

Supplementary 4 - wAUC with intersection of targets

March 31, 2020

1 Get TF list

```
common top in intersection and all-target:  6
{'Tsc22d1', 'Prox1', 'Klf15', 'Ybx3', 'Tfdp2', 'Foxa3'}
- - - - -
common last in intersection and all-target:  3
{'Nr1d2', 'Atrx', 'Cebpa'}
- - - - -
>>>>>>>>> intersection >>>>>>>>>
top only in intersection:  18
{'Tsc22d2', 'Mafg', 'Jund', 'Foxa2', 'Zkscan3', 'Crebl2', 'Foxo1', 'Stat3',
'Ssrp1', 'Nfyb', 'Hnf4a', 'Ncor1', 'Irf9', 'Srebf1', 'Foxq1', 'Nfx1', 'Mxd4',
'Stat6'}
- - - - -
last only in intersection:  29
{'Nr3c1', 'Zfp91', 'Lrrfip1', 'Tfam', 'Mlxipl', 'Tcf25', 'Klf9', 'Mef2a',
'Dnmt1', 'Nr5a2', 'Nr1h3', 'Junb', 'Phf5a', 'Gtf3a', 'Smarce1', 'Nono', 'Sfpq',
'Rora', 'Zbtb38', 'Tsc22d3', 'Nfic', 'Bcl3', 'Ncoa2', 'Nfix', 'Pbrm1', 'Nr0b2',
'Rreb1', 'Peg3', 'Bhlhe40'}
- - - - -
>>>>>>>> all-target >>>>>>>>>
top only in all-target:  31
{'Nr2f6', 'Nr3c1', 'Zfp91', 'Foxp1', 'Tfam', 'Tcf25', 'Junb', 'Smarca5',
'Foxn3', 'Hes6', 'Smarce1', 'Nono', 'Sfpq', 'Klf13', 'Rora', 'Nfia', 'Tsc22d3',
'Rxra', 'Nfic', 'Bcl3', 'Epas1', 'Onecut2', 'Pbrm1', 'Nr0b2', 'Nr1i3', 'Mier1',
'Peg3', 'Ahr', 'Bhlhe40', 'Stat1', 'Nfib'}
- - - - -
last only in all-target:  25
{'Sox5', 'Sp3', 'Atf1', 'Tfdp1', 'Tox4', 'Tshz1', 'Nfe2l1', 'Sox9', 'Tef',
'Klf12', 'Stat5b', 'Sall1', 'Onecut1', 'Foxo3', 'Elk4', 'Nr2f2', 'Nfkbia',
'Cux1', 'Gzf1', 'Irf6', 'Zbtb7b', 'Kdm2a', 'Rlf', 'Atf6', 'Zhx1'}
- - - - -
>>>>>>>> contradicting cases >>>>>>>>
top in intersection, but last in all-target:  0
```

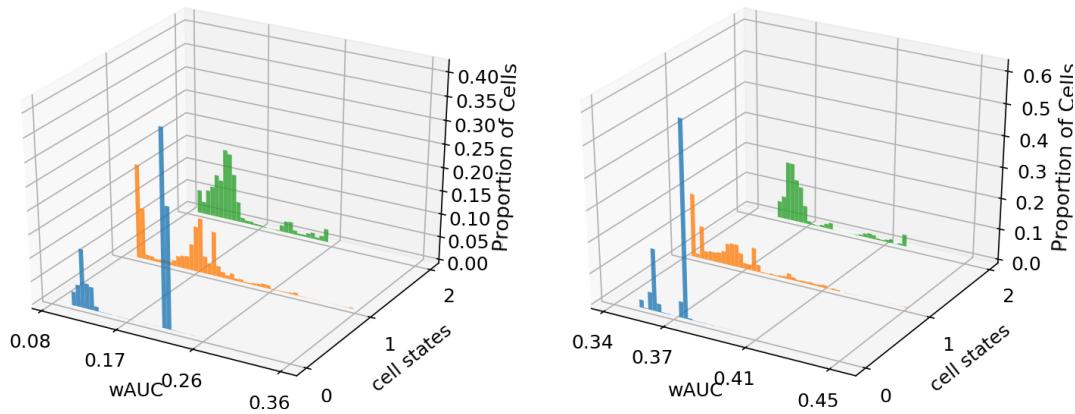
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set()
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last in intersection, but top in all-target: 16
{'Nr0b2', 'Nr3c1', 'Junb', 'Tsc22d3', 'Peg3', 'Nfic', 'Zfp91', 'Smarce1',
'Bcl3', 'Nono', 'Tfam', 'Sfpq', 'Bhlhe40', 'Tcf25', 'Pbrm1', 'Rora'}
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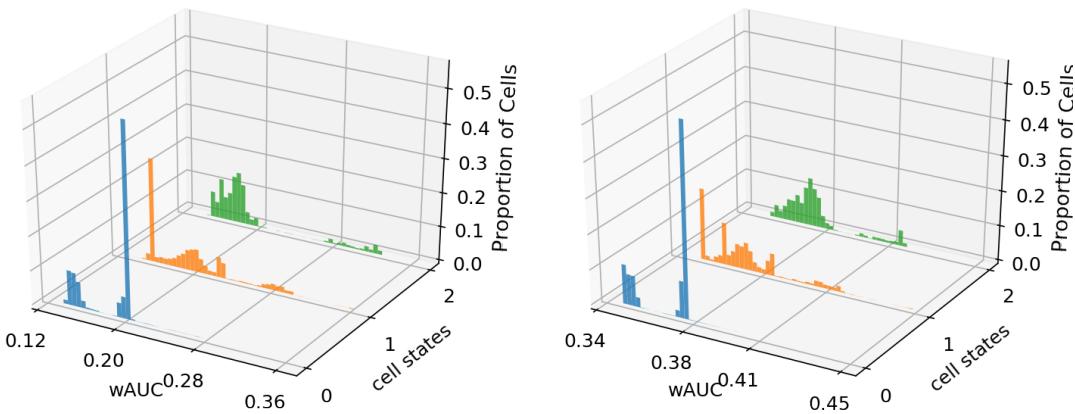
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2 TFs that are only rank top variant in intersection

