

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00445	Xvent-1		FG	0.384	0.454	0.778
Novel-3	None		Novel-4	None		FG	0.385	0.474	0.756
Novel-5	None		M01000	AIRE		FG	0.390	0.416	0.804
Novel-7	None		M00238	BarbieBox		FG	0.392	0.560	0.656
Novel-9	None		Novel-10	None		BG	0.394	0.476	0.736

Table 1: Five motif pairs with lowest classification error in Human AdiposeTissue.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp1		M00468	AP-2rep		FG	0.353	0.736	0.558
Novel-3	None		M00528	PPAR		FG	0.364	0.584	0.688
Novel-5	Sp-1		M01014	SOX		FG	0.365	0.732	0.538
Novel-7	None		Novel-8	None		BG	0.378	0.342	0.902
Novel-9	None		M00078	Evi-1		BG	0.380	0.442	0.798

Table 2: Five motif pairs with lowest classification error in Mouse AdiposeTissue.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	KROX		M00469	AP-2 α		FG	0.379	0.536	0.706
Novel-3	None		M00421	MEIS1BHXA9		BG	0.382	0.570	0.666
Novel-5	None		Novel-6	None		BG	0.385	0.444	0.786
Novel-7	Sp-1		M00974	SMAD		FG	0.385	0.518	0.712
Novel-9	None		Novel-10	None		FG	0.386	0.632	0.596

Table 3: Five motif pairs with lowest classification error in Human AdrenalGland.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp1		M00088	Ik-3		FG	0.336	0.652	0.676
Novel-3	None		Novel-4	KROX		FG	0.338	0.794	0.530
Novel-5	None		Novel-6	None		FG	0.338	0.800	0.524
Novel-7	None		M00162	Oct-1		BG	0.371	0.444	0.814
Novel-9	None		M00145	Brn-2		BG	0.371	0.462	0.796

Table 4: Five motif pairs with lowest classification error in Mouse AdrenalGland.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.378	0.440	0.804
Novel-3	None		M00063	IRF-2		BG	0.380	0.412	0.828
Novel-5	None		Novel-6	KROX		FG	0.381	0.500	0.738
Novel-7	None		Novel-8	None		BG	0.382	0.466	0.770
Novel-9	None		M00104	CDP-CR1		BG	0.383	0.424	0.810

Table 5: Five motif pairs with lowest classification error in Human Amygdala.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.391	0.586	0.632
Novel-3	None		M00025	Elk-1		BG	0.392	0.488	0.728
Novel-5	None		M00073	δEF1		FG	0.392	0.490	0.726
Novel-7	Sp-1		Novel-8	None		FG	0.394	0.416	0.796
Novel-9	None		M00239	v-ErbA		BG	0.394	0.428	0.784

Table 6: Five motif pairs with lowest classification error in Mouse Amygdala.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00193	NF-1		FG	0.380	0.466	0.774
Novel-3	None		Novel-4	None		FG	0.384	0.460	0.772
Novel-5	Sp1		M00394	Msx-1		BG	0.386	0.574	0.654
Novel-7	None		Novel-8	CdxA		BG	0.387	0.592	0.634
Novel-9	None		M00764	HNF-4		FG	0.388	0.408	0.816

Table 7: Five motif pairs with lowest classification error in Human BoneMarrow.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00916	CREB		BG	0.367	0.654	0.612
Novel-3	None		Novel-4	NRF-2		BG	0.374	0.526	0.726
Novel-5	None		Novel-6	Sp-1		BG	0.376	0.640	0.608
Novel-7	Sp1		M00277	Lmo2		BG	0.378	0.498	0.746
Novel-9	None		Novel-10	Nrf-1		BG	0.379	0.550	0.692

Table 8: Five motif pairs with lowest classification error in Mouse BoneMarrow.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00321	MuscleInit		FG	0.390	0.462	0.758
Novel-3	None		Novel-4	Sp-1		FG	0.397	0.390	0.816
Novel-5	PITX2		M00017	ATF		FG	0.397	0.462	0.744
Novel-7	Lyf-1		M00032	c-Ets-1		FG	0.400	0.492	0.708
Novel-9	None		M00431	E2F-1		FG	0.401	0.428	0.770

