

JUND Gained Target (n=6548)

<b>Expression (TPM)</b>	<b>UP</b>			<b>NC</b>			<b>DN</b>		
<b>n</b>	1291			4597			660		
<b>%</b>	19.7%			70.2%			10.1%		
<b>DHS (TSS Cov) active</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<b>n</b>	274	919	98	365	3840	392	48	478	134
<b>%</b>	21.2%	71.2%	7.6%	7.9%	83.5%	8.5%	7.3%	72.4%	20.3%
<b>H3K4me3 (TSS Cov) active promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<b>n</b>	242	1025	24	233	4234	130	31	543	86
<b>%</b>	18.7%	79.4%	1.9%	5.1%	92.1%	2.8%	4.7%	82.3%	13.0%
<b>H3K27me3 (TSS Cov) inactive promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<b>n</b>	7	1240	44	55	4498	44	23	635	2
<b>%</b>	0.5%	96.0%	3.4%	1.2%	97.8%	1.0%	3.5%	96.2%	0.3%
<b>Methylation (Sig Avg) repressive</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<b>n</b>	149	1058	84	235	3920	442	36	551	73
<b>%</b>	11.5%	82.0%	6.5%	5.1%	85.3%	9.6%	5.5%	83.5%	11.1%
<b>Mutation ext.gene count</b>	count > 1	has mut	no mut	count > 1	has mut	no mut	count > 1	has mut	no mut
	65	304	987	189	964	3633	36	179	481
	5.0%	23.5%	76.5%	4.1%	21.0%	79.0%	5.5%	27.1%	72.9%
<b>Mutation ext.gene pval &lt; 0.05</b>	17			66			22		
	1.3%			1.4%			3.3%		
<b>Mutation ext.gene pval.adj &lt; 0.05</b>	2			2			2		
	0.2%			0.0%			0.3%		
<b>Mutation observed[sum(count)]/ expected[sum(mu)]</b>	86.2%			72.6%			91.3%		
<b>Enhancer-based Linkage</b>	<b>&gt;10 gain</b>	<b>NC</b>	<b>&gt;10 loss</b>	<b>&gt;10 gain</b>	<b>NC</b>	<b>&gt;10 loss</b>	<b>&gt;10 gain</b>	<b>NC</b>	<b>&gt;10 loss</b>
<b>n</b>	310	NA	82	574	NA	495	28	NA	134
<b>%</b>	24%	NA	6%	12%	NA	11%	4%	NA	20%

**UP:  $TPM_{K562} \geq 2 \times TPM_{GM12878}$**

**NC:  $1/2 \times TPM_{GM12878} < TPM_{K562} < 2 \times TPM_{GM12878}$**

**DN:  $TPM_{K562} \leq 1/2 \times TPM_{GM12878}$**

JUND Common Target (n=31)

<b>Expression (TPM)</b>	<b>UP</b>			<b>NC</b>			<b>DN</b>		
<i>n</i>	1			15			15		
%	3.2%			48.4%			48.4%		
<b>DHS (TSS Cov) active</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	0	1	0	1	11	3	0	12	3
%	0.0%	100.0%	0.0%	6.7%	73.3%	20.0%	0.0%	80.0%	20.0%
<b>H3K4me3 (TSS Cov) active promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	0	1	0	0	13	2	0	11	4
%	0.0%	100.0%	0.0%	0.0%	86.7%	13.3%	0.0%	73.3%	26.7%
<b>H3K27me3 (TSS Cov) inactive promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	0	1	0	0	15	0	0	14	1
%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	93.3%	6.7%
<b>Methylation (Sig Avg) repressive</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	0	1	0	1	14	0	0	14	1
%	0.0%	100.0%	0.0%	6.7%	93.3%	0.0%	0.0%	93.3%	6.7%
<b>Mutation ext.gene count</b>	count > 1	has mut	no mut	count > 1	has mut	no mut	count > 1	has mut	no mut
	0	0	1	1	4	11	1	4	11
	0.0%	0.0%	100.0%	6.7%	26.7%	73.3%	6.7%	26.7%	73.3%
<b>Mutation ext.gene pval &lt; 0.05</b>	0			1			1		
	0.0%			6.7%			6.7%		
<b>Mutation ext.gene pval.adj &lt; 0.05</b>	0			0			0		
	0.0%			0.0%			0.0%		
<b>Mutation observed[sum(count)]/ expected[sum(mu)]</b>	0.0%			85.0%			143.8%		

**UP:  $TPM_{K562} \geq 2 \times TPM_{GM12878}$**

**NC:  $1/2 \times TPM_{GM12878} < TPM_{K562} < 2 \times TPM_{GM12878}$**

**DN:  $TPM_{K562} \leq 1/2 \times TPM_{GM12878}$**

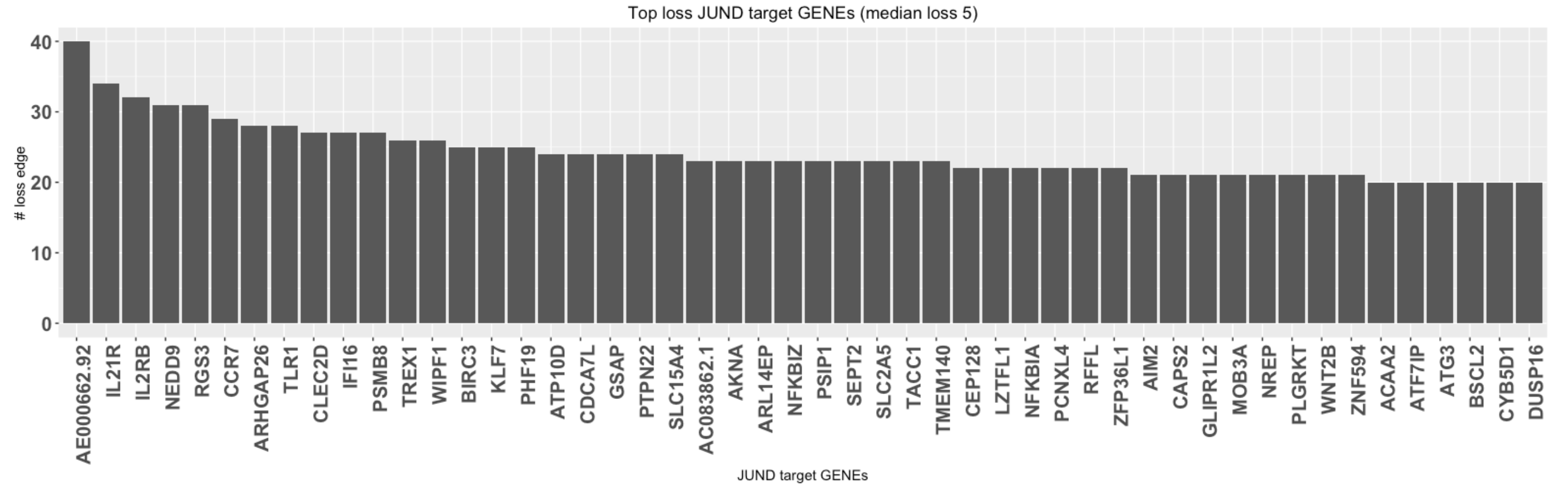
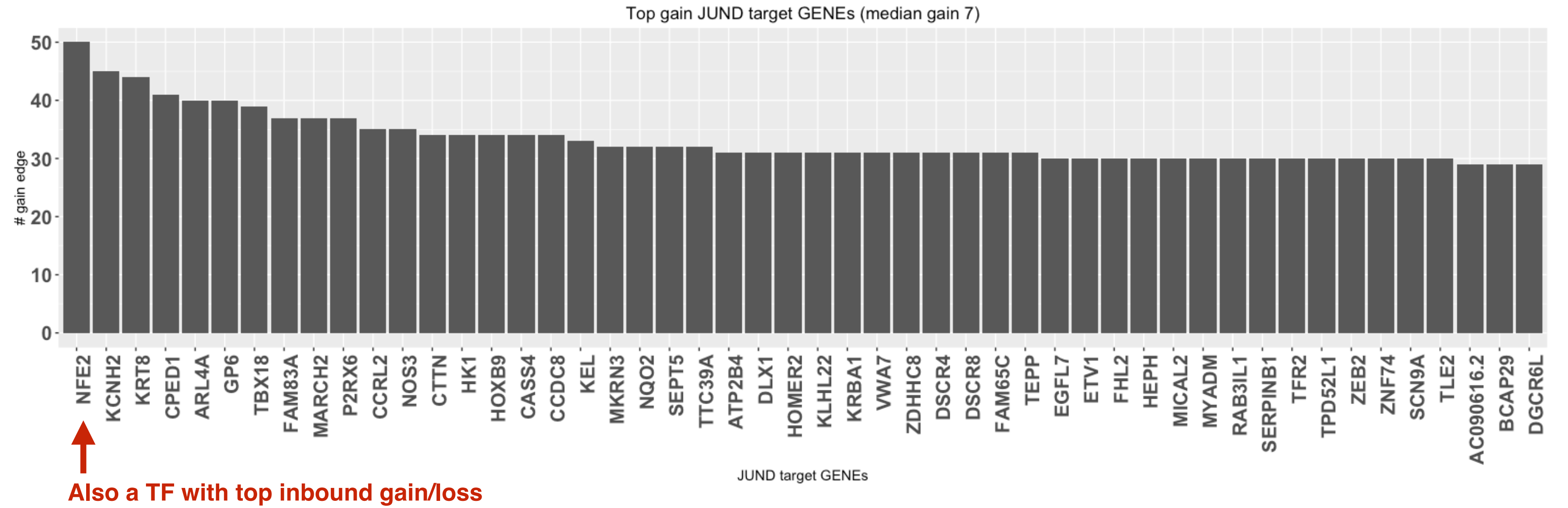
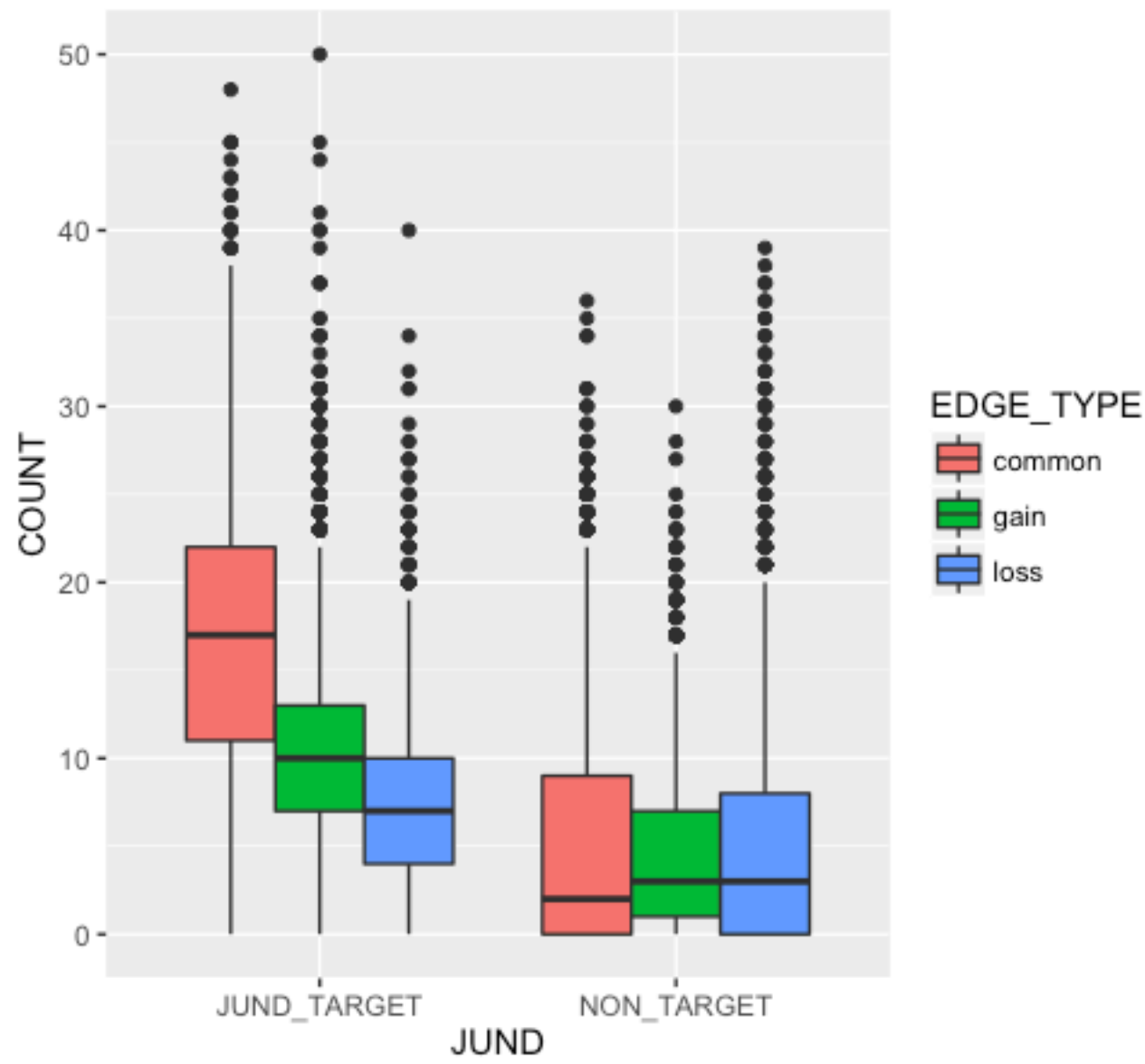
Overall Gene Target (n=15,189)