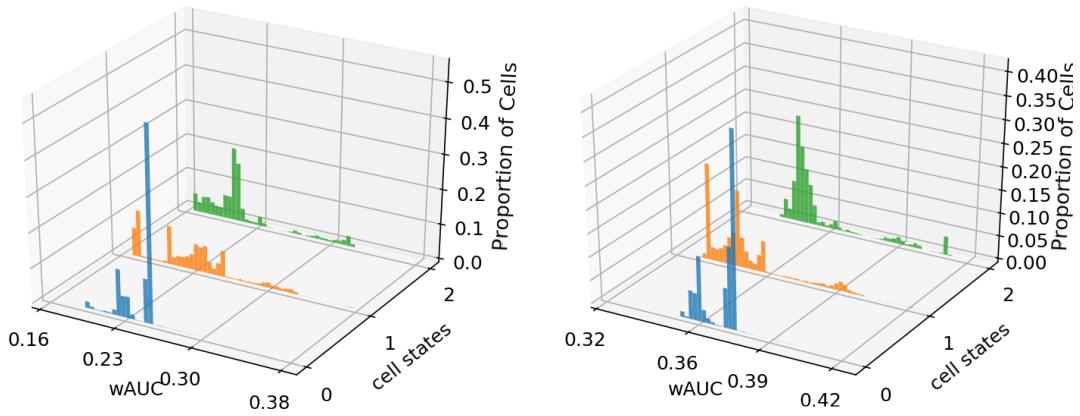
Tsc22d2



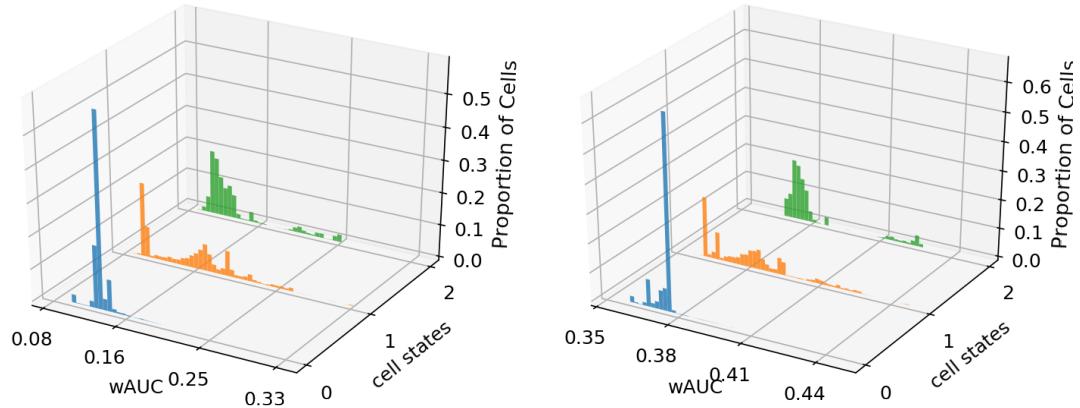
Mafg



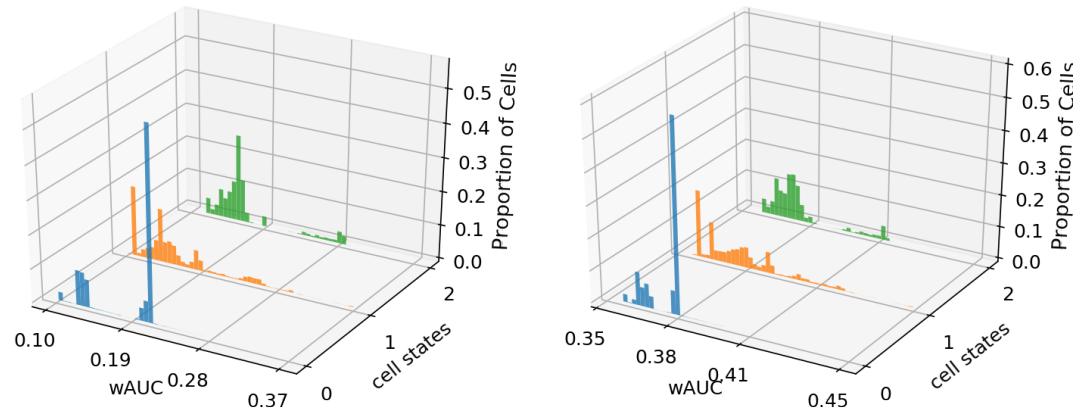
Junb



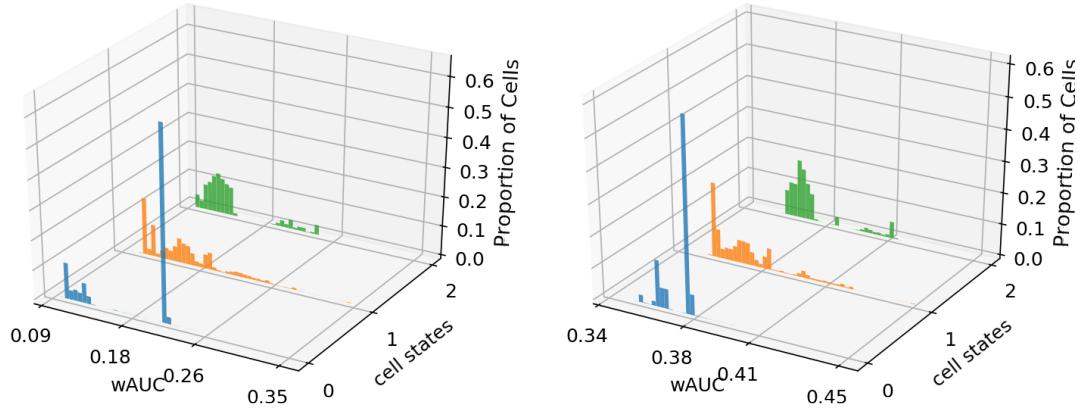
Foxa2



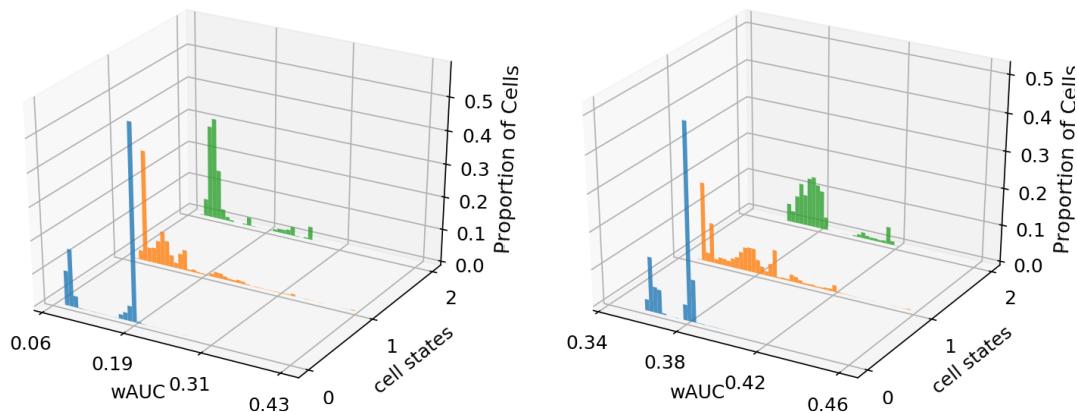
Zkscan3



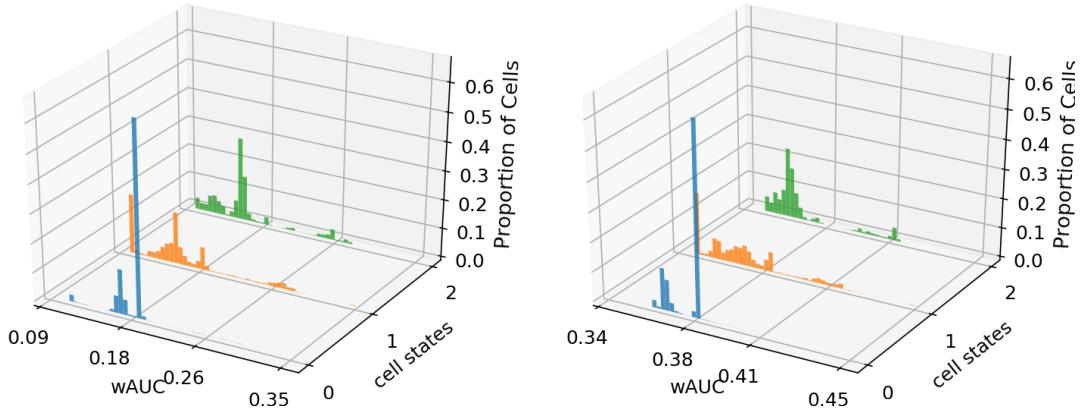
Crebl2



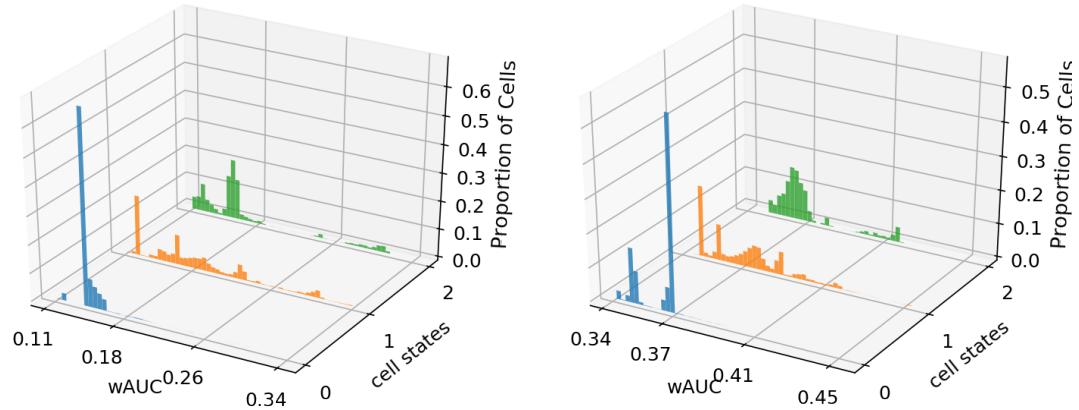
Foxo1



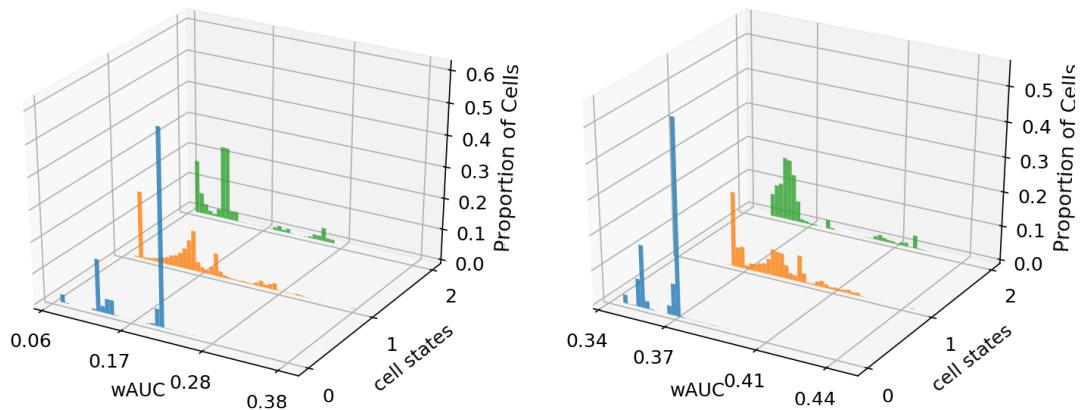
Stat3



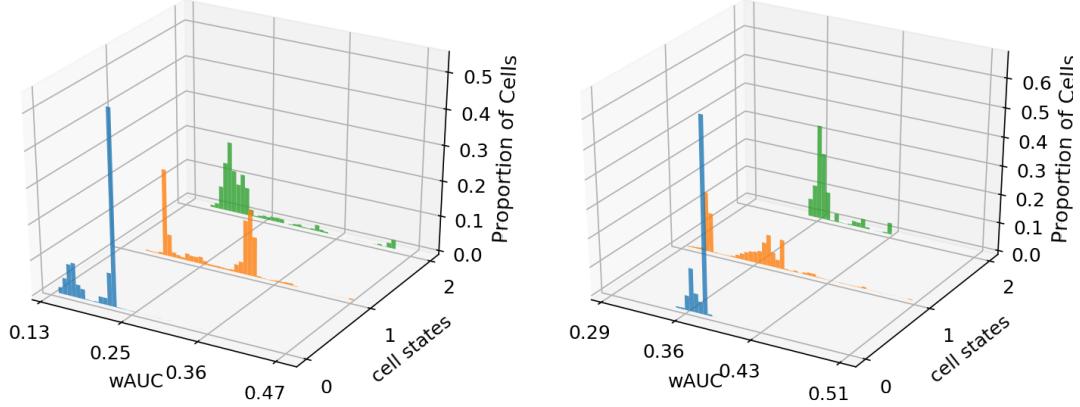
Ssrrp1



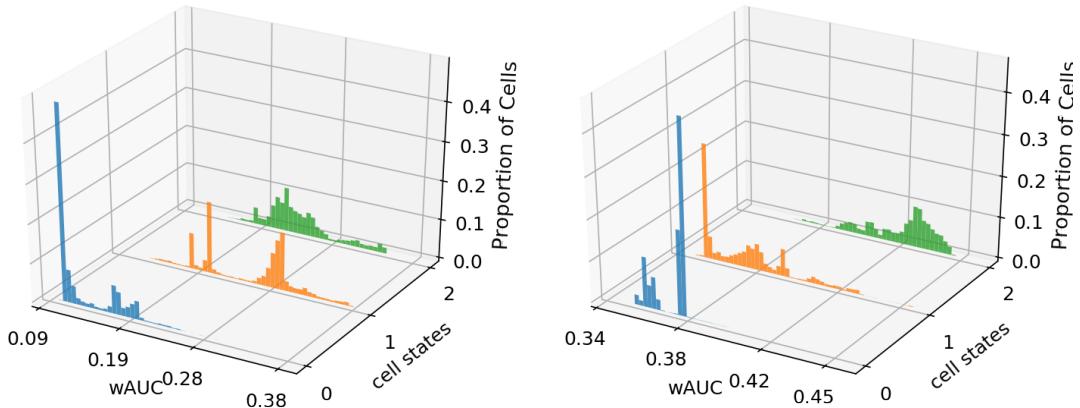
Nfyb



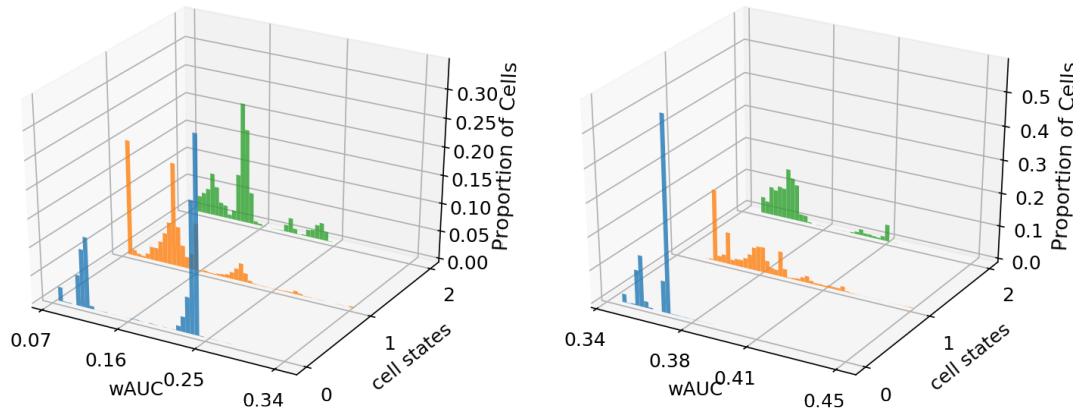
Hnf4a



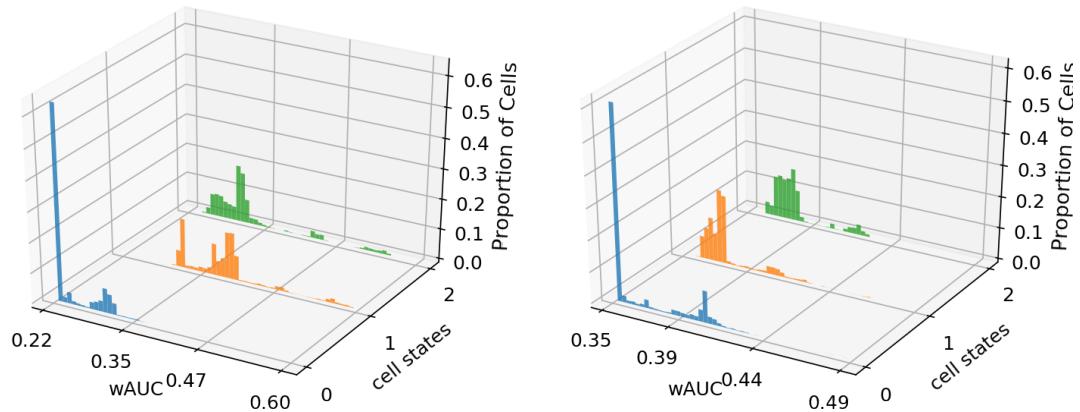
Ncor1



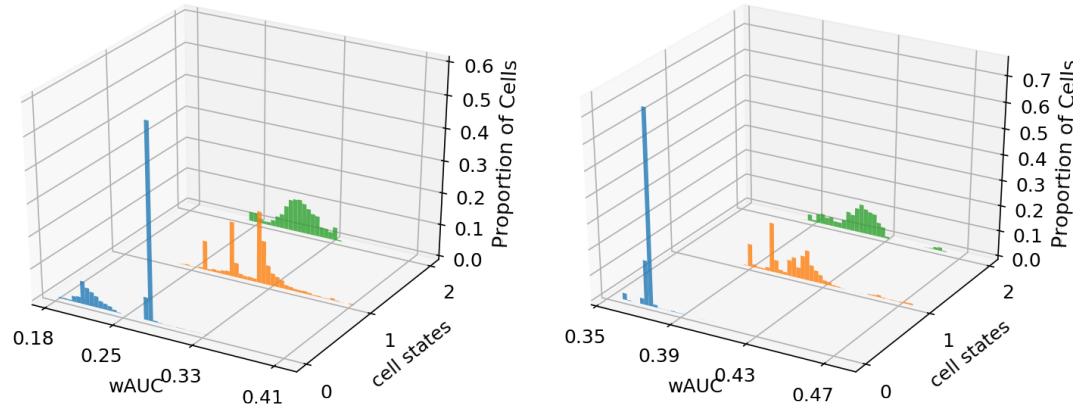
Irf9



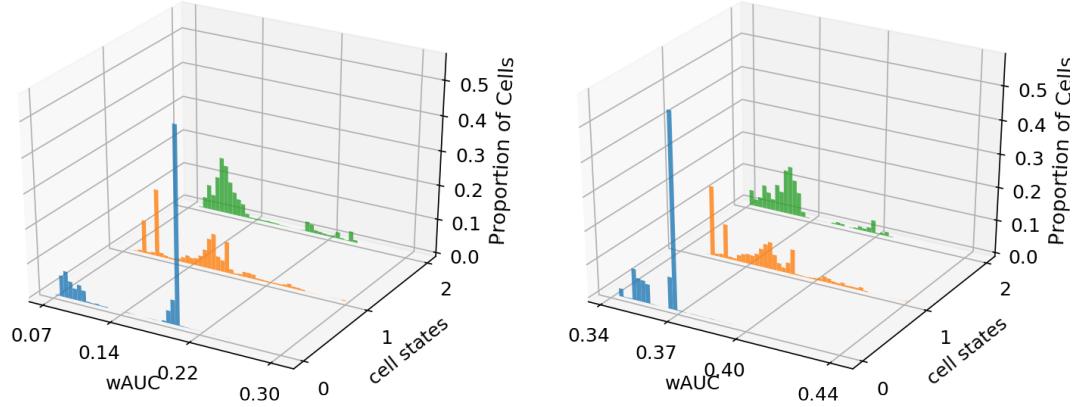
Srebf1



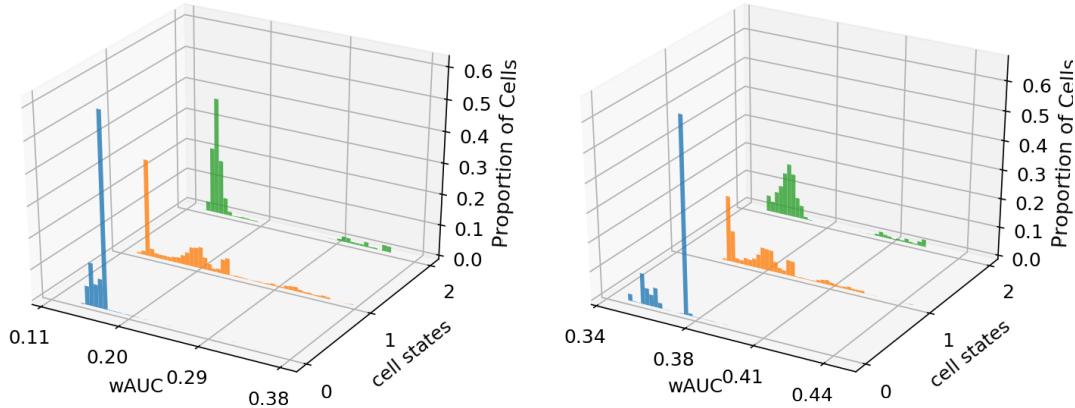
Foxq1



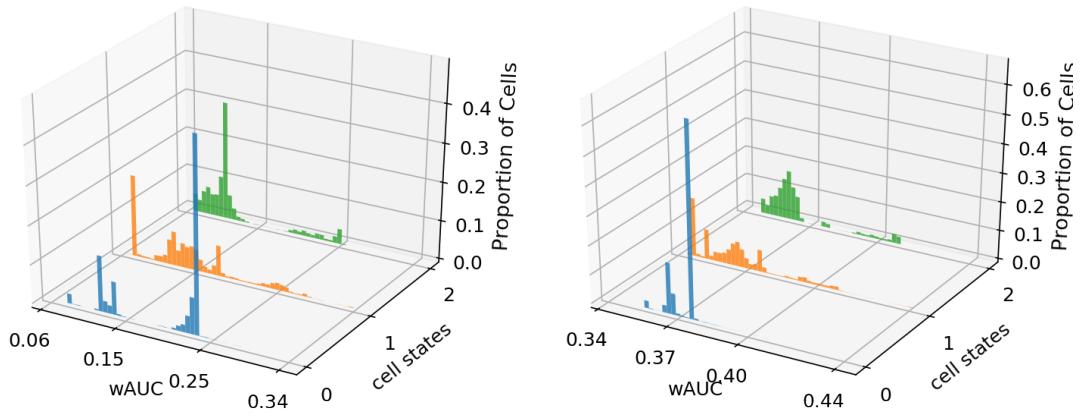
Nfx1



Mxd4

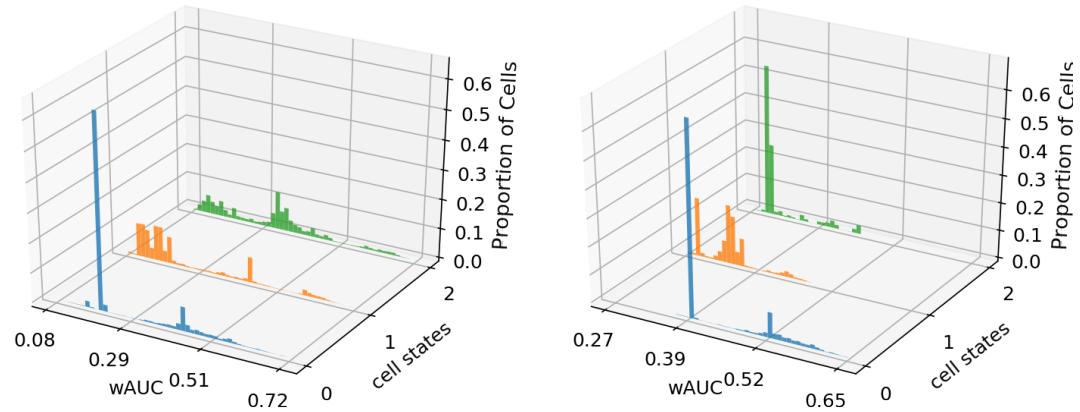


Stat6

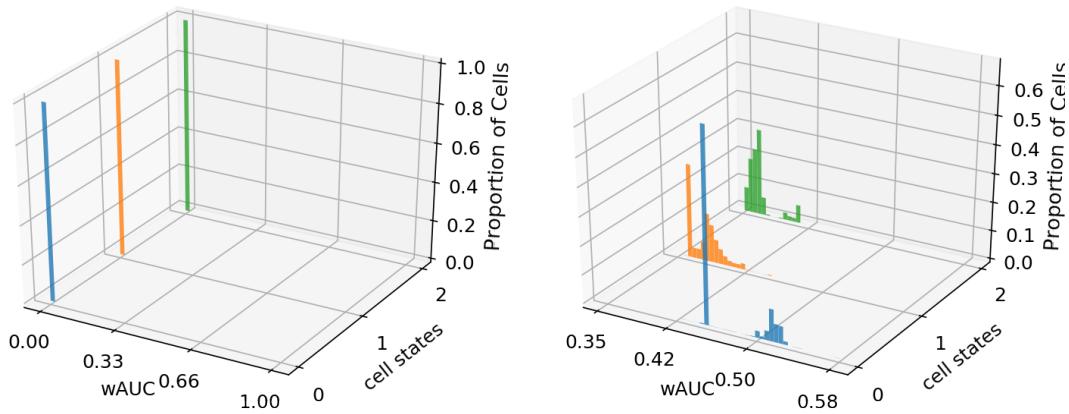


3 TFs that are only rank top varint in all targets

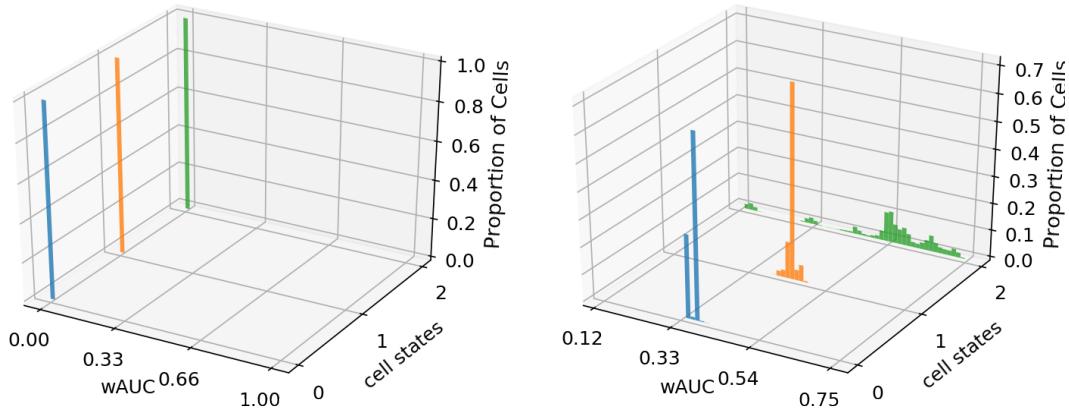
Nr2f6



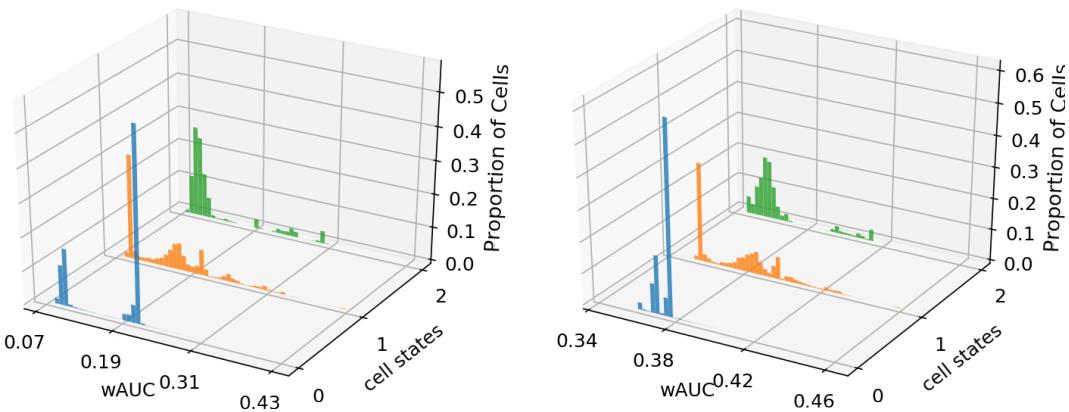
Nr3c1



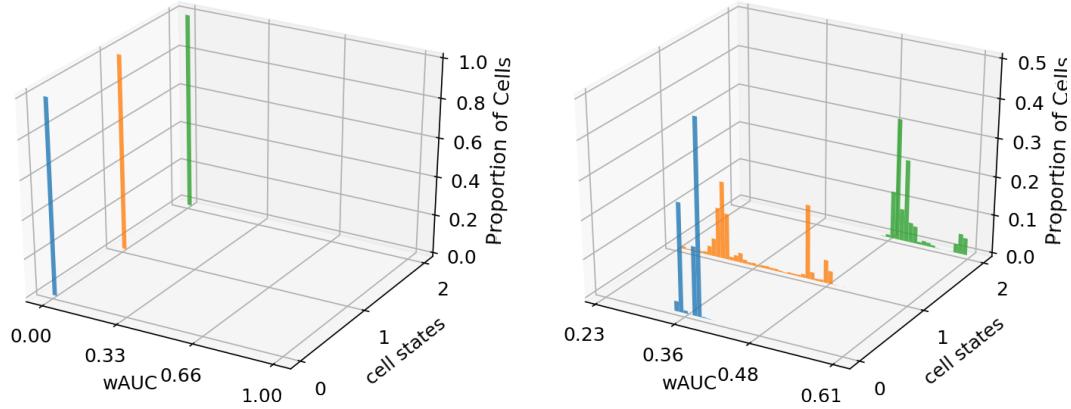
Zfp91



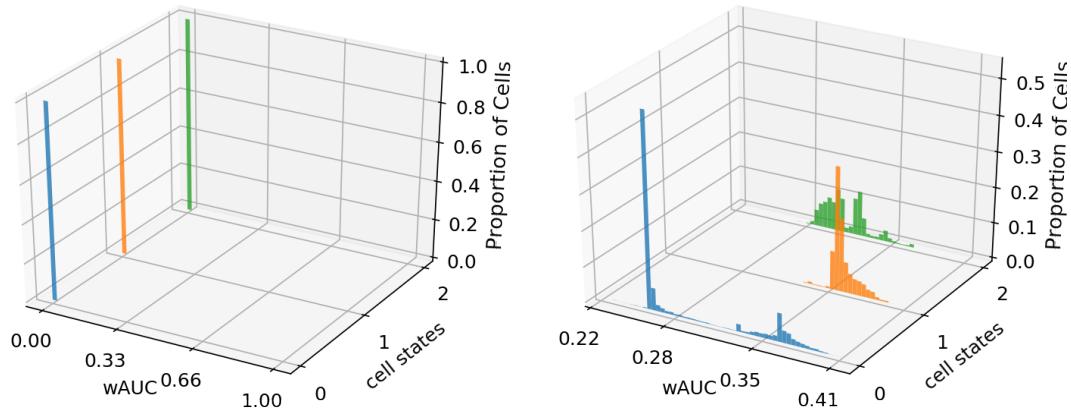
Foxp1



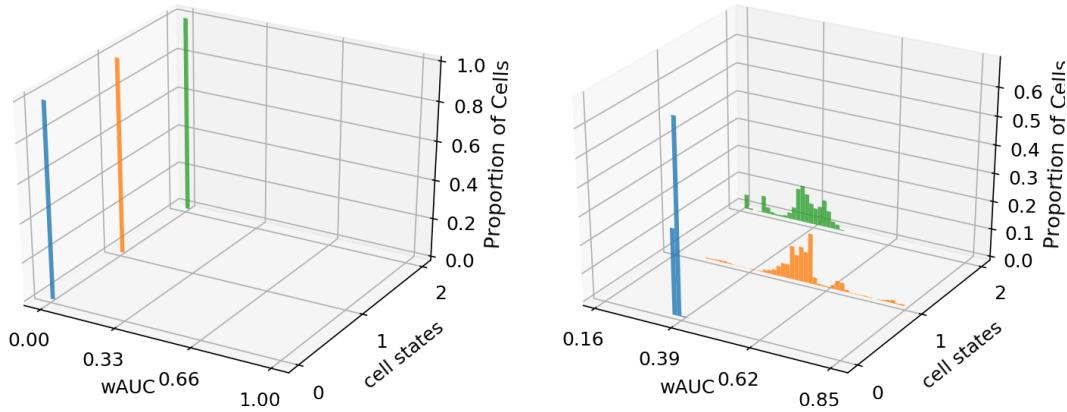
Tfam



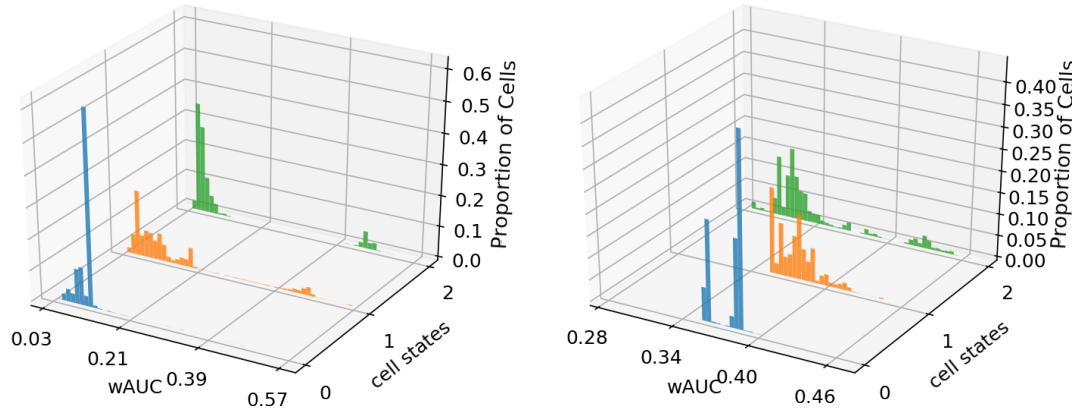
Tcf25



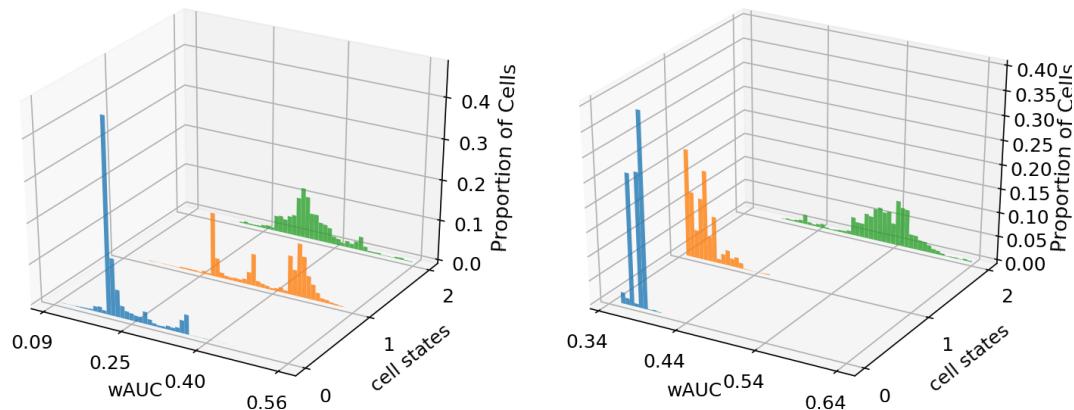
Junb



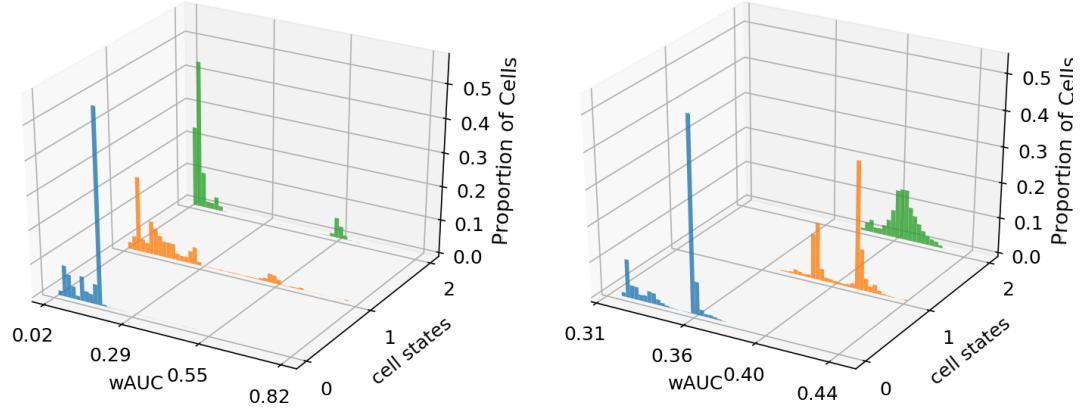
Smarca5



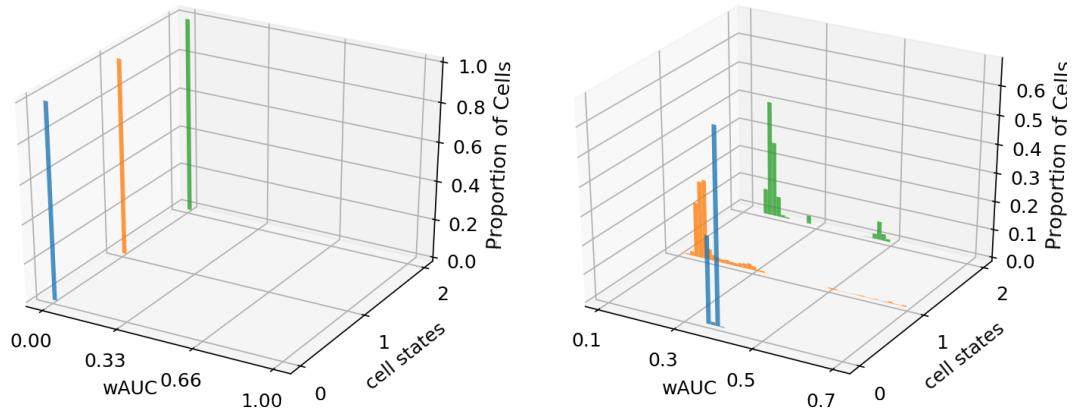
Foxn3



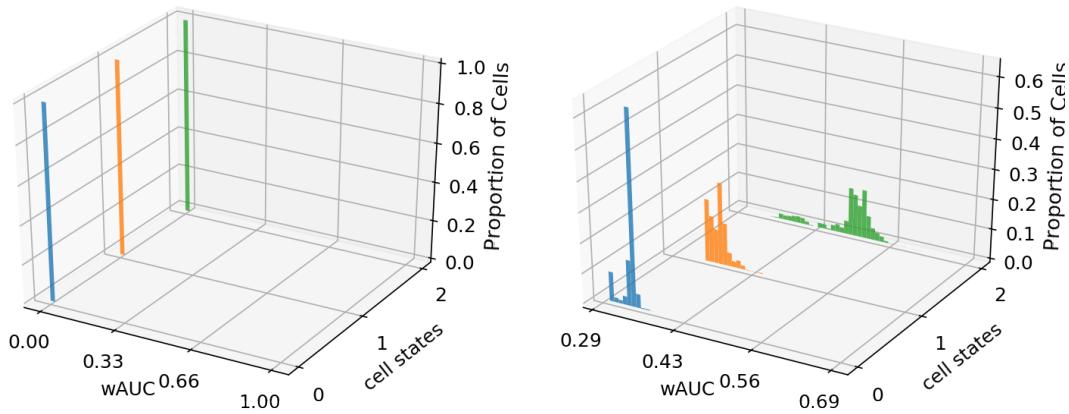
Hes6



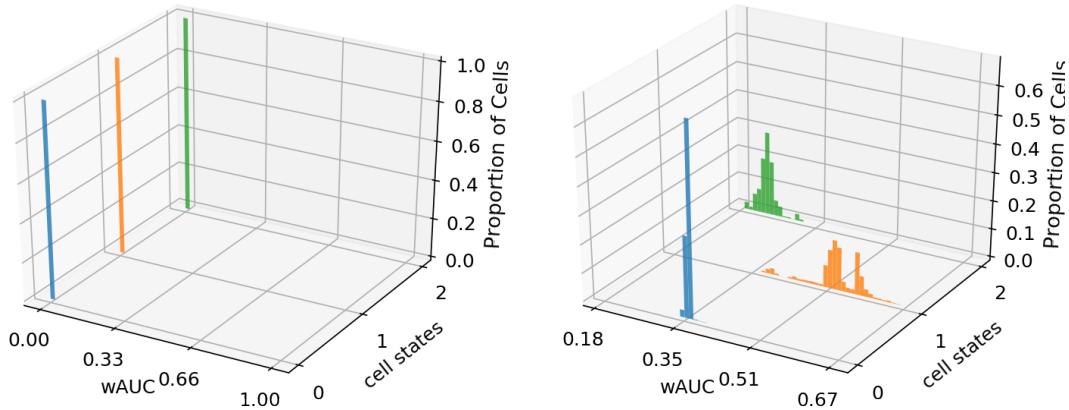
Smarce1



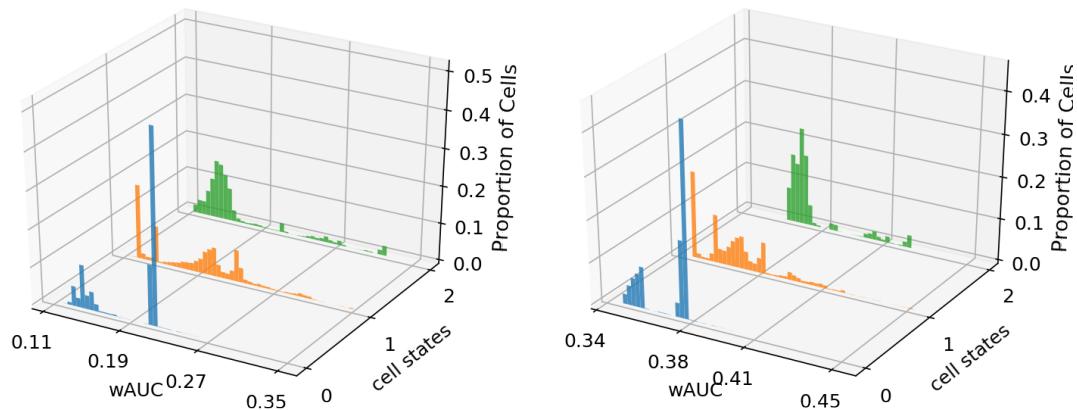
Nono



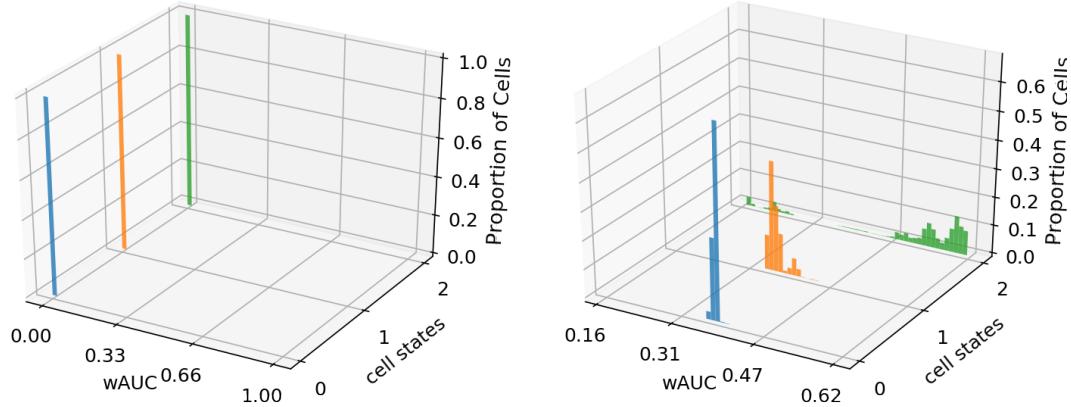
Sfpq



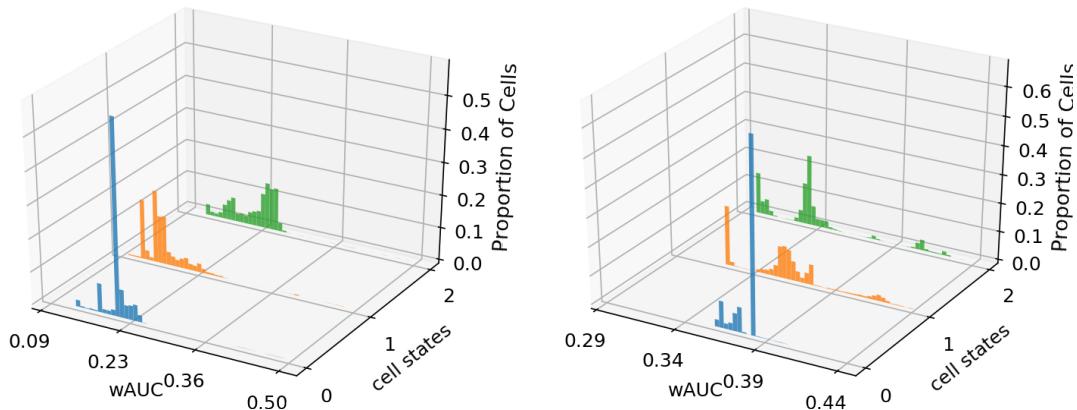
Klf13



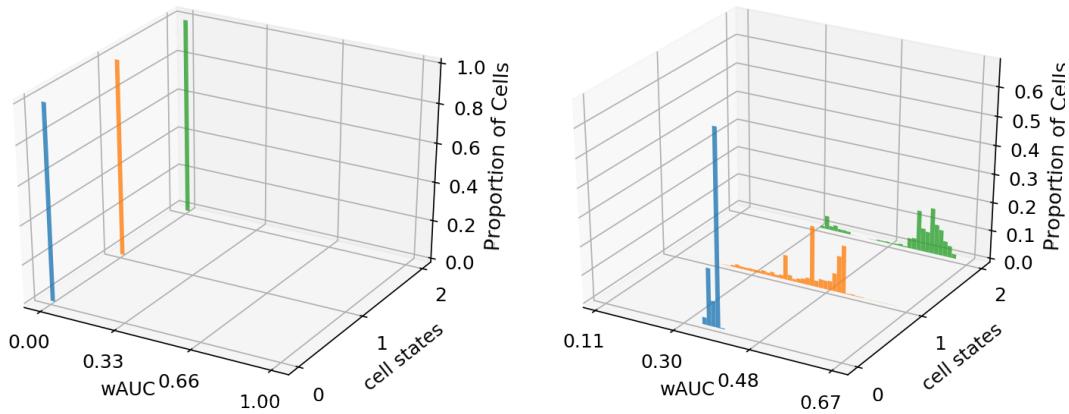
Rora



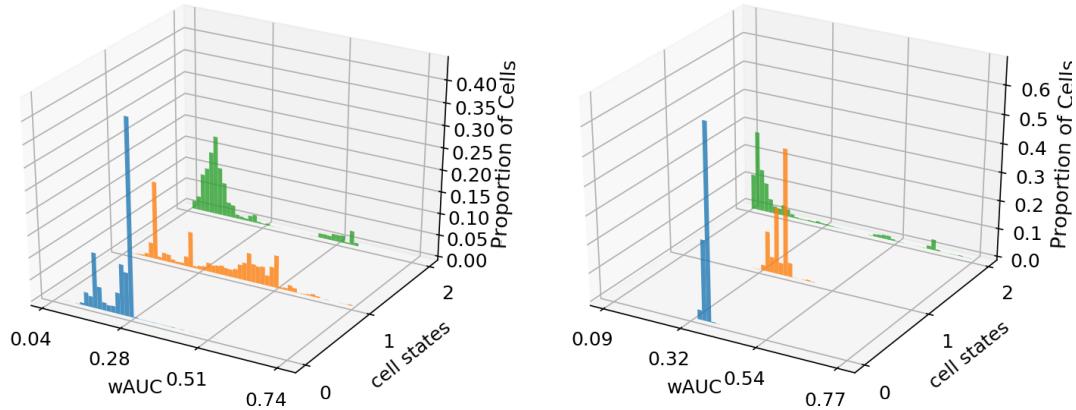
Nfia



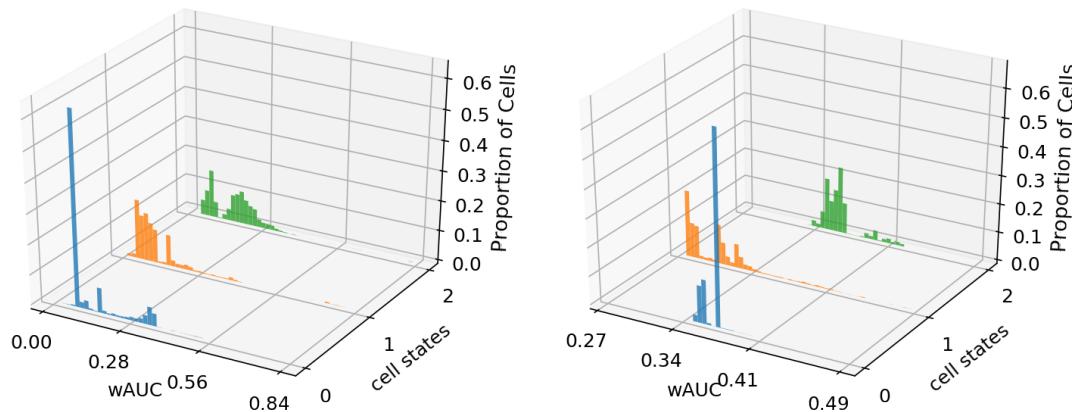
Tsc22d3



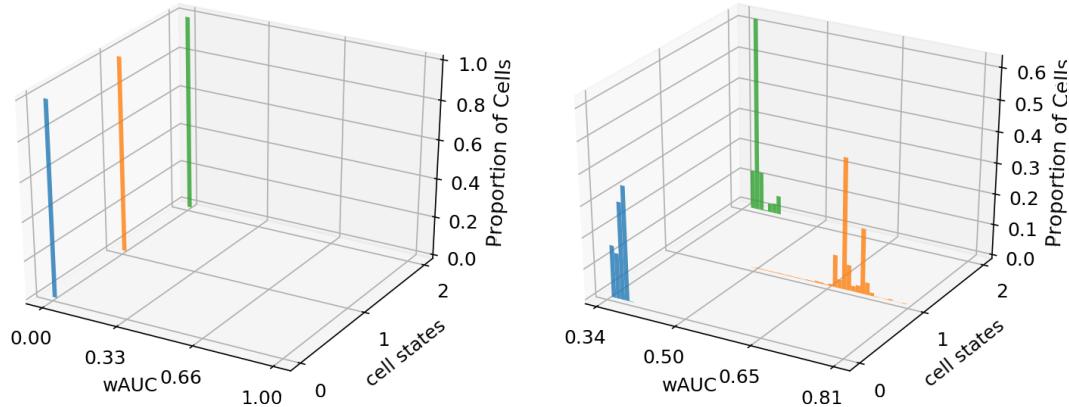
Rxra



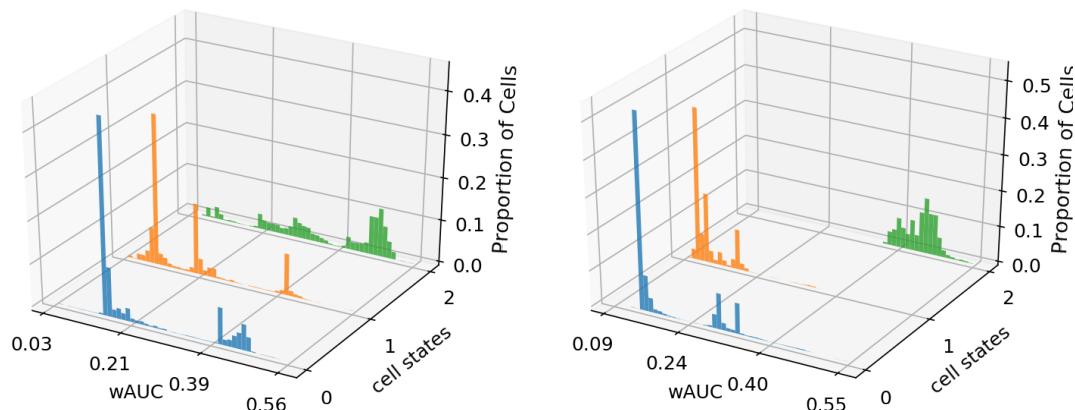
Nfic



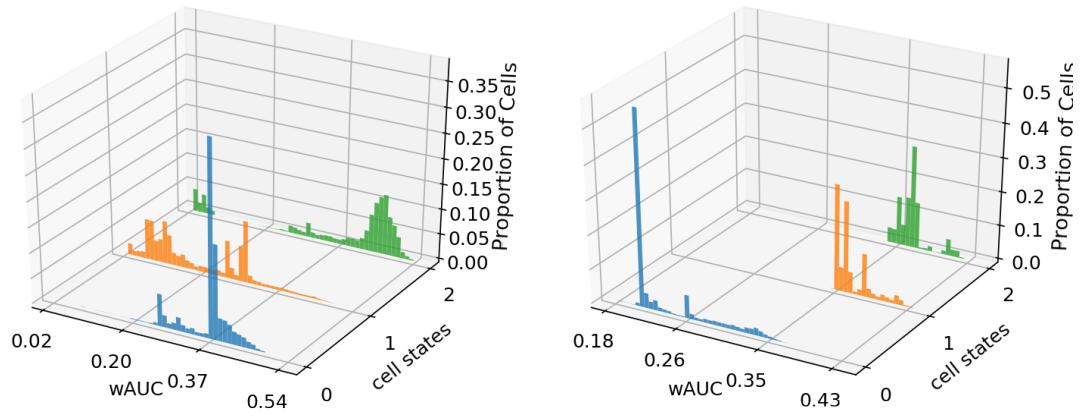
Bc13



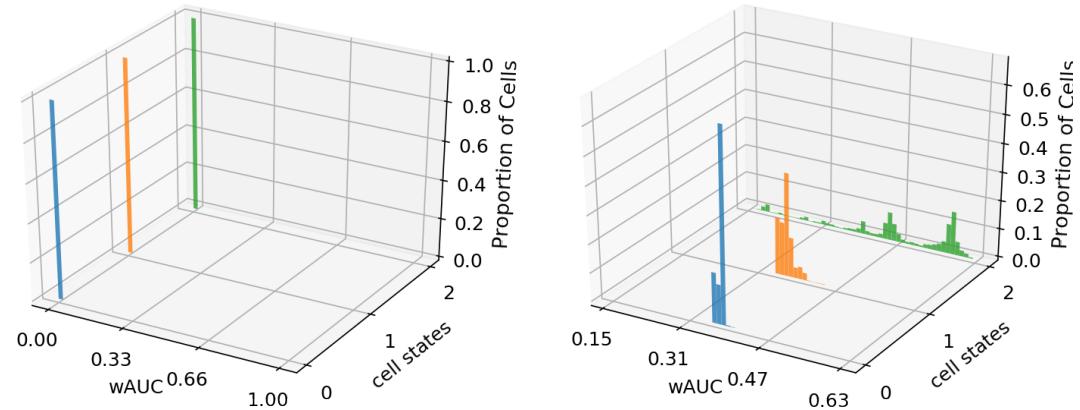
Epas1



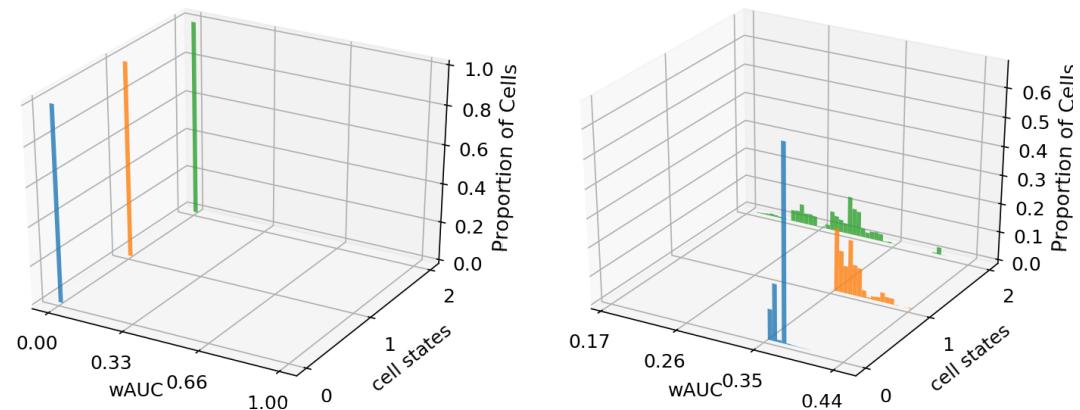
Onecut2



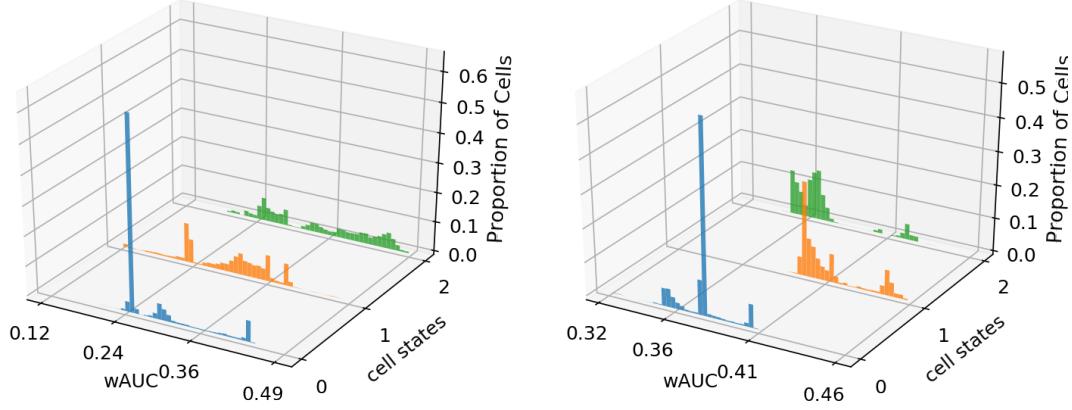
Pbrm1



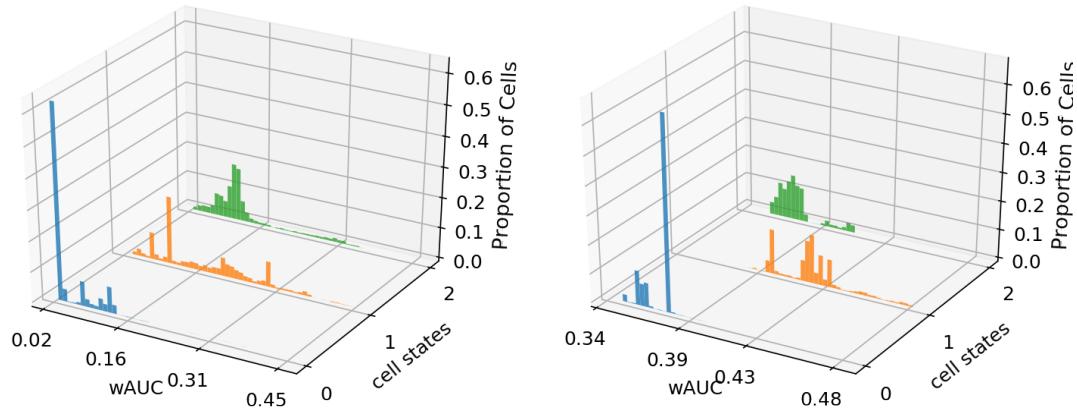
Nr0b2



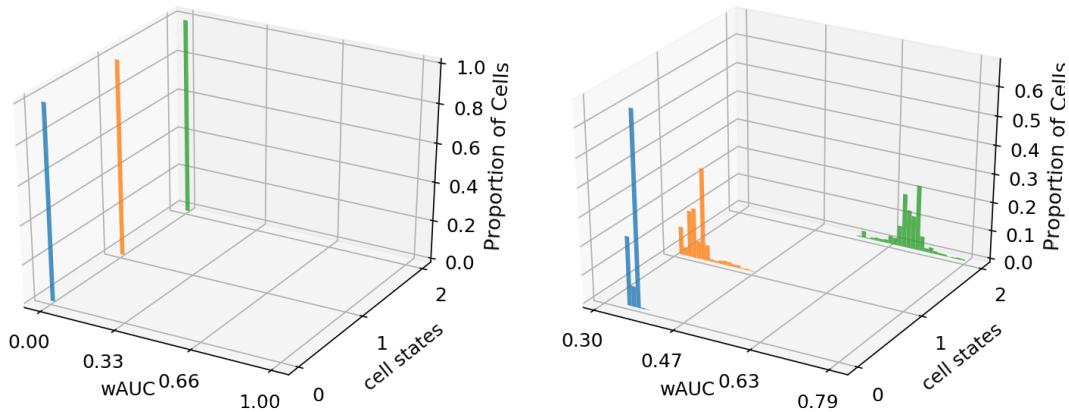
Nr1i3



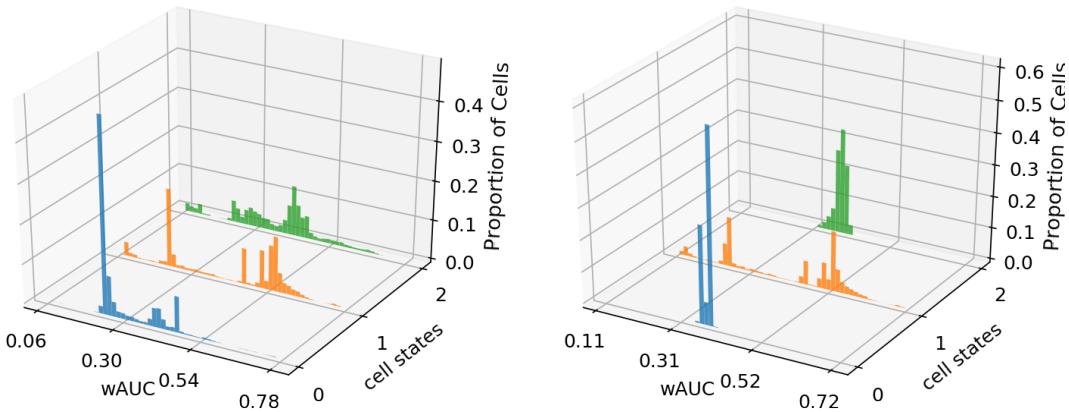
Mier1



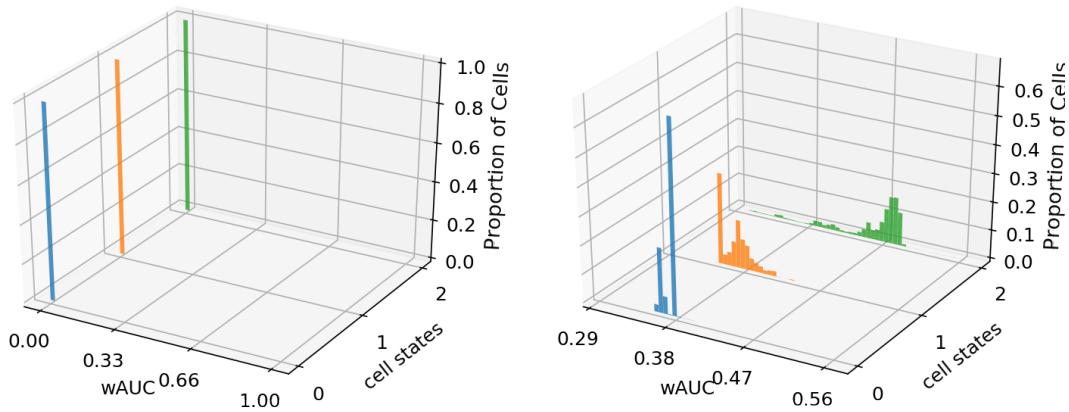
Peg3



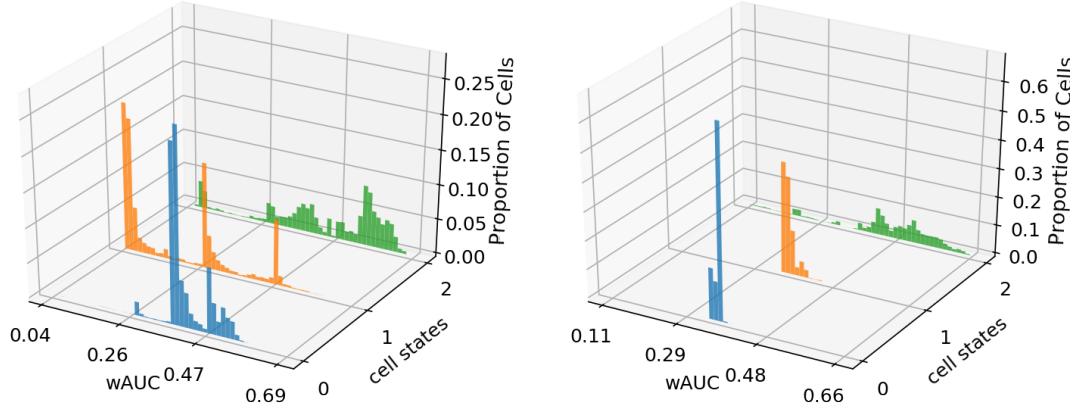
Ahr



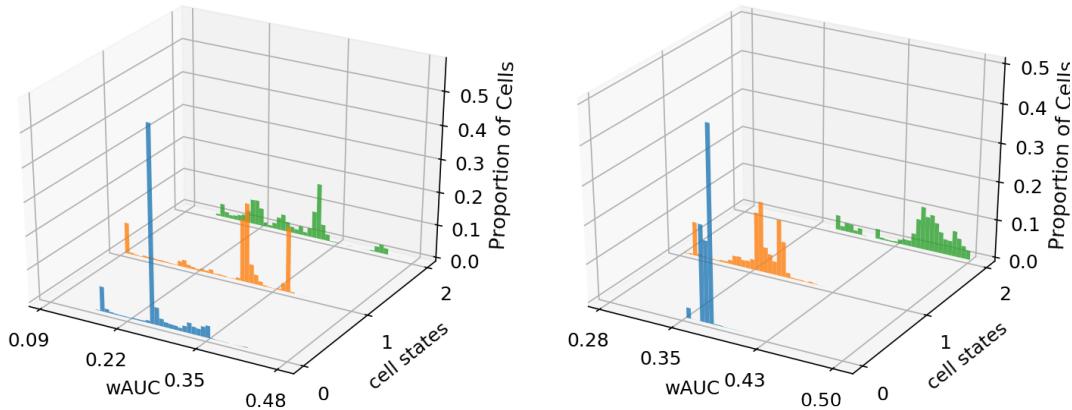
Bhlhe40



Stat1

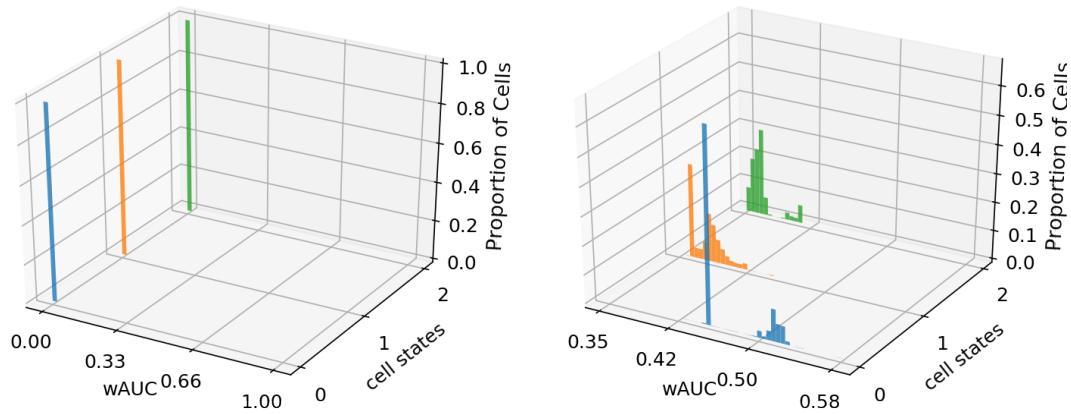


Nfib

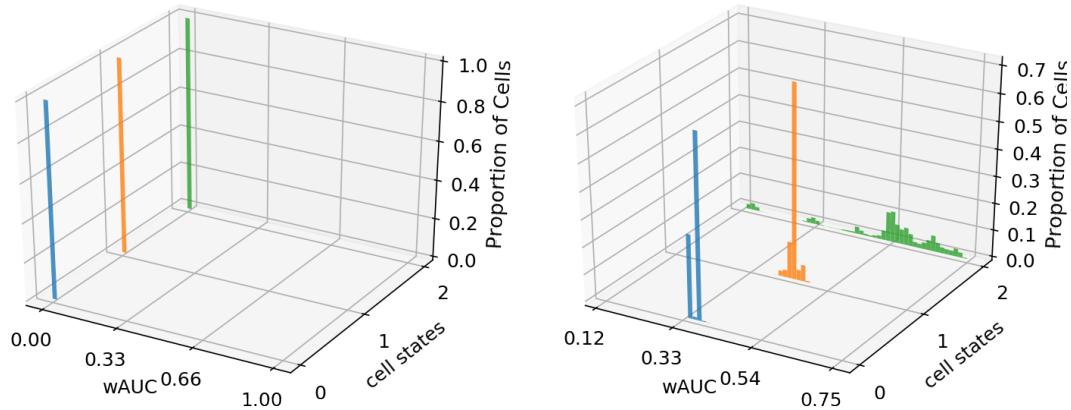


4 TFs that are only rank last variant in intersection

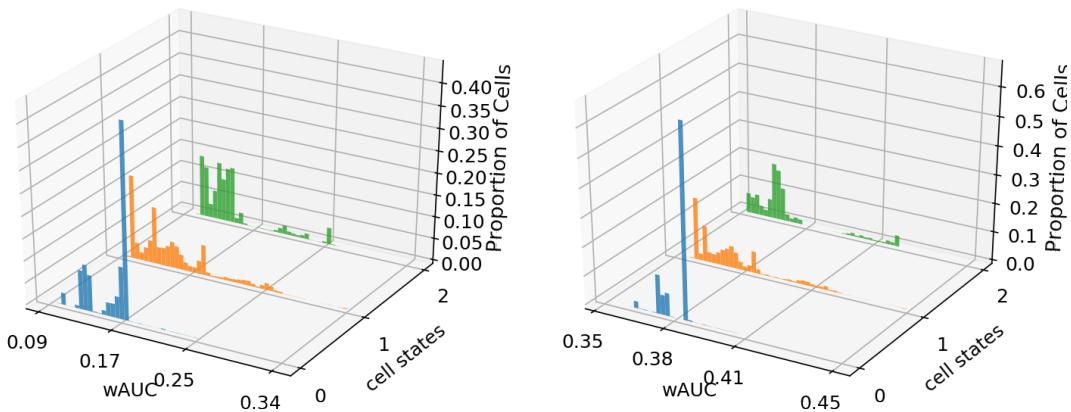
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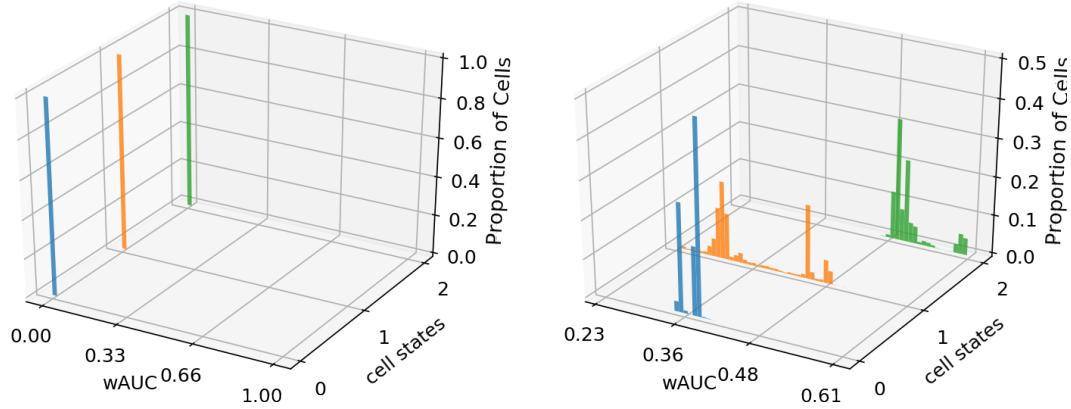
Zfp91



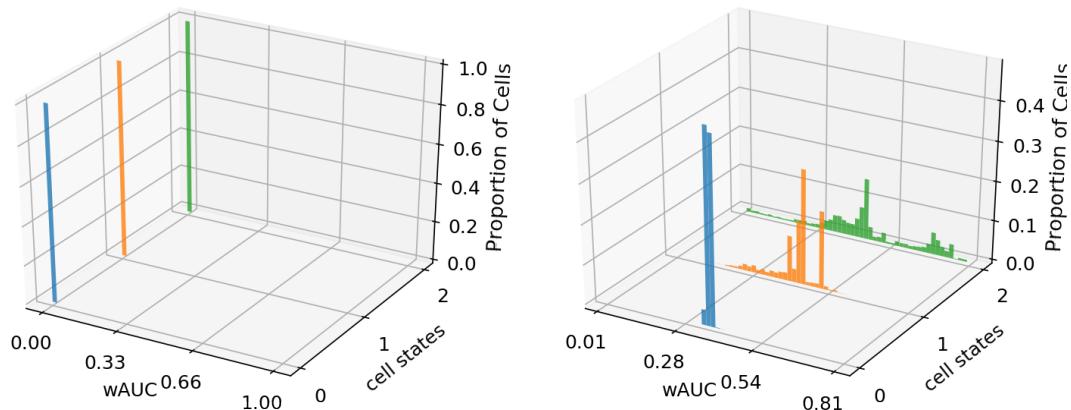
Lrrkip1



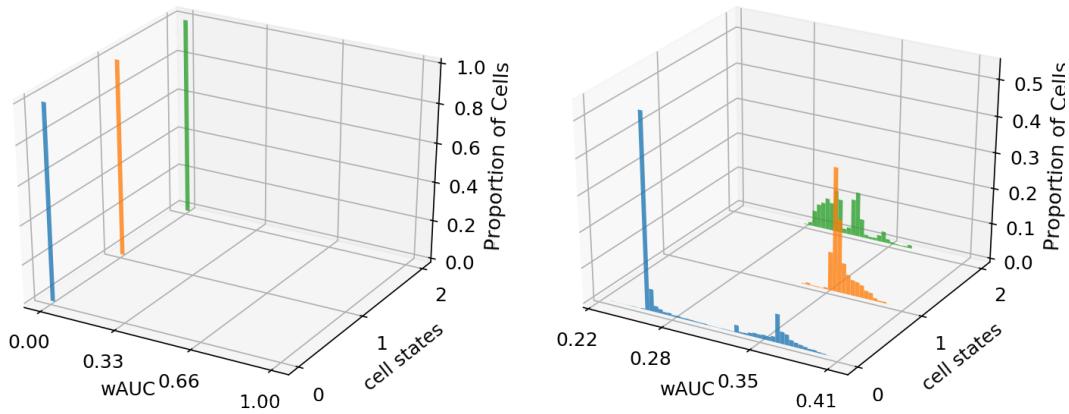
Tfam



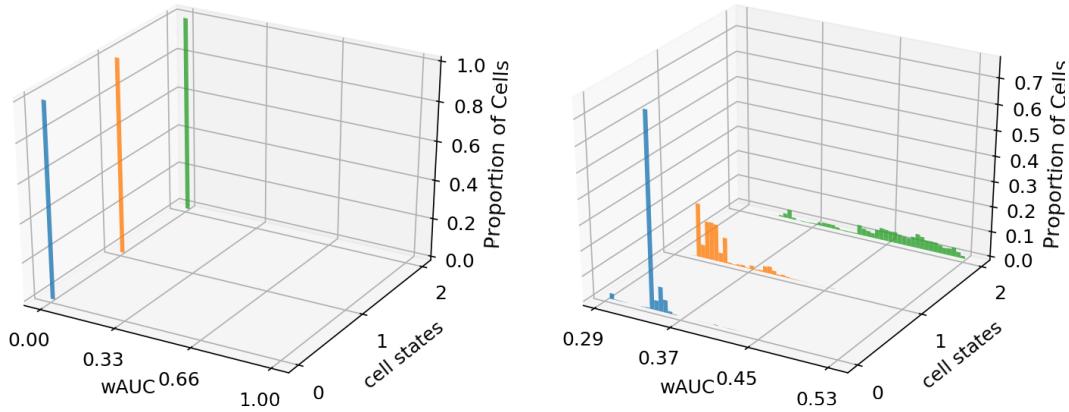
Mlxip1



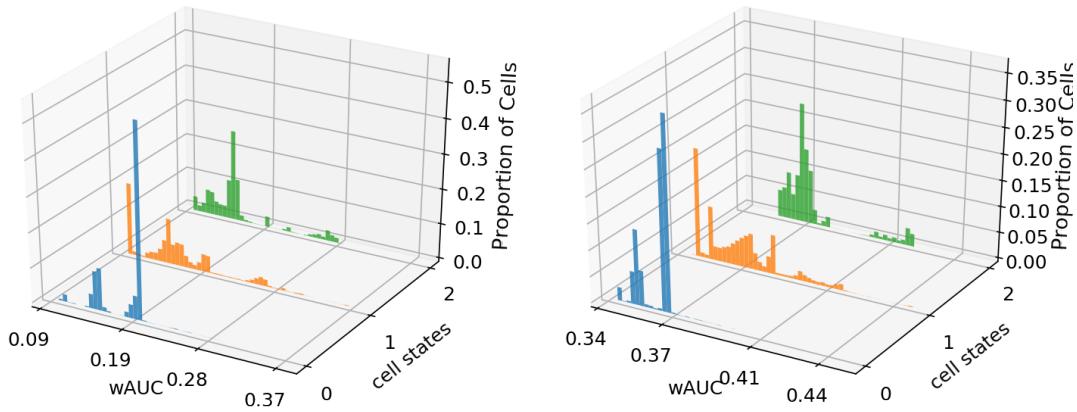
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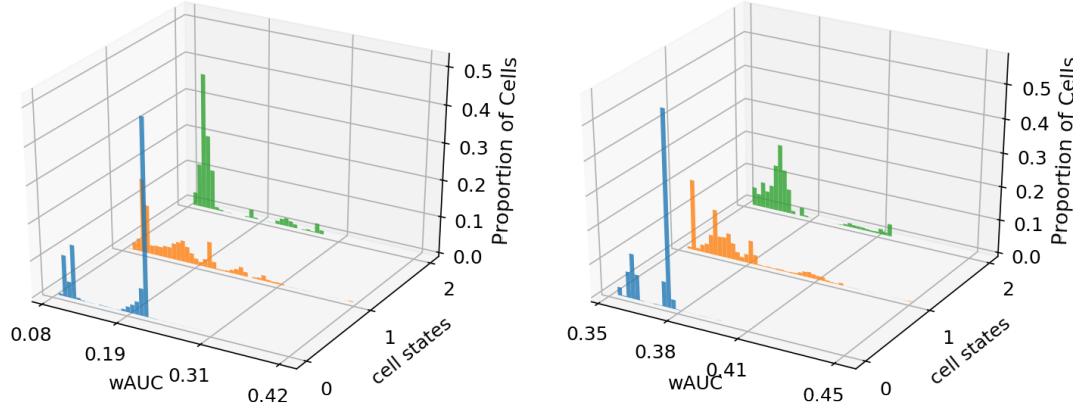
Klf9



