

## Logos of All Twelve de novo Motifs:

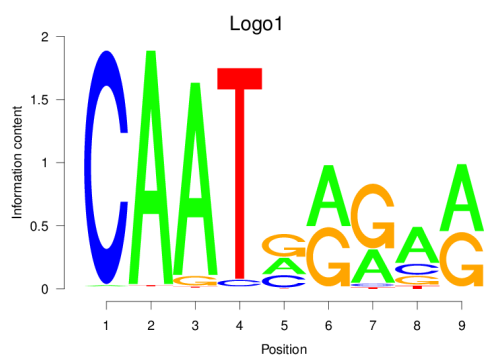


Figure 1: Phylogibbs motif 1. Window length = 10, with alignments

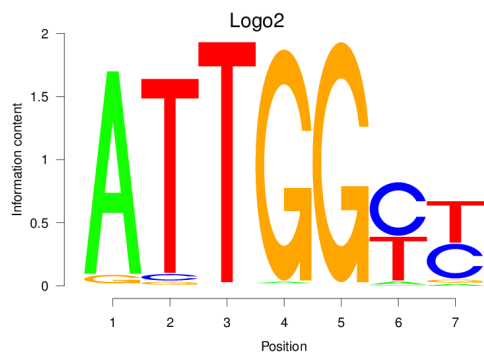


Figure 2: Phylogibbs motif 2. Window length = 10, with alignments

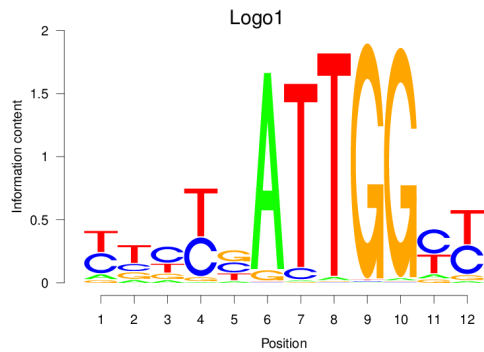


Figure 3: Phylogibbs motif 3. Window length = 15, with alignments

Figure 4: Phylogibbs motif 4. Window length = 15, with alignments

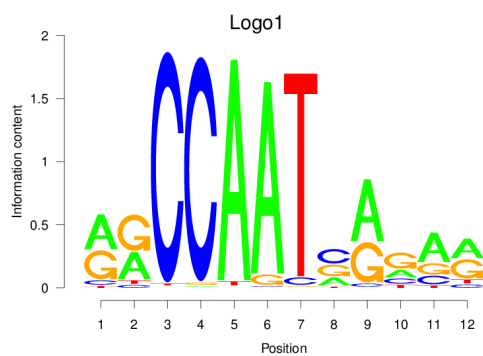


Figure 5: Phylogibbs motif 5. Window length = 20, with alignments

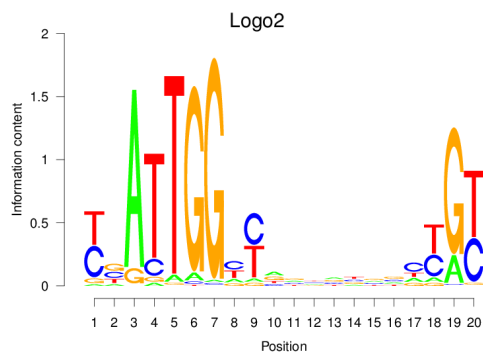


Figure 6: Phylogibbs motif 6. Window length = 20, with alignments

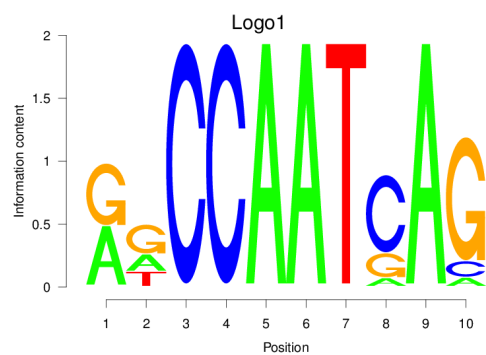


Figure 7: Phylogibbs motif 7. Window length = 10, no alignments

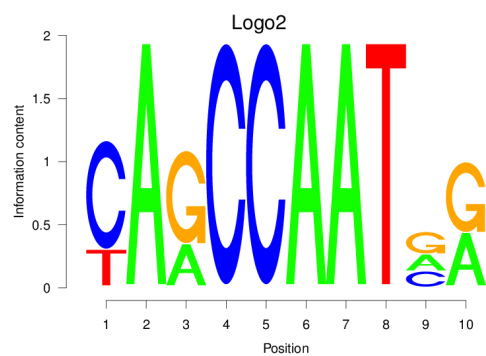


Figure 8: Phylogibbs motif 8. Window length = 10, no alignments

