

# MEME-ChIP

Motif Analysis of Large Nucleotide Datasets

For further information on how to interpret these results please access <http://meme-suite.org/doc/meme-chip-output-format.html>.

To get a copy of the MEME software please access <http://meme-suite.org>.




If you use MEME-ChIP in your research, please cite the following paper:  
Philip Machanick and Timothy L. Bailey, "MEME-ChIP: motif analysis of large DNA datasets", *Bioinformatics*, 2712, 1696-1697, 2011. [\[full text\]](#)

[MOTIFS](#) | [PROGRAMS](#) | [INPUT FILES](#) | [PROGRAM INFORMATION](#) | [SUMMARY IN TSV FORMAT](#)  | [MOTIFS IN MEME TEXT FORMAT](#) 

## MOTIFS

The significant motifs (E-value  $\leq 0.05$ ) found by the programs MEME, DREME and CentriMo; clustered by similarity and ordered by E-value.

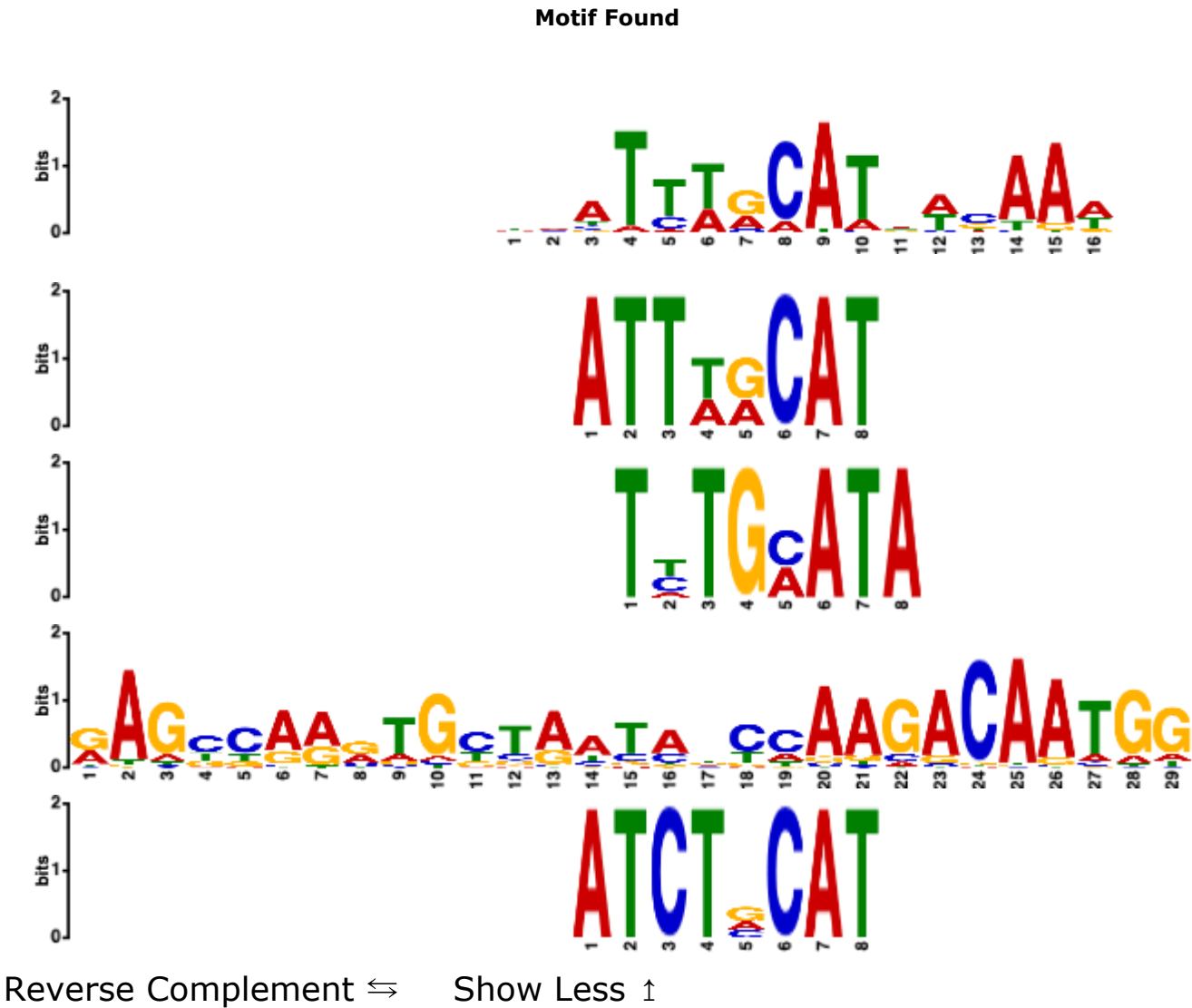
Expand All Clusters    Collapse All Clusters