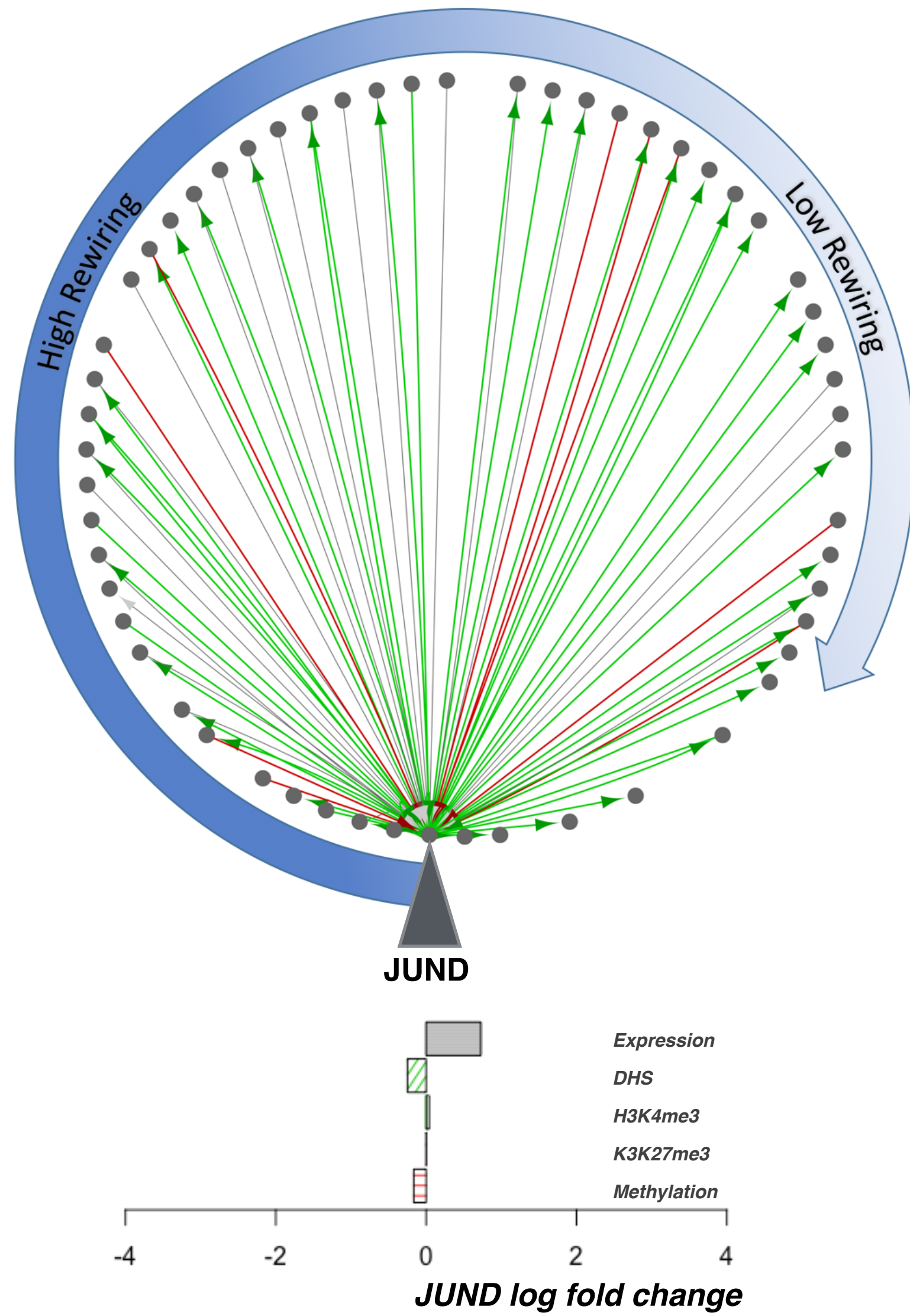
<b>Expression (TPM)</b>	<b>UP</b>			<b>NC</b>			<b>DN</b>		
<i>n</i>	2442			10294			2453		
%	16.1%			67.8%			16.1%		
<b>DHS (TSS Cov) active</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	622	1622	198	1280	7723	1291	108	1430	915
%	25.5%	66.4%	8.1%	12.4%	75.0%	12.5%	4.4%	58.3%	37.3%
<b>H3K4me3 (TSS Cov) active promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	569	1817	56	801	8891	602	71	1753	629
%	23.3%	74.4%	2.3%	7.8%	86.4%	5.8%	2.9%	71.5%	25.6%
<b>H3K27me3 (TSS Cov) inactive promoter</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	25	2278	139	472	9446	376	237	2181	35
%	1.0%	93.3%	5.7%	4.6%	91.8%	3.7%	9.7%	88.9%	1.4%
<b>Methylation (Sig Avg) repressive</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>	<b>UP</b>	<b>NC</b>	<b>DN</b>
<i>n</i>	254	1994	194	741	8491	1062	117	2037	299
%	10.4%	81.7%	7.9%	7.2%	82.5%	10.3%	4.8%	83.0%	12.2%
<b>Mutation ext.gene count</b>	count > 1	has mut	no mut	count > 1	has mut	no mut	count > 1	has mut	no mut
	108	535	1907	402	2053	8241	117	548	1905
	4.4%	21.9%	78.1%	3.9%	19.9%	80.1%	4.8%	22.3%	77.7%
<b>Mutation ext.gene pval &lt; 0.05</b>	29			138			57		
	1.2%			1.3%			2.3%		
<b>Mutation ext.gene pval.adj &lt; 0.05</b>	3			3			6		
	0.1%			0.0%			0.2%		
<b>Mutation observed[sum(count)]/ expected[sum(mu)]</b>	79.2%			75.7%			82.5%		

**UP:  $TPM_{K562} \geq 2 \times TPM_{GM12878}$**

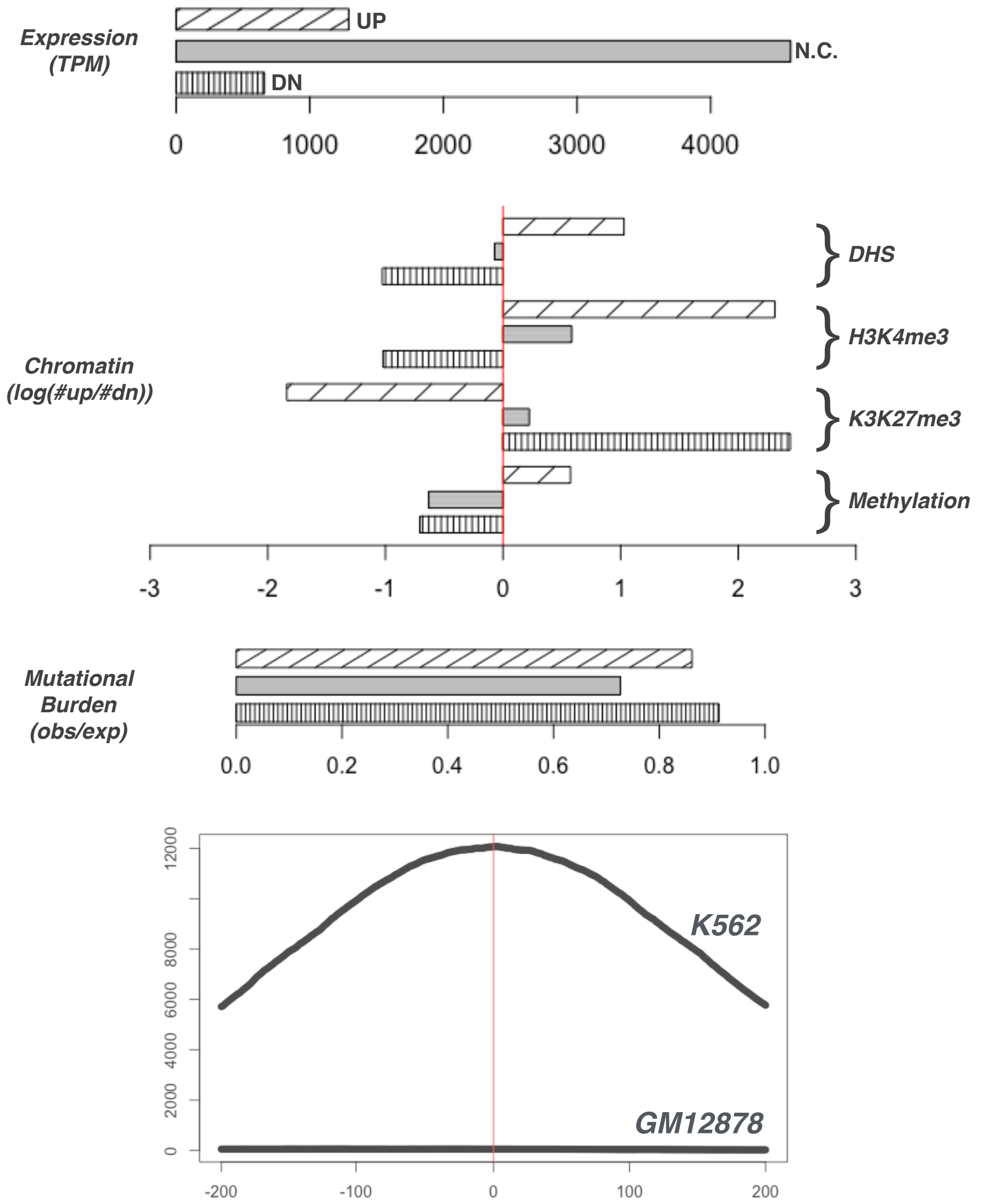
**NC:  $1/2 \times TPM_{GM12878} < TPM_{K562} < 2 \times TPM_{GM12878}$**