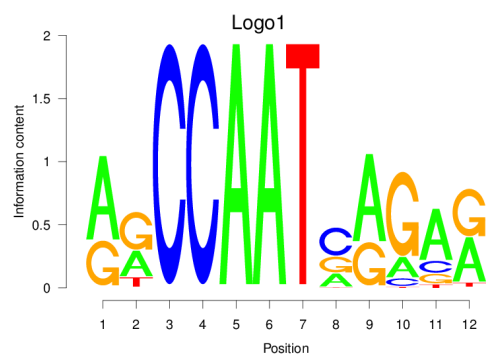


Figure 9: Phylogibbs motif 9. Window length = 15, no alignments



## Logos for All Twelve Refined de novo Motifs.

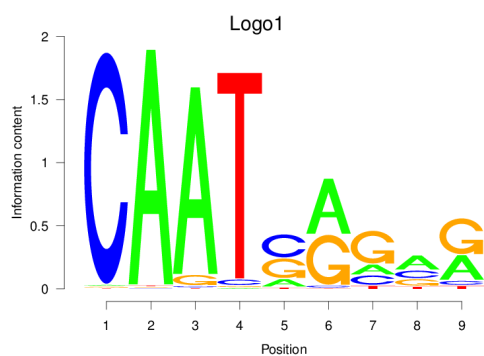


Figure 13: Refined logo for PhyloGibbs motif 1. Window length = 10, with alignments

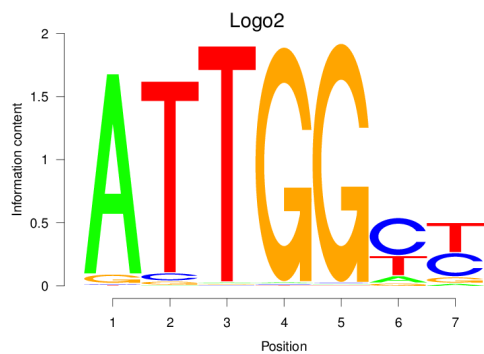


Figure 14: Refined logo for PhyloGibbs motif 2. Window length = 10, with alignments

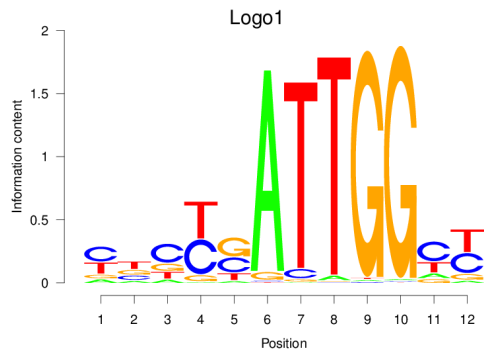


Figure 15: Refined logo for PhyloGibbs motif 3. Window length = 15, with alignments

Figure 16: Refined logo for PhyloGibbs motif 4. Window length = 15, with alignments

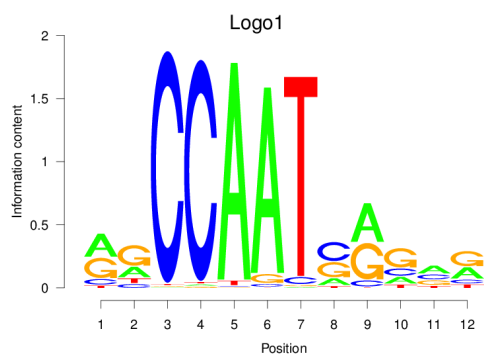


Figure 17: Refined logo for PhyloGibbs motif 5. Window length = 20, with alignments

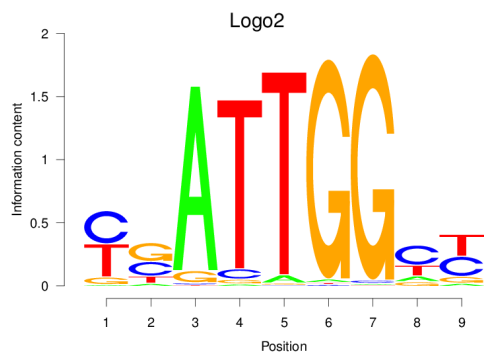


Figure 18: Refined logo for PhyloGibbs motif 6. Window length = 20, with alignments