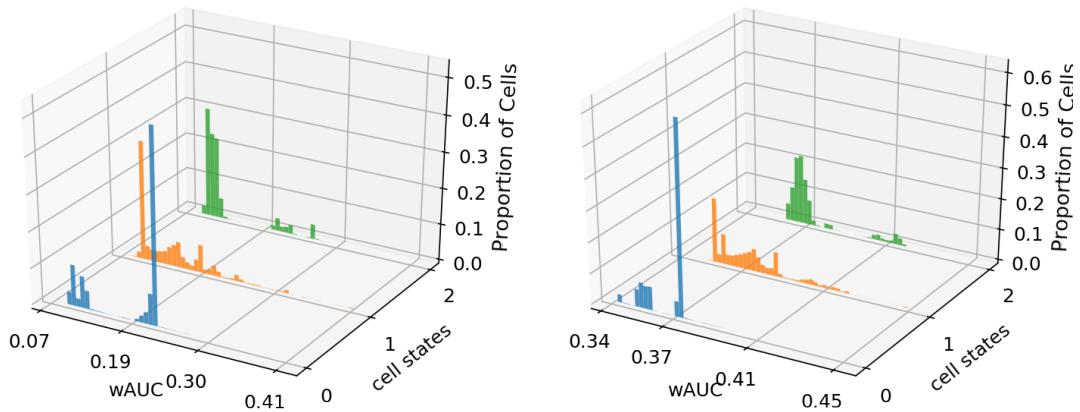
Mef2a



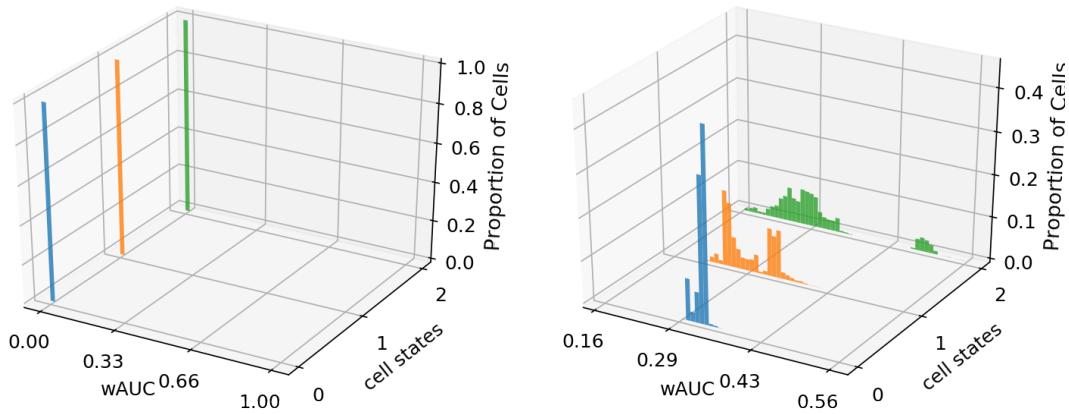
Dnmt1



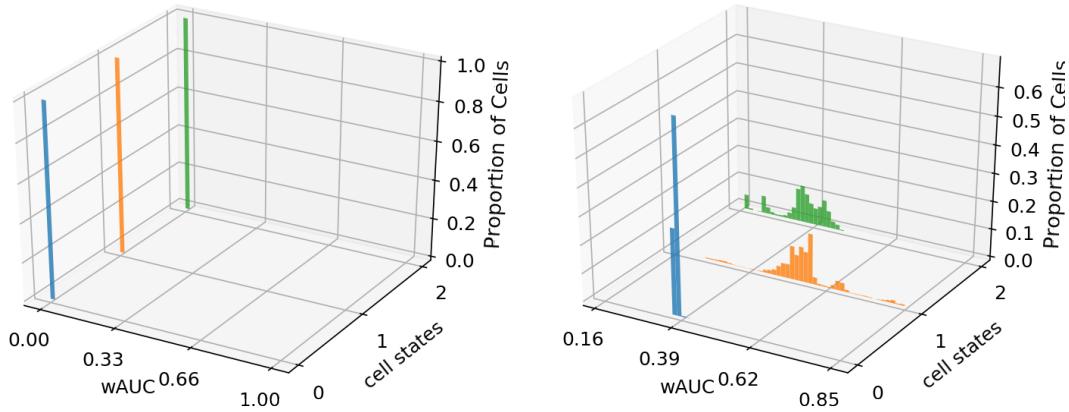
Nr5a2



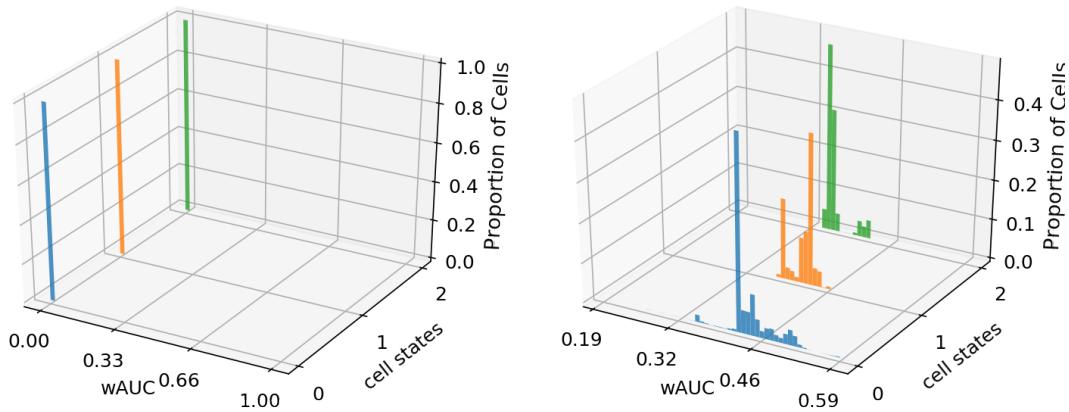
Nr1h3



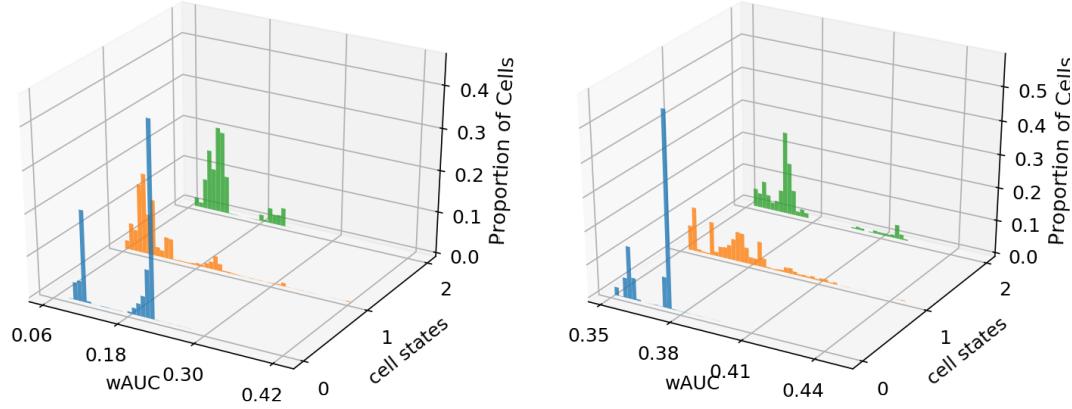
Junb



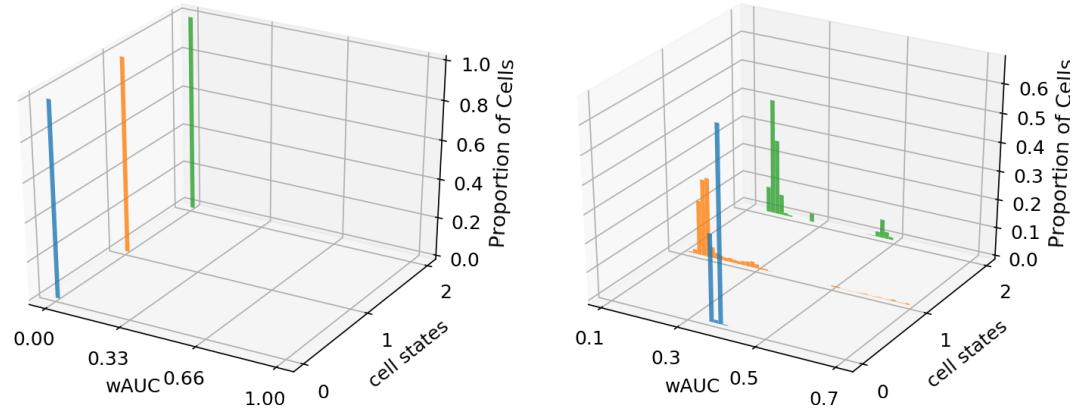
Phf5a



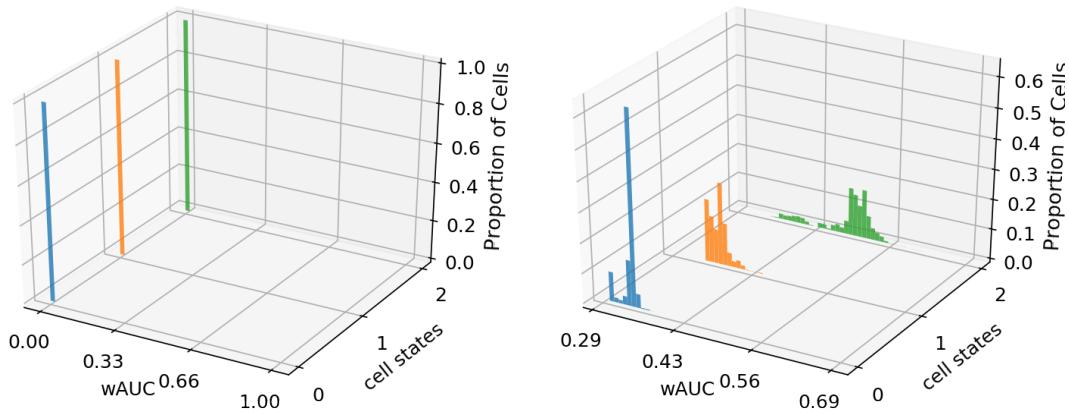
Gtf3a



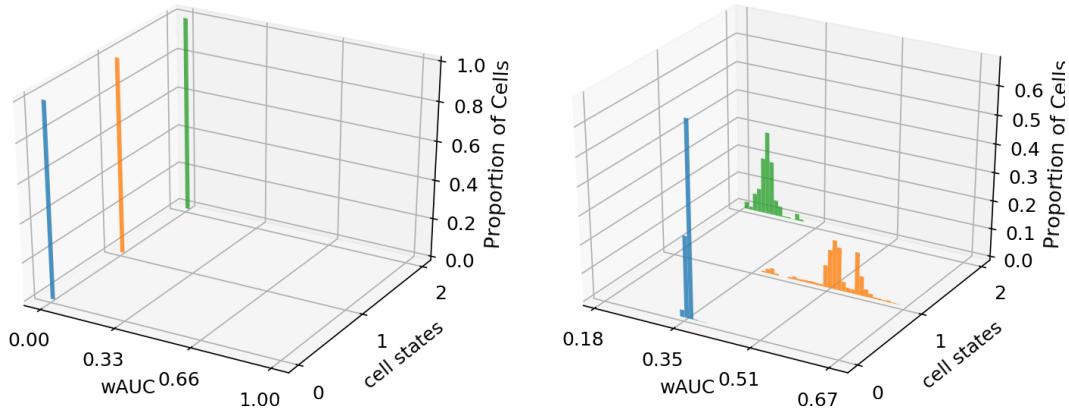
Smarce1



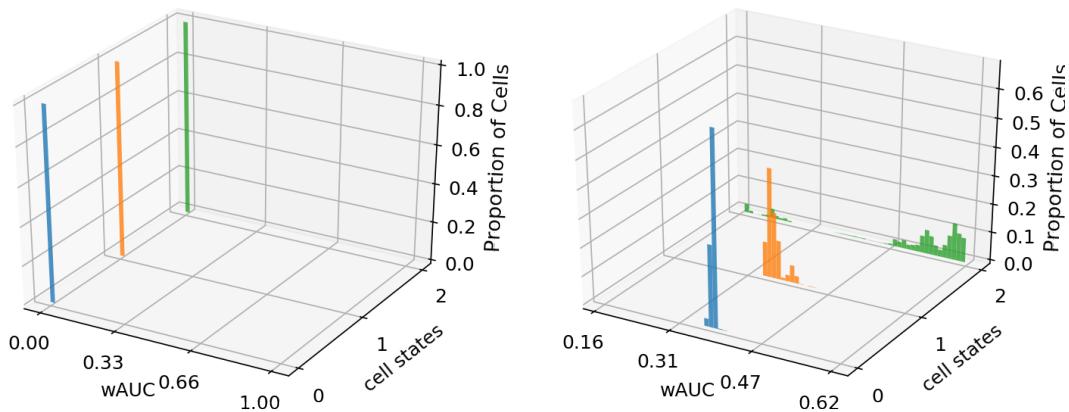
Nono



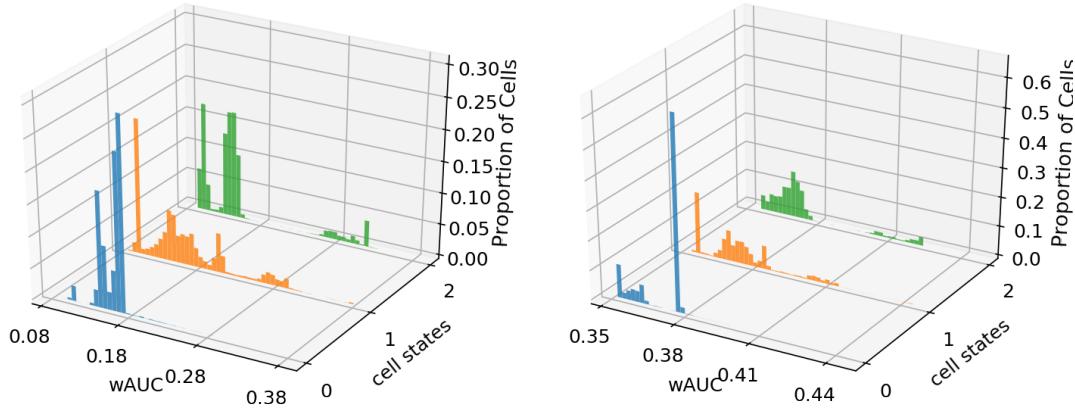
Sfpq



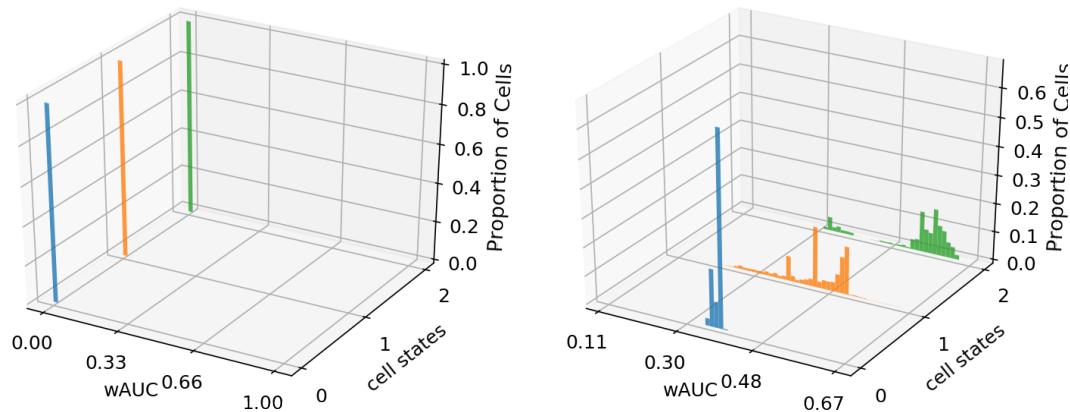
Rora



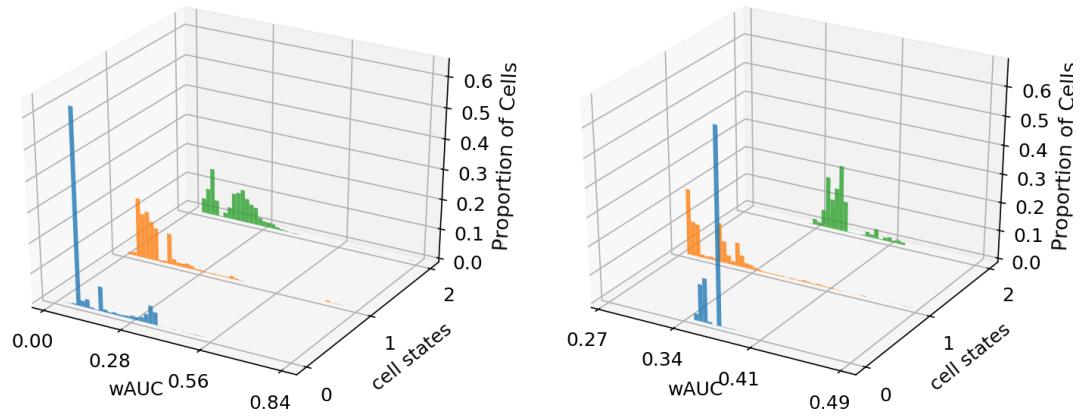
Zbtb38



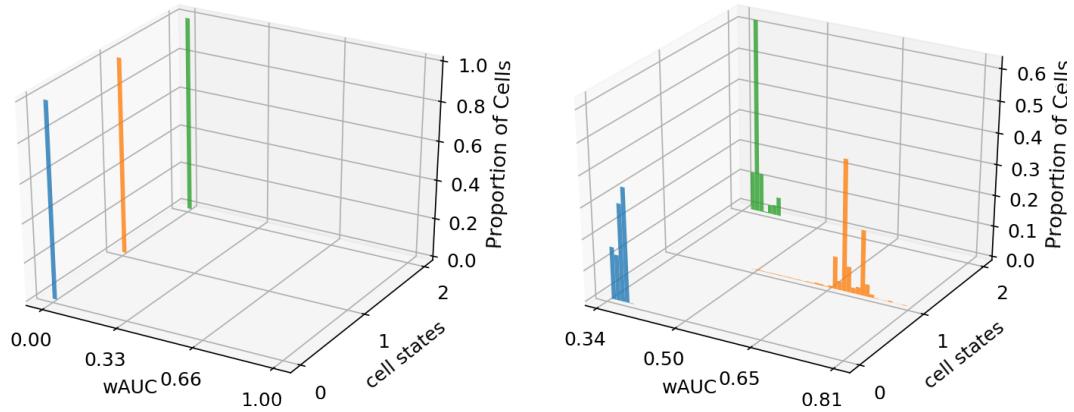
Tsc22d3



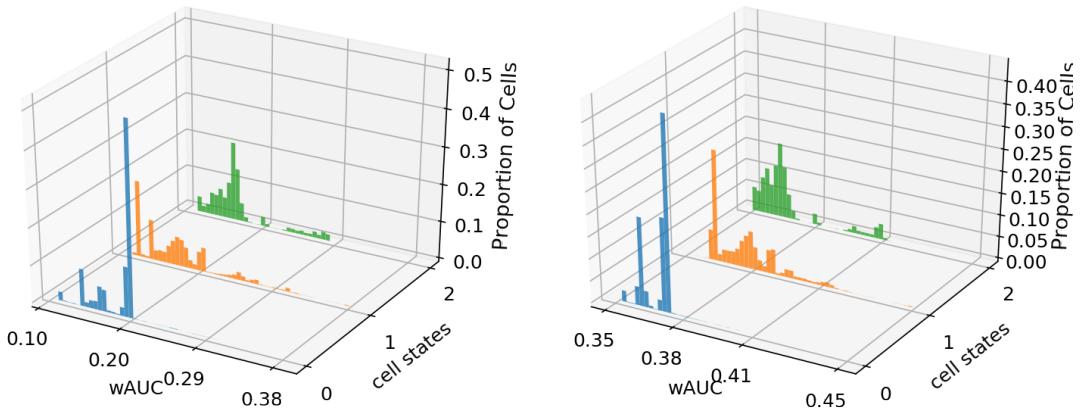
Nfic



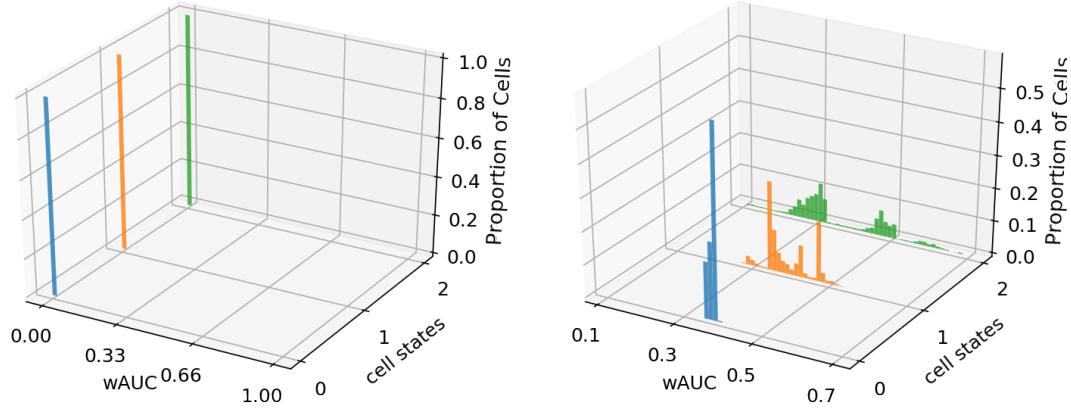
Bcl13



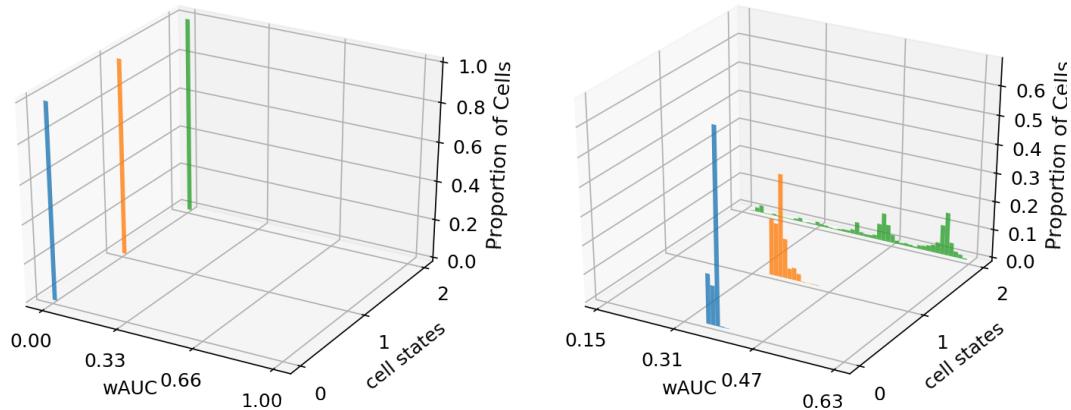
Ncoa2



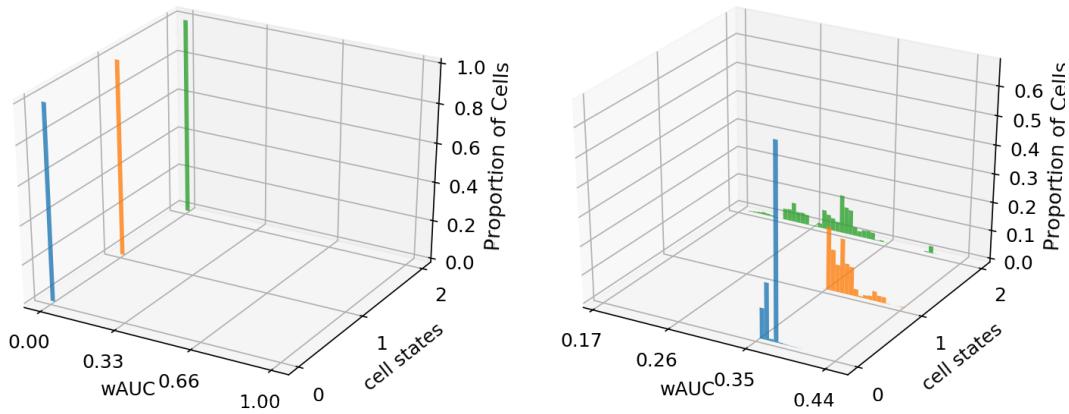
Nfix



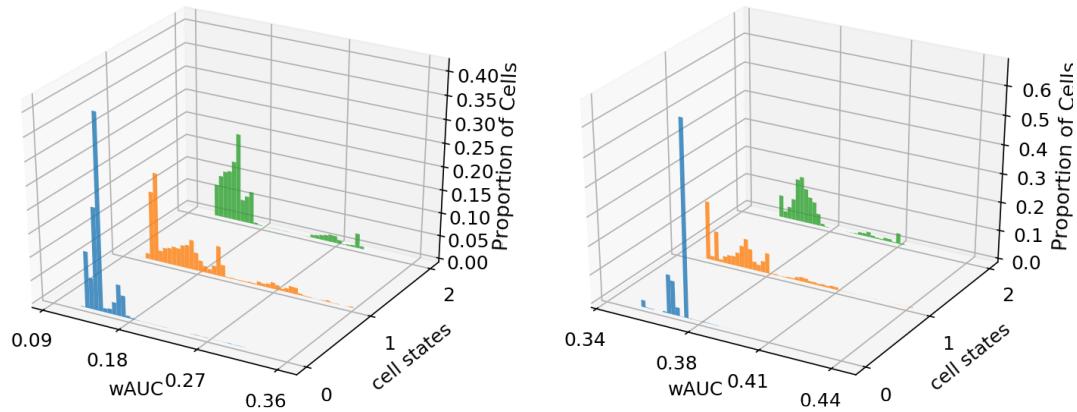
Pbrm1



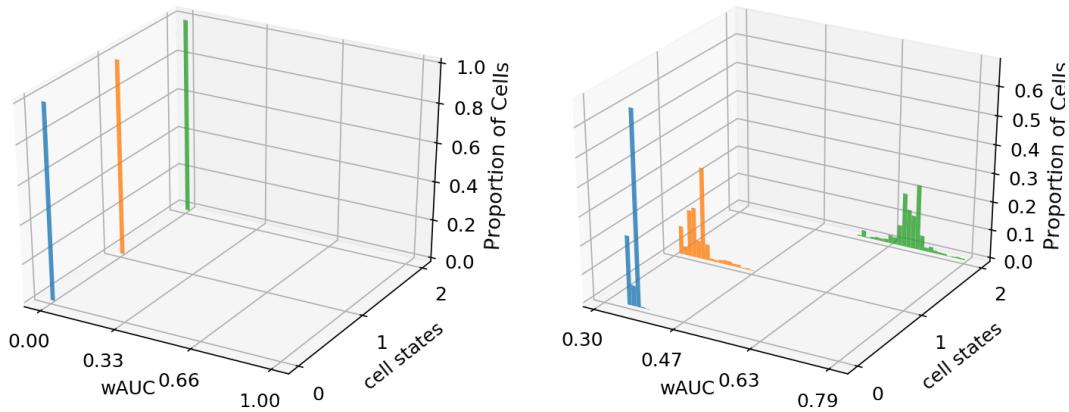
Nr0b2



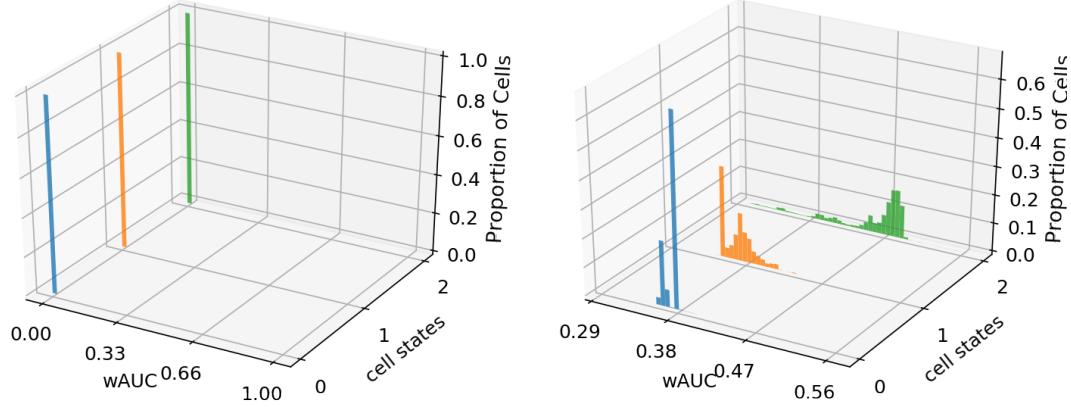
Rreb1



Peg3

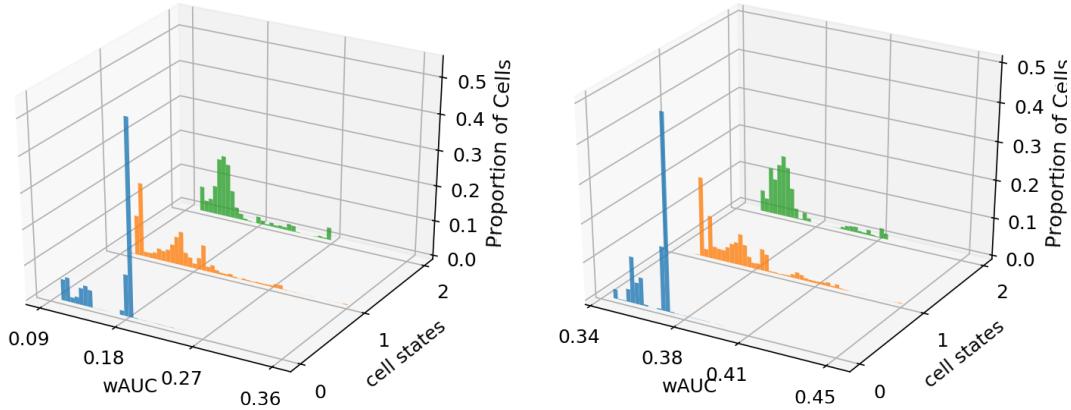


Bhlhe40

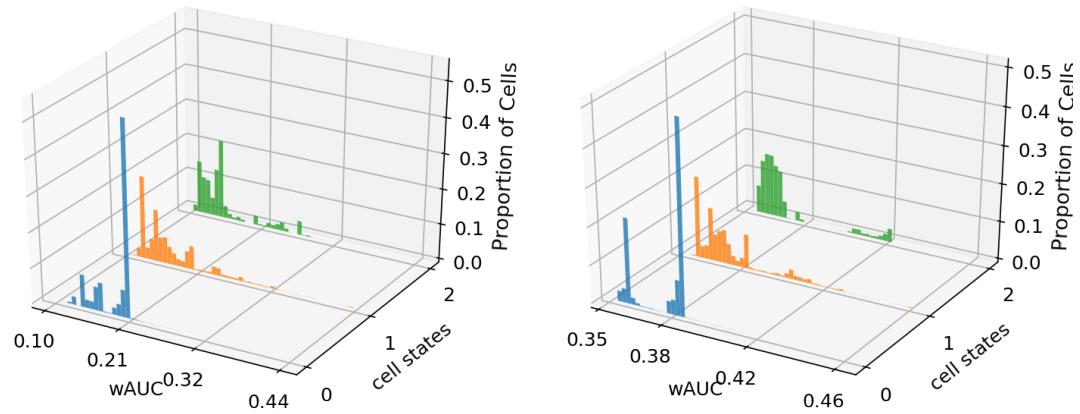


5 TFs that are only rank last variant in all targets

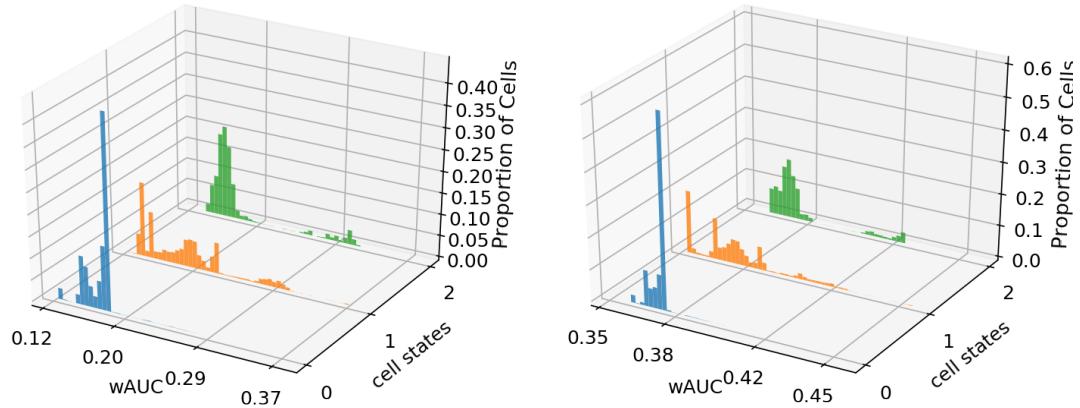
Sox5



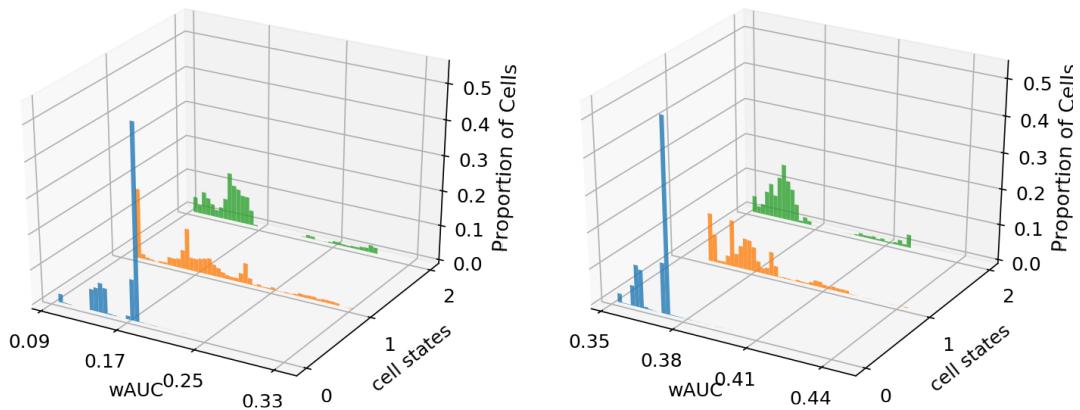
Sp3



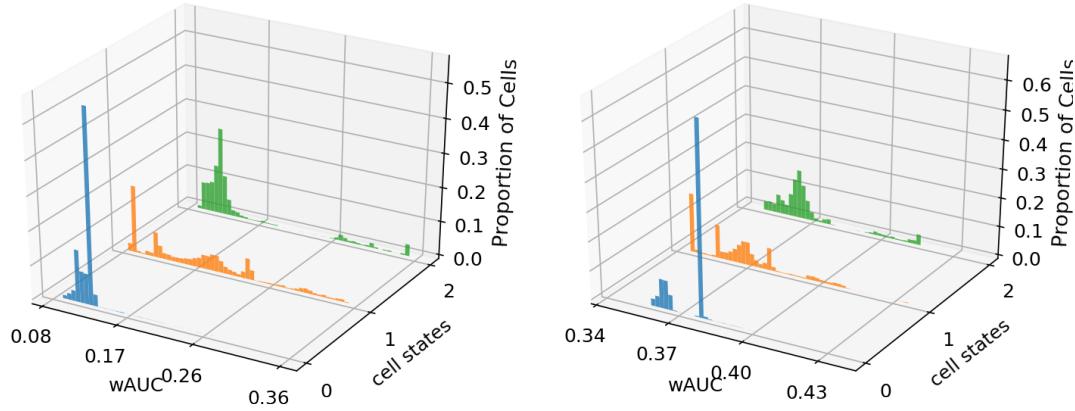
Atf1



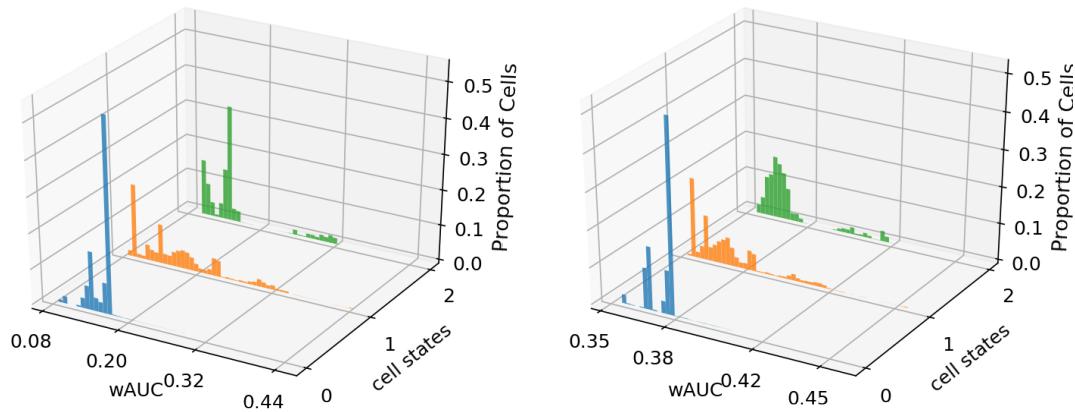
Tfcp1a



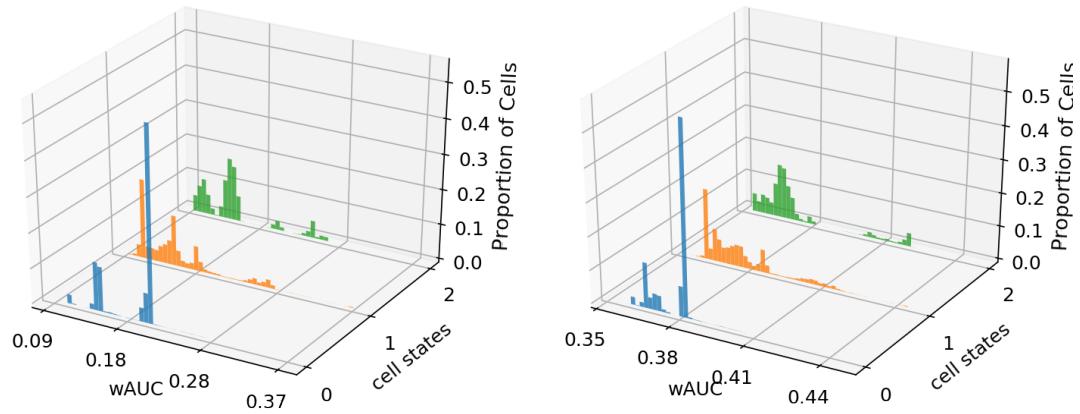
Tox4



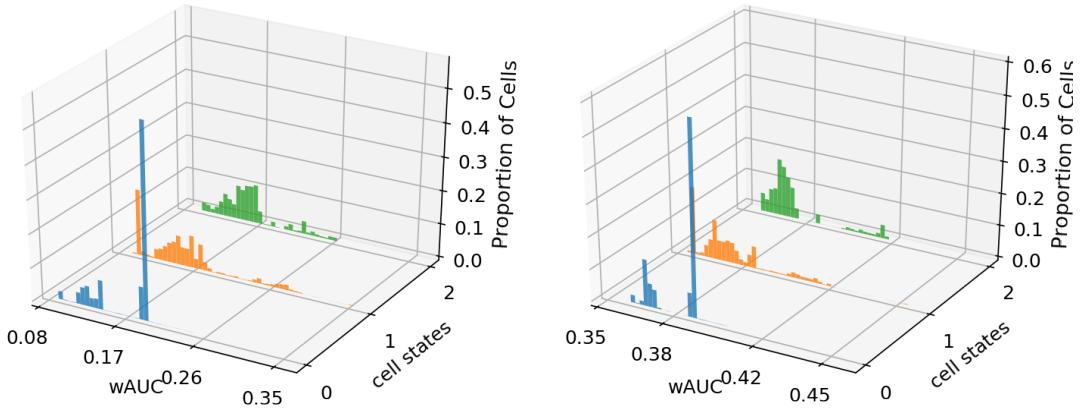
Tshz1



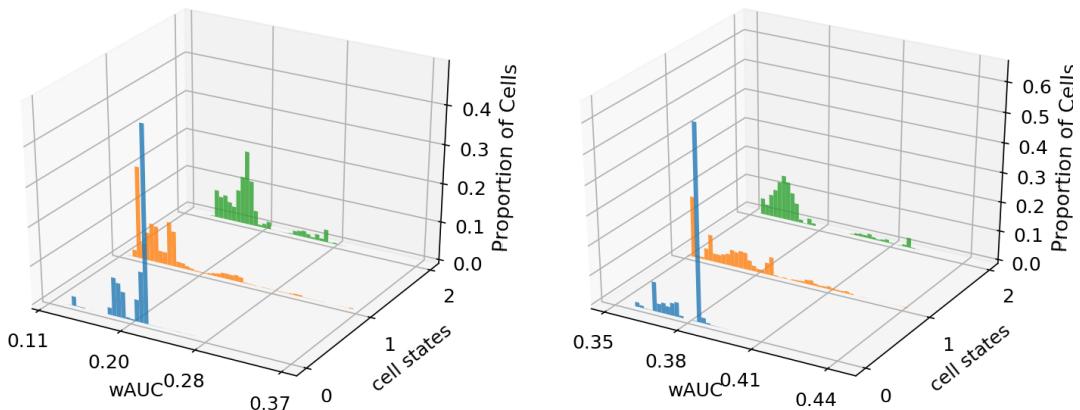
Nfe2l1



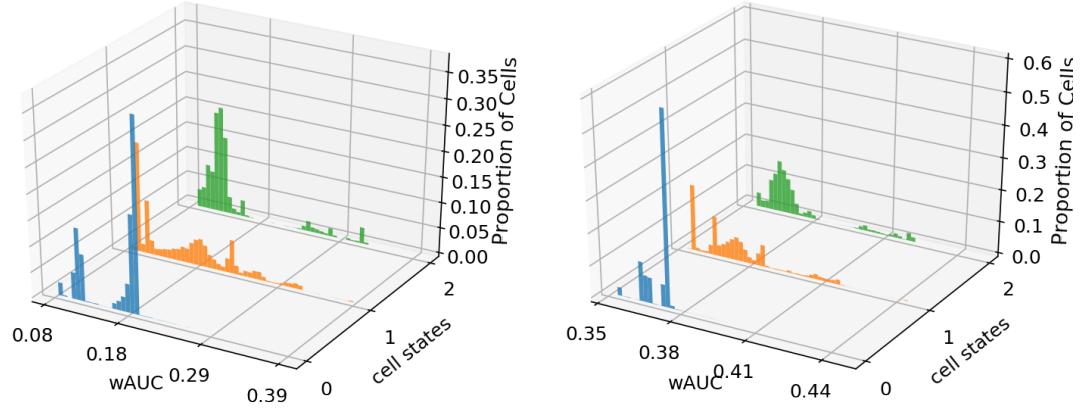
Sox9



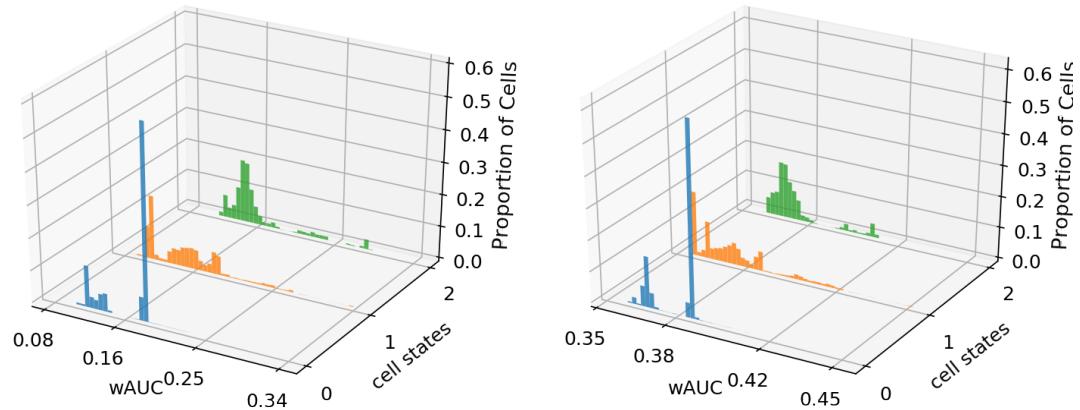
Tef



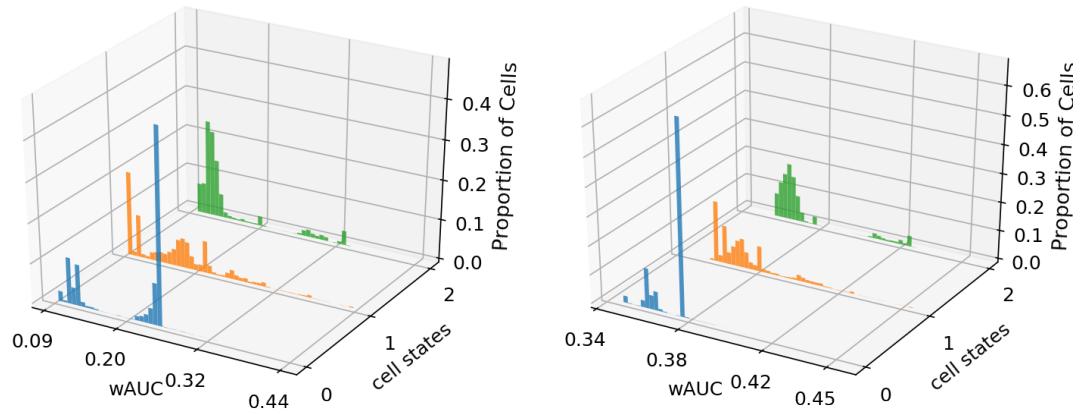
Klf12



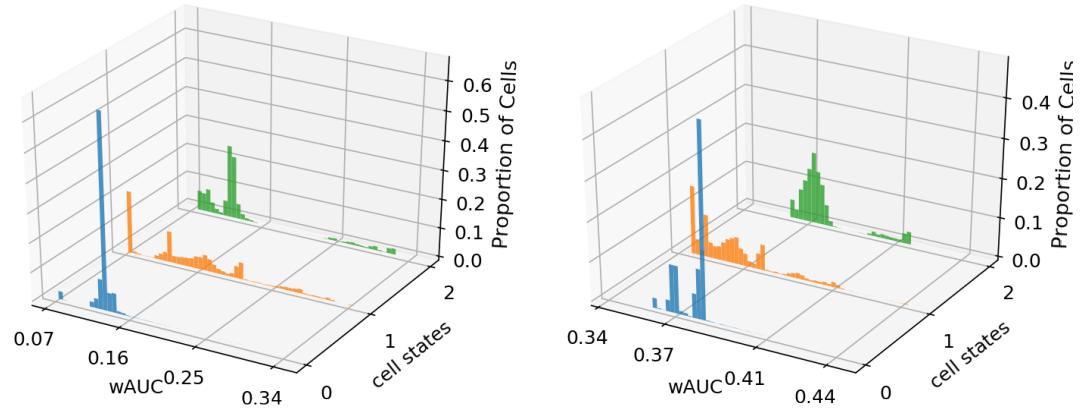
Stat5b



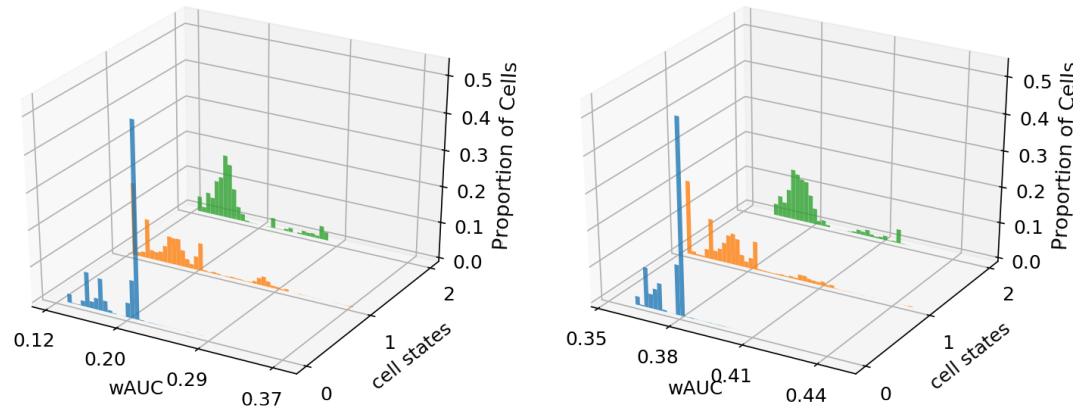
Sall1



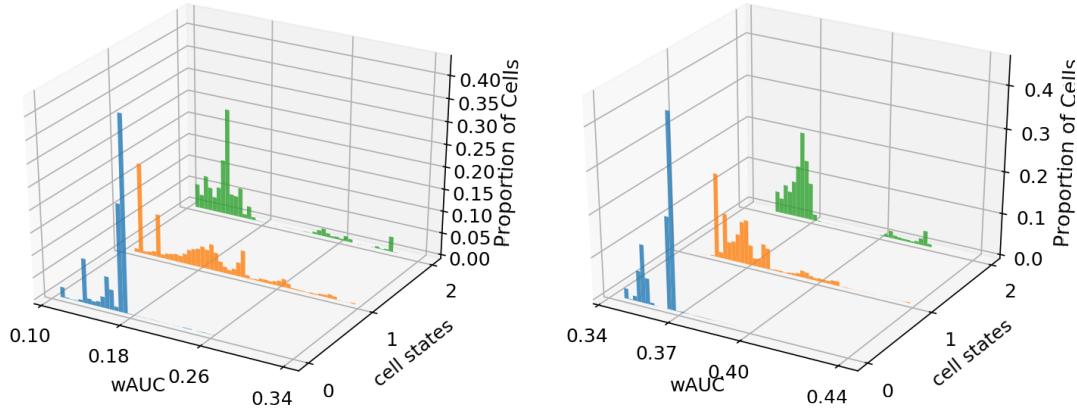
Onecut1



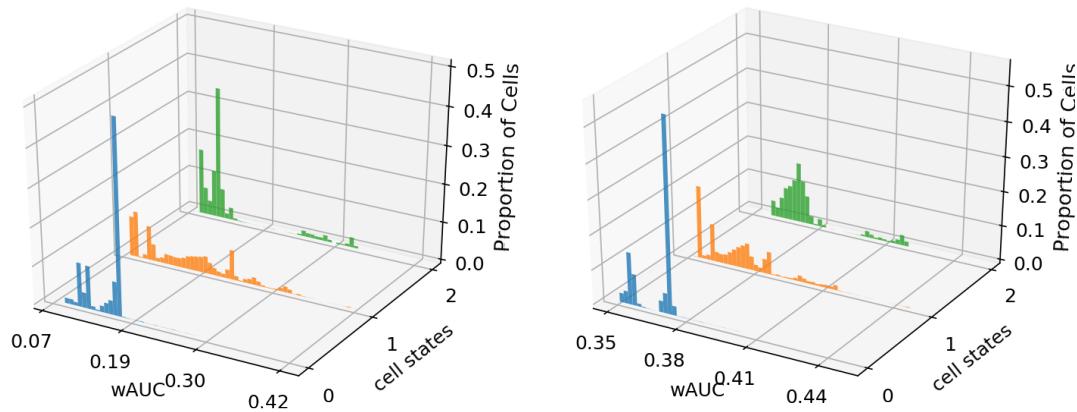
Foxo3



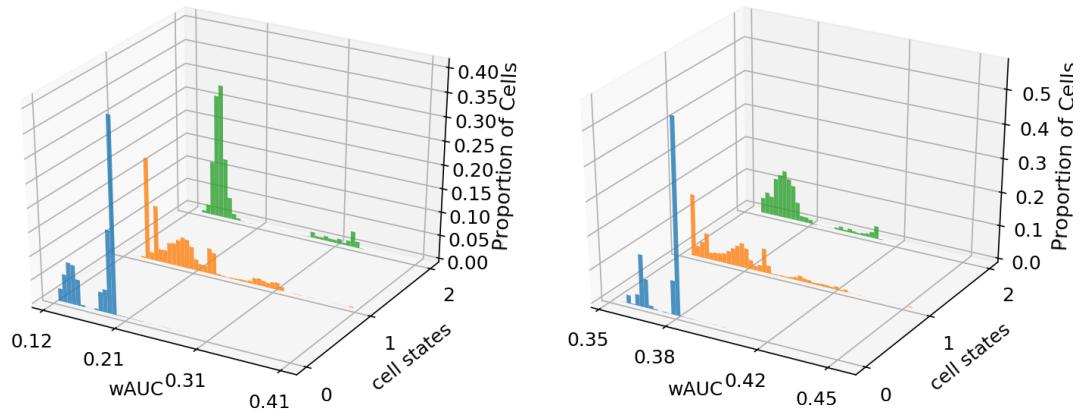
Elk4



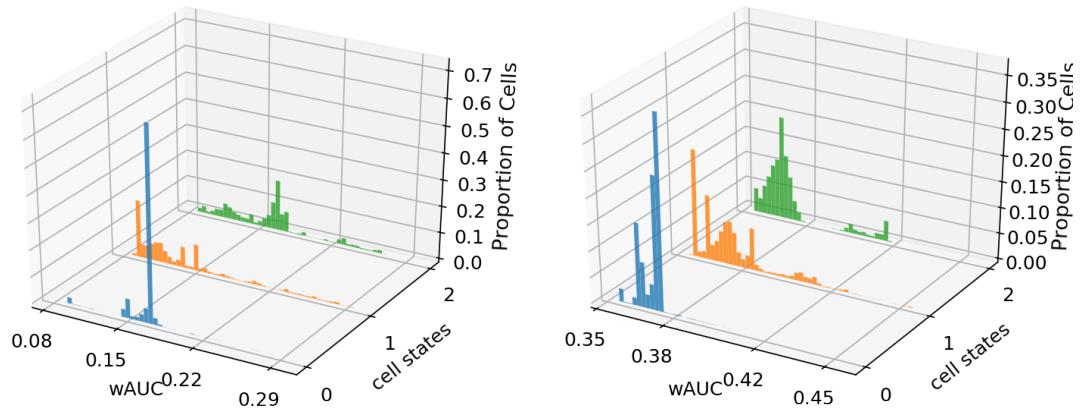
Nr2f2



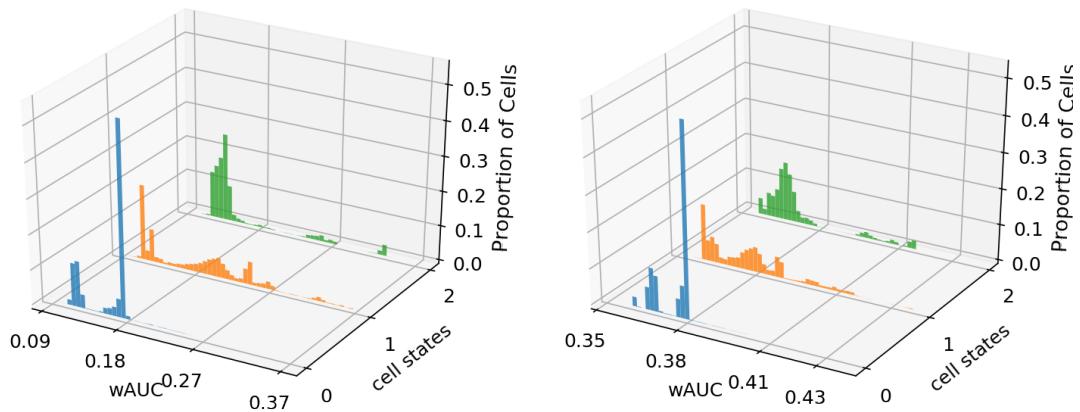
Nfkbia



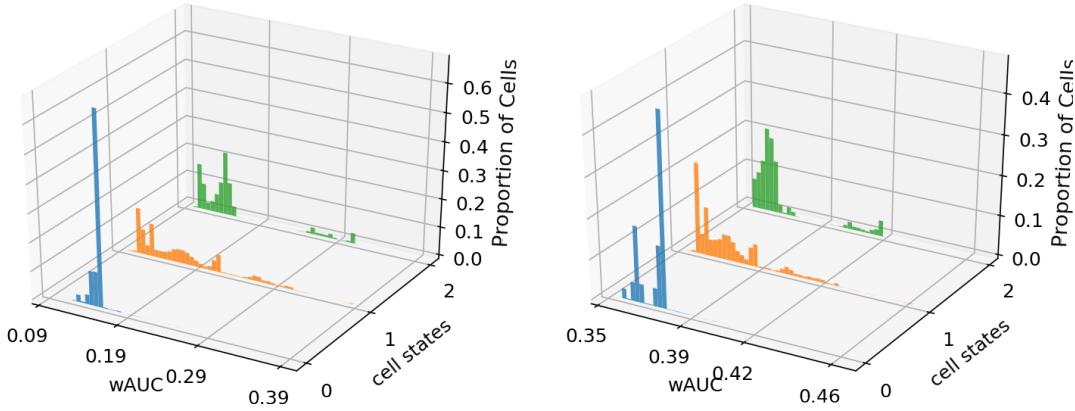
Cux1



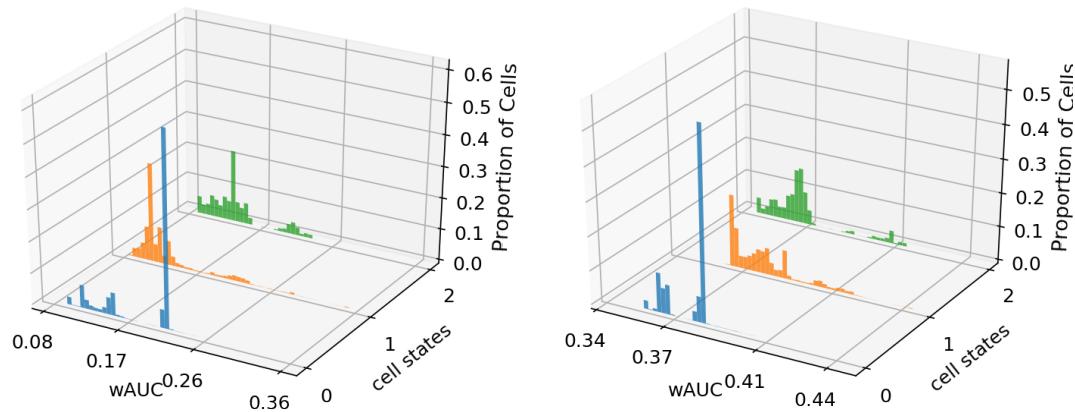
Gzf1



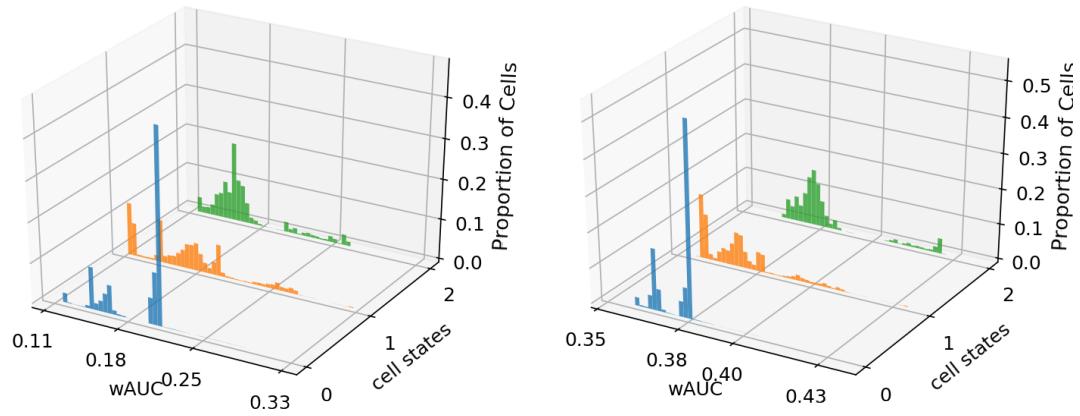
Irf6



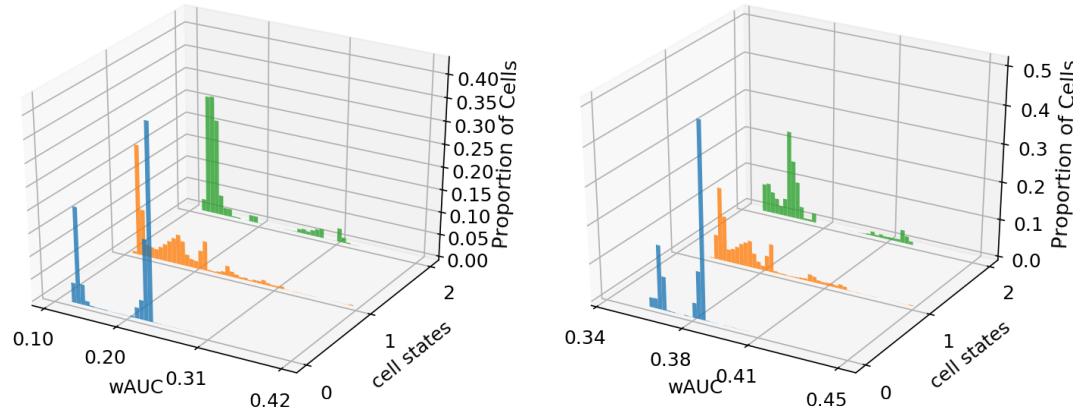
Zbtb7b



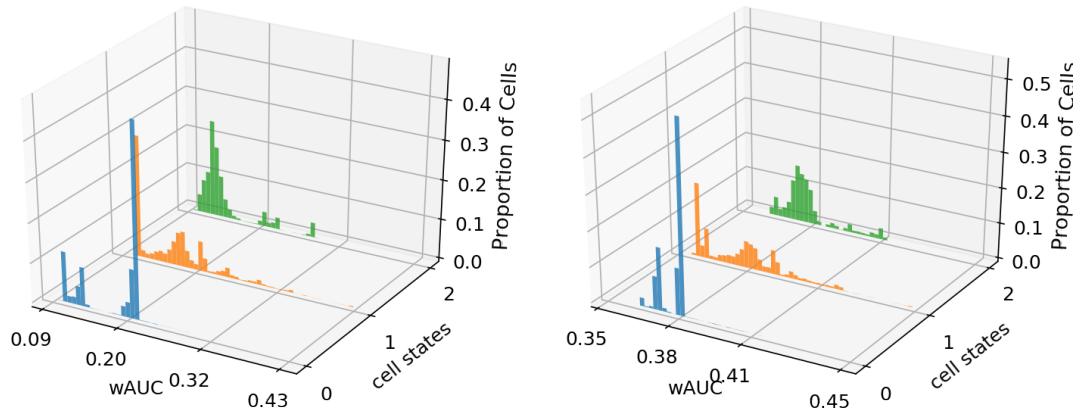
Kdm2a



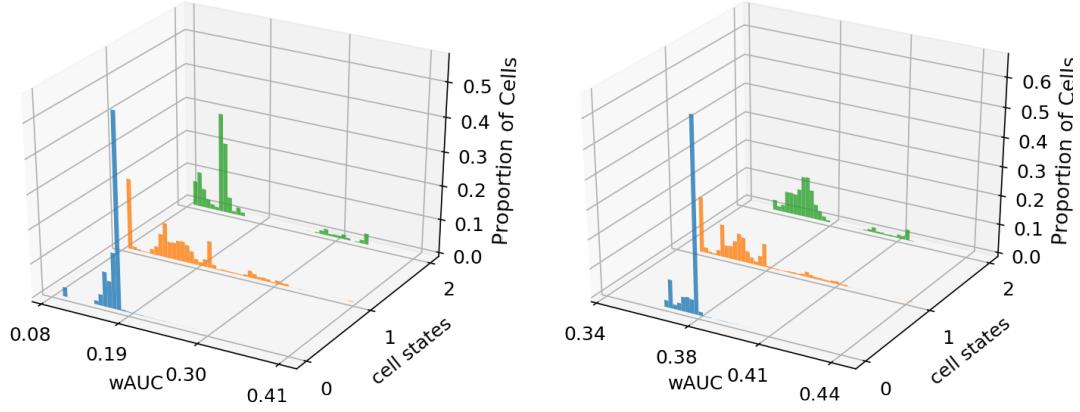
Rlf



Atf6



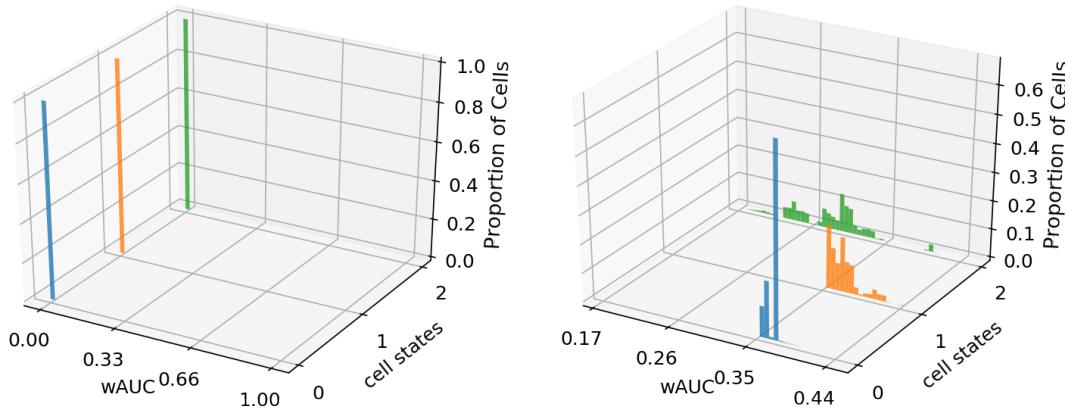
Zhx1



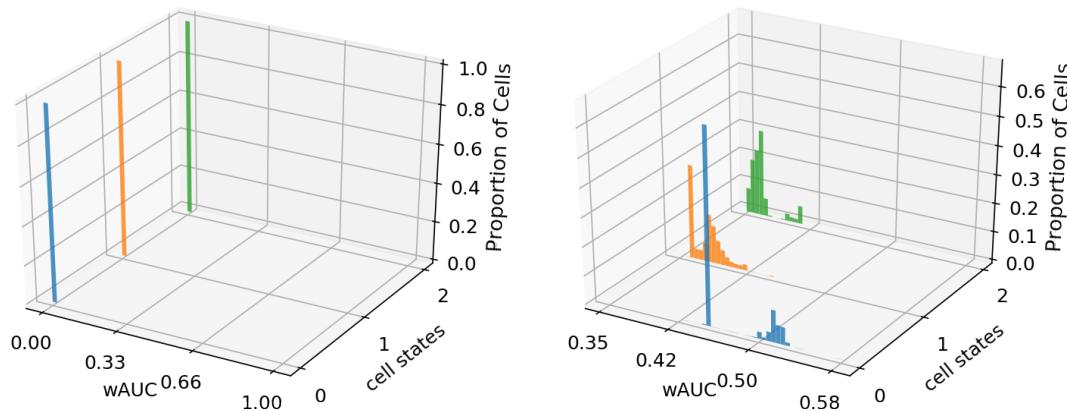
6 TFs that are rank top in intersection, but last in all-targets

