

	DRMN-ST (array)	DRMN-FUSED (array)	DRMN-ST (seq)	DRMN-FUSED (seq)
Histone, $k = 3$	0.023917	0.054937	0.424526	0.265622
Histone, $k = 5$	0.013377	0.098694	0.474708	0.633895
Histone, $k = 7$	0.008152	0.011497	0.628295	0.659197
Histone, $k = 9$	0.009600	0.024030	0.480572	0.675248
Histone, $k = 11$	0.003874	0.004914	0.516016	0.689096
Motif, $k = 3$	0.057206	0.424781	0.610924	0.835703
Motif, $k = 5$	0.627731	0.680464	0.198269	0.830775
Motif, $k = 7$	0.295628	0.559781	0.691416	0.819878
Motif, $k = 9$	0.375534	0.235634	0.900639	0.664535
Motif, $k = 11$	0.897341	0.076546	0.933658	0.469969
Histone+Motif, $k = 3$	0.433659	0.104275	0.022633	0.242883
Histone+Motif, $k = 5$	0.039978	0.043021	0.439235	0.353621
Histone+Motif, $k = 7$	0.002725	0.001691	0.293455	0.693513
Histone+Motif, $k = 9$	0.000338	0.059799	0.345382	0.676923
Histone+Motif, $k = 11$	0.002019	0.029988	0.311062	0.523838

Supplemental Table S1. Comparison of DRMN and RMN predictions from **Figure 2**. The p -values of two sample t-test for DRMN>RMN are reported.