**DN:  $TPM_{K562} \leq 1/2 \times TPM_{GM12878}$**

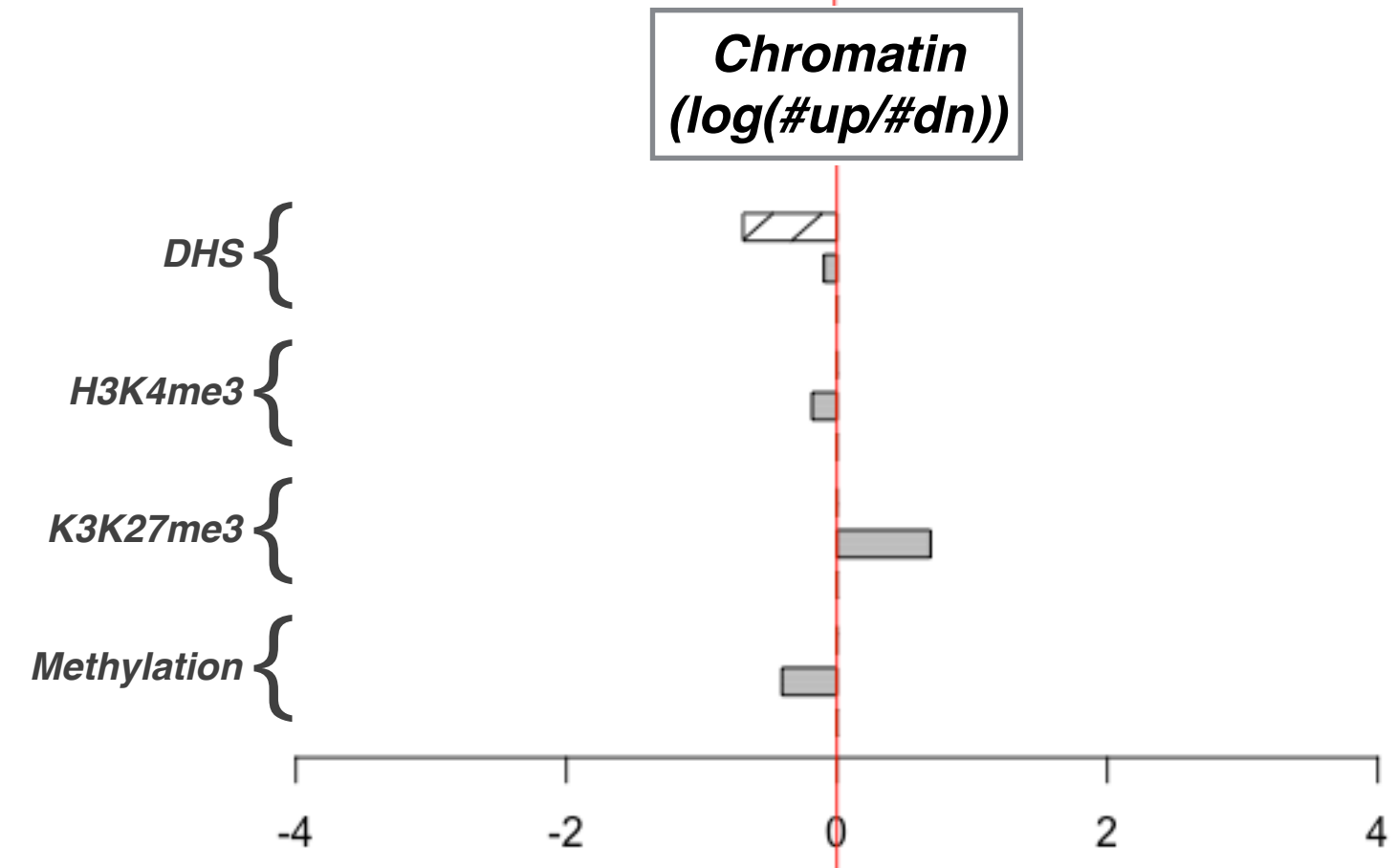
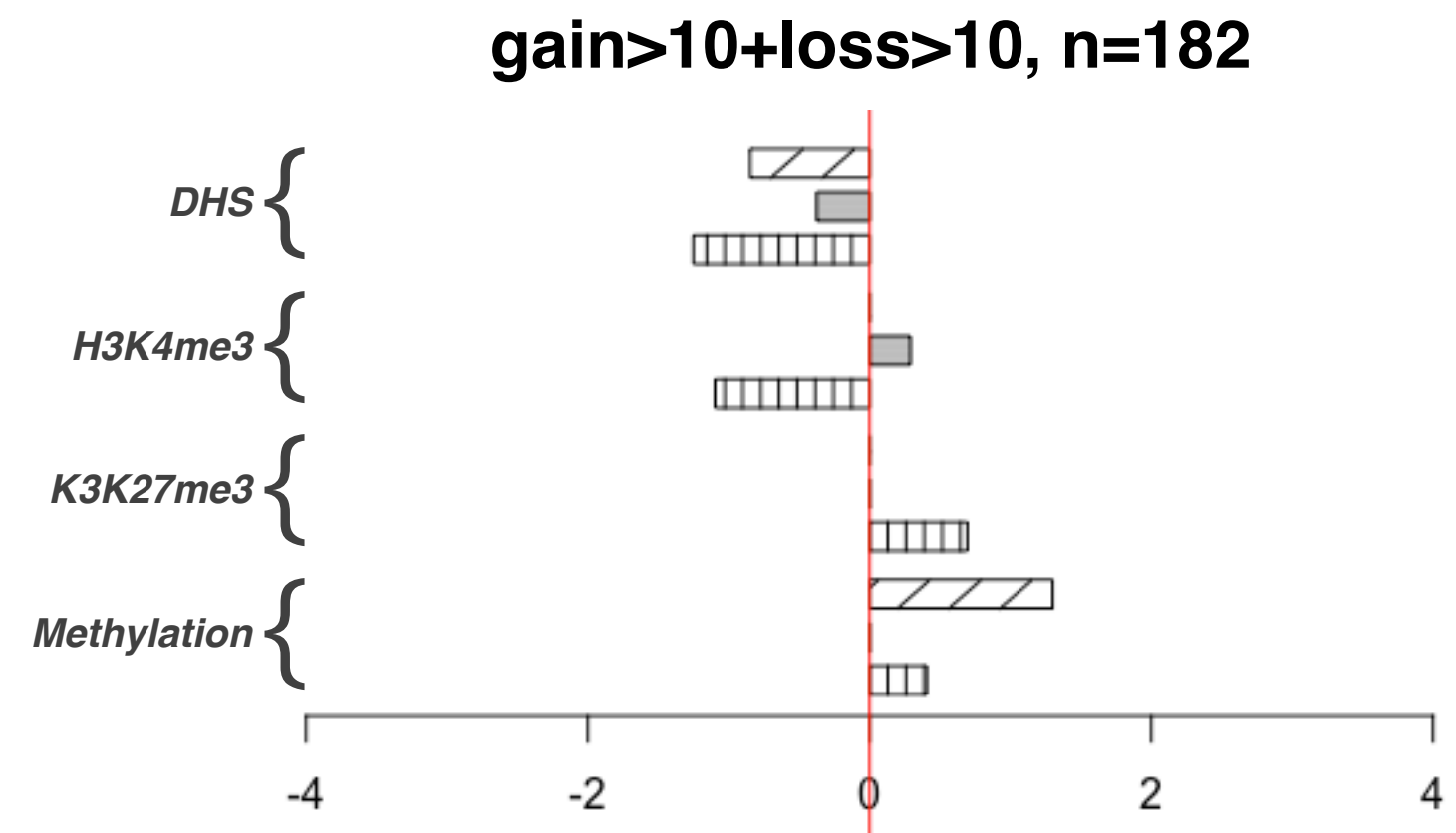