7 TFs that are rank last in intersection, but top in all targets

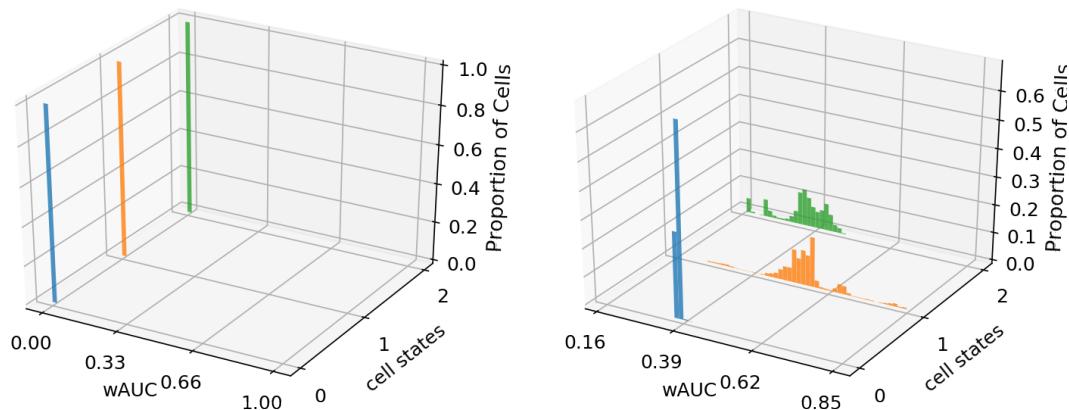
Nr0b2



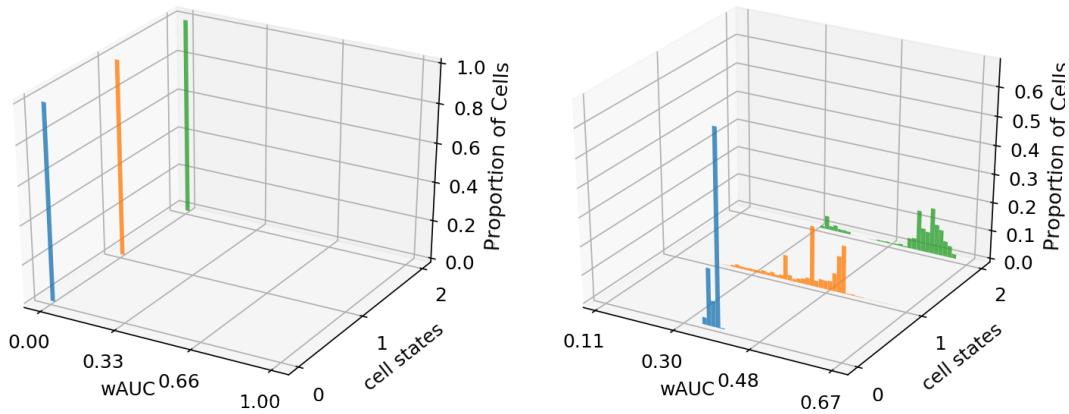
Nr3c1



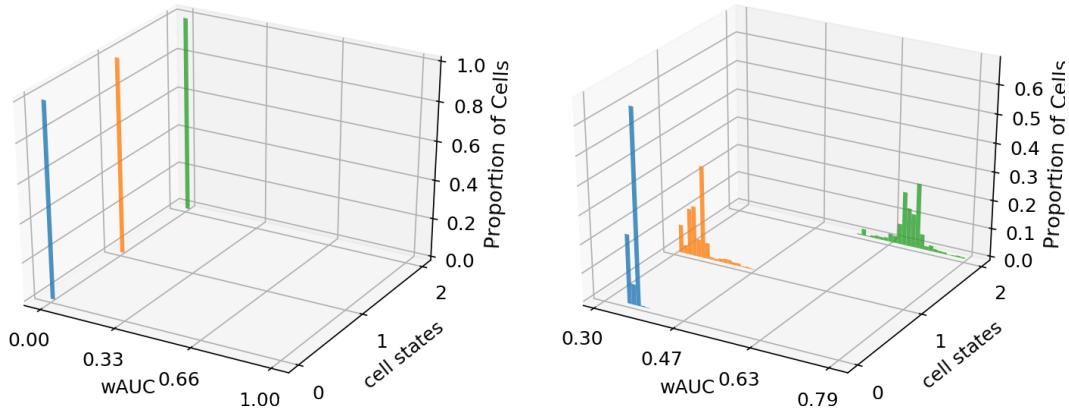
Junb



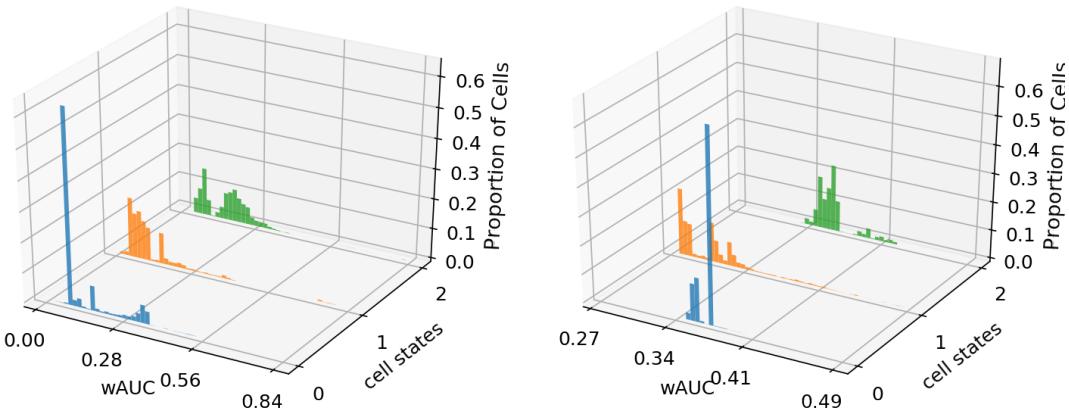
Tsc22d3



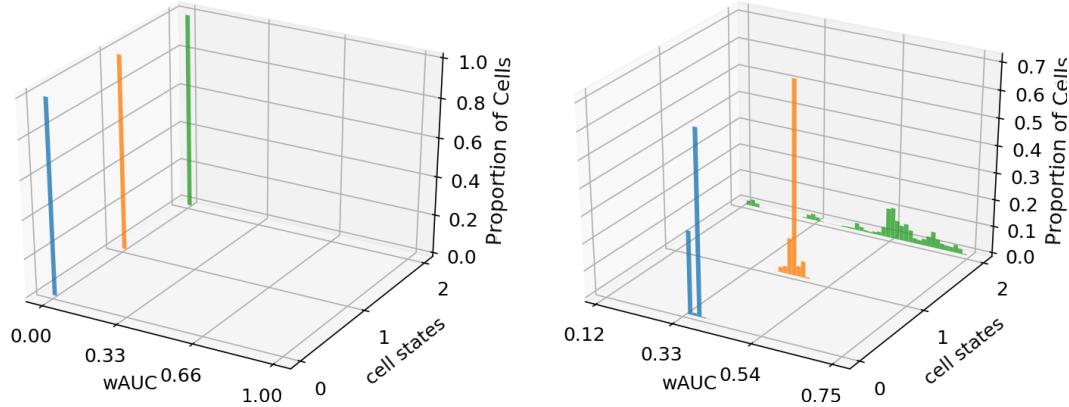
Peg3



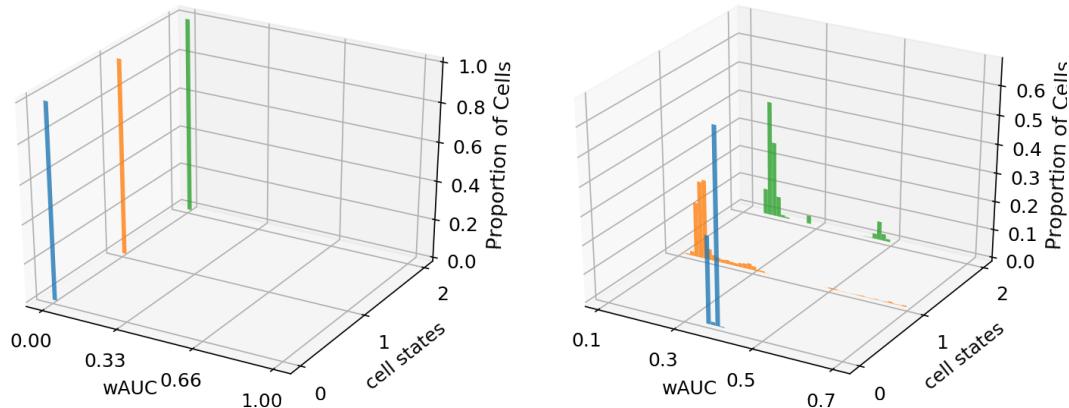
Nfic



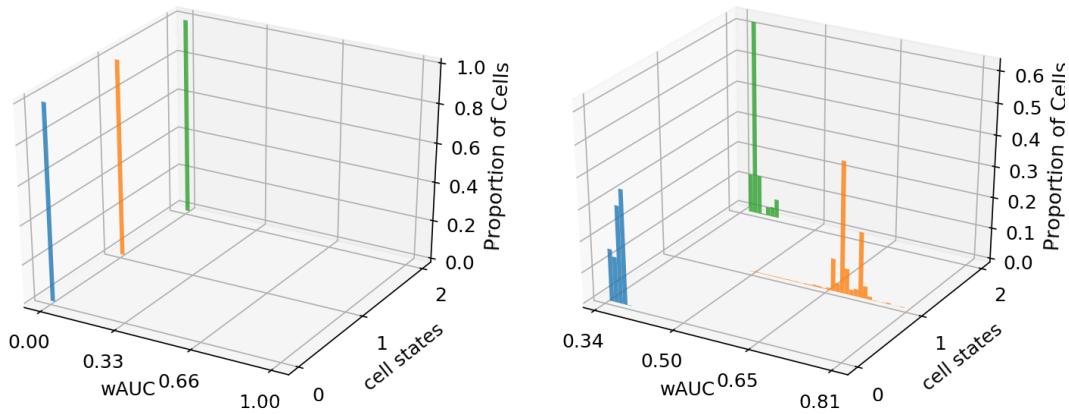
Zfp91



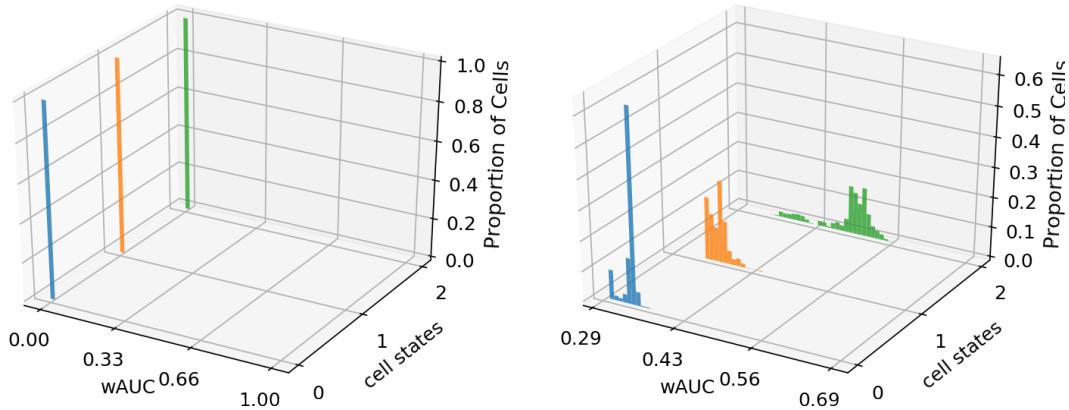
Smarce1



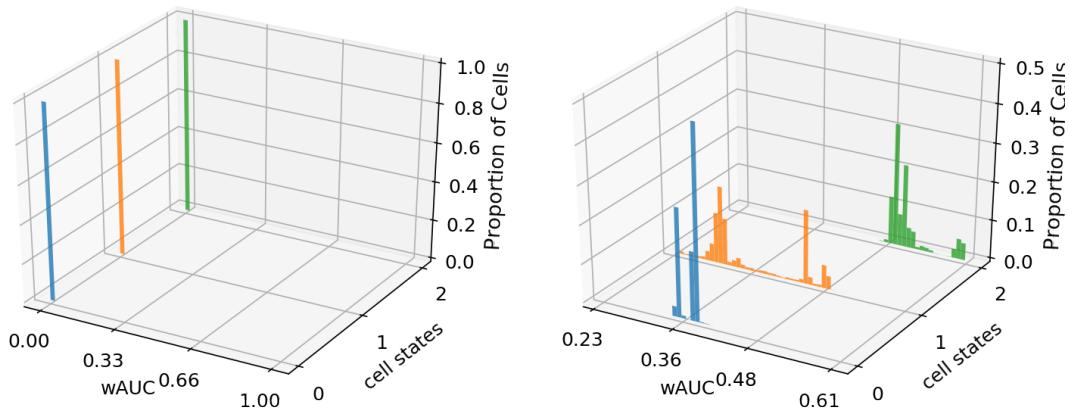
Bcl3



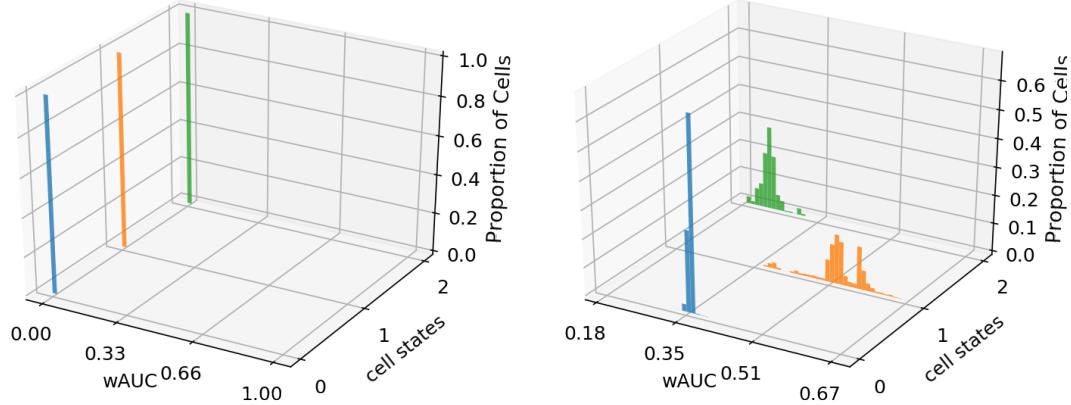
Nono



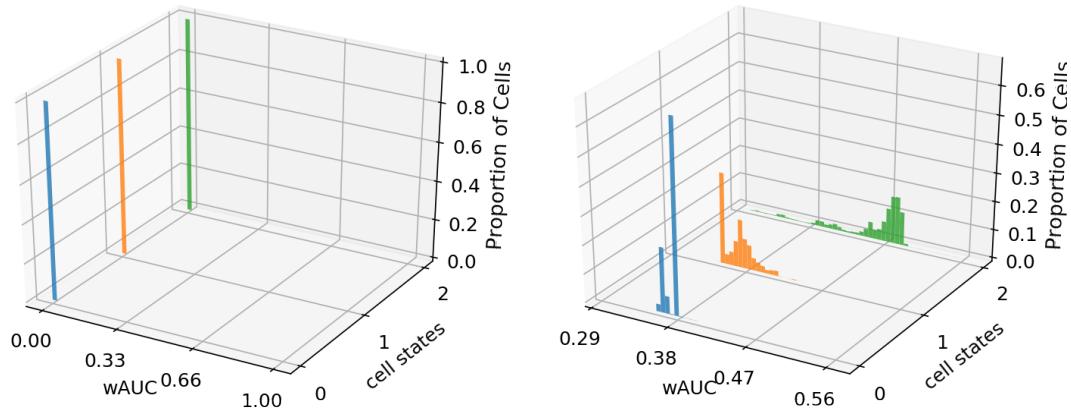
Tfam



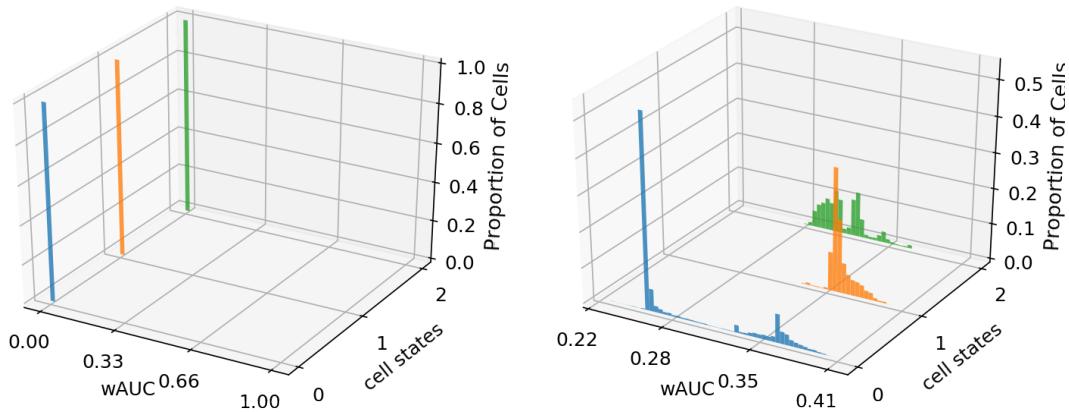
Sfpq



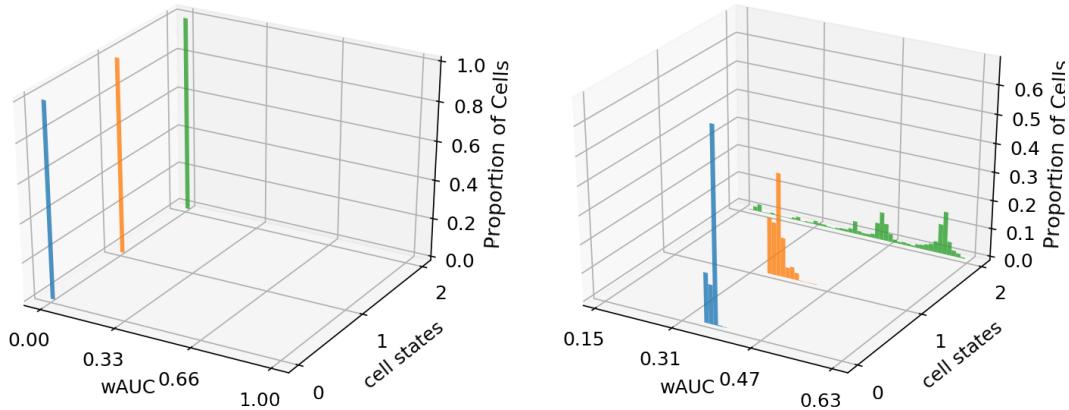
Bhlhe40



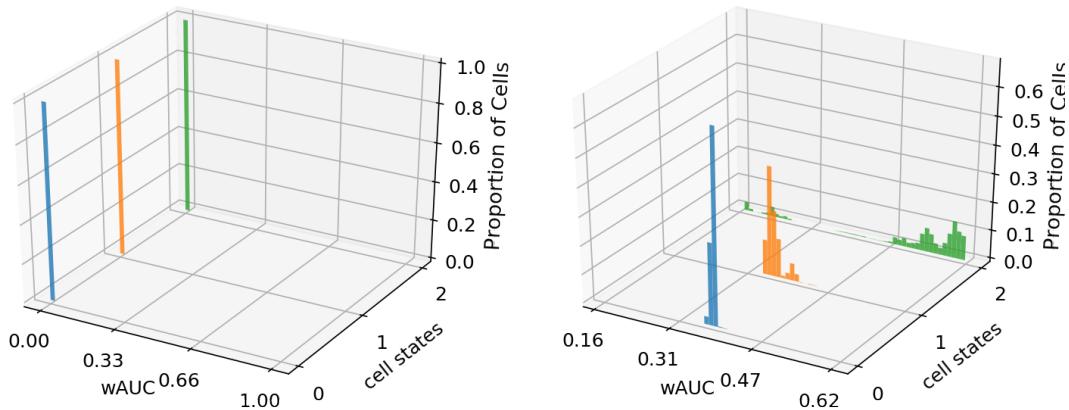
Tcf25



Pbrm1

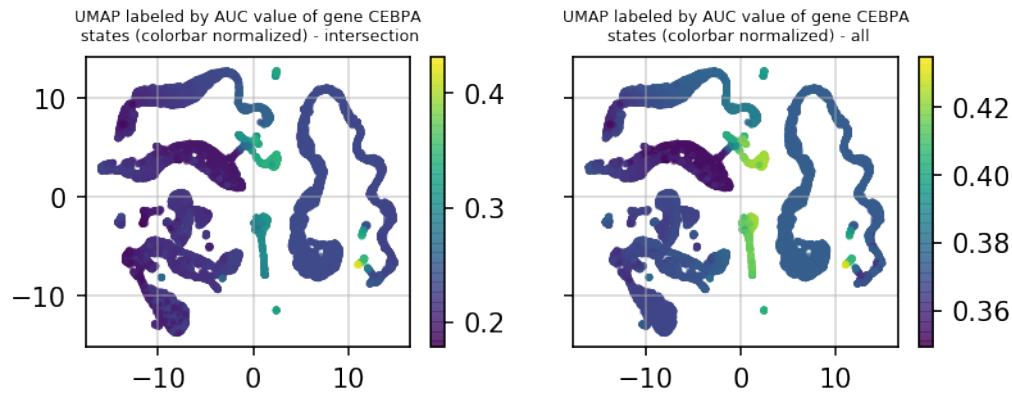


Rora

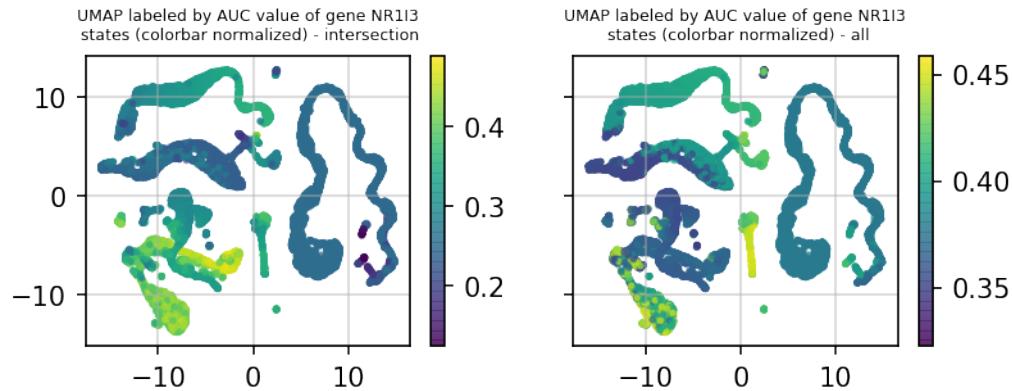


8 UMAP plots for all TFS

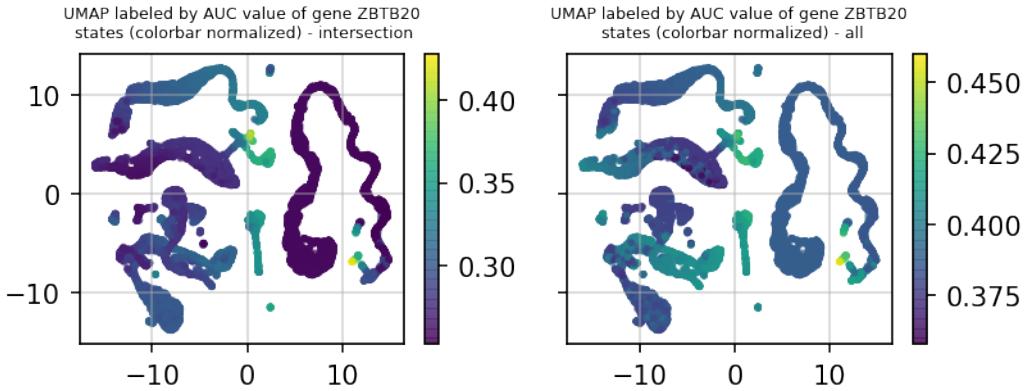
CEBPA



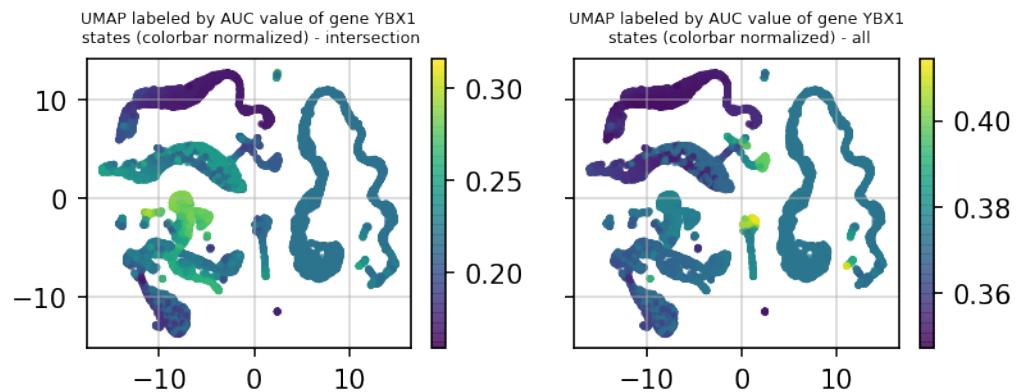
NR1I3



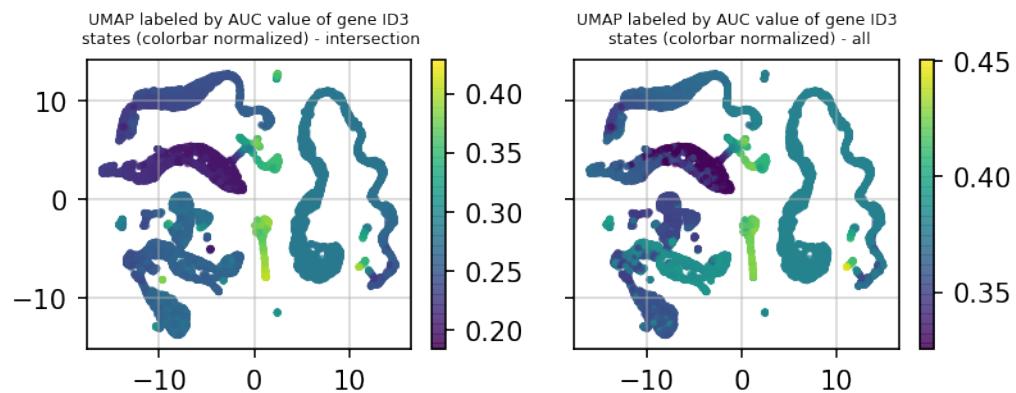
ZBTB20



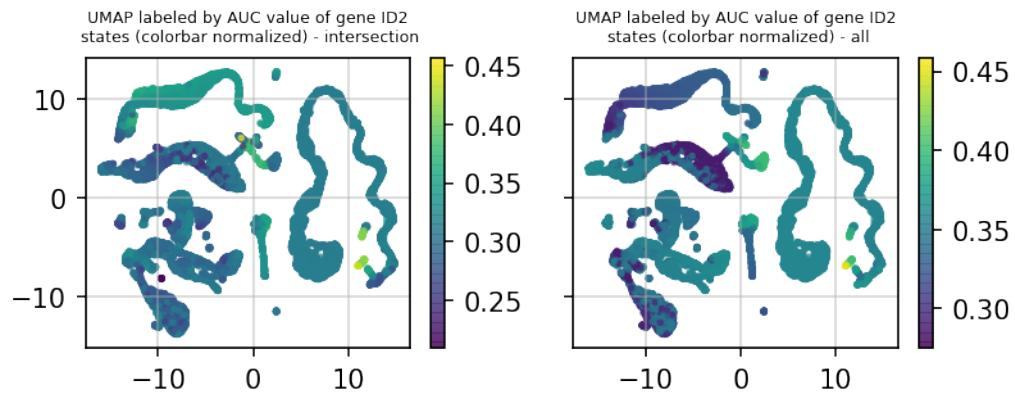
YBX1



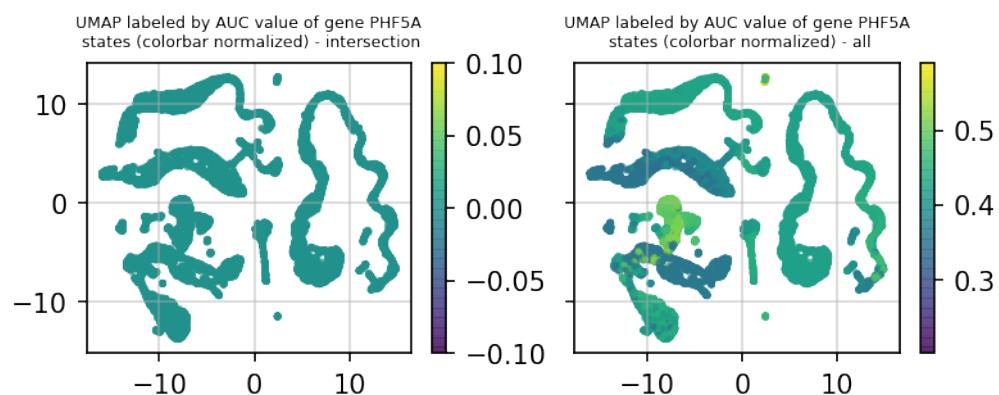
ID3



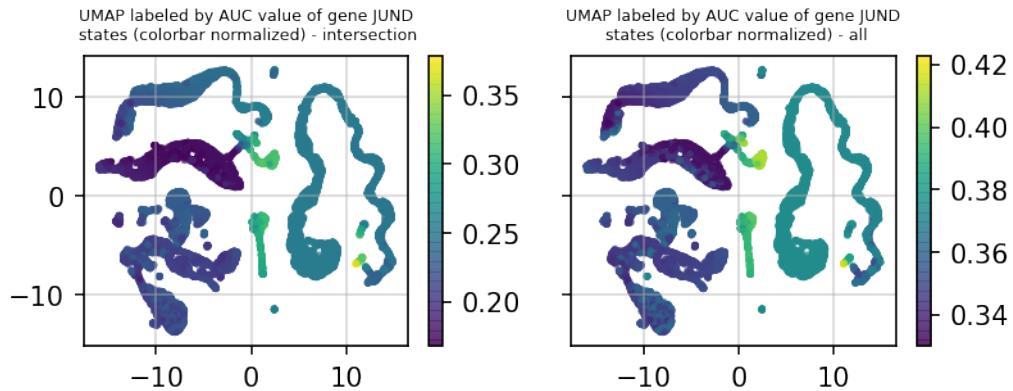
ID2



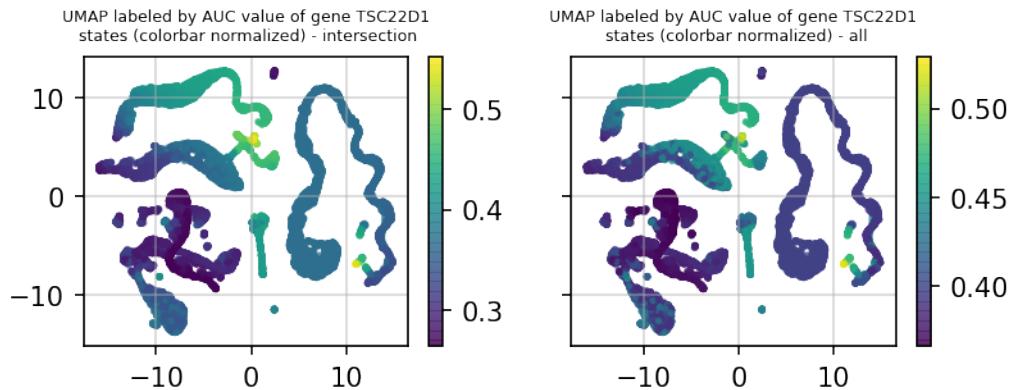
PHF5A



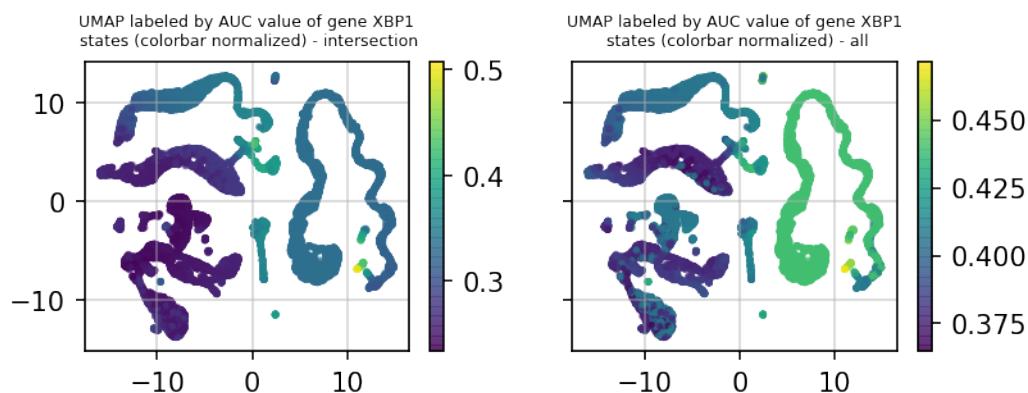
JUND



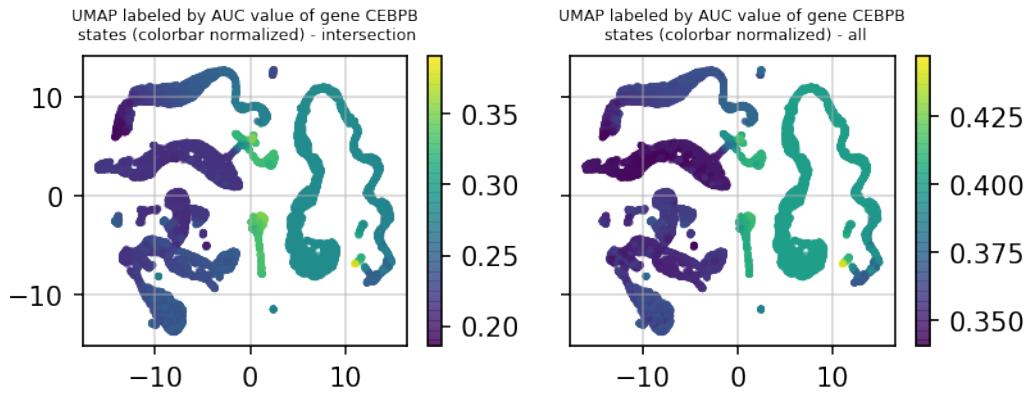
TSC22D1



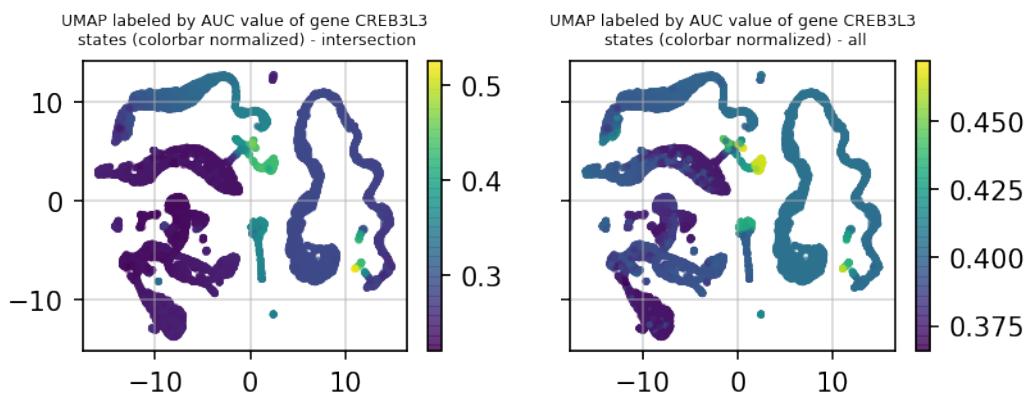
XBP1



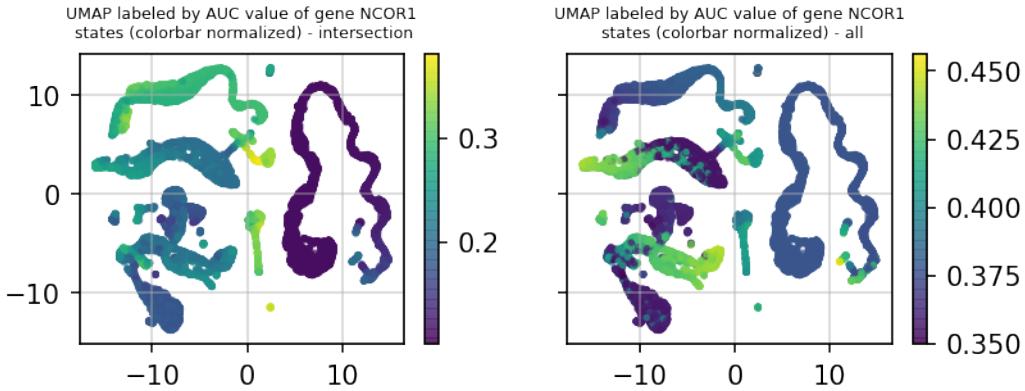
CEBPB



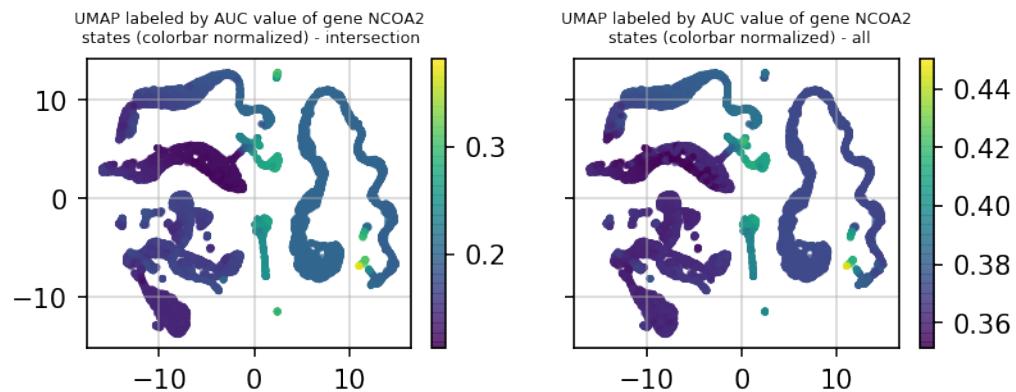
CREB3L3



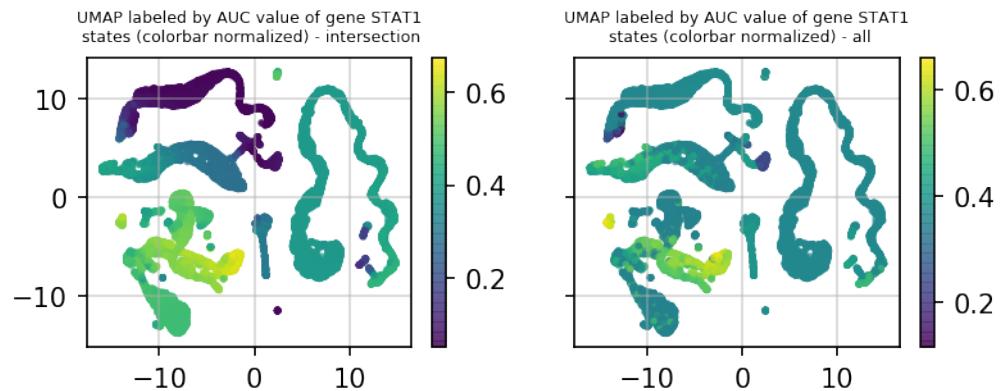
NCOR1



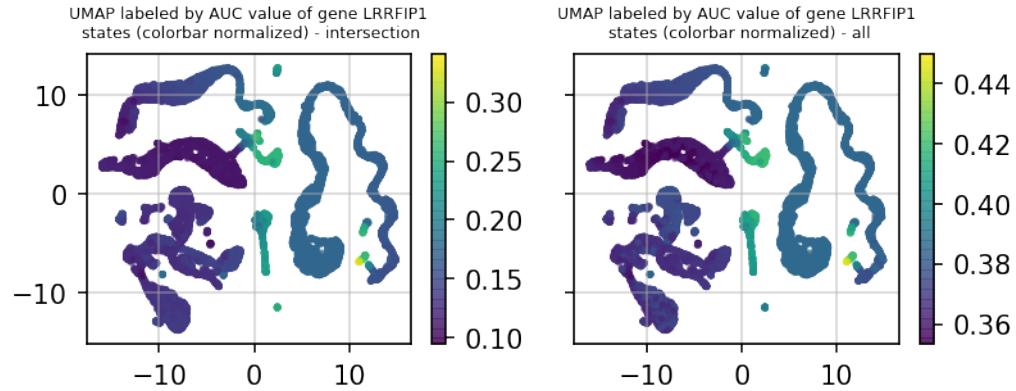
NCOA2



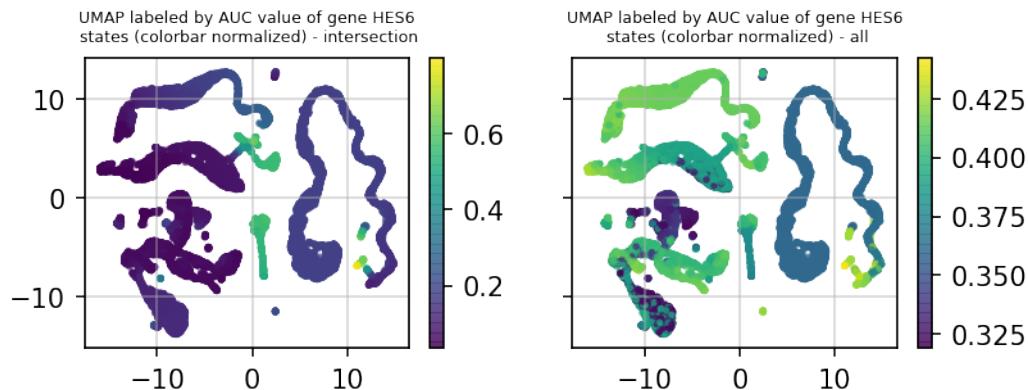
STAT1



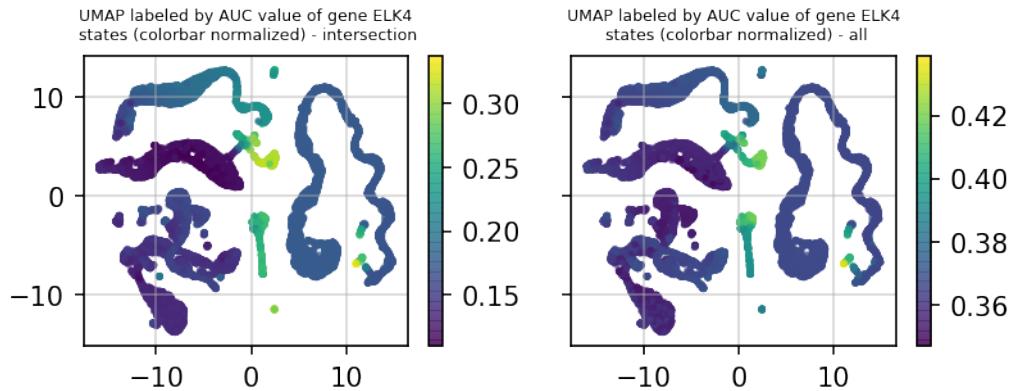
LRRFIP1



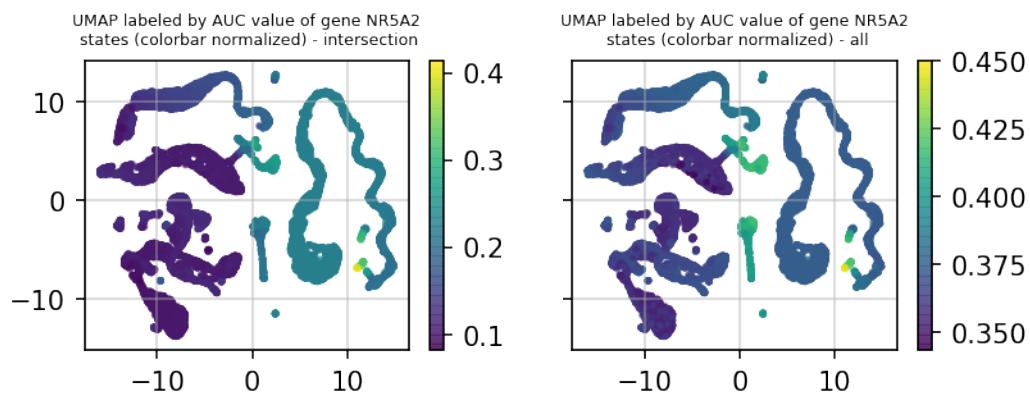
HES6



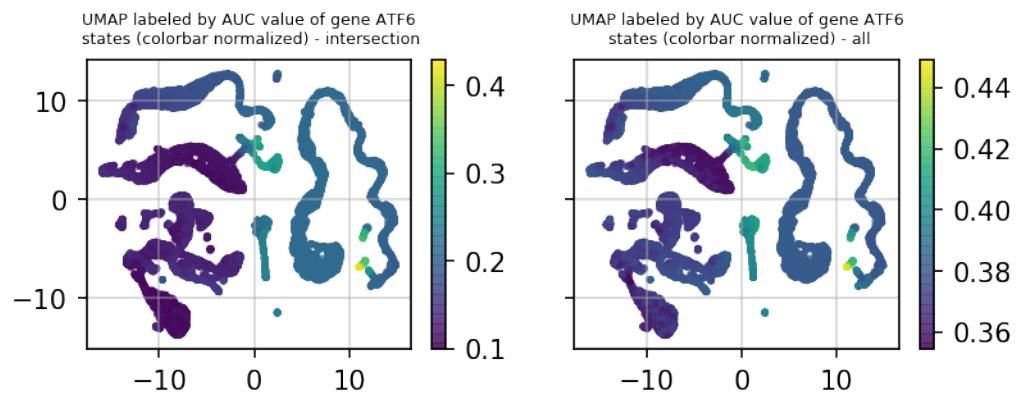
ELK4



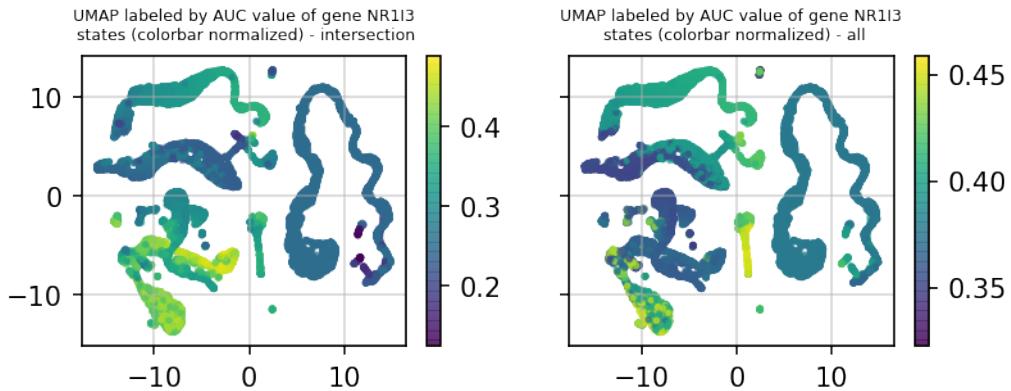
NR5A2



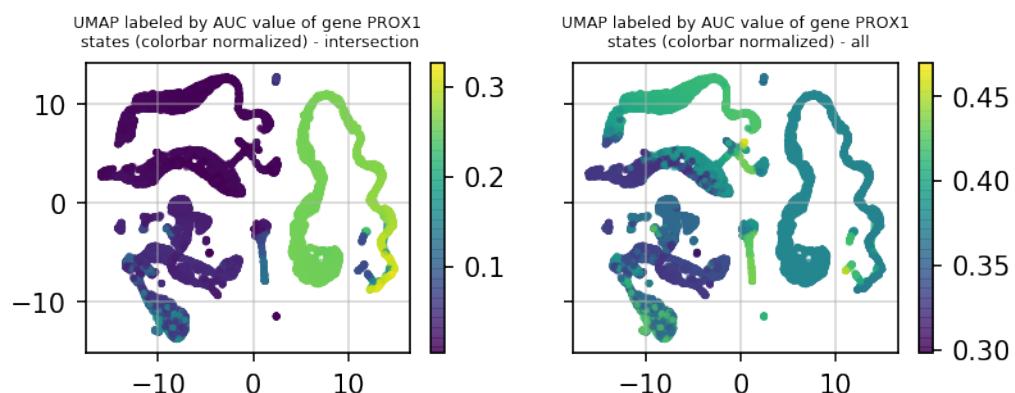
ATF6



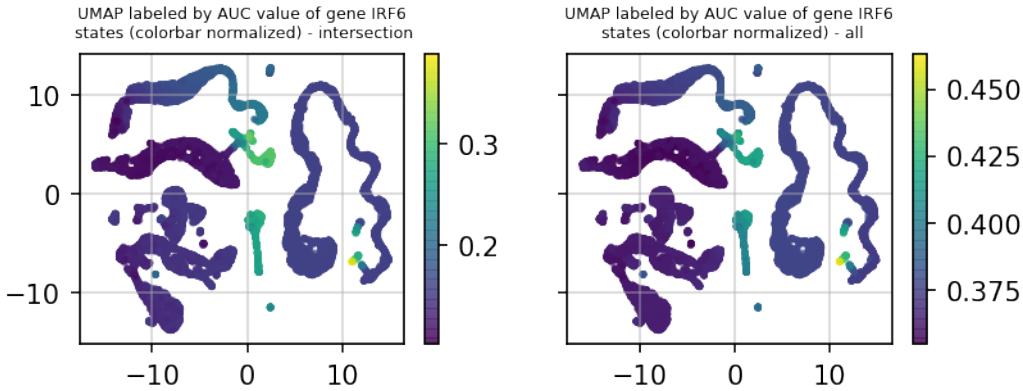
NR1I3



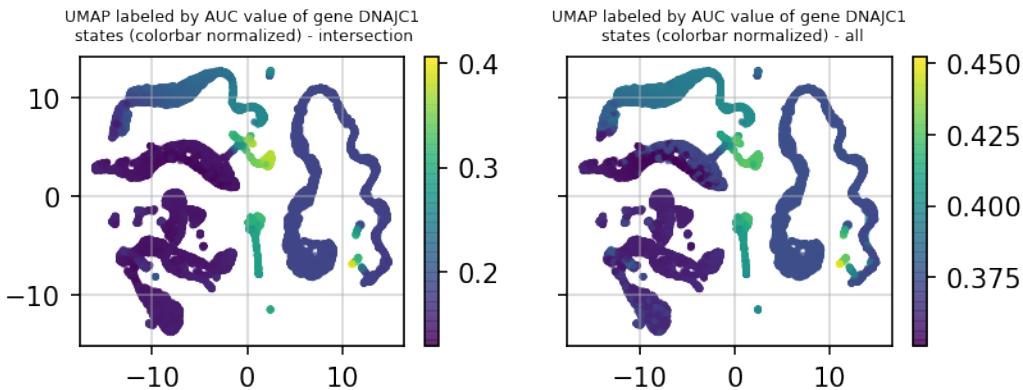
PROX1



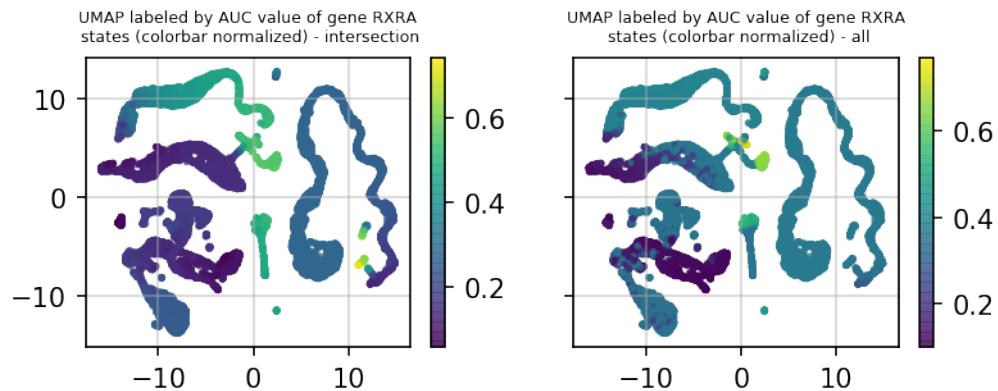
IRF6



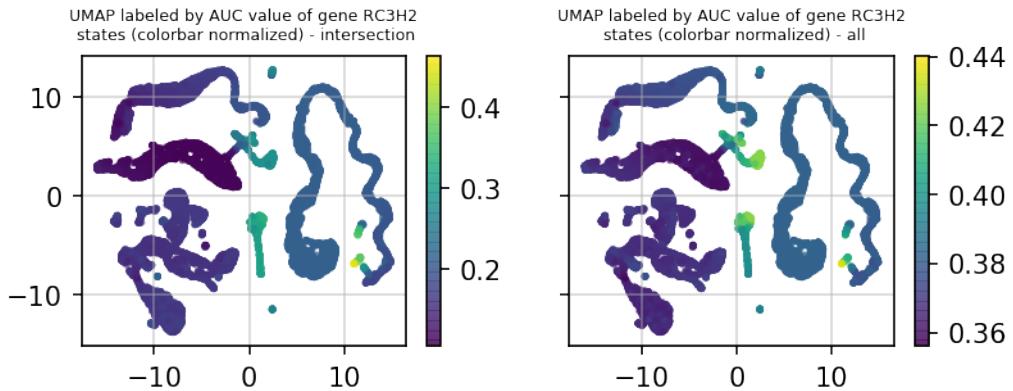
DNAJC1



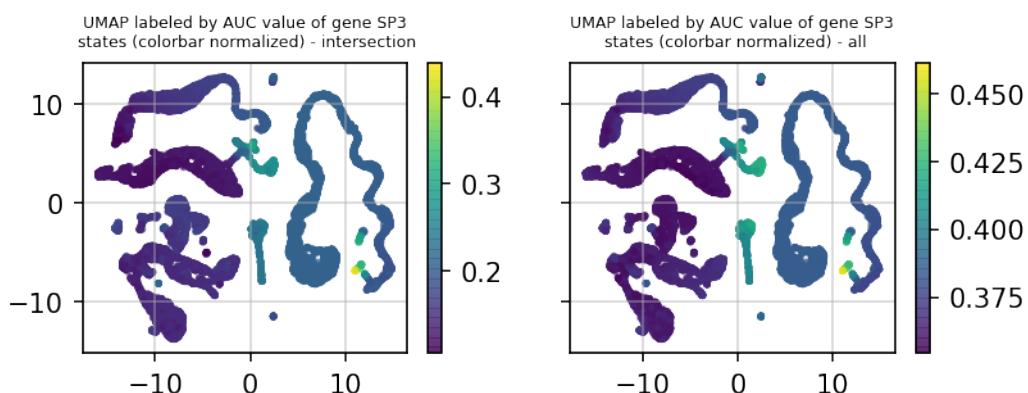
RXRA



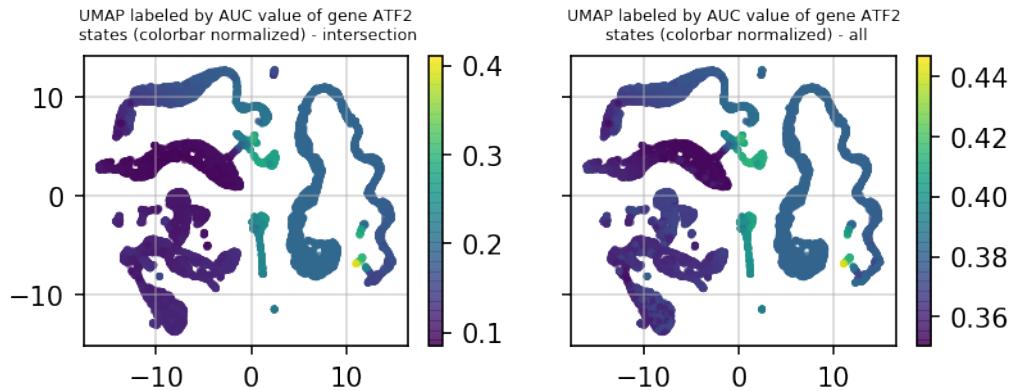
RC3H2



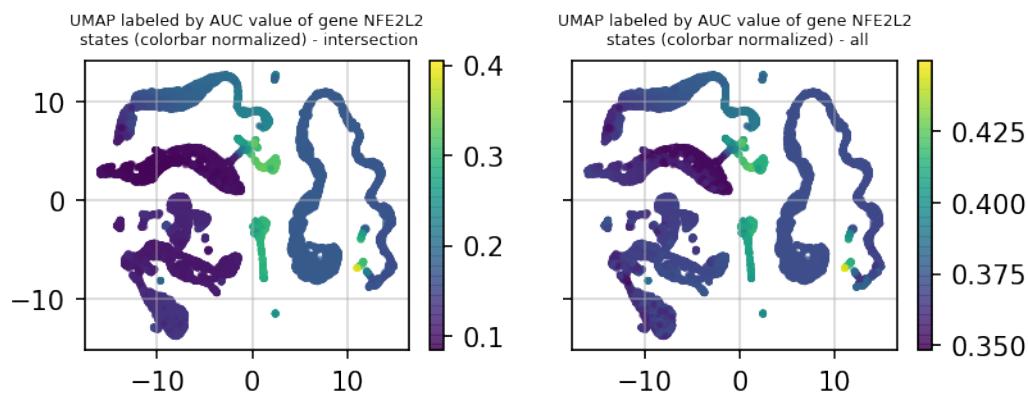
SP3



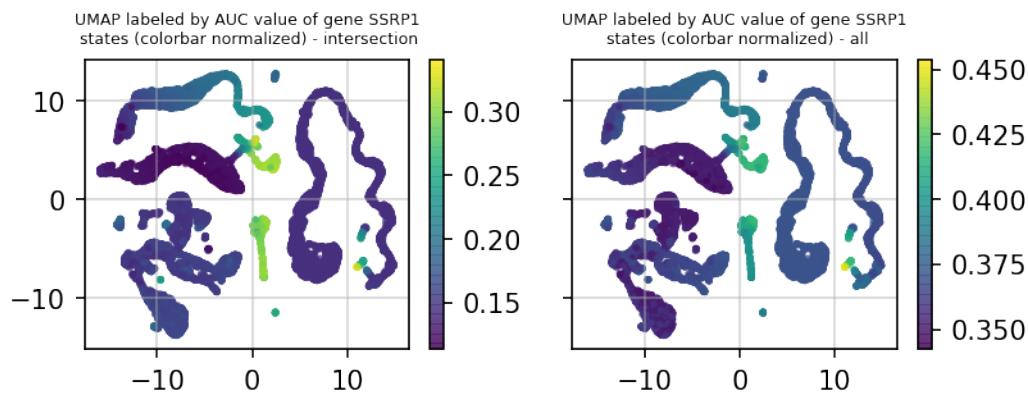
ATF2



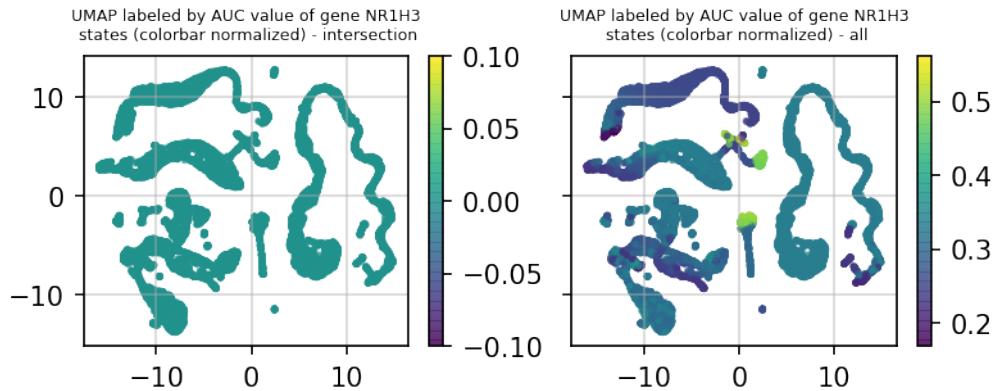
NFE2L2



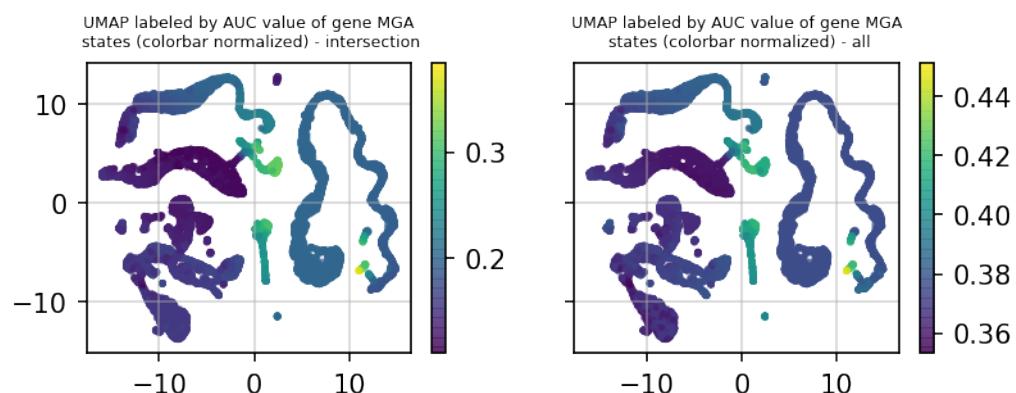
SSRP1



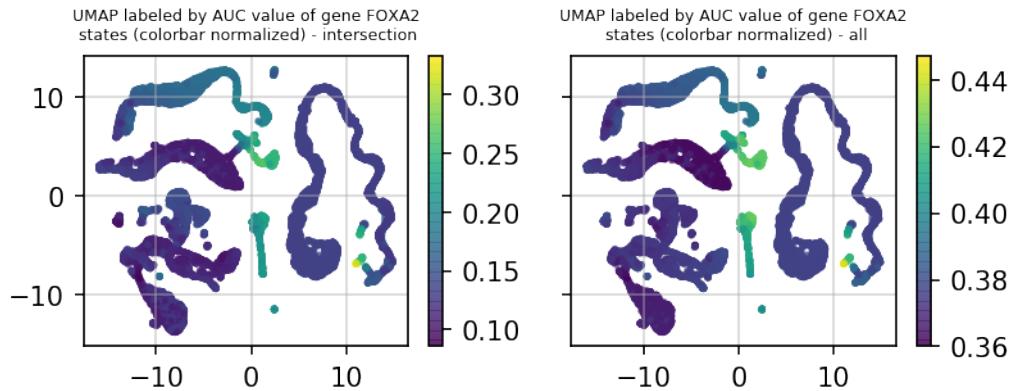
NR1H3



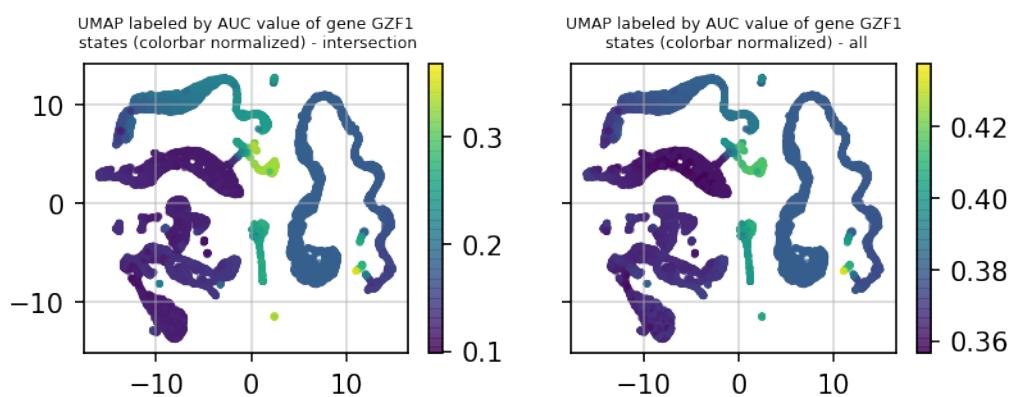
MGA



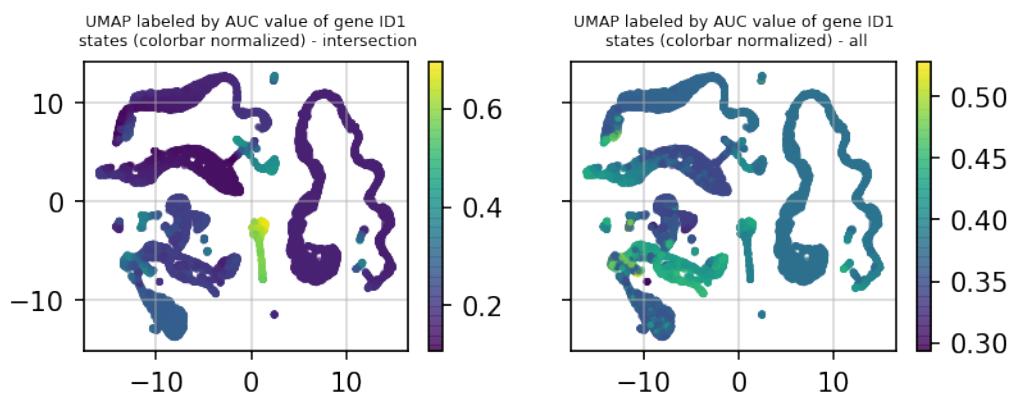
FOXA2



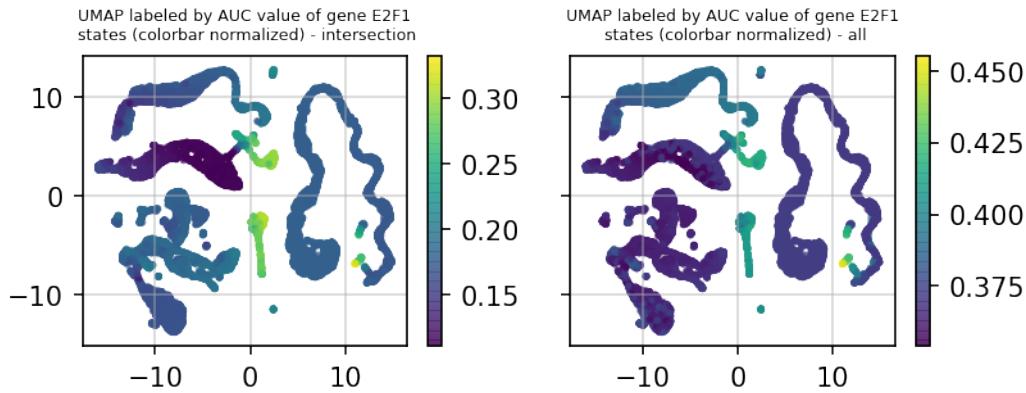
GZF1



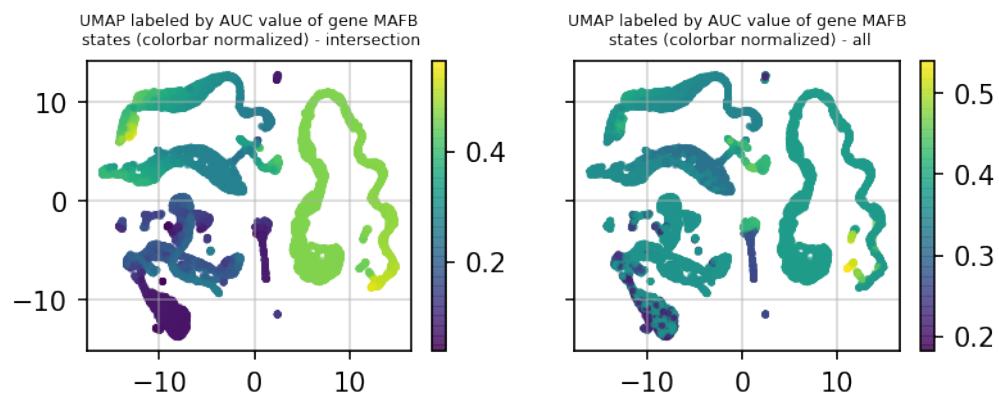
ID1



