Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.750 \pm 0.158$	$0.909 \pm 0.143$	$0.907 \pm 0.143$	$0.783 \pm 0.142$	$0.809 \pm 0.154$	$0.813 \pm 0.122$	$0.859 \pm 0.129$
ecoli- $0$ - $2$ - $3$ - $4$ - $vs$ - $5$	$0.890 \pm 0.083$	$0.912 \pm 0.080$	$0.912 \pm 0.079$	$0.909 \pm 0.081$	$0.907 \stackrel{-}{\pm} 0.080$	$0.910 \stackrel{-}{\pm} 0.082$	$0.904 \pm 0.079$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$	$0.522 \pm 0.062$	$0.672 \stackrel{7}{\pm} 0.127$	$0.670 \stackrel{7}{\pm} 0.122$	$0.735 \stackrel{7}{\pm} 0.121$	$0.749 \stackrel{7}{\pm} 0.093$	$0.721 \stackrel{7}{\pm} 0.098$	$0.716 \pm 0.099$
ecoli-0-1-vs-5	$0.891 \pm 0.089$	$0.920 \stackrel{1}{\pm} 0.074$	$0.919 \stackrel{1}{\pm} 0.074$	$0.904 \pm 0.076$	$0.910 \pm 0.075$	$0.920 \pm 0.075$	$0.915 \pm 0.074$
yeast-1-4-5-8-vs-7	$0.501 \pm 0.010$	$0.565 \pm 0.081$	$0.570 \pm 0.085$	$0.581 \pm 0.094$	$0.588 \pm 0.092$	$0.640 \pm 0.103$	$0.639 \pm 0.097$
ecoli4	$0.894 \pm 0.100$	$0.919 \stackrel{1}{\pm} 0.098$	$0.918 \pm 0.097$	$0.922 \stackrel{1}{\pm} 0.090$	$0.935 \pm 0.084$	$0.930 \pm 0.076$	$0.932 \pm 0.073$
$led7digit\hbox{-} 0\hbox{-} 2\hbox{-} 4\hbox{-} 5\hbox{-} 6\hbox{-} 7\hbox{-} 8\hbox{-} 9\hbox{-} vs\hbox{-} 1$	$0.635 \pm 0.077$	$0.898 \pm 0.068$	$0.860 \pm 0.118$	$0.609 \overset{2,3}{\pm} 0.081$	$0.661 \pm 0.090$	$0.884 \pm 0.067$	$0.878 \pm 0.056$
glass5	$0.648 \stackrel{4}{\pm} 0.165$	$0.814 \pm 0.203$	$0.834 \pm 0.194$	$0.810 \pm 0.179$	$0.847 \pm 0.174$	$0.804 \pm 0.178$	$0.876 \pm 0.156$
ecoli-0-3-4-6-vs-5	$0.895 \pm 0.094$	$0.915 \pm 0.087$	$0.915 \pm 0.086$	$0.892 \pm 0.087$	$0.901 \pm 0.091$	$0.905 \stackrel{1}{\pm} 0.092$	$0.898 \pm 0.090$
yeast-0-5-6-7-9-vs-4	$0.649 \stackrel{4}{\pm} 0.074$	$0.800 \pm 0.055$	$0.798 \pm 0.055$	$0.778 \pm 0.060$	$0.793 \pm 0.048$	$0.789 \stackrel{7}{\pm} 0.054$	$0.799 \pm 0.046$
yeast6	$0.757 \pm 0.091$	$0.823 \pm 0.090$	$0.829 \pm 0.086$	$0.835 \stackrel{1}{\pm} 0.084$	$0.843 \stackrel{1}{\pm} 0.087$	$0.880 \stackrel{1}{\pm} 0.056$	$0.878 \stackrel{1}{\pm} 0.056$
ecoli-0-6-7-vs-5	$0.840 \pm 0.108$	$0.868 \stackrel{1}{\pm} 0.101$	$0.865 \stackrel{1}{\pm} 0.102$	$0.867 \pm 0.103$	$0.872 \pm 0.104$	$0.868 \stackrel{all}{\pm} 0.098$	$0.867 \pm 0.099$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.668 \pm 0.151$	$0.889 \pm 0.138$	$0.884 \pm 0.157$	$0.837 \pm 0.159$	$0.822 \pm 0.165$	$0.842 \pm 0.152$	$0.845 \pm 0.161$
ecoli-0-1-3-7-vs-2-6	$0.850 \pm 0.200$	$0.839 \pm 0.197$	$0.843 \pm 0.200$	$0.844 \pm 0.206$	$0.840 \stackrel{1}{\pm} 0.208$	$0.703 \pm 0.201$	$0.824 \pm 0.196$
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	$0.756 \pm 0.042$	$0.791 \pm 0.045$	$0.789 \pm 0.047$	$0.766 \pm 0.051$	$0.778 \pm 0.052$	$0.772 \pm 0.049$	$0.773 \stackrel{6}{\pm} 0.040$
ecoli-0-1-4-7-vs-5-6	$0.865 \pm 0.098$	$0.897 \pm 0.074$	$0.902 \pm 0.067$	$0.888 \stackrel{1}{\pm} 0.077$	$0.885 \pm 0.080$	$0.899 \stackrel{1}{\pm} 0.064$	$0.898 \stackrel{1}{\pm} 0.060$
yeast5	$0.821 \pm 0.064$	$0.937 \pm 0.045$	$0.933 \pm 0.048$	$0.922 \pm 0.062$	$0.936 \pm 0.052$	$0.963 \pm 0.032$	$0.972 \pm 0.020$
shuttle- $c2$ - $vs$ - $c4$	$0.585 \pm 0.177$	$0.995 \pm 0.034$	$0.995 \pm 0.034$	$0.855 \pm 0.218$	$0.895 \pm 0.194$	$0.780 \pm 0.232$	$0.895 \pm 0.194$
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	$0.833 \pm 0.100$	$0.850 \pm 0.084$	$0.854 \pm 0.079$	$0.861 \pm 0.082$	$0.858 \pm 0.087$	$0.839 \stackrel{1}{\pm} 0.084$	$0.837 \pm 0.078$
yeast-0-3-5-9-vs-7-8	$0.641 \pm 0.058$	$0.707 \pm 0.062$	$0.709 \pm 0.060$	$0.649 \pm 0.061$	$0.649 \pm 0.063$	$0.706 \pm 0.069$	$0.714 \pm 0.058$
yeast-1- $vs$ -7	$0.529 \pm 0.043$	$0.641 \pm 0.104$	$0.638 \pm 0.103$	$0.639 \pm 0.084$	$0.631 \pm 0.098$	$0.669 \pm 0.110$	$0.683 \pm 0.104$
yeast-1-2-8-9- $vs$ -7	$0.508 \pm 0.024$	$0.631 \pm 0.082$	$0.633 \stackrel{1}{\pm} 0.082$	$0.617 \stackrel{1}{\pm} 0.090$	$0.636 \stackrel{1}{\pm} 0.091$	$0.658 \pm 0.102$	$0.690 \pm 0.088$
ecoli- $0$ - $1$ - $4$ - $6$ - $vs$ - $5$	$0.886 \pm 0.091$	$0.916 \pm 0.074$	$0.918 \pm 0.075$	$0.900 \stackrel{1}{\pm} 0.079$	$0.906 \stackrel{1}{\pm} 0.078$	$0.902 \pm 0.077$	$0.908 \pm 0.079$
$glass\hbox{-}0\hbox{-}1\hbox{-}5\hbox{-}vs\hbox{-}2$	$0.533 \pm 0.066$	$0.673 \pm 0.141$	$0.670 \pm 0.131$	$0.727 \pm 0.135$	$0.728 \pm 0.105$	$0.681 \pm 0.117$	$0.688 \pm 0.107$
yeast-2- $vs$ -4	$0.820 \pm 0.066$	$0.871 \pm 0.061$	$0.877 \pm 0.059$	$0.834 \pm 0.062$	$0.845 \pm 0.067$	$0.875 \pm 0.058$	$0.886 \pm 0.055$
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.714 \pm 0.194$	$0.920 \pm 0.139$	$0.935 \pm 0.111$	$0.791 \pm 0.195$	$0.818 \pm 0.173$	$0.802 \pm 0.182$	$0.842 \pm 0.176$
glass2	$0.547 \pm 0.083$	$0.708 \pm 0.109$	$0.695 \pm 0.114$	$0.759 \pm 0.118$	$0.757 \pm 0.113$	$0.722 \pm 0.109$	$0.733 \pm 0.095$
yeast-2-vs-8	$0.774 \pm 0.114$	$0.768 \pm 0.113$	$0.773 \pm 0.111$	$0.773 \pm 0.116$	$0.776 \pm 0.111$	$0.785 \stackrel{1}{\pm} 0.115$	$0.788 \pm 0.104$
vowel0	$0.970 \pm 0.038$	$0.996 \pm 0.019$	$0.997 \pm 0.019$	$0.805 \pm 0.063$	$0.913 \pm 0.062$	$0.974 \pm 0.029$	$0.957 \pm 0.034$
$glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$	$0.744 \pm 0.204$	$0.982 \pm 0.045$	$0.983 \pm 0.044$	$0.819 \pm 0.160$	$0.864 \pm 0.166$	$0.859 \pm 0.163$	$0.900 \pm 0.142$
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	$0.518 \pm 0.062$	$0.702 \pm 0.113$	$0.688 \pm 0.121$	$0.720 \pm 0.138$	$0.745 \pm 0.108$	$0.724 \pm 0.104$	$0.728 \pm 0.105$
yeast4	$0.555 \pm 0.043$	$0.725 \pm 0.078$	$0.727 \pm 0.077$	$0.736 \pm 0.067$	$0.744 \pm 0.070$	$0.799 \pm 0.068$	$0.815 \pm 0.065$
ecoli-0-4-6- $vs$ -5	$0.901 \pm 0.084$	$0.916 \pm 0.082$	$0.916 \pm 0.081$	$0.905 \pm 0.082$	$0.906 \pm 0.083$	$0.904 \pm 0.082$	$0.901 \pm 0.083$
page-blocks-1-3-vs-4	$0.818 \pm 0.106$	$0.922 \pm 0.078$	$0.905 \pm 0.083$	$0.752 \pm 0.115$	$0.802 \pm 0.100$	$0.929 \pm 0.057$	$0.911 \pm 0.073$
$yeast \hbox{-} 0 \hbox{-} 2 \hbox{-} 5 \hbox{-} 7 \hbox{-} 9 \hbox{-} vs \hbox{-} 3 \hbox{-} 6 \hbox{-} 8$	$0.892 \pm 0.042$	$0.894 \pm 0.040$	$0.892 \pm 0.040$	$0.896 \pm 0.040$	$0.902 \pm 0.038$	$0.897 \pm 0.035$	$0.888 \pm 0.032$
ecoli- $0$ - $1$ - $vs$ - $2$ - $3$ - $5$	$0.833 \pm 0.093$	$0.876 \pm 0.090$	$0.877 \pm 0.091$	$0.853 \pm 0.088$	$0.862 \pm 0.090$	$0.860 \pm 0.091$	$0.847 \pm 0.096$
ecoli- $0$ - $6$ - $7$ - $vs$ - $3$ - $5$	$0.792 \pm 0.119$	$0.854 \pm 0.102$	$0.863 \pm 0.105$	$0.828 \pm 0.104$	$0.827 \pm 0.106$	$0.838 \stackrel{4.7}{\pm} 0.089$	$0.836 \pm 0.089$
ecoli - 0 - 3 - 4 - 7 - vs - 5 - 6	$0.869 \pm 0.097$	$0.895 \pm 0.080$	$0.892 \pm 0.080$	$0.880 \pm 0.077$	$0.876 \pm 0.080$	$0.892 \pm 0.082$	$0.883 \pm 0.073$
ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5	$0.797 \pm 0.125$	$0.857 \pm 0.090$	$0.867 \pm 0.080$ $1,4,5,6,7$	$0.834 \pm 0.105$	$0.836 \pm 0.103$	$0.836 \pm 0.082$	$0.830 \pm 0.081$
shuttle-c0-vs-c4	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$
ecoli-0-3-4- $vs$ -5	$0.903 \pm 0.105$	$0.915 \pm 0.100$	$0.914 \pm 0.099$	$0.914 \pm 0.102$	$0.913 \pm 0.102$	$0.913 \pm 0.103$	$0.907 \pm 0.101$
	<u> </u>	7	7	7	7	7	1

