| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|--|------------------------------|---|---------------------------------------|-------------------------|---------------------------------------|---------------------------------|
| glass-0-1-6-vs-2 | 0.566 ± 0.108 | 0.569 ± 0.107 | 0.722 ± 0.119 | 0.604 ± 0.114 | 0.746 ± 0.105 | 0.635 ± 0.120 |
| ecoli-0-3-4-7-vs-5-6 | 0.855 ± 0.086 | 0.865 ± 0.082 | 0.888 ± 0.081 | 0.824 ± 0.087 | 0.884 ± 0.077 | 0.834 ± 0.082 |
| shuttle- $c2$ - vs - $c4$ | 0.990 ± 0.048 | $0.990 \stackrel{4,6}{\pm} 0.048$ | 0.875 ± 0.207 | 0.854 ± 0.212 | $0.875 \overset{4,6}{\pm} 0.207$ | 0.854 ± 0.212 |
| $glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$ | 0.561 ± 0.095 | 0.565 ± 0.097 | 0.739 ± 0.111 | 0.591 ± 0.122 | 0.730 ± 0.123 | 0.612 ± 0.119 |
| yeast-1-2-8-9- vs -7 | 0.534 ± 0.050 | 0.544 ± 0.053 | 0.670 ± 0.080 | 0.553 ± 0.063 | 0.676 ± 0.076 | 0.549 ± 0.054 |
| ecoli- 0 - 1 - 4 - 6 - vs - 5 | 0.842 ± 0.092 | 0.847 ± 0.087 | 0.894 ± 0.078 | 0.842 ± 0.084 | 0.902 ± 0.077 | 0.856 ± 0.080 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.914 ± 0.143 | 0.929 ± 0.138 | 0.879 ± 0.152 | 0.659 ± 0.191 | 0.894 ± 0.150 | 0.758 ± 0.201 |
| yeast-2-vs-4 | 0.831 ± 0.072 | 0.831 ± 0.069 | 0.851 ± 0.067 | 0.780 ± 0.060 | 0.852 ± 0.067 | 0.789 ± 0.054 |
| $glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.913 ± 0.157 | 0.913 ± 0.157 | 0.803 ± 0.181 | 0.713 ± 0.191 | 0.805 ± 0.186 | 0.760 ± 0.193 |
| ecoli-0-3-4-6-vs-5 | 0.844 ± 0.124 | 0.849 ± 0.123 | $0.898 \stackrel{4}{\pm} 0.095$ | 0.869 ± 0.096 | $0.903 \stackrel{4}{\pm} 0.089$ | 0.874 ± 0.094 |
| $yeast\hbox{-} 0\hbox{-} 3\hbox{-} 5\hbox{-} 9\hbox{-} vs\hbox{-} 7\hbox{-} 8$ | 0.600 ± 0.053 | 0.606 ± 0.052 | 0.662 ± 0.069 | 0.602 ± 0.044 | 0.668 ± 0.072 | 0.605 ± 0.042 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$ | 0.556 ± 0.107 | 0.563 ± 0.108 | 0.720 ± 0.128 | 0.595 ± 0.104 | 0.715 ± 0.119 | 0.642 ± 0.132 |
| ecoli-0-6-7- vs -5 | 0.871 ± 0.115 | 0.871 ± 0.115 | 0.871 ± 0.098 | 0.834 ± 0.105 | 0.873 ± 0.100 | 0.826 ± 0.100 |
| ecoli-0-2-3-4- vs -5 | 0.852 ± 0.092 | 0.857 ± 0.089 | $0.906 \stackrel{6}{\pm} 0.080$ | 0.875 ± 0.076 | $0.908 \stackrel{6}{\pm} 0.078$ | 0.886 ± 0.070 |
| ecoli4 | 0.876 ± 0.099 | 0.884 ± 0.100 | 0.917 ± 0.088 | 0.851 ± 0.096 | 0.927 ± 0.091 | $0.863 \stackrel{1}{\pm} 0.094$ |
| yeast5 | 0.816 ± 0.063 | 0.826 ± 0.066 | 0.941 ± 0.051 | 0.644 ± 0.065 | 0.939 ± 0.052 | 0.671 ± 0.066 |
| ecoli- 0 - 4 - 6 - vs - 5 | 0.847 ± 0.102 | 0.849 ± 0.100 | 0.897 ± 0.084 | 0.868 ± 0.093 | 0.906 ± 0.082 | 0.886 ± 0.092 |
| $led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$ | 0.885 ± 0.071 $3,4,5,6$ | 0.883 ± 0.070 | 0.651 ± 0.089 | 0.659 ± 0.085 | 0.650 ± 0.093 | 0.816 ± 0.123 |
| ecoli- 0 - 1 - vs - 5 | 0.854 ± 0.101 | $\begin{array}{c} 3,4,5,6 \\ 0.861 \pm 0.101 \end{array}$ | 0.902 ± 0.076 $1,2,4,6$ | 0.857 ± 0.086 | 0.909 ± 0.076 $1.2.4.6$ | 0.872 ± 0.088 |
| ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5 | 0.841 ± 0.108 4.6 | 0.844 ± 0.107 $4,6$ | 0.839 ± 0.106 4.6 | 0.791 ± 0.103 | 0.841 ± 0.099 4.6 | 0.789 ± 0.096 |
| $ecoli\mbox{-}0\mbox{-}1\mbox{-}4\mbox{-}7\mbox{-}vs\mbox{-}2\mbox{-}3\mbox{-}5\mbox{-}6$ | 0.808 ± 0.100 | 0.815 ± 0.098 | 0.861 ± 0.085 $1,2,4,6$ | 0.803 ± 0.092 | 0.860 ± 0.083 $1,2,4,6$ | 0.808 ± 0.090 |
| shuttle-c0-vs-c4 | 1.000 ± 0.000 | 1.000 ± 0.000 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 |
| ecoli-0-6-7- vs -3-5 | 0.841 ± 0.111 $3,4,5,6$ | 0.843 ± 0.110 $3,4,5,6$ | 0.829 ± 0.105 | 0.781 ± 0.110 | 0.830 ± 0.105 | 0.789 ± 0.116 |
| vowel0 | 0.959 ± 0.028 3,4,5,6 | 0.960 ± 0.029 3,4,5,6 | 0.823 ± 0.062 4.6 | 0.756 ± 0.050 | 0.808 ± 0.068 $_{4,6}$ | 0.740 ± 0.055 |
| glass4 | 0.826 ± 0.125 3,4,6 | 0.829 ± 0.119 3,4,5,6 | 0.785 ± 0.145 4.6 | 0.642 ± 0.141 | 0.793 ± 0.146 4.6 | 0.665 ± 0.126 |
| yeast - 0 - 5 - 6 - 7 - 9 - vs - 4 | 0.665 ± 0.068 | 0.666 ± 0.069 | 0.791 ± 0.046 $1,2,4,6$ | 0.645 ± 0.061 | 0.791 ± 0.048 $1,2,4,6$ | 0.644 ± 0.066 |
| yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9 | 0.733 ± 0.043 4.6 | 0.736 ± 0.040 4.6 | 0.771 ± 0.057 $1,2,4,6$ | 0.632 ± 0.041 | 0.775 ± 0.055 $1,2,4,6$ | 0.636 ± 0.046 |
| ecoli- 0 - 1 - vs - 2 - 3 - 5 | 0.808 ± 0.108 | 0.812 ± 0.111 | 0.859 ± 0.088 | 0.821 ± 0.101 | 0.859 ± 0.089 | 0.831 ± 0.096 $1,2$ |
| ecoli-0-3-4- vs -5 | 0.867 ± 0.119 | 0.869 ± 0.118 | 0.908 ± 0.108 | 0.884 ± 0.113 | 0.910 ± 0.113 | 0.884 ± 0.117 |
| glass5 | 0.883 ± 0.166 $_{4,6}$ | 0.898 ± 0.165 $_{4,6}$ | 0.914 ± 0.140 4.6 | 0.693 ± 0.175 | 0.917 ± 0.140 $4,6$ | 0.724 ± 0.188 |
| yeast4 | 0.593 ± 0.062 | 0.598 ± 0.064 | 0.776 ± 0.077 $1,2,4,6$ | 0.600 ± 0.052 | 0.769 ± 0.079 $1,2,4,6$ | 0.596 ± 0.050 |
| glass-0-4-vs-5 | 0.992 ± 0.016 3.4.5.6 | 0.992 ± 0.016 $3.4.5.6$ | 0.891 ± 0.164 | 0.876 ± 0.171 | 0.893 ± 0.162 | 0.883 ± 0.168 |
| yeast6 | 0.732 ± 0.086 4.6 | $3,4,5,6 \\ 0.733 \pm 0.085 \\ 4.6$ | 0.837 ± 0.086 | 0.632 ± 0.067 | 0.834 ± 0.084 $1.2.4.6$ | 0.645 ± 0.069 |
| page-blocks-1-3-vs-4 | 0.980 ± 0.052 $3,4,5,6$ | 0.980 ± 0.052 $3,4,5,6$ | 0.725 ± 0.113 | 0.702 ± 0.109 | 0.809 ± 0.098 | 0.815 ± 0.096 $3,4$ |
| yeast-1-vs-7 | 0.550 ± 0.050 | 0.565 ± 0.062 | 0.686 ± 0.111 | 0.613 ± 0.073 $1,2$ | 0.665 ± 0.102 $1,2,4,6$ | 0.606 ± 0.073 $1,2$ |
| ecoli-0-1-3-7-vs-2-6 | 0.664 ± 0.210 $-$ | 0.683 ± 0.211 | 0.836 ± 0.199 | 0.823 ± 0.203 $1,2$ | 0.830 ± 0.199 | 0.813 ± 0.206 |
| yeast-1-4-5-8-vs-7 | 0.501 ± 0.011 | 0.503 ± 0.016 | 0.624 ± 0.093 | 0.513 ± 0.041 | 0.630 ± 0.093 $1,2,4,6$ $1,2,4,6$ | 0.511 ± 0.046 |
| ecoli-0-1-4-7-vs-5-6 | 0.823 ± 0.095 | 0.834 ± 0.095 | 0.891 ± 0.088 $1,2,4,6$ $1,2,4,6$ | 0.819 ± 0.084 | 0.900 ± 0.078 $1,2,4,6$ $1,2,4,6$ | 0.825 ± 0.093 |
| yeast-2-vs-8 | 0.749 ± 0.124 | 0.749 ± 0.124 | 0.776 ± 0.110 $1,2$ | 0.771 ± 0.105 $1,2$ | 0.773 ± 0.114 | 0.751 ± 0.098 |
| yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8 | 0.872 ± 0.046 4.6 | 0.876 ± 0.044 $_{4,6}$ | 0.900 ± 0.039 | 0.753 ± 0.059 | 0.902 ± 0.037 $1,2,4,6$ | 0.787 ± 0.062 |
| glass2 | 0.556 ± 0.078 | 0.557 ± 0.078 | 0.746 ± 0.099 $1,2,4,6$ | 0.623 ± 0.109 $1,2$ | 0.755 ± 0.116 $1,2,4,6$ $1,2,4,6$ | 0.641 ± 0.134 $1,2$ |
| | | | 1,2,2,5 | 1 2,2 | 1,2,4,0 | -,- |