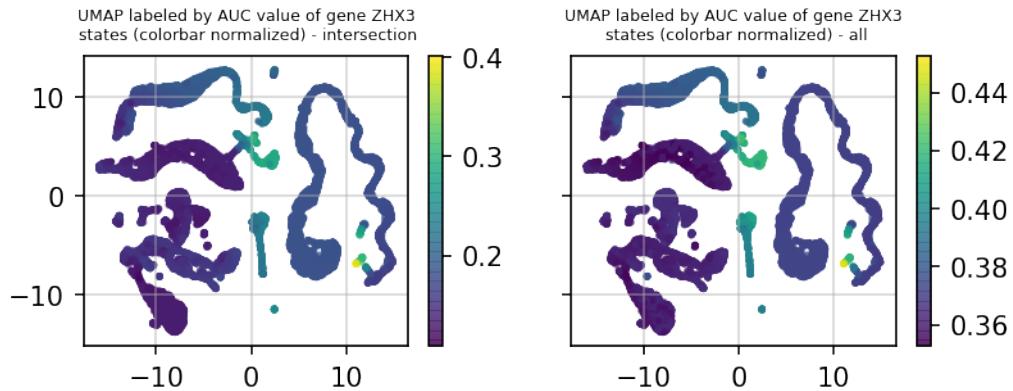
E2F1



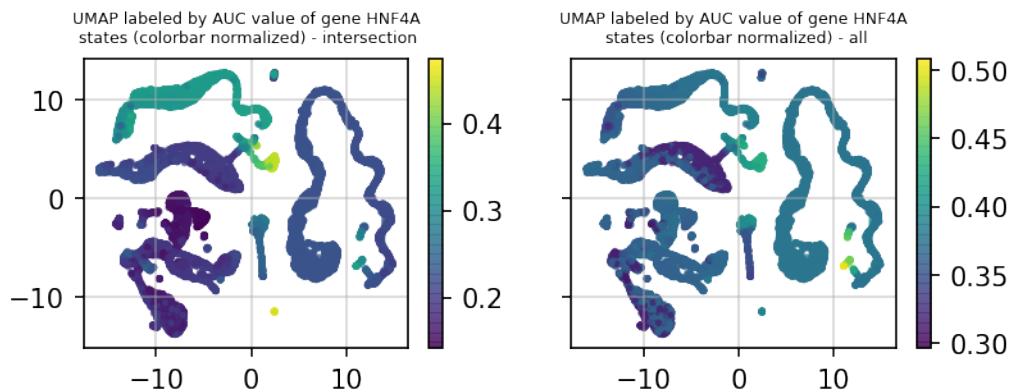
MAFB



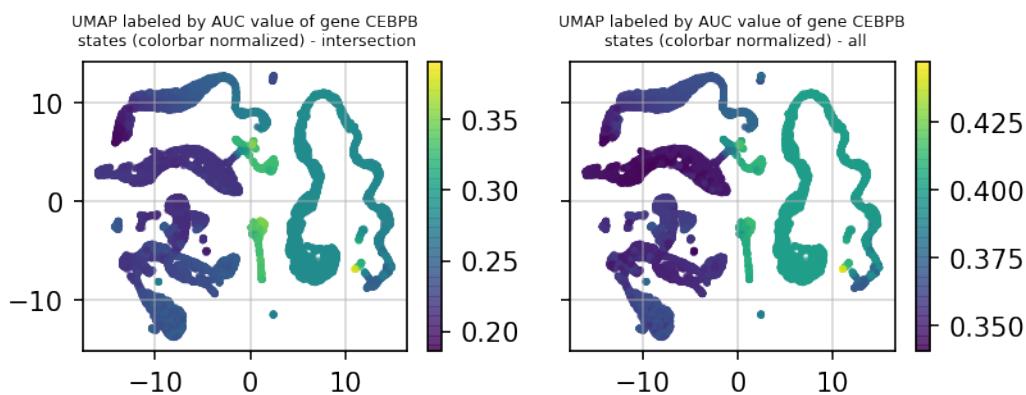
ZHX3



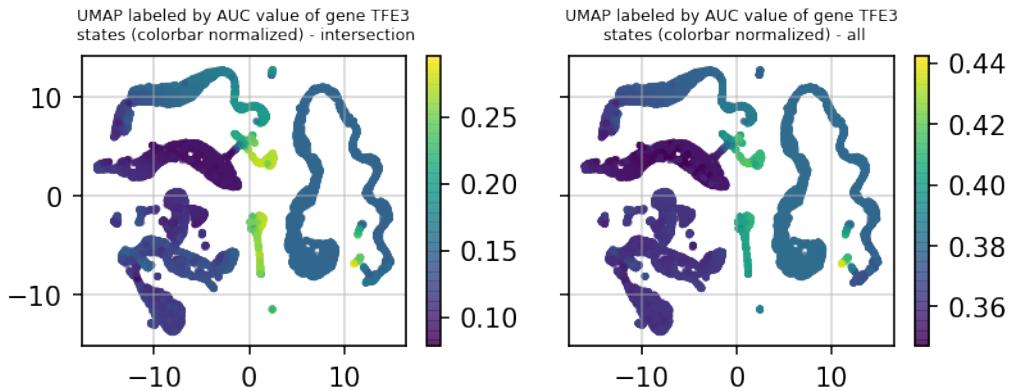
HNF4A



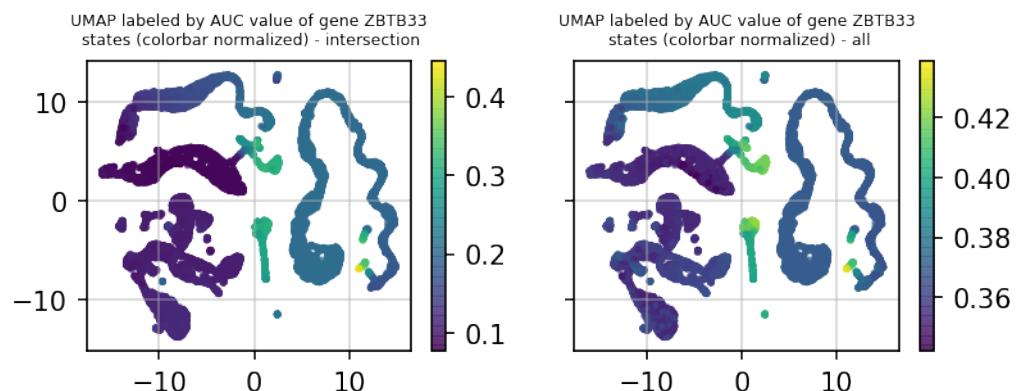
CEBPB



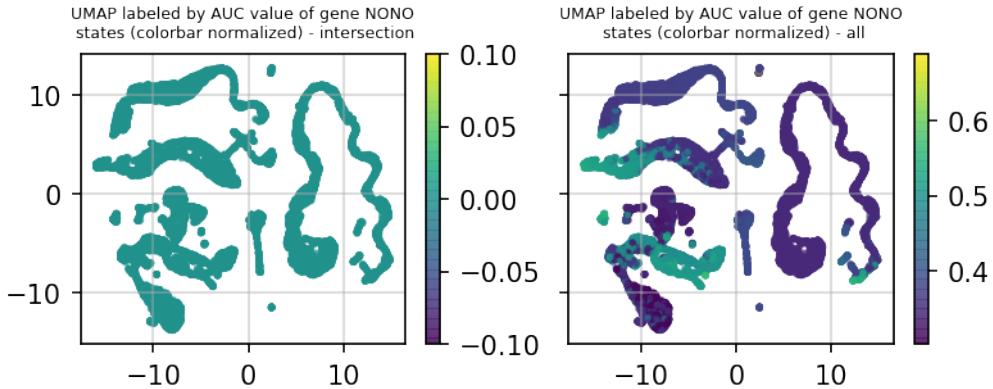
TFE3



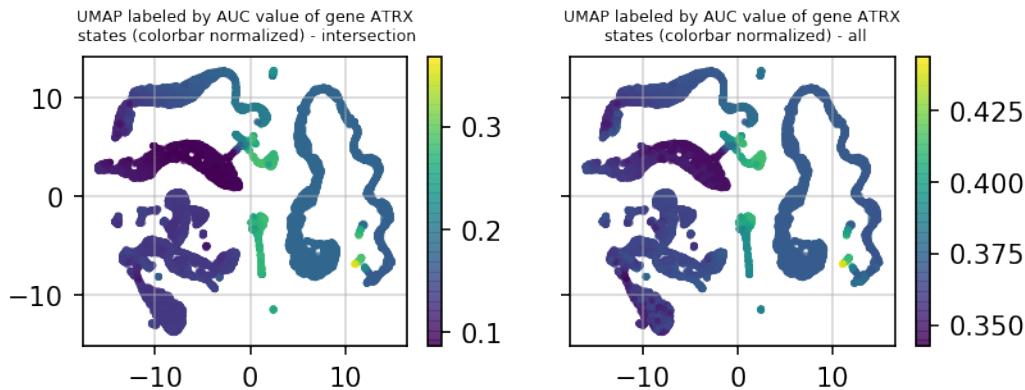
ZBTB33



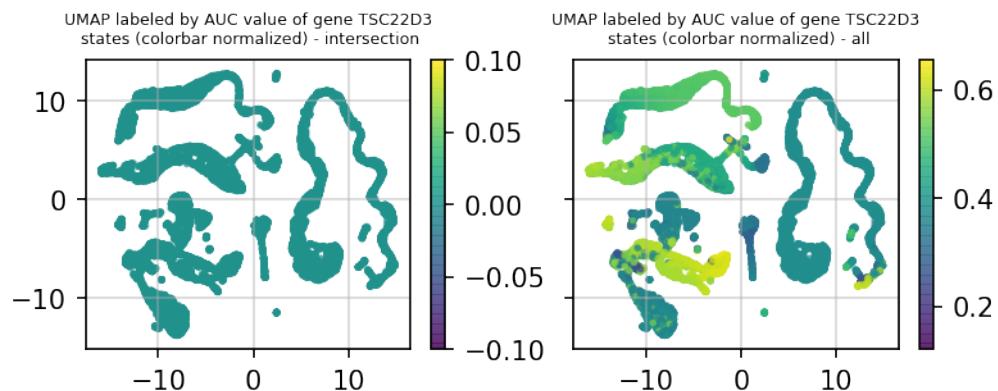
NONO



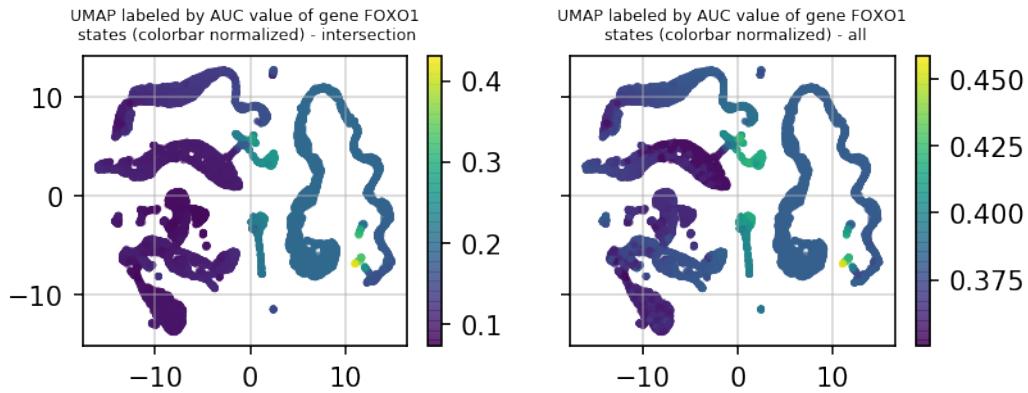
ATRX



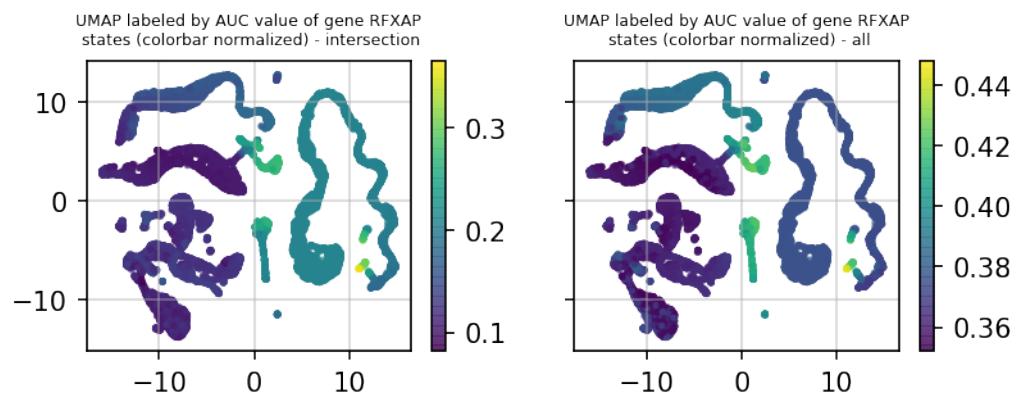
TSC22D3



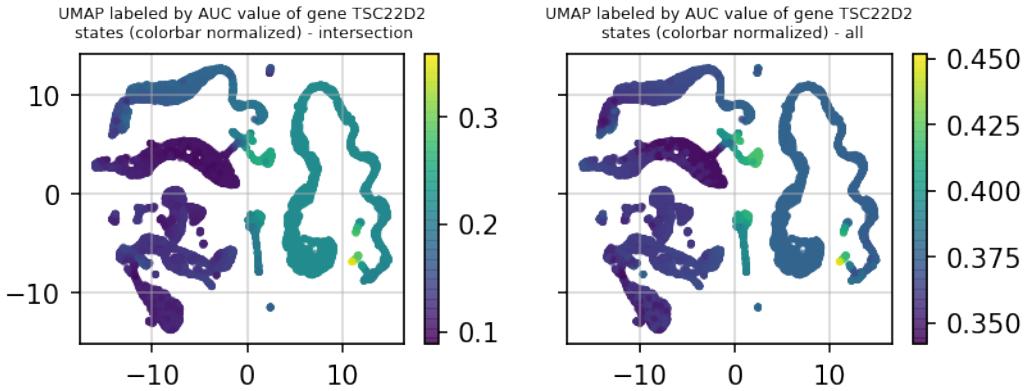
FOXO1



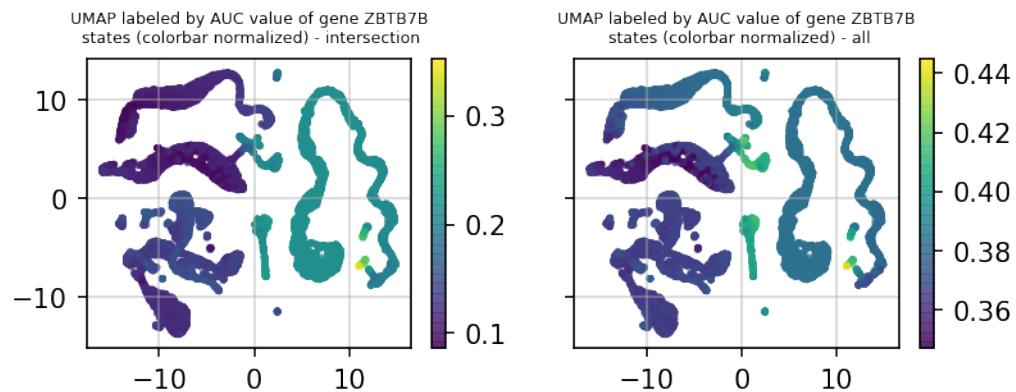
RFXAP



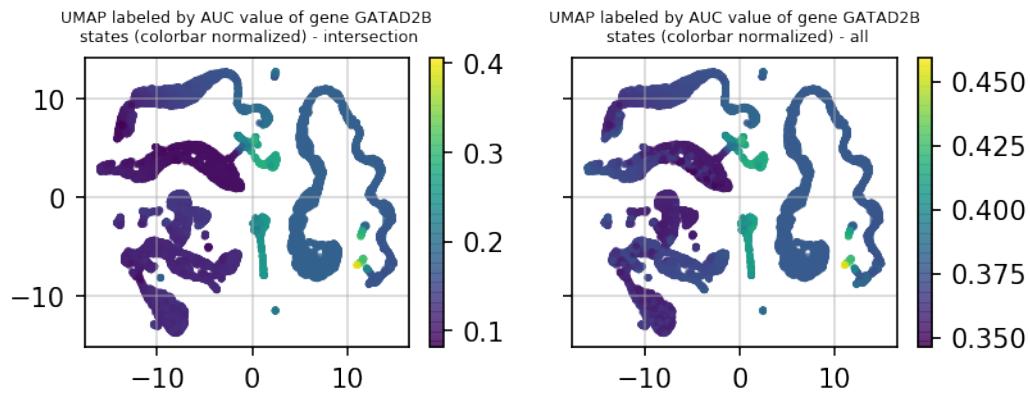
TSC22D2



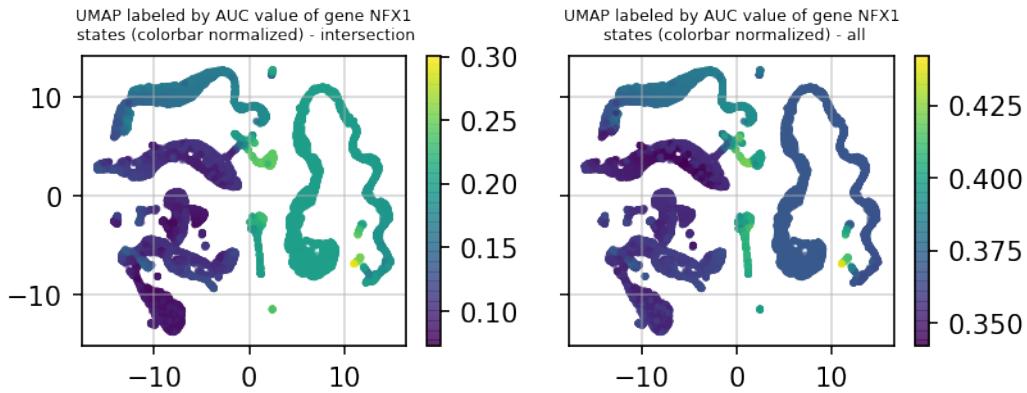
ZBTB7B



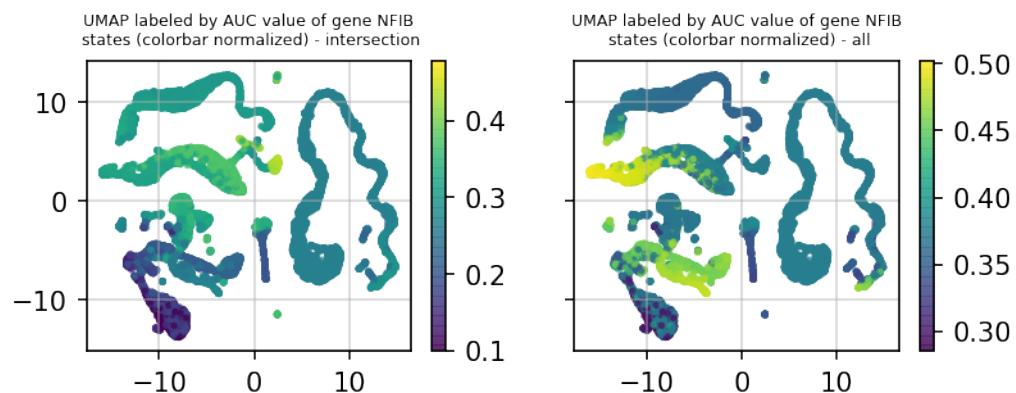
GATA2B



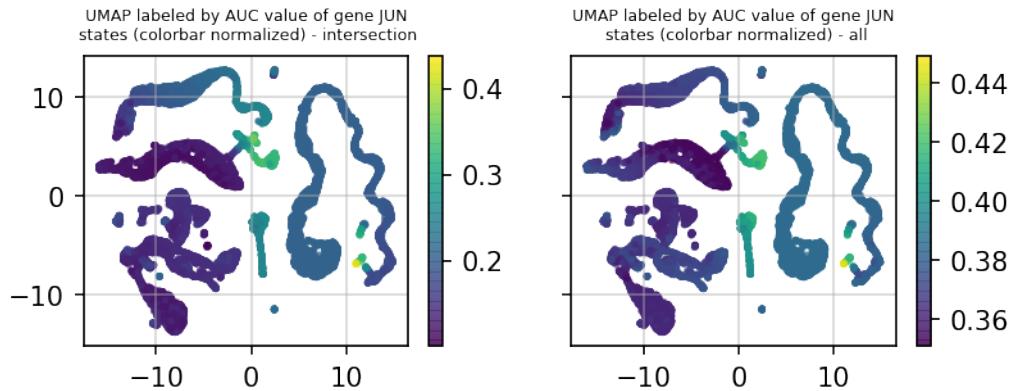
NFX1



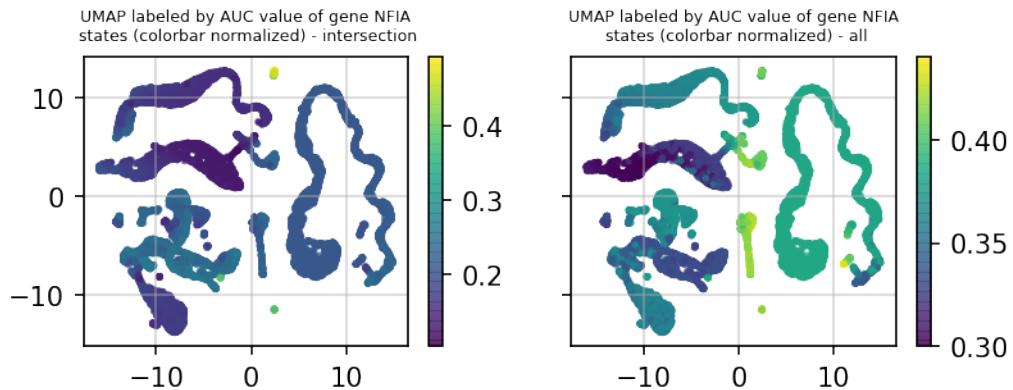
NFIB



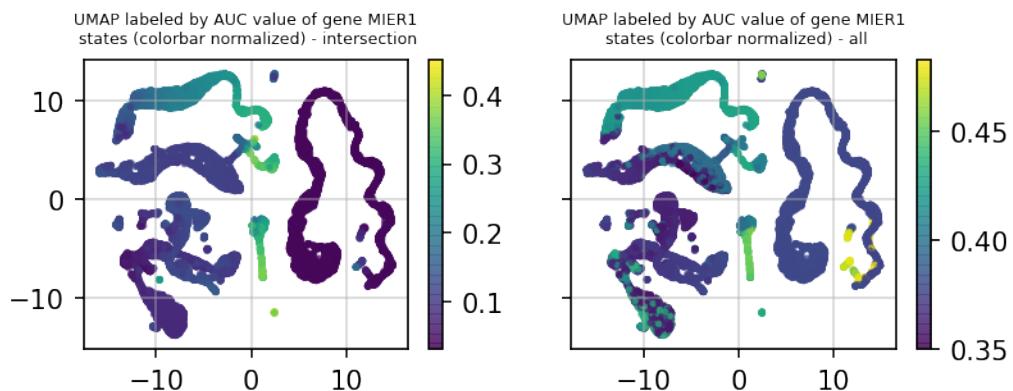
JUN



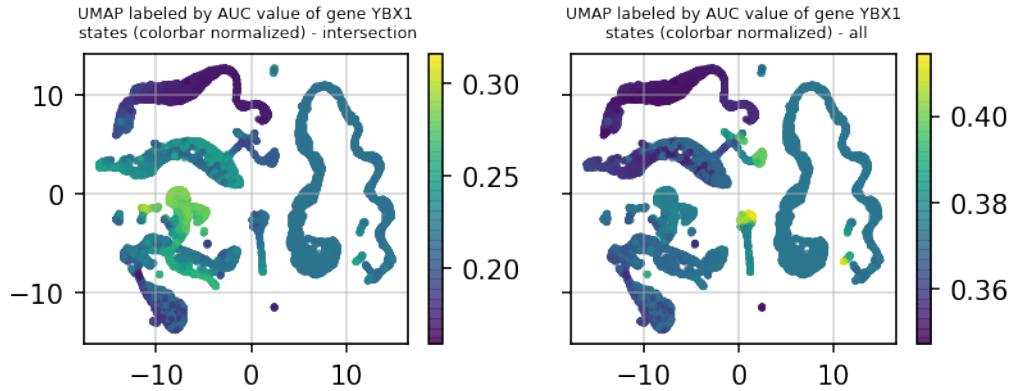
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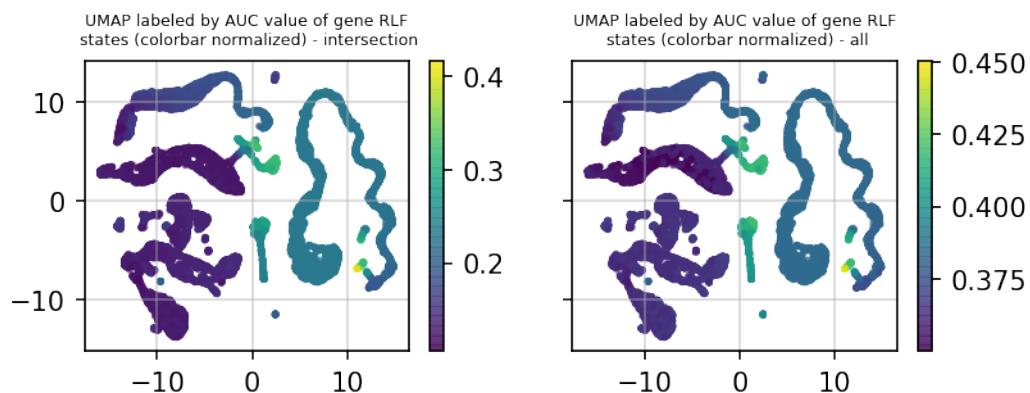
MIER1



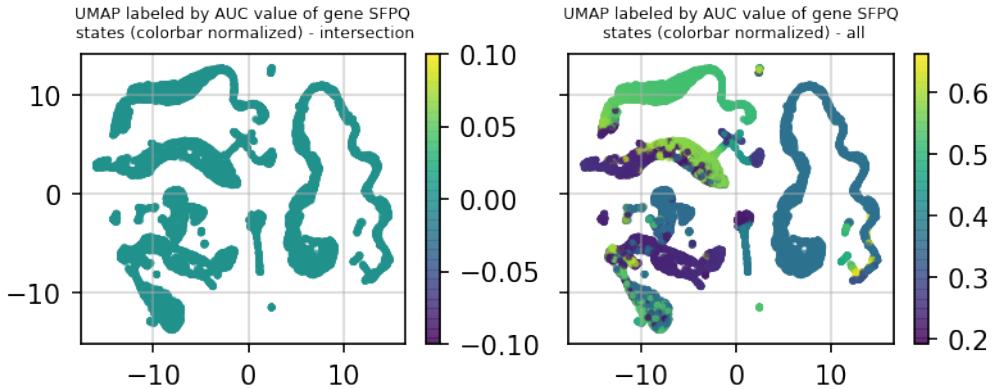
YBX1



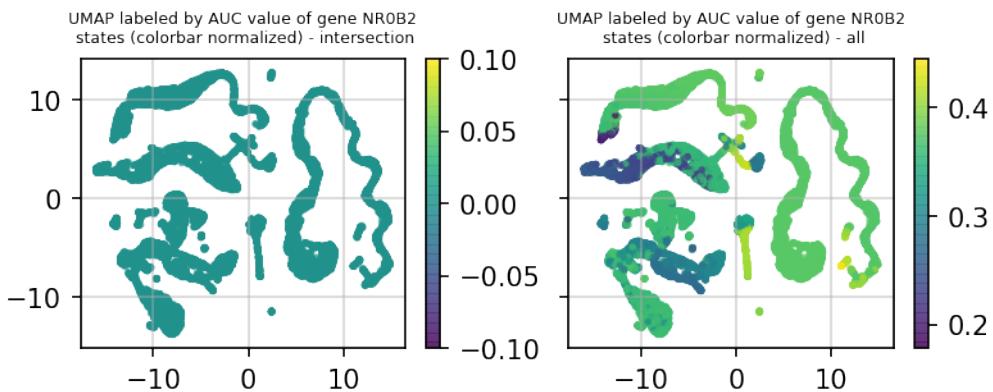
RLF



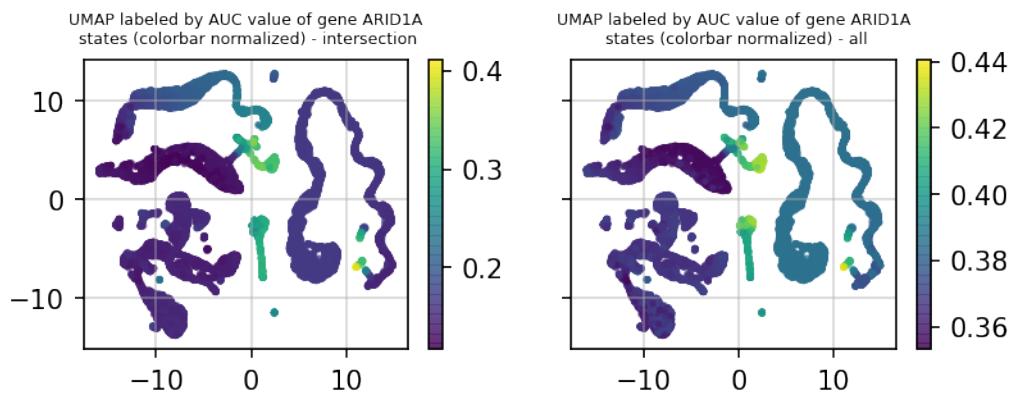
SFPQ



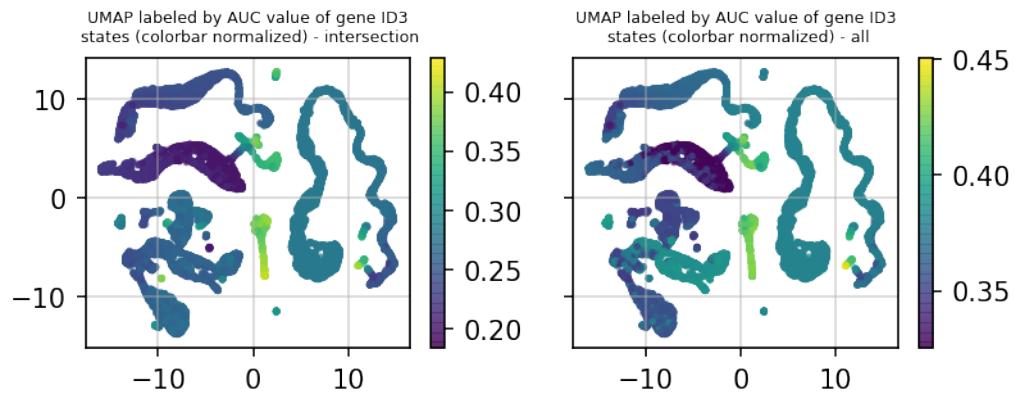
NR0B2



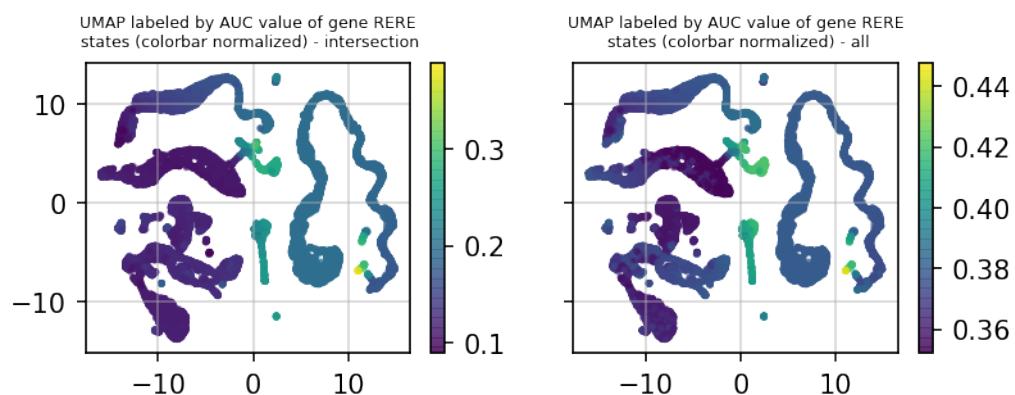
ARID1A



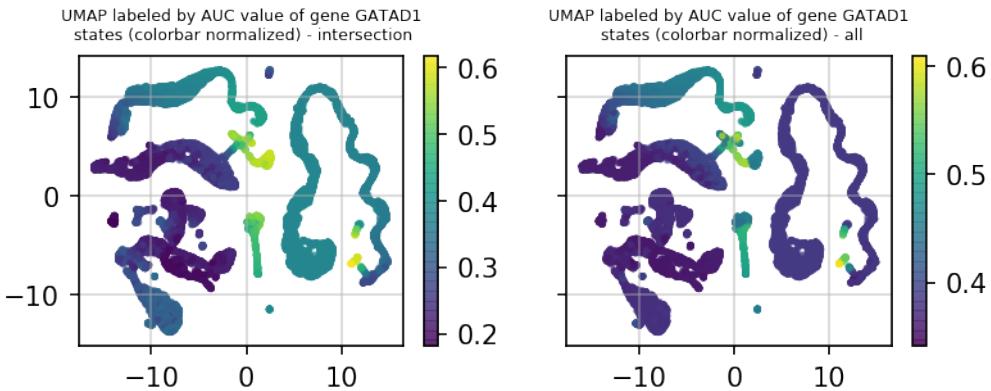
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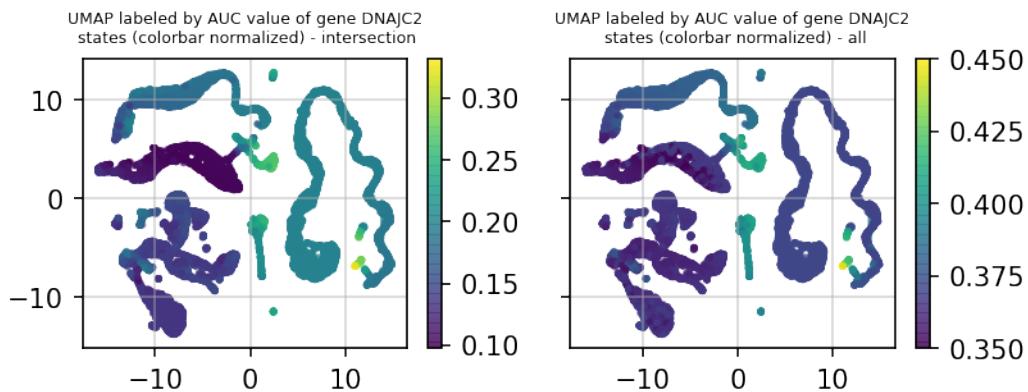
RERE



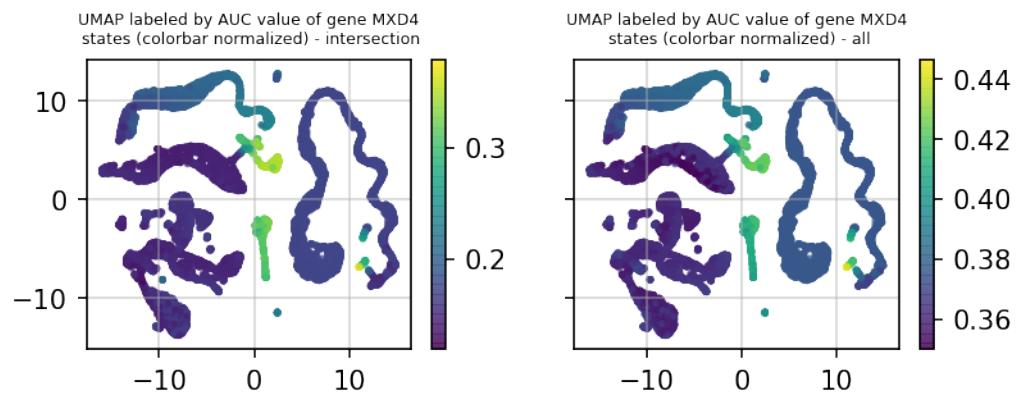
GATAD1



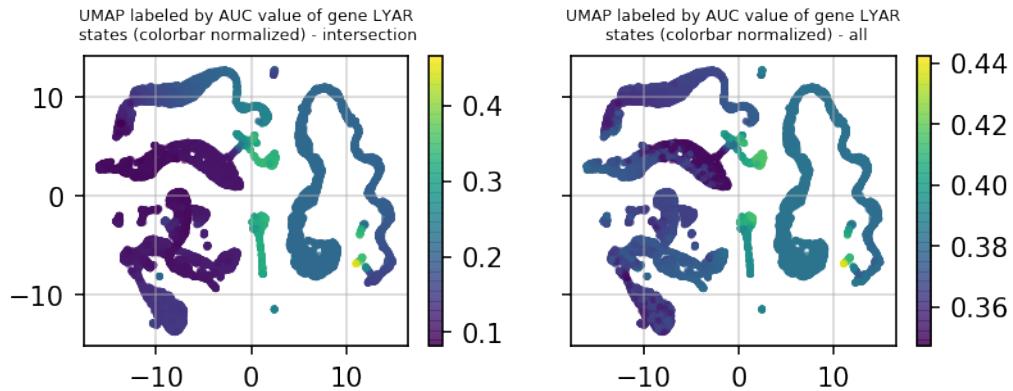
DNAJC2



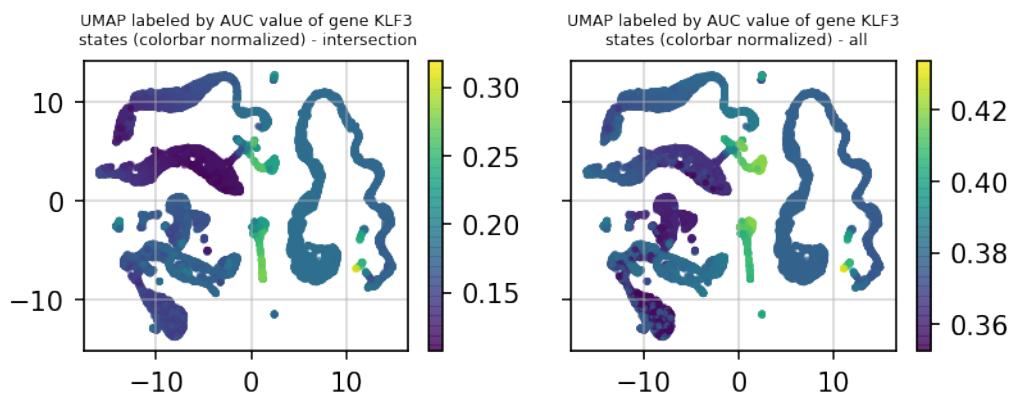
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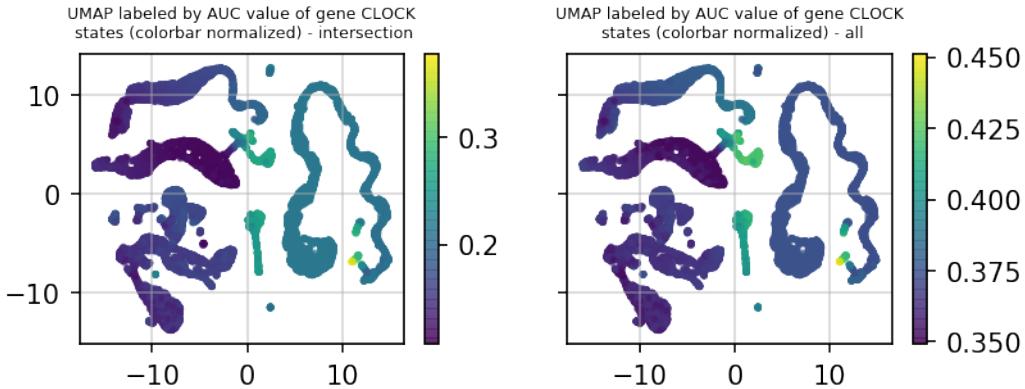
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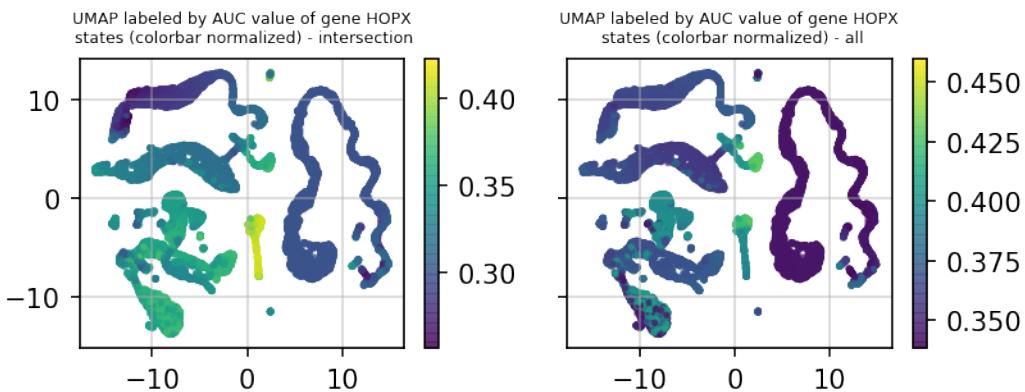
KLF3



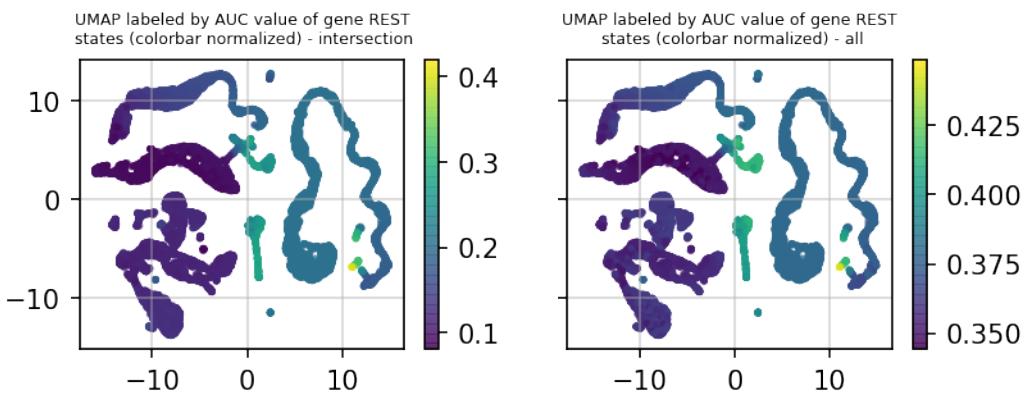
CLOCK



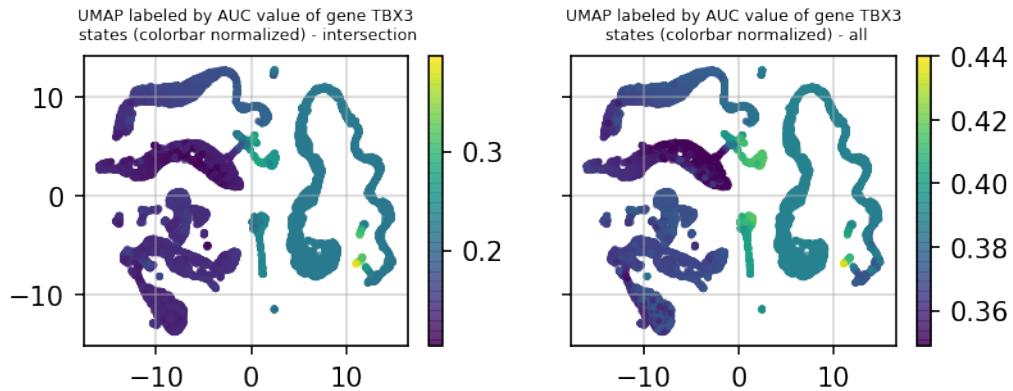
HOPX



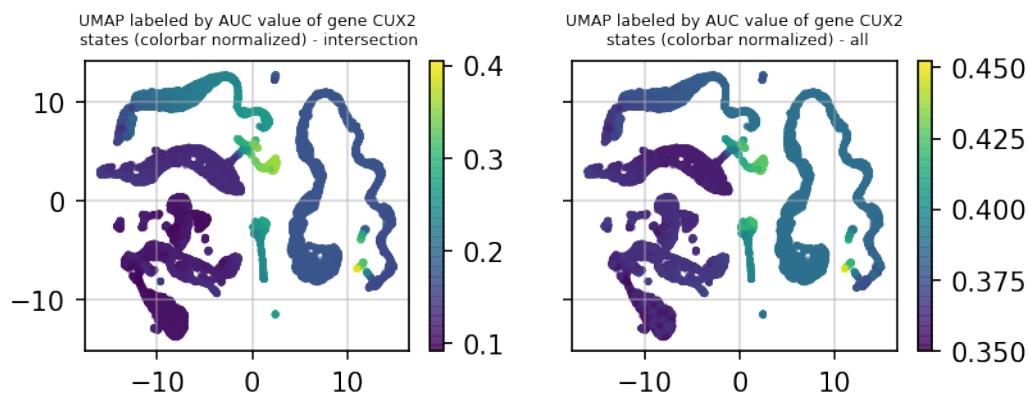
REST



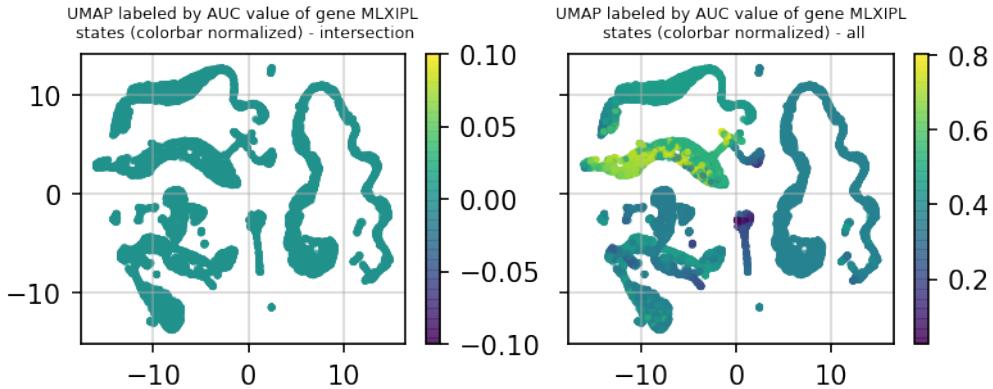
TBX3



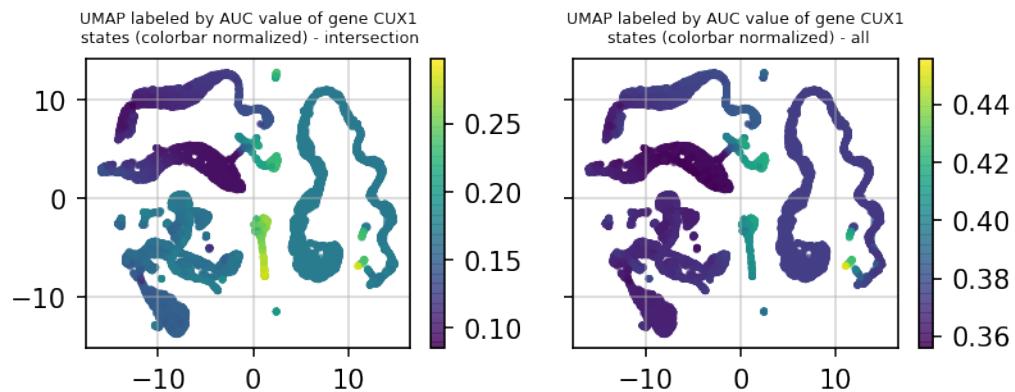
CUX2



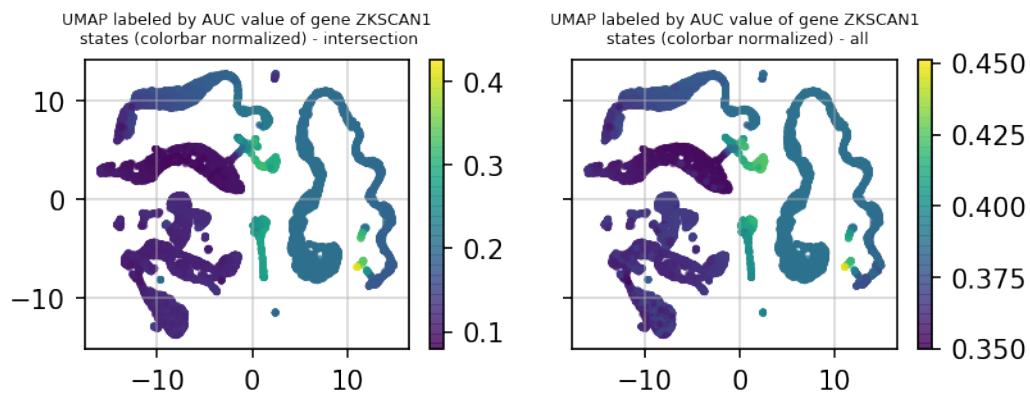
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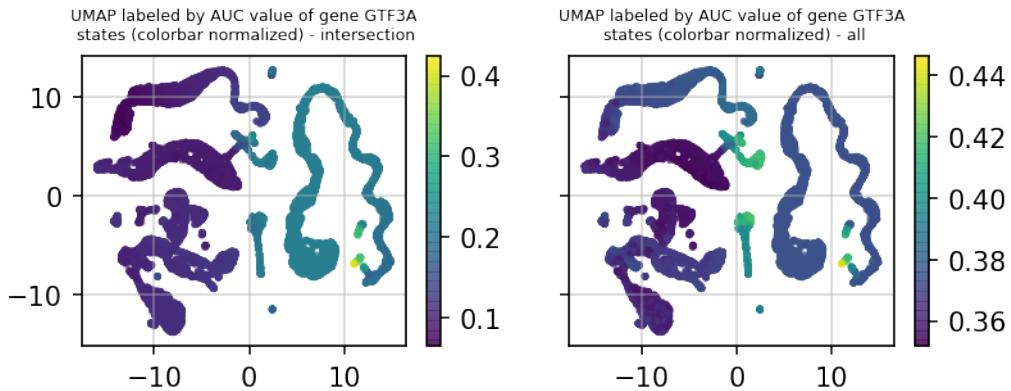
CUX1



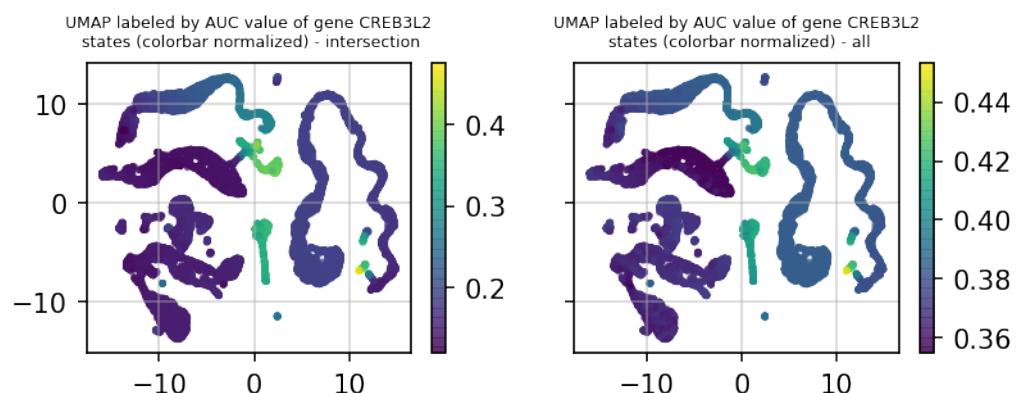
ZKSCAN1



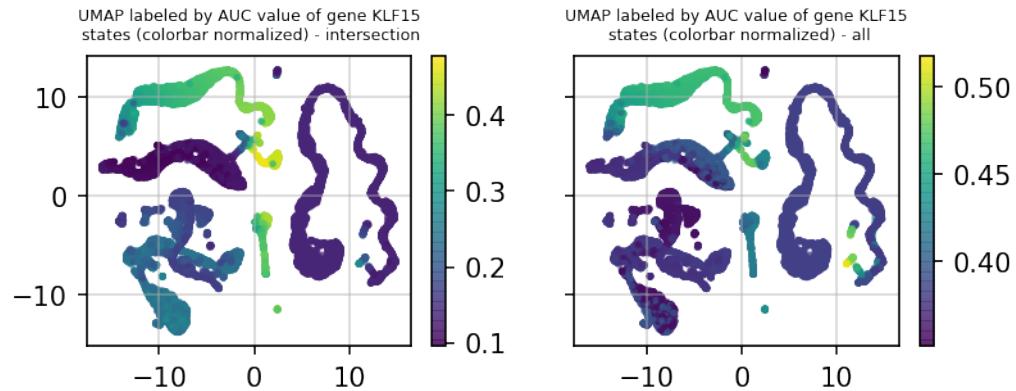
GTF3A



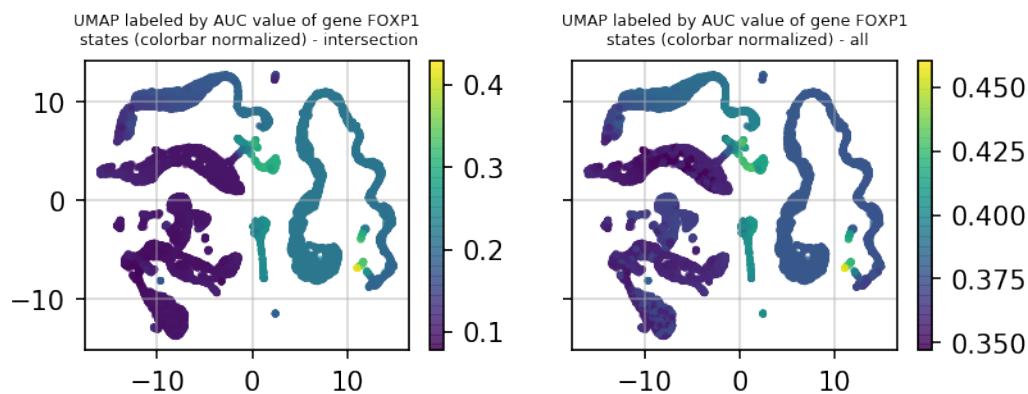
CREB3L2



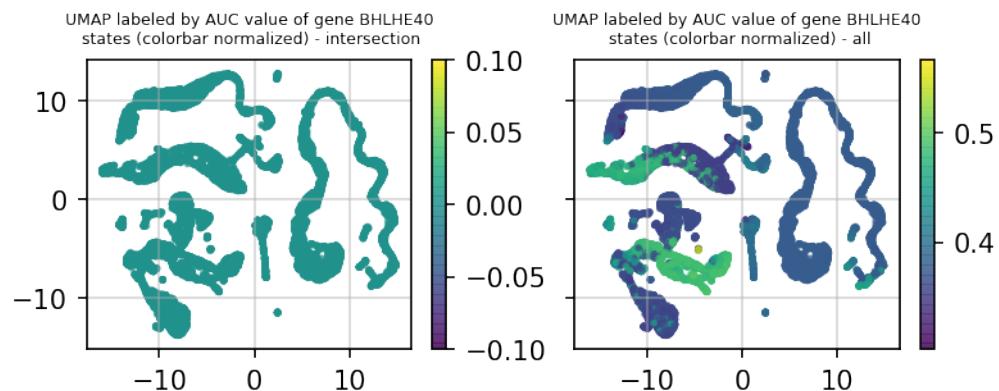
KLF15



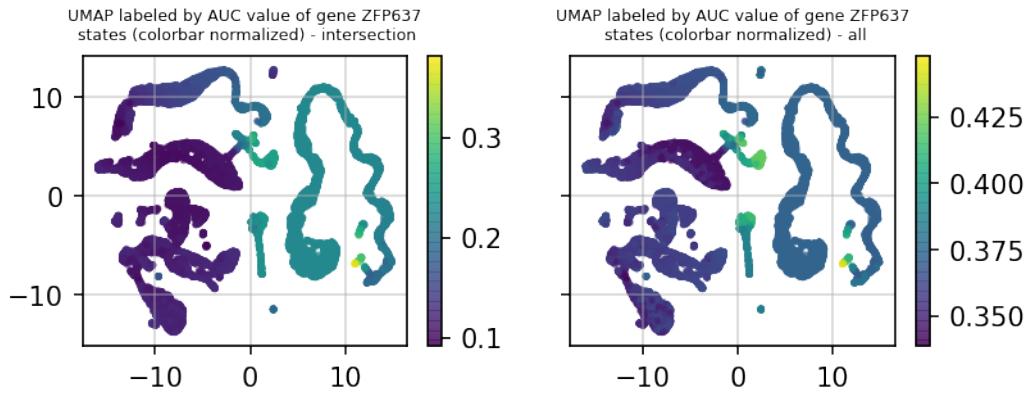
FOXP1



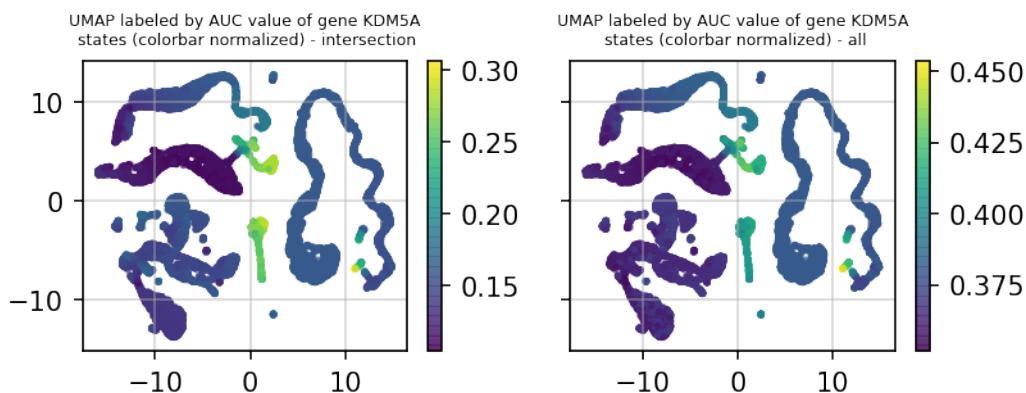
BHLHE40



ZFP637

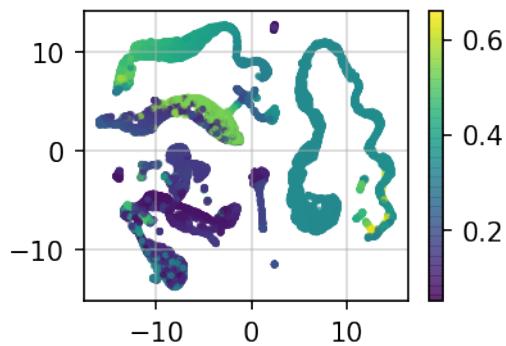


KDM5A

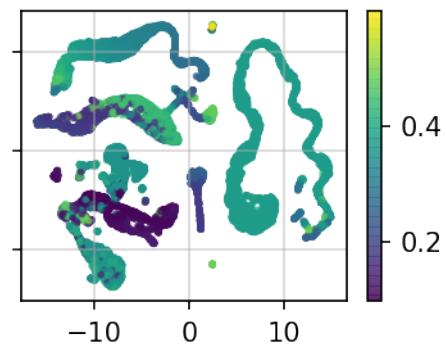


YBX3

UMAP labeled by AUC value of gene YBX3 states (colorbar normalized) - intersection