Table 1: Results for BAC metric

	$\mid \text{kNN (1)} \mid \text{OSB (2)} \mid \text{OKNORAU (3)} \mid \text{TBAC (4)} \mid \text{OTBAC (5)} \mid \text{TBAW (6)} \mid \text{OTBAW (7)}$									
Mean rank	1.561	5.000	4.805	3.268	4.293	4.537	4.537			
	_	1,4	1,4	1	1,4	1,4	1,4			

Table 2: Results for mean ranks according to BAC metric

Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.572 \pm 0.309$	$0.707 \pm 0.249$	$0.689 \pm 0.242$	$0.527 \pm 0.221$	$0.553 \pm 0.247$	$0.531 \pm 0.194$	$0.582 \pm 0.197$
ecoli-0-2-3-4-vs-5	$0.852 \pm 0.121$	$0.822 \pm 0.130$	$0.821 \pm 0.128$	$0.828 \pm 0.139$	$0.816 \pm 0.135$	$0.809 \pm 0.139$	$0.772 \pm 0.133$
glass - 0 - 1 - 6 - vs - 2	$0.088 \pm 0.169$	$0.334 \pm 0.169$	$0.332 \pm 0.168$	$0.342 \pm 0.115$	$0.326 \pm 0.086$	$0.287 \pm 0.076$	$0.281 \pm 0.072$
ecoli-0-1-vs-5	$0.855 \pm 0.117$	$0.862 \pm 0.100$	$0.858 \pm 0.104$	$0.874 \pm 0.099$	$0.875 \pm 0.102$	$0.863 \stackrel{1}{\pm} 0.110$	$0.843 \pm 0.114$
yeast-1-4-5-8- $vs$ -7	$0.004 \pm 0.031$	$0.142 \pm 0.109$	$0.145 \pm 0.106$	$0.135 \pm 0.084$	$0.131 \pm 0.065$	$0.150 \pm 0.060$	$0.145 \pm 0.048$
ecoli4	$0.853 \pm 0.143$	$0.807 \stackrel{1}{\pm} 0.146$	$0.791 \pm 0.148$	$0.868 \stackrel{1}{\pm} 0.133$	$0.862 \pm 0.136$	$0.763 \pm 0.131$	$0.725 \pm 0.118$
$led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$	$0.388 \pm 0.185$	$0.678 \pm 0.098$	$0.639 \pm 0.163$	$0.314 \pm 0.189$	$0.405 \pm 0.182$	$0.654 \pm 0.125$	$0.532 \pm 0.072$
glass5	$0.325 \pm 0.332$	$0.519 \pm 0.318$	$0.558 \pm 0.307$	$0.476 \pm 0.273$	$0.462 \pm 0.224$	$0.433 \pm 0.250$	$0.487 \pm 0.206$
ecoli-0-3-4-6-vs-5	$0.853 \pm 0.140$	$0.833 \pm 0.135$	$0.833 \pm 0.126$	$0.778 \pm 0.148$	$0.782 \pm 0.157$	$0.781 \pm 0.154$	$0.741 \pm 0.146$
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	$0.405 \pm 0.157$	$4.5,6,7$ $0.555 \pm 0.077$	$4.5,6.7$ $0.549 \pm 0.078$	$0.561 \pm 0.085$	$0.560 \pm 0.089$ $1,6,7$	$0.414 \pm 0.055$	$0.412 \pm 0.046$
yeast6	$0.553 \pm 0.158$	$0.494 \pm 0.123$	$0.494 \pm 0.120$	$0.540 \pm 0.117$	$0.513 \pm 0.122$	$0.352 \pm 0.060$	$0.327 \pm 0.050$
ecoli-0- $6$ - $7$ - $vs$ - $5$	$0.774 \pm 0.170$	$0.727 \pm 0.153$	$0.710 \pm 0.146$	$0.785 \pm 0.170$	$0.775 \pm 0.169$	$0.699 \pm 0.164$	$0.641 \pm 0.152$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.332 \pm 0.282$	$0.626 \pm 0.242$ $1,4,5,7$	$0.620 \pm 0.280$	$0.550 \pm 0.249$	$0.499 \pm 0.253$	$0.558 \pm 0.234$	$0.519 \pm 0.247$
ecoli-0-1-3-7-vs-2-6	$0.727 \pm 0.386  2,3,5,6,7$	$0.530 \pm 0.314$ $6.7$	$0.608 \pm 0.357$ $2,6,7$	$0.677 \pm 0.389 \\ 2,6,7$	$0.643 \pm 0.380$ $2,6,7$	$0.292 \pm 0.266$	$0.401 \pm 0.267$
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	$0.626 \pm 0.075 \\ 2,3,6,7$	$0.550 \pm 0.060$ $3,6,7$	$0.537 \pm 0.064$ $6,7$	$0.625 \pm 0.085$ $2,3,6,7$	$0.626 \pm 0.085$ $2,3,6,7$	$0.419 \pm 0.062$	$0.398 \pm 0.043$
ecoli-0-1-4-7-vs-5-6	$0.812 \pm 0.160$ $2.3.6.7$	$0.775 \pm 0.122$ $6.7$	$0.771 \pm 0.116$ $6.7$	$0.828 \pm 0.109$ $2.3,6.7$	$0.813 \pm 0.121$ $2.6.7$	$0.702 \pm 0.127$	$0.674 \pm 0.124$
yeast5	$0.706 \pm 0.114$ $6.7$	$0.707 \pm 0.074$ $3,6,7$	$0.697 \pm 0.080$ $6,7$	$0.709 \pm 0.086$ $6.7$	$0.702 \pm 0.077$ $6.7$	$0.609 \pm 0.067$	$0.608 \pm 0.059$
$shuttle\hbox{-} c2\hbox{-} vs\hbox{-} c4$	$0.180 \pm 0.366$	$0.993 \pm 0.046$ $1,4,5,6,7$	$0.993 \pm 0.046$ $1,4,5,6,7$	$0.720 \pm 0.433$	$0.800 \pm 0.382$ $1.6$	$0.580 \pm 0.465$	$0.800 \pm 0.382$
ecoli-0-1-4-7-vs-2-3-5-6	$0.773 \pm 0.159$ $2.3,6.7$	$0.687 \pm 0.128$ $6.7$	$0.679 \pm 0.111$ $6.7$	$0.798 \pm 0.114$ $2.3,6,7$	$0.783 \pm 0.132$ $2.3.6.7$	$0.605 \pm 0.133$	$0.553 \pm 0.118$
$yeast\hbox{-}0\hbox{-}3\hbox{-}5\hbox{-}9\hbox{-}vs\hbox{-}7\hbox{-}8$	$0.397 \pm 0.126$ $6.7$	$0.407 \pm 0.084$ $6.7$	$0.400 \pm 0.079$ $6.7$	$0.401 \pm 0.125$ $6.7$	$0.392 \pm 0.127$ $6.7$	$0.348 \pm 0.071$	$0.334 \pm 0.052$
