Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.846 ± 0.136	0.857 ± 0.117	0.857 ± 0.117	0.791 ± 0.151	0.788 ± 0.144	0.816 ± 0.129	0.892 ± 0.102
ecoli-0-2-3-4-vs-5	0.850 ± 0.087	0.865 ± 0.099	0.867 ± 0.097	$0.902 \stackrel{-}{\pm} 0.087$	0.908 ± 0.081	$0.881 \stackrel{-}{\pm} 0.088$	0.885 ± 0.079
glass-0-1-6-vs-2	0.582 ± 0.128	$0.553 \stackrel{1}{\pm} 0.104$	$0.552 \stackrel{1}{\pm} 0.105$	0.707 ± 0.131	0.727 ± 0.122	0.648 ± 0.129	$0.732 \stackrel{1}{\pm} 0.095$
ecoli-0-1- vs -5	0.814 ± 0.099	0.845 ± 0.105	0.848 ± 0.107	0.892 ± 0.080	0.902 ± 0.077	0.897 ± 0.079	0.897 ± 0.071
yeast-1-4-5-8- vs -7	0.546 ± 0.078	$0.507 \stackrel{1}{\pm} 0.025$	0.507 ± 0.025	0.601 ± 0.089	0.617 ± 0.085	0.633 ± 0.090	0.627 ± 0.111
ecoli4	0.868 ± 0.091	0.871 ± 0.107	0.871 ± 0.107	0.920 ± 0.085	0.921 ± 0.096	0.916 ± 0.068	0.918 ± 0.071
led7 digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1	$0.881 \stackrel{-}{\pm} 0.072$	$0.878 \stackrel{-}{\pm} 0.073$	$0.879 \stackrel{-}{\pm} 0.072$	0.649 ± 0.088	0.648 ± 0.089	0.866 ± 0.072	0.862 ± 0.071
glass5	0.831 ± 0.189	0.807 ± 0.189	0.807 ± 0.189	0.896 ± 0.155	0.914 ± 0.143	0.916 ± 0.122	0.945 ± 0.104
ecoli-0-3-4-6- vs -5	0.821 ± 0.111	0.853 ± 0.116	0.855 ± 0.111	0.893 ± 0.105	0.903 ± 0.087	0.878 ± 0.094	0.884 ± 0.073
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	0.670 ± 0.077	0.663 ± 0.077	0.661 ± 0.079	0.792 ± 0.048	0.791 ± 0.051	0.759 ± 0.053	0.775 ± 0.053
yeast6	0.729 ± 0.089	0.717 ± 0.087	0.717 ± 0.087	0.825 ± 0.096	0.818 ± 0.089	0.819 ± 0.077	0.824 ± 0.087
ecoli-0-6-7- vs -5	0.842 ± 0.121	0.871 ± 0.117	0.871 ± 0.117	0.868 ± 0.104	0.868 ± 0.101	0.849 ± 0.102	0.850 ± 0.102
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.822 ± 0.182	0.837 ± 0.162	0.837 ± 0.162	0.858 ± 0.160	0.872 ± 0.160	0.897 ± 0.129	0.924 ± 0.115
ecoli - 0 - 1 - 3 - 7 - vs - 2 - 6	0.820 ± 0.209	0.678 ± 0.219	0.703 ± 0.222	0.841 ± 0.200	0.837 ± 0.200	0.832 ± 0.195	0.807 ± 0.194
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	0.725 ± 0.050	0.728 ± 0.047	0.728 ± 0.045	0.766 ± 0.056	0.765 ± 0.055	0.730 ± 0.036	0.734 ± 0.037
ecoli - 0 - 1 - 4 - 7 - vs - 5 - 6	0.809 ± 0.095	0.815 ± 0.091	0.817 ± 0.090	0.875 ± 0.098	0.892 ± 0.080	0.844 ± 0.087	0.877 ± 0.060
yeast5	0.819 ± 0.085	0.818 ± 0.080	0.821 ± 0.077	0.926 ± 0.051	0.928 ± 0.060	0.936 ± 0.046	0.944 ± 0.051
shuttle- $c2$ - vs - $c4$	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	0.995 ± 0.034	0.995 ± 0.034	0.995 ± 0.034	0.995 ± 0.034
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	0.796 ± 0.092	0.811 ± 0.097	0.813 ± 0.097	0.851 ± 0.091 $1,2,3,6,7$	0.857 ± 0.085 $1,2,3,6,7$	0.791 ± 0.074	0.823 ± 0.064 1.6
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.656 ± 0.070 $2,3$	0.595 ± 0.054	0.598 ± 0.053	0.653 ± 0.067	0.664 ± 0.075 2.3	0.689 ± 0.068 $1,2,3,4$	0.687 ± 0.056 $1,2,3,4,5$
yeast-1-vs-7	0.669 ± 0.095	0.549 ± 0.052	0.549 ± 0.053	0.676 ± 0.114 $2,3,5$	0.657 ± 0.109	0.728 ± 0.070 $1,2,3,4,5$	0.720 ± 0.086 $1,2,3,4,5$