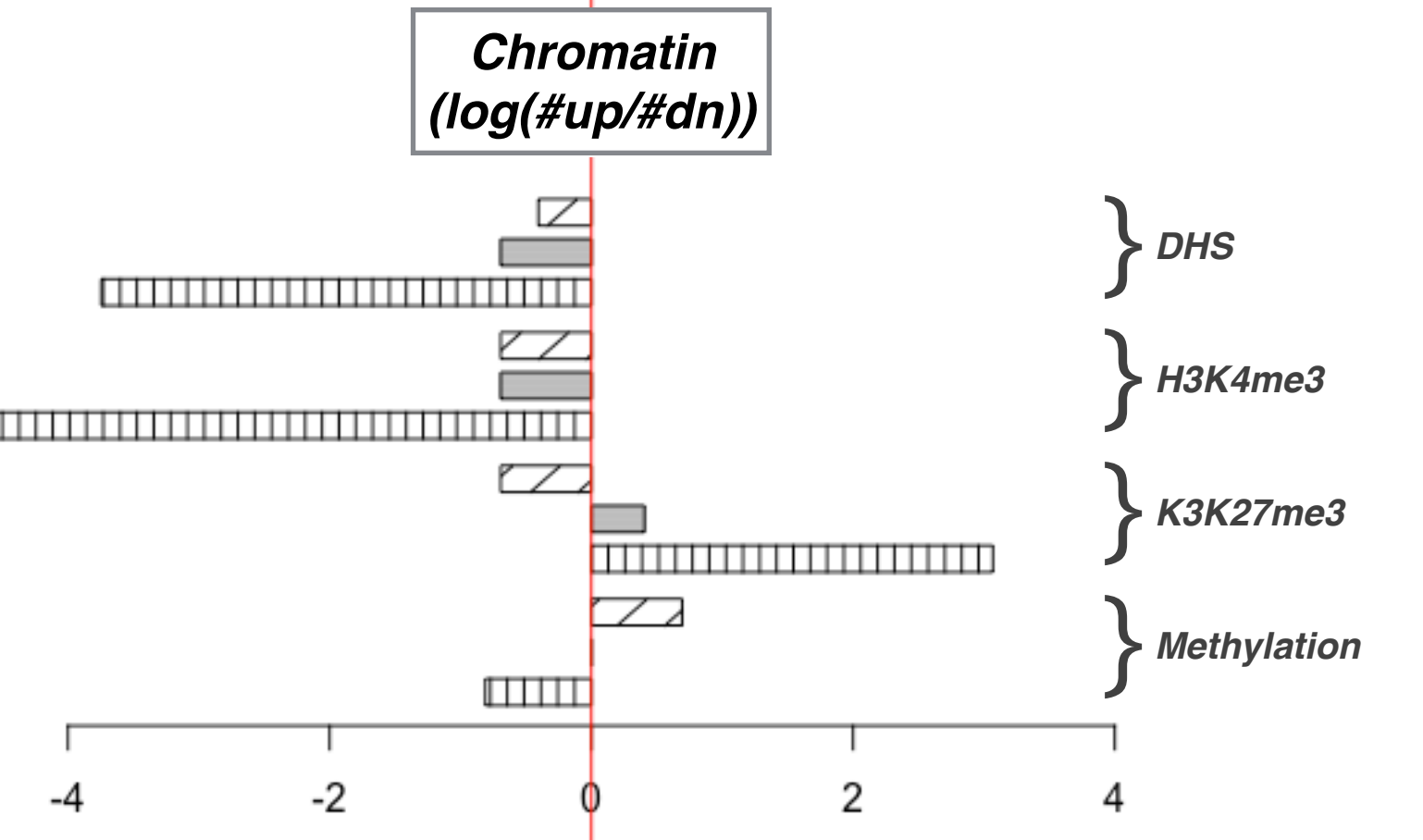
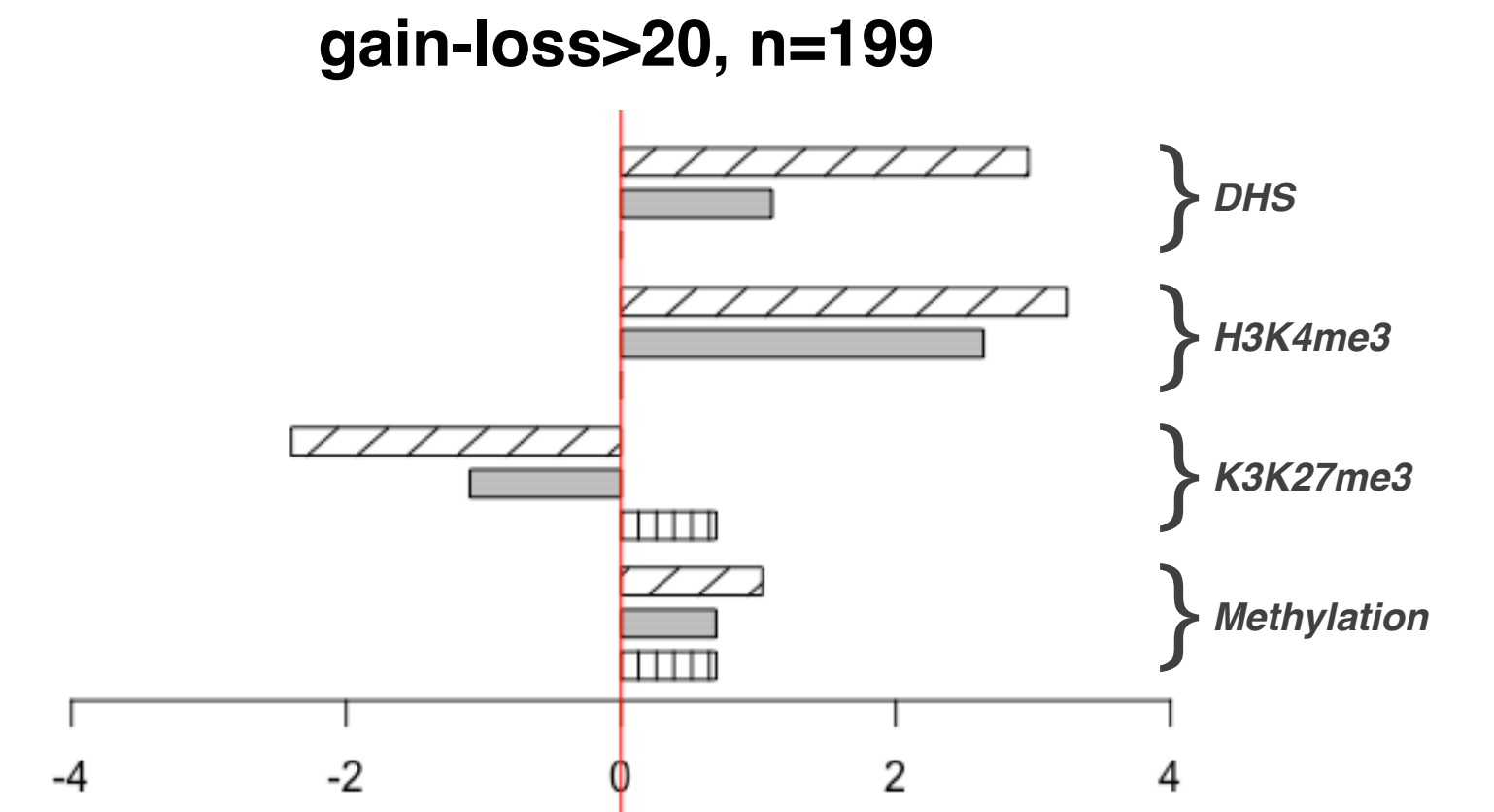
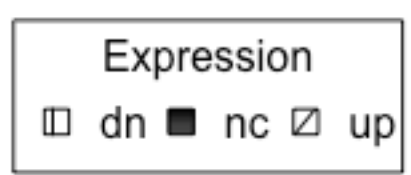
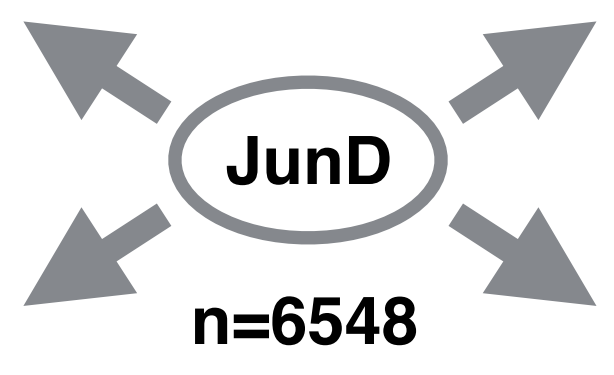
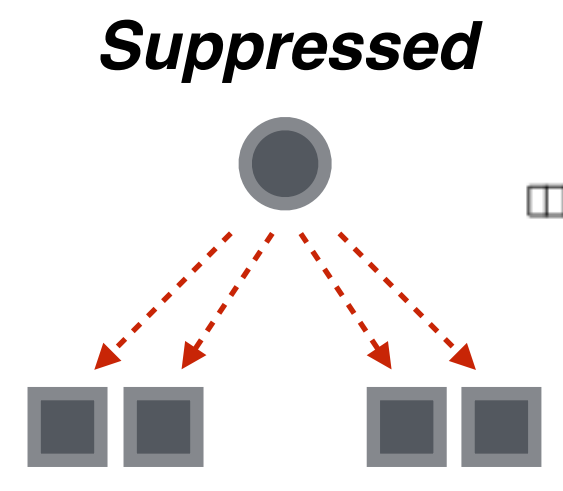
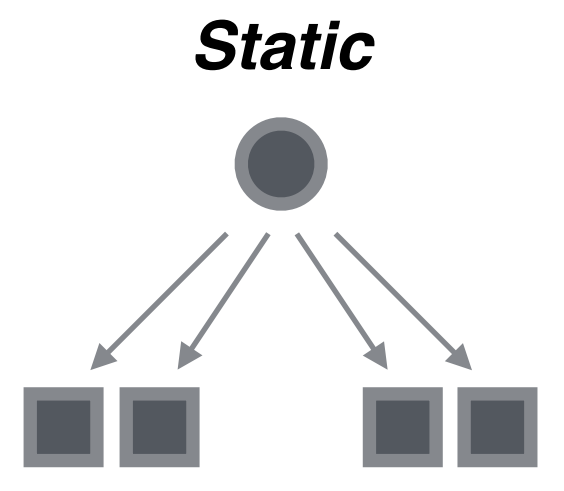
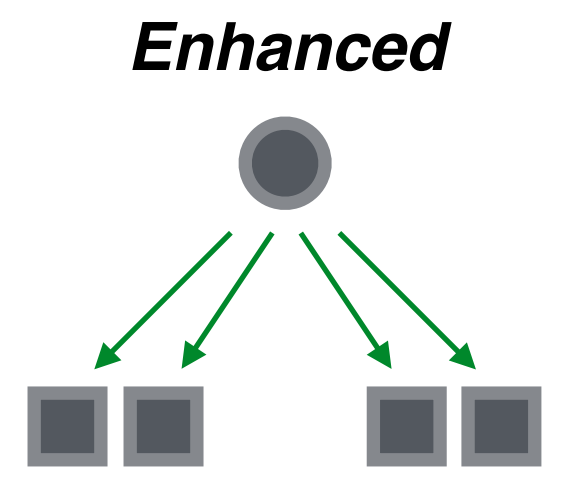
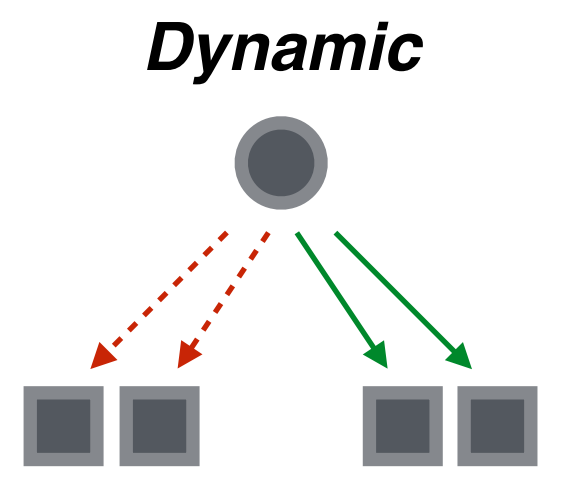
### JUND Gained Targets