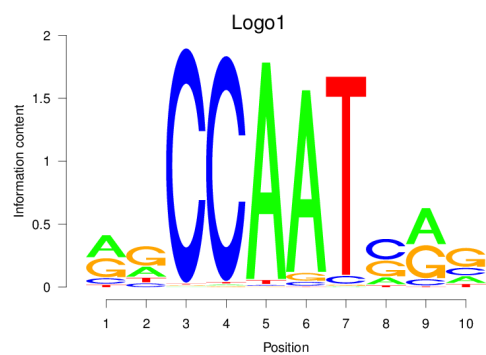


Figure 19: Refined logo for PhyloGibbs motif 7. Window length = 10, no alignments

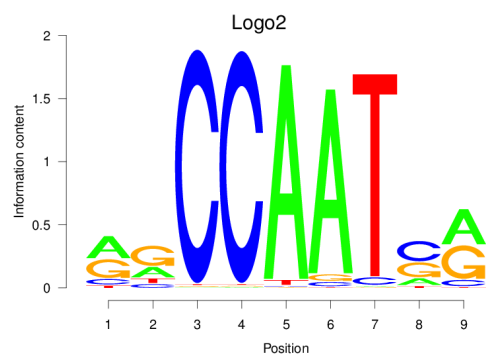


Figure 20: Refined logo for PhyloGibbs motif 8. Window length = 10, no alignments

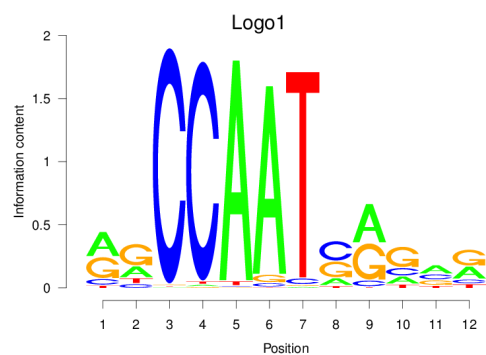


Figure 21: Refined logo for PhyloGibbs motif 9. Window length = 15, no alignments

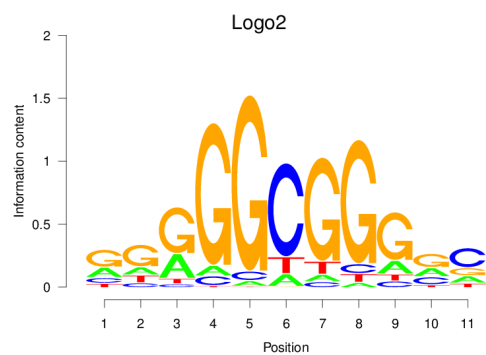


Figure 22: Refined logo for PhyloGibbs motif 10. Window length = 15, no alignments

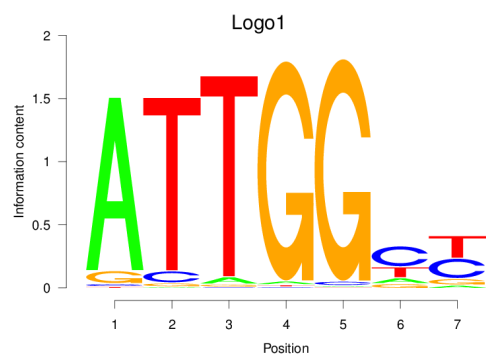


Figure 23: Refined logo for PhyloGibbs motif 11. Window length = 20, no alignments

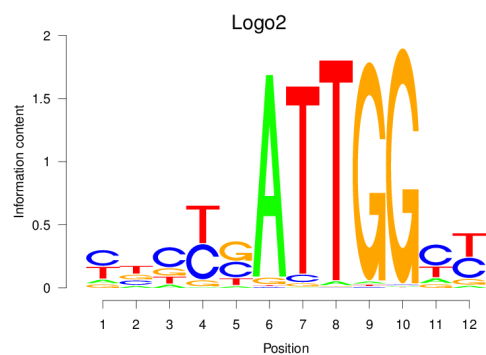


Figure 24: Refined logo for PhyloGibbs motif 12. Window length = 20, no alignments



## Precision and Recall Plots of Four Best Performing Motifs:

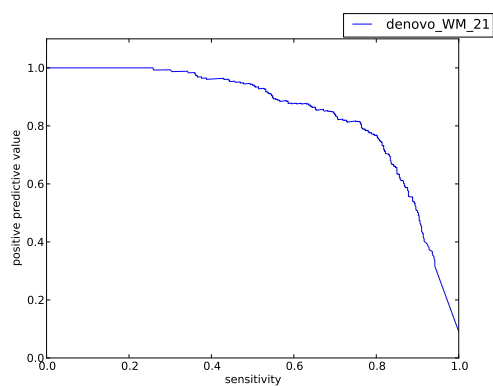


Figure 25: Sensitivity - positive predictive value plot of 4 best performing motifs