yeast-1-2-8-9- vs -7	0.622 ± 0.082 2.3	0.555 ± 0.060	0.555 ± 0.060	0.665 ± 0.078	0.653 ± 0.071 2.3	0.686 ± 0.097 $1,2,3,5$	0.704 ± 0.095 $1,2,3,4,5$
ecoli- 0 - 1 - 4 - 6 - vs - 5	0.792 ± 0.090	0.837 ± 0.092	0.839 ± 0.092	0.889 ± 0.076 $1,2,3,6$	0.898 ± 0.084 $1,2,3,6,7$	0.870 ± 0.079 $1,2,3$	0.880 ± 0.079 $1,2,3$
$glass\hbox{-}0\hbox{-}1\hbox{-}5\hbox{-}vs\hbox{-}2$	0.592 ± 0.127	0.562 ± 0.111	0.563 ± 0.111	0.704 ± 0.134 $1,2,3,6$	0.725 ± 0.135 $1,2,3,6$	0.662 ± 0.100 $1,2,3$	0.715 ± 0.118 $1,2,3,6$
yeast-2-vs-4	0.844 ± 0.064	0.838 ± 0.060	0.837 ± 0.059	0.848 ± 0.066	0.848 ± 0.068	0.926 ± 0.043	0.919 ± 0.045 $1,2,3,4,5$
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.899 ± 0.171 $4,5,6,7$	0.900 ± 0.165 $4,5,6,7$	0.900 ± 0.165 $4,5,6,7$	0.810 ± 0.183	0.799 ± 0.192	0.816 ± 0.168	0.834 ± 0.179
glass2	0.561 ± 0.118	0.584 ± 0.088	0.587 ± 0.091	0.696 ± 0.137 $1,2,3,6$	0.738 ± 0.123 $1,2,3,6$	0.654 ± 0.112 $1,2,3$	0.751 ± 0.104 $1,2,3,4,6$
yeast-2-vs-8	0.704 ± 0.113	0.736 ± 0.122	0.736 ± 0.122	0.776 ± 0.110 $1,2,3$	0.776 ± 0.110 $1,2,3$	0.773 ± 0.113	0.769 ± 0.112
vowel0	0.963 ± 0.028 $2,3,4,5$	0.955 ± 0.029 $4,5$	0.956 ± 0.029 $4,5$	0.859 ± 0.058	0.852 ± 0.057	0.968 ± 0.022 $2,3,4,5$	0.963 ± 0.029 $2,4,5$
glass-0-4-vs-5	0.992 ± 0.016	0.991 ± 0.018	0.992 ± 0.016	0.939 ± 0.131	0.950 ± 0.122	0.931 ± 0.136	$0.94\overset{7}{4} \overset{7}{\pm} \overset{7}{0}.127$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 4\hbox{-} 6\hbox{-} vs\hbox{-} 2$	0.573 ± 0.117	0.556 ± 0.101	0.559 ± 0.105	0.684 ± 0.139 $1,2,3,6$	$0.700 \stackrel{\star}{\pm} 0.135$ $1,2,3$	0.653 ± 0.140	0.707 ± 0.143 $1,2,3,6$
yeast4	0.668 ± 0.071	0.596 ± 0.059	0.594 ± 0.054	0.761 ± 0.072 $1,2,3$	0.754 ± 0.073 $1,2,3$	0.809 ± 0.061 $1,2,3,4,5$	0.815 ± 0.063 $1,2,3,4,5$
ecoli-0-4-6- vs -5	0.814 ± 0.102	0.850 ± 0.095	0.850 ± 0.095	0.890 ± 0.088 $1,2,3,6$	0.911 ± 0.083	0.878 ± 0.091	0.892 ± 0.076
page-blocks-1-3-vs-4	0.956 ± 0.064 $4,5,6$	0.979 ± 0.052 1,4,5,6,7	0.979 ± 0.052 $1,4,5,6,7$	0.759 ± 0.109	0.850 ± 0.104	0.940 ± 0.069 $4,5$	$0.938 \pm 0.075 \\ 4.5$
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	0.844 ± 0.051	0.872 ± 0.046	0.873 ± 0.046	0.899 ± 0.037 $1,2,3,6,7$	0.901 ± 0.037 $1,2,3,6,7$	0.866 ± 0.032	0.876 ± 0.028 $1,6$
ecoli- 0 - 1 - vs - 2 - 3 - 5	0.786 ± 0.114	0.810 ± 0.098	0.813 ± 0.099	0.855 ± 0.091	0.857 ± 0.091 $1,2,3$	0.850 ± 0.094 $1.2.3$	0.847 ± 0.088 $1,2,3$
ecoli-0-6-7- vs -3-5	0.821 ± 0.123 6.7	0.830 ± 0.110 6.7	0.830 ± 0.110 6.7	0.829 ± 0.107 6.7	0.830 ± 0.105	0.806 ± 0.092	0.802 ± 0.092
ecoli-0-3-4-7-vs-5-6	0.843 ± 0.085	0.853 ± 0.089	0.857 ± 0.086	0.881 ± 0.081 $1,6,7$	$0.879 \pm 0.078 \\ 1,6,7$	0.858 ± 0.069	0.856 ± 0.067
ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5	0.813 ± 0.129	0.821 ± 0.101	0.821 ± 0.101	0.835 ± 0.113 $1,6,7$	0.842 ± 0.101 $1,6,7$	0.812 ± 0.092	0.819 ± 0.083
shuttle-c0-vs-c4	1.000 ± 0.000	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-0-3-4-vs-5	0.828 ± 0.116	0.870 ± 0.115	0.875 ± 0.112	0.897 ± 0.111 $1,2,6,7$	0.912 ± 0.112 $1,2,6,7$	0.876 ± 0.093	0.889 ± 0.096
		1	1	1,2,0,1	1,2,0,1	1 1	1 1