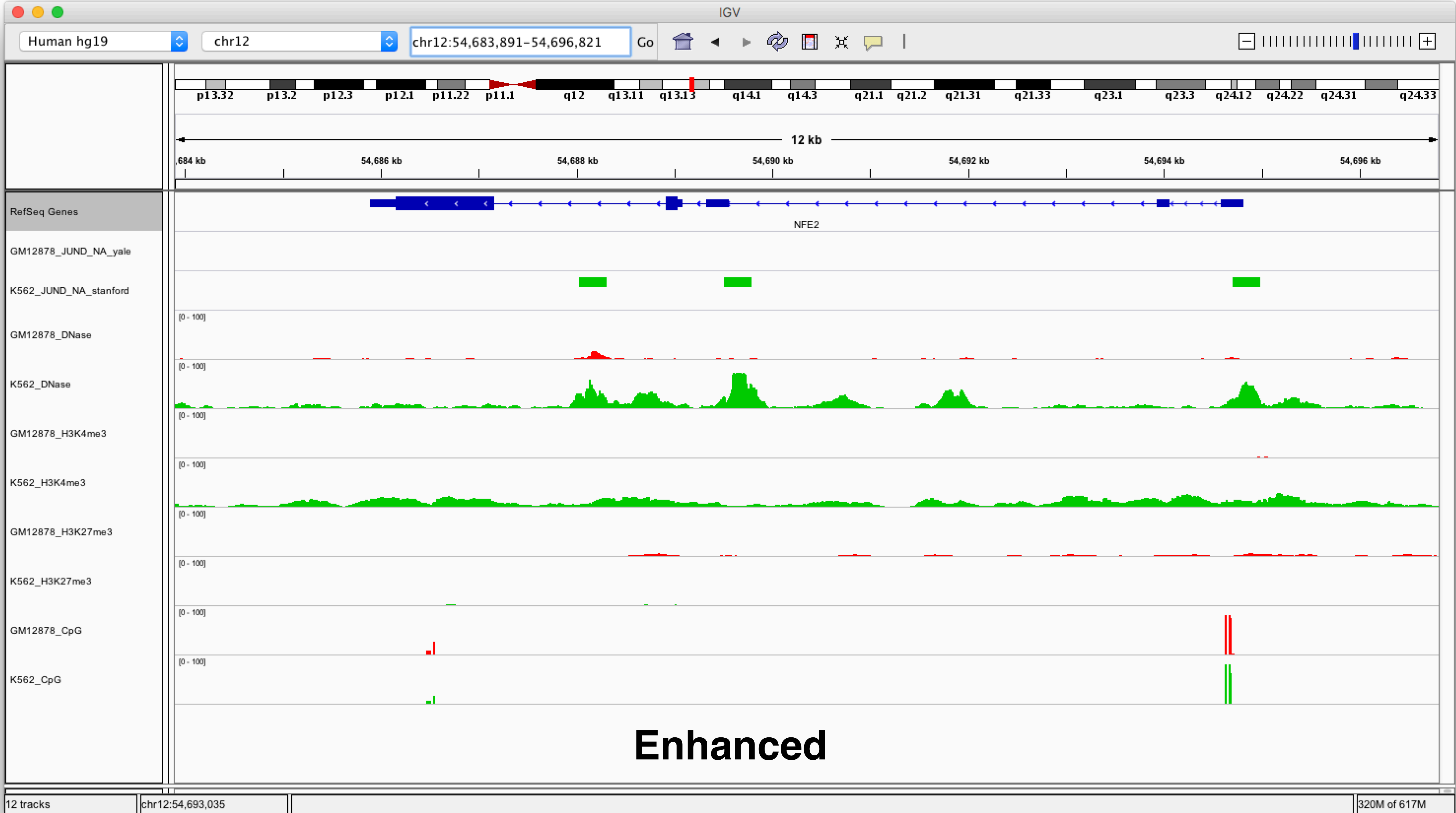
Chromatin change around TSS (mock-up, shown is binding profile)