Table 9: Five motif pairs with lowest classification error in Human CD4TCells.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00650	MTF-1		FG	0.368	0.520	0.744
Novel-3	None		Novel-4	None		FG	0.372	0.412	0.844
Novel-5	Hmx3		Novel-6	None		FG	0.374	0.526	0.726
Novel-7	None		M00025	Elk-1		FG	0.376	0.448	0.800
Novel-9	None		M00447	AR		FG	0.376	0.558	0.690

Table 10: Five motif pairs with lowest classification error in Mouse CD4TCells.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00691	ATF-1		M00743	c-Ets-1		FG	0.384	0.500	0.732
Novel-3	None		Novel-4	None		BG	0.387	0.398	0.828
Novel-5	None		Novel-6	AP-4		BG	0.390	0.496	0.724
Novel-7	None		M00626	RFX1		BG	0.392	0.506	0.710
Novel-9	None		M00264	Staf		BG	0.395	0.450	0.760

Table 11: Five motif pairs with lowest classification error in Human CD8TCells.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00761	p53decamer		FG	0.388	0.576	0.648
Novel-3	None		Novel-4	None		FG	0.390	0.546	0.674
Novel-5	None		M00317	PolyA		FG	0.393	0.502	0.712
Novel-7	None		Novel-8	None		FG	0.398	0.432	0.772
Novel-9	None		M01009	HES1		FG	0.401	0.520	0.678

Table 12: Five motif pairs with lowest classification error in Mouse CD8TCells.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp-1		Novel-2	None		FG	0.360	0.504	0.776
Novel-3	None		M00526	GCNF		BG	0.363	0.568	0.706
Novel-5	None		M00225	STAT3		BG	0.366	0.640	0.628
Novel-7	None		M00128	GATA-1		BG	0.370	0.588	0.672
Novel-9	None		M00742	HFH-4		BG	0.374	0.632	0.620

Table 13: Five motif pairs with lowest classification error in Human Cerebellum.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.371	0.462	0.796
Novel-3	None		Novel-4	None		FG	0.379	0.526	0.716
Novel-5	None		Novel-6	None		FG	0.379	0.636	0.606
Novel-7	CAC-bind		Novel-8	Sp1		FG	0.380	0.530	0.710
Novel-9	None		Novel-10	None		BG	0.381	0.442	0.796

Table 14: Five motif pairs with lowest classification error in Mouse Cerebellum.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	Nrf-1		BG	0.326	0.714	0.634
Novel-3	Sp-1		M00651	NF-muE1		BG	0.336	0.728	0.600
Novel-5	Sp-1		M00189	AP-2		BG	0.346	0.588	0.720
M00539	Arnt		M00803	E2F		BG	0.347	0.832	0.474
Novel-9	None		M00025	Elk-1		BG	0.348	0.698	0.606

Table 15: Five motif pairs with lowest classification error in Human DorsalRootGanglia.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00057	COMP1		FG	0.365	0.802	0.468
Novel-3	None		M00927	AP-4		FG	0.368	0.612	0.652
Novel-5	None		Novel-6	None		FG	0.369	0.684	0.578
Novel-7	None		M00233	MEF-2		FG	0.371	0.648	0.610
Novel-9	Sp-1		M00532	RP58		FG	0.374	0.432	0.820

Table 16: Five motif pairs with lowest classification error in Mouse DorsalRootGanglia.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		BG	0.351	0.636	0.662
Novel-3	None		M00241	Nkx2-5		BG	0.351	0.662	0.636
Novel-5	None		Novel-6	None		FG	0.354	0.670	0.622
Novel-7	None		Novel-8	None		BG	0.355	0.548	0.742
Novel-9	None		Novel-10	None		FG	0.355	0.682	0.608

Table 17: Five motif pairs with lowest classification error in Human Heart.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp-1		Novel-2	None		BG	0.389	0.454	0.768
Novel-3	None		Novel-4	None		BG	0.390	0.444	0.776
Novel-5	KROX		M00124	Pbx1b		BG	0.402	0.492	0.704
Novel-7	None		M00075	GATA-1		BG	0.404	0.496	0.696
Novel-9	None		M00985	Stra13		FG	0.405	0.412	0.778

Table 18: Five motif pairs with lowest classification error in Mouse Heart.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00243	Egr-1		FG	0.394	0.536	0.676
Novel-3	KROX		M00941	MEF-2		FG	0.401	0.524	0.674
Novel-5	Sp-1		Novel-6	None		FG	0.402	0.432	0.764
Novel-7	None		Novel-8	None		BG	0.403	0.464	0.730
Novel-9	KROX		M00331	LV-TATA		FG	0.403	0.486	0.708