Table 1: Results for BAC metric

	CART (1) OSB (2) OKNORAU (3) TBAC (4) OTBAC (5) TBAW (6) OTBAW (7)									
Mean rank	2.720	2.829	3.329	4.707	5.098	4.268	5.049			
	_	_	2	1,2,3	1,2,3,6	1,2	1,2,3,6			

Table 2: Results for mean ranks according to BAC metric

Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.680 ± 0.227	0.730 ± 0.196	0.732 ± 0.196	0.540 ± 0.244	0.543 ± 0.244	0.446 ± 0.174	0.598 ± 0.174
ecoli - 0 - 2 - 3 - 4 - vs - 5	0.730 ± 0.140	0.796 ± 0.159	0.798 ± 0.158	0.829 ± 0.126	0.834 ± 0.123	0.662 ± 0.139	0.657 ± 0.133
glass-0-1-6-vs-2	$6,7 \\ 0.225 \pm 0.219$	0.163 ± 0.261	0.167 ± 0.266	0.325 ± 0.132	0.343 ± 0.119	0.233 ± 0.087	0.308 ± 0.076
ecoli-0-1-vs-5	0.666 ± 0.143	0.760 ± 0.158	0.762 ± 0.159	0.850 ± 0.109	0.861 ± 0.108	0.651 ± 0.117	0.666 ± 0.110
yeast-1-4-5-8-vs-7	0.119 ± 0.133	0.027 ± 0.082	$^{1,6,7}_{0.027 \pm 0.082}$	0.161 ± 0.081	0.178 ± 0.082	0.136 ± 0.040	-0.138 ± 0.054
ecoli4	0.732 ± 0.138	0.769 ± 0.171	0.769 ± 0.171	0.867 ± 0.115	0.849 ± 0.146	0.658 ± 0.132	0.666 ± 0.133
led7digit-0-2-4-5-6-7-8-9-vs-1	0.778 ± 0.109	0.714 ± 0.111	0.712 ± 0.108	0.401 ± 0.200	0.392 ± 0.193	0.571 ± 0.103	0.544 ± 0.094
glass5	0.657 ± 0.346	0.633 ± 0.348	0.633 ± 0.348	0.707 ± 0.263	0.766 ± 0.247	0.557 ± 0.198	0.686 ± 0.220
ecoli-0-3-4-6-vs-5	0.665 ± 0.186	0.766 ± 0.189	0.768 ± 0.180	0.805 ± 0.158	0.809 ± 0.138	0.647 ± 0.143	0.655 ± 0.118
yeast-0-5-6-7-9-vs-4	0.391 ± 0.122	0.428 ± 0.152	0.423 ± 0.155	0.548 ± 0.074	0.548 ± 0.088	0.350 ± 0.043	0.367 ± 0.047
yeast6	0.422 ± 0.135	0.511 ± 0.168	0.511 ± 0.169	0.486 ± 0.124	0.510 ± 0.109	0.248 ± 0.048	$0.313 \stackrel{6}{\pm} 0.070$
ecoli-0-6-7-vs-5	0.726 ± 0.208	0.791 ± 0.179	0.791 ± 0.179	0.789 ± 0.167	0.783 ± 0.164	0.604 ± 0.135	$0.600 \stackrel{6}{\pm} 0.139$
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.631 ± 0.314	0.663 ± 0.272	0.663 ± 0.272	0.663 ± 0.286	0.705 ± 0.282	0.540 ± 0.212	0.672 ± 0.223
ecoli-0-1-3-7-vs-2-6	$0.513 \stackrel{6}{\pm} 0.327$	$0.376 \stackrel{6}{\pm} 0.441$	0.423 ± 0.441	0.564 ± 0.322	0.524 ± 0.324	0.436 ± 0.277	$0.277 \stackrel{6}{\pm} 0.200$
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	0.491 ± 0.084	0.573 ± 0.089	0.574 ± 0.083	0.618 ± 0.091	0.615 ± 0.093	0.327 ± 0.028	0.333 ± 0.029
ecoli-0-1-4-7-vs-5-6	0.612 ± 0.134	0.711 ± 0.150	0.714 ± 0.149	0.799 ± 0.141	0.817 ± 0.117	0.512 ± 0.124	0.543 ± 0.088
yeast5	0.658 ± 0.137	0.680 ± 0.122	0.686 ± 0.117	0.715 ± 0.085	0.739 ± 0.088	0.519 ± 0.077	0.680 ± 0.075
shuttle- $c2$ - vs - $c4$	$1.000 \stackrel{6}{\pm} 0.000$	$1.000 \stackrel{6}{\pm} 0.000$	1.000 ± 0.000	0.993 ± 0.046	$0.993 \stackrel{all}{\pm} 0.046$	0.993 ± 0.046	$0.993 \stackrel{6}{\pm} 0.046$
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	0.611 ± 0.148	0.709 ± 0.164	0.711 ± 0.165	0.771 ± 0.138	0.779 ± 0.133	0.422 ± 0.087	0.449 ± 0.079
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.366 ± 0.116	0.290 ± 0.142	0.297 ± 0.140	0.388 ± 0.122	0.392 ± 0.133	0.288 ± 0.048	0.283 ± 0.038
yeast-1-vs-7	0.353 ± 0.151	0.163 ± 0.155	0.163 ± 0.155	0.287 ± 0.125	0.259 ± 0.113	0.247 ± 0.041	0.243 ± 0.051
yeast-1-2-8-9-vs-7	0.233 ± 0.137	0.170 ± 0.169	0.169 ± 0.169	0.242 ± 0.098	0.217 ± 0.082	0.146 ± 0.046	0.152 ± 0.043
ecoli-0-1-4-6-vs-5	0.606 ± 0.149	0.743 ± 0.150	0.745 ± 0.152	0.815 ± 0.111	0.812 ± 0.115	0.562 ± 0.120	0.570 ± 0.100
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	0.249 ± 0.210	0.173 ± 0.249	0.173 ± 0.249	0.346 ± 0.152	0.357 ± 0.144	0.261 ± 0.064	0.306 ± 0.095
yeast-2-vs-4	0.707 ± 0.087	0.729 ± 0.093	0.727 ± 0.092	0.766 ± 0.094	0.767 ± 0.096	0.691 ± 0.070	0.663 ± 0.066
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.793 ± 0.302	0.809 ± 0.283	0.809 ± 0.283	0.651 ± 0.337	0.644 ± 0.366	0.494 ± 0.241	0.604 ± 0.308
glass2	0.167 ± 0.204	0.243 ± 0.230	0.252 ± 0.236	$0.320 \stackrel{6}{\pm} 0.154$	0.354 ± 0.135	0.224 ± 0.074	$0.305 \stackrel{6}{\pm} 0.077$
yeast-2-vs-8	0.408 ± 0.199	0.585 ± 0.246	0.585 ± 0.246	0.666 ± 0.197	0.660 ± 0.191	0.278 ± 0.085	0.268 ± 0.086
vowel0	0.921 ± 0.045	0.909 ± 0.041	0.911 ± 0.040	0.801 ± 0.082	0.796 ± 0.073	0.839 ± 0.057	0.848 ± 0.054
$glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$	0.942 ± 0.109	0.939 ± 0.114	0.942 ± 0.109	0.903 ± 0.226	0.920 ± 0.216	0.860 ± 0.250	0.885 ± 0.244
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	0.220 ± 0.210	$0.160 \stackrel{-}{\pm} 0.245$	0.164 ± 0.248	0.301 ± 0.153	0.313 ± 0.144	0.225 ± 0.087	0.279 ± 0.111
yeast4	0.336 ± 0.122	0.273 ± 0.138	0.271 ± 0.134	0.404 ± 0.091	0.406 ± 0.105	$0.265 \stackrel{2}{\pm} 0.040$	0.285 ± 0.047
ecoli-0-4-6- vs -5	0.667 ± 0.159	0.764 ± 0.145	0.764 ± 0.145	0.809 ± 0.136	0.826 ± 0.146	0.663 ± 0.155	0.661 ± 0.128
page-blocks-1-3-vs-4	0.903 ± 0.084	0.948 ± 0.081	0.948 ± 0.081	0.615 ± 0.201	0.794 ± 0.167	0.777 ± 0.159	0.884 ± 0.114
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	0.711 ± 0.076	0.798 ± 0.069	0.799 ± 0.069	0.819 ± 0.055	0.822 ± 0.056	$0.527 \stackrel{4}{\pm} 0.048$	0.552 ± 0.047
ecoli- 0 - 1 - vs - 2 - 3 - 5	0.599 ± 0.183	0.695 ± 0.161	0.699 ± 0.162	0.804 ± 0.133	0.799 ± 0.133	0.584 ± 0.122	0.565 ± 0.117
ecoli-0-6-7- vs -3-5	0.676 ± 0.209	0.730 ± 0.190	0.731 ± 0.188	0.722 ± 0.175	0.718 ± 0.177	0.550 ± 0.147	0.530 ± 0.142
ecoli-0-3-4-7-vs-5-6	0.686 ± 0.108	0.784 ± 0.131	0.790 ± 0.128	0.801 ± 0.122	0.783 ± 0.117	0.579 ± 0.103	0.538 ± 0.100
ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5	0.664 ± 0.218	0.715 ± 0.174	0.721 ± 0.173	0.732 ± 0.190	0.738 ± 0.170	$0.558 \stackrel{7}{\pm} 0.148$	0.553 ± 0.135
shuttle-c0-vs-c4	1.000 ± 0.000	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-0-3-4-vs-5	0.683 ± 0.176	0.787 ± 0.183	0.795 ± 0.182	0.820 ± 0.167	0.833 ± 0.190	0.659 ± 0.138	0.672 ± 0.157
	_	1,6,7	1,6,7	1,6,7	1,6,7	<u> </u>	_