Table 1: Results for BAC metric

| | OSB (1) OKNORAU (2) TBAC (3) TBAW (4) OTBAC (5) OTBAW (6) | | | | | | | | |
|-----------|---|-------|---------|-------|-------|-------|--|--|--|
| Mean rank | 2.780 | 3.634 | 4.707 | 2.122 | 5.049 | 2.707 | | | |
| | _ | 1,4,6 | 1,2,4,6 | _ | all | 4 | | | |

Table 2: Results for mean ranks according to BAC metric

| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|--|-----------------------------|---|----------------------------------|-------------------|----------------------------------|---------------------------------|
| glass-0-1-6-vs-2 | 0.200 ± 0.270 | 0.205 ± 0.267 | 0.311 ± 0.102 | 0.262 ± 0.210 | 0.331 ± 0.095 | 0.283 ± 0.164 |
| ecoli-0-3-4-7-vs-5-6 | 0.787 ± 0.121 | 0.799 ± 0.118 | 0.798 ± 0.122 | 0.749 ± 0.135 | $0.786 \overset{1,2}{\pm} 0.122$ | 0.762 ± 0.128 |
| shuttle-c2-vs-c4 | 0.987 ± 0.065 | 0.987 ± 0.065 | $0.760 \overset{4,6}{\pm} 0.411$ | 0.713 ± 0.416 | 0.760 ± 0.411 | 0.713 ± 0.416 |
| glass-0-1-4-6-vs-2 | 0.171 ± 0.233 | 0.188 ± 0.235 | 0.329 ± 0.110 | 0.238 ± 0.215 | 0.322 ± 0.123 | 0.241 ± 0.176 |
| yeast-1-2-8-9-vs-7 | 0.108 ± 0.152 | 0.140 ± 0.160 | 0.204 ± 0.077 | 0.151 ± 0.145 | 0.201 ± 0.069 | 0.141 ± 0.138 |
| ecoli-0-1-4-6-vs-5 | 0.771 ± 0.148 | 0.776 ± 0.140 | 0.798 ± 0.109 | 0.769 ± 0.122 | 0.805 ± 0.111 | 0.787 ± 0.112 |
| glass-0-1-6-vs-5 | 0.781 ± 0.255 | 0.801 ± 0.258 | 0.660 ± 0.264 | 0.338 ± 0.367 | 0.723 ± 0.270 | 0.511 ± 0.370 |
| yeast-2- vs -4 | 0.723 ± 0.113 | 0.722 ± 0.109 | $0.768 \overset{4,6}{\pm} 0.095$ | 0.693 ± 0.097 | 0.771 ± 0.093 | $0.707 \stackrel{4}{\pm} 0.083$ |
| glass-0-6-vs-5 | 0.827 ± 0.279 | 0.827 ± 0.279 | 0.640 ± 0.330 | 0.500 ± 0.369 | 0.659 ± 0.344 | 0.587 ± 0.367 |
| ecoli-0-3-4-6-vs-5 | 0.759 ± 0.204 | 0.763 ± 0.202 | 0.802 ± 0.146 | 0.783 ± 0.145 | 0.792 ± 0.147 | 0.780 ± 0.157 |
| yeast-0-3-5-9-vs-7-8 | 0.307 ± 0.136 | 0.321 ± 0.129 | 0.401 ± 0.128 | 0.323 ± 0.118 | 0.393 ± 0.128 | 0.327 ± 0.110 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$ | 0.159 ± 0.246 | 0.183 ± 0.250 | 0.329 ± 0.117 | 0.266 ± 0.193 | 0.321 ± 0.106 | 0.305 ± 0.181 |
| ecoli-0-6-7-vs-5 | 0.790 ± 0.184 | 0.788 ± 0.184 | 0.781 ± 0.155 | 0.759 ± 0.171 | 0.779 ± 0.159 | 0.744 ± 0.169 |
| ecoli-0-2-3-4-vs-5 | 0.784 ± 0.152 | 0.791 ± 0.149 | 0.828 ± 0.116 | 0.819 ± 0.118 | 0.820 ± 0.120 | 0.825 ± 0.106 |
| ecoli4 | 0.798 ± 0.150 | $0.807 \stackrel{-}{\pm} 0.150$ | 0.860 ± 0.118 | 0.791 ± 0.146 | $0.848 \stackrel{-}{\pm} 0.149$ | $0.808 \stackrel{-}{\pm} 0.151$ |
| yeast5 | 0.688 ± 0.100 | 0.699 ± 0.102 | 0.697 ± 0.082 | 0.409 ± 0.138 | 0.732 ± 0.078 | 0.468 ± 0.138 |
| ecoli- 0 - 4 - 6 - vs - 5 | 0.768 ± 0.159 | 0.767 ± 0.154 | 0.801 ± 0.131 | 0.778 ± 0.147 | 0.809 ± 0.143 | 0.793 ± 0.151 |
| $led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$ | 0.716 ± 0.105 | 0.714 ± 0.109 | 0.401 ± 0.197 | 0.432 ± 0.193 | $0.393 \stackrel{4}{\pm} 0.197$ | 0.651 ± 0.174 |
| ecoli- 0 - 1 - vs - 5 | 0.784 ± 0.150 | 0.793 ± 0.146 | 0.863 ± 0.104 | 0.815 ± 0.119 | 0.866 ± 0.107 | 0.834 ± 0.123 |
| ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5 | 0.761 ± 0.180 | 0.766 ± 0.179 | 0.733 ± 0.177 | 0.693 ± 0.197 | 0.736 ± 0.169 | 0.690 ± 0.178 |
| ecoli-0-1-4-7- vs -2-3-5-6 | 0.709 ± 0.162 | 0.718 ± 0.159 | 0.781 ± 0.131 | 0.731 ± 0.157 | 0.779 ± 0.134 | 0.741 ± 0.148 |
| shuttle-c0-vs-c4 | 1.000 ± 0.000 | 1.000 ± 0.000 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 |
| ecoli- 0 - 6 - 7 - vs - 3 - 5 | 0.759 ± 0.195 | 0.763 ± 0.193 | 0.719 ± 0.176 | 0.672 ± 0.206 | 0.710 ± 0.182 | 0.676 ± 0.215 |
| vowel0 | 0.915 ± 0.038 | 0.916 ± 0.038 | 0.744 ± 0.094 | 0.671 ± 0.088 | 0.727 ± 0.098 | 0.639 ± 0.102 |
| glass4 | 0.682 ± 0.189 | 0.686 ± 0.187 | 0.512 ± 0.225 | 0.353 ± 0.288 | 0.538 ± 0.247 | 0.407 ± 0.265 |
| yeast - 0 - 5 - 6 - 7 - 9 - vs - 4 | 0.439 ± 0.129 | 0.438 ± 0.132 | 0.530 ± 0.080 | 0.411 ± 0.131 | 0.533 ± 0.092 | 0.405 ± 0.140 |
| yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9 | 0.584 ± 0.081 | 0.589 ± 0.075 | 0.621 ± 0.094 | 0.402 ± 0.099 | 0.620 ± 0.089 | 0.408 ± 0.111 |
| ecoli- 0 - 1 - vs - 2 - 3 - 5 | 0.703 ± 0.185 | $0.705 \overset{4,6}{\pm} 0.190$ | 0.806 ± 0.123 | 0.755 ± 0.159 | 0.804 ± 0.133 | 0.773 ± 0.152 |
| ecoli- 0 - 3 - 4 - vs - 5 | 0.789 ± 0.181 | 0.793 ± 0.181 | 0.825 ± 0.163 | 0.808 ± 0.169 | 0.820 ± 0.193 | 0.810 ± 0.196 |
| glass5 | 0.767 ± 0.301 | 0.787 ± 0.304 | 0.700 ± 0.230 | 0.434 ± 0.356 | 0.738 ± 0.245 | 0.487 ± 0.369 |
| yeast4 | 0.268 ± 0.156 | 0.280 ± 0.159 | 0.392 ± 0.093 | 0.291 ± 0.133 | 0.390 ± 0.102 | 0.281 ± 0.127 |
| glass-0-4-vs-5 | 0.942 ± 0.109 3,4,6 | 0.942 ± 0.109 | 0.819 ± 0.288 | 0.790 ± 0.310 | 0.826 ± 0.286 | 0.802 ± 0.306 |
| yeast6 | 0.543 ± 0.150 | $3,4,6$ 0.543 ± 0.149 | 0.472 ± 0.113 4.6 | 0.354 ± 0.145 | 0.498 ± 0.104 | 0.396 ± 0.162 |
| $page-blocks-1\hbox{-}3\hbox{-}vs\hbox{-}4$ | $3,4,5,6$ 0.947 ± 0.078 | $3,4,5,6 \\ 0.947 \pm 0.078$ | 0.534 ± 0.217 | 0.534 ± 0.227 | 0.730 ± 0.162 | 0.747 ± 0.156 |
| yeast-1-vs-7 | 0.168 ± 0.157 | $\begin{array}{c} 3,4,5,6 \\ 0.206 \pm 0.182 \end{array}$ | 0.279 ± 0.106 | 0.320 ± 0.170 | 0.248 ± 0.100 | 0.302 ± 0.171 |
| ecoli-0-1-3-7-vs-2-6 | 0.360 ± 0.436 | 0.397 ± 0.430 | 0.513 ± 0.316 | 0.673 ± 0.390 | 0.446 ± 0.281 | $0.650 \pm 0.394 \\ 1,2,3,5$ |
| yeast-1-4-5-8- vs -7 | 0.006 ± 0.040 | 0.011 ± 0.052 | 0.158 ± 0.067 | 0.060 ± 0.097 | 0.162 ± 0.066 | 0.052 ± 0.101 |
| ecoli-0-1-4-7-vs-5-6 | 0.737 ± 0.155 | 0.753 ± 0.149 | 0.819 ± 0.122 | 0.758 ± 0.129 | 0.826 ± 0.119 | 0.766 ± 0.142 |
| yeast-2- vs -8 | 0.606 ± 0.242 | 0.606 ± 0.242 | 0.666 ± 0.196 | 0.661 ± 0.187 | 0.653 ± 0.201 | 0.629 ± 0.193 |
| $yeast \hbox{-} 0\hbox{-} 2\hbox{-} 5\hbox{-} 7\hbox{-} 9\hbox{-} vs\hbox{-} 3\hbox{-} 6\hbox{-} 8$ | 0.799 ± 0.071 | 0.803 ± 0.068 | 0.819 ± 0.060 | 0.637 ± 0.101 | 0.821 ± 0.058 | 0.692 ± 0.100 |
| glass2 | 0.170 ± 0.214 | 0.173 ± 0.208 | 0.339 ± 0.111 | 0.297 ± 0.195 | 0.345 ± 0.121 | 0.283 ± 0.190 |
| | <u> </u> | <u> </u> | 1,2 | 1,2 | 1,2 | 1,2 |