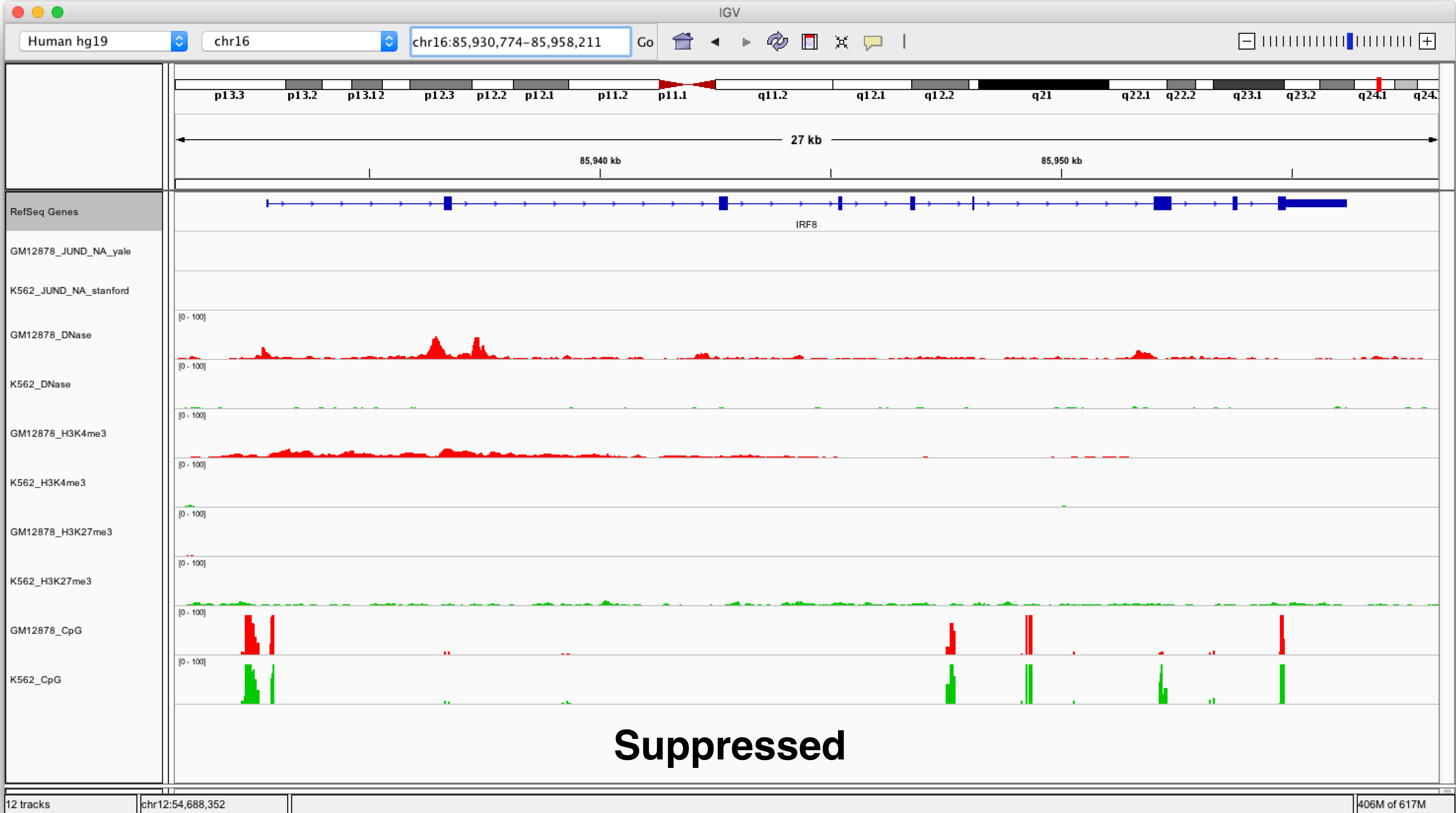


**gain<10+loss<10+comm>30, n=105**

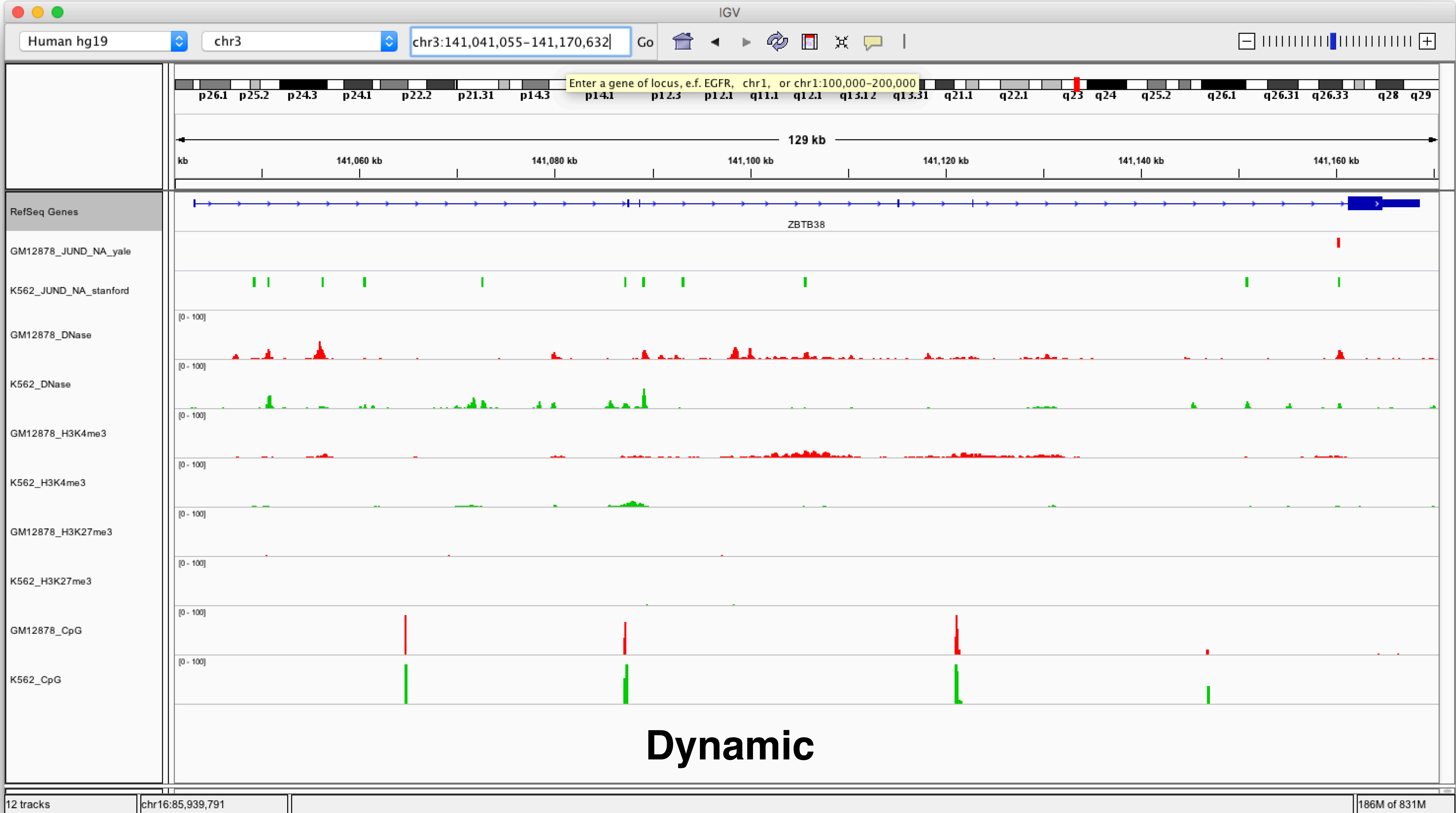


**loss-gain>20, n=13**









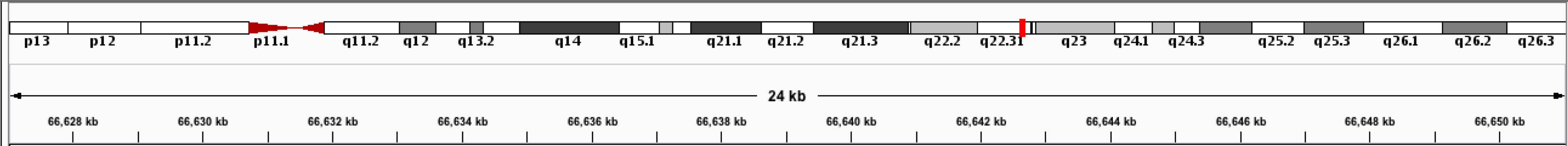
**Dynamic**

Human hg19

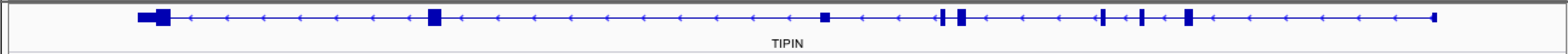
chr15

chr15:66,627,008-66,651,054

Go



RefSeq Genes



GM12878\_JUND\_NA\_yale



K562\_JUND\_NA\_stanford



GM12878\_DNase



K562\_DNase



GM12878\_H3K4me3



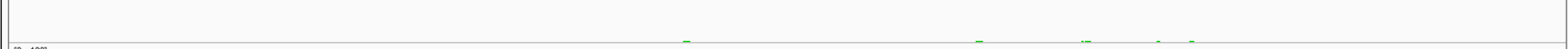
K562\_H3K4me3



GM12878\_H3K27me3



K562\_H3K27me3



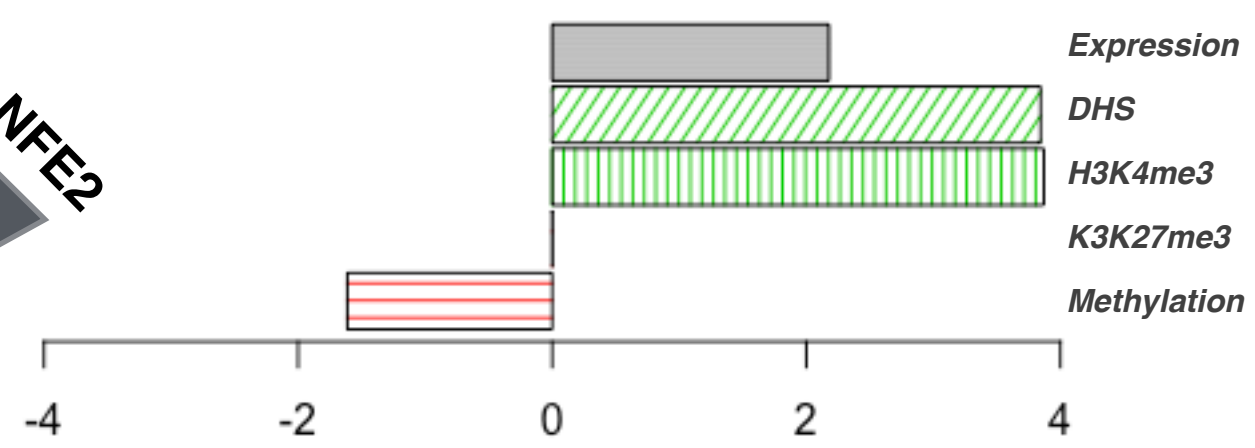
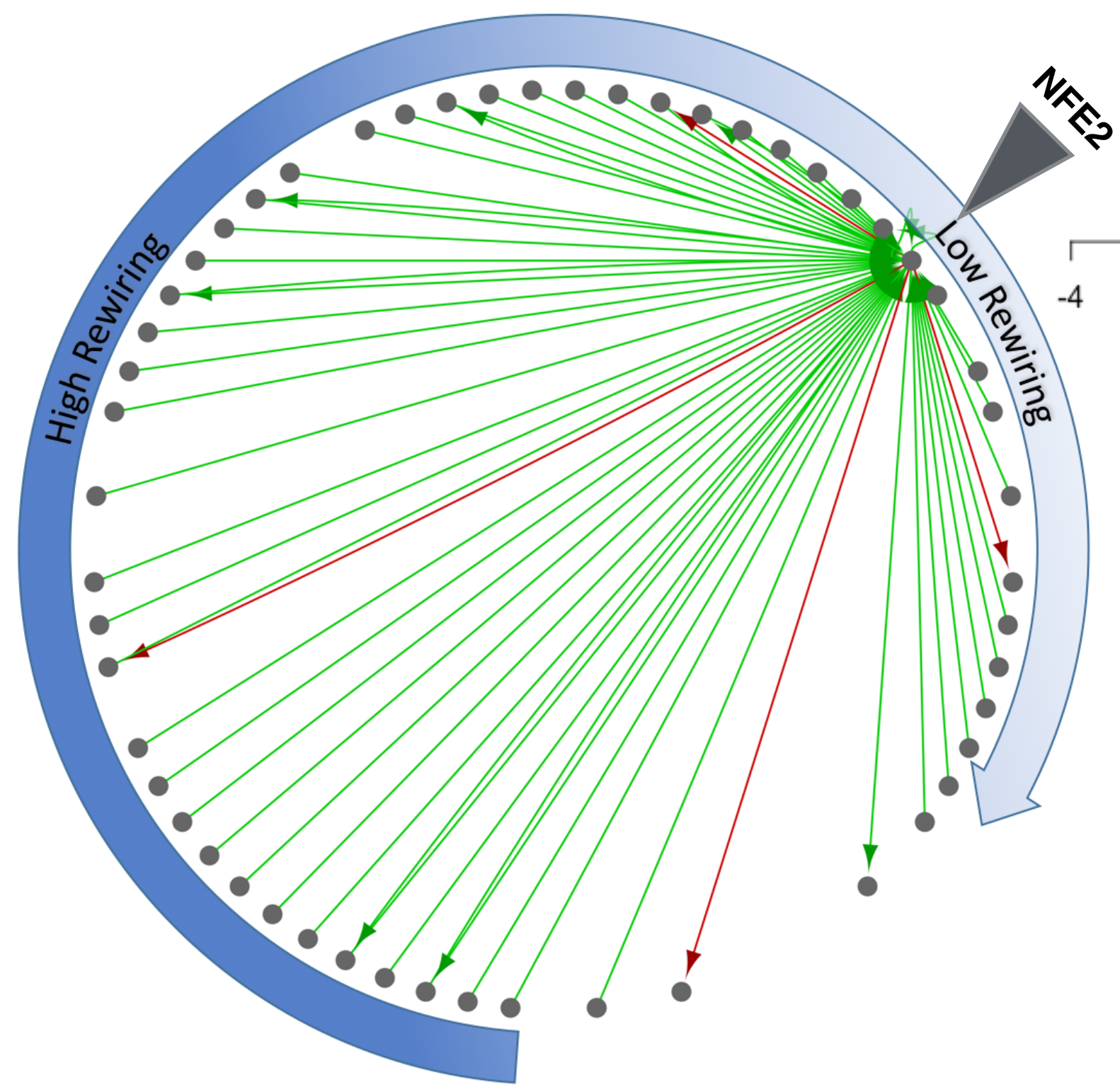
GM12878\_CpG