yeast-1- $vs$ -7	$0.101 \pm 0.143$	$0.292 \pm 0.155$	$0.281 \pm 0.144$ $1,5,6,7$	$0.246 \pm 0.088$	$0.237 \pm 0.110$	$0.224 \pm 0.077$	$0.225 \pm 0.066$
yeast-1-2-8-9- $vs$ -7	$0.026 \pm 0.079$	$0.235 \pm 0.125$	$0.229 \pm 0.119$ $1,4,5,6,7$	$0.173 \pm 0.100$ $1.6$	$0.164 \pm 0.095$	$0.145 \pm 0.061$	$0.157 \pm 0.050$
ecoli- $0$ - $1$ - $4$ - $6$ - $vs$ - $5$	$0.845 \pm 0.127$ $6.7$	$0.843 \pm 0.110$ $6.7$	$0.839 \pm 0.112$ $6.7$	$0.829 \pm 0.105$ $6.7$	$0.827 \pm 0.108$ $6.7$	$0.791 \pm 0.114$	$0.785 \pm 0.114$
glass-0-1-5-vs-2	$0.113 \pm 0.179$	$0.327 \pm 0.175$ $1,6,7$	$0.322 \pm 0.156$ $1,6,7$	$0.347 \pm 0.126$ $1,5,6,7$	$0.325 \pm 0.093$ $1,6,7$	$0.277 \pm 0.088$	$0.278 \pm 0.077$
yeast-2- $vs$ -4	$0.752 \pm 0.104$ $6.7$	$0.748 \pm 0.086$ $6.7$	$0.757 \pm 0.090$ $6.7$	$0.754 \pm 0.095$ $6.7$	$0.762 \pm 0.100$ $6.7$	$0.668 \pm 0.075$	$0.656 \pm 0.083$
glass-0-6-vs-5	0.490 ± 0.393	$0.787 \pm 0.265$ $1,4,5,6,7$	$0.807 \pm 0.220$ $1,4,5,6,7$	$0.615 \pm 0.364$	$0.668 \pm 0.315$	$0.630 \pm 0.341$	$0.692 \pm 0.316$
glass2	$0.152 \pm 0.209$	$0.369 \pm 0.148$ 1,3,5,6,7	$0.344 \pm 0.149$ $1,6,7$	$0.351 \pm 0.125$ $1,5,6,7$	$0.331 \pm 0.107$ $1,6,7$	$0.276 \pm 0.078$	$0.285 \pm 0.068$ <sub>1</sub>
yeast-2- $vs$ -8	$0.661 \pm 0.209$ $2,3,6,7$	$0.528 \pm 0.180$ 3,6,7	$0.504 \pm 0.158$ $6,7$	$0.661 \pm 0.209$ 2,3,6,7	$0.665 \pm 0.200$ $2,3,6,7$	$0.394 \pm 0.151$	$0.346 \pm 0.105$
vowel0	$0.963 \pm 0.046$ 4,5,6,7	$0.990 \pm 0.026$ 1,4,5,6,7	$0.991 \pm 0.025 \\ 1,4,5,6,7$	$0.710 \pm 0.102$	$0.852 \pm 0.086$	$0.880 \pm 0.061$ $4.5$	$0.879 \pm 0.059$ <sub>4</sub>
glass-0-4-vs-5	$0.547 \pm 0.415$	$0.908 \pm 0.141$ $1,4,5,6,7$	$0.909 \pm 0.135$ 1,4,5,6,7	$0.622 \pm 0.281$	$0.689 \pm 0.296$ <sub>1</sub>	$0.654 \pm 0.283$	$0.724 \pm 0.261$
glass-0-1-4-6-vs-2	$0.074 \pm 0.165$ $-$	$0.354 \pm 0.148$ $1,6,7$	$0.340 \pm 0.161$ $1,6,7$	$0.324 \pm 0.133$ $1,6,7$	$0.322 \pm 0.103$ $1,6,7$	$0.292 \pm 0.095$ <sub>1</sub>	$0.289 \pm 0.085$ <sub>1</sub>
yeast4	$0.170 \pm 0.122$	$0.385 \pm 0.108$ $1,3,6,7$	$0.374 \pm 0.100$ $1,6,7$	$0.394 \pm 0.096$ $1,6,7$	$0.399 \pm 0.094$ $1,6,7$	$0.311 \pm 0.054$	$0.306 \pm 0.048$ <sub>1</sub>
ecoli-0-4-6-vs-5	$0.860 \pm 0.134$ $4,5,6,7$	$0.850 \pm 0.140$ $4.5,6,7$	$0.850 \pm 0.135$ $4.5,6.7$	$0.801 \pm 0.137$	$0.792 \pm 0.143$	$0.793 \pm 0.144$	0.764 ± 0.149
page-blocks-1-3-vs-4	$0.648 \pm 0.152$	$0.691 \pm 0.116$ $4.5,6,7$	$0.685 \pm 0.124$ $4.5,6.7$	0.525 ± 0.213	$0.612 \pm 0.160$	$0.617 \pm 0.095$	$0.623 \pm 0.113$
yeast-0-2-5-7-9-vs-3-6-8	$0.829 \pm 0.059$ 2,3,4,6,7	$0.744 \pm 0.053$ $3,6,7$	$0.733 \pm 0.056$	$0.822 \pm 0.058$ $2,3,6,7$	$0.823 \pm 0.055$ $2,3,6,7$	$0.672 \pm 0.056$	0.605 ± 0.042
ecoli-0-1-vs-2-3-5	$0.773 \pm 0.150$	$0.744 \pm 0.131$	$0.743 \pm 0.141$	$0.802 \pm 0.135$ $2.3.6.7$	$0.810 \pm 0.136$ $1,2,3,6,7$	$0.772 \pm 0.145$	0.661 ± 0.147
ecoli-0-6-7-vs-3-5	$0.689 \pm 0.199$	$0.718 \pm 0.169$	$0.717 \pm 0.169 \\ 6,7 \\ 0.752 \pm 0.115$	$0.728 \pm 0.181$	$0.722 \pm 0.181$	$0.653 \pm 0.165$	0.613 ± 0.162
ecoli-0-3-4-7-vs-5-6	$\begin{array}{c} 0.813 \pm 0.131 \\ 2.3,6,7 \\ 0.699 \pm 0.217 \end{array}$	$0.768 \pm 0.116$ $3,6,7$	6,7	$0.803 \pm 0.115$ $2,3,5,6,7$	$0.785 \pm 0.127$ $6,7$	$0.712 \pm 0.141$	0.660 ± 0.129
ecoli-0-2-6-7-vs-3-5	6,7	$0.721 \pm 0.135$	$0.727 \pm 0.131$	$0.732 \pm 0.178$	$0.731 \pm 0.173$	0.649 ± 0.144	0.591 ± 0.136
shuttle-c0-vs-c4	0.996 ± 0.008	0.996 ± 0.008	0.996 ± 0.008	0.995 ± 0.008	0.995 ± 0.008	0.995 ± 0.008	0.995 ± 0.008
ecoli-0-3-4-vs-5	$0.861 \pm 0.162$ all	$0.836 \pm 0.158$ $7$	$0.829 \pm 0.156$ 7	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$0.820 \pm 0.171$ 7	$0.779 \pm 0.162$ $-$

Table 3: Results for F1 metric

	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
$Mean\ rank$	3.817	5.280	4.720	4.829	4.463	2.695	2.195
	6,7	1,3,5,6,7	6,7	1,6,7	6,7	7	_