Table 3: Results for F1 metric

| | OSB (1) OKNORAU (2) TBAC (3) TBAW (4) OTBAC (5) OTBAW (6) | | | | | | | |
|--------------|---|-------|---------|-------|---------|-------|--|--|
| $Mean\ rank$ | 2.927 | 3.585 | 4.585 | 2.439 | 4.512 | 2.951 | | |
| | _ | 1,4 | 1,2,4,6 | _ | 1,2,4,6 | 4 | | |

Table 4: Results for mean ranks according to F1 metric

| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|---|--|-----------------------------------|---------------------------------|--|-----------------------------------|---------------------------------|
| glass-0-1-6-vs-2 | 0.353 ± 0.462 | 0.350 ± 0.451 | 0.200 ± 0.070 | 0.280 ± 0.231 | 0.213 ± 0.067 | 0.239 ± 0.149 |
| ecoli-0-3-4-7-vs-5-6 | 0.905 ± 0.115 | 0.898 ± 0.124 | 0.824 ± 0.139 | 0.909 ± 0.126 | 0.796 ± 0.140 | 0.906 ± 0.124 |
| shuttle- $c2$ - vs - $c4$ | $1.000 \overset{3.5}{\pm} 0.000$ | $1.000 \stackrel{3.5}{\pm} 0.000$ | $0.780 \stackrel{-}{\pm} 0.414$ | $0.740 \overset{3.5}{\pm} 0.427$ | $0.780 \stackrel{-}{\pm} 0.414$ | 0.740 ± 0.427 |
| glass-0-1-4-6-vs-2 | 0.266 ± 0.377 | 0.296 ± 0.389 | 0.215 ± 0.081 | 0.254 ± 0.253 | 0.211 ± 0.089 | 0.199 ± 0.151 |
| yeast-1-2-8-9- vs -7 | 0.268 ± 0.391 | 0.362 ± 0.428 | 0.136 ± 0.063 | 0.230 ± 0.236 | 0.131 ± 0.050 | 0.218 ± 0.246 |
| ecoli- 0 - 1 - 4 - 6 - vs - 5 | 0.924 ± 0.143 | 0.912 ± 0.148 | 0.824 ± 0.151 | 0.907 ± 0.142 | 0.823 ± 0.152 | $0.908 \stackrel{5}{\pm} 0.133$ |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.780 ± 0.285 | 0.780 ± 0.285 | 0.628 ± 0.307 | 0.370 ± 0.415 | 0.703 ± 0.303 | 0.547 ± 0.412 |
| yeast-2-vs-4 | 0.789 ± 0.112 | 0.785 ± 0.114 | $0.846 \stackrel{4}{\pm} 0.102$ | 0.932 ± 0.083 | 0.852 ± 0.096 | $0.927 \stackrel{4}{\pm} 0.088$ |
| $glass\hbox{-}0\hbox{-}6\hbox{-}vs\hbox{-}5$ | 0.850 ± 0.287 | 0.850 ± 0.287 | 0.728 ± 0.381 | 0.620 ± 0.453 | 0.750 ± 0.386 | 0.707 ± 0.428 |
| ecoli-0-3-4-6- vs -5 | 0.887 ± 0.188 | 0.877 ± 0.186 | 0.808 ± 0.155 | 0.852 ± 0.166 | $0.769 \stackrel{4}{\pm} 0.163$ | 0.816 ± 0.185 |
| yeast - 0 - 3 - 5 - 9 - vs - 7 - 8 | 0.633 ± 0.270 | 0.636 ± 0.250 | $0.477 \stackrel{5}{\pm} 0.162$ | 0.739 ± 0.248 | 0.415 ± 0.175 | $0.692 \stackrel{5}{\pm} 0.244$ |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$ | 0.256 ± 0.400 | 0.306 ± 0.421 | $0.215 \stackrel{5}{\pm} 0.084$ | 0.291 ± 0.234 | 0.208 ± 0.074 | 0.266 ± 0.173 |
| ecoli-0-6-7-vs-5 | 0.873 ± 0.176 | 0.870 ± 0.178 | 0.833 ± 0.172 | 0.913 ± 0.147 | 0.822 ± 0.170 | 0.893 ± 0.156 |
| ecoli- 0 - 2 - 3 - 4 - vs - 5 | $0.901 \stackrel{5}{\pm} 0.162$ | 0.903 ± 0.160 | 0.853 ± 0.146 | 0.914 ± 0.139 | 0.828 ± 0.160 | 0.898 ± 0.143 |
| ecoli4 | $0.884 \stackrel{5}{\pm} 0.159$ | 0.886 ± 0.155 | 0.917 ± 0.122 | 0.943 ± 0.116 | 0.863 ± 0.163 | $0.933 \stackrel{5}{\pm} 0.126$ |
| yeast5 | 0.769 ± 0.134 | 0.767 ± 0.130 | 0.574 ± 0.091 | 0.843 ± 0.194 | $0.628 \stackrel{-}{\pm} 0.094$ | $0.818 \stackrel{5}{\pm} 0.189$ |
| ecoli- 0 - 4 - 6 - vs - 5 | 0.895 ± 0.159 | 0.887 ± 0.158 | 0.810 ± 0.166 | 0.836 ± 0.176 | 0.802 ± 0.183 | 0.821 ± 0.186 |
| $led 7 digit \hbox{-} 0\hbox{-} 2\hbox{-} 4\hbox{-} 5\hbox{-} 6\hbox{-} 7\hbox{-} 8\hbox{-} 9\hbox{-} vs\hbox{-} 1$ | 0.658 ± 0.134 | 0.658 ± 0.142 | 0.590 ± 0.282 | 0.704 ± 0.272 | 0.559 ± 0.278 | 0.724 ± 0.163 |
| ecoli-0-1- vs -5 | $0.931 \stackrel{5}{\pm} 0.120$ | 0.926 ± 0.123 | 0.951 ± 0.101 | 0.985 ± 0.059 | 0.936 ± 0.110 | 0.978 ± 0.074 |
| ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5 | 0.898 ± 0.182 | 0.899 ± 0.178 | 0.805 ± 0.191 | 0.867 ± 0.222 | 0.797 ± 0.185 | 0.878 ± 0.189 |
| $ecoli\mbox{-}0\mbox{-}1\mbox{-}4\mbox{-}7\mbox{-}vs\mbox{-}2\mbox{-}3\mbox{-}5\mbox{-}6$ | 0.871 ± 0.142 | 0.871 ± 0.142 | 0.872 ± 0.141 | 0.975 ± 0.076 | 0.859 ± 0.154 | 0.983 ± 0.059 |
| shuttle-c0-vs-c4 | 1.000 ± 0.000 | 1.000 ± 0.000 | 1.000 ± 0.000 | 1.000 ± 0.000 | 1.000 ± 0.000 | 1.000 ± 0.000 |
| ecoli- 0 - 6 - 7 - vs - 3 - 5 | 0.883 ± 0.194 | 0.883 ± 0.194 | 0.805 ± 0.190 | 0.882 ± 0.206 | 0.765 ± 0.207 | 0.855 ± 0.221 |
| vowel0 | 0.906 ± 0.062 | 0.908 ± 0.061 | 0.877 ± 0.083 | 0.995 ± 0.021 | 0.903 ± 0.082 | 0.990 ± 0.029 |
| glass4 | 0.773 ± 0.238 | 0.765 ± 0.246 | 0.474 ± 0.254 | 0.483 ± 0.409 | 0.505 ± 0.280 | 0.586 ± 0.413 |
| yeast - 0 - 5 - 6 - 7 - 9 - vs - 4 | $3,4,5,6 \\ 0.660 \pm 0.181$ | 0.638 ± 0.173 | 0.451 ± 0.113 | 0.703 ± 0.193 | 0.456 ± 0.124 | 0.683 ± 0.196 |
| yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9 | 0.754 ± 0.112 | 0.756 ± 0.106 | 0.695 ± 0.099 | 0.819 ± 0.115 | 0.682 ± 0.102 | 0.819 ± 0.122 |
| ecoli- 0 - 1 - vs - 2 - 3 - 5 | 0.838 ± 0.177 | 0.832 ± 0.184 | 0.952 ± 0.093 | 0.975 ± 0.078 | 0.938 ± 0.118 | 0.979 ± 0.071 |
| ecoli-0-3-4- vs -5 | 0.893 ± 0.156 | 0.893 ± 0.156 | 0.854 ± 0.155 | 0.887 ± 0.141 | 0.828 ± 0.199 | 0.878 ± 0.192 |
| glass5 | 0.817 ± 0.320 | 0.817 ± 0.320 | 0.648 ± 0.271 | 0.525 ± 0.443 | 0.707 ± 0.283 | $0.563 \stackrel{5}{\pm} 0.433$ |
| yeast4 | 0.534 ± 0.289 | 0.547 ± 0.283 | 0.297 ± 0.082 | 0.552 ± 0.248 | $0.299 \stackrel{4,6}{\pm} 0.091$ | 0.529 ± 0.228 |
| $glass\hbox{-}0\hbox{-}4\hbox{-}vs\hbox{-}5$ | 0.908 ± 0.169 | 0.908 ± 0.169 | 0.887 ± 0.285 | 0.863 ± 0.315 | 0.903 ± 0.279 | 0.877 ± 0.306 |
| yeast6 | 0.719 ± 0.200 $3,4,5$ | 0.716 ± 0.206 | 0.363 ± 0.102 | 0.608 ± 0.230 | 0.399 ± 0.097 | 0.663 ± 0.246 |
| page-blocks-1-3-vs-4 | 0.940 ± 0.083 | 0.940 ± 0.083 | 0.738 ± 0.297 | 0.875 ± 0.266 | 0.943 ± 0.127 | 0.971 ± 0.078 |
| yeast-1- vs -7 | 0.490 ± 0.463 | 0.523 ± 0.448 | 0.194 ± 0.079 | 0.542 ± 0.318 | 0.166 ± 0.072 | 0.520 ± 0.322 |
| ecoli-0-1-3-7-vs-2-6 | 0.420 ± 0.493 | 0.460 ± 0.488 | 0.476 ± 0.359 | $ \begin{array}{c} 3,5 \\ 0.740 \pm 0.415 \\ 1,2,3,5 \end{array} $ | 0.389 ± 0.320 | 0.720 ± 0.426 |
| $yeast\hbox{-} 1\hbox{-} 4\hbox{-} 5\hbox{-} 8\hbox{-} vs\hbox{-} 7$ | 0.020 ± 0.139 | 0.030 ± 0.155 | 0.097 ± 0.043 | 0.087 ± 0.152 | 0.099 ± 0.041 | 0.076 ± 0.147 |
| ecoli-0-1-4-7-vs-5-6 | 0.896 ± 0.127 | 0.897 ± 0.120 | 0.886 ± 0.133 | 0.981 ± 0.066 | 0.865 ± 0.148 | 0.983 ± 0.059 |
| yeast-2-vs-8 | 0.863 ± 0.266 | 0.863 ± 0.266 | 0.913 ± 0.179 | 0.918 ± 0.163 | 0.892 ± 0.203 | 0.905 ± 0.203 |
| $yeast\hbox{-} 0\hbox{-} 2\hbox{-} 5\hbox{-} 7\hbox{-} 9\hbox{-} vs\hbox{-} 3\hbox{-} 6\hbox{-} 8$ | 0.852 ± 0.083 | 0.851 ± 0.083 | 0.824 ± 0.076 | 0.869 ± 0.087 | 0.825 ± 0.077 | 0.869 ± 0.086 |
| glass2 | $\begin{array}{c} 3,5 \\ 0.297 \pm 0.400 \\ - \end{array}$ | 0.288 ± 0.383 | 0.226 ± 0.088 | $\begin{array}{c} 3,5 \\ 0.326 \pm 0.241 \\ 3,5,6 \end{array}$ | 0.229 ± 0.091 | 0.246 ± 0.196 |

Table 5: Results for Precision metric

| | OSB (1) OKNORAU (2) TBAC (3) TBAW (4) OTBAC (5) OTBAW (6) | | | | | | | |
|-----------|---|-------|-------|-------|-------|-------|--|--|
| Mean rank | 4.024 | 4.122 | 2.366 | 4.366 | 2.122 | 4.000 | | |
| | 3,5 | 3,5 | _ | 3,5 | _ | 3,5 | | |