Table 19: Five motif pairs with lowest classification error in Human Hypothalamus.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M01013	IPF1		FG	0.374	0.516	0.736
Novel-3	None		Novel-4	None		FG	0.380	0.492	0.748
Novel-5	None		M00744	POU1F1		FG	0.382	0.548	0.688
Novel-7	None		Novel-8	None		FG	0.384	0.482	0.750
Novel-9	None		M00423	FOXJ2		FG	0.385	0.546	0.684

Table 20: Five motif pairs with lowest classification error in Mouse Hypothalamus.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.370	0.462	0.798
Novel-3	None		Novel-4	None		FG	0.381	0.476	0.762
Novel-5	None		Novel-6	None		FG	0.381	0.564	0.674
Novel-7	None		M00326	Pax-1		BG	0.383	0.624	0.610
Novel-9	None		Novel-10	None		FG	0.384	0.588	0.644

Table 21: Five motif pairs with lowest classification error in Human Kidney.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	PPAR		FG	0.389	0.396	0.826
Novel-3	None		M00684	XPF-1		FG	0.389	0.460	0.762
Novel-5	None		M00469	AP-2α		FG	0.392	0.690	0.526
Novel-7	None		M00206	HNF-1		FG	0.393	0.438	0.776
Novel-9	None		Novel-10	None		FG	0.393	0.554	0.660

Table 22: Five motif pairs with lowest classification error in Mouse Kidney.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.346	0.570	0.738
Novel-3	None		Novel-4	None		FG	0.355	0.566	0.724
Novel-5	None		Novel-6	None		FG	0.358	0.482	0.802
Novel-7	None		M00103	Clox		BG	0.358	0.630	0.654
Novel-9	None		Novel-10	None		BG	0.359	0.570	0.712

Table 23: Five motif pairs with lowest classification error in Human Liver.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	GABP		BG	0.325	0.654	0.696
Novel-3	None		M00332	Whn		BG	0.329	0.682	0.660
Novel-5	None		Novel-6	None		BG	0.332	0.572	0.764
Novel-7	None		Novel-8	None		BG	0.332	0.598	0.738
Novel-9	None		Novel-10	None		FG	0.379	0.530	0.712

Table 24: Five motif pairs with lowest classification error in Mouse Liver.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	HNF1		Novel-2	None		BG	0.307	0.588	0.798
Novel-3	None		Novel-4	None		BG	0.307	0.610	0.776
Novel-5	MEF-2		M00102	CDP		BG	0.308	0.640	0.744
Novel-7	None		Novel-8	None		FG	0.331	0.618	0.720
Novel-9	None		Novel-10	Sp-1		FG	0.339	0.532	0.790

Table 25: Five motif pairs with lowest classification error in Human Lung.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp-1		Novel-2	None		FG	0.334	0.706	0.626
Novel-3	Sp-1		Novel-4	CAC-bind		FG	0.347	0.600	0.706
Novel-5	Sp-1		Novel-6	None		FG	0.347	0.602	0.704
Novel-7	None		Novel-8	IRF		BG	0.364	0.458	0.814
Novel-9	None		Novel-10	None		BG	0.365	0.472	0.798

Table 26: Five motif pairs with lowest classification error in Mouse Lung.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.383	0.612	0.622
Novel-3	None		Novel-4	None		FG	0.393	0.426	0.788
Novel-5	None		M00214	SEF-1		BG	0.402	0.436	0.760
Novel-7	IRF		Novel-8	None		FG	0.403	0.372	0.822
Novel-9	None		M00670	TCF-1		BG	0.405	0.412	0.778

Table 27: Five motif pairs with lowest classification error in Human LymphNode.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		M00095	CDP		BG	0.363	0.474	0.800
Novel-3	None		M00734	CIZ		BG	0.364	0.570	0.702
Novel-5	None		Novel-6	None		BG	0.365	0.506	0.764
Novel-7	None		Novel-8	None		BG	0.368	0.530	0.734
Novel-9	CAC-bind		M00035	v-Maf		FG	0.371	0.468	0.790

Table 28: Five motif pairs with lowest classification error in Mouse LymphNode.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00025	Elk-1		M00695	ETF		BG	0.387	0.596	0.630
Novel-3	None		Novel-4	Nrf-1		BG	0.392	0.364	0.852
Novel-5	None		Novel-6	None		FG	0.394	0.572	0.640
M00444	VDR		Novel-8	None		FG	0.396	0.434	0.774
Novel-9	None		Novel-10	None		FG	0.398	0.450	0.754