Table 4: Results for mean ranks according to F1 metric

Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.728 \pm 0.384$	$0.637 \pm 0.272$	$0.609 \pm 0.261$	$0.503 \pm 0.249$	$0.511 \pm 0.270$	$0.472 \pm 0.230$	$0.508 \pm 0.239$
ecoli-0-2-3-4-vs-5	$0.960 \pm 0.092$	$0.829 \pm 0.180$	$0.829 \pm 0.181$	$0.846 \pm 0.184$	$0.824 \pm 0.183$	$0.802 \pm 0.189$	$0.741 \pm 0.188$
glass - 0 - 1 - 6 - vs - 2	$0.161 \pm 0.334$	$0.289 \pm 0.203$	$0.274 \pm 0.172$	$0.230 \pm 0.084$	$0.208 \pm 0.063$	$0.175 \pm 0.051$	$0.171 \pm 0.048$
ecoli-0-1- $vs$ -5	$0.972 \pm 0.076$	$0.902 \pm 0.122$	$0.896 \pm 0.138$	$0.973 \pm 0.073$	$0.956 \pm 0.097$	$0.899 \pm 0.131$	$0.870 \pm 0.155$
yeast-1-4-5-8-vs-7	$\begin{array}{c} 2,3,6,7 \\ 0.007 \pm 0.046 \end{array}$	$0.115 \pm 0.089$	$0.112 \pm 0.081$	$^{2,3,6,7}_{0.088 \pm 0.056}$	$0.082 \pm 0.041$	$0.088 \pm 0.035$	$^{-}$ 0.084 $\pm$ 0.028
ecoli4	$0.973 \pm 0.073$	$0.812 \pm 0.179$	$0.788 \pm 0.189$	$0.913 \pm 0.127$	$0.870 \pm 0.151$	$0.705 \pm 0.189$	$0.645 \pm 0.183$
led7digit-0-2-4-5-6-7-8-9-vs-1	$0.782 \pm 0.304$	$0.570 \pm 0.106$	$0.578 \pm 0.134$	$^{2,3,5,6,7}_{0.548 \pm 0.324}$	$0.518 \pm 0.254$	$0.553 \pm 0.141$	$0.388 \pm 0.079$
glass5	$0.377 \pm 0.406$	$0.451 \pm 0.298$	$0.494 \pm 0.301$	$0.401 \pm 0.273$	$0.355 \pm 0.205$	$0.346 \stackrel{7}{\pm} 0.237$	$0.369 \pm 0.195$
ecoli-0-3-4-6-vs-5	$0.946 \pm 0.119$	$0.844 \pm 0.160$	$4,5,6,7 \\ 0.842 \pm 0.145$	$0.761 \pm 0.170$	$0.753 \pm 0.183$	$0.742 \pm 0.176$	$0.680 \pm 0.172$
yeast-0-5-6-7-9-vs-4	$0.647 \pm 0.237$	$0.476 \pm 0.087$	$4,5,6,7 \\ 0.469 \pm 0.087$	$0.531 \pm 0.101$	$0.500 \pm 0.127$	$0.282 \pm 0.045$	$0.275 \pm 0.037$
yeast6	$0.626 \pm 0.178$	$0.402 \pm 0.111$	$0.395 \pm 0.110$	$^{2,3,5,6,7}_{0.454 \pm 0.112}$	$0.410 \pm 0.114$	$0.225 \pm 0.045$	$0.205 \pm 0.036$
ecoli-0-6-7-vs-5	$0.953 \pm 0.114$	$0.732 \pm 0.191$	$0.704 \pm 0.181$	$0.852 \pm 0.187$	$0.813 \pm 0.188$	$0.664 \pm 0.213$	$0.558 \pm 0.175$
glass-0-1-6-vs-5	$0.373 \pm 0.371$	$0.543 \pm 0.253$	$0.536 \pm 0.286$	$0.486 \pm 0.262$	$0.418 \pm 0.245$	$0.488 \pm 0.240$	$0.426 \pm 0.241$
ecoli-0-1-3-7-vs-2-6	$0.790 \pm 0.401$	$0.494 \pm 0.349$	$0.600 \pm 0.389$	$0.697 \pm 0.412$	$0.650 \pm 0.411$	$0.278 \pm 0.329$	$0.355 \pm 0.324$
yeast-0-2-5-6-vs-3-7-8-9	$0.779 \pm 0.092$	$0.473 \pm 0.059$	$0.453 \pm 0.061$	$0.728 \pm 0.089$	$0.686 \pm 0.097$	$0.296 \pm 0.060$	$0.268 \pm 0.037$
ecoli-0-1-4-7-vs-5-6	$0.967 \pm 0.091$	$0.768 \pm 0.175$	$0.751 \pm 0.177$	$0.902 \pm 0.122$	$0.877 \pm 0.146$	$0.620 \pm 0.166$	$0.578 \pm 0.175$
yeast5	$0.794 \pm 0.140$	$0.591 \pm 0.087$	$0.580 \pm 0.090$	$0.609 \pm 0.093$	$0.585 \pm 0.085$	$0.448 \pm 0.069$	$0.443 \pm 0.062$
shuttle- $c2$ - $vs$ - $c4$	$0.200 \pm 0.400$	$^{3,6,7}_{1.000 \pm 0.000}$	$6,7$ $1.000 \pm 0.000$	$3,5,6,7 \\ 0.740 \pm 0.438$	$0.820 \pm 0.384$	$0.620 \pm 0.485$	$0.820 \pm 0.384$
ecoli-0-1-4-7-vs-2-3-5-6	$0.979 \pm 0.065$	$0.673 \pm 0.169$	$0.650 \pm 0.148$	$0.923 \pm 0.111$	$0.891 \pm 0.133$	$0.530 \stackrel{1}{\pm} 0.163$	$0.452 \pm 0.141$
yeast-0-3-5-9-vs-7-8	$0.605 \pm 0.176$	$0.334 \pm 0.075$	$6.7 \\ 0.319 \pm 0.069$	$0.584 \pm 0.197$	$0.497 \pm 0.177$	$0.244 \pm 0.056$	$0.220 \pm 0.038$
yeast-1-vs-7	$2,3,5,6,7 \\ 0.330 \pm 0.464$	$0.262 \pm 0.146$	$6,7 \\ 0.243 \pm 0.133$	$0.182 \pm 0.072$	$2,3,6,7 \\ 0.180 \pm 0.101$	$0.138 \pm 0.049$	$0.136 \pm 0.041$
yeast-1-2-8-9-vs-7	$0.070 \pm 0.223$	$3,4,5,6,7 \\ 0.197 \pm 0.107$	$4,5,6,7 \\ 0.184 \pm 0.100$	$0.122 \pm 0.072$	$0.112 \pm 0.085$	$0.086 \pm 0.037$	$0.091 \pm 0.030$
ecoli-0-1-4-6-vs-5	$0.960 \pm 0.100$	$0.866 \pm 0.144$	$0.852 \pm 0.142$	$0.885 \pm 0.135$	$0.859 \pm 0.139$	$0.792 \stackrel{1}{\pm} 0.160$	$0.770 \pm 0.162$
glass-0-1-5-vs-2	$0.186 \pm 0.333$	$^{6,7}_{0.255 \pm 0.137}$	$0.250 \pm 0.124$	$0.233 \pm 0.088$	$0.208 \pm 0.068$	$0.171 \pm 0.060$	$0.170 \pm 0.050$
yeast-2- $vs$ -4	$0.922 \pm 0.095$	$0.741 \pm 0.113$	$0.747 \pm 0.117$	$0.862 \pm 0.108$	$0.848 \pm 0.107$	$0.576 \pm 0.093$	$0.540 \pm 0.095$
glass-0-6-vs-5	$0.600 \pm 0.469$	$0.772 \pm 0.302$	$0.782 \pm 0.266$	$0.698 \pm 0.411$	$0.755 \pm 0.366$	$0.712 \pm 0.390$	$0.752 \pm 0.359$
glass2	$0.260 \pm 0.387$	$0.295 \stackrel{1}{\pm} 0.137$	$0.279 \stackrel{1}{\pm} 0.163$	$0.235 \pm 0.096$	$0.215 \pm 0.080$	$0.169 \pm 0.052$	$0.175 \pm 0.046$
yeast-2- $vs$ -8	$0.908 \pm 0.200$	$3,4,5,6,7 \\ 0.563 \pm 0.234$	$4,5,6,7 \\ 0.500 \pm 0.203$	$0.908 \pm 0.200$	$0.911 \pm 0.190$	$0.302 \pm 0.150$	$0.241 \pm 0.086$
vowel0	$0.989 \pm 0.027$	$0.987 \pm 0.027$	$0.989 \pm 0.026$	$0.850 \pm 0.110$	$0.880 \pm 0.087$	$0.807 \pm 0.082$	$0.836 \pm 0.084$
glass-0-4-vs-5	$0.660 \pm 0.473$	$0.860 \pm 0.203$	$0.860 \pm 0.195$	$0.646 \stackrel{6}{\pm} 0.342$	$0.695 \pm 0.345$	$0.619 \pm 0.320$	$0.685 \pm 0.307$
glass-0-1-4-6-vs-2	$0.133 \pm 0.310$	$0.277 \pm 0.123$	$0.264 \pm 0.131$	$0.219 \pm 0.093$	$0.206 \pm 0.071$	$0.182 \stackrel{-}{\pm} 0.068$	$0.177 \pm 0.057$
yeast4	$0.358 \pm 0.276$	$0.328 \pm 0.103$	$0.309 \pm 0.088$	$0.328 \pm 0.090$	$0.331 \pm 0.094$	$0.201 \stackrel{1,7}{\pm} 0.036$	$0.194 \stackrel{1}{\pm} 0.031$
ecoli-0-4-6- $vs$ -5	$0.935 \pm 0.135$	$0.871 \pm 0.172$	$0.873 \pm 0.168$	$0.787 \pm 0.178$	$0.764 \pm 0.181$	$0.772 \pm 0.188$	$0.720 \pm 0.193$
page-blocks-1-3-vs-4	$0.686 \pm 0.174$	$0.577 \pm 0.117$	$0.590 \pm 0.140$	$0.556 \stackrel{7}{\pm} 0.230$	$0.629 \stackrel{7}{\pm} 0.186$	$0.469 \stackrel{7}{\pm} 0.100$	$0.495 \pm 0.131$
yeast-0-2-5-7-9-vs-3-6-8	$0.871 \pm 0.068$	$0.679 \overset{6,7}{\pm} 0.067$	$0.660 \pm 0.071$	$0.841 \pm 0.066$	$0.828 \overset{6,7}{\pm} 0.068$	$0.550 \pm 0.068$	$0.461 \pm 0.051$
ecoli-0-1-vs-2-3-5	$0.968 \pm 0.081$	$0.746 \pm 0.169$	$0.731 \pm 0.167$	$0.951 \pm 0.112$	$0.943 \pm 0.115$	$0.839 \stackrel{7}{\pm} 0.158$	$0.627 \pm 0.196$
ecoli-0-6-7-vs-3-5	$0.907 \pm 0.169$	$0.727 \pm 0.204$	$0.705 \stackrel{7}{\pm} 0.192$	$0.831 \pm 0.198$	$0.818 \pm 0.202$	$0.619 \pm 0.208$	$0.541 \pm 0.191$
ecoli-0-3-4-7-vs-5-6	$0.944 \stackrel{all}{\pm} 0.091$	$0.748 \overset{6,7}{\pm} 0.150$	$0.726 \pm 0.162$	$0.853 \pm 0.135$	$0.816 \pm 0.147$	$0.631 \stackrel{7}{\pm} 0.165$	$0.557 \pm 0.157$
ecoli-0-2-6-7-vs-3-5	$0.933 \pm 0.175$	$0.734 \pm 0.182$	$0.726 \pm 0.196$	$0.813 \pm 0.193$	$0.804 \pm 0.194$	$0.610 \stackrel{7}{\pm} 0.191$	$0.512 \pm 0.166$
shuttle-c0-vs-c4	$1.000 \stackrel{all}{\pm} 0.000$	$1.000 \pm 0.000$	$1.000 \pm 0.000$	$^{2,3,6,7}_{1.000 \pm 0.000}$	$^{2,3,6,7}_{1.000 \pm 0.000}$	$1.000 \stackrel{7}{\pm} 0.000$	$1.000 \pm 0.000$
ecoli-0-3-4- $vs$ -5	$0.958 \pm 0.111$	$0.868 \pm 0.168$	$0.857 \pm 0.171$	$0.835 \pm 0.165$	$0.817 \pm 0.170$	$0.819 \pm 0.182$	$0.750 \pm 0.186$
	all	7	7	7	7	7	<u> </u>

