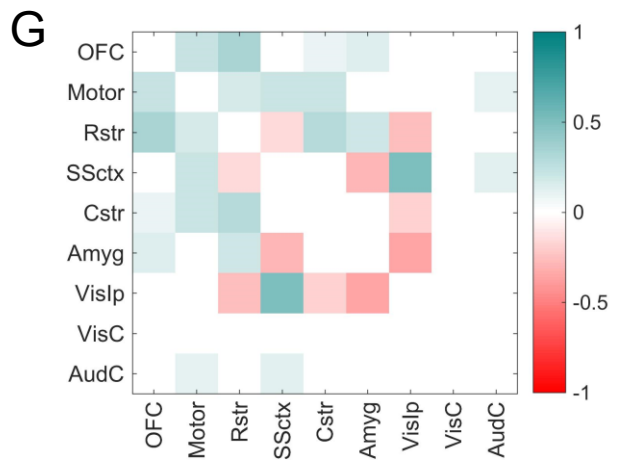
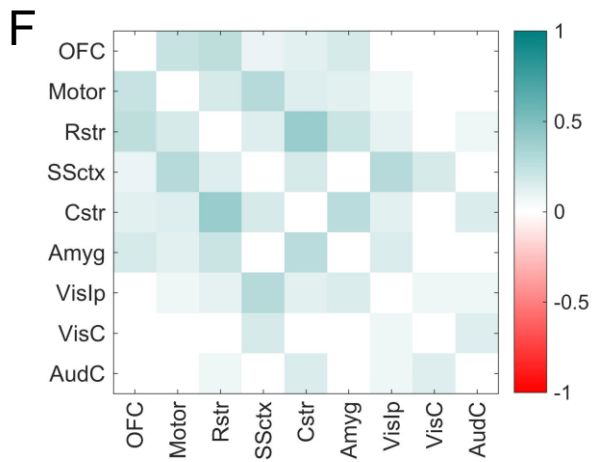
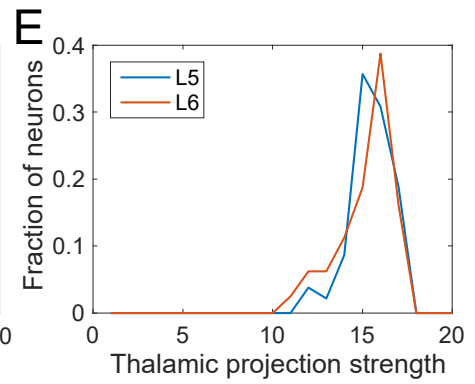
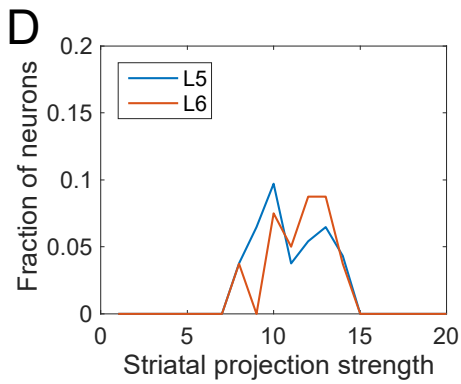
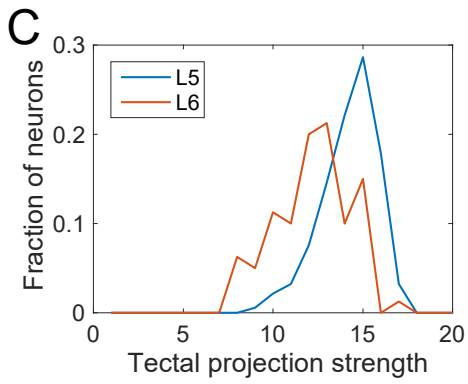
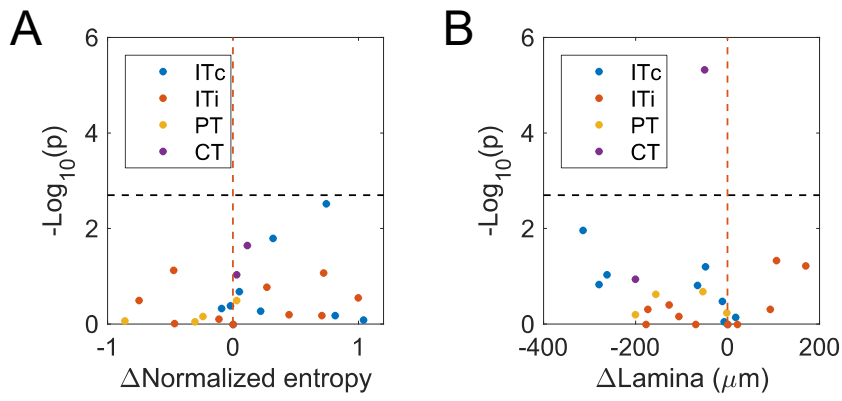
B



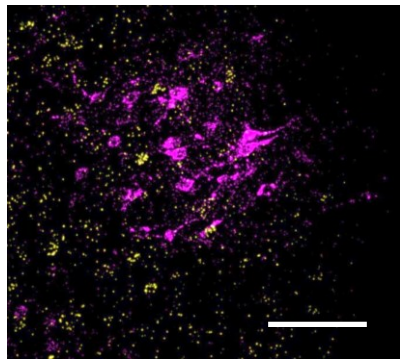
D



A**B****C**

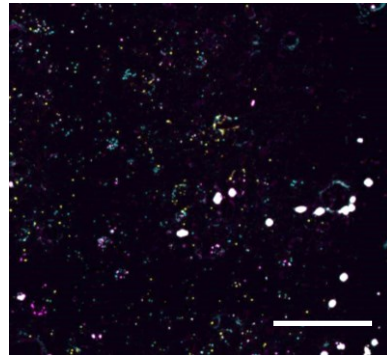
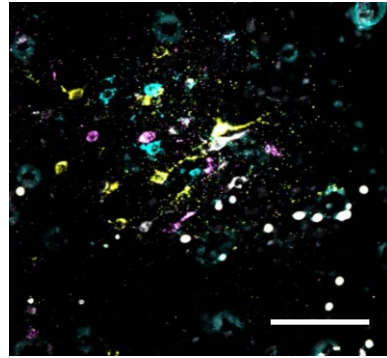