Table 6: Results for mean ranks according to Precision metric

| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|--|------------------------------|----------------------------------|----------------------------------|---|-----------------------------------|----------------------------------|
| glass-0-1-6-vs-2 | 0.147 ± 0.209 | 0.153 ± 0.209 | 0.730 ± 0.242 | 0.265 ± 0.231 | 0.777 ± 0.213 | 0.387 ± 0.253 |
| ecoli-0-3-4-7-vs-5-6 | 0.720 ± 0.174 | 0.740 ± 0.166 | 0.796 ± 0.162 | 0.656 ± 0.174 | 0.792 ± 0.149 | 0.676 ± 0.164 |
| shuttle- $c2$ - vs - $c4$ | 0.980 ± 0.097 | 0.980 ± 0.097 | 0.750 ± 0.415 | 0.710 ± 0.425 | 0.750 ± 0.415 | $0.710 \stackrel{-}{\pm} 0.425$ |
| $glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$ | 0.137 ± 0.194 | 0.150 ± 0.196 | 0.733 ± 0.206 | 0.252 ± 0.242 | $0.713 \stackrel{-}{\pm} 0.243$ | 0.333 ± 0.259 |
| yeast-1-2-8-9-vs-7 | 0.070 ± 0.100 | 0.090 ± 0.106 | 0.437 ± 0.159 | 0.120 ± 0.124 | 0.453 ± 0.152 | $0.110\overset{1,2}{\pm}0.108$ |
| ecoli-0-1-4-6-vs-5 | 0.690 ± 0.184 | 0.700 ± 0.173 | 0.805 ± 0.160 | 0.690 ± 0.170 | 0.820 ± 0.158 | $0.720 \stackrel{-}{\pm} 0.163$ |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.840 ± 0.290 | 0.870 ± 0.279 | 0.790 ± 0.301 | 0.340 ± 0.379 | 0.810 ± 0.298 | $0.530 \stackrel{-}{\pm} 0.405$ |
| yeast-2-vs-4 | 0.683 ± 0.145 | 0.683 ± 0.138 | 0.717 ± 0.134 | 0.565 ± 0.123 | $0.719 \overset{4,6}{\pm} 0.136$ | $0.584 \stackrel{4}{\pm} 0.110$ |
| glass-0-6-vs-5 | 0.840 ± 0.307 | 0.840 ± 0.307 | 0.630 ± 0.357 | 0.450 ± 0.364 | 0.630 ± 0.357 | $0.540 \stackrel{-}{\pm} 0.372$ |
| ecoli-0-3-4-6-vs-5 | 0.700 ± 0.244 | 0.710 ± 0.241 | $0.820 \stackrel{4}{\pm} 0.187$ | 0.755 ± 0.190 | $0.835 \stackrel{4}{\pm} 0.170$ | $0.770 \stackrel{-}{\pm} 0.179$ |
| yeast-0-3-5-9-vs-7-8 | 0.214 ± 0.107 | 0.228 ± 0.105 | 0.374 ± 0.150 | 0.214 ± 0.087 | 0.408 ± 0.150 | 0.222 ± 0.083 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$ | 0.128 ± 0.216 | 0.145 ± 0.217 | 0.742 ± 0.251 | 0.267 ± 0.199 | $0.737 \stackrel{all}{\pm} 0.244$ | $0.408 \stackrel{-}{\pm} 0.273$ |
| ecoli-0-6-7-vs-5 | 0.755 ± 0.226 | 0.755 ± 0.226 | 0.760 ± 0.193 | 0.675 ± 0.207 | 0.765 ± 0.196 | 0.660 ± 0.198 |
| ecoli- 0 - 2 - 3 - 4 - vs - 5 | 0.715 ± 0.180 | 0.725 ± 0.175 | 0.830 ± 0.161 | 0.760 ± 0.149 | 0.840 ± 0.156 | $0.785 \stackrel{-}{\pm} 0.141$ |
| ecoli4 | 0.760 ± 0.199 | 0.775 ± 0.201 | 0.840 ± 0.178 | 0.705 ± 0.191 | 0.865 ± 0.181 | $0.730 \stackrel{1}{\pm} 0.186$ |
| yeast5 | 0.637 ± 0.126 | 0.658 ± 0.132 | 0.903 ± 0.102 | 0.289 ± 0.132 | 0.895 ± 0.105 | 0.344 ± 0.133 |
| ecoli-0-4-6-vs-5 | 0.705 ± 0.204 | 0.710 ± 0.202 | 0.820 ± 0.166 | 0.755 ± 0.183 | 0.840 ± 0.156 | $0.795 \stackrel{4}{\pm} 0.178$ |
| led7digit-0-2-4-5-6-7-8-9-vs-1 | 0.812 ± 0.142 | 0.809 ± 0.140 | 0.323 ± 0.177 | 0.332 ± 0.169 | 0.326 ± 0.184 | 0.658 ± 0.257 |
| ecoli-0-1-vs-5 | 0.715 ± 0.206 | 0.730 ± 0.205 | 0.810 ± 0.154 | 0.715 ± 0.173 | 0.825 ± 0.152 | 0.745 ± 0.176 |
| ecoli-0-2-6-7-vs-3-5 | 0.693 ± 0.213 | 0.698 ± 0.212 | 0.698 ± 0.207 | 0.591 ± 0.201 | 0.704 ± 0.193 | 0.587 ± 0.188 |
| ecoli-0-1-4-7-vs-2-3-5-6 | 0.627 ± 0.200 | 0.641 ± 0.197 | 0.733 ± 0.171 | 0.607 ± 0.183 | 0.733 ± 0.164 | $0.618 \stackrel{-}{\pm} 0.182$ |
| shuttle-c0-vs-c4 | 1.000 ± 0.000 | 1.000 ± 0.000 | 0.996 ± 0.012 | 0.996 ± 0.012 | 0.996 ± 0.012 | $0.996 \stackrel{-}{\pm} 0.012$ |
| ecoli-0-6-7-vs-3-5 | 0.691 ± 0.221 | 0.695 ± 0.217 | 0.678 ± 0.204 | 0.571 ± 0.218 | 0.686 ± 0.201 | $0.589 \stackrel{-}{\pm} 0.228$ |
| vowel0 | 0.929 ± 0.059 | 0.930 ± 0.060 | 0.657 ± 0.125 | 0.513 ± 0.101 | 0.623 ± 0.138 | 0.480 ± 0.110 |
| glass4 | 0.667 ± 0.253 | $3,4,5,6 \\ 0.673 \pm 0.240$ | 0.623 ± 0.286 | 0.307 ± 0.273 | 0.633 ± 0.282 | $0.350 \stackrel{-}{\pm} 0.250$ |
| yeast-0-5-6-7-9-vs-4 | 0.353 ± 0.142 | 0.357 ± 0.143 | 0.680 ± 0.103 | 0.306 ± 0.123 | 0.681 ± 0.102 | $0.303 \stackrel{-}{\pm} 0.134$ |
| yeast-0-2-5-6-vs-3-7-8-9 | 0.483 ± 0.086 | 0.489 ± 0.080 | 0.571 ± 0.114 | 0.271 ± 0.081 | 0.580 ± 0.112 | 0.280 ± 0.093 |
| ecoli-0-1-vs-2-3-5 | 0.630 ± 0.213 | 0.638 ± 0.219 | 0.723 ± 0.178 | 0.645 ± 0.203 | 0.723 ± 0.178 | 0.664 ± 0.193 |
| ecoli-0-3-4-vs-5 | 0.745 ± 0.237 | 0.750 ± 0.234 | 0.835 ± 0.215 | 0.780 ± 0.227 | 0.840 ± 0.222 | $0.780 \stackrel{-}{\pm} 0.232$ |
| glass5 | 0.770 ± 0.334 | 0.800 ± 0.331 | 0.850 ± 0.287 | 0.400 ± 0.346 | 0.850 ± 0.287 | $0.460 \stackrel{-}{\pm} 0.372$ |
| yeast4 | 0.192 ± 0.125 | $0.203 \overset{4,6}{\pm} 0.129$ | $0.607 \overset{4,6}{\pm} 0.159$ | 0.207 ± 0.103 | 0.591 ± 0.161 | $0.198 \stackrel{-}{\pm} 0.099$ |
| glass-0-4-vs-5 | 1.000 ± 0.000 | 1.000 ± 0.000 | 0.790 ± 0.317 | 0.760 ± 0.335 | 0.790 ± 0.317 | 0.770 ± 0.334 |
| yeast6 | $3,4,5,6 \\ 0.469 \pm 0.173$ | $3,4,5,6 \\ 0.471 \pm 0.172$ | 0.706 ± 0.174 | 0.269 ± 0.135 | 0.694 ± 0.171 | 0.294 ± 0.138 |
| page-blocks-1-3-vs-4 | 0.963 ± 0.104 | 0.963 ± 0.104 | 0.462 ± 0.230 | 0.407 ± 0.218 | 0.621 ± 0.195 | 0.631 ± 0.193 |
| yeast-1-vs-7 | $3,4,5,6 \\ 0.103 \pm 0.099$ | $3,4,5,6 \\ 0.133 \pm 0.124$ | $0.540 \stackrel{4}{\pm} 0.222$ | 0.243 ± 0.142 | 0.520 ± 0.207 | 0.230 ± 0.144 |
| ecoli-0-1-3-7-vs-2-6 | 0.330 ± 0.419 | 0.370 ± 0.422 | 0.700 ± 0.400 | 0.650 ± 0.403 | 0.700 ± 0.400 | $0.630 \overset{1,2}{\pm} 0.410$ |
| yeast-1-4-5-8-vs-7 | 0.003 ± 0.023 | 0.007 ± 0.032 | 0.437 ± 0.179 | 0.050 ± 0.083 | 0.447 ± 0.180 | 0.043 ± 0.093 |
| ecoli-0-1-4-7-vs-5-6 | 0.652 ± 0.191 | 0.676 ± 0.191 | 0.792 ± 0.178 | 0.640 ± 0.169 | 0.812 ± 0.157 | $0.652 \overset{1,2}{\pm} 0.186$ |
| yeast-2-vs-8 | 0.500 ± 0.250 | 0.500 ± 0.250 | 0.555 ± 0.219 | $\begin{array}{c} - \\ 0.545 \pm 0.210 \end{array}$ | 0.550 ± 0.229 | 0.505 ± 0.196 |
| yeast-0-2-5-7-9-vs-3-6-8 | 0.760 ± 0.092 | 0.767 ± 0.087 | 0.819 ± 0.078 | 0.514 ± 0.120 | 0.823 ± 0.073 | 0.584 ± 0.124 |
| glass2 | 0.125 ± 0.157 | 0.132 ± 0.159 | 0.715 ± 0.191 | 0.302 ± 0.217 | 0.738 ± 0.209 | $0.385 \stackrel{4}{\pm} 0.277$ |
| • | _ | _ | 1,2,4,6 | 1,2 | 1,2,4,6 | 1,2 |