Table 5: Results for Precision metric

	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
$Mean\ rank$	5.524	5.000	4.390	4.915	4.232	2.244	1.695
	4,5,6,7	3,5,6,7	6,7	5,6,7	6,7	7	_

Table 6: Results for mean ranks according to Precision metric

Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.513 \pm 0.310$	$0.857 \pm 0.278$	$0.857 \pm 0.278$	$0.613 \pm 0.275$	$0.667 \pm 0.298$	$0.687 \pm 0.239$	$0.780 \pm 0.254$
ecoli- $0$ - $2$ - $3$ - $4$ - $vs$ - $5$	$0.785 \pm 0.165$	$0.850 \pm 0.158$	$0.850 \pm 0.158$	$0.840 \pm 0.156$	$0.840 \pm 0.156$	$0.850 \pm 0.158$	$0.850 \pm 0.158$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$	$0.065 \pm 0.123$	$0.480 \stackrel{1}{\pm} 0.251$	$0.477 \stackrel{1}{\pm} 0.241$	$0.705 \stackrel{1}{\pm} 0.240$	$0.802 \stackrel{1}{\pm} 0.202$	$0.827 \pm 0.194$	$0.827 \pm 0.194$
ecoli-0-1-vs-5	$0.785 \pm 0.180$	$0.850 \pm 0.150$	$0.850 \stackrel{1}{\pm} 0.150$	$0.810 \pm 0.154$	$0.825 \pm 0.152$	$0.850 \pm 0.150$	$0.845 \pm 0.149$
yeast-1-4-5-8- $vs$ -7	$0.003 \pm 0.023$	$0.197 \pm 0.165$	$0.217 \pm 0.174$	$0.303 \pm 0.190$	$0.363 \pm 0.196$	$0.533 \stackrel{1}{\pm} 0.202$	$0.560 \pm 0.184$
ecoli4	$0.790 \pm 0.202$	$0.855 \pm 0.200$	$0.855 \pm 0.200$	$0.850 \pm 0.180$	$0.880 \pm 0.167$	$0.890 \pm 0.159$	$0.905 \pm 0.157$
$led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$	$0.279 \pm 0.155$	$0.858 \pm 0.139$	$0.775 \pm 0.244$	$0.238 \pm 0.162$	$0.355 \pm 0.176$	$0.839 \pm 0.132$	$0.894 \pm 0.131$
glass5	$0.310 \stackrel{4}{\pm} 0.330$	$0.660 \pm 0.405$	$0.700 \pm 0.387$	$0.670 \pm 0.355$	$0.760 \pm 0.349$	$0.670 \pm 0.355$	$0.820 \pm 0.312$
ecoli- $0$ - $3$ - $4$ - $6$ - $vs$ - $5$	$0.795 \pm 0.185$	$0.850 \pm 0.173$	$0.850 \pm 0.173$	$0.815 \pm 0.164$	$0.835 \pm 0.170$	$0.845 \pm 0.172$	$0.845 \pm 0.172$
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	$0.317 \pm 0.153$	$0.685 \pm 0.116$	$0.683 \pm 0.116$	$0.619 \pm 0.127$	$0.665 \pm 0.099$	$0.801 \pm 0.114$	$0.839 \pm 0.099$
yeast6	$0.523 \pm 0.184$	$0.671 \pm 0.183$	$0.686 \pm 0.173$	$0.691 \pm 0.169$	$0.711 \pm 0.174$	$0.831 \pm 0.116$	$0.837 \pm 0.117$
ecoli-0-6-7-vs-5	$0.685 \pm 0.216$	$0.770 \stackrel{1}{\pm} 0.205$	$0.770 \stackrel{1}{\pm} 0.211$	$0.750 \stackrel{1}{\pm} 0.200$	$0.765 \pm 0.202$	$0.785 \pm 0.187$	$0.810 \pm 0.197$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.360 \pm 0.316$	$0.820 \pm 0.278$	$0.810 \pm 0.314$	$0.720 \pm 0.318$	$0.700 \pm 0.331$	$0.730 \pm 0.303$	$0.750 \pm 0.320$
ecoli - 0 - 1 - 3 - 7 - vs - 2 - 6	$0.700 \pm 0.400$	$0.700 \pm 0.400$	$0.700 \stackrel{1}{\pm} 0.400$	$0.700 \stackrel{1}{\pm} 0.400$	$0.700 \stackrel{1}{\pm} 0.400$	$0.460 \pm 0.397$	$0.700 \stackrel{1}{\pm} 0.400$
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	$0.529 \stackrel{6}{\pm} 0.083$	$0.664 \pm 0.093$	$0.667 \stackrel{6}{\pm} 0.094$	$0.556 \stackrel{6}{\pm} 0.102$	$0.587 \stackrel{6}{\pm} 0.106$	$0.747 \pm 0.103$	$0.786 \pm 0.094$
ecoli-0-1-4-7-vs-5-6	$0.732 \pm 0.198$	$0.820 \pm 0.150$	$0.832 \pm 0.140$	$0.784 \stackrel{1}{\pm} 0.154$	$0.780 \pm 0.161$	$0.848 \pm 0.129$	$0.856 \pm 0.120$
yeast5	$0.647 \pm 0.127$	$0.894 \pm 0.090$	$0.887 \pm 0.097$	$0.862 \pm 0.124$	$0.892 \pm 0.104$	$0.964 \pm 0.065$	$0.982 \pm 0.040$
shuttle- $c2$ - $vs$ - $c4$	$0.170 \pm 0.355$	$0.990 \stackrel{1}{\pm} 0.069$	$0.990 \stackrel{1}{\pm} 0.069$	$0.710 \pm 0.436$	$0.790 \pm 0.388$	$0.560 \pm 0.465$	$0.790 \pm 0.388$
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	$0.668 \pm 0.202$	$0.740 \pm 0.169$	$0.751 \pm 0.166$	$0.729 \pm 0.168$	$0.726 \pm 0.177$	$0.753 \stackrel{1}{\pm} 0.167$	$0.779 \pm 0.162$
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	$0.306 \pm 0.115$	$0.534 \pm 0.124$	$0.550 \pm 0.118$	$0.328 \stackrel{1}{\pm} 0.126$	$0.340 \stackrel{1}{\pm} 0.124$	$0.634 \pm 0.149$	$0.706 \pm 0.125$
yeast-1-vs-7	$0.060 \pm 0.086$	$0.360 \pm 0.203$	$0.363 \pm 0.201$	$0.413 \pm 0.177$	$0.403 \pm 0.213$	$0.610 \pm 0.217$	$0.667 \pm 0.208$
$yeast\hbox{-} 1\hbox{-} 2\hbox{-} 8\hbox{-} 9\hbox{-} vs\hbox{-} 7$	$0.017 \pm 0.049$	$0.303 \stackrel{1}{\pm} 0.165$	$0.313 \pm 0.162$	$0.307 \stackrel{1}{\pm} 0.180$	$0.377 \pm 0.199$	$0.490 \pm 0.203$	$0.567 \pm 0.176$
ecoli- $0$ - $1$ - $4$ - $6$ - $vs$ - $5$	$0.775 \pm 0.182$	$0.845 \stackrel{1}{\pm} 0.149$	$0.850 \stackrel{1}{\pm} 0.150$	$0.810 \stackrel{1}{\pm} 0.162$	$0.825 \pm 0.160$	$0.825 \pm 0.160$	$0.840 \pm 0.164$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	$0.090 \pm 0.139$	$0.492 \stackrel{1}{\pm} 0.289$	$0.490 \stackrel{1}{\pm} 0.271$	$0.707 \pm 0.267$	$0.787 \stackrel{1}{\pm} 0.218$	$0.782 \stackrel{1}{\pm} 0.236$	$0.805 \stackrel{1}{\pm} 0.222$
yeast-2-vs-4	$0.647 \pm 0.132$	$0.774 \pm 0.125$	$0.786 \pm 0.122$	$0.682 \pm 0.123$	$0.705 \pm 0.133$	$0.820 \pm 0.127$	$0.855 \pm 0.117$
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.440 \pm 0.382$	$0.870 \pm 0.279$	$0.900 \pm 0.223$	$0.600 \pm 0.387$	$0.660 \pm 0.338$	$0.620 \pm 0.368$	$0.710 \pm 0.347$
glass2	$0.117 \pm 0.164$	$0.533 \pm 0.224$	$0.512 \pm 0.238$	$0.738 \stackrel{1}{\pm} 0.228$	$0.765 \stackrel{1}{\pm} 0.219$	$0.788 \stackrel{1}{\pm} 0.205$	$0.802 \pm 0.173$
yeast-2-vs-8	$0.550 \pm 0.229$	$0.560 \stackrel{1}{\pm} 0.232$	$0.575 \stackrel{1}{\pm} 0.230$	$0.550 \pm 0.229$	$0.555 \pm 0.219$	$0.645 \pm 0.235$	$0.675 \pm 0.219$
vowel0	$0.941 \pm 0.077$	$0.994 \pm 0.038$	$0.994 \pm 0.038$	$0.621 \pm 0.127$	$0.839 \pm 0.125$	$0.972 \pm 0.054$	$0.933 \pm 0.068$
glass-0-4-vs-5	$0.490 \pm 0.406$	$0.990 \pm 0.069$	$0.990 \pm 0.069$	$0.690 \pm 0.330$	$0.780 \pm 0.334$	$0.780 \pm 0.334$	$0.860 \pm 0.283$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 4\hbox{-} 6\hbox{-} vs\hbox{-} 2$	$0.055 \pm 0.122$	$0.528 \pm 0.239$	$0.502 \pm 0.245$	$0.655 \pm 0.280$	$0.767 \pm 0.213$	$0.793 \pm 0.190$	$0.813 \pm 0.193$
yeast4	$0.117 \pm 0.088$	$0.487 \pm 0.158$	$0.495 \pm 0.157$	$0.511 \pm 0.135$	$0.529 \pm 0.143$	$0.697 \pm 0.142$	$0.740 \pm 0.138$
ecoli- $0$ - $4$ - $6$ - $vs$ - $5$	$0.810 \pm 0.162$	$0.850 \pm 0.158$	$0.850 \pm 0.158$	$0.840 \pm 0.156$	$0.845 \pm 0.157$	$0.840 \pm 0.156$	$0.845 \pm 0.157$
page-blocks-1-3-vs-4	$0.657 \pm 0.217$	$0.887 \pm 0.155$	$0.851 \pm 0.166$	$0.530 \pm 0.233$	$0.631 \pm 0.200$	$0.927 \pm 0.113$	$0.885 \pm 0.149$
$yeast \hbox{-} 0 \hbox{-} 2 \hbox{-} 5 \hbox{-} 7 \hbox{-} 9 \hbox{-} vs \hbox{-} 3 \hbox{-} 6 \hbox{-} 8$	$0.797 \pm 0.084$	$0.832 \pm 0.083$	$0.833 \pm 0.082$	$0.809 \pm 0.080$	$0.823 \stackrel{4}{\pm} 0.075$	$0.876 \pm 0.074$	$0.892 \pm 0.076$
ecoli- $0$ - $1$ - $vs$ - $2$ - $3$ - $5$	$0.670 \pm 0.187$	$0.787 \pm 0.186$	$0.791 \pm 0.184$	$0.711 \pm 0.175$	$0.728 \pm 0.180$	$0.736 \pm 0.178$	$0.753 \pm 0.192$
ecoli-0- $6$ - $7$ - $vs$ - $3$ - $5$	$0.593 \pm 0.237$	$0.746 \pm 0.199$	$0.767 \pm 0.208$	$0.672 \pm 0.201$	$0.673 \pm 0.205$	$0.737 \pm 0.173$	$0.755 \pm 0.168$
ecoli-0-3-4-7-vs-5-6	$0.744 \pm 0.196$	$0.824 \pm 0.163$	$0.824 \pm 0.168$	$0.776 \pm 0.153$	$0.772 \pm 0.154$	$0.844 \pm 0.156$	$0.848 \pm 0.141$
ecoli- $0$ - $2$ - $6$ - $7$ - $vs$ - $3$ - $5$	$0.597 \pm 0.251$	$0.749 \pm 0.186$	$0.774 \pm 0.166$	$0.685 \pm 0.203$	$0.691 \pm 0.199$	$0.732 \pm 0.162$	$0.755 \pm 0.161$
shuttle-c0-vs-c4	$0.992 \pm 0.016$	$0.992 \pm 0.016$	$0.992 \pm 0.016$	$0.991 \stackrel{1}{\pm} 0.016$	$0.991 \stackrel{1}{\pm} 0.016$	$0.991 \pm 0.016$	$0.991 \pm 0.016$
ecoli-0-3-4-vs-5	$0.810 \pm 0.209$	$0.850 \pm 0.200$					
	<u> </u>	_	<u> </u>	_	<u> </u>	_	_