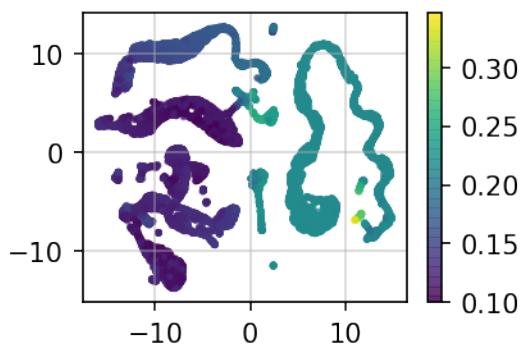


UMAP labeled by AUC value of gene YBX3 states (colorbar normalized) - all

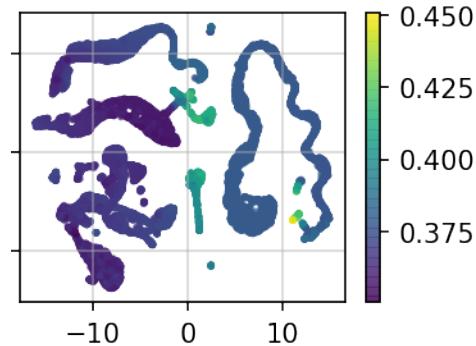


CREBL2

UMAP labeled by AUC value of gene CREBL2 states (colorbar normalized) - intersection

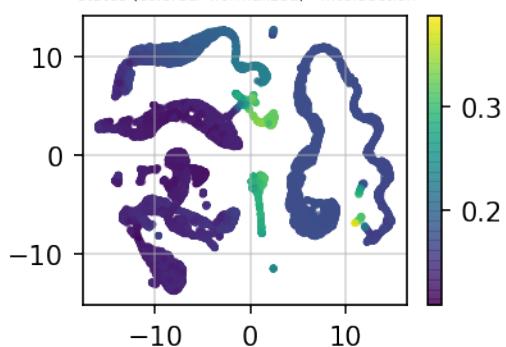


UMAP labeled by AUC value of gene CREBL2 states (colorbar normalized) - all

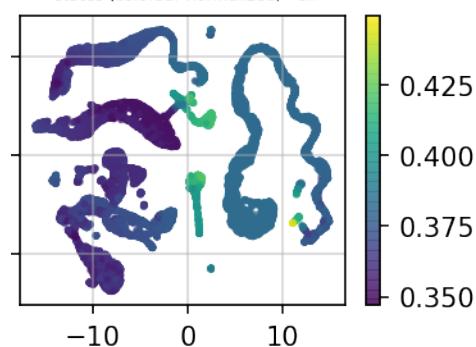


AEBP2

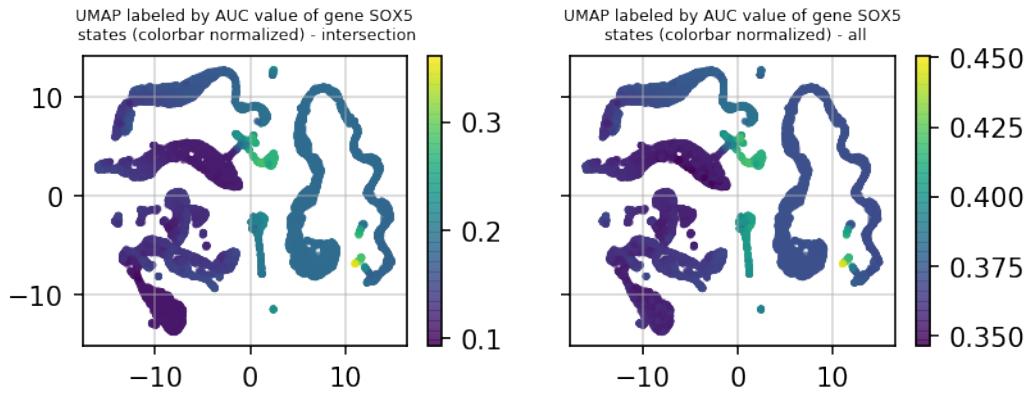
UMAP labeled by AUC value of gene AEBP2 states (colorbar normalized) - intersection



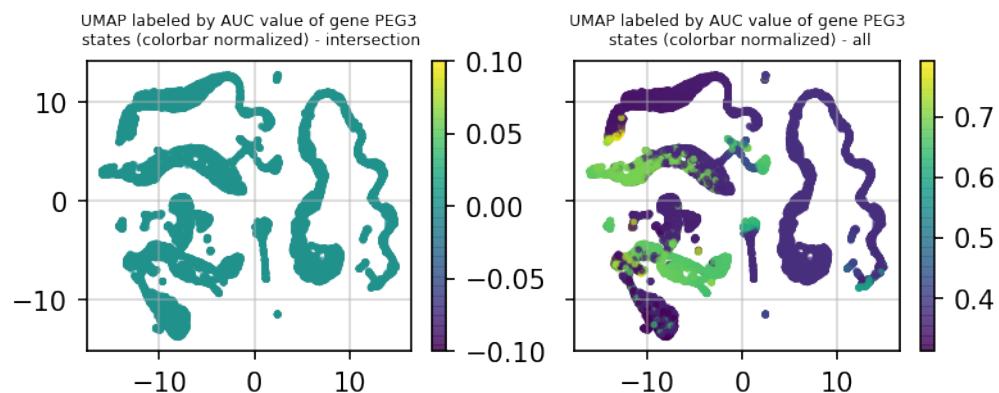
UMAP labeled by AUC value of gene AEBP2 states (colorbar normalized) - all



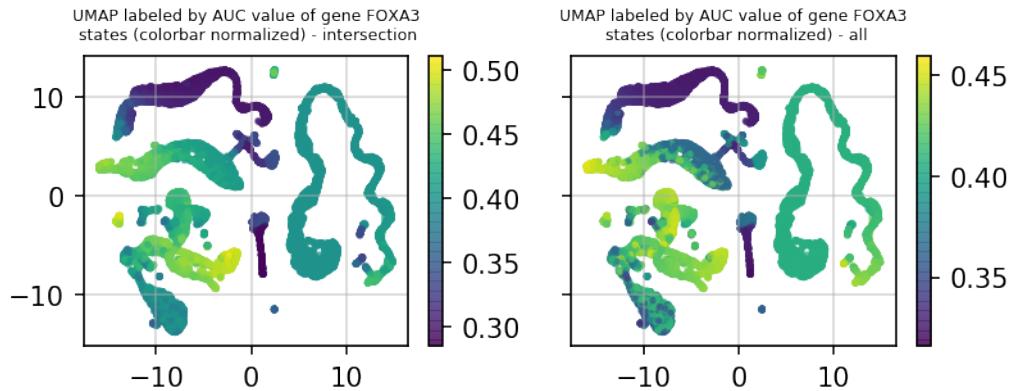
SOX5



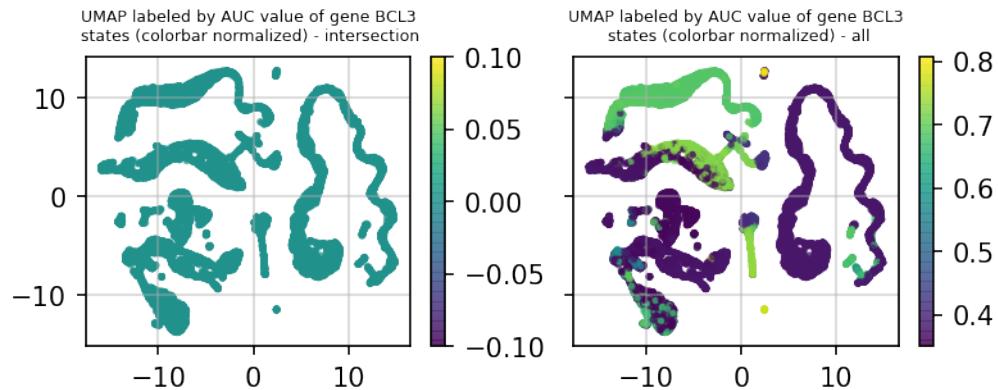
PEG3



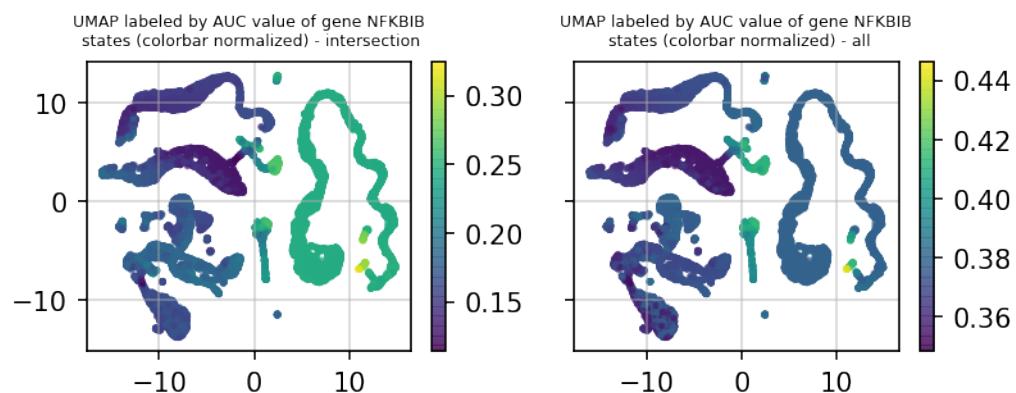
FOXA3



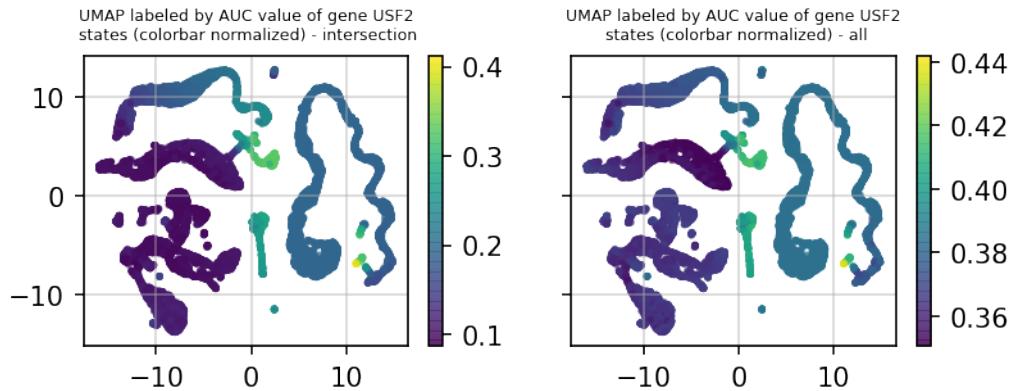
BCL3



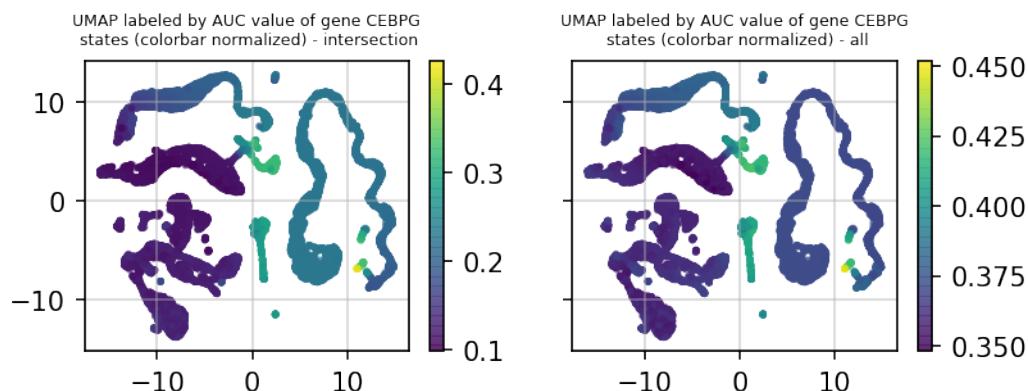
NFKBIB



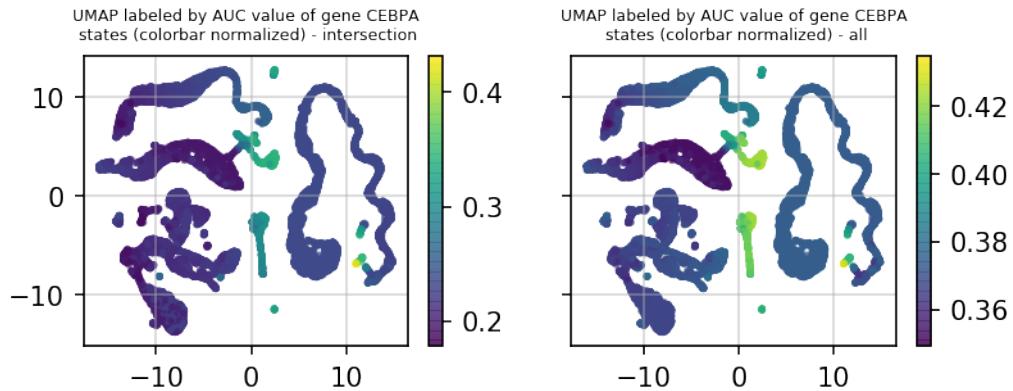
USF2



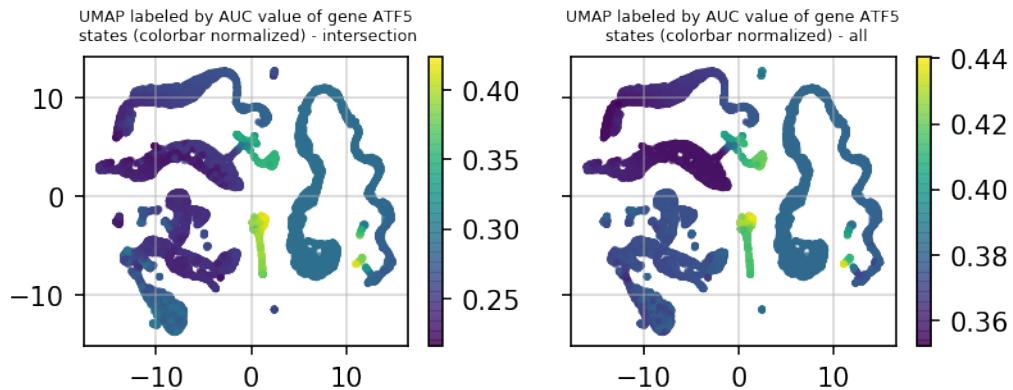
CEBPG



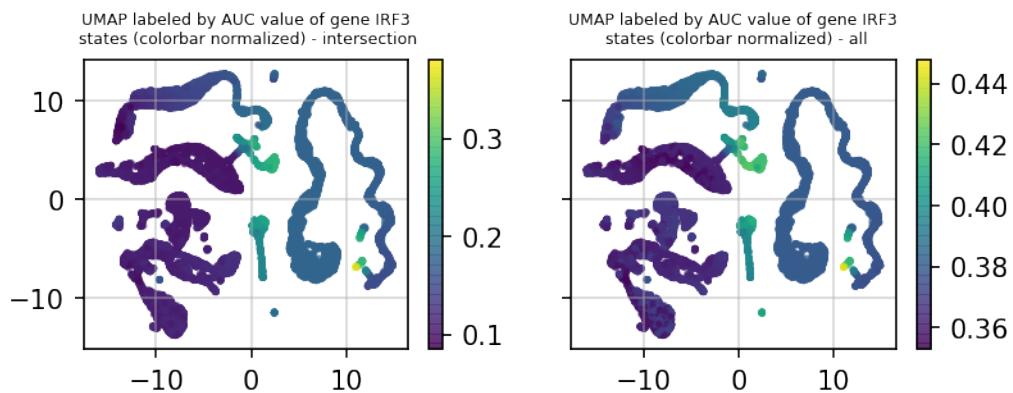
CEBPA



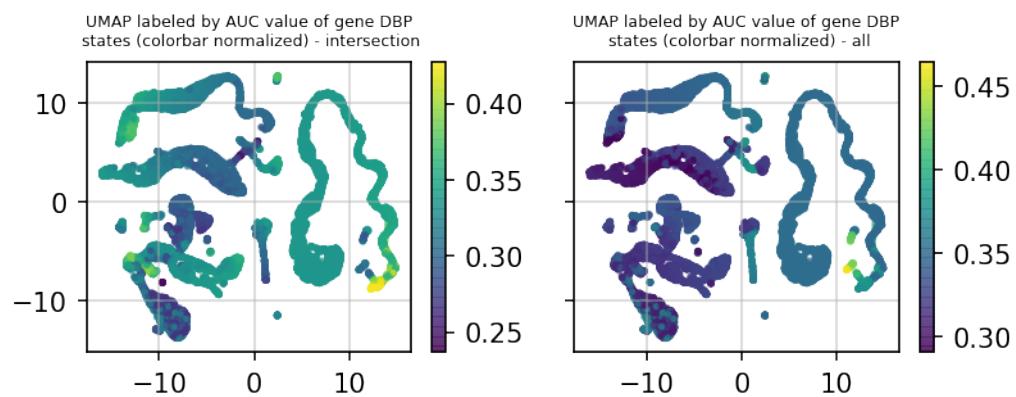
ATF5



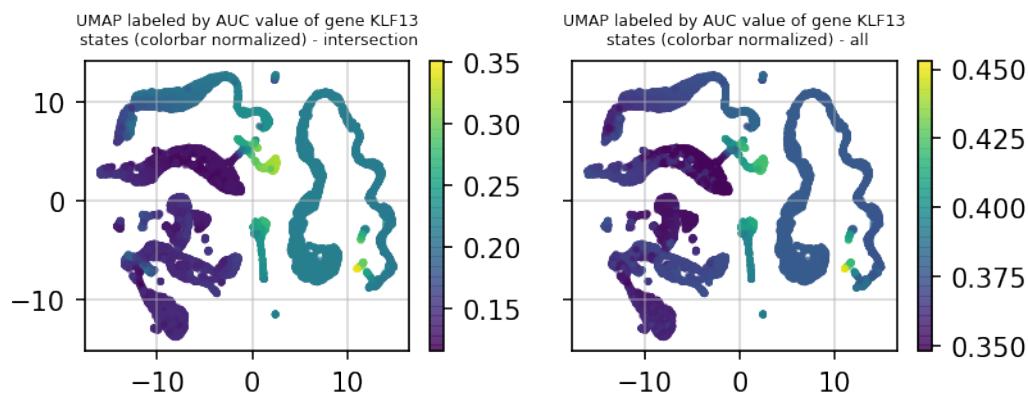
IRF3



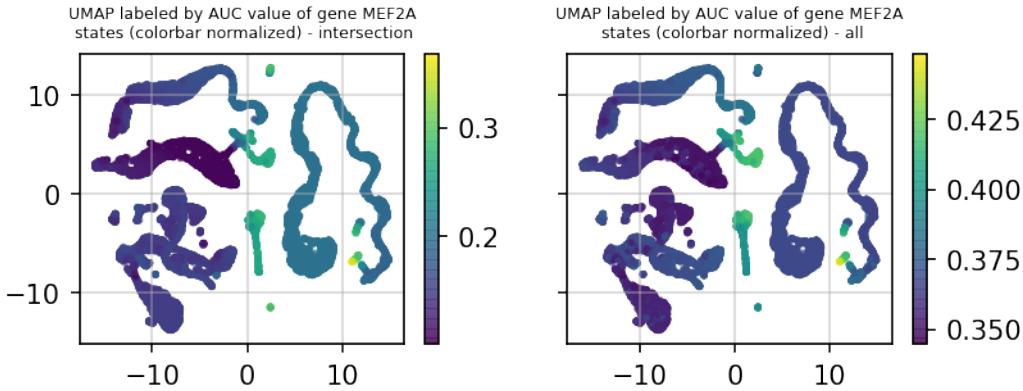
DBP



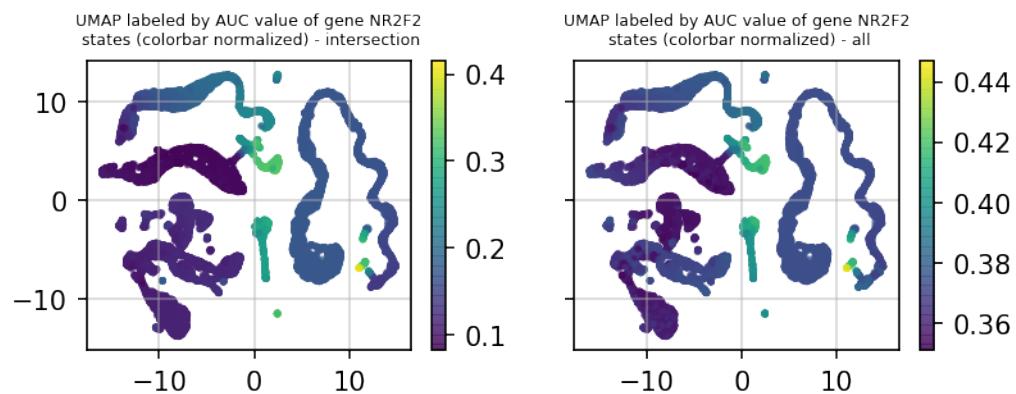
KLF13



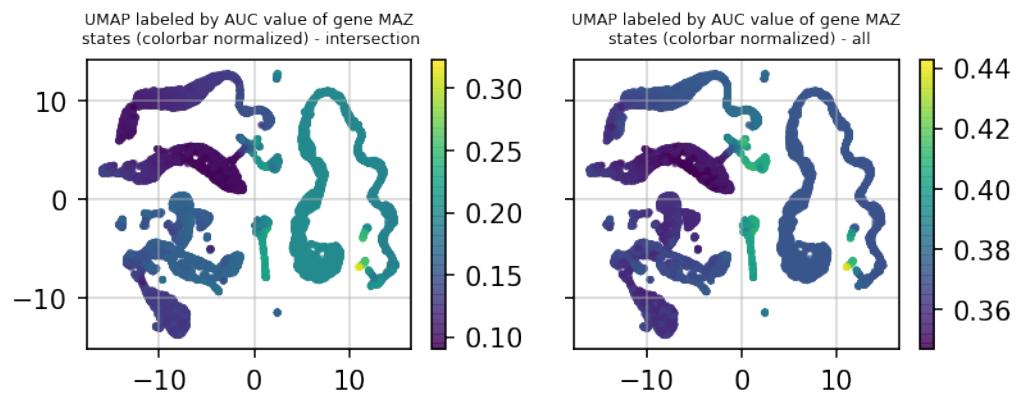
MEF2A



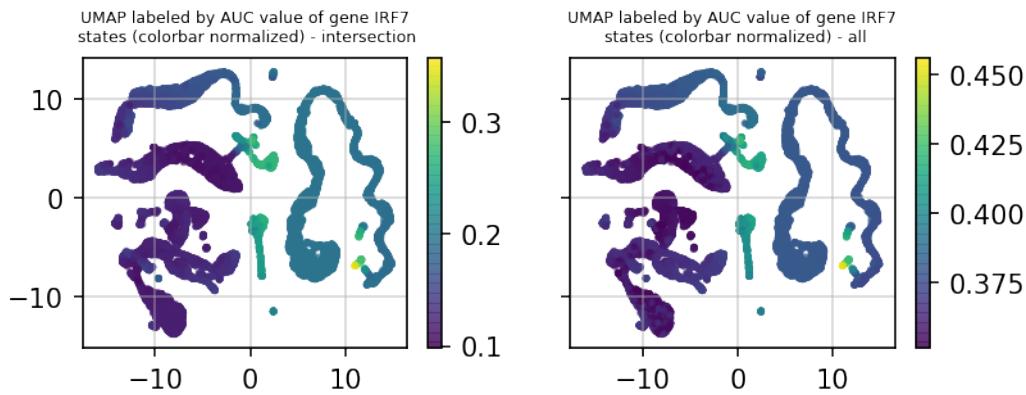
NR2F2



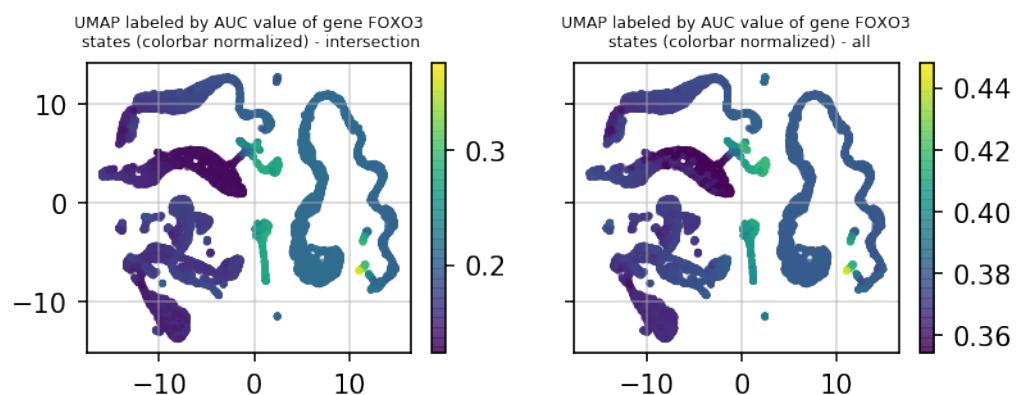
MAZ



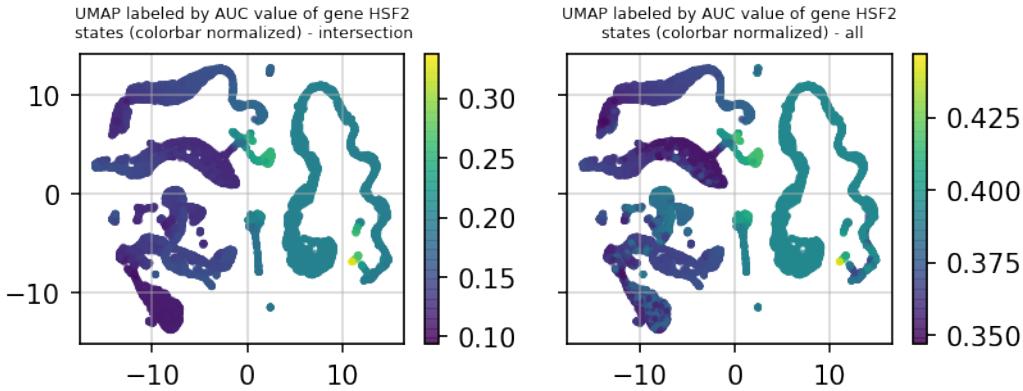
IRF7



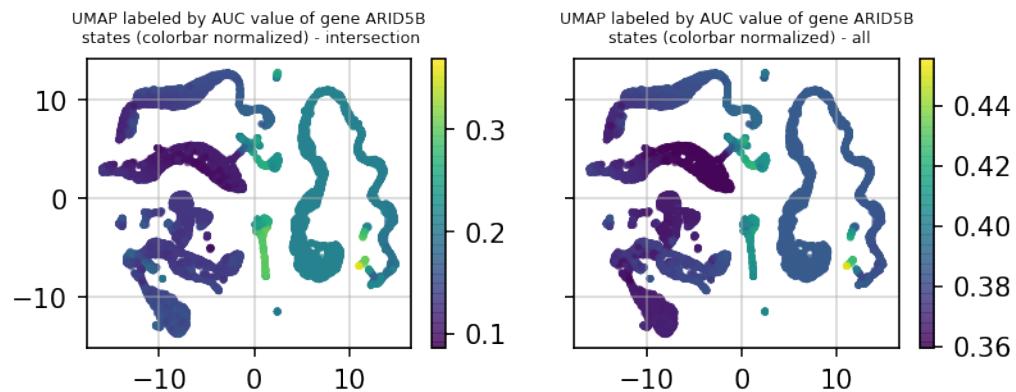
FOXO3



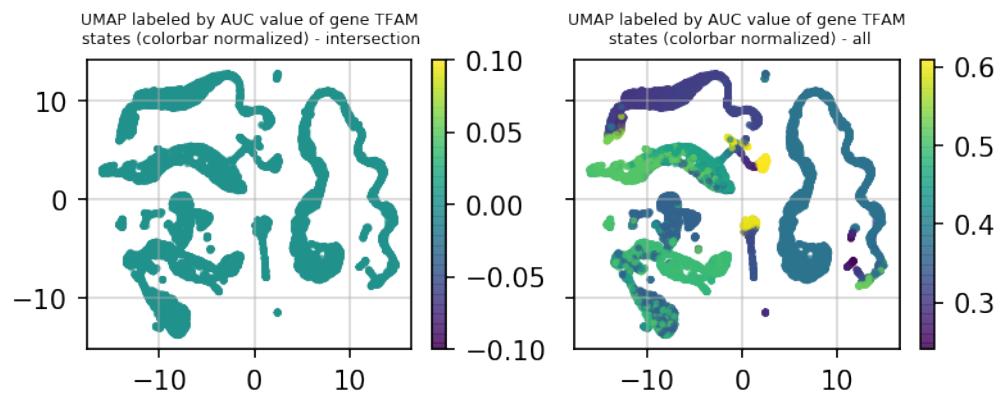
HSF2



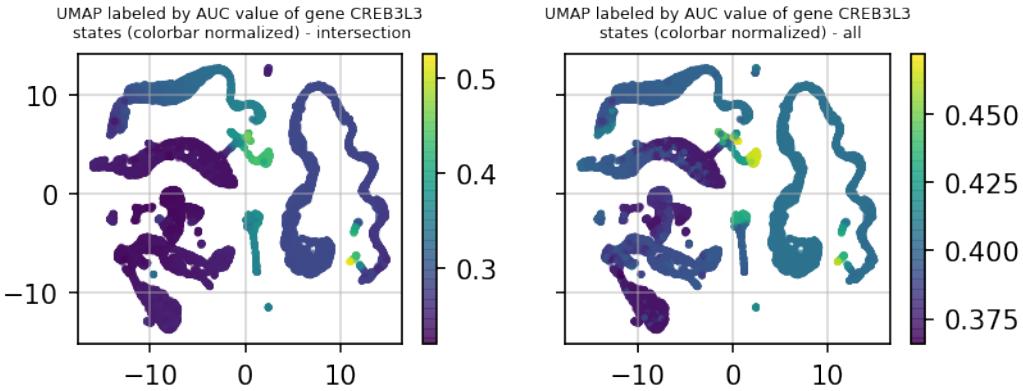
ARID5B



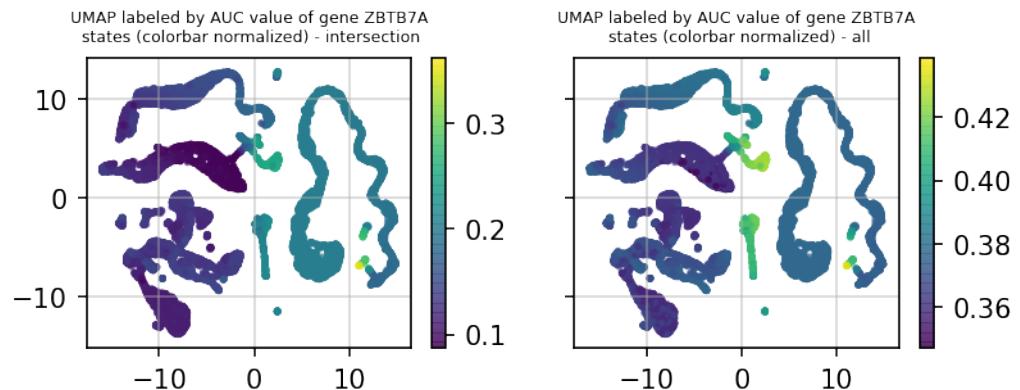
TFAM



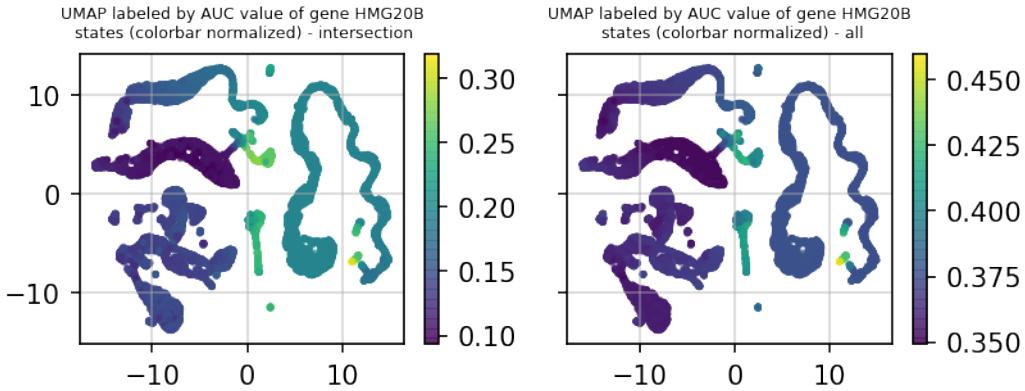
CREB3L3



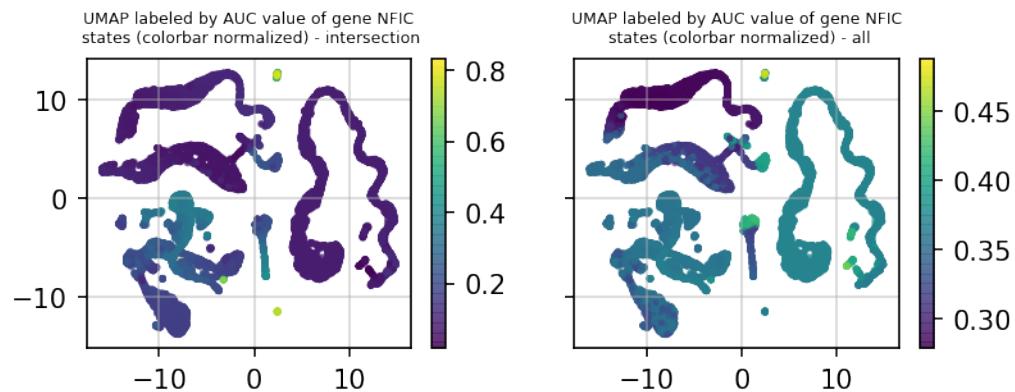
ZBTB7A



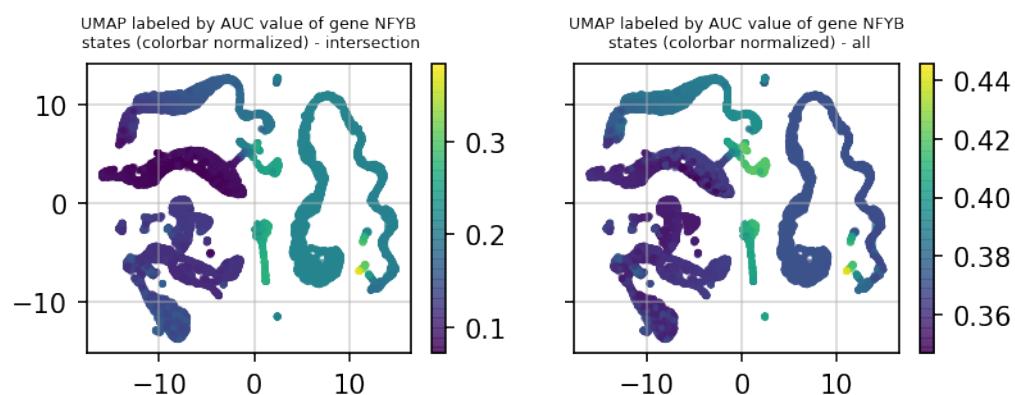
HMG20B



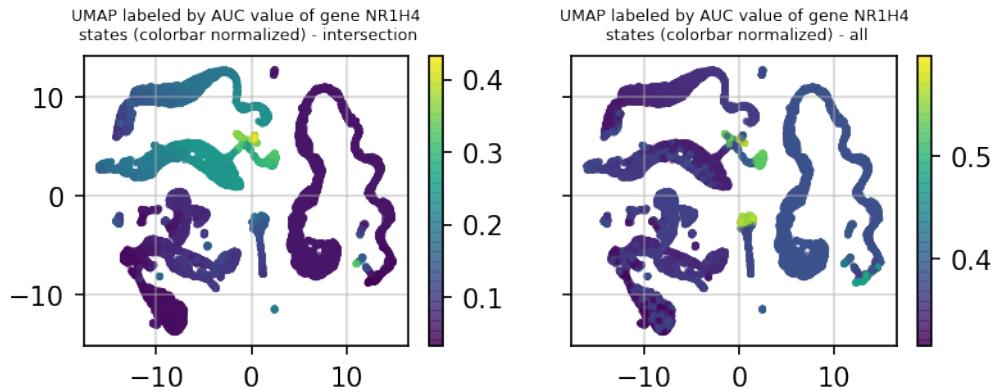
NFIC



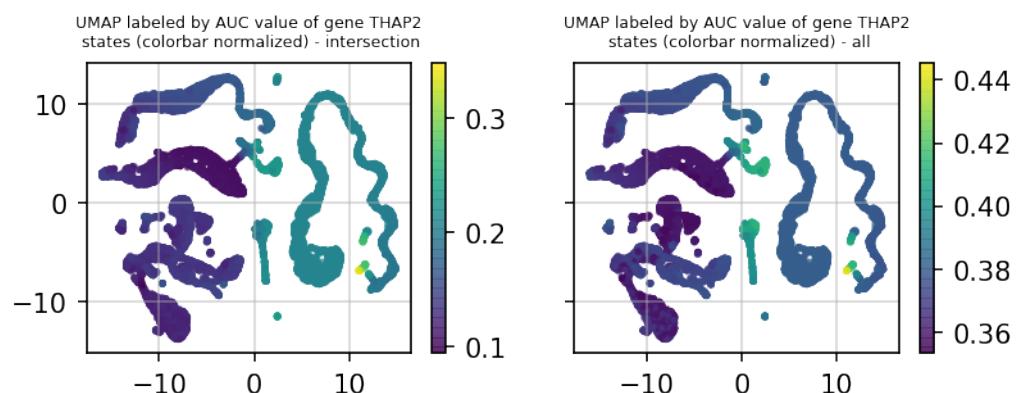
NFYB



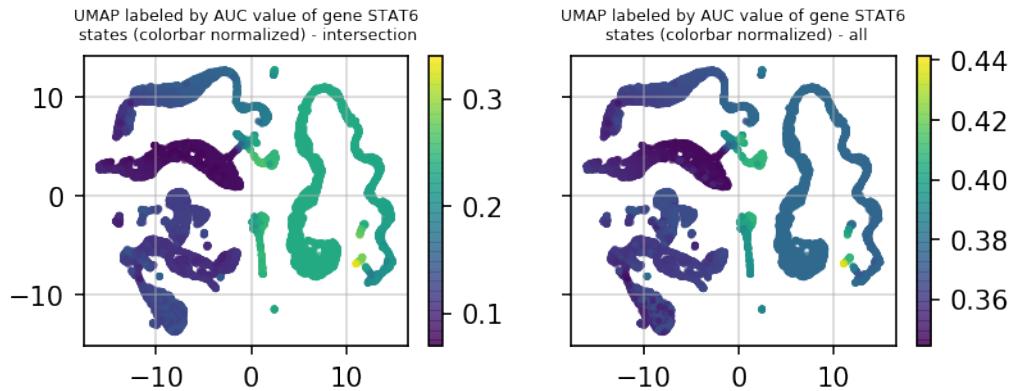
NR1H4



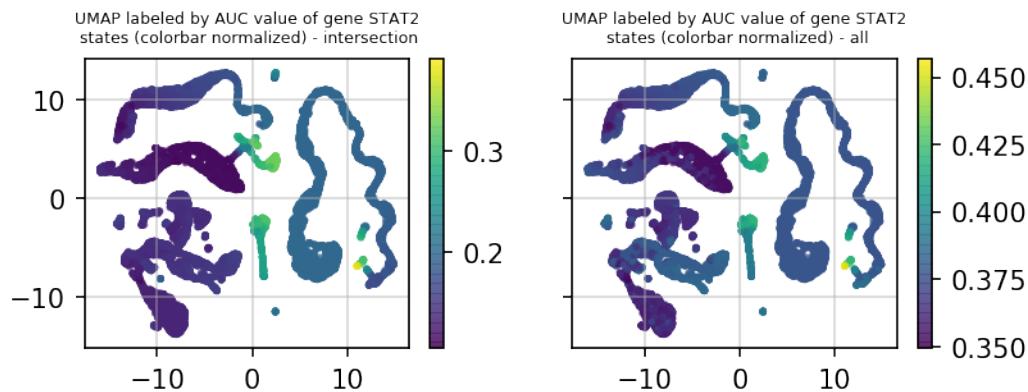
THAP2



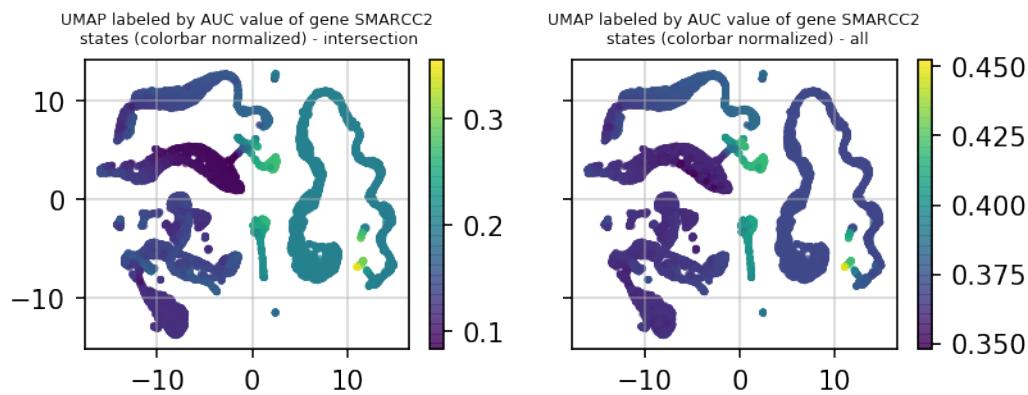
STAT6



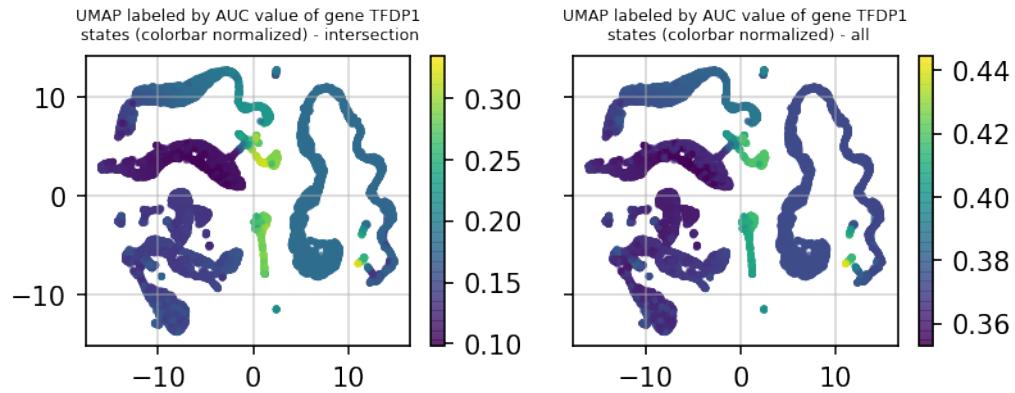
STAT2



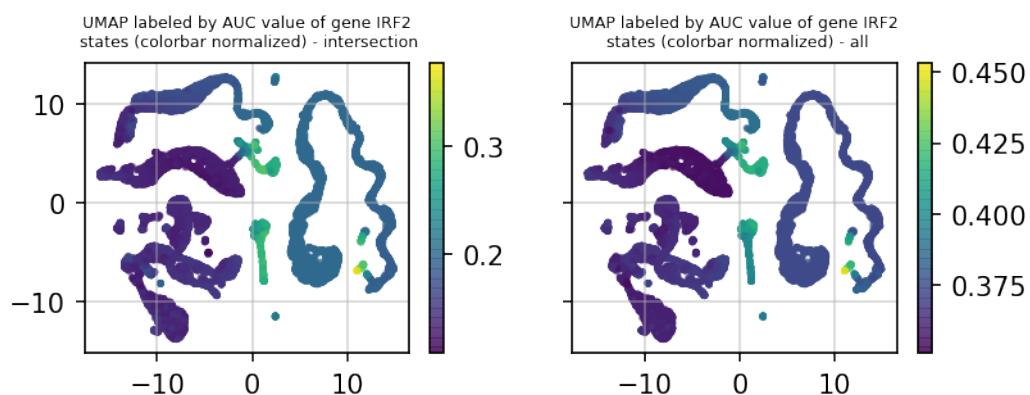
SMARCC2



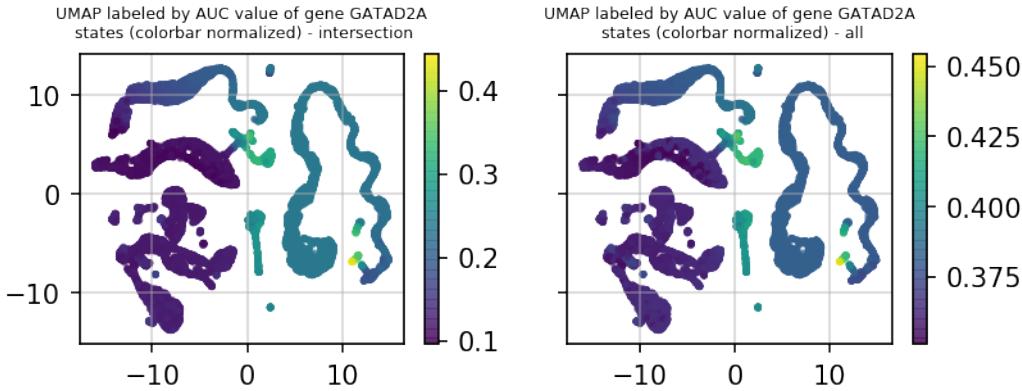
TFDP1



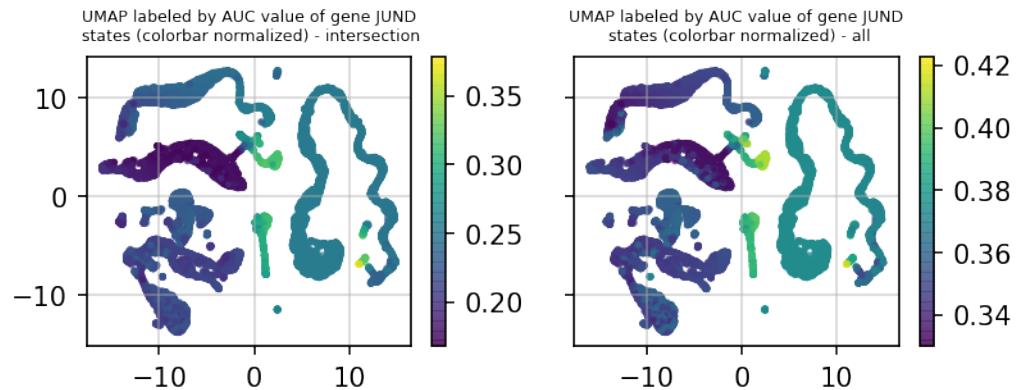
IRF2



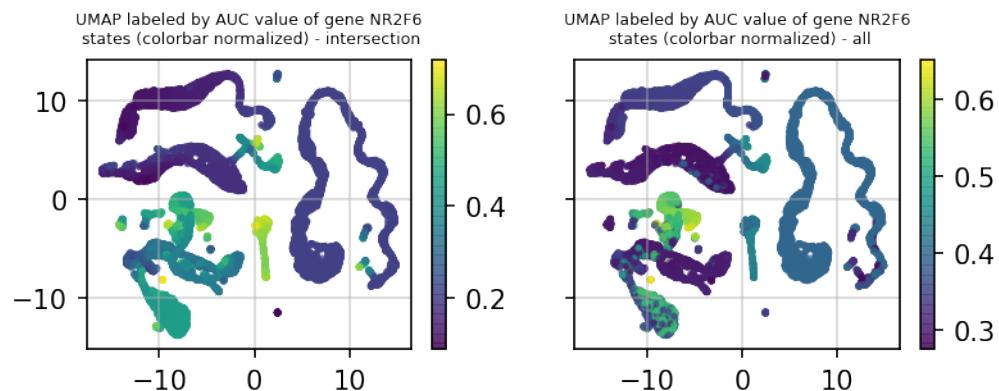
GATA2A



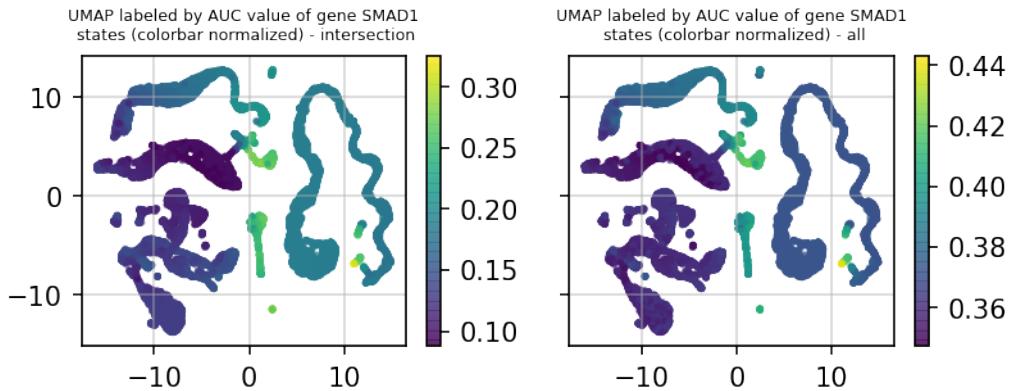
JUND



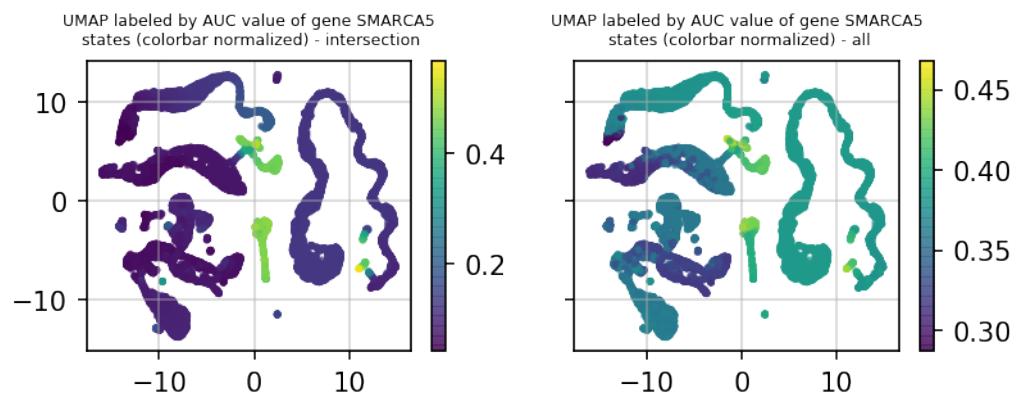
NR2F6



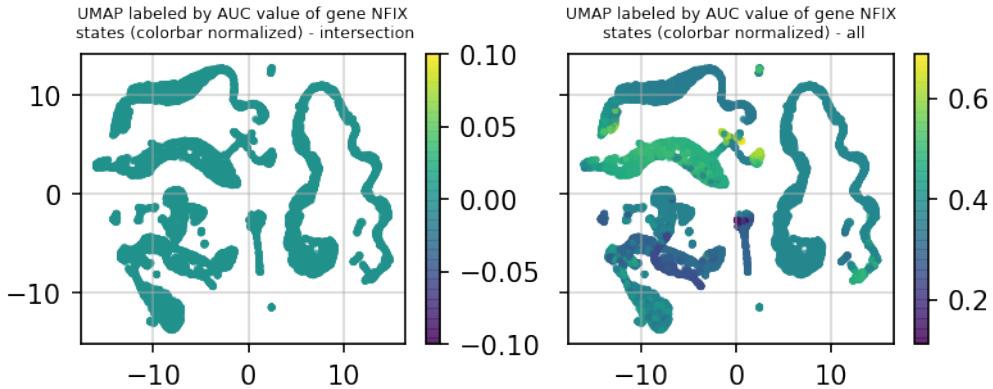
SMAD1



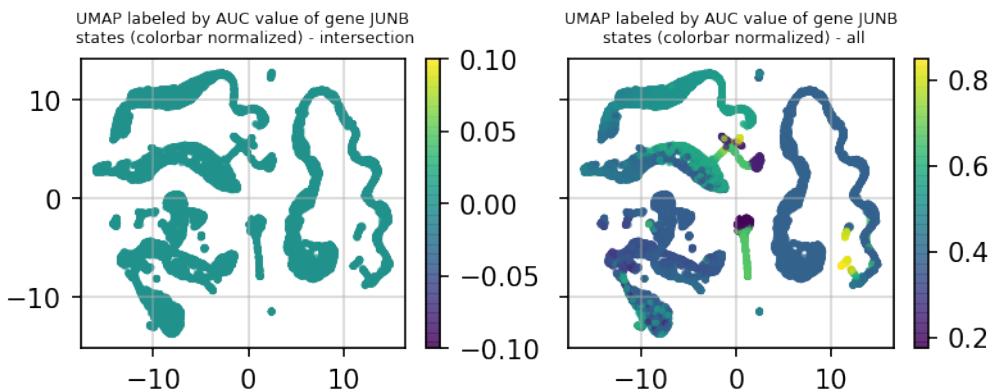
SMARCA5



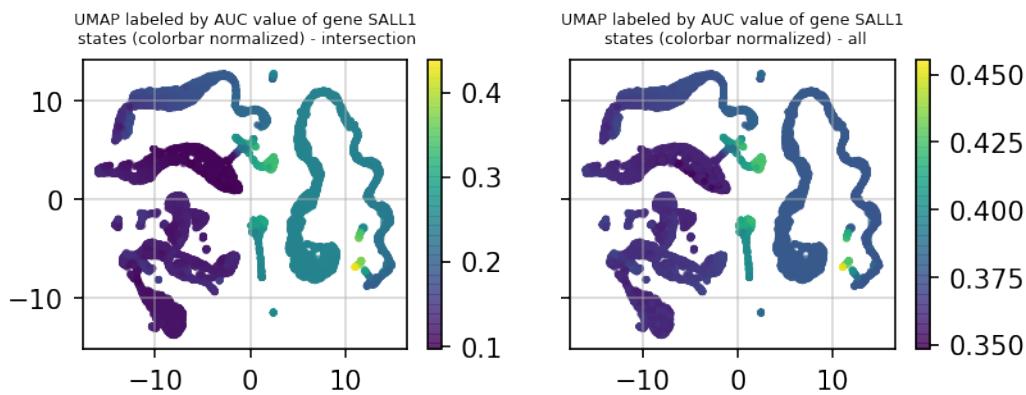
NFX1



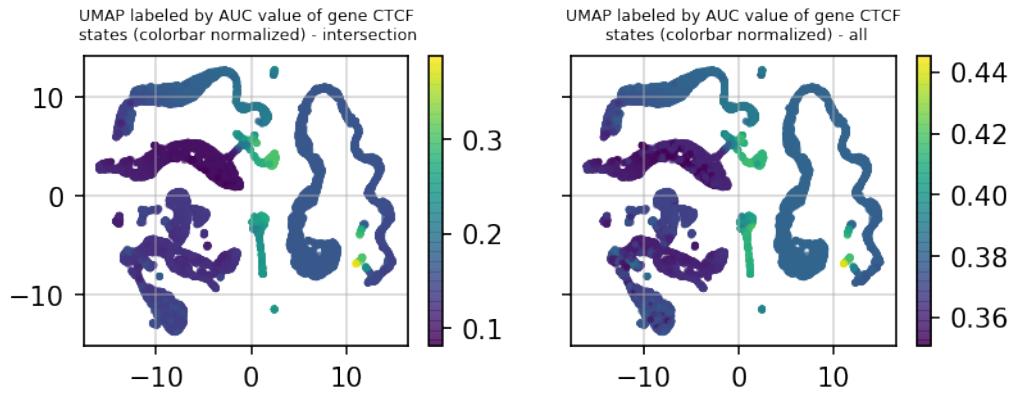
JUNB



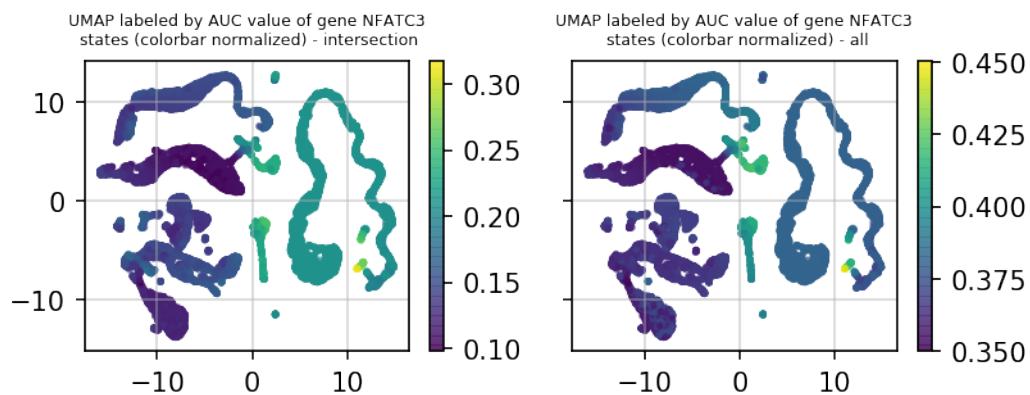
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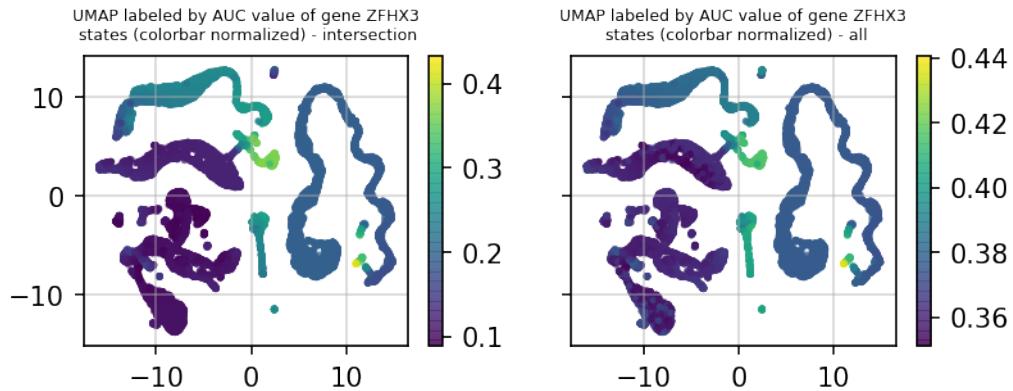
CTCF