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.5e-182	<a href="#">Sox2</a> ( <a href="#">MA0143.3</a> ) <a href="#">Sox3</a> ( <a href="#">MA0514.1</a> ) <a href="#">SOX15</a> ( <a href="#">MA1152.1</a> )	Not Centrally Enriched	<ul style="list-style-type: none"><li><a href="#">Motif Spacing Analysis</a></li><li><a href="#">Motif Sites in GFF3</a></li></ul>
	<a href="#">DREME</a>	2.7e-073	<a href="#">SOX10</a> ( <a href="#">MA0442.2</a> ) <a href="#">SOX18_full_1</a>	Not Centrally Enriched	
	<a href="#">DREME</a>	4.5e-013	<a href="#">SOX15</a> ( <a href="#">MA1152.1</a> ) <a href="#">SOX10</a> ( <a href="#">MA0442.2</a> ) <a href="#">Foxl1_secondary</a> ( <a href="#">UP00061_2</a> )	Not Centrally Enriched	



Reverse Complement ⇌    Show Less ↑


Motif Found


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Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	4.2e-163	<a href="#">Zic1_secondary (UP00102_2)</a> , <a href="#">Zic3_secondary (UP00006_2)</a> , <a href="#">Zic2_secondary (UP00057_2)</a>	Not Centrally Enriched	<ul style="list-style-type: none"><li><a href="#">Motif Spacing Analysis</a></li><li><a href="#">Motif Sites in GFF3</a></li></ul>
	<a href="#">DREME</a>	3.4e-060	<a href="#">Tcfe2a_primary (UP00046_1)</a>	Not Centrally Enriched	
	<a href="#">DREME</a>	7.9e-014	<a href="#">Ascl2 (MA0816.1)</a> , <a href="#">Ascl2_DBD</a> , <a href="#">NHLH1_DBD</a>	Not Centrally Enriched	


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6 7</p>	<a href="#">DREME</a>	4.1e-006	<a href="#">BACH2</a> <a href="#">(MA1101.1)</a> <a href="#">Nfe2l2</a> <a href="#">(MA0150.2)</a> <a href="#">MAF::NFE2</a> <a href="#">(MA0501.1)</a>	Not Centrally Enriched	
 <p>bits</p> <p>1 2 3 4 5 6 7 8</p>	<a href="#">DREME</a>	2.7e-002	<a href="#">CTCF</a> <a href="#">(MA0139.1)</a> <a href="#">CTCF_full</a>	Not Centrally Enriched	
Reverse Complement ⇌ Show Less ↑					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6</p>	<a href="#">DREME</a>	2.4e-086		Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6</p>	<a href="#">DREME</a>	1.2e-052	<a href="#">BSX_DBD</a> <a href="#">BSX</a> <a href="#">(MA0876.1)</a> <a href="#">BARX1_DBD_2</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6 7 8</p>	<a href="#">DREME</a>	5.9e-048	<a href="#">SP1 (MA0079.3)</a> <a href="#">SP2 (MA0516.1)</a> <a href="#">ZNF263</a> <a href="#">(MA0528.1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>
 <p>bits</p> <p>1 2 3 4 5 6 7 8</p>	<a href="#">DREME</a>	3.6e-014	<a href="#">SP1 (MA0079.3)</a> <a href="#">Zfp410_secondary</a> <a href="#">(UP00033_2)</a> <a href="#">KLF5 (MA0599.1)</a>	Not Centrally Enriched	