Table 7: Results for Recall metric

	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	1.366	4.549	4.841	2.671	3.610	4.988	5.976
	_	1,4,5	1,4,5	1	1,4	1,4,5	all

Table 8: Results for mean ranks according to Recall metric

Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.750 \pm 0.158$	$0.909 \pm 0.143$	$0.907 \pm 0.143$	$0.783 \pm 0.142$	$0.809 \pm 0.154$	$0.813 \pm 0.122$	$0.859 \pm 0.129$
ecoli- $0$ - $2$ - $3$ - $4$ - $vs$ - $5$	$0.890 \pm 0.083$	$0.912 \pm 0.080$	$0.912 \pm 0.079$	$0.909 \pm 0.081$	$0.907 \pm 0.080$	$0.910 \pm 0.082$	$0.904 \pm 0.079$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$	$0.522 \pm 0.062$	$0.672 \stackrel{7}{\pm} 0.127$	$0.670 \stackrel{7}{\pm} 0.122$	$0.735 \stackrel{7}{\pm} 0.121$	$0.749 \pm 0.093$	$0.721 \pm 0.098$	$0.716 \pm 0.099$
ecoli-0-1-vs-5	$0.891 \pm 0.089$	$0.920 \stackrel{1}{\pm} 0.074$	$0.919 \stackrel{1}{\pm} 0.074$	$0.904 \pm 0.076$	$0.910 \pm 0.075$	$0.920 \pm 0.075$	$0.915 \pm 0.074$
yeast-1-4-5-8- $vs$ -7	$0.501 \pm 0.010$	$0.565 \pm 0.081$	$0.570 \pm 0.085$	$0.581 \pm 0.094$	$0.588 \pm 0.092$	$0.640 \pm 0.103$	$0.639 \stackrel{5}{\pm} 0.097$
ecoli4	$0.894 \pm 0.100$	$0.919 \pm 0.098$	$0.918 \pm 0.097$	$0.922 \stackrel{1}{\pm} 0.090$	$0.935 \pm 0.084$	$0.930 \pm 0.076$	$0.932 \pm 0.073$
led 7 digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1	$0.635 \pm 0.077$	$0.898 \stackrel{-}{\pm} 0.068$	$0.860 \pm 0.118$	$0.609 \pm 0.081$	$0.661 \pm 0.090$	$0.884 \stackrel{-}{\pm} 0.067$	$0.878 \pm 0.056$
glass5	$0.648 \pm 0.165$	$0.814 \pm 0.203$	$0.834 \pm 0.194$	$0.810 \stackrel{-}{\pm} 0.179$	$0.847 \pm 0.174$	$0.804 \pm 0.178$	$0.876 \pm 0.156$
ecoli-0-3-4-6-vs-5	$0.895 \pm 0.094$	$0.915 \pm 0.087$	$0.915 \pm 0.086$	$0.892 \pm 0.087$	$0.901 \pm 0.091$	$0.905 \stackrel{1}{\pm} 0.092$	$0.898 \pm 0.090$
yeast-0-5-6-7-9-vs-4	$0.649 \pm 0.074$	$0.800 \pm 0.055$	$0.798 \pm 0.055$	$0.778 \pm 0.060$	$0.793 \pm 0.048$	$0.789 \pm 0.054$	$0.799 \pm 0.046$
yeast6	$0.757 \pm 0.091$	$0.823 \pm 0.090$	$0.829 \pm 0.086$	$0.835 \stackrel{1}{\pm} 0.084$	$0.843 \pm 0.087$	$0.880 \stackrel{1}{\pm} 0.056$	$0.878 \pm 0.056$
ecoli-0-6-7-vs-5	$0.840 \pm 0.108$	$0.868 \stackrel{1}{\pm} 0.101$	$0.865 \stackrel{1}{\pm} 0.102$	$0.867 \overset{1,2}{\pm} 0.103$	$0.872 \stackrel{1,2}{\pm} 0.104$	$0.868 \stackrel{all}{\pm} 0.098$	$0.867 \pm 0.099$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	$0.668 \pm 0.151$	$0.889 \stackrel{4}{\pm} 0.138$	$0.884 \pm 0.157$	$0.837 \pm 0.159$	$0.822 \pm 0.165$	$0.842 \pm 0.152$	$0.845 \pm 0.161$
ecoli-0-1-3-7-vs-2-6	$0.850 \pm 0.200$	$0.839 \pm 0.197$	$0.843 \pm 0.200$	$0.844 \pm 0.206$	$0.840 \pm 0.208$	$0.703 \pm 0.201$	$0.824 \pm 0.196$
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	$0.756 \pm 0.042$	$0.791 \stackrel{6,7}{\pm} 0.045$	$0.789 \pm 0.047$	$0.766 \pm 0.051$	$0.778 \pm 0.052$	$0.772 \pm 0.049$	$0.773 \stackrel{6}{\pm} 0.040$
ecoli-0-1-4-7-vs-5-6	$0.865 \pm 0.098$	$0.897 \pm 0.074$	$0.902 \pm 0.067$	$0.888 \stackrel{1}{\pm} 0.077$	$0.885 \pm 0.080$	$0.899 \stackrel{1}{\pm} 0.064$	$0.898 \stackrel{1}{\pm} 0.060$
yeast5	$0.821 \pm 0.064$	$0.937 \pm 0.045$	$0.933 \pm 0.048$	$0.922 \pm 0.062$	$0.936 \pm 0.052$	$0.963 \pm 0.032$	$0.972 \pm 0.020$
shuttle- $c2$ - $vs$ - $c4$	$0.585 \pm 0.177$	$0.995 \pm 0.034$	$0.995 \stackrel{1}{\pm} 0.034$	$0.855 \stackrel{1}{\pm} 0.218$	$0.895 \pm 0.194$	$0.780 \pm 0.232$	$0.895 \pm 0.194$
ecoli-0-1-4-7-vs-2-3-5-6	$0.833 \pm 0.100$	$0.850 \pm 0.084$	$0.854 \pm 0.079$	$0.861 \stackrel{1}{\pm} 0.082$	$0.858 \pm 0.087$	$0.839 \stackrel{1}{\pm} 0.084$	$0.837 \pm 0.078$
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	$0.641 \pm 0.058$	$0.707 \stackrel{6,7}{\pm} 0.062$	$0.709 \stackrel{6,7}{\pm} 0.060$	$0.649 \pm 0.061$	$0.649 \pm 0.063$	$0.706 \pm 0.069$	$0.714 \pm 0.058$
yeast-1-vs-7	$0.529 \pm 0.043$	$0.641 \pm 0.104$	$0.638 \pm 0.103$	$0.639 \pm 0.084$	$0.631 \pm 0.098$	$0.669 \pm 0.110$	$0.683 \pm 0.104$
yeast-1-2-8-9- $vs$ -7	$0.508 \pm 0.024$	$0.631 \pm 0.082$	$0.633 \pm 0.082$	$0.617 \stackrel{1}{\pm} 0.090$	$0.636 \stackrel{1}{\pm} 0.091$	$0.658 \pm 0.102$	$0.690 \pm 0.088$
ecoli-0-1-4-6-vs-5	$0.886 \pm 0.091$	$0.916 \stackrel{1}{\pm} 0.074$	$0.918 \pm 0.075$	$0.900 \stackrel{1}{\pm} 0.079$	$0.906 \stackrel{1}{\pm} 0.078$	$0.902 \pm 0.077$	$0.908 \pm 0.079$
glass-0-1-5-vs-2	$0.533 \pm 0.066$	$0.673 \pm 0.141$	$0.670 \pm 0.131$	$0.727 \pm 0.135$	$0.728 \pm 0.105$	$0.681 \stackrel{4}{\pm} 0.117$	$0.688 \pm 0.107$
yeast-2- $vs$ -4	$0.820 \pm 0.066$	$0.871 \stackrel{1}{\pm} 0.061$	$0.877 \pm 0.059$	$0.834 \pm 0.062$	$0.845 \pm 0.067$	$0.875 \stackrel{1}{\pm} 0.058$	$0.886 \pm 0.055$
glass-0-6-vs-5	$0.714 \pm 0.194$	$0.920 \pm 0.139$	$0.935 \pm 0.111$	$0.791 \pm 0.195$	$0.818 \pm 0.173$	$0.802 \pm 0.182$	$0.842 \pm 0.176$
glass2	$0.547 \pm 0.083$	$0.708 \pm 0.109$	$0.695 \pm 0.114$	$0.759 \stackrel{1}{\pm} 0.118$	$0.757 \pm 0.113$	$0.722 \stackrel{1}{\pm} 0.109$	$0.733 \stackrel{1}{\pm} 0.095$
yeast-2-vs-8	$0.774 \pm 0.114$	$0.768 \stackrel{1}{\pm} 0.113$	$0.773 \pm 0.111$	$0.773 \pm 0.116$	$0.776 \pm 0.111$	$0.785 \pm 0.115$	$0.788 \pm 0.104$
vowel0	$0.970 \pm 0.038$	$0.996 \pm 0.019$	$0.997 \stackrel{2}{\pm} 0.019$	$0.805 \pm 0.063$	$0.913 \pm 0.062$	$0.974 \pm 0.029$	$0.957 \stackrel{6}{\pm} 0.034$
$glass\hbox{-}0\hbox{-}4\hbox{-}vs\hbox{-}5$	$0.744 \pm 0.204$	$0.982 \pm 0.045$	$0.983 \pm 0.044$	$0.819 \pm 0.160$	$0.864 \stackrel{4}{\pm} 0.166$	$0.859 \pm 0.163$	$0.900 \overset{4,5}{\pm} 0.142$
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	$0.518 \pm 0.062$	$0.702 \pm 0.113$	$0.688 \pm 0.121$	$0.720 \pm 0.138$	$0.745 \stackrel{1}{\pm} 0.108$	$0.724 \stackrel{1}{\pm} 0.104$	$0.728 \overset{1,4}{\pm} 0.105$
yeast4	$0.555 \pm 0.043$	$0.725 \stackrel{1}{\pm} 0.078$	$0.727 \pm 0.077$	$0.736 \stackrel{1}{\pm} 0.067$	$0.744 \pm 0.070$	$0.799 \pm 0.068$	$0.815 \pm 0.065$
ecoli-0-4-6- $vs$ -5	$0.901 \pm 0.084$	$0.916 \stackrel{1}{\pm} 0.082$	$0.916 \pm 0.081$	$0.905 \stackrel{1}{\pm} 0.082$	$0.906 \pm 0.083$	$0.904 \pm 0.082$	$0.901 \pm 0.083$
page-blocks-1-3-vs-4	$0.818 \stackrel{7}{\pm} 0.106$	$0.922 \pm 0.078$	$0.905 \pm 0.083$	$0.752 \pm 0.115$	$0.802 \pm 0.100$	$0.929 \pm 0.057$	$0.911 \pm 0.073$
yeast-0-2-5-7-9-vs-3-6-8	$0.892 \pm 0.042$	$0.894 \pm 0.040$	$0.892 \pm 0.040$	$0.896 \pm 0.040$	$0.902 \stackrel{4}{\pm} 0.038$	$0.897 \pm 0.035$	$0.888 \pm 0.032$
ecoli-0-1-vs-2-3-5	$0.833 \pm 0.093$	$0.876 \pm 0.090$	$0.877 \pm 0.091$	$0.853 \pm 0.088$	$0.862 \pm 0.090$	$0.860 \pm 0.091$	$0.847 \pm 0.096$
ecoli-0-6-7-vs-3-5	$0.792 \pm 0.119$	$0.854 \pm 0.102$	$0.863 \pm 0.105$	$0.827 \pm 0.104$	$0.827 \pm 0.106$	$0.838 \pm 0.089$	$0.836 \pm 0.089$
ecoli-0-3-4-7-vs-5-6	$0.869 \pm 0.097$	$0.895 \pm 0.080$	$0.892 \pm 0.080$	$0.880 \pm 0.077$	$0.876 \pm 0.080$	$0.892 \stackrel{1}{\pm} 0.082$	$0.883 \stackrel{1}{\pm} 0.073$
ecoli-0-2-6-7-vs-3-5	$0.797 \pm 0.125$	$0.857 \pm 0.090$	$0.867 \pm 0.080$	$0.834 \pm 0.105$	$0.836 \pm 0.103$	$0.836 \pm 0.082$	$0.830 \pm 0.081$
shuttle-c0-vs-c4	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$
ecoli-0-3-4-vs-5	$0.903 \pm 0.105$	$0.915 \pm 0.100$	$0.914 \pm 0.099$	$0.914 \pm 0.102$	$0.913 \pm 0.102$	$0.913 \pm 0.103$	$0.907 \pm 0.101$
	_	7	7	7	7	7	1

Table 9: Results for AUC metric

	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	1.561	5.000	4.805	3.268	4.293	4.537	4.537
	_	1,4	1,4	1	1,4	1,4	1,4