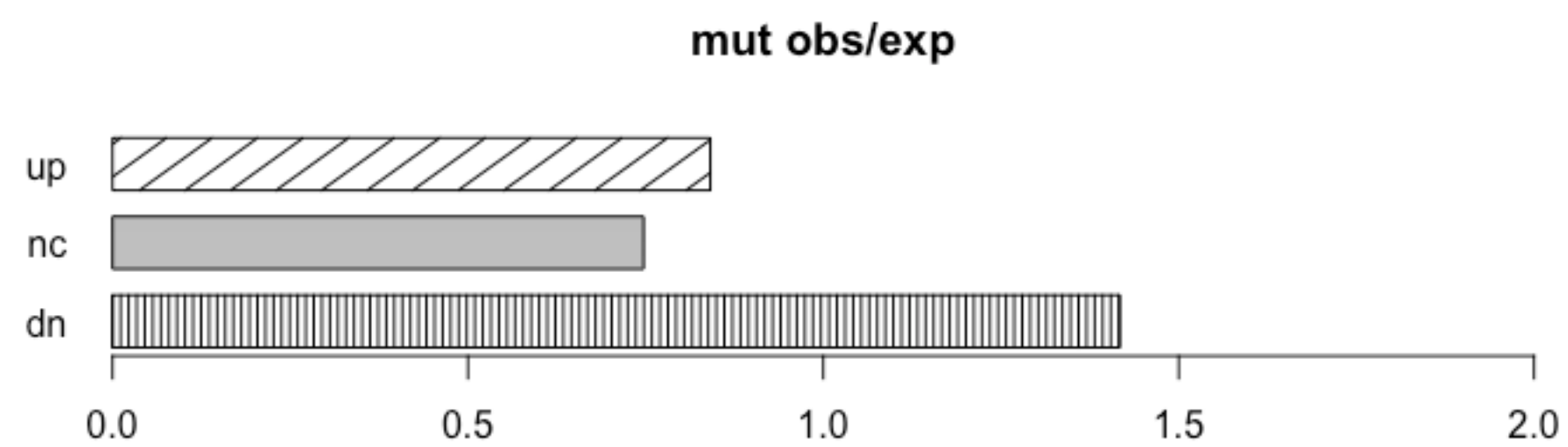
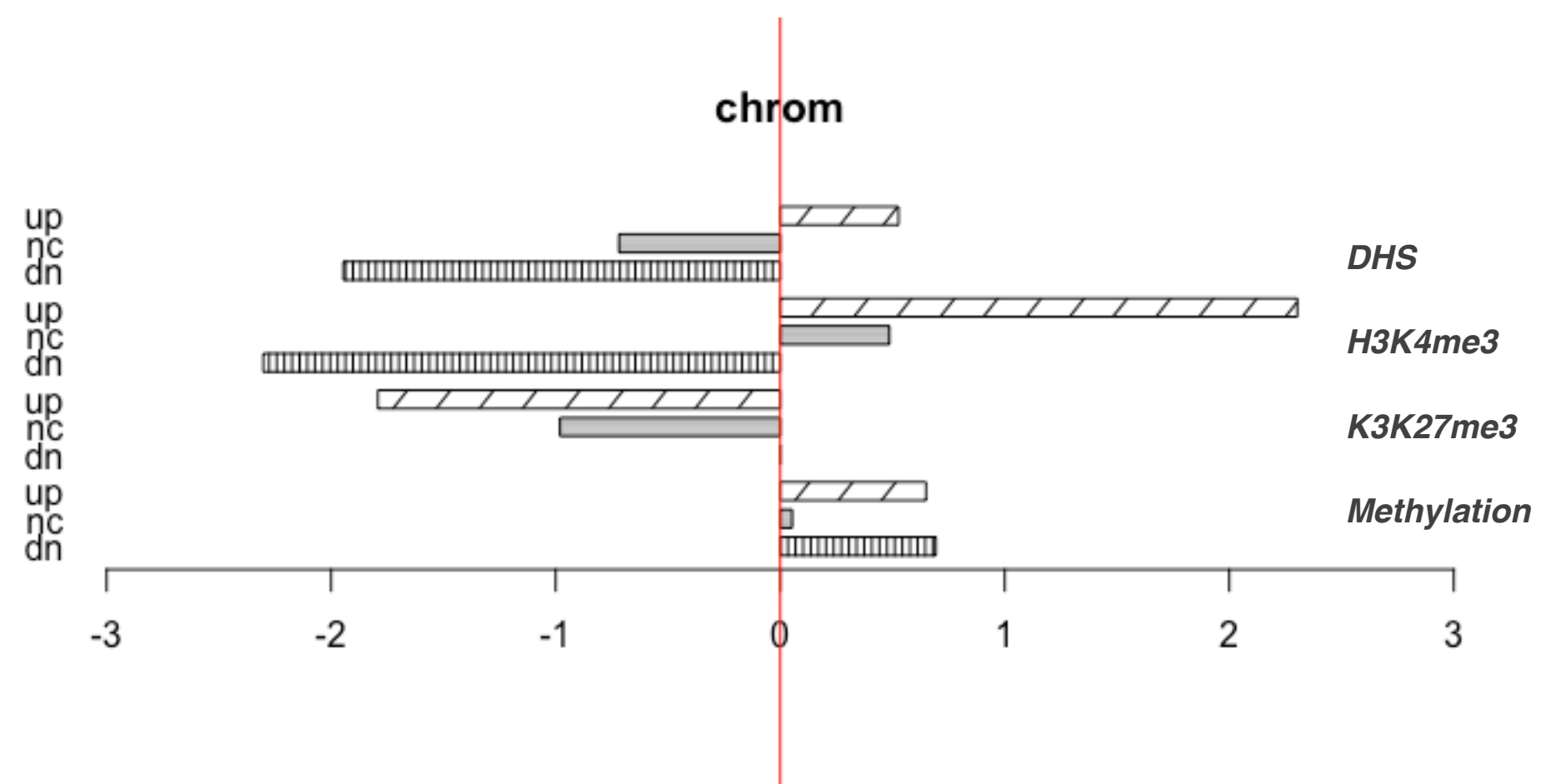
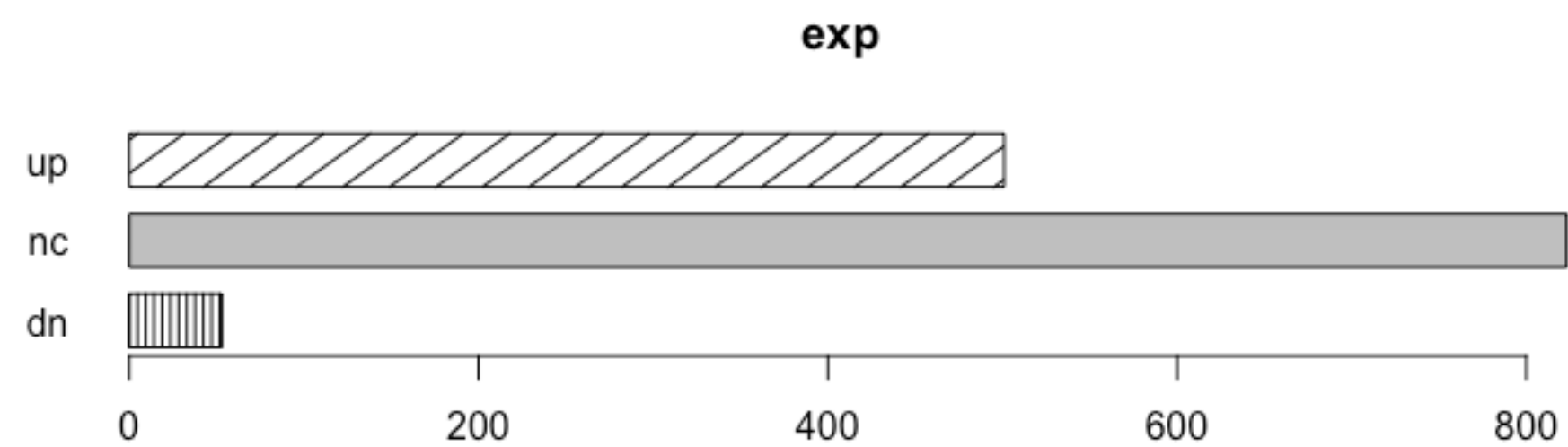
K562\_CpG



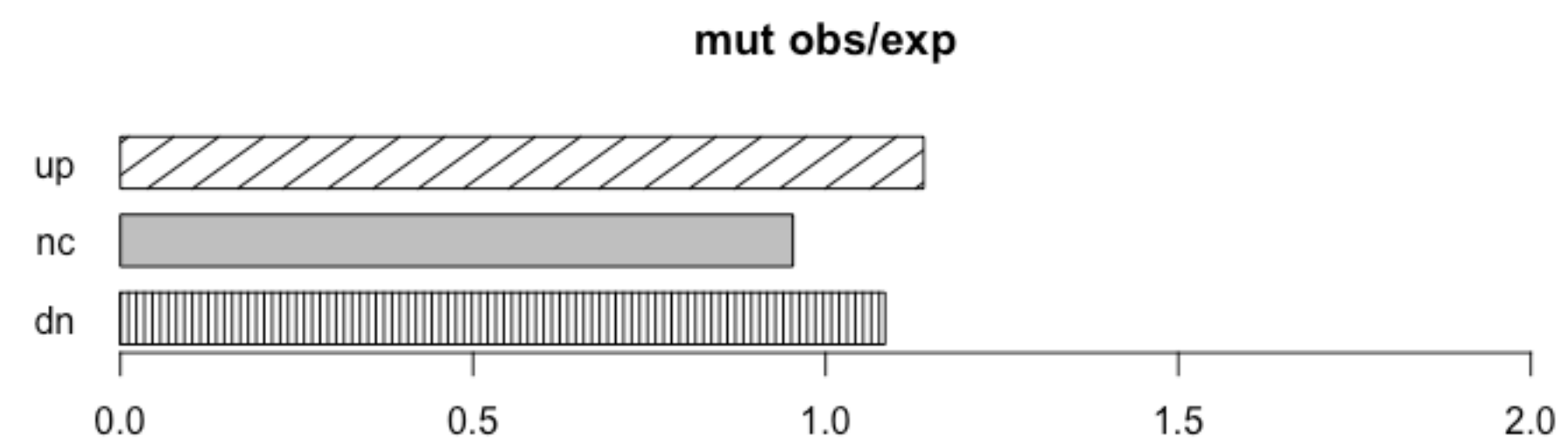
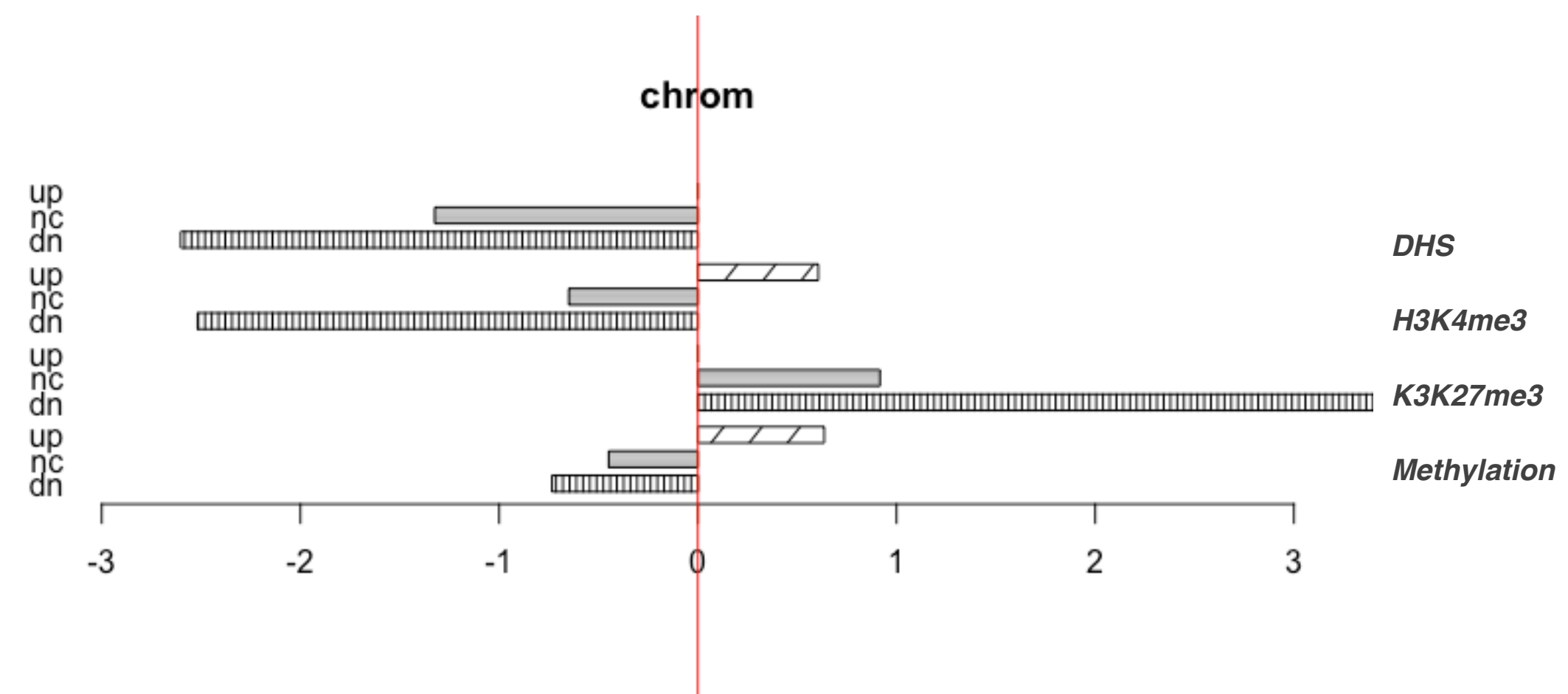
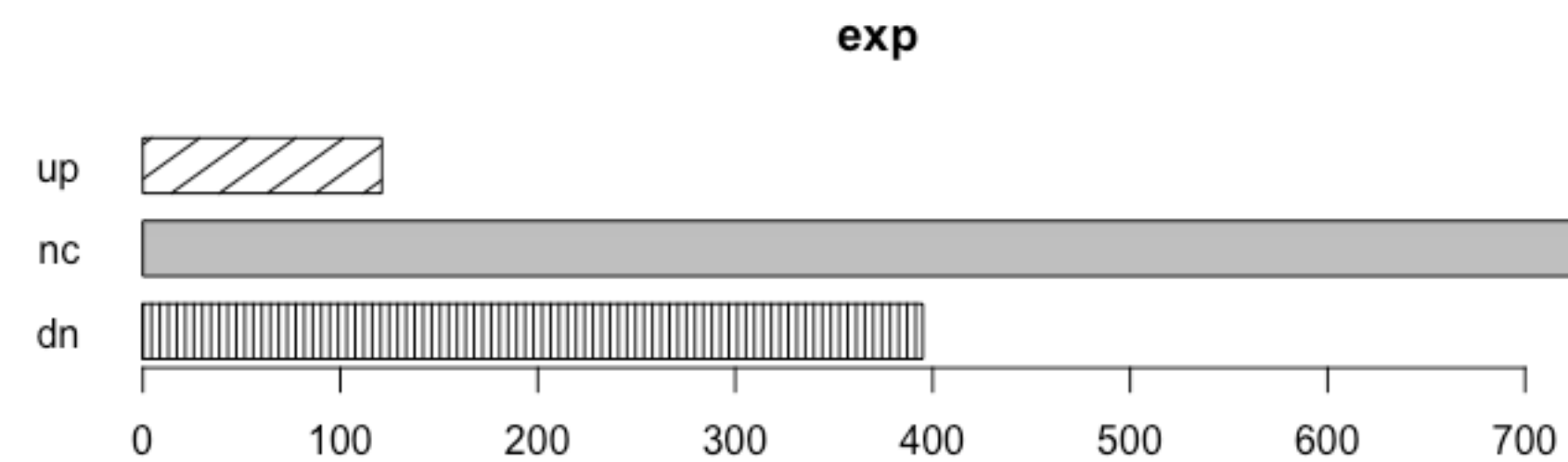
Static