Table 3: Results for F1 metric

	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	3.793	4.134	4.585	5.366	5.610	1.927	2.585
	6,7	6,7	1,2,6,7	1,2,6,7	1,2,6,7	_	6

Table 4: Results for mean ranks according to F1 metric

Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.730 ± 0.276	0.777 ± 0.245	0.783 ± 0.247	0.524 ± 0.284	0.520 ± 0.272	0.339 ± 0.174	0.486 ± 0.190
ecoli-0-2-3-4-vs-5	0.769 ± 0.174	0.893 ± 0.158	0.888 ± 0.158	0.865 ± 0.144	0.861 ± 0.157	0.568 ± 0.170	0.554 ± 0.166
glass-0-1-6-vs-2	0.237 ± 0.249	0.260 ± 0.416	0.277 ± 0.436	0.225 ± 0.100	0.236 ± 0.087	0.141 ± 0.055	0.193 ± 0.053
ecoli-0-1- vs -5	0.731 ± 0.181	0.894 ± 0.146	0.895 ± 0.146	0.950 ± 0.102	0.945 ± 0.106	0.543 ± 0.141	0.570 ± 0.149
yeast-1-4-5-8-vs-7	$6,7 \\ 0.112 \pm 0.127$	0.087 ± 0.273	0.087 ± 0.273	0.108 ± 0.056	0.120 ± 0.057	0.077 ± 0.023	0.079 ± 0.031
ecoli4	0.743 ± 0.176	0.827 ± 0.181	0.827 ± 0.181	0.920 ± 0.115	0.885 ± 0.152	0.550 ± 0.183	0.564 ± 0.186
led7digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1	0.797 ± 0.142	0.666 ± 0.134	0.660 ± 0.130	0.646 ± 0.280	0.583 ± 0.272	0.453 ± 0.123	0.420 ± 0.115
glass5	$0.707 \stackrel{all}{\pm} 0.382$	$0.717 \overset{6,7}{\pm} 0.394$	0.717 ± 0.394	0.687 ± 0.303	$0.767 \overset{6,7}{\pm} 0.286$	$0.430 \stackrel{7}{\pm} 0.201$	0.575 ± 0.254
ecoli-0-3-4-6-vs-5	0.692 ± 0.204	0.866 ± 0.185	0.860 ± 0.186	0.834 ± 0.156	0.808 ± 0.156	0.553 ± 0.176	0.554 ± 0.164
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	0.395 ± 0.139	0.617 ± 0.193	0.610 ± 0.192	0.480 ± 0.113	0.480 ± 0.121	0.223 ± 0.031	0.235 ± 0.035
yeast6	0.419 ± 0.182	0.677 ± 0.236	0.678 ± 0.238	0.391 ± 0.112	0.429 ± 0.099	0.150 ± 0.031	$0.203 \stackrel{6}{\pm} 0.049$
ecoli-0-6-7-vs-5	0.794 ± 0.232	0.878 ± 0.160	0.878 ± 0.160	0.871 ± 0.167	0.859 ± 0.175	0.523 ± 0.157	0.521 ± 0.180
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.680 ± 0.364	0.732 ± 0.335	0.732 ± 0.335	0.671 ± 0.332	0.717 ± 0.316	0.427 ± 0.237	0.583 ± 0.265
ecoli-0-1-3-7-vs-2-6	0.465 ± 0.340	0.413 ± 0.477	0.463 ± 0.478	0.534 ± 0.353	0.486 ± 0.359	0.365 ± 0.288	0.196 ± 0.185
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	0.479 ± 0.096	0.737 ± 0.117	0.744 ± 0.113	0.713 ± 0.101	0.702 ± 0.104	$0.207 \stackrel{7}{\pm} 0.020$	0.212 ± 0.021
ecoli - 0 - 1 - 4 - 7 - vs - 5 - 6	0.611 ± 0.150	0.846 ± 0.142	0.846 ± 0.142	0.893 ± 0.133	0.868 ± 0.146	0.410 ± 0.164	0.404 ± 0.093
yeast5	0.703 ± 0.162	0.753 ± 0.147	0.755 ± 0.146	0.617 ± 0.109	0.650 ± 0.104	0.365 ± 0.070	0.548 ± 0.083
shuttle- $c2$ - vs - $c4$	1.000 ± 0.000	$1.4,5,6,7$ 1.000 ± 0.000	$1.45,67$ 1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	0.611 ± 0.157	0.853 ± 0.142	0.854 ± 0.142	0.887 ± 0.130	0.875 ± 0.147	0.302 ± 0.089	0.317 ± 0.079
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.363 ± 0.130	0.526 ± 0.259 $1,5,6,7$	0.539 ± 0.258	0.491 ± 0.176	0.432 ± 0.158 $1,6,7$ $1,6,7$	0.177 ± 0.031	0.173 ± 0.024
yeast-1- vs -7	$0.333 \pm 0.141 4,5,6,7$	0.400 ± 0.410 $4,5,6,7$	$ \begin{array}{c} 1,5,6,7\\0.400 \pm 0.410\\4,5,6,7 \end{array} $	0.213 ± 0.097	0.187 ± 0.086 $6,7$	0.148 ± 0.025	0.145 ± 0.031
