

Width	Column Type Set	bits/column	min $g$ (local search)
6	A	1.900	0.01
7	A	1.900	0.01
8	A	1.800	0.01
9	A	1.650	0.05
10	A	1.600	0.05
11	B	1.550	0.10
12	B	1.500	0.10

$$A = \left\{ \left[ \begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 1 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ 1 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ 0 \\ 1 \end{array} \right], \left[ \begin{array}{c} .5 \\ .5 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} .5 \\ 0 \\ .5 \\ 0 \end{array} \right], \left[ \begin{array}{c} .5 \\ 0 \\ 0 \\ .5 \end{array} \right], \left[ \begin{array}{c} 0 \\ .5 \\ .5 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ .5 \\ 0 \\ .5 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ .5 \\ .5 \end{array} \right], \left[ \begin{array}{c} .33 \\ .33 \\ .33 \\ 0 \end{array} \right], \left[ \begin{array}{c} .33 \\ .33 \\ 0 \\ .33 \end{array} \right], \left[ \begin{array}{c} .33 \\ 0 \\ .33 \\ .33 \end{array} \right], \left[ \begin{array}{c} 0 \\ .33 \\ .33 \\ .33 \end{array} \right] \right\}$$

$$B = \left\{ \left[ \begin{array}{c} 1 \\ 0 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 1 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ 1 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ 0 \\ 1 \end{array} \right], \left[ \begin{array}{c} .5 \\ .5 \\ 0 \\ 0 \end{array} \right], \left[ \begin{array}{c} .5 \\ 0 \\ .5 \\ 0 \end{array} \right], \left[ \begin{array}{c} .5 \\ 0 \\ 0 \\ .5 \end{array} \right], \left[ \begin{array}{c} 0 \\ .5 \\ .5 \\ 0 \end{array} \right], \left[ \begin{array}{c} 0 \\ .5 \\ 0 \\ .5 \end{array} \right], \left[ \begin{array}{c} 0 \\ 0 \\ .5 \\ .5 \end{array} \right], \left[ \begin{array}{c} 0 \\ .5 \\ .5 \\ .5 \end{array} \right] \right\}$$

Table 7. Values for parameters of the DME algorithm that we have found to produce good results. For each width, the table gives the set of column types, minimum bits/column and smallest value of  $g$  in local search. For the column type sets, we usually replace zero entries with  $10^{-10}$  to prevent taking logarithms of 0. These are the values we use most often for identifying transcription factor binding sites.