Table 7: Results for Recall metric

| | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|-----------|---------|-------------|----------|----------|-----------|-----------|
| Mean rank | 2.756 | 3.610 | 4.732 | 2.122 | 5.098 | 2.683 |
| | _ | 1,4,6 | 1,2,4,6 | _ | all | 4 |

Table 8: Results for mean ranks according to Recall metric

| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|--|-------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$ | 0.566 ± 0.108 | 0.569 ± 0.107 | 0.722 ± 0.119 | 0.604 ± 0.114 | 0.746 ± 0.105 | 0.635 ± 0.120 |
| ecoli-0-3-4-7-vs-5-6 | 0.855 ± 0.086 | 0.865 ± 0.082 | 0.888 ± 0.081 | 0.824 ± 0.087 | 0.884 ± 0.077 | 0.834 ± 0.082 |
| shuttle- $c2$ - vs - $c4$ | 0.990 ± 0.048 | 0.990 ± 0.048 | 0.875 ± 0.207 | 0.854 ± 0.212 | 0.875 ± 0.207 | $0.854 \stackrel{-}{\pm} 0.212$ |
| $glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$ | 0.561 ± 0.095 | 0.565 ± 0.097 | 0.739 ± 0.111 | 0.591 ± 0.122 | 0.730 ± 0.123 | $0.612 \stackrel{-}{\pm} 0.119$ |
| $yeast\hbox{-} 1\hbox{-} 2\hbox{-} 8\hbox{-} 9\hbox{-} vs\hbox{-} 7$ | 0.534 ± 0.050 | 0.544 ± 0.053 | 0.670 ± 0.080 | 0.553 ± 0.063 | 0.676 ± 0.076 | 0.549 ± 0.054 |
| ecoli- 0 - 1 - 4 - 6 - vs - 5 | 0.842 ± 0.092 | $0.847 \stackrel{-}{\pm} 0.087$ | 0.894 ± 0.078 | 0.842 ± 0.084 | 0.902 ± 0.077 | 0.856 ± 0.080 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.914 ± 0.143 | 0.929 ± 0.138 | 0.879 ± 0.152 | 0.659 ± 0.191 | 0.894 ± 0.150 | $0.758 \stackrel{-}{\pm} 0.201$ |
| yeast-2-vs-4 | 0.831 ± 0.072 | 0.831 ± 0.069 | 0.851 ± 0.067 | $0.780 \stackrel{-}{\pm} 0.060$ | 0.852 ± 0.067 | $0.789 \stackrel{4}{\pm} 0.054$ |
| $glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.913 ± 0.157 | 0.913 ± 0.157 | 0.803 ± 0.181 | 0.713 ± 0.191 | 0.805 ± 0.186 | 0.760 ± 0.193 |
| ecoli- 0 - 3 - 4 - 6 - vs - 5 | 0.844 ± 0.124 | 0.849 ± 0.123 | $0.898 \stackrel{4}{\pm} 0.095$ | 0.869 ± 0.096 | $0.903 \stackrel{4}{\pm} 0.089$ | 0.874 ± 0.094 |
| yeast - 0 - 3 - 5 - 9 - vs - 7 - 8 | 0.600 ± 0.053 | 0.606 ± 0.052 | 0.662 ± 0.069 | 0.602 ± 0.044 | 0.668 ± 0.072 | $0.605 \stackrel{-}{\pm} 0.042$ |
| $glass\hbox{-}0\hbox{-}1\hbox{-}5\hbox{-}vs\hbox{-}2$ | 0.556 ± 0.107 | 0.563 ± 0.108 | 0.720 ± 0.128 | 0.595 ± 0.104 | 0.715 ± 0.119 | 0.642 ± 0.132 |
| ecoli-0-6-7-vs-5 | 0.871 ± 0.115 | 0.871 ± 0.115 | 0.871 ± 0.098 | 0.834 ± 0.105 | 0.873 ± 0.100 | 0.826 ± 0.100 |
| ecoli- 0 - 2 - 3 - 4 - vs - 5 | 0.852 ± 0.092 | 0.857 ± 0.089 | $0.906 \stackrel{6}{\pm} 0.080$ | 0.875 ± 0.076 | $0.908 \stackrel{6}{\pm} 0.078$ | $0.886 \stackrel{-}{\pm} 0.070$ |
| ecoli4 | 0.876 ± 0.099 | 0.884 ± 0.100 | 0.917 ± 0.088 | 0.851 ± 0.096 | 0.927 ± 0.091 | $0.863 \stackrel{1}{\pm} 0.094$ |
| yeast5 | 0.816 ± 0.063 | 0.826 ± 0.066 | 0.941 ± 0.051 | 0.644 ± 0.065 | 0.939 ± 0.052 | 0.671 ± 0.066 |
| ecoli- 0 - 4 - 6 - vs - 5 | 0.847 ± 0.102 | 0.849 ± 0.100 | 0.897 ± 0.084 | 0.868 ± 0.093 | 0.906 ± 0.082 | $0.886 \stackrel{4}{\pm} 0.092$ |
| led7 digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1 | 0.885 ± 0.071 | $0.883 \stackrel{-}{\pm} 0.070$ | 0.651 ± 0.089 | 0.659 ± 0.085 | 0.650 ± 0.093 | $0.816 \stackrel{1}{\pm} 0.123$ |
| ecoli- 0 - 1 - vs - 5 | 0.854 ± 0.101 | 0.861 ± 0.101 | 0.902 ± 0.076 | 0.857 ± 0.086 | $0.909 \stackrel{-}{\pm} 0.076$ | 0.872 ± 0.088 |
| ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5 | 0.841 ± 0.108 | 0.844 ± 0.107 | 0.839 ± 0.106 | 0.791 ± 0.103 | 0.841 ± 0.099 | $0.789 \stackrel{-}{\pm} 0.096$ |
| ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6 | 0.808 ± 0.100 | 0.815 ± 0.098 | 0.861 ± 0.085 | 0.803 ± 0.092 | 0.860 ± 0.083 | $0.808 \stackrel{-}{\pm} 0.090$ |
| $shuttle\hbox{-}c0\hbox{-}vs\hbox{-}c4$ | 1.000 ± 0.000 | 1.000 ± 0.000 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 | $0.998 \stackrel{-}{\pm} 0.006$ |
| ecoli-0-6-7- vs -3-5 | 0.841 ± 0.111 | 0.843 ± 0.110 | 0.829 ± 0.105 | 0.781 ± 0.110 | 0.830 ± 0.105 | $0.789 \stackrel{-}{\pm} 0.116$ |
| vowel0 | 0.959 ± 0.028 | 0.960 ± 0.029 | 0.823 ± 0.062 | 0.756 ± 0.050 | 0.808 ± 0.068 | 0.740 ± 0.055 |
| glass4 | 0.826 ± 0.125 | 0.829 ± 0.119 | 0.785 ± 0.145 | 0.642 ± 0.141 | 0.793 ± 0.146 | 0.665 ± 0.126 |
| yeast - 0 - 5 - 6 - 7 - 9 - vs - 4 | 0.665 ± 0.068 | 0.666 ± 0.069 | 0.791 ± 0.046 | 0.645 ± 0.061 | 0.791 ± 0.048 | $0.644 \stackrel{-}{\pm} 0.066$ |
| $yeast\hbox{-} 0\hbox{-} 2\hbox{-} 5\hbox{-} 6\hbox{-} vs\hbox{-} 3\hbox{-} 7\hbox{-} 8\hbox{-} 9$ | 0.733 ± 0.043 | 0.736 ± 0.040 | 0.771 ± 0.057 | 0.632 ± 0.041 | 0.775 ± 0.055 | 0.636 ± 0.046 |
| ecoli- 0 - 1 - vs - 2 - 3 - 5 | 0.808 ± 0.108 | 0.812 ± 0.111 | 0.859 ± 0.088 | 0.821 ± 0.101 | 0.859 ± 0.089 | 0.831 ± 0.096 |
| ecoli-0-3-4-vs-5 | 0.867 ± 0.119 | 0.869 ± 0.118 | 0.908 ± 0.108 | 0.884 ± 0.113 | 0.910 ± 0.113 | 0.884 ± 0.117 |
| glass5 | 0.883 ± 0.166 | 0.898 ± 0.165 | 0.914 ± 0.140 | 0.693 ± 0.175 | 0.917 ± 0.140 | 0.724 ± 0.188 |
| yeast4 | 0.593 ± 0.062 | 0.598 ± 0.064 | 0.776 ± 0.077 | 0.600 ± 0.052 | 0.769 ± 0.079 | 0.596 ± 0.050 |
| $glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$ | 0.992 ± 0.016 | 0.992 ± 0.016 | 0.891 ± 0.164 | 0.876 ± 0.171 | 0.893 ± 0.162 | 0.883 ± 0.168 |
| yeast6 | 0.732 ± 0.086 | 0.733 ± 0.085 | 0.837 ± 0.086 | 0.632 ± 0.067 | 0.834 ± 0.084 | 0.645 ± 0.069 |
| page-blocks-1-3-vs-4 | 0.980 ± 0.052 | $0.980 \overset{4.6}{\pm} 0.052$ | 0.725 ± 0.113 | 0.702 ± 0.109 | 0.809 ± 0.098 | $0.815 \stackrel{4}{\pm} 0.096$ |
| yeast-1- vs -7 | 0.550 ± 0.050 | 0.565 ± 0.062 | 0.686 ± 0.111 | 0.613 ± 0.073 | 0.665 ± 0.102 | 0.606 ± 0.073 |
| $ecoli\mbox{-}0\mbox{-}1\mbox{-}3\mbox{-}7\mbox{-}vs\mbox{-}2\mbox{-}6$ | 0.664 ± 0.210 | 0.683 ± 0.211 | 0.836 ± 0.199 | 0.823 ± 0.203 | 0.830 ± 0.199 | 0.813 ± 0.206 |
| $yeast \hbox{-} 1 \hbox{-} 4 \hbox{-} 5 \hbox{-} 8 \hbox{-} vs \hbox{-} 7$ | 0.501 ± 0.011 | $0.503 \stackrel{-}{\pm} 0.016$ | 0.624 ± 0.093 | 0.513 ± 0.041 | 0.630 ± 0.093 | 0.511 ± 0.046 |
| ecoli- 0 - 1 - 4 - 7 - vs - 5 - 6 | 0.823 ± 0.095 | $0.834 \stackrel{-}{\pm} 0.095$ | 0.891 ± 0.088 | 0.819 ± 0.084 | 0.900 ± 0.078 | $0.825 \stackrel{-}{\pm} 0.093$ |
| yeast-2-vs-8 | 0.749 ± 0.124 | 0.749 ± 0.124 | 0.776 ± 0.110 | 0.771 ± 0.105 | 0.773 ± 0.114 | 0.751 ± 0.098 |
| yeast-0-2-5-7-9-vs-3-6-8 | 0.872 ± 0.046 | 0.876 ± 0.044 | 0.900 ± 0.039 | 0.753 ± 0.059 | 0.902 ± 0.037 | $0.787 \stackrel{-}{\pm} 0.062$ |
| glass2 | 0.556 ± 0.078 | 0.557 ± 0.078 | 0.746 ± 0.099 | 0.623 ± 0.109 | 0.755 ± 0.116 | $0.641 \stackrel{4}{\pm} 0.134$ |
| | <u> </u> | <u> </u> | 1,2,4,6 | 1,2 | 1,2,4,6 | 1,2 |