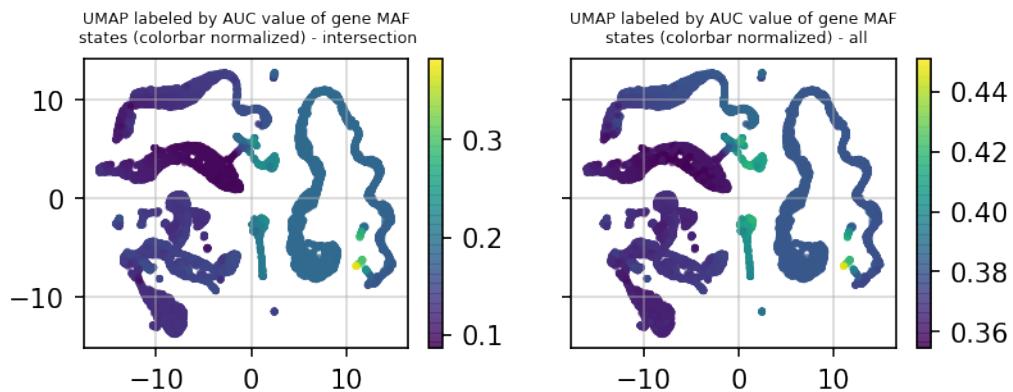
NFATC3



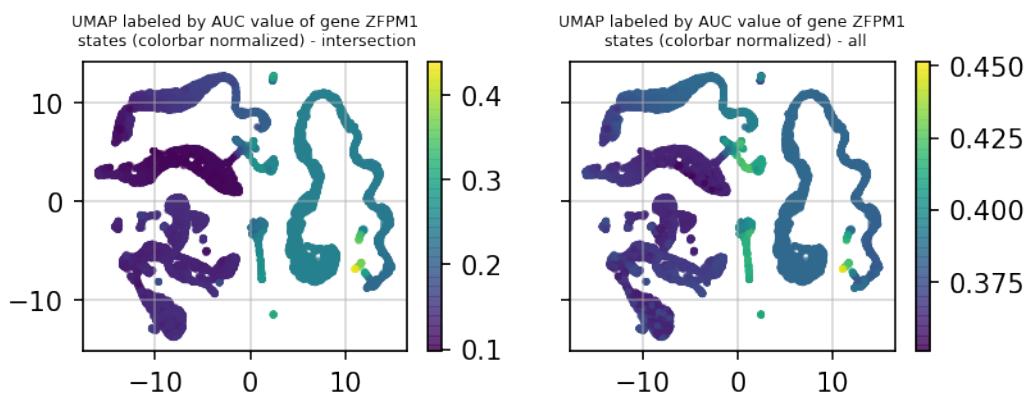
ZFXH3



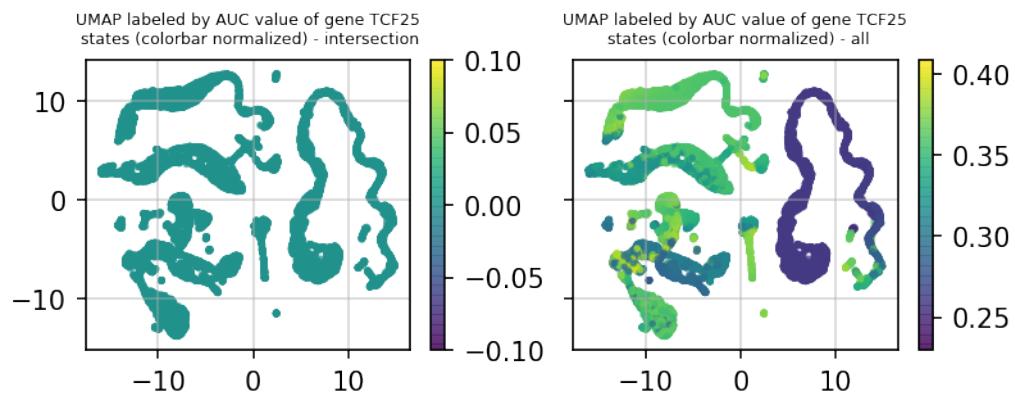
MAF



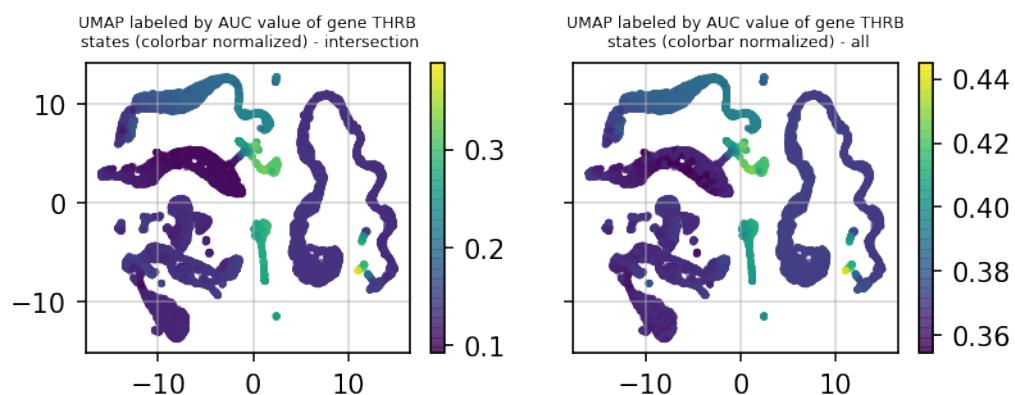
ZFPM1



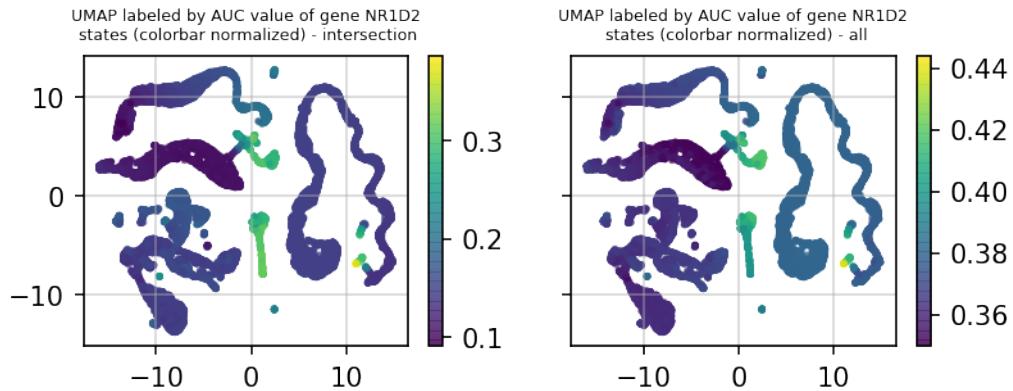
TCF25



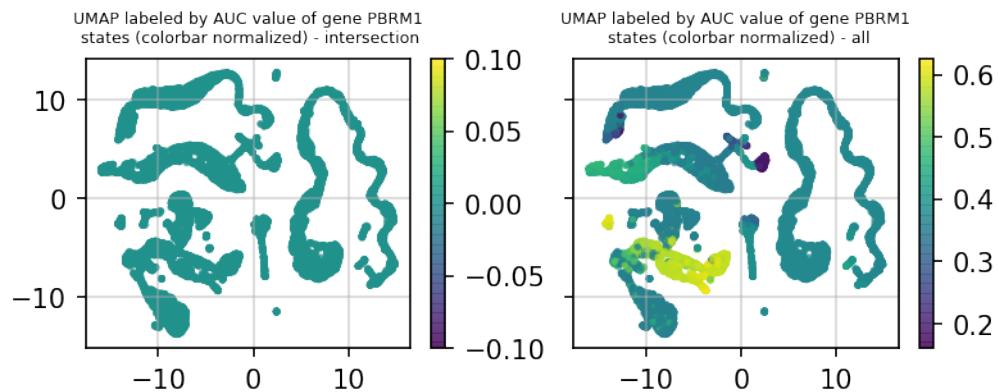
THRB



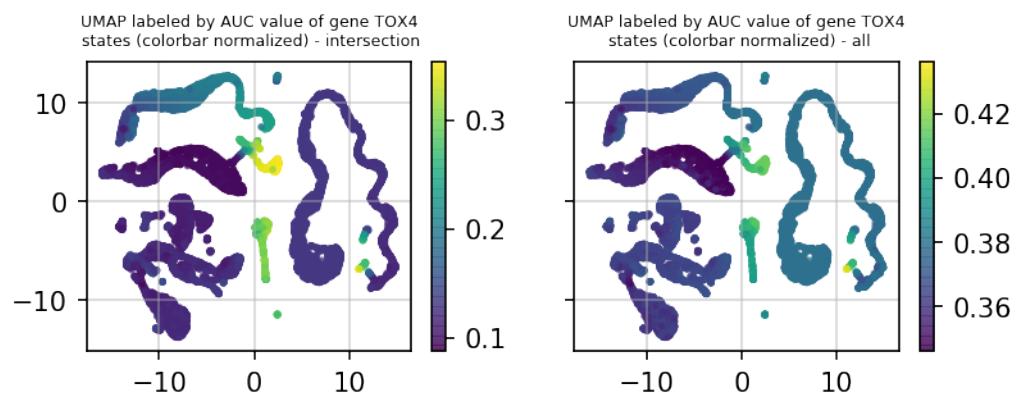
NR1D2



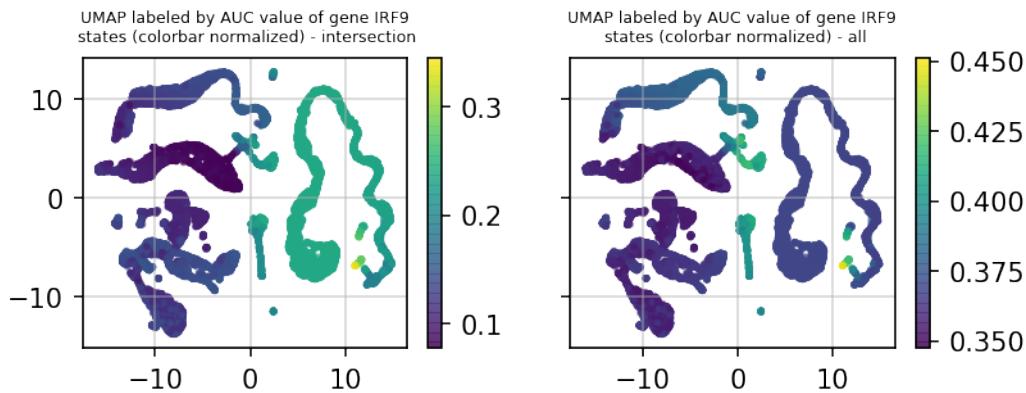
PBRM1



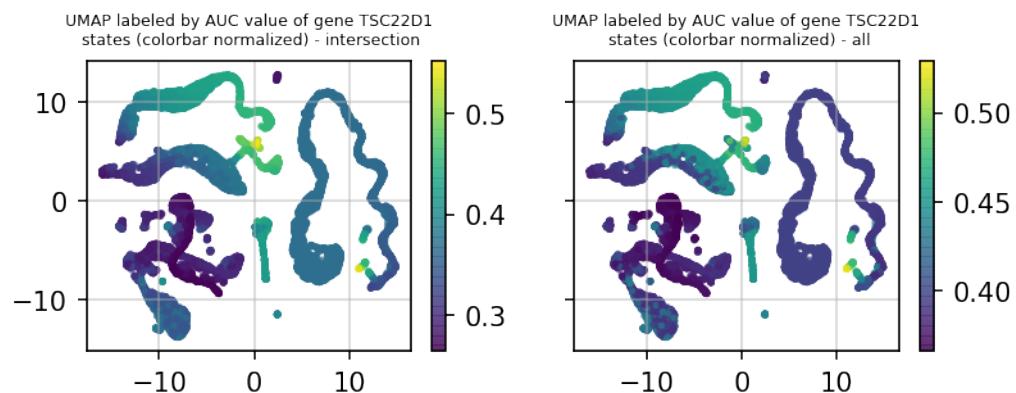
TOX4



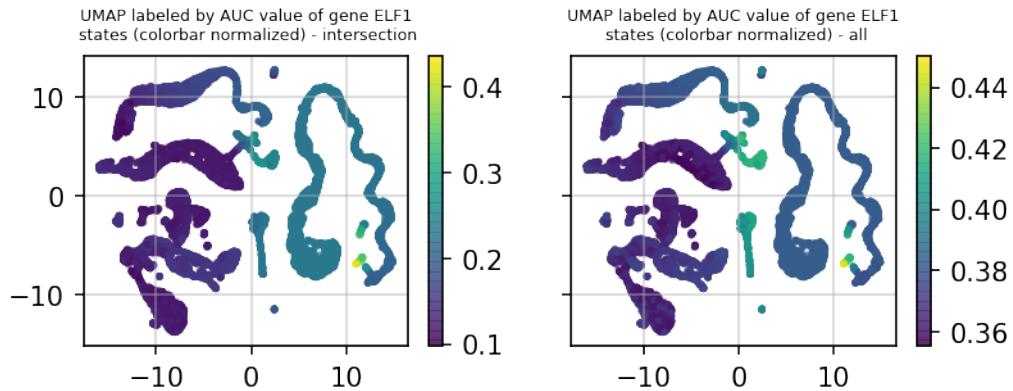
IRF9



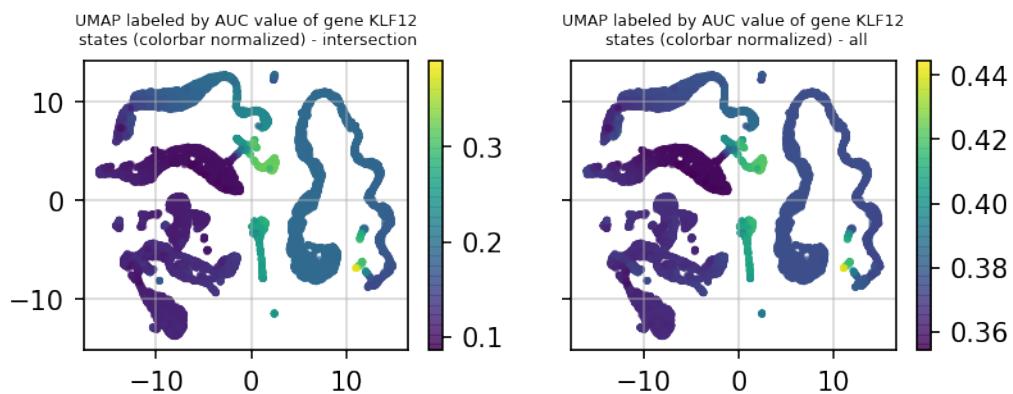
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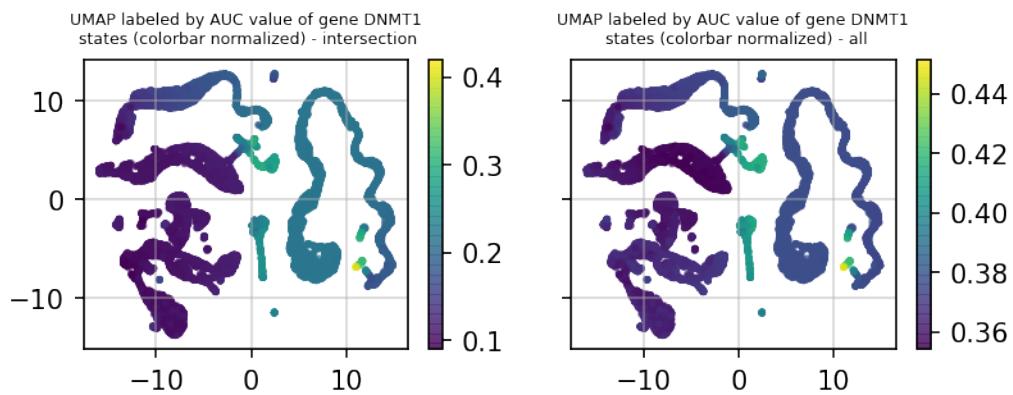
ELF1



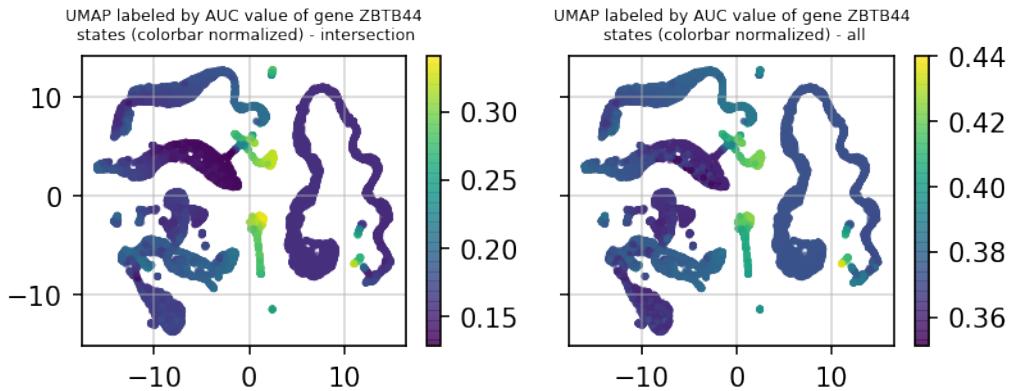
KLF12



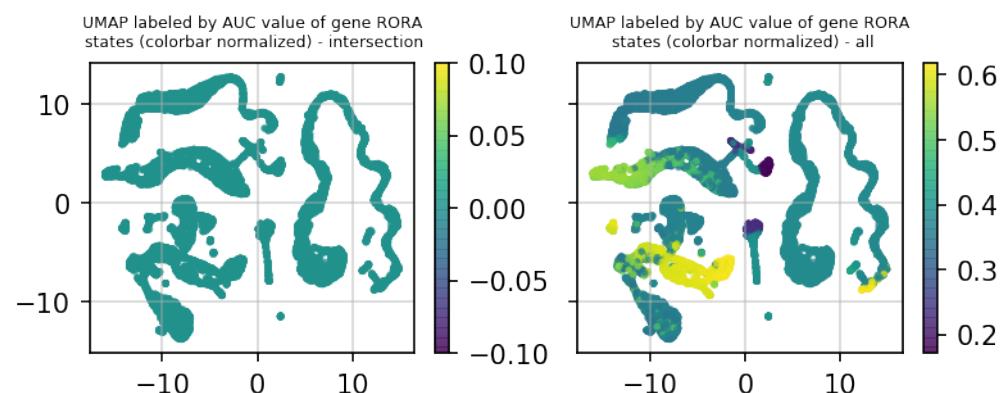
DNMT1



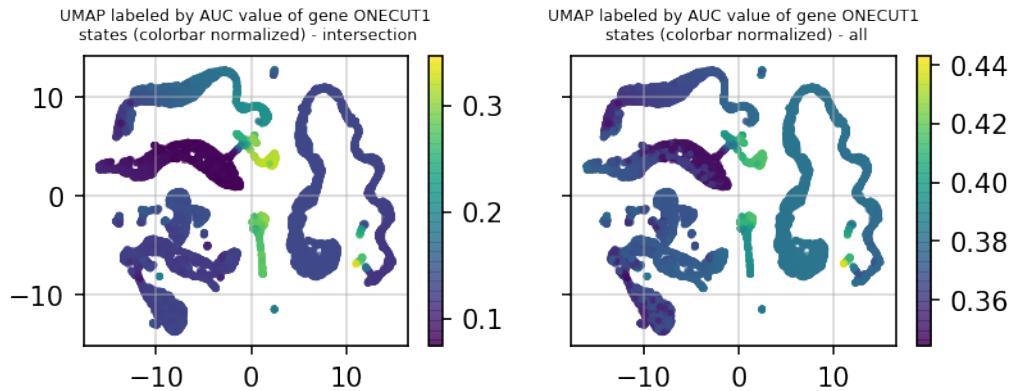
ZBTB44



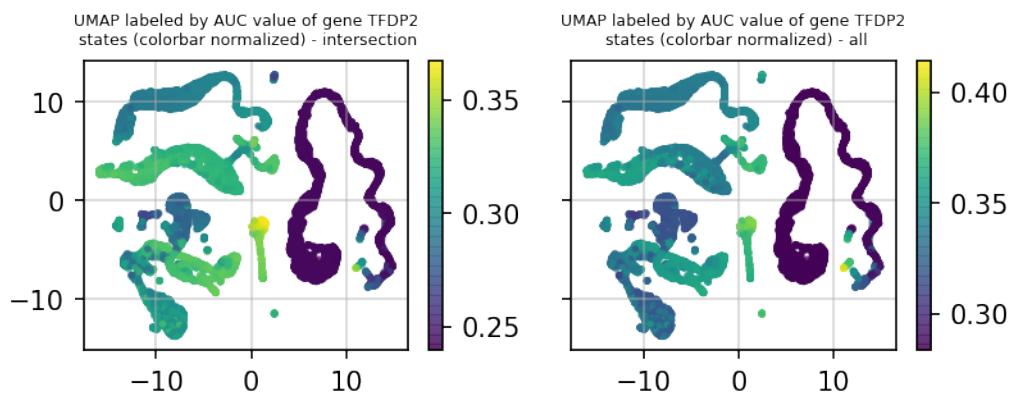
RORA



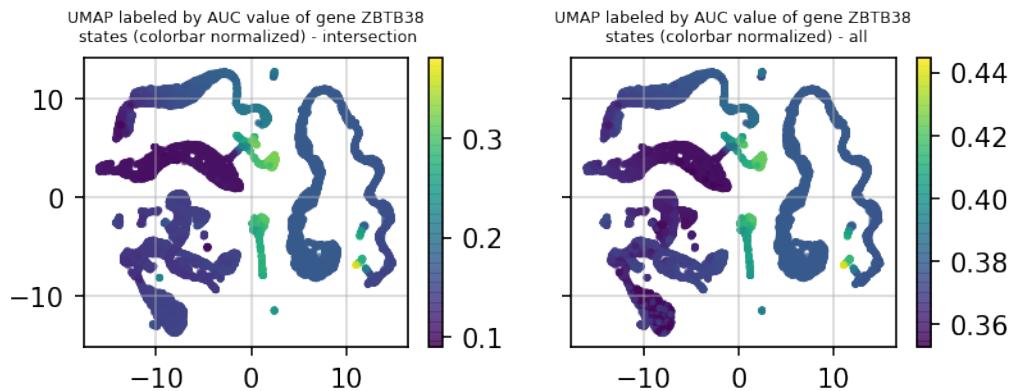
ONECUT1



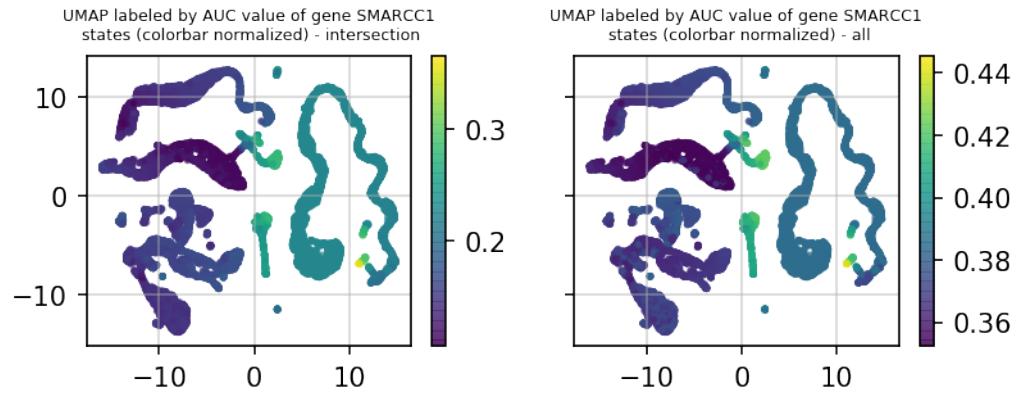
TFDP2



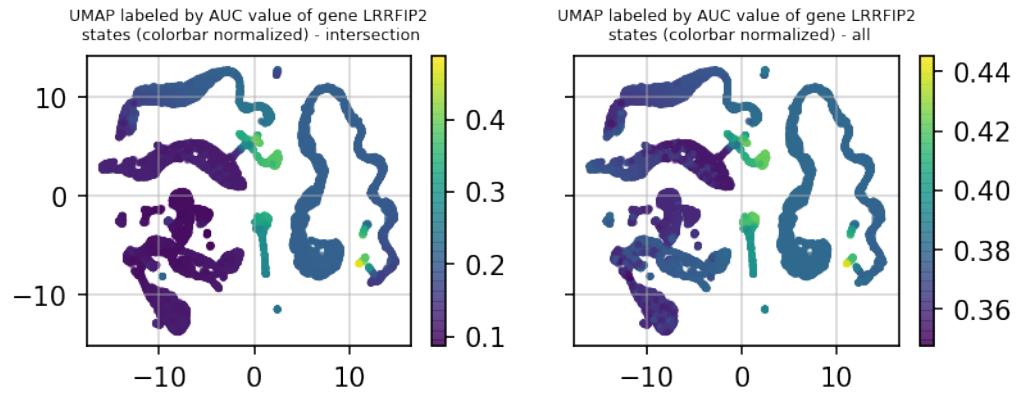
ZBTB38



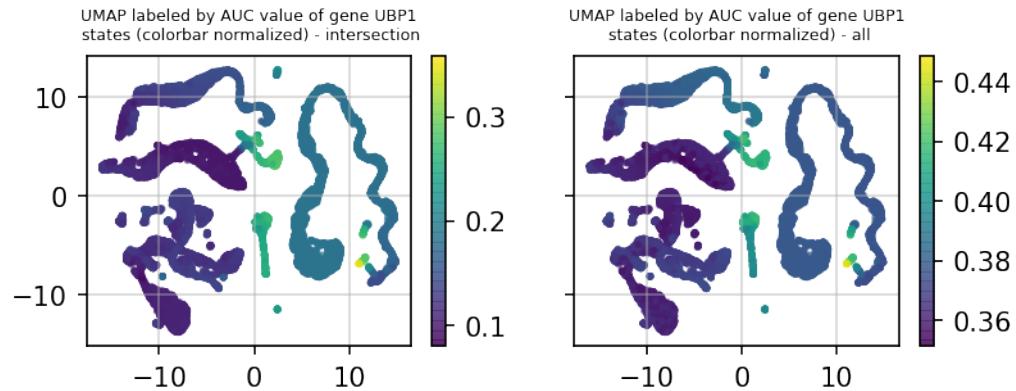
SMARCC1



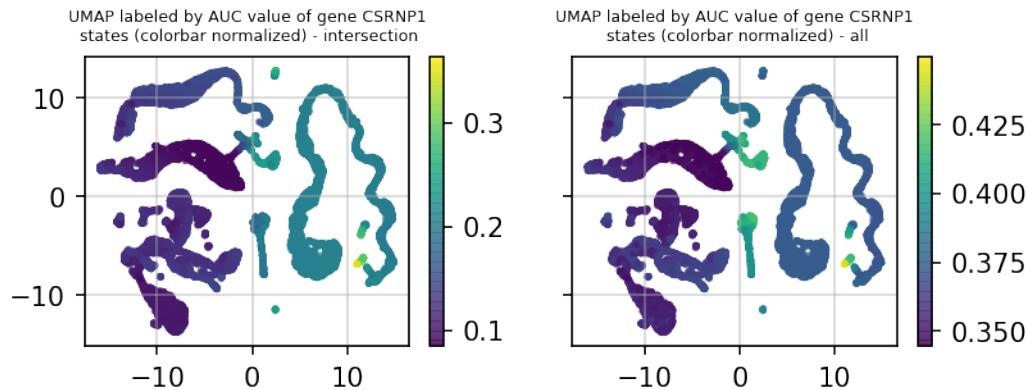
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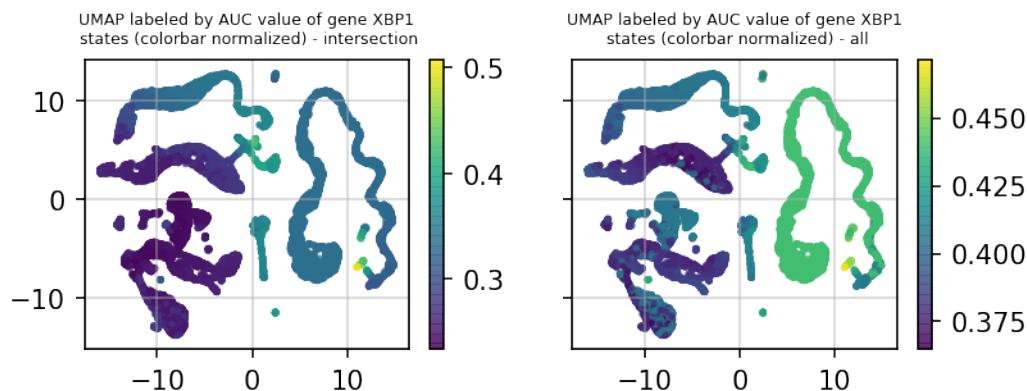
UBP1



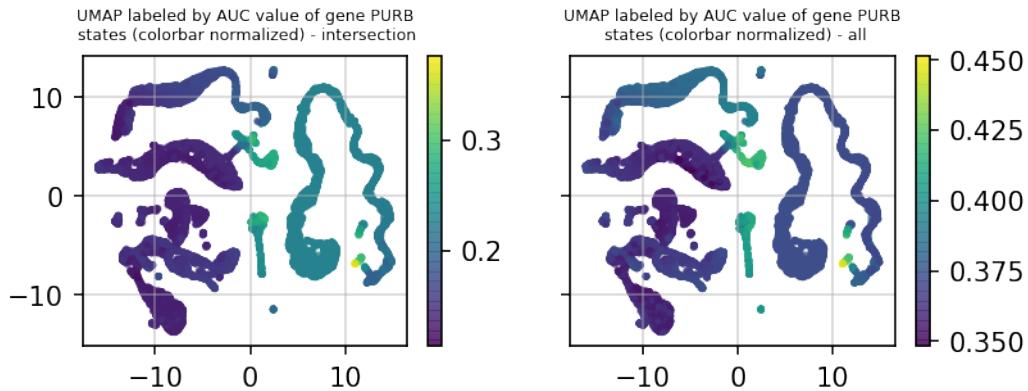
CSRNP1



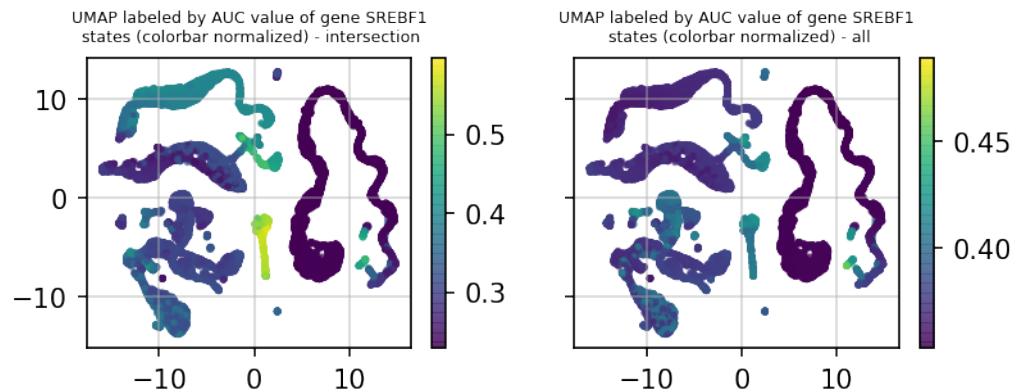
XBP1



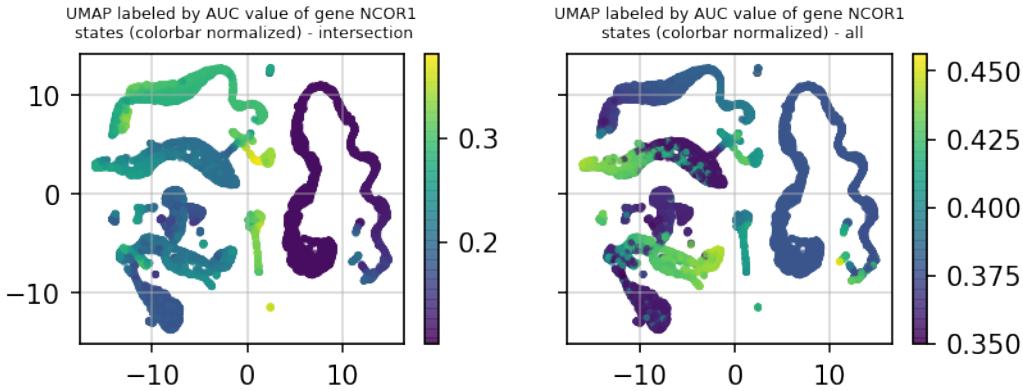
PURB



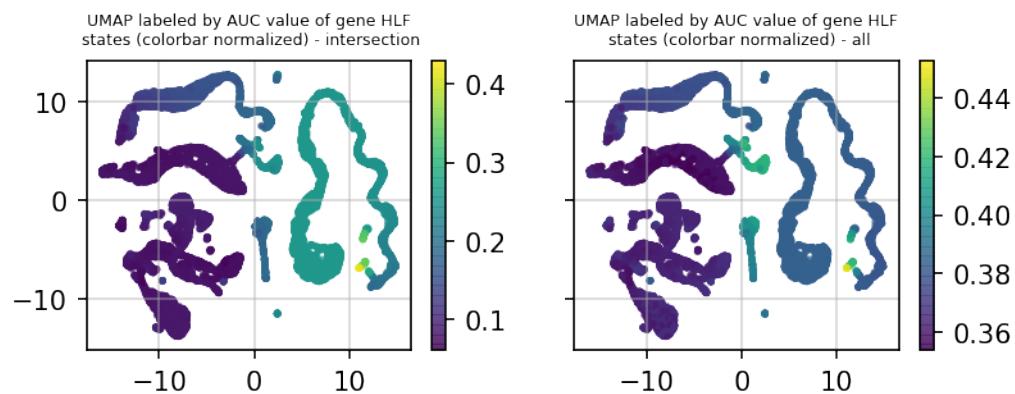
SREBF1



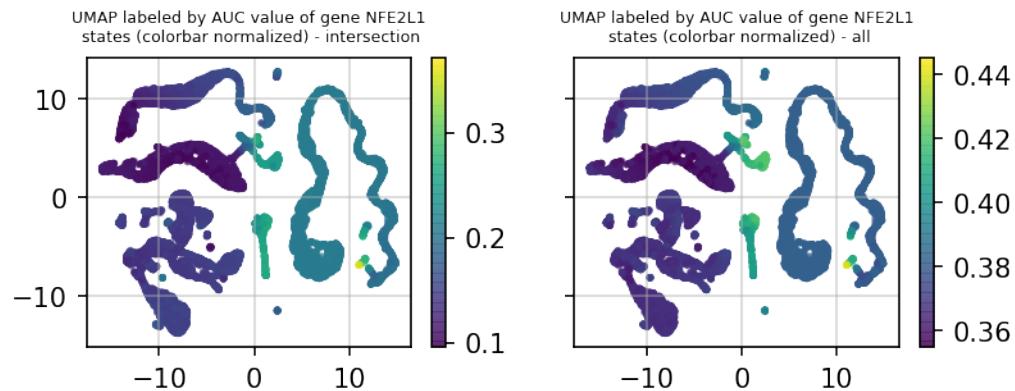
NCOR1



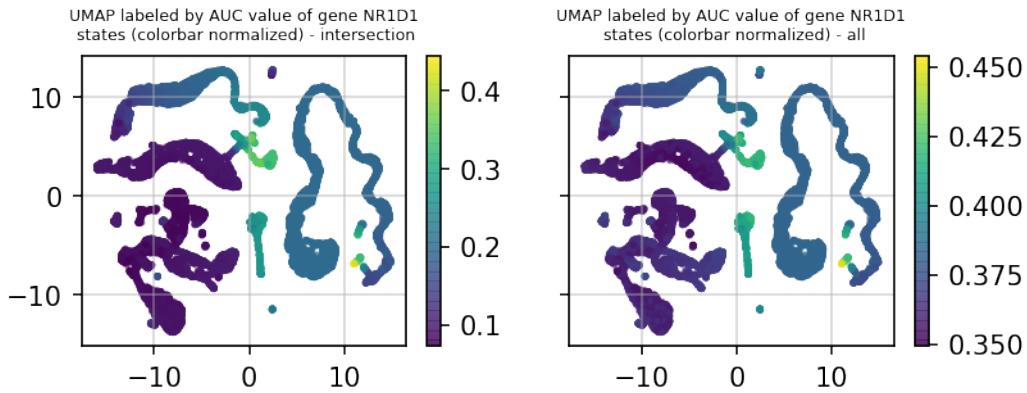
HLF



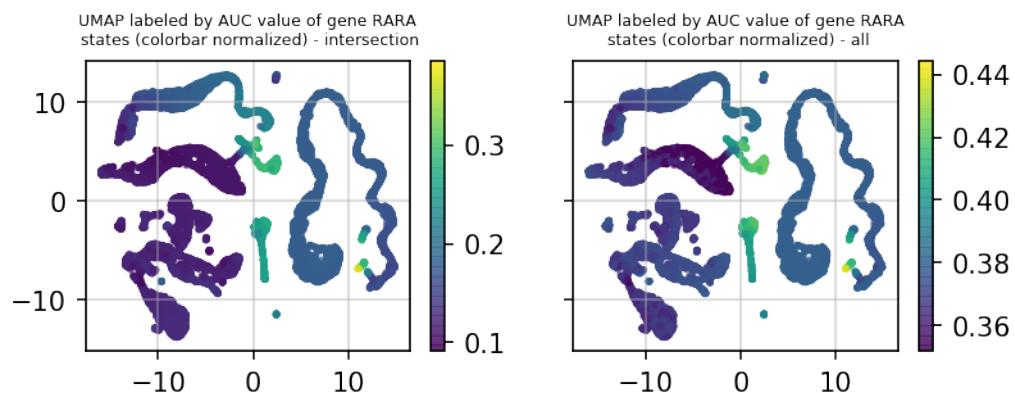
NFE2L1



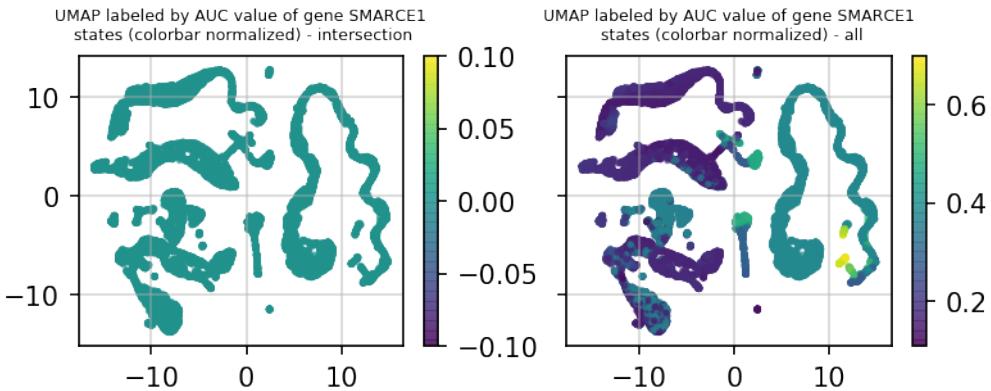
NR1D1



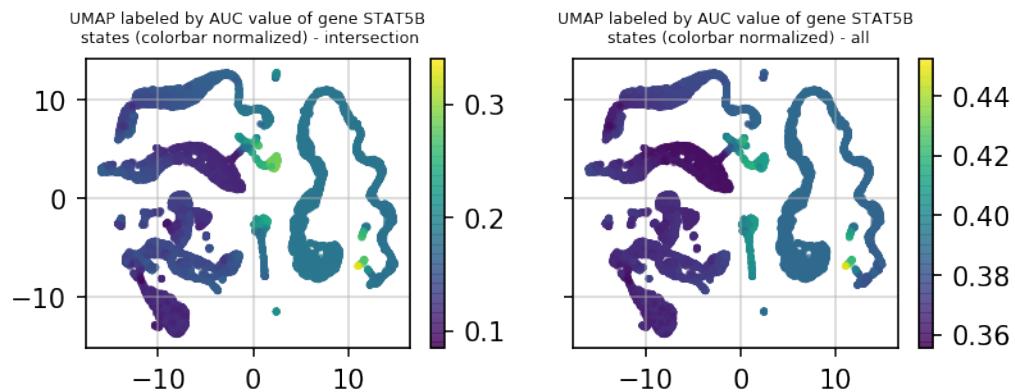
RARA



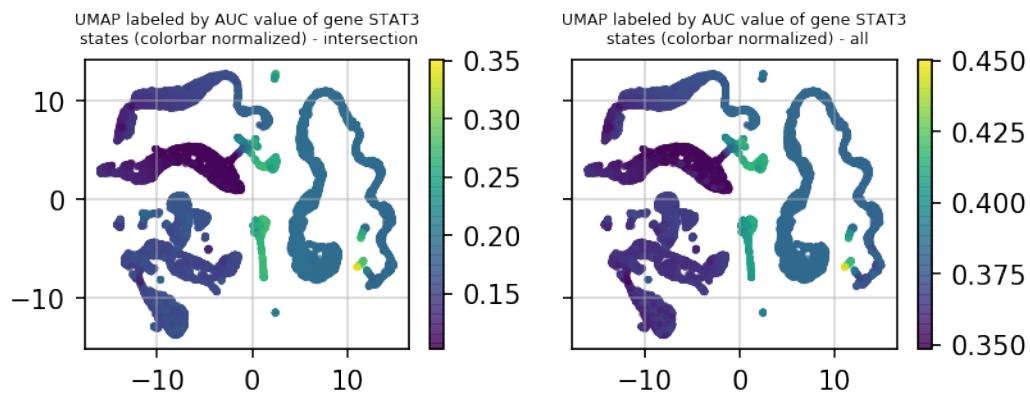
SMARCE1



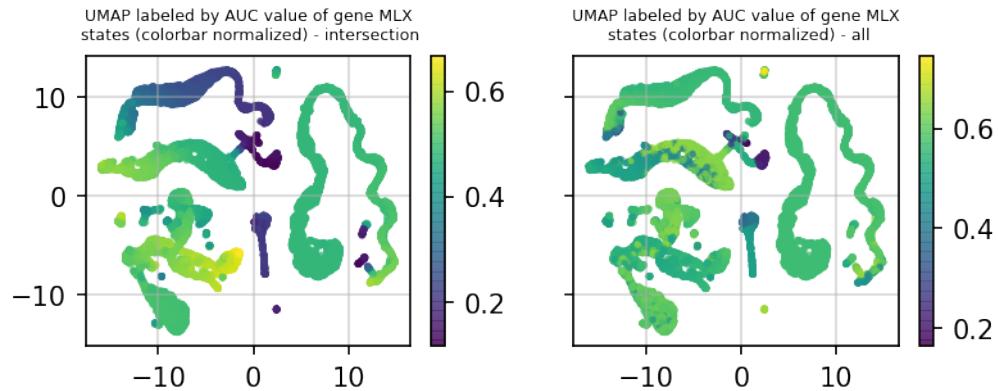
STAT5B



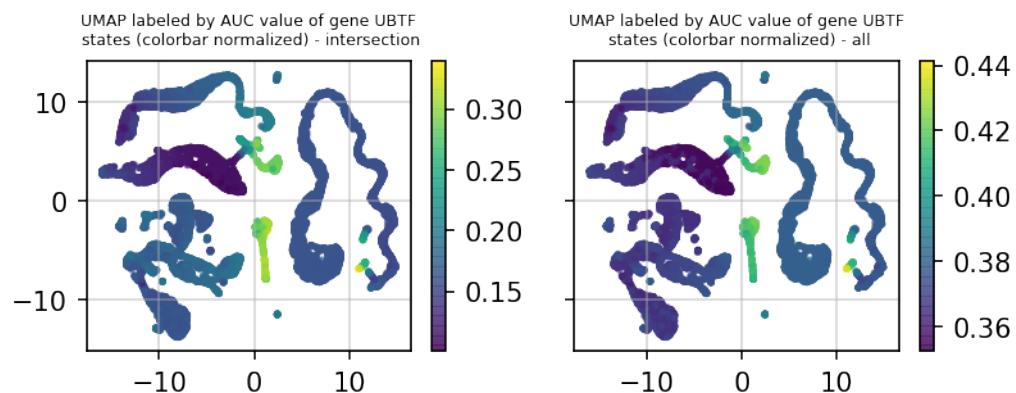
STAT3



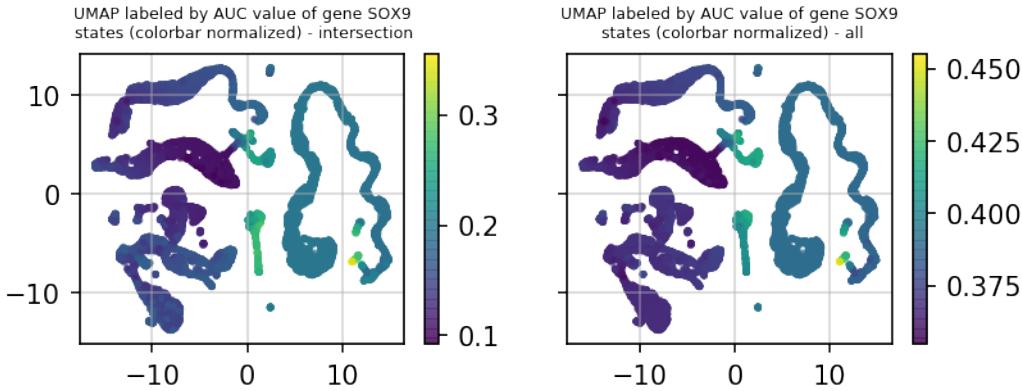
MLX



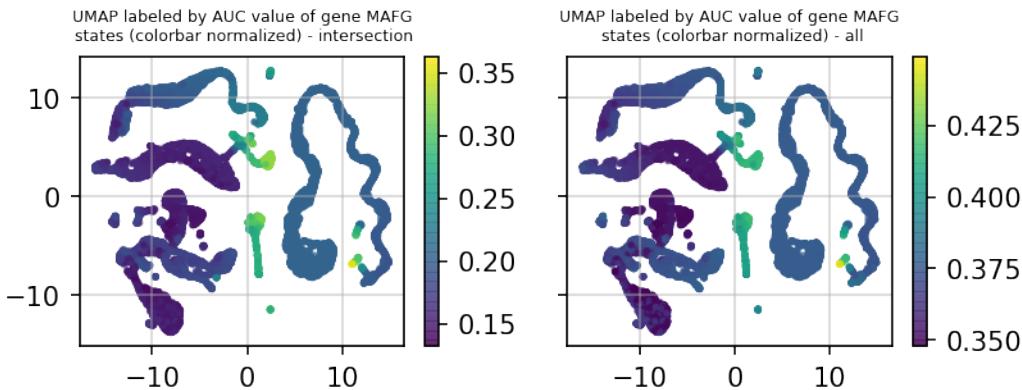
UBTF



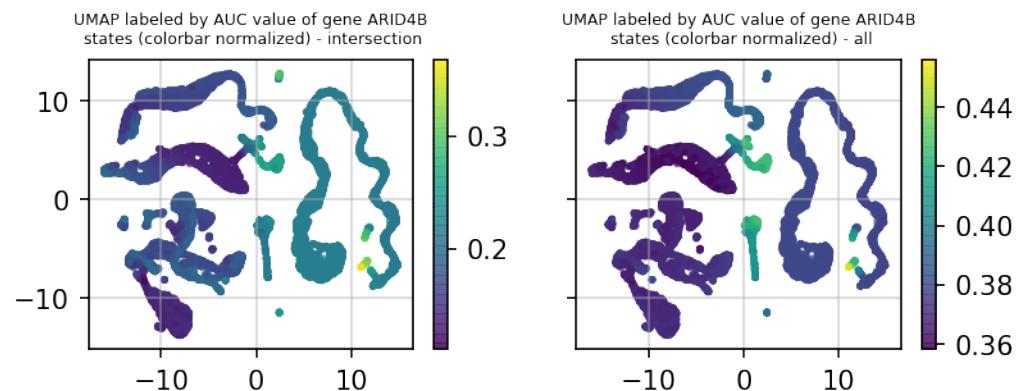
SOX9



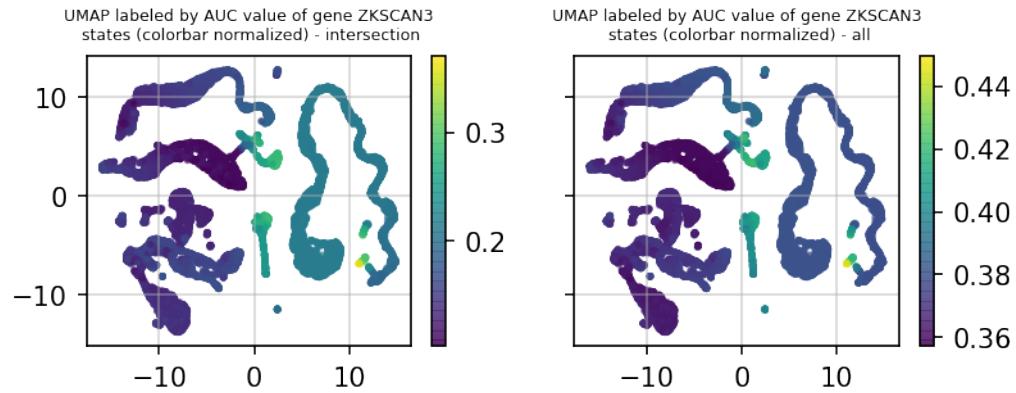
MAFG



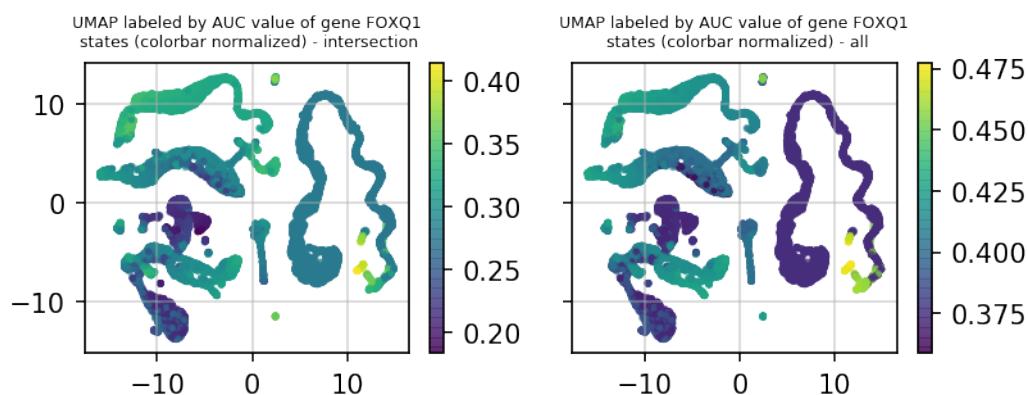
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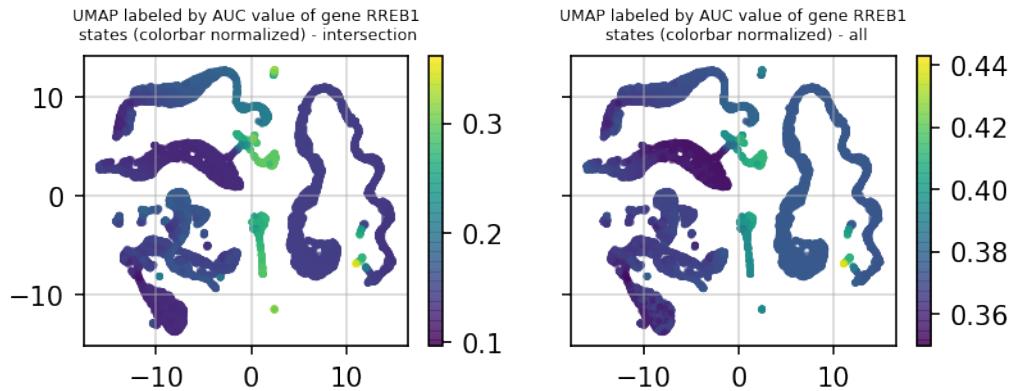
ZKSCAN3