Table 29: Five motif pairs with lowest classification error in Human OlfactoryBulb.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	CAC-bind		Novel-2	None		FG	0.366	0.600	0.668
Novel-3	None		Novel-4	None		FG	0.379	0.458	0.784
M00773	MYB		Novel-6	None		BG	0.385	0.652	0.578
Novel-7	None		Novel-8	None		BG	0.389	0.438	0.784
Novel-9	None		Novel-10	None		BG	0.391	0.520	0.698

Table 30: Five motif pairs with lowest classification error in Mouse OlfactoryBulb.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.364	0.482	0.790
M00976	AHRHIF		Novel-4	Sp1		BG	0.364	0.544	0.728
Novel-5	None		Novel-6	None		BG	0.368	0.564	0.700
Novel-7	None		Novel-8	None		BG	0.371	0.524	0.734
Novel-9	None		Novel-10	None		BG	0.376	0.512	0.736

Table 31: Five motif pairs with lowest classification error in Human Ovary.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00716	ZF5		Novel-2	Sp-1		FG	0.295	0.740	0.670
M00079	Evi-1		M00802	Pit-1		BG	0.334	0.644	0.688
M00619	Alx-4		Novel-6	MEF-2		BG	0.338	0.612	0.712
M00138	Oct-1		Novel-8	None		BG	0.344	0.542	0.770
M00616	AFP1		Novel-10	None		BG	0.345	0.498	0.812

Table 32: Five motif pairs with lowest classification error in Mouse Ovary.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00489	Nkx6-2		M00976	AHRHIF		BG	0.394	0.628	0.584
M00701	SMAD-3		Novel-4	None		FG	0.397	0.434	0.772
Novel-5	None		Novel-6	None		FG	0.399	0.522	0.680
Novel-7	None		Novel-8	None		FG	0.400	0.452	0.748
M00698	HEB		Novel-10	None		FG	0.401	0.462	0.736

Table 33: Five motif pairs with lowest classification error in Human Pancreas.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00803	E2F		Novel-2	GABP		BG	0.310	0.684	0.696
M00144	BSAP		Novel-4	None		BG	0.317	0.752	0.614
Novel-5	None		Novel-6	None		FG	0.368	0.530	0.734
M00342	Oct-1		Novel-8	None		FG	0.372	0.448	0.808
M00209	NF-Y		Novel-10	None		FG	0.376	0.532	0.716

Table 34: Five motif pairs with lowest classification error in Mouse Pancreas.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		BG	0.394	0.478	0.734
M00155	ARP-1		Novel-4	None		BG	0.395	0.412	0.798
M00313	GEN-1NI		Novel-6	None		FG	0.397	0.432	0.774
M00634	GCM		Novel-8	None		BG	0.398	0.442	0.762
Novel-9	None		Novel-10	None		FG	0.400	0.370	0.830

Table 35: Five motif pairs with lowest classification error in Human Pituitary.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00448	Zic1		Novel-2	None		FG	0.385	0.606	0.624
Novel-3	None		Novel-4	None		BG	0.392	0.462	0.754
M00761	p53decamer		Novel-6	Sp-1		FG	0.393	0.468	0.746
M00419	MEIS1		Novel-8	Sp-1		FG	0.394	0.500	0.712
M00312	Bel-1		Novel-10	Sp-1		FG	0.398	0.428	0.776

Table 36: Five motif pairs with lowest classification error in Mouse Pituitary.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp-1		Novel-2	None		FG	0.358	0.542	0.742
M00040	CRE-BP1		Novel-4	None		BG	0.361	0.600	0.678
Novel-5	MAZR		Novel-6	None		FG	0.363	0.632	0.642
Novel-7	Sp-1		Novel-8	None		FG	0.363	0.652	0.622
M00465	POU6F1		Novel-10	None		BG	0.364	0.526	0.746

Table 37: Five motif pairs with lowest classification error in Human Placenta.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00616	AFP1		Novel-2	None		BG	0.387	0.386	0.840
Novel-3	NF-muE1		Novel-4	Nrf-1		BG	0.387	0.428	0.798
M00102	CDP		Novel-6	None		BG	0.392	0.540	0.676
Novel-7	None		Novel-8	None		FG	0.393	0.394	0.820
M00626	RFX1		Novel-10	None		BG	0.393	0.454	0.760

Table 38: Five motif pairs with lowest classification error in Mouse Placenta.











Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00444	VDR		Novel-2	None		FG	0.372	0.550	0.706
Novel-3	None		Novel-4	None		FG	0.375	0.514	0.736
Novel-5	None		Novel-6	None		BG	0.377	0.440	0.806
Novel-7	None		Novel-8	None		FG	0.380	0.508	0.732
Novel-9	None		Novel-10	None		BG	0.381	0.566	0.672

Table 39: Five motif pairs with lowest classification error in Human Prostate.











Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00099	S8		Novel-2	Sp1		FG	0.384	0.490	0.742
M01000	AIRE		Novel-4	None		BG	0.385	0.454	0.776
M00476	FOXO4		Novel-6	None		FG	0.385	0.570	0.660
M00793	YY1		Novel-8	Sp1		FG	0.387	0.620	0.606
Novel-9	MEF-2		Novel-10	None		FG	0.393	0.626	0.588

Table 40: Five motif pairs with lowest classification error in Mouse Prostate.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00939	E2F		Novel-2	KROX		BG	0.320	0.740	0.620
Novel-3	Sp-1		Novel-4	None		BG	0.322	0.712	0.644
M00978	LEF1/TCF1		Novel-6	None		FG	0.324	0.546	0.806
Novel-7	None		Novel-8	Oct-1		FG	0.327	0.546	0.800
Novel-9	Sp1		Novel-10	None		BG	0.327	0.750	0.596

Table 41: Five motif pairs with lowest classification error in Human SalivaryGland.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		BG	0.362	0.626	0.650
Novel-3	None		Novel-4	None		BG	0.363	0.674	0.600
M00104	CDP-CR1		Novel-6	Nrf-1		BG	0.369	0.706	0.556
M00803	E2F		Novel-8	NRF-2		BG	0.374	0.728	0.524
M00109	C/EBPβ		Novel-10	None		FG	0.384	0.414	0.818

Table 42: Five motif pairs with lowest classification error in Mouse SalivaryGland.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	Nrf-1		BG	0.334	0.656	0.676
M00227	v-Myb		M00939	E2F		BG	0.337	0.700	0.626
M00221	SREBP-1		Novel-6	GABP		BG	0.348	0.492	0.812
M00238	BarbieBox		Novel-8	Sp-1		BG	0.348	0.722	0.582
Novel-9	Sp-1		Novel-10	None		BG	0.348	0.742	0.562

Table 43: Five motif pairs with lowest classification error in Human SkeletalMuscle.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00773	MYB		Novel-2	ISRE		BG	0.385	0.678	0.552
Novel-3	None		Novel-4	None		BG	0.392	0.448	0.768
Novel-5	None		Novel-6	None		FG	0.393	0.456	0.758
Novel-7	None		Novel-8	None		FG	0.397	0.444	0.762
Novel-9	None		Novel-10	None		FG	0.399	0.434	0.768

Table 44: Five motif pairs with lowest classification error in Mouse SkeletalMuscle.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00481	AR		Novel-2	None		FG	0.364	0.504	0.768
Novel-3	None		Novel-4	OCT-x		BG	0.368	0.444	0.820
Novel-5	None		Novel-6	HP1		BG	0.371	0.500	0.758
Novel-7	None		Novel-8	None		BG	0.372	0.510	0.746
M00332	Whn		Novel-10	None		FG	0.373	0.534	0.720

Table 45: Five motif pairs with lowest classification error in Human Testis.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00795	Octamer		Novel-2	None		FG	0.376	0.482	0.766
M00532	RP58		Novel-4	None		BG	0.381	0.470	0.768
M00141	Lyf-1		Novel-6	None		FG	0.382	0.458	0.778
Novel-7	None		Novel-8	None		BG	0.386	0.424	0.804

Table 46: Five motif pairs with lowest classification error in Mouse Testis.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		BG	0.355	0.532	0.758
M00045	E4BP4		Novel-4	None		BG	0.355	0.590	0.700
Novel-5	None		Novel-6	None		BG	0.364	0.474	0.798
Novel-7	None		Novel-8	None		FG	0.364	0.482	0.790
Novel-9	None		Novel-10	None		BG	0.368	0.498	0.766