Table 9: Results for AUC metric

| | OSB (1) OKNORAU (2) TBAC (3) TBAW (4) OTBAC (5) OTBAW (6) | | | | | | | |
|-----------|---|-------|---------|-------|-------|-------|--|--|
| Mean rank | 2.780 | 3.634 | 4.707 | 2.122 | 5.049 | 2.707 | | |
| | _ | 1,4,6 | 1,2,4,6 | _ | all | 4 | | |

Table 10: Results for mean ranks according to AUC metric

| Dataset | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|--|---------------------------------|----------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$ | 0.232 ± 0.303 | 0.243 ± 0.305 | 0.703 ± 0.154 | 0.399 ± 0.299 | 0.735 ± 0.111 | 0.526 ± 0.246 |
| ecoli-0-3-4-7-vs-5-6 | 0.838 ± 0.104 | 0.850 ± 0.097 | 0.878 ± 0.094 | 0.800 ± 0.107 | 0.875 ± 0.087 | 0.812 ± 0.101 |
| shuttle- $c2$ - vs - $c4$ | 0.988 ± 0.057 | 0.988 ± 0.057 | 0.762 ± 0.410 | 0.730 ± 0.419 | 0.762 ± 0.410 | $0.730 \stackrel{-}{\pm} 0.419$ |
| $glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$ | 0.222 ± 0.290 | 0.245 ± 0.294 | 0.729 ± 0.119 | 0.374 ± 0.307 | 0.711 ± 0.160 | $0.445 \stackrel{-}{\pm} 0.304$ |
| yeast-1-2-8-9-vs-7 | 0.157 ± 0.212 | 0.201 ± 0.222 | 0.617 ± 0.119 | 0.257 ± 0.228 | 0.628 ± 0.113 | 0.244 ± 0.221 |
| ecoli- 0 - 1 - 4 - 6 - vs - 5 | 0.820 ± 0.116 | $0.827 \stackrel{-}{\pm} 0.107$ | 0.885 ± 0.089 | 0.821 ± 0.100 | 0.893 ± 0.088 | $0.840 \stackrel{-}{\pm} 0.095$ |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.876 ± 0.249 | 0.893 ± 0.247 | 0.838 ± 0.248 | 0.402 ± 0.414 | 0.855 ± 0.250 | 0.596 ± 0.408 |
| yeast-2-vs-4 | 0.812 ± 0.092 | 0.813 ± 0.086 | 0.836 ± 0.078 | 0.745 ± 0.083 | 0.838 ± 0.079 | $0.758 \stackrel{4}{\pm} 0.072$ |
| $glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$ | 0.868 ± 0.276 | 0.868 ± 0.276 | 0.709 ± 0.336 | 0.543 ± 0.388 | 0.712 ± 0.339 | 0.628 ± 0.374 |
| ecoli- 0 - 3 - 4 - 6 - vs - 5 | 0.817 ± 0.159 | 0.823 ± 0.155 | 0.889 ± 0.108 | 0.854 ± 0.111 | $0.895 \stackrel{4}{\pm} 0.099$ | 0.862 ± 0.107 |
| yeast - 0 - 3 - 5 - 9 - vs - 7 - 8 | 0.435 ± 0.145 | 0.454 ± 0.134 | 0.578 ± 0.140 | $0.447 \stackrel{-}{\pm} 0.112$ | 0.599 ± 0.135 | 0.456 ± 0.106 |
| $glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$ | 0.196 ± 0.295 | $0.227 \stackrel{-}{\pm} 0.300$ | 0.701 ± 0.160 | 0.416 ± 0.272 | 0.695 ± 0.152 | $0.531 \stackrel{-}{\pm} 0.265$ |
| ecoli-0-6-7-vs-5 | 0.852 ± 0.142 | 0.852 ± 0.142 | 0.856 ± 0.117 | 0.808 ± 0.134 | 0.859 ± 0.119 | 0.799 ± 0.130 |
| ecoli- 0 - 2 - 3 - 4 - vs - 5 | 0.834 ± 0.114 | 0.840 ± 0.111 | $0.898 \stackrel{6}{\pm} 0.090$ | 0.863 ± 0.087 | 0.902 ± 0.087 | $0.877 \stackrel{-}{\pm} 0.080$ |
| ecoli4 | 0.859 ± 0.122 | 0.868 ± 0.123 | 0.908 ± 0.101 | 0.830 ± 0.117 | 0.919 ± 0.108 | $0.846 \stackrel{1}{\pm} 0.114$ |
| yeast5 | 0.792 ± 0.078 | 0.804 ± 0.081 | 0.938 ± 0.055 | 0.523 ± 0.121 | 0.936 ± 0.056 | 0.575 ± 0.114 |
| ecoli-0-4-6- vs -5 | 0.825 ± 0.129 | 0.827 ± 0.127 | 0.889 ± 0.094 | 0.853 ± 0.111 | 0.900 ± 0.090 | $0.875 \stackrel{4}{\pm} 0.108$ |
| $led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$ | 0.878 ± 0.079 | $0.877 \stackrel{-}{\pm} 0.078$ | 0.525 ± 0.202 | 0.545 ± 0.176 | 0.529 ± 0.196 | 0.780 ± 0.171 |
| ecoli-0-1- vs -5 | 0.832 ± 0.129 | 0.842 ± 0.125 | 0.893 ± 0.087 | 0.839 ± 0.102 | $0.901 \stackrel{-}{\pm} 0.085$ | 0.856 ± 0.104 |
| ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5 | 0.816 ± 0.138 | 0.820 ± 0.137 | 0.817 ± 0.133 | 0.748 ± 0.165 | 0.821 ± 0.123 | 0.752 ± 0.131 |
| ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6 | 0.776 ± 0.135 | 0.785 ± 0.133 | 0.845 ± 0.105 | 0.768 ± 0.126 | 0.845 ± 0.100 | $0.776 \stackrel{-}{\pm} 0.122$ |
| shuttle-c0-vs-c4 | $1.000 \stackrel{-}{\pm} 0.000$ | 1.000 ± 0.000 | 0.998 ± 0.006 | 0.998 ± 0.006 | 0.998 ± 0.006 | $0.998 \stackrel{-}{\pm} 0.006$ |
| ecoli-0-6-7- vs -3-5 | $0.810 \stackrel{-}{\pm} 0.170$ | 0.813 ± 0.169 | 0.805 ± 0.130 | 0.732 ± 0.176 | $0.808 \stackrel{-}{\pm} 0.128$ | $0.742 \stackrel{-}{\pm} 0.180$ |
| vowel0 | 0.958 ± 0.030 | 0.959 ± 0.031 | $0.802 \stackrel{4}{\pm} 0.078$ | 0.713 ± 0.071 | 0.782 ± 0.085 | 0.688 ± 0.082 |
| glass4 | 0.789 ± 0.181 | 0.795 ± 0.174 | 0.727 ± 0.250 | 0.438 ± 0.331 | 0.736 ± 0.252 | $0.498 \stackrel{-}{\pm} 0.309$ |
| yeast - 0 - 5 - 6 - 7 - 9 - vs - 4 | 0.574 ± 0.121 | 0.576 ± 0.122 | 0.780 ± 0.054 | 0.537 ± 0.114 | 0.780 ± 0.056 | 0.532 ± 0.122 |
| $yeast\hbox{-} 0\hbox{-} 2\hbox{-} 5\hbox{-} 6\hbox{-} vs\hbox{-} 3\hbox{-} 7\hbox{-} 8\hbox{-} 9$ | 0.686 ± 0.061 | 0.691 ± 0.057 | 0.741 ± 0.076 | 0.513 ± 0.079 | 0.746 ± 0.074 | 0.519 ± 0.091 |
| ecoli-0-1- vs -2-3-5 | 0.775 ± 0.144 | 0.780 ± 0.147 | 0.841 ± 0.107 | 0.791 ± 0.133 | 0.841 ± 0.108 | 0.804 ± 0.126 |
| ecoli-0-3-4-vs-5 | 0.846 ± 0.147 | 0.849 ± 0.145 | 0.896 ± 0.131 | 0.866 ± 0.140 | 0.891 ± 0.170 | 0.860 ± 0.175 |
| glass5 | 0.822 ± 0.301 | 0.839 ± 0.302 | 0.877 ± 0.246 | 0.497 ± 0.386 | 0.879 ± 0.247 | 0.549 ± 0.393 |
| yeast4 | 0.397 ± 0.183 | 0.411 ± 0.178 | 0.751 ± 0.099 | 0.436 ± 0.123 | 0.741 ± 0.104 | 0.424 ± 0.132 |
| $glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$ | 0.991 ± 0.017 | 0.991 ± 0.017 | 0.842 ± 0.279 | 0.815 ± 0.301 | 0.843 ± 0.279 | 0.822 ± 0.301 |
| yeast6 | 0.669 ± 0.134 | 0.672 ± 0.132 | 0.819 ± 0.108 | 0.497 ± 0.141 | 0.815 ± 0.105 | 0.522 ± 0.142 |
| page-blocks-1-3-vs-4 | 0.978 ± 0.057 | $0.978 \overset{4.6}{\pm} 0.057$ | 0.635 ± 0.228 | 0.601 ± 0.211 | 0.776 ± 0.129 | $0.784 \stackrel{4}{\pm} 0.127$ |
| yeast-1- vs -7 | 0.238 ± 0.214 | 0.282 ± 0.230 | 0.655 ± 0.137 | 0.453 ± 0.184 | 0.629 ± 0.153 | $0.435 \stackrel{3,4}{\pm} 0.192$ |
| ecoli - 0 - 1 - 3 - 7 - vs - 2 - 6 | 0.367 ± 0.441 | 0.415 ± 0.443 | 0.731 ± 0.381 | 0.703 ± 0.392 | 0.727 ± 0.379 | 0.683 ± 0.402 |
| yeast-1-4-5-8-vs-7 | 0.008 ± 0.057 | $0.016 \stackrel{-}{\pm} 0.079$ | 0.578 ± 0.144 | 0.116 ± 0.187 | 0.585 ± 0.145 | 0.095 ± 0.182 |
| ecoli- 0 - 1 - 4 - 7 - vs - 5 - 6 | 0.795 ± 0.125 | $0.810 \stackrel{-}{\pm} 0.124$ | 0.879 ± 0.103 | 0.791 ± 0.110 | 0.891 ± 0.087 | $0.798 \stackrel{1}{\pm} 0.120$ |
| yeast-2-vs-8 | 0.668 ± 0.227 | 0.668 ± 0.227 | 0.728 ± 0.153 | 0.722 ± 0.148 | 0.718 ± 0.181 | 0.690 ± 0.166 |
| yeast-0-2-5-7-9-vs-3-6-8 | 0.863 ± 0.053 | 0.868 ± 0.050 | 0.895 ± 0.043 | 0.709 ± 0.084 | 0.897 ± 0.040 | 0.756 ± 0.082 |
| glass2 | 0.221 ± 0.272 | 0.232 ± 0.274 | 0.731 ± 0.139 | 0.457 ± 0.274 | 0.741 ± 0.152 | $0.505 \stackrel{4}{\pm} 0.294$ |
| | - | _ | 1,2,4,6 | 1,2 | 1,2,4,6 | 1,2 |

Table 11: Results for GMEAN metric

| | OSB (1) | OKNORAU (2) | TBAC (3) | TBAW (4) | OTBAC (5) | OTBAW (6) |
|-----------|---------|-------------|----------|----------|-----------|-----------|
| Mean rank | 2.707 | 3.585 | 4.707 | 2.171 | 5.073 | 2.756 |
| | _ | 1,4,6 | 1,2,4,6 | _ | all | 4 |

Table 12: Results for mean ranks according to GMEAN metric