A

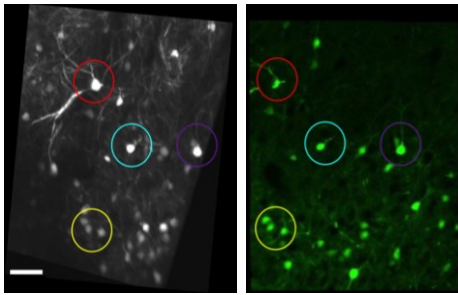


mRNAs+ Barcodes

Sequence barcodes
Sequence genes



B



in vivo

ex vivo

Supp Table S1

OB	c1	c2	c3	min qual (>0.75)	CTB+	Barseq+	CTB+ Barseq+	CTB+ Barseq-	CTB- Barseq+	CTB- Barseq-
0	151	186	4	0.95	0	1	0	0	1	0
0	1433	995	87	0.96	0	1	0	0	1	0
0	155	70	11	0.91	0	1	0	0	1	0
0	177	197	17	0.89	0	1	0	0	1	0
0	17	102	1	0.92	1	1	1	0	0	0
0	132	135	10	0.88	0	1	0	0	1	0
0	96	157	12	0.88	0	1	0	0	1	0
0	102	58	6	0.90	0	1	0	0	1	0
0	665	58	14	0.82	0	1	0	0	1	0
0	14	100	5	0.87	1	1	1	0	0	0
0	0	0	0	0.91	0	0	0	0	0	1
0	0	0	0	0.97	0	0	0	0	0	1
0	126	112	7	0.84	1	1	1	0	0	0
3	281	359	28	0.88	0	1	0	0	1	0
0	419	313	34	0.94	1	1	1	0	0	0
0	106	139	3	0.79	0	1	0	0	1	0
0	72	89	15	0.88	1	1	1	0	0	0
0	342	159	4	0.88	0	1	0	0	1	0
2	1571	1061	100	0.92	0	1	0	0	1	0
0	0	0	0	0.79	0	0	0	0	0	1
0	0	0	0	0.86	0	0	0	0	0	1
0	0	0	0	0.83	0	0	0	0	0	1
0	232	51	5	0.89	0	1	0	0	1	0
0	0	0	0	0.92	0	0	0	0	0	1
0	372	344	19	0.87	1	1	1	0	0	0
0	0	0	0	0.88	0	0	0	0	0	1
0	44	20	1	0.83	0	1	0	0	1	0
0	234	209	20	0.95	1	1	1	0	0	0
0	109	10	6	0.90	0	1	0	0	1	0
3	281	359	28	0.91	0	1	0	0	1	0
0	61	66	4	0.95	0	1	0	0	1	0
0	0	0	0	0.82	0	0	0	0	0	1
0	0	0	0	0.95	0	0	0	0	0	1
0	335	79	15	0.92	0	1	0	0	1	0
0	114	186	9	0.94	0	1	0	0	1	0
0	0	0	0	0.90	1	0	0	1	0	0
0	271	211	21	0.91	0	1	0	0	1	0
0	3159	415	28	0.78	1	1	1	0	0	0
0	0	0	0	0.79	0	0	0	0	0	1
0	305	148	18	0.94	0	1	0	0	1	0
0	0	0	0	0.94	0	0	0	0	0	1
0	637	293	31	0.85	1	1	1	0	0	0
0	471	413	15	0.93	0	1	0	0	1	0
0	1062	528	94	0.92	1	1	1	0	0	0
0	335	79	15	0.92	0	1	0	0	1	0
0	59	73	3	0.86	0	1	0	0	1	0
0	565	359	27	0.93	0	1	0	0	1	0
0	460	208	82	0.94	0	1	0	0	1	0
0	0	0	0	0.83	0	0	0	0	0	1
0	0	0	0	0.84	0	0	0	0	0	1
0	0	0	0	0.96	0	0	0	0	0	1
0	208	69	5	0.91	1	1	1	0	0	0
0	0	0	0	0.91	0	0	0	0	0	1
0	1148	481	30	0.97	0	1	0	0	1	0
0	200	102	14	0.80	1	1	1	0	0	0
0	238	154	25	0.94	0	1	0	0	1	0
3	609	575	62	0.88	0	1	0	0	1	0
0	18	5	0	0.79	0	1	0	0	1	0
0	0	0	0	0.95	0	0	0	0	0	1
0	1748	163	31	0.92	0	1	0	0	1	0
0	0	0	0	0.96	0	0	0	0	0	1

Supp Table S2

Brain ID	XC9	XC14*	XC28
Proj barcode #	4841	8418	13581
# of cells in ACx	1575	13998	1662
# of cells projecting	895	5082	911
# of filtered cells	605	5082	704

Supp Table S3

Slice#	1	2	3	Mean \pm sem
L2/3 – L5 (Cux2)	640 μ m	590 μ m	550 μ m	600 \pm 20 μ m
L2/3 – L5 (Fezf2)	550 μ m	600 μ m	590 μ m	580 \pm 10 μ m
L5 – L6 (Fezf2)	800 μ m	830 μ m	870 μ m	830 \pm 20 μ m