yeast-1-2-8-9- vs -7	0.212 ± 0.140 $5.6.7$	0.415 ± 0.423 $1,4,5,6,7$	0.405 ± 0.415 $1,4,5,6,7$	$0.180 \pm 0.082 \\ 5,6,7$	0.155 ± 0.061 6.7	0.084 ± 0.026	0.087 ± 0.024
ecoli-0-1-4-6- vs -5	0.655 ± 0.218 6.7	0.868 ± 0.176 $1,6,7$	0.864 ± 0.181 $1,6,7$	0.873 ± 0.144 $1,6,7$	0.843 ± 0.136 $1,6,7$	0.442 ± 0.132	0.440 ± 0.105
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	0.302 ± 0.304 $6,7$	0.249 ± 0.370	0.249 ± 0.370	0.247 ± 0.130	0.247 ± 0.109 $6,7$	0.158 ± 0.040	0.192 ± 0.062
yeast-2-vs-4	0.709 ± 0.097 6.7	0.779 ± 0.116 $1,6,7$	0.778 ± 0.116 $1.6.7$	0.850 ± 0.099 $1,2,3,6,7$	0.852 ± 0.097 $1,2,3,6,7$	0.552 ± 0.080	0.517 ± 0.068
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.808 ± 0.318	0.837 ± 0.295 6.7	0.837 ± 0.295 6.7	0.727 ± 0.381 6.7	0.730 ± 0.403 6.7	0.397 ± 0.250	0.573 ± 0.338
glass2	0.172 ± 0.228	0.405 ± 0.417 $1,4,6,7$	0.429 ± 0.431 $1,4,5,6,7$	0.233 ± 0.121 $1,6$	0.246 ± 0.102 $1,6,7$	0.134 ± 0.047	0.190 ± 0.048
yeast-2-vs-8	0.442 ± 0.271 $6,7$	0.848 ± 0.292 $1,6,7$	0.848 ± 0.292 $1,6,7$	0.912 ± 0.183 $1,6,7$	0.901 ± 0.184 $1,6,7$	0.178 ± 0.056	0.170 ± 0.057
vowel0	0.911 ± 0.067 $6,7$	0.902 ± 0.068 6.7	0.906 ± 0.063 6.7	0.915 ± 0.076 $6,7$	0.924 ± 0.070 $2,3,6,7$	0.742 ± 0.081	0.768 ± 0.082
glass-0-4-vs-5	0.908 ± 0.169	0.905 ± 0.175	0.908 ± 0.169	0.950 ± 0.206	0.960 ± 0.195 $1,2,3,6$	0.872 ± 0.263	0.895 ± 0.255
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	0.258 ± 0.269 $6,7$	0.229 ± 0.363	0.232 ± 0.363	0.212 ± 0.111 $6,7$	0.216 ± 0.103 $6,7$	0.134 ± 0.053	0.174 ± 0.073
yeast4	0.330 ± 0.134 $6,7$	$0.525 \pm 0.275 \\ 1,4,5,6,7$	$0.520 \pm 0.275 \\ 1,4,5,6,7$	0.326 ± 0.086	0.332 ± 0.099 $6,7$	0.161 ± 0.025	0.176 ± 0.030
ecoli-0-4-6- vs -5	0.744 ± 0.193 $6,7$	0.877 ± 0.159 $1,6,7$	0.877 ± 0.159 $1,6,7$	0.847 ± 0.162 $1,6,7$	0.826 ± 0.176 $1,6,7$	0.573 ± 0.186	0.549 ± 0.152
page-blocks-1-3-vs-4	0.908 ± 0.102 4.6	0.942 ± 0.084 $1,4,6,7$	0.942 ± 0.084 $1,4,6,7$	0.811 ± 0.222	0.970 ± 0.093 $1,4,6,7$	0.699 ± 0.205	0.899 ± 0.119 4.6
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	0.709 ± 0.082 $6,7$	0.850 ± 0.086 $1,4,5,6,7$	0.850 ± 0.086 $1,4,5,6,7$	0.827 ± 0.073 $1,6,7$	0.829 ± 0.073 $1,6,7$	0.376 ± 0.050	0.401 ± 0.054
ecoli-0-1-vs-2-3-5	0.627 ± 0.198 $6,7$	0.803 ± 0.163 $1,6,7$	0.809 ± 0.165 $1,6,7$	0.958 ± 0.092 $1,2,3,6,7$	$0.939 \pm 0.105 \\ 1,2,3,6,7$	0.470 ± 0.114	0.450 ± 0.124 $-$
ecoli-0-6-7-vs-3-5	0.735 ± 0.236 $6,7$	0.855 ± 0.205 $1,6,7$	0.858 ± 0.198 $1,6,7$	0.820 ± 0.191 6.7	0.804 ± 0.198 $6,7$	0.473 ± 0.173	0.451 ± 0.180 $-$
ecoli-0-3-4-7-vs-5-6	0.692 ± 0.154 $6,7$	0.904 ± 0.130 $1,4,5,6,7$	0.904 ± 0.130 $1,4,5,6,7$	0.848 ± 0.140 $1,5,6,7$	0.810 ± 0.137 $1,6,7$	0.464 ± 0.138 7	0.400 ± 0.101
ecoli-0-2-6-7-vs-3-5	0.722 ± 0.252 $6,7$	0.838 ± 0.201 $1,6,7$	0.858 ± 0.197 $1,6,7$	0.825 ± 0.196 $1,6,7$	0.805 ± 0.186 $1,6,7$	$0.500 \stackrel{7}{\pm} 0.211$	0.478 ± 0.196
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 -	1.000 ± 0.000
ecoli-0-3-4- vs -5	0.738 ± 0.200 $6,7$	0.863 ± 0.172 $1,6,7$	$0.863 \pm 0.172 \\ 1,6,7$	0.870 ± 0.155 $1,6,7$	0.856 ± 0.193 $1,6,7$	0.576 ± 0.164	0.578 ± 0.184
	0,7	1,0,1	1,0,1	1,0,1	1,0,1	_	_ =