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6 7 8</p>	<a href="#">DREME</a>	1.5e-004	<a href="#">Sp4_primary (UP00002.1)</a> , <a href="#">CTCF_full</a> <a href="#">CTCF (MA0139.1)</a>	Not Centrally Enriched	
 <p>bits</p> <p>1 2 3 4 5 6 7</p>	<a href="#">DREME</a>	3.6e-004		Not Centrally Enriched	
Reverse Complement ⇌ Show Less ↑					

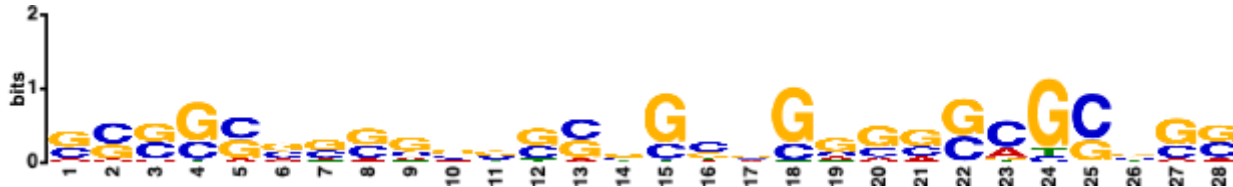
Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6</p>	<a href="#">DREME</a>	2.1e-031		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5 6</p>	<a href="#">DREME</a>	4.5e-023		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
 <p>bits</p> <p>1 2 3 4 5</p>	<a href="#">DREME</a>	1.8e-021	<a href="#">SRY (MA0084.1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	4.8e-020	<a href="#">RBPJ (MA1116.1)</a> <a href="#">TEAD2 (MA1121.1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>


Reverse Complement ⇌

Motif Found	Discovery/ Enrichment Program
	<a href="#">MEME</a>

Reverse Complement ⇌


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.0e-013		Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>

Reverse Complement ⇌


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	2.2e-011	<a href="#">REST (MA0138.2)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li><a href="#">Motif Spacing Analysis</a></li> <li><a href="#">Motif Sites in GFF3</a></li> </ul>

Reverse Complement ⇌


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
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Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.5e-010	<a href="#">Arnt (MA0004.1)</a> <a href="#">Id2 (MA0617.1)</a> <a href="#">Mlxip (MA0622.1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>


Reverse Complement ⇌

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	7.4e-010	<a href="#">SOX2_DBD_2</a> <a href="#">SOX15_full_3</a> <a href="#">Sox1_DBD_2</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>

Reverse Complement ⇌


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.5e-009	<a href="#">TCF7L2 (MA0523.1)</a> <a href="#">Tcf7_primary (UP00054_1)</a> <a href="#">Tcf3_primary (UP00058_1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>


Reverse Complement ⇌


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.6e-009		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>


Reverse Complement ⇌

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
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Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	9.2e-008		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	3.6e-006		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	6.0e-006		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					


Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	9.2e-006	<a href="#">Nkx2-9_3082.1 (UP00119_1)</a> , <a href="#">Nkx2-3_3435.1 (UP00190_1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
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Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	3.7e-005		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

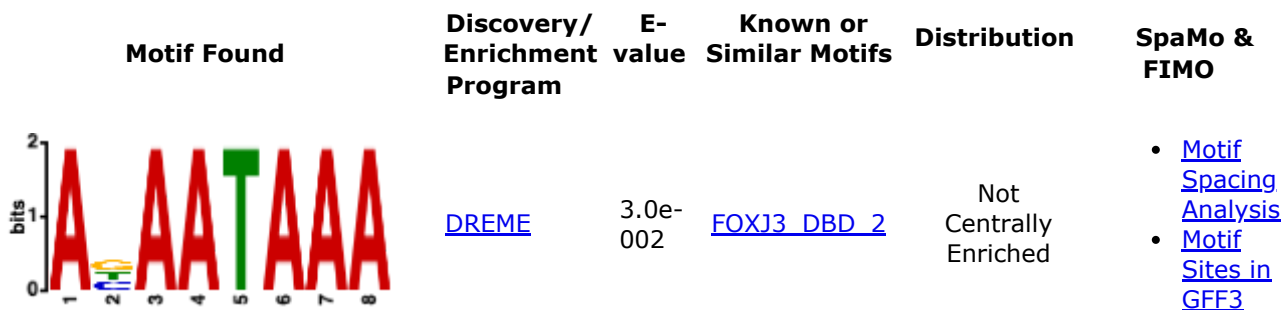
Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	3.6e-003		Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.0e-002	<a href="#">Bcl6b_primary (UP00043_1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
	<a href="#">DREME</a>	1.1e-002	<a href="#">NKX3-2_DBD</a> <a href="#">NKX3-2 (MA0122.2)</a> <a href="#">Nkx2-3_3435.1 (UP00190_1)</a>	Not Centrally Enriched	<ul style="list-style-type: none"> <li>• <a href="#">Motif Spacing Analysis</a></li> <li>• <a href="#">Motif Sites in GFF3</a></li> </ul>
Reverse Complement ⇌					