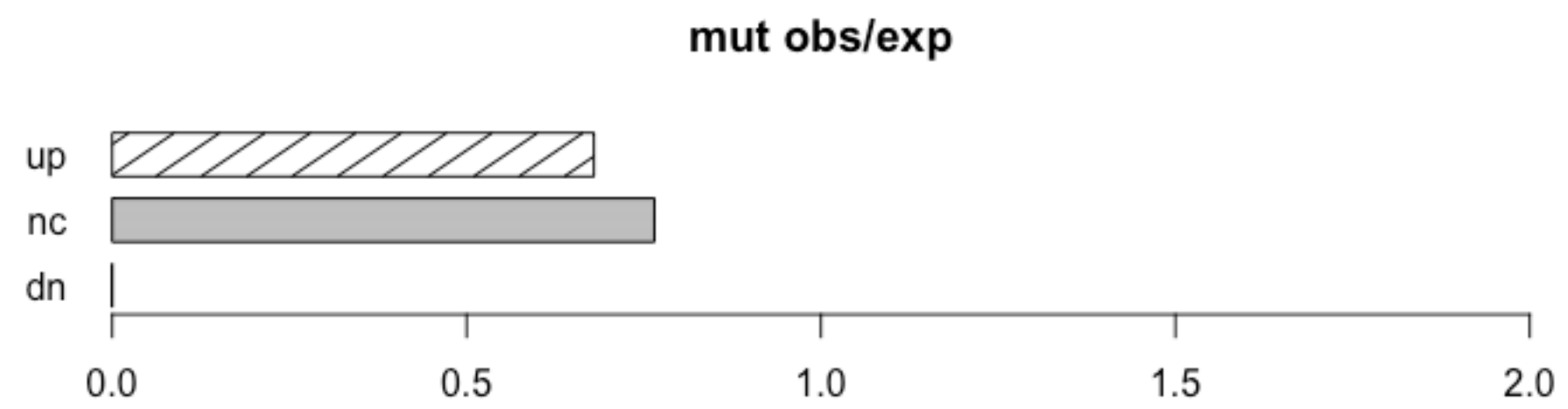
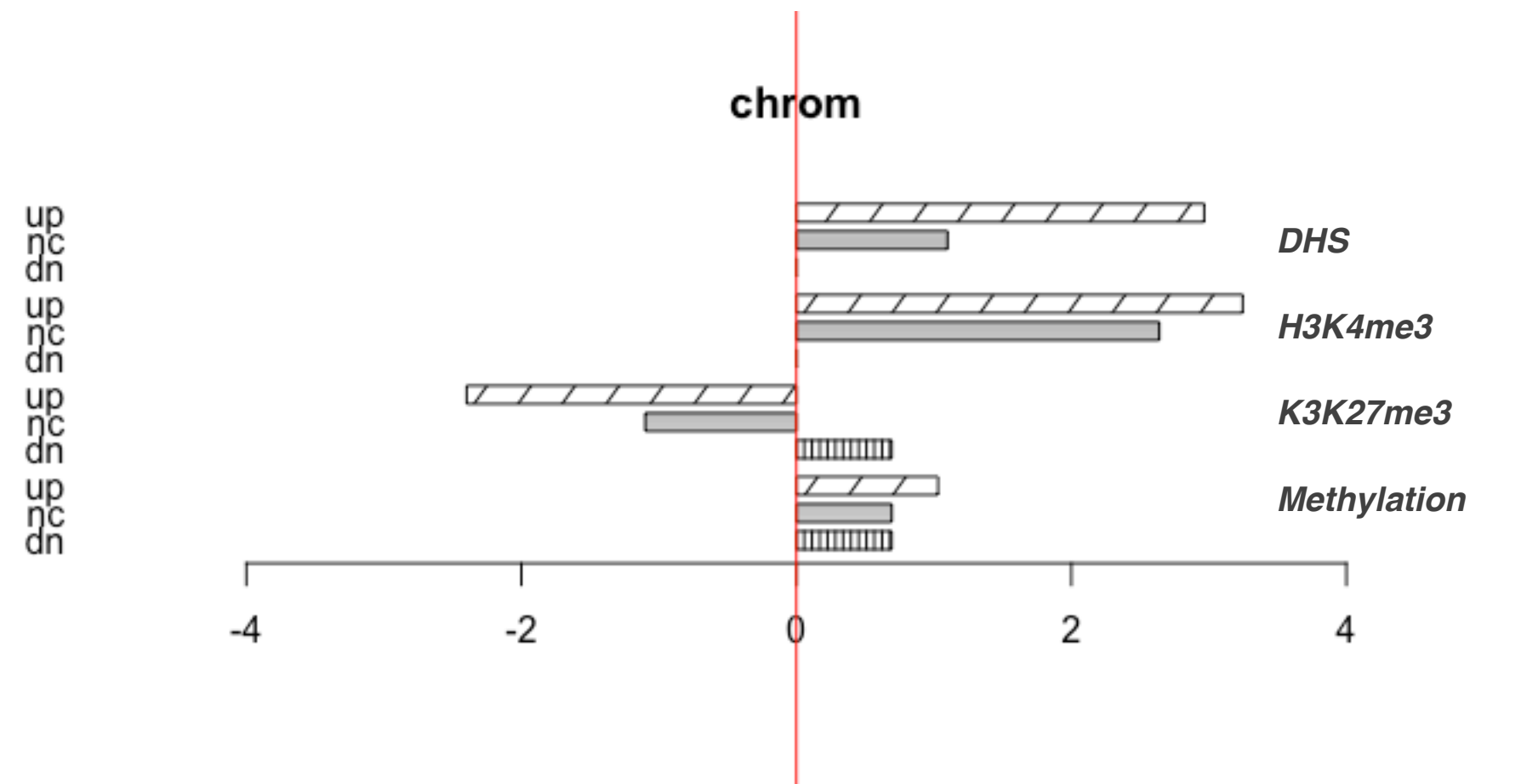
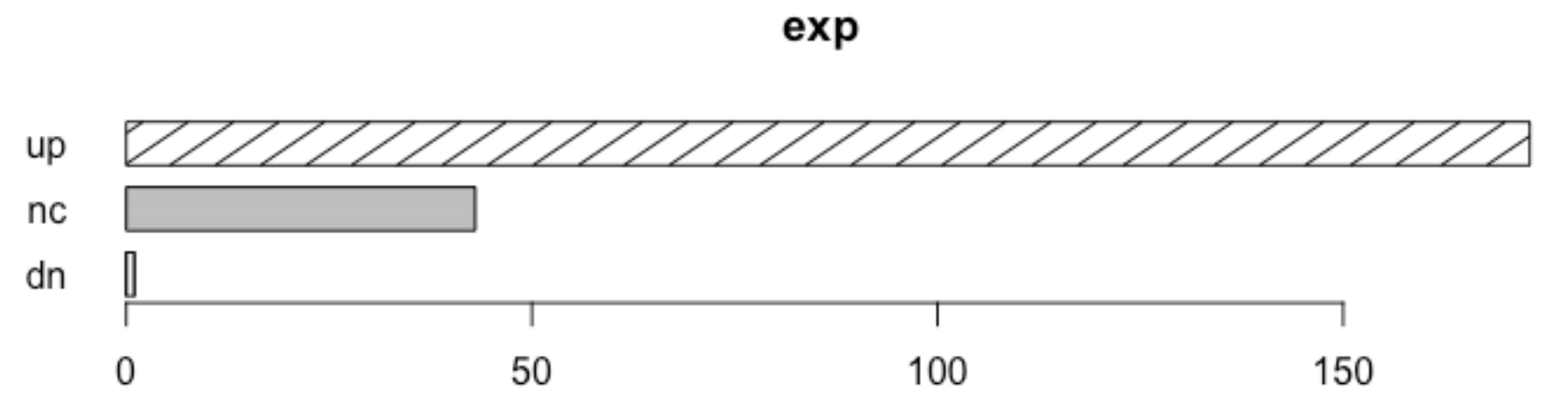
## Enhancer edge gain > 10



## Enhancer edge loss > 10



# Inbound edge gain > 20



# Inbound edge loss > 20