Table 5: Results for Precision metric

	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	3.939	5.463	5.695	4.805	4.805	1.512	1.780
	6,7	1,6,7	1,4,5,6,7	1,6,7	1,6,7	_	_

Table 6: Results for mean ranks according to Precision metric

Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.717 ± 0.277	0.730 ± 0.233	0.730 ± 0.233	0.630 ± 0.293	0.620 ± 0.280	0.740 ± 0.258	0.853 ± 0.204
ecoli- 0 - 2 - 3 - 4 - vs - 5	$0.730 \stackrel{5}{\pm} 0.179$	0.740 ± 0.193	0.745 ± 0.190	0.820 ± 0.173	0.835 ± 0.162	0.845 ± 0.172	0.860 ± 0.159
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 2$	0.243 ± 0.247	$0.123 \stackrel{-}{\pm} 0.201$	0.123 ± 0.201	0.630 ± 0.265	0.667 ± 0.248	0.725 ± 0.277	0.798 ± 0.191
ecoli-0-1- vs -5	0.655 ± 0.205	0.700 ± 0.212	0.705 ± 0.216	0.790 ± 0.160	0.810 ± 0.154	0.870 ± 0.167	0.865 ± 0.151
yeast - 1 - 4 - 5 - 8 - vs - 7	0.140 ± 0.157	0.017 ± 0.049	0.017 ± 0.049	0.330 ± 0.174	0.360 ± 0.161	0.580 ± 0.186	0.543 ± 0.218
ecoli4	0.755 ± 0.183	0.755 ± 0.214	0.755 ± 0.214	0.845 ± 0.172	0.850 ± 0.193	0.890 ± 0.142	0.890 ± 0.151
led 7 digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1	0.782 ± 0.143	0.796 ± 0.145	0.799 ± 0.145	0.312 ± 0.178	0.318 ± 0.177	0.835 ± 0.156	0.843 ± 0.161
glass5	$0.670 \overset{4.5}{\pm} 0.382$	0.620 ± 0.381	0.620 ± 0.381	0.810 ± 0.314	0.840 ± 0.290	0.900 ± 0.244	0.930 ± 0.200
ecoli-0-3-4-6-vs-5	0.680 ± 0.218	0.720 ± 0.227	0.725 ± 0.219	0.805 ± 0.207	0.830 ± 0.169	0.845 ± 0.186	0.855 ± 0.150
yeast-0-5-6-7-9-vs-4	0.412 ± 0.159	0.351 ± 0.157	$0.347 \stackrel{-}{\pm} 0.162$	0.670 ± 0.107	0.669 ± 0.105	0.832 ± 0.119	0.850 ± 0.104
yeast6	$0.477 \stackrel{2,3}{\pm} 0.182$	$0.440 \stackrel{-}{\pm} 0.175$	$0.440 \stackrel{-}{\pm} 0.175$	0.677 ± 0.195	0.657 ± 0.180	0.740 ± 0.165	0.717 ± 0.181
ecoli-0-6-7-vs-5	0.705 ± 0.243	0.755 ± 0.231	0.755 ± 0.231	0.750 ± 0.206	0.750 ± 0.200	0.780 ± 0.215	0.785 ± 0.218
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.660 ± 0.366	$0.690 \stackrel{1}{\pm} 0.330$	0.690 ± 0.330	0.740 ± 0.320	0.760 ± 0.320	$0.870 \stackrel{1}{\pm} 0.260$	0.890 ± 0.229
ecoli-0-1-3-7-vs-2-6	0.660 ± 0.417	0.360 ± 0.436	0.410 ± 0.443	0.700 ± 0.400	$0.700 \stackrel{-}{\pm} 0.400$	0.700 ± 0.400	0.700 ± 0.412
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	0.512 ± 0.097	0.476 ± 0.093	0.475 ± 0.089	0.557 ± 0.114	0.557 ± 0.110	0.796 ± 0.087	0.792 ± 0.081
ecoli-0-1-4-7-vs-5-6	0.656 ± 0.200	0.640 ± 0.183	0.644 ± 0.180	0.760 ± 0.200	0.796 ± 0.162	0.804 ± 0.189	0.868 ± 0.130
yeast5	0.648 ± 0.170	0.643 ± 0.160	0.650 ± 0.155	0.869 ± 0.103	0.872 ± 0.122	0.923 ± 0.094	0.913 ± 0.103
shuttle-c2-vs-c4	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	0.990 ± 0.069	0.990 ± 0.069	0.990 ± 0.069	0.990 ± 0.069
ecoli-0-1-4-7-vs-2-3-5-6	0.632 ± 0.180	0.634 ± 0.195	0.637 ± 0.197	0.713 ± 0.184	0.727 ± 0.170	0.765 ± 0.168	0.828 ± 0.149
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.394 ± 0.146	0.210 ± 0.111	0.214 ± 0.109	0.350 ± 0.148	0.388 ± 0.157	0.778 ± 0.144	0.792 ± 0.124