Motif Found	Discovery/ Enrichment Program	E- value	Known or Similar Motifs	Distribution	SpaMo & FIMO
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Reverse Complement ⇌

## PROGRAMS

Command	Running Time	Status	Outputs
<b>getsize</b> ./Nanog-idr-merged-dreme.fasta 1> \$metrics	0.09s	Success	
<b>fasta-most</b> -min 50 < ./Nanog-idr-merged-dreme.fasta 1> \$metrics	0.22s	Success	
<b>fasta-center</b> -dna -len 100 < ./Nanog-idr-merged-dreme.fasta 1> ./seqs-centered	0.38s	Success	<ul style="list-style-type: none"> <li><a href="#">seqs-centered</a></li> </ul>
<b>fasta-shuffle-letters</b> ./seqs-centered ./seqs-shuffled -kmer 2 -tag -dinuc -dna -seed 1	0.09s	Success	<ul style="list-style-type: none"> <li><a href="#">seqs-shuffled</a></li> </ul>
<b>fasta-get-markov</b> -nostatus -nosummary -dna -m 1 ./Nanog-idr-merged-dreme.fasta ./background	0.05s	Success	<ul style="list-style-type: none"> <li><a href="#">Background</a></li> </ul>
<b>meme</b> ./seqs-centered -oc meme_out -mod zoops -nmotifs 3 -minw 6 -maxw 30 -bfile ./background -dna -searchsize 100000 -time 5082 -revcomp -nostatus	42m 35.03s	Success	<ul style="list-style-type: none"> <li><a href="#">MEME HTML</a></li> <li><a href="#">MEME text</a></li> <li><a href="#">MEME XML</a></li> </ul>
<b>dreme</b> -verbosity 1 -oc dreme_out -png -dna -p ./seqs-centered -n ./seqs-shuffled -t 6117 -e 0.05	1h 21m 37.51s	Success	<ul style="list-style-type: none"> <li><a href="#">DREME HTML</a></li> <li><a href="#">DREME text</a></li> <li><a href="#">DREME XML</a></li> </ul>
<b>centrimo</b> -seqlen 231 -verbosity 1 -oc centrimo_out -bfile ./background -score 5.0 -ethresh 10.0 ./Nanog-idr-merged-dreme.fasta meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE Vertebrates_non-redundant.meme db/MOUSE/uniprobe_mouse.meme	8.67s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">CentriMo HTML</a></li> <li><a href="#">Site Counts</a></li> </ul>
<b>tomtom</b> -verbosity 1 -oc meme_tomtom_out -min-overlap 5 -dist pearson -evaluate -thresh 1 -no-ssc meme_out/meme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE Vertebrates_non-redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 46.88s	Success	<ul style="list-style-type: none"> <li><a href="#">Tomtom HTML</a></li> <li><a href="#">Tomtom TSV</a></li> <li><a href="#">Tomtom XML</a></li> </ul>