Table 47: Five motif pairs with lowest classification error in Human Thymus.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00918	E2F		Novel-2	None		FG	0.350	0.608	0.692
Novel-3	Sp-1		Novel-4	GABP		FG	0.374	0.518	0.734
M00476	FOXO4		Novel-6	None		FG	0.379	0.446	0.796
Novel-7	None		Novel-8	Sp-1		FG	0.381	0.462	0.776
Novel-9	None		Novel-10	None		BG	0.392	0.332	0.884

Table 48: Five motif pairs with lowest classification error in Mouse Thymus.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.379	0.454	0.788
M01017	PBX1		Novel-4	Sp1		FG	0.379	0.570	0.672
M00652	Nrf-1		Novel-6	Sp-1		FG	0.390	0.516	0.704
M00331	LV-TATA		Novel-8	None		FG	0.390	0.534	0.686
M00105	CDP-CR3		Novel-10	Sp-1		FG	0.391	0.508	0.710

Table 49: Five motif pairs with lowest classification error in Human Thyroid.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	AP-2		Novel-2	None		BG	0.331	0.780	0.558
M00657	PTF1 β		Novel-4	None		BG	0.333	0.716	0.618
Novel-5	None		Novel-6	Nrf-1		BG	0.333	0.726	0.608
Novel-7	Sp-1		Novel-8	None		BG	0.334	0.696	0.636
Novel-9	GABP		Novel-10	None		BG	0.340	0.564	0.756

Table 50: Five motif pairs with lowest classification error in Mouse Thyroid.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.391	0.402	0.816
M00241	Nkx2-5		Novel-4	None		FG	0.393	0.450	0.764
M00801	CREB		Novel-6	None		BG	0.397	0.402	0.804
Novel-7	None		Novel-8	None		FG	0.398	0.466	0.738
M00626	RFX1		Novel-10	ISRE		FG	0.399	0.484	0.718

Table 51: Five motif pairs with lowest classification error in Human Trachea.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		FG	0.387	0.410	0.816
Novel-3	HFH-4		Novel-4	Sp-1		FG	0.387	0.534	0.692
Novel-5	None		Novel-6	None		FG	0.388	0.514	0.710
M00665	Sp3		Novel-8	None		FG	0.393	0.514	0.700
Novel-9	None		Novel-10	None		FG	0.396	0.624	0.584

Table 52: Five motif pairs with lowest classification error in Mouse Trachea.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00918	E2F		Novel-2	None		BG	0.326	0.668	0.680
Novel-3	None		Novel-4	Nrf-1		BG	0.329	0.708	0.634
M00651	NF-muE1		Novel-6	None		BG	0.337	0.718	0.608
Novel-7	None		Novel-8	GABP		BG	0.339	0.736	0.586
Novel-9	None		Novel-10	HNF-3β		FG	0.341	0.536	0.782

Table 53: Five motif pairs with lowest classification error in Human TrigeminalGanglion.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	None		Novel-2	None		BG	0.396	0.466	0.742
Novel-3	None		Novel-4	None		FG	0.398	0.476	0.728
M00999	AIRE		Novel-6	None		FG	0.400	0.386	0.814
M00809	FOX		Novel-8	CACCC-bind		FG	0.400	0.426	0.774
M00405	MEF-2		Novel-10	None		FG	0.402	0.434	0.762

Table 54: Five motif pairs with lowest classification error in Mouse TrigeminalGanglion.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
M00237	AhR-Arnt		Novel-2	None		FG	0.385	0.612	0.618
M00721	CACCC-bind		Novel-4	None		BG	0.386	0.522	0.706
M00978	LEF1TCF1		Novel-6	None		FG	0.388	0.504	0.720
M00277	Lmo2		Novel-8	None		BG	0.389	0.498	0.724
Novel-9	Lyf-1		Novel-10	None		BG	0.391	0.548	0.670

Table 55: Five motif pairs with lowest classification error in Human Uterus.

Accession	Factor	Logo	Accession	Factor	Logo	Enrich	Error	Sens	Spec
Novel-1	Sp-1		Novel-2	None		FG	0.348	0.748	0.556
Novel-3	None		Novel-4	None		FG	0.349	0.678	0.624
Novel-5	CACCC-bind		Novel-6	Sp-1		FG	0.350	0.672	0.628
Novel-7	Sp-1		Novel-8	None		FG	0.353	0.656	0.638
M00665	Sp3		Novel-10	Sp-1		FG	0.355	0.614	0.676

Table 56: Five motif pairs with lowest classification error in Mouse Uterus.