Opening Z-score for dmelanogaster shuffled hmm Average Z-score 0.4 0.2 0.0 -0.2 -100-200-100100 200-200 200-200 100 100 -100200 Position around TSS (bp) source — hmm — raw Average Z-score 0.4 0.2 0.0 -0.2 -200-100100 200 Position around TSS (bp) Absolute difference value Difference between raw and hmm shapes 0.3 0.2 -200-100100 200 Position around TSS (bp)