Table 10: Results for mean ranks according to AUC metric

Dataset	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	$0.641 \pm 0.310$	$0.875 \pm 0.244$	$0.873 \pm 0.243$	$0.730 \pm 0.231$	$0.754 \pm 0.260$	$0.790 \pm 0.144$	$0.837 \pm 0.177$
ecoli- $0$ - $2$ - $3$ - $4$ - $vs$ - $5$	$0.878 \pm 0.100$	$0.906 \pm 0.089$	$0.905 \pm 0.088$	$0.902 \pm 0.089$	$0.901 \pm 0.089$	$0.904 \pm 0.090$	$0.898 \pm 0.088$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$	$0.118 \pm 0.222$	$0.603 \pm 0.222$	$0.602 \pm 0.219$	$0.720 \pm 0.135$	$0.737 \pm 0.097$	$0.705 \pm 0.096$	$0.699 \pm 0.096$
$ecoli \hbox{-} 0 \hbox{-} 1 \hbox{-} vs \hbox{-} 5$	$0.879 \pm 0.104$	$0.913 \stackrel{1}{\pm} 0.082$	$0.913 \stackrel{1}{\pm} 0.082$	$0.894 \pm 0.087$	$0.902 \pm 0.085$	$0.913 \pm 0.083$	$0.908 \pm 0.082$
yeast-1-4-5-8- $vs$ -7	$0.008 \pm 0.056$	$0.358 \pm 0.234$	$0.382 \pm 0.231$	$0.464 \pm 0.210$	$0.506 \pm 0.190$	$0.609 \pm 0.165$	$0.621 \stackrel{5}{\pm} 0.132$
ecoli4	$0.879 \pm 0.124$	$0.909 \pm 0.117$	$0.907 \pm 0.116$	$0.913 \pm 0.103$	$0.928 \pm 0.095$	$0.924 \pm 0.086$	$0.927 \pm 0.083$
$led 7 digit \hbox{-} 0 \hbox{-} 2 \hbox{-} 4 \hbox{-} 5 \hbox{-} 6 \hbox{-} 7 \hbox{-} 8 \hbox{-} 9 \hbox{-} vs \hbox{-} 1$	$0.494 \pm 0.179$	$0.894 \pm 0.075$	$0.839 \pm 0.161$	$0.434 \pm 0.212$	$0.563 \pm 0.165$	$0.879 \stackrel{-}{\pm} 0.074$	$0.874 \pm 0.061$
glass5	$0.394 \pm 0.387$	$0.698 \pm 0.388$	$0.738 \pm 0.365$	$0.730 \pm 0.323$	$0.782 \pm 0.311$	$0.725 \pm 0.320$	$0.831 \pm 0.268$
ecoli-0-3-4-6-vs-5	$0.883 \pm 0.108$	$0.907 \stackrel{1}{\pm} 0.098$	$0.907 \pm 0.098$	$0.884 \pm 0.097$	$0.894 \pm 0.100$	$0.898 \pm 0.101$	$0.892 \pm 0.099$
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	$0.532 \pm 0.164$	$0.788 \pm 0.066$	$0.786 \pm 0.066$	$0.757 \stackrel{1}{\pm} 0.078$	$0.780 \pm 0.057$	$0.786 \pm 0.054$	$0.795 \pm 0.044$
yeast6	$0.707 \pm 0.136$	$0.800 \pm 0.119$	$0.810 \pm 0.108$	$0.815 \stackrel{1}{\pm} 0.110$	$0.825 \pm 0.113$	$0.876 \pm 0.062$	$0.875 \pm 0.061$
ecoli-0-6-7-vs-5	$0.814 \pm 0.139$	$0.853 \stackrel{1}{\pm} 0.120$	$0.851 \pm 0.121$	$0.852 \pm 0.122$	$0.858 \pm 0.123$	$0.857 \pm 0.109$	$0.858 \pm 0.111$
$glass\hbox{-}0\hbox{-}1\hbox{-}6\hbox{-}vs\hbox{-}5$	$0.459 \pm 0.368$	$0.859 \stackrel{4}{\pm} 0.217$	$0.837 \pm 0.274$	$0.784 \stackrel{3}{\pm} 0.268$	$0.760 \pm 0.286$	$0.798 \pm 0.244$	$0.795 \stackrel{6}{\pm} 0.269$
ecoli-0-1-3-7-vs-2-6	$0.741 \pm 0.387$	$0.733 \pm 0.382$	$0.737 \pm 0.385$	$0.739 \pm 0.387$	$0.737 \stackrel{1}{\pm} 0.385$	$0.521 \pm 0.405$	$0.720 \pm 0.374$
yeast-0-2-5-6-vs-3-7-8-9	$0.719 \pm 0.058$	$0.778 \pm 0.055$	$0.777 \pm 0.056$	$0.733 \pm 0.069$	$0.751 \pm 0.070$	$0.768 \pm 0.050$	$0.770 \stackrel{6}{\pm} 0.040$
ecoli-0-1-4-7-vs-5-6	$0.844 \pm 0.132$	$0.890 \pm 0.083$	$0.895 \pm 0.074$	$0.878 \stackrel{1}{\pm} 0.086$	$0.874 \pm 0.092$	$0.894 \pm 0.069$	$0.894 \pm 0.063$
yeast5	$0.798 \pm 0.083$	$0.935 \pm 0.048$	$0.931 \pm 0.053$	$0.917 \pm 0.069$	$0.933 \pm 0.056$	$0.962 \pm 0.033$	$0.971 \pm 0.020$
shuttle- $c2$ - $vs$ - $c4$	$0.182 \pm 0.369$	$0.994 \pm 0.041$	$0.994 \pm 0.041$	$0.722 \stackrel{1}{\pm} 0.433$	$0.802 \stackrel{1}{\pm} 0.382$	$0.585 \pm 0.466$	$0.802 \pm 0.382$
ecoli-0-1-4-7-vs-2-3-5-6	$0.805 \pm 0.133$	$0.836 \pm 0.104$	$0.842 \pm 0.094$	$0.844 \stackrel{1}{\pm} 0.101$	$0.840 \pm 0.111$	$0.829 \stackrel{1}{\pm} 0.096$	$0.828 \pm 0.088$
yeast-0-3-5-9-vs-7-8	$0.533 \pm 0.123$	$0.680 \stackrel{6}{\pm} 0.083$	$0.686 \pm 0.079$	$0.548 \pm 0.129$	$0.557 \pm 0.126$	$0.696 \stackrel{7}{\pm} 0.080$	$0.710 \pm 0.061$
yeast-1-vs-7	$0.142 \pm 0.199$	$0.538 \pm 0.209$	$0.538 \pm 0.206$	$0.583 \pm 0.123$	$0.557 \pm 0.176$	$0.653 \pm 0.126$	$0.673 \pm 0.110$