Command	Running Time	Status	Outputs
<b>tomtom</b> -verbosity 1 -oc dreme_tomtom_out -min-overlap 5 -dist pearson -evaluate -thresh 1 -no-ssc dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	36.68s	Success	<ul style="list-style-type: none"> <li><a href="#">Tomtom HTML</a></li> <li><a href="#">Tomtom TSV</a></li> <li><a href="#">Tomtom XML</a></li> </ul>
<b>tomtom</b> -verbosity 1 -text -thresh 0.1 ./combined.meme ./combined.meme 1> ./motif_alignment.txt	2.15s	Success	<ul style="list-style-type: none"> <li><a href="#">Motif Alignment</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_1 -bgfile ./background -keepprimary -primary ACAAWRG ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	2m 32.49s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_2 -bgfile ./background -keepprimary -primary HHATTWRCATDWCAAW ./Nanog-idr-merged- dreme.fasta meme_out/meme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	3m 56.06s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_3 -bgfile ./background -keepprimary -primary CCYGCTGD ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 17.62s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_4 -bgfile ./background -keepprimary -primary CATTHM ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	4m 40.43s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_5 -bgfile ./background -keepprimary -primary TAATBR ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	3m 21.95s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>

Command	Running Time	Status	Outputs
<b>spamo</b> -verbosity 1 -oc spamo_out_6 -bgfile ./background -keepprimary -primary CCDCCYCC ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 21.25s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_7 -bgfile ./background -keepprimary -primary CTGTGD ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	3m 9.86s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_8 -bgfile ./background -keepprimary -primary CVGGAA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	2m 19.94s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_9 -bgfile ./background -keepprimary -primary KTWAA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	5m 32.77s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_10 - bgfile ./background -keepprimary -primary SCTGGRA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 54.22s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_11 - bgfile ./background -keepprimary -primary SSSGSSSSGSSSSSGSVGGGSSCGCSGS ./Nanog-idr-merged-dreme.fasta meme_out/meme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 54.40s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>

Command	Running Time	Status	Outputs
<b>spamo</b> -verbosity 1 -oc spamo_out_12 - bgfile ./background -keepprimary -primary AAAGRAAR ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 14.40s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_13 - bgfile ./background -keepprimary -primary CRGCKCC ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 7.29s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_14 - bgfile ./background -keepprimary -primary CACGTG ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	16.82s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_15 - bgfile ./background -keepprimary -primary MTGAATA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	42.41s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_16 - bgfile ./background -keepprimary -primary CCTTTGAW ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	25.34s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_17 - bgfile ./background -keepprimary -primary RGCMATCA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	27.33s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>

Command	Running Time	Status	Outputs
<b>spamo</b> -verbosity 1 -oc spamo_out_18 - bgfile ./background -keepprimary -primary GAGAAWGA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	24.24s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_19 - bgfile ./background -keepprimary -primary ATTAGVA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	1m 4.42s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_20 - bgfile ./background -keepprimary -primary CCACTGDG ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	30.85s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_21 - bgfile ./background -keepprimary -primary GTACTTVA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	15.71s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_22 - bgfile ./background -keepprimary -primary CATTCTTY ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	27.13s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>
<b>spamo</b> -verbosity 1 -oc spamo_out_23 - bgfile ./background -keepprimary -primary CTATTCTY ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non- redundant.meme db/MOUSE/uniprobe_mouse.meme	18.12s	<a href="#">Warnings</a>	<ul style="list-style-type: none"> <li><a href="#">SpaMo HTML</a></li> </ul>

Command	Running Time	Status	Outputs
<b>spamo</b> -verbosity 1 -oc spamo_out_24 -bgfile ./background -keepprimary -primary AAATKCCT ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non-redundant.meme db/MOUSE/uniprobe_mouse.meme	24.05s	<a href="#">Warnings</a>	• <a href="#">SpaMo HTML</a>
<b>spamo</b> -verbosity 1 -oc spamo_out_25 -bgfile ./background -keepprimary -primary AGYACTTA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non-redundant.meme db/MOUSE/uniprobe_mouse.meme	19.00s	<a href="#">Warnings</a>	• <a href="#">SpaMo HTML</a>
<b>spamo</b> -verbosity 1 -oc spamo_out_26 -bgfile ./background -keepprimary -primary ABAATAAA ./Nanog-idr-merged-dreme.fasta dreme_out/dreme.xml meme_out/meme.xml dreme_out/dreme.xml db/EUKARYOTE/jolma2013.meme db/JASPAR/JASPAR2018_CORE_vertbrates_non-redundant.meme db/MOUSE/uniprobe_mouse.meme	27.40s	<a href="#">Warnings</a>	• <a href="#">SpaMo HTML</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_1 --bgfile ./background --motif ACAAWRG dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.40s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_2 --bgfile ./background --motif HHATTWRCATDWCAAW meme_out/meme.xml ./Nanog-idr-merged-dreme.fasta	2.58s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_3 --bgfile ./background --motif CCYGCTGD dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.45s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_4 --bgfile ./background --motif CATTHM dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.32s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_5 --bgfile ./background --motif TAATBR dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.33s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_6 --bgfile ./background --motif CCDCCYCC dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.57s	Success	• <a href="#">FIMO GFF</a> • <a href="#">FIMO HTML</a> • <a href="#">FIMO TSV</a>