yeast-1-vs-7	0.393 ± 0.190	0.107 ± 0.104	0.107 ± 0.104	0.480 ± 0.232	0.460 ± 0.220	0.763 ± 0.163	0.753 ± 0.173
y east - 1 - 2 - 8 - 9 - v s - 7	0.280 ± 0.168	0.113 ± 0.122	0.113 ± 0.122	0.393 ± 0.151	0.373 ± 0.143	0.577 ± 0.206	0.620 ± 0.200
ecoli-0-1-4-6-vs-5	0.615 ± 0.188	0.685 ± 0.185	0.690 ± 0.184	0.790 ± 0.152	0.810 ± 0.170	0.835 ± 0.162	0.850 ± 0.165
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	0.262 ± 0.252	$0.147 \stackrel{1}{\pm} 0.228$	0.147 ± 0.228	0.632 ± 0.256	0.682 ± 0.262	0.777 ± 0.205	0.790 ± 0.255
yeast-2-vs-4	0.722 ± 0.132	0.701 ± 0.122	0.699 ± 0.120	0.711 ± 0.133	0.711 ± 0.138	0.939 ± 0.088	0.937 ± 0.092
$glass\hbox{-} 0\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.820 ± 0.328	0.820 ± 0.312	0.820 ± 0.312	0.640 ± 0.361	0.610 ± 0.378	0.760 ± 0.320	0.720 ± 0.362
glass2	0.187 ± 0.238	$0.185 \overset{4.5}{\pm} 0.177$	0.190 ± 0.182	0.560 ± 0.274	0.658 ± 0.239	0.713 ± 0.220	$0.800 \stackrel{5}{\pm} 0.216$
yeast-2-vs-8	0.435 ± 0.233	0.475 ± 0.246	0.475 ± 0.246	0.555 ± 0.219	0.555 ± 0.219	0.690 ± 0.242	$0.690 \stackrel{all}{\pm} 0.247$
vowel0	0.936 ± 0.055	0.921 ± 0.059	0.922 ± 0.059	0.724 ± 0.118	0.711 ± 0.117	0.972 ± 0.041	0.957 ± 0.061
$glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$	$1.000 \stackrel{4.5}{\pm} 0.000$	$1.000 \stackrel{4.5}{\pm} 0.000$	$1.000 \stackrel{4.5}{\pm} 0.000$	0.880 ± 0.256	0.900 ± 0.244	0.880 ± 0.256	0.900 ± 0.244
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 4\hbox{-} 6\hbox{-} vs\hbox{-} 2$	0.213 ± 0.216	$0.132 \stackrel{4,6}{\pm} 0.201$	0.138 ± 0.213	0.557 ± 0.285	0.600 ± 0.270	0.727 ± 0.292	0.738 ± 0.275
yeast4	0.364 ± 0.141	0.201 ± 0.118	0.197 ± 0.109	0.565 ± 0.150	0.550 ± 0.148	0.759 ± 0.130	0.757 ± 0.130
ecoli- 0 - 4 - 6 - vs - 5	0.660 ± 0.210	0.715 ± 0.193	0.715 ± 0.193	0.800 ± 0.173	0.845 ± 0.157	0.840 ± 0.171	0.875 ± 0.143
page-blocks-1-3-vs-4	0.918 ± 0.131	0.963 ± 0.105	0.963 ± 0.105	0.527 ± 0.217	0.701 ± 0.208	0.913 ± 0.130	0.884 ± 0.149
$yeast \hbox{-} 0 \hbox{-} 2 \hbox{-} 5 \hbox{-} 7 \hbox{-} 9 \hbox{-} vs \hbox{-} 3 \hbox{-} 6 \hbox{-} 8$	0.721 ± 0.102	0.760 ± 0.092	0.762 ± 0.092	0.817 ± 0.074	$0.820 \stackrel{4}{\pm} 0.074$	0.900 ± 0.076	0.906 ± 0.072
ecoli- 0 - 1 - vs - 2 - 3 - 5	0.615 ± 0.230	0.639 ± 0.196	0.643 ± 0.197	0.715 ± 0.183	0.719 ± 0.183	0.805 ± 0.191	0.813 ± 0.187
ecoli- 0 - 6 - 7 - vs - 3 - 5	0.671 ± 0.250	0.674 ± 0.223	0.674 ± 0.223	0.677 ± 0.210	0.682 ± 0.204	0.718 ± 0.182	0.722 ± 0.188
ecoli-0-3-4-7-vs-5-6	0.728 ± 0.182	0.716 ± 0.179	0.724 ± 0.173	0.780 ± 0.161	0.780 ± 0.156	$0.836 \stackrel{4}{\pm} 0.153$	0.868 ± 0.136
ecoli-0-2-6-7-vs-3-5	0.659 ± 0.255	0.659 ± 0.202	0.659 ± 0.202	0.688 ± 0.222	0.704 ± 0.197	0.727 ± 0.199	0.751 ± 0.179
shuttle-c0-vs-c4	1.000 ± 0.000	1.000 ± 0.000	$1.000 \stackrel{-}{\pm} 0.000$	0.996 ± 0.012	0.996 ± 0.012	0.996 ± 0.012	0.996 ± 0.012
ecoli- 0 - 3 - 4 - vs - 5	0.690 ± 0.237	0.755 ± 0.226	$0.765 \stackrel{-}{\pm} 0.220$	0.810 ± 0.221	0.840 ± 0.222	0.830 ± 0.196	0.860 ± 0.194
	<u> </u>	_	1	1	1,2,3	1,2,3	1,2,3,4