yeast-1-2-8-9- $vs$ -7	$0.041 \pm 0.122$	$0.504 \stackrel{1}{\pm} 0.191$	$0.517 \pm 0.179$	$0.488 \stackrel{1}{\pm} 0.215$	$0.531 \stackrel{1}{\pm} 0.224$	$0.613 \pm 0.171$	$0.669 \pm 0.110$
ecoli-0-1-4-6-vs-5	$0.873 \pm 0.105$	$0.910 \stackrel{1}{\pm} 0.082$	$0.912 \pm 0.083$	$0.890 \stackrel{1}{\pm} 0.090$	$0.898 \stackrel{1}{\pm} 0.089$	$0.894 \pm 0.088$	$0.901 \pm 0.089$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	$0.161 \pm 0.246$	$0.591 \pm 0.258$	$0.601 \pm 0.226$	$0.705 \pm 0.172$	$0.710 \pm 0.139$	$0.656 \pm 0.138$	$0.662 \pm 0.130$
yeast-2-vs-4	$0.797 \pm 0.083$	$0.863 \stackrel{1}{\pm} 0.070$	$0.869 \pm 0.068$	$0.817 \pm 0.074$	$0.830 \pm 0.079$	$0.870 \stackrel{1}{\pm} 0.065$	$0.882 \pm 0.059$
glass-0-6-vs-5	$0.521 \pm 0.407$	$0.885 \pm 0.244$	$0.918 \pm 0.168$	$0.669 \pm 0.377$	$0.743 \stackrel{1}{\pm} 0.306$	$0.696 \pm 0.351$	$0.771 \pm 0.313$
glass2	$0.201 \pm 0.271$	$0.660 \pm 0.182$	$0.636 \pm 0.204$	$0.742 \stackrel{1}{\pm} 0.158$	$0.741 \stackrel{1}{\pm} 0.149$	$0.705 \stackrel{1}{\pm} 0.139$	$0.723 \stackrel{1}{\pm} 0.093$
yeast-2-vs-8	$0.718 \pm 0.181$	$0.716 \pm 0.180$	$0.729 \pm 0.154$	$0.718 \pm 0.181$	$0.728 \pm 0.154$	$0.752 \pm 0.174$	$0.767 \pm 0.131$
vowel0	$0.969 \pm 0.041$	$0.996 \pm 0.020$	$0.996 \pm 0.020$	$0.779 \stackrel{2}{\pm} 0.082$	$0.907 \stackrel{2}{\pm} 0.071$	$0.974 \pm 0.030$	$0.956 \pm 0.036$
glass-0-4-vs-5	$0.560 \pm 0.419$	$0.981 \pm 0.049$	$0.982 \pm 0.048$	$0.754 \pm 0.284$	$0.806 \stackrel{4}{\pm} 0.293$	$0.801 \pm 0.292$	$0.865 \overset{4.5}{\pm} 0.242$
glass-0-1-4-6-vs-2	$0.098 \pm 0.210$	$0.645 \pm 0.205$	$0.622 \pm 0.222$	$0.682 \pm 0.212$	$0.729 \stackrel{1}{\pm} 0.144$	$0.713 \stackrel{1}{\pm} 0.103$	$0.715 \pm 0.104$
yeast4	$0.288 \pm 0.183$	$0.675 \stackrel{1}{\pm} 0.116$	$0.680 \pm 0.112$	$0.694 \pm 0.094$	$0.705 \pm 0.095$	$0.787 \pm 0.081$	$0.807 \pm 0.076$
ecoli-0-4-6-vs-5	$0.892 \pm 0.095$	$0.910 \stackrel{1}{\pm} 0.091$	$0.909 \stackrel{1}{\pm} 0.090$	$0.899 \stackrel{1}{\pm} 0.090$	$0.900 \pm 0.091$	$0.898 \pm 0.090$	$0.895 \pm 0.090$
page-blocks-1-3-vs-4	$0.789 \pm 0.138$	$0.917 \pm 0.087$	$0.899 \pm 0.094$	$0.683 \pm 0.221$	$0.773 \pm 0.130$	$0.927 \pm 0.060$	$0.906 \stackrel{1}{\pm} 0.082$
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	$0.885 \pm 0.047$	$0.891 \pm 0.044$	$0.889 \pm 0.043$	$0.891 \pm 0.045$	$0.898 \stackrel{4}{\pm} 0.042$	$0.896 \pm 0.037$	$0.886 \pm 0.033$
ecoli-0-1-vs-2-3-5	$0.807 \pm 0.125$	$0.864 \stackrel{3}{\pm} 0.108$	$0.866 \pm 0.109$	$0.835 \pm 0.108$	$0.844 \pm 0.110$	$0.844 \pm 0.109$	$0.834 \pm 0.112$
ecoli-0-6-7-vs-3-5	$0.750 \pm 0.159$	$0.839 \stackrel{1,7}{\pm} 0.121$	$0.848 \pm 0.127$	$0.803 \stackrel{7}{\pm} 0.129$	$0.803 \pm 0.131$	$0.825 \pm 0.107$	$0.825 \pm 0.104$
ecoli-0-3-4-7-vs-5-6	$0.852 \pm 0.116$	$0.887 \stackrel{1}{\pm} 0.090$	$0.884 \pm 0.090$	$0.869 \pm 0.088$	$0.865 \pm 0.090$	$0.887 \stackrel{1}{\pm} 0.090$	$0.878 \stackrel{1}{\pm} 0.078$
ecoli-0-2-6-7-vs-3-5	$0.747 \pm 0.192$	$0.842 \pm 0.108$	$0.856 \pm 0.092$	$0.811 \pm 0.129$	$0.814 \pm 0.127$	$0.823 \pm 0.096$	$0.821 \pm 0.094$
shuttle-c0-vs-c4	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.996 \pm 0.008$	$0.995 \pm 0.008$	$0.995 \pm 0.008$	$0.995 \pm 0.008$	$0.995 \pm 0.008$
ecoli-0-3-4-vs-5	$0.888 \pm 0.132$	$0.905 \pm 0.122$	$0.904 \pm 0.121$	$0.904 \pm 0.123$	$0.903 \pm 0.123$	$0.903 \pm 0.124$	$0.897 \pm 0.121$
	_	7	7	7	7	7	1

Table 11: Results for GMEAN metric

	kNN (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	1.451	4.744	4.841	3.268	4.171	4.744	4.780
	_	1,4	1,4	1	1,4	1,4	1,4

Table 12: Results for mean ranks according to GMEAN metric