Command	Running Time	Status	Outputs
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_7 --bgfile ./background --motif CTGTGD dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.35s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_8 --bgfile ./background --motif CVGGAA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.34s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_9 --bgfile ./background --motif KTWAA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.39s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_10 --bgfile ./background --motif SCTGGRA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.45s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_11 --bgfile ./background --motif SSSGSSSSGSSSSGSVGGGSSCGCSGS meme_out/meme.xml ./Nanog-idr-merged-dreme.fasta	3.08s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_12 --bgfile ./background --motif AAAGRAAR dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.46s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_13 --bgfile ./background --motif CRGCKCC dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.42s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_14 --bgfile ./background --motif CACGTG dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.35s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_15 --bgfile ./background --motif MTGAATA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.40s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_16 --bgfile ./background --motif CCTTTGAW dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.42s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_17 --bgfile ./background --motif RGCMATCA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.41s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_18 --bgfile ./background --motif GAGAAWGA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.40s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_19 --bgfile ./background --motif ATTAGVA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.39s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>



Command	Running Time	Status	Outputs
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_20 --bgfile ./background --motif CCACTGDG dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.40s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_21 --bgfile ./background --motif GTACTTVA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.58s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_22 --bgfile ./background --motif CATTCTTY dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.40s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_23 --bgfile ./background --motif CTATTCTY dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.44s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_24 --bgfile ./background --motif AAATKCCT dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.42s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_25 --bgfile ./background --motif AGYACTTA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.51s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>
<b>fimo</b> --parse-genomic-coord --verbosity 1 --oc fimo_out_26 --bgfile ./background --motif ABAATAAA dreme_out/dreme.xml ./Nanog-idr-merged-dreme.fasta	2.43s	Success	<ul style="list-style-type: none"> <li><a href="#">FIMO GFF</a></li> <li><a href="#">FIMO HTML</a></li> <li><a href="#">FIMO TSV</a></li> </ul>

## INPUT FILES

### Alphabet

**Background source:** built from the (primary) sequences

Name	Bg.				Bg.	Name
Adenine	0.243	A	~	T	0.243	Thymine
Cytosine	0.257	C	~	G	0.257	Guanine

### Primary Sequences

Database	Source	Sequence Count
<a href="#">Nanog-idr-merged-dreme</a>	Nanog-idr-merged-dreme.fasta	11035

### Motifs

Database	Source	Motif Count
jolma2013	db/EUKARYOTE/jolma2013.meme	843



Database	Source	Motif Count
JASPAR2018 CORE vertebrates non-redundant	db/JASPAR/JASPAR2018_CORE Vertebrates_non-redundant.meme	579
uniprobe mouse	db/MOUSE/uniprobe_mouse.meme	386

**MEME-ChIP version**

5.0.5 (Release date: Mon Mar 18 20:12:19 2019 -0700)

**Reference**

Philip Machanick and Timothy L. Bailey, "MEME-ChIP: motif analysis of large DNA datasets", *Bioinformatics*, **27**12, 1696-1697, 2011.

**Command line summary**

```
meme-chip -oc . -time 300 -ccut 100 -order 1 -db db/EUKARYOTE/jolma2013.meme -db
db/JASPAR/JASPAR2018_CORE Vertebrates_non-redundant.meme -db db/MOUSE/uniprobe_mouse.meme -meme-mod zoops -meme-
minw 6 -meme-maxw 30 -meme-nmotifs 3 -meme-searchsize 100000 -dreme-e 0.05 -centrimo-score 5.0 -centrimo-ethresh 10.0
Nanog-idr-merged-dreme.fasta
```