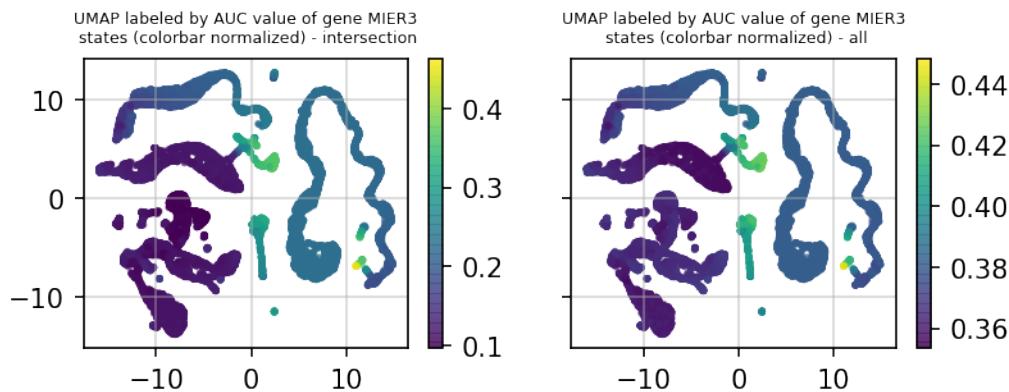
FOXQ1



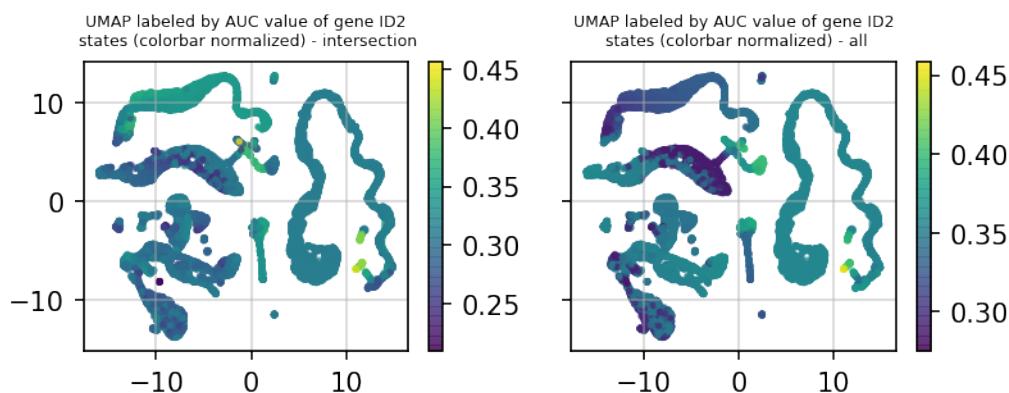
RREB1



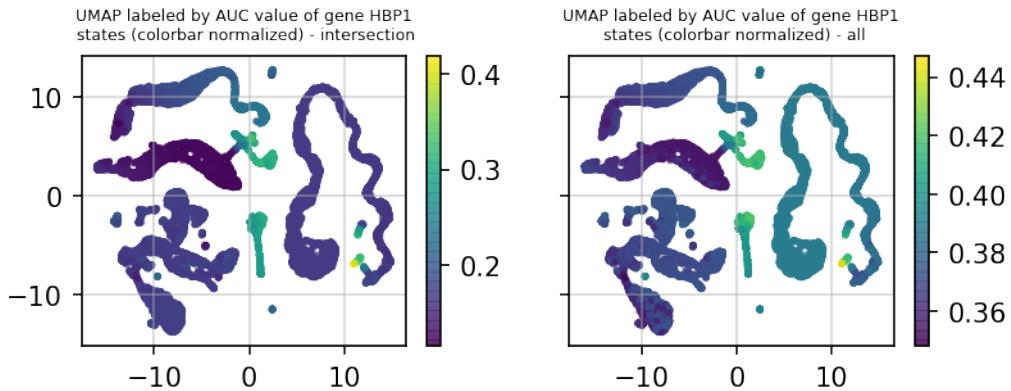
MIER3



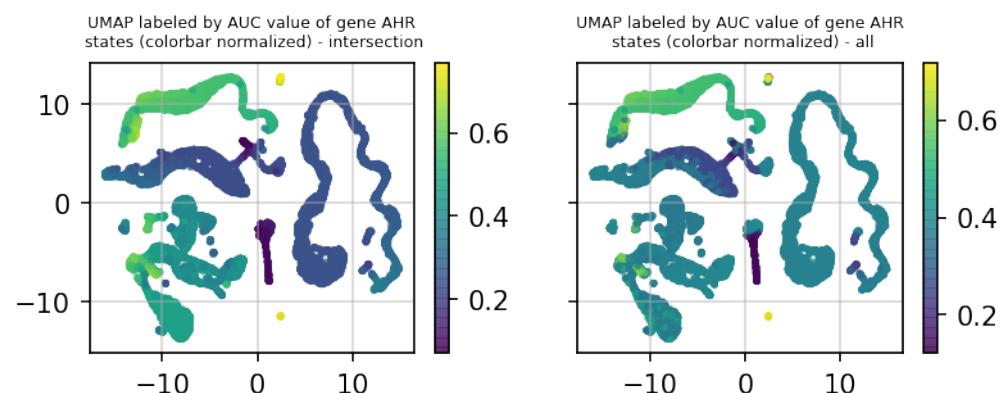
ID2



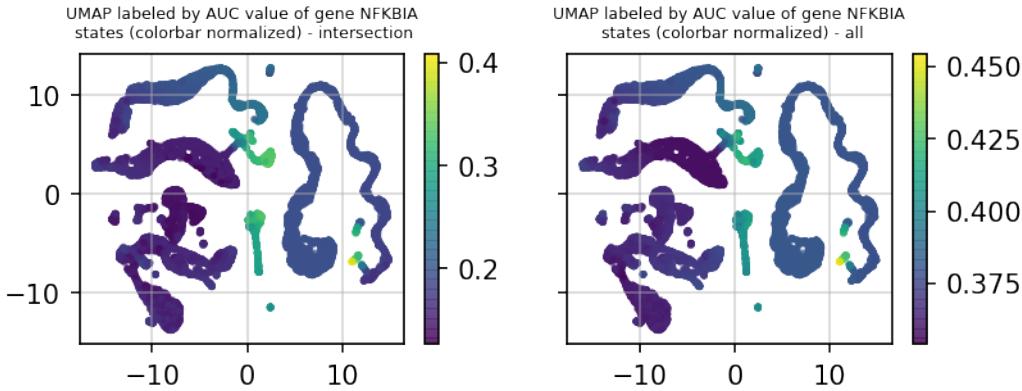
HBP1



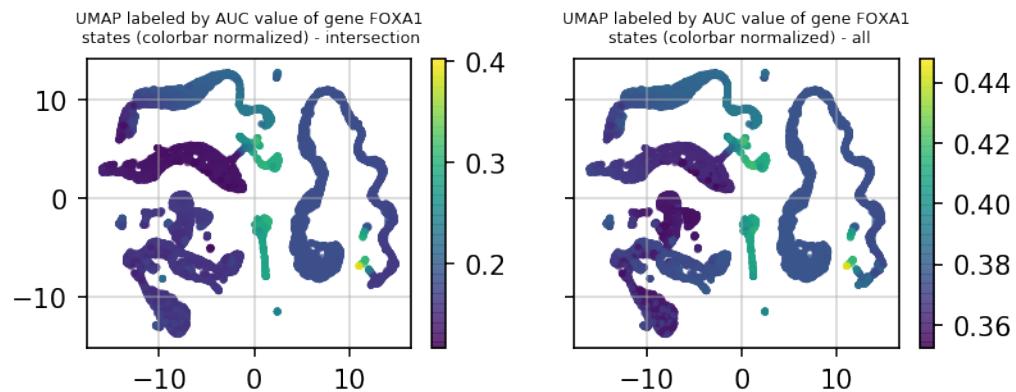
AHR



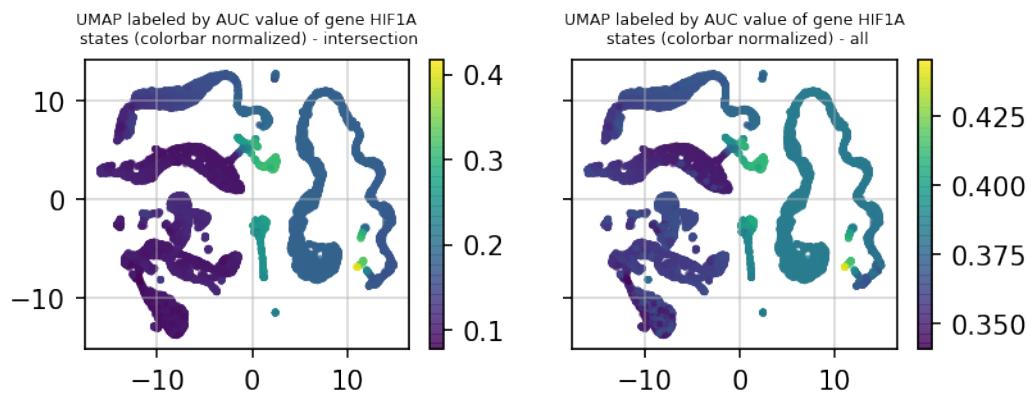
NFKBIA



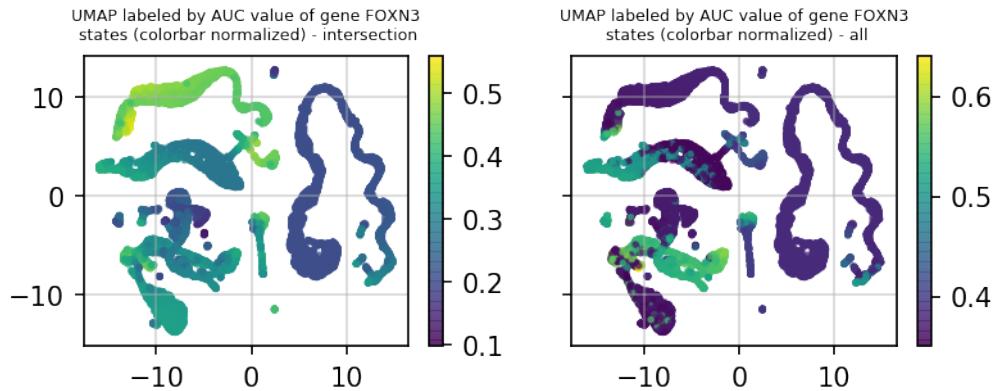
FOXA1



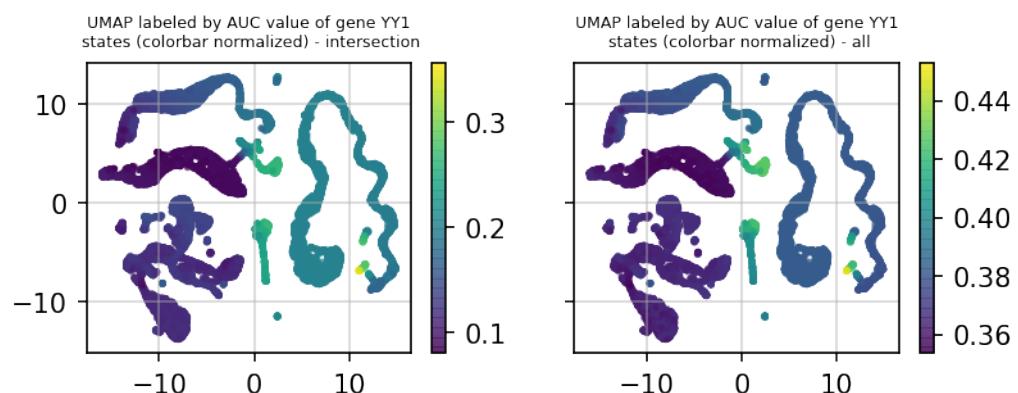
HIF1A



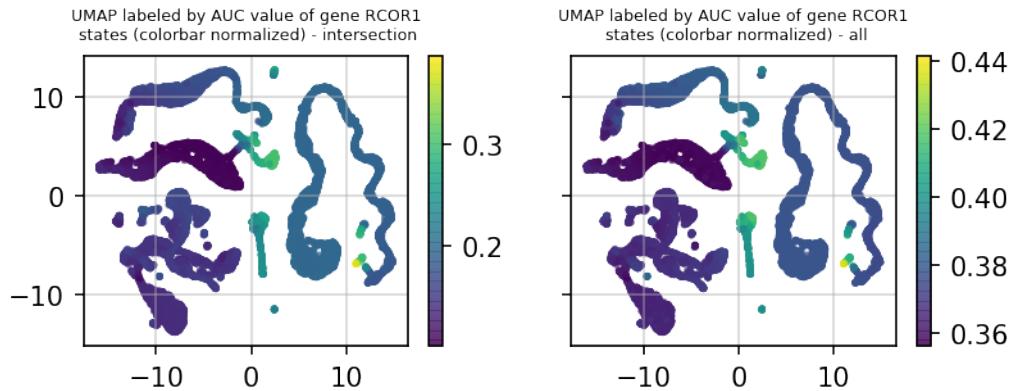
FOXN3



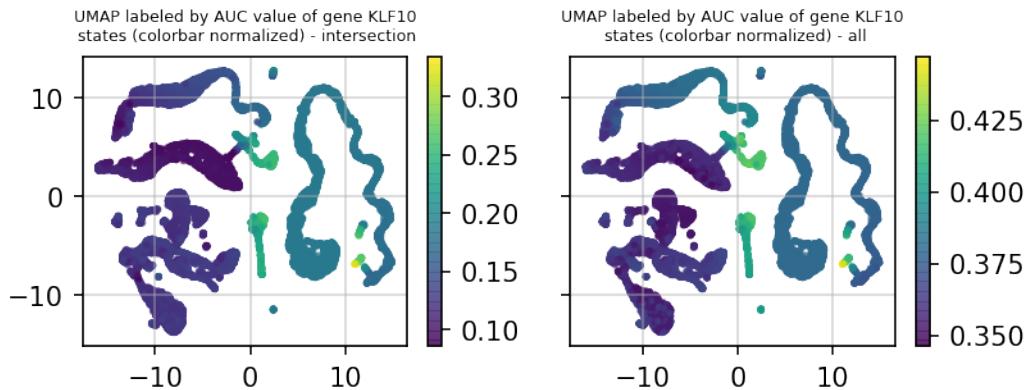
YY1



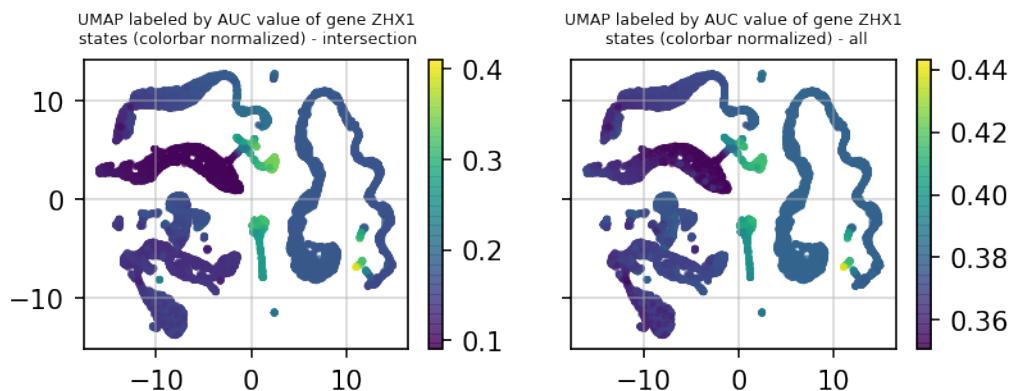
RCOR1



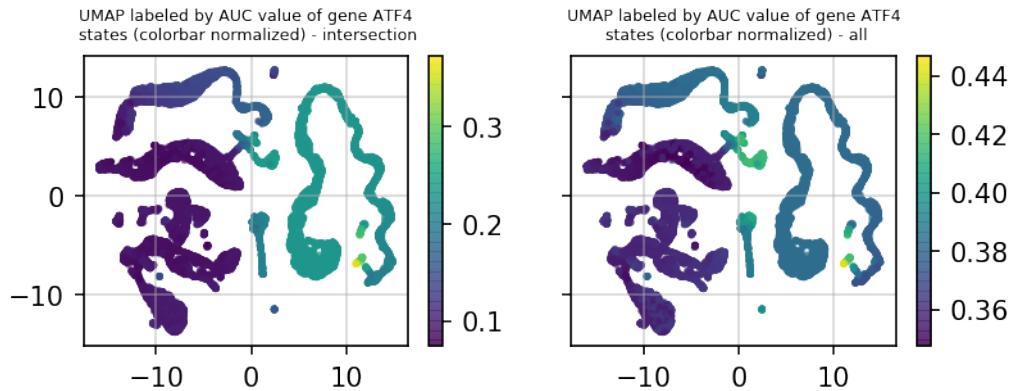
KLF10



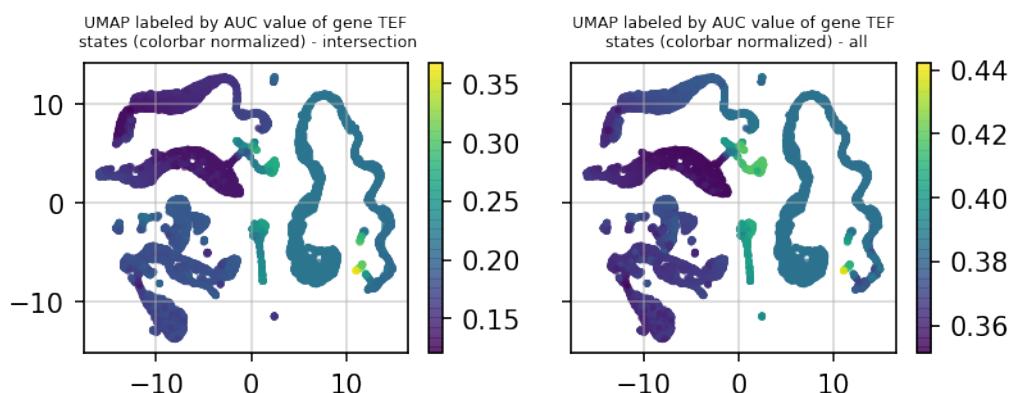
ZHX1



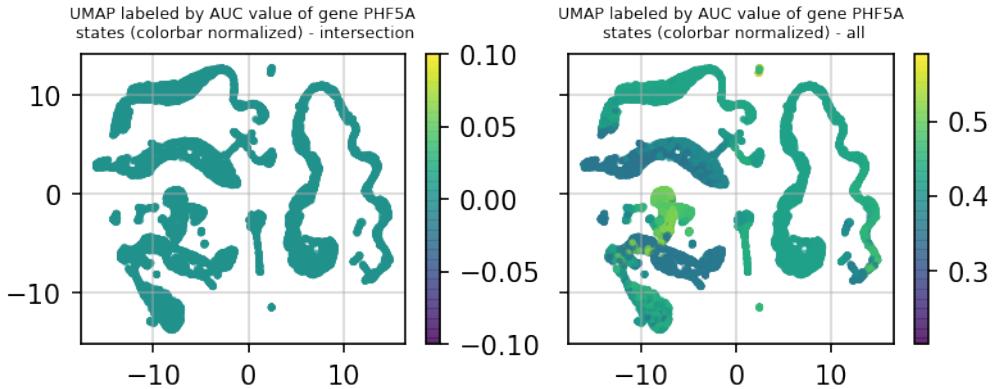
ATF4



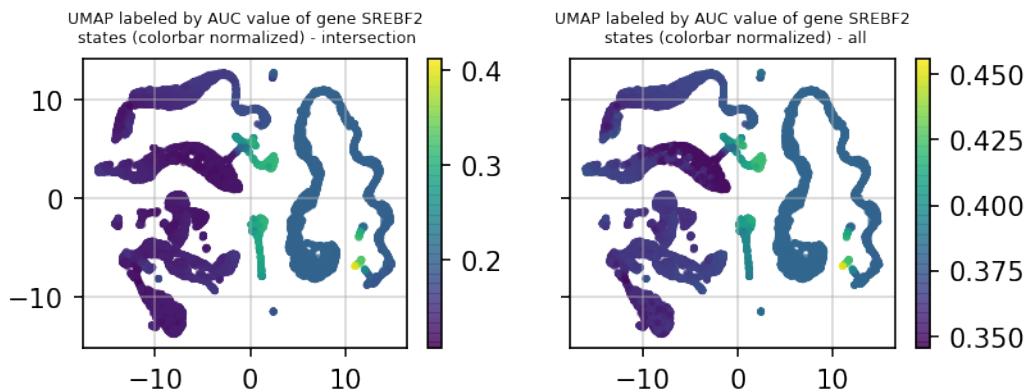
TEF



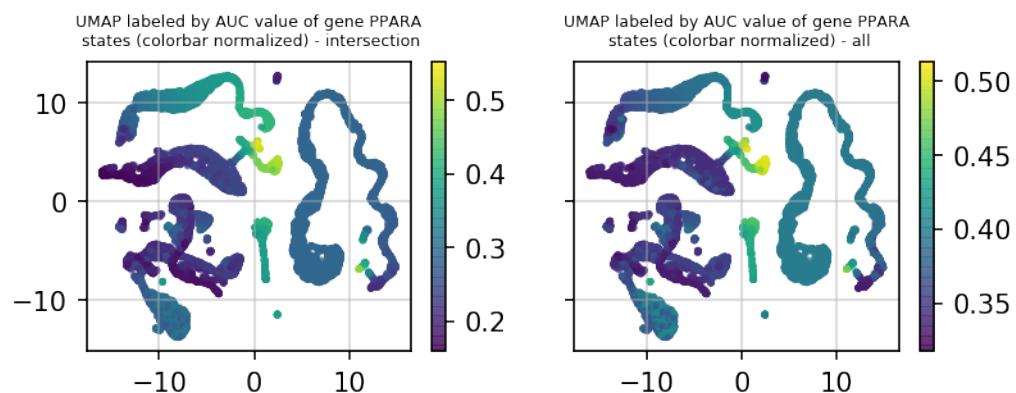
PHF5A



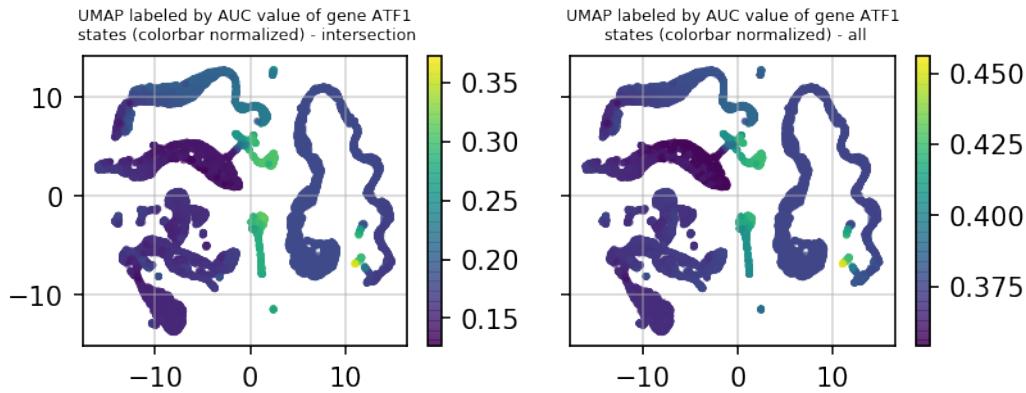
SREBF2



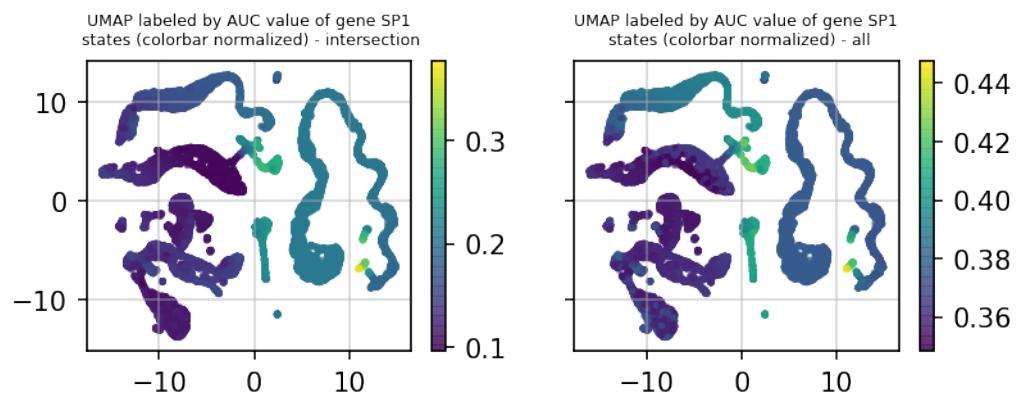
PPARA



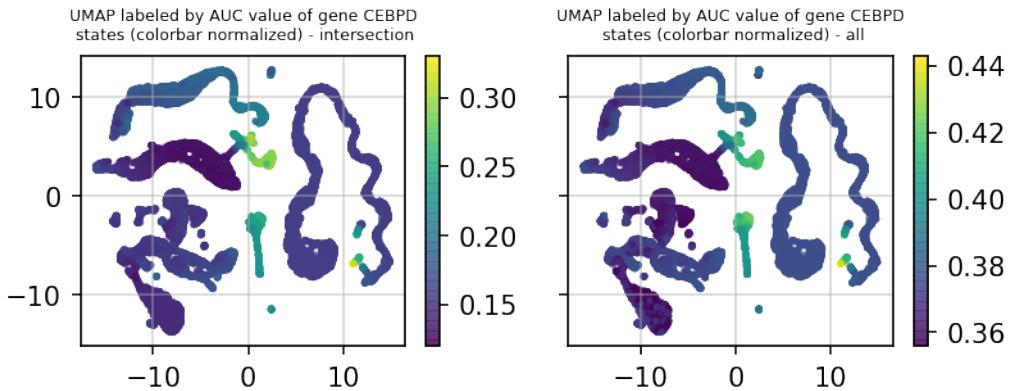
ATF1



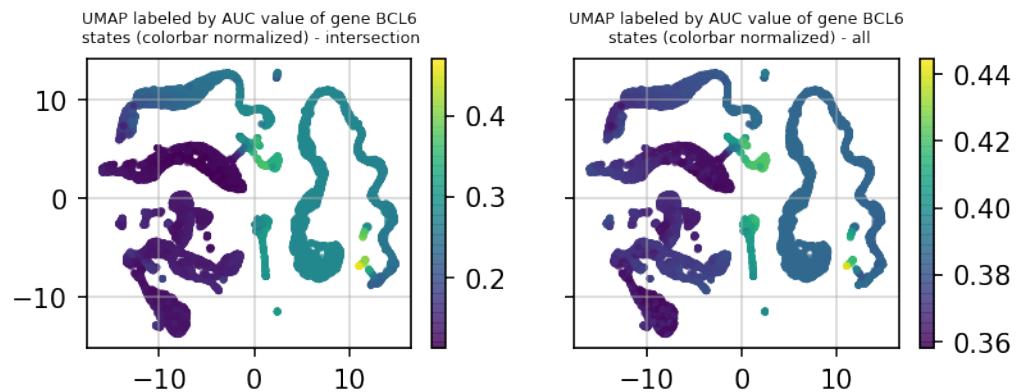
SP1



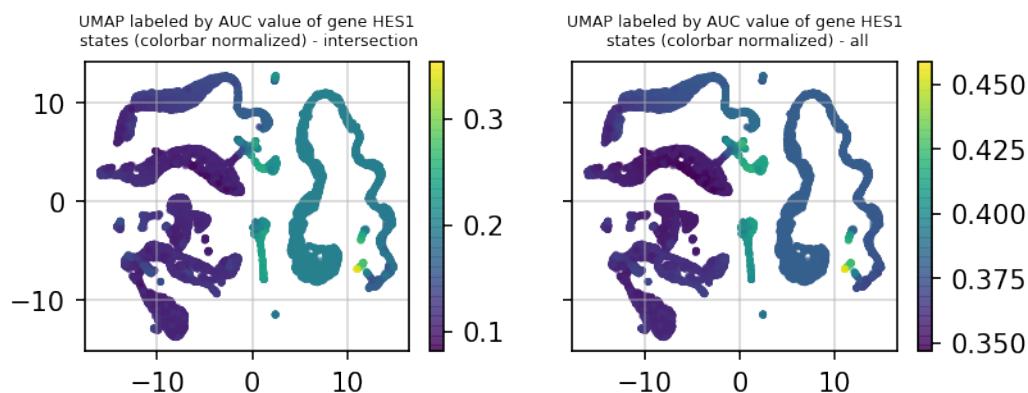
CEBPD



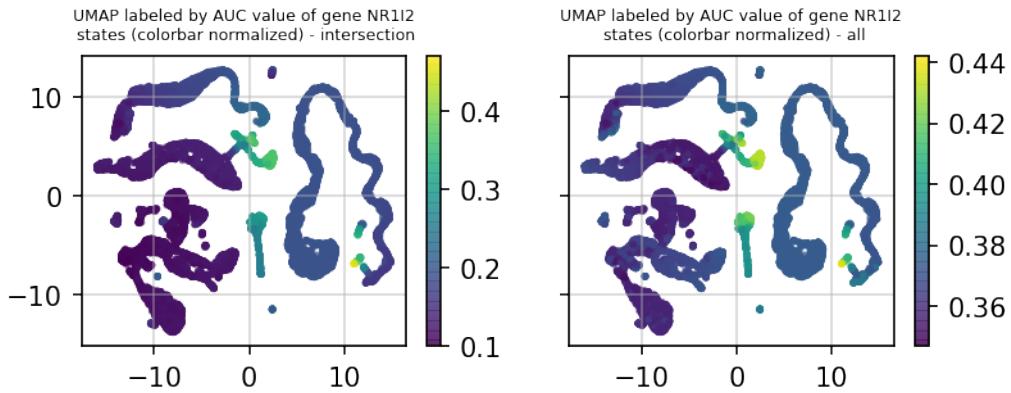
BCL6



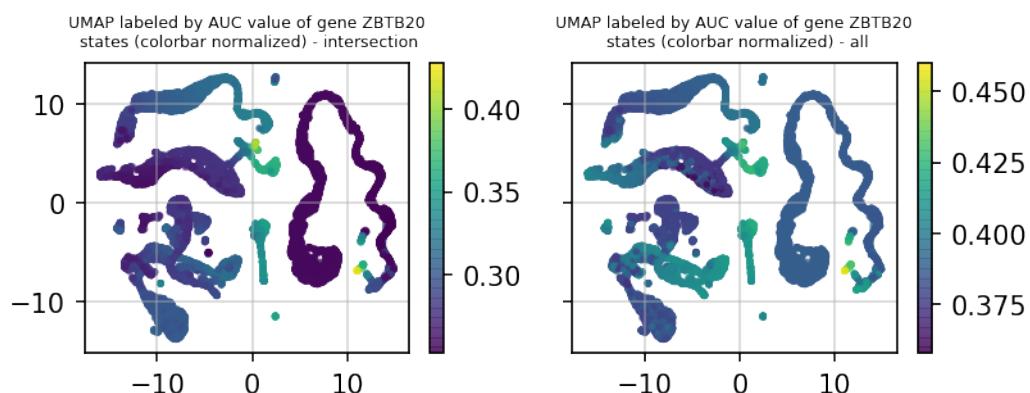
HES1



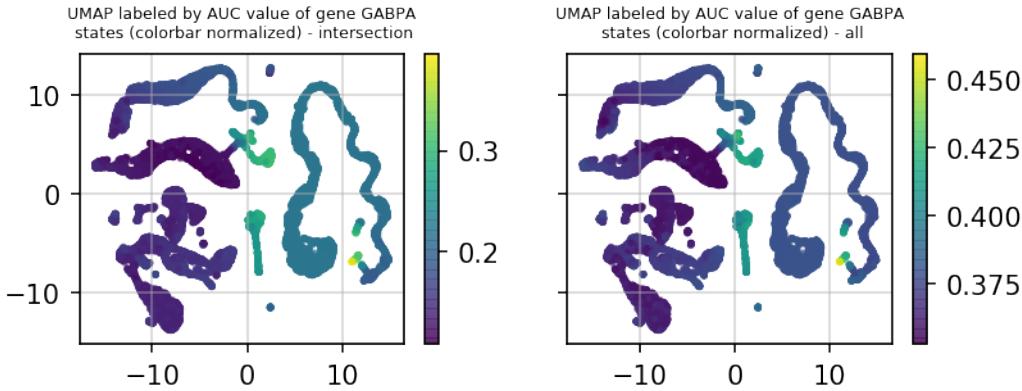
NR1I2



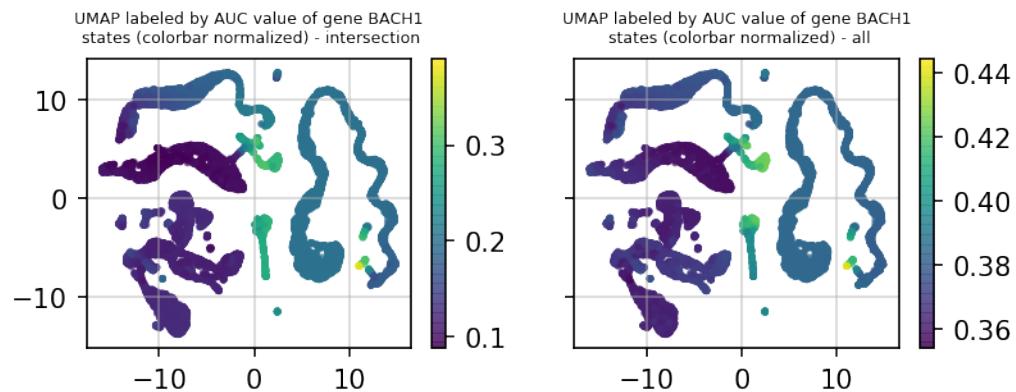
ZBTB20



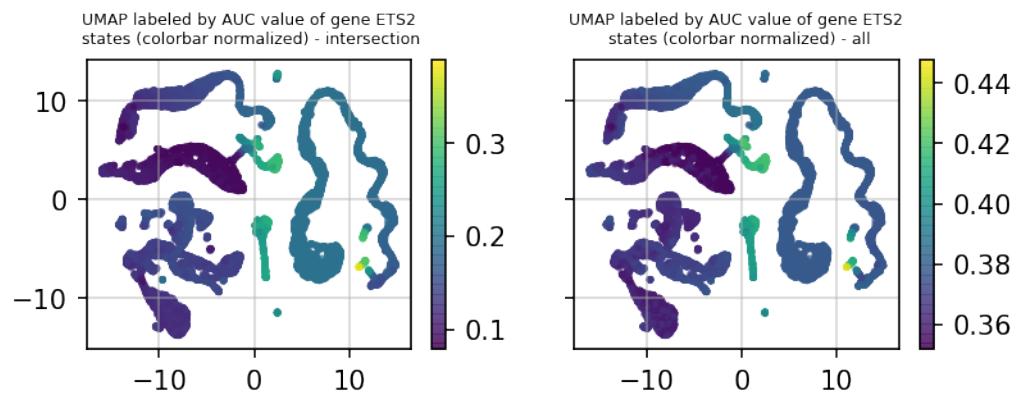
GABPA



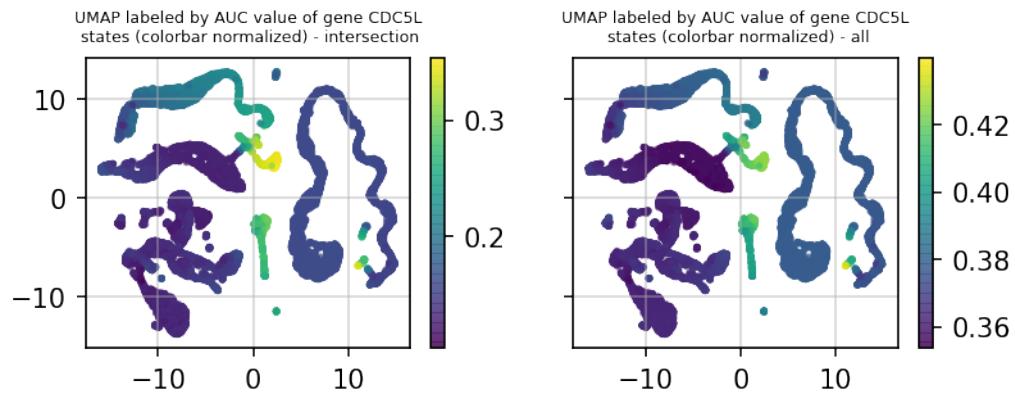
BACH1



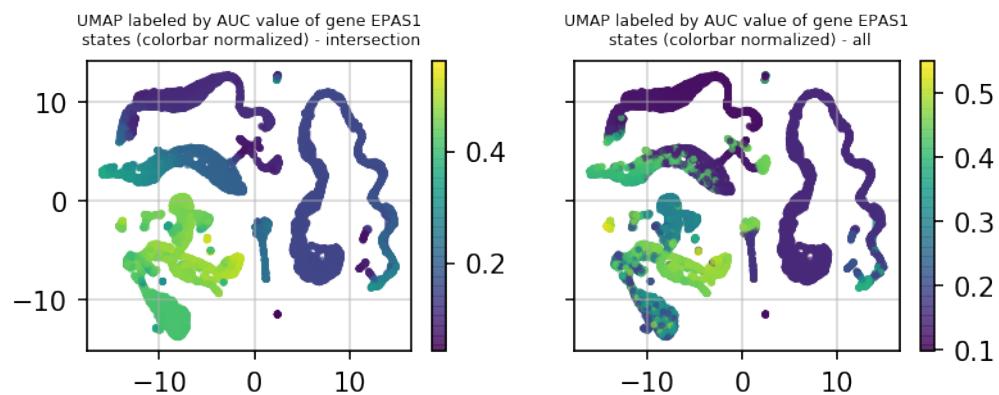
ETS2



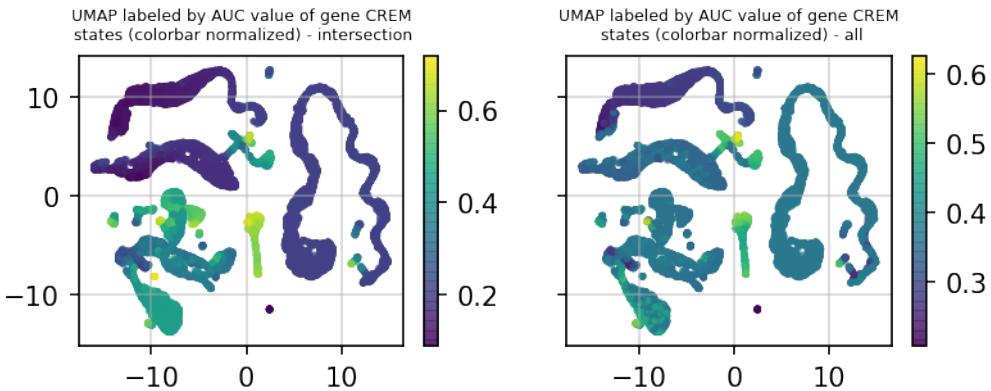
CDC5L



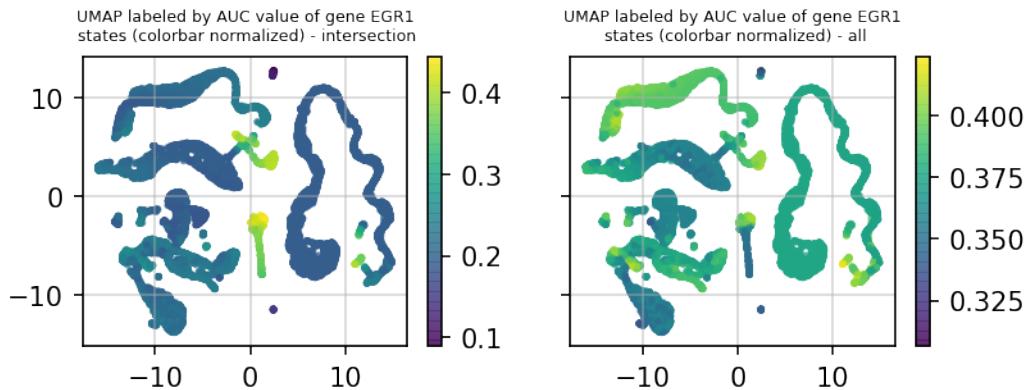
EPAS1



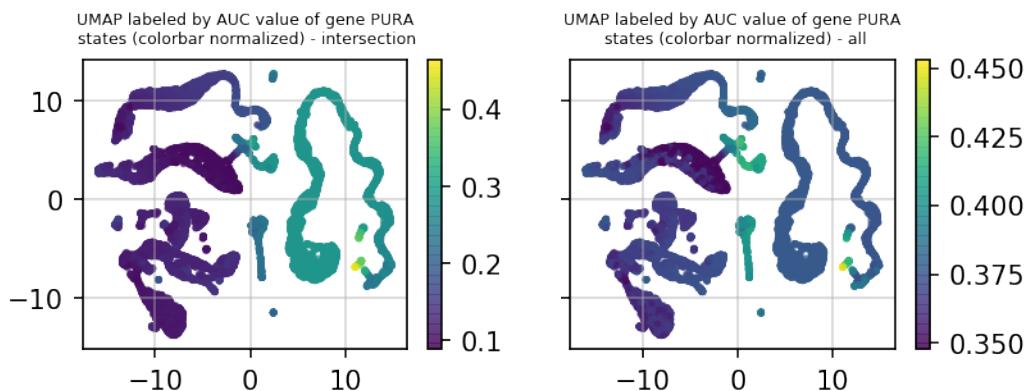
CREM



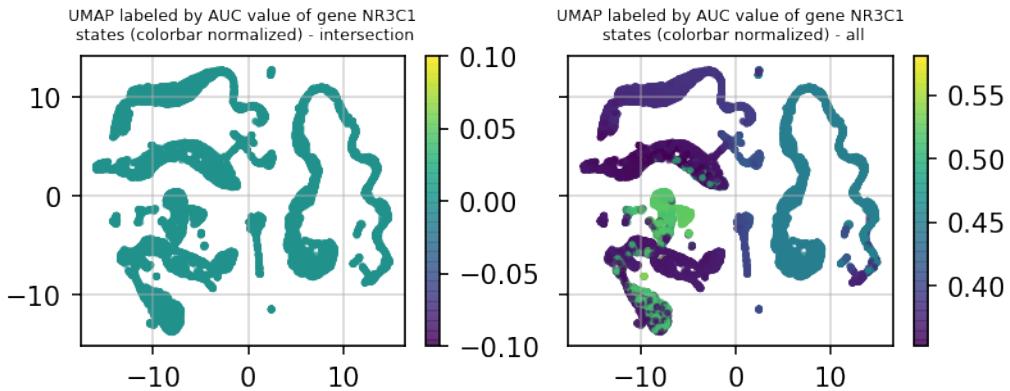
EGR1



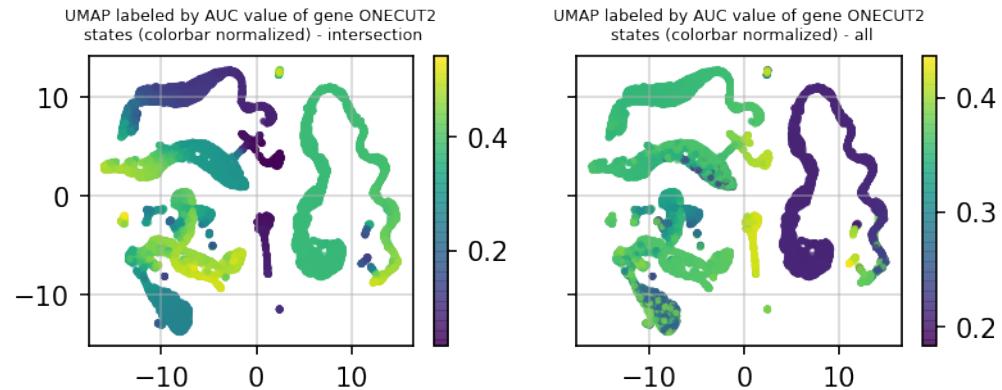
PURA



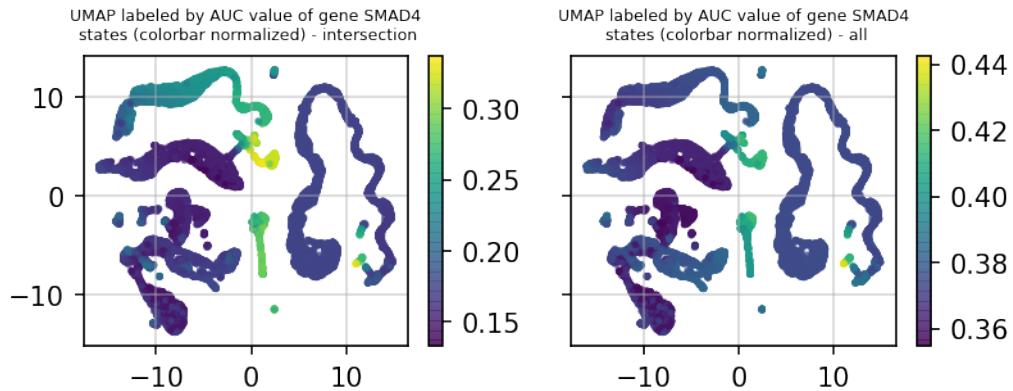
NR3C1



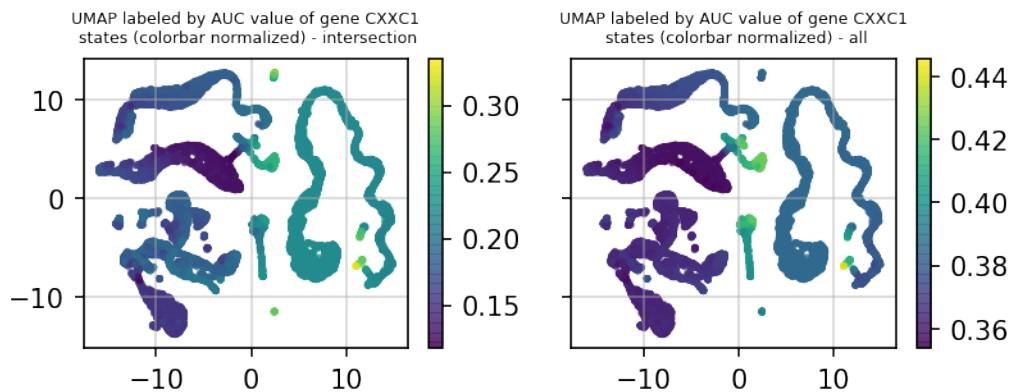
ONECUT2



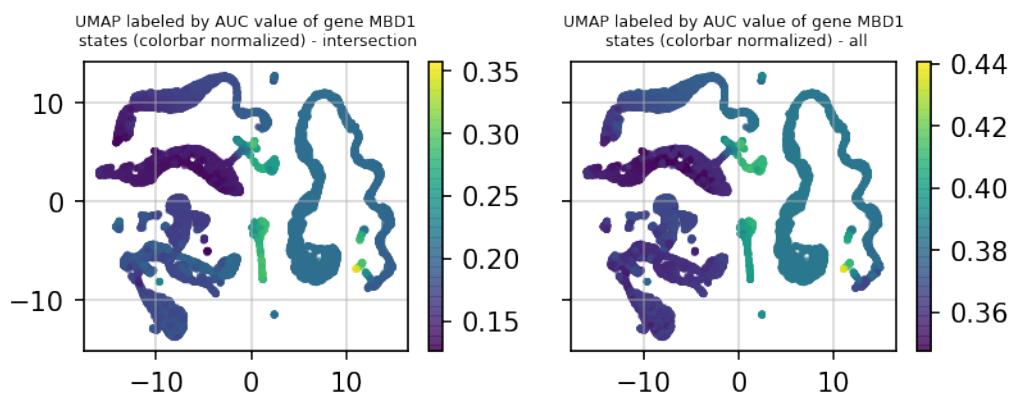
SMAD4



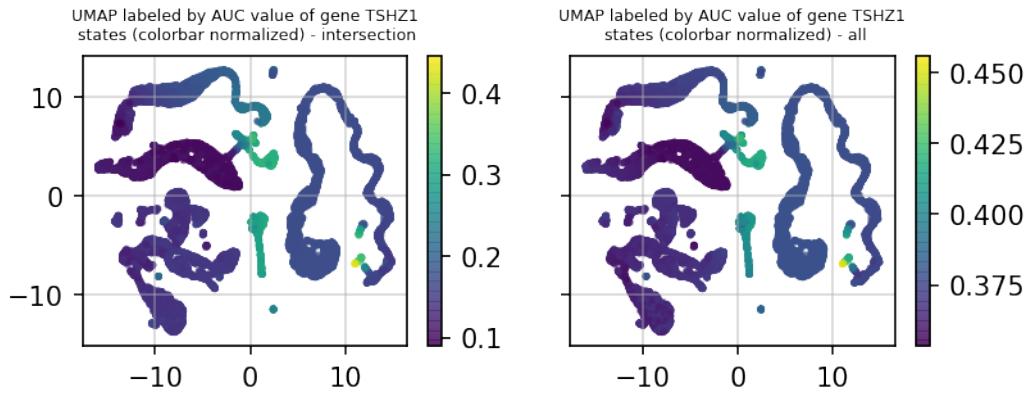
CXXC1



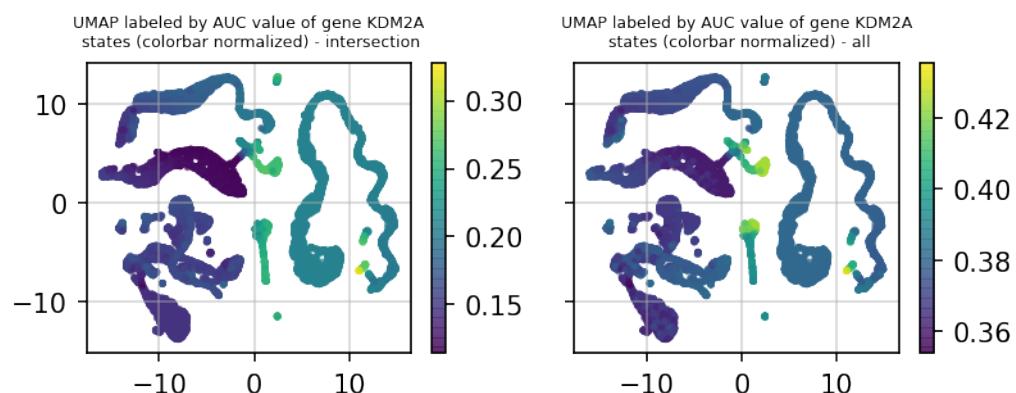
MBD1



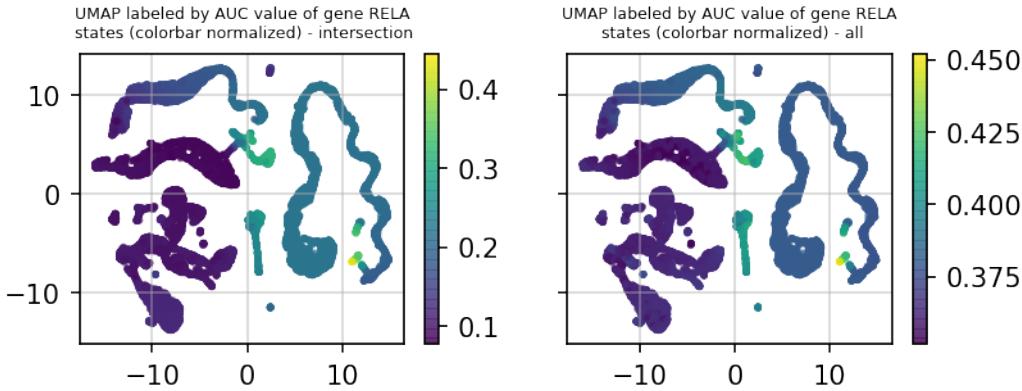
TSHZ1



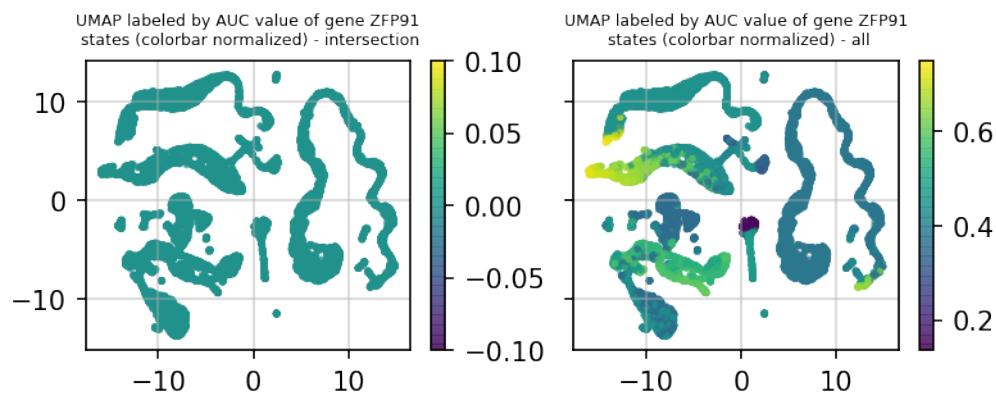
KDM2A



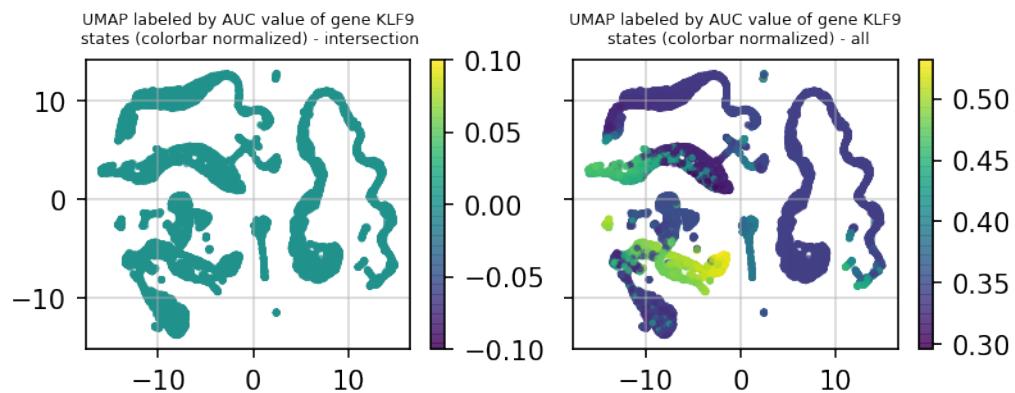
RELA



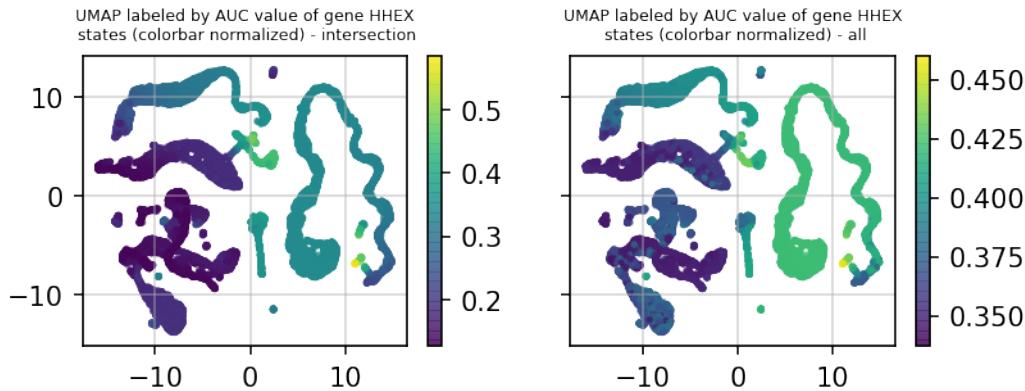
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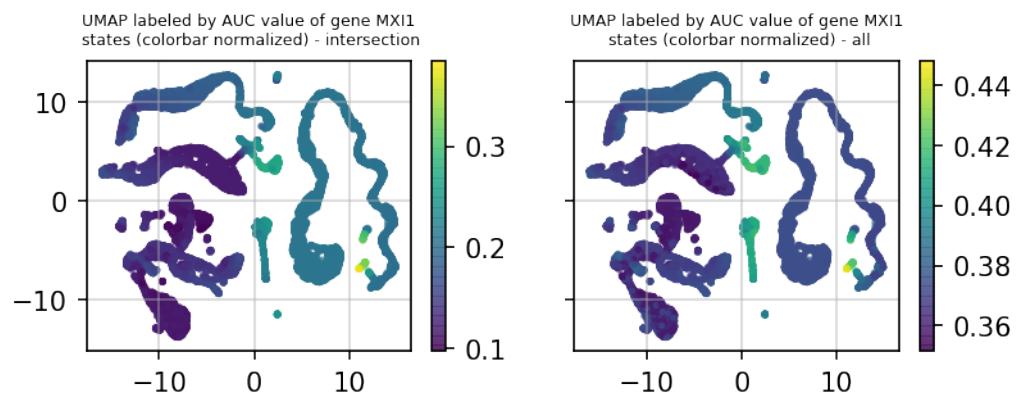
KLF9



HHEX



MXI1



TCF7L2