Table 7: Results for Recall metric

	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
Mean rank	2.756	2.488	2.854	3.683	4.195	5.805	6.220
	_	_	2	1,2	1,2,3,4	1,2,3,4,5	all

Table 8: Results for mean ranks according to Recall metric

Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.846 ± 0.136	0.857 ± 0.117	0.857 ± 0.117	0.791 ± 0.151	0.788 ± 0.144	0.816 ± 0.129	0.892 ± 0.102
ecoli-0-2-3-4-vs-5	0.850 ± 0.087	0.865 ± 0.099	0.867 ± 0.097	0.902 ± 0.087	0.908 ± 0.081	$0.881 \stackrel{-}{\pm} 0.088$	0.885 ± 0.079
glass-0-1-6-vs-2	0.582 ± 0.128	0.553 ± 0.104	0.552 ± 0.105	0.707 ± 0.131	0.727 ± 0.122	$0.648 \stackrel{-}{\pm} 0.129$	0.732 ± 0.095
ecoli-0-1- vs -5	0.814 ± 0.099	0.845 ± 0.105	0.848 ± 0.107	0.892 ± 0.080	0.902 ± 0.077	0.897 ± 0.079	0.897 ± 0.071
yeast-1-4-5-8-vs-7	0.546 ± 0.078	$0.507 \stackrel{1}{\pm} 0.025$	0.507 ± 0.025	0.601 ± 0.089	0.617 ± 0.085	0.633 ± 0.090	0.627 ± 0.111
ecoli4	0.868 ± 0.091	0.871 ± 0.107	$0.871 \stackrel{-}{\pm} 0.107$	0.920 ± 0.085	0.921 ± 0.096	0.916 ± 0.068	0.918 ± 0.071
led7 digit - 0 - 2 - 4 - 5 - 6 - 7 - 8 - 9 - vs - 1	$0.881 \stackrel{-}{\pm} 0.072$	0.878 ± 0.073	$0.879 \stackrel{-}{\pm} 0.072$	0.649 ± 0.088	0.648 ± 0.089	0.866 ± 0.072	0.862 ± 0.071
glass5	0.831 ± 0.189	0.807 ± 0.189	0.807 ± 0.189	0.896 ± 0.155	0.914 ± 0.143	0.916 ± 0.122	0.945 ± 0.104
ecoli-0-3-4-6-vs-5	0.821 ± 0.111	0.853 ± 0.116	0.855 ± 0.111	0.893 ± 0.105	0.903 ± 0.087	0.878 ± 0.094	0.884 ± 0.073
yeast - 0 - 5 - 6 - 7 - 9 - vs - 4	0.670 ± 0.077	0.663 ± 0.077	0.661 ± 0.079	0.792 ± 0.048	0.791 ± 0.051	0.759 ± 0.053	0.775 ± 0.053
yeast6	0.729 ± 0.089	0.717 ± 0.087	0.717 ± 0.087	0.825 ± 0.096	0.818 ± 0.089	0.819 ± 0.077	0.824 ± 0.087
ecoli-0-6-7-vs-5	0.842 ± 0.121	0.871 ± 0.117	0.871 ± 0.117	0.868 ± 0.104	0.868 ± 0.101	0.849 ± 0.102	0.850 ± 0.102
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.822 ± 0.182	0.837 ± 0.162	0.837 ± 0.162	0.858 ± 0.160	0.872 ± 0.160	0.897 ± 0.129	0.924 ± 0.115
ecoli - 0 - 1 - 3 - 7 - vs - 2 - 6	0.820 ± 0.209	0.678 ± 0.219	$0.703 \stackrel{-}{\pm} 0.222$	0.841 ± 0.200	0.837 ± 0.200	0.832 ± 0.195	0.807 ± 0.194
yeast-0-2-5-6-vs-3-7-8-9	0.725 ± 0.050	0.728 ± 0.047	0.728 ± 0.045	0.766 ± 0.056	0.765 ± 0.055	0.730 ± 0.036	$0.734 \stackrel{2}{\pm} 0.037$
ecoli - 0 - 1 - 4 - 7 - vs - 5 - 6	0.809 ± 0.095	0.815 ± 0.091	0.817 ± 0.090	0.875 ± 0.098	0.892 ± 0.080	0.844 ± 0.087	0.877 ± 0.060
yeast5	0.819 ± 0.085	0.818 ± 0.080	0.821 ± 0.077	0.926 ± 0.051	0.928 ± 0.060	0.936 ± 0.046	0.944 ± 0.051
shuttle- $c2$ - vs - $c4$	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	0.995 ± 0.034	0.995 ± 0.034	0.995 ± 0.034	0.995 ± 0.034
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	0.796 ± 0.092	0.811 ± 0.097	0.813 ± 0.097	0.851 ± 0.091	0.857 ± 0.085	0.791 ± 0.074	0.823 ± 0.064
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.656 ± 0.070	0.595 ± 0.054	$0.598 \stackrel{6}{\pm} 0.053$	0.653 ± 0.067	0.664 ± 0.075	0.689 ± 0.068	0.687 ± 0.056
yeast-1-vs-7	0.669 ± 0.095	0.549 ± 0.052	0.549 ± 0.053	0.676 ± 0.114	0.657 ± 0.109	0.728 ± 0.070	0.720 ± 0.086
yeast-1-2-8-9- vs -7	0.622 ± 0.082	0.555 ± 0.060	0.555 ± 0.060	0.665 ± 0.078	0.653 ± 0.071	0.686 ± 0.097	0.704 ± 0.095
ecoli- 0 - 1 - 4 - 6 - vs - 5	0.792 ± 0.090	0.837 ± 0.092	0.839 ± 0.092	0.889 ± 0.076	0.898 ± 0.084	0.870 ± 0.079	0.880 ± 0.079
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 5\hbox{-} vs\hbox{-} 2$	0.592 ± 0.127	0.562 ± 0.111	0.563 ± 0.111	0.704 ± 0.134 $1,2,3,6$	$ \begin{array}{c} 1,2,3,6,7\\0.725 \pm 0.135\\\\1,2,3,6 \end{array} $	0.662 ± 0.100 $1,2,3$	$ \begin{array}{c} 1,2,3\\0.715 \pm 0.118\\\\ 1,2,3,6 \end{array} $
yeast-2- vs -4	0.844 ± 0.064	0.838 ± 0.060	0.837 ± 0.059	0.848 ± 0.066	0.848 ± 0.068	0.926 ± 0.043 $1,2,3,4,5$	0.919 ± 0.045 $1,2,3,4,5$
glass-0-6-vs-5	0.899 ± 0.171 $4,5,6,7$	0.900 ± 0.165	0.900 ± 0.165	0.810 ± 0.183	0.799 ± 0.192	0.816 ± 0.168	0.834 ± 0.179
glass2	0.561 ± 0.118	0.584 ± 0.088	0.587 ± 0.091	0.696 ± 0.137 $1,2,3,6$	0.738 ± 0.123 $1,2,3,6$	0.654 ± 0.112 $1,2,3$	0.751 ± 0.104 $1.2.3.4.6$
yeast-2-vs-8	0.704 ± 0.113	0.736 ± 0.122	0.736 ± 0.122	0.776 ± 0.110 $1,2,3$	0.776 ± 0.110 $1,2,3$	0.773 ± 0.113	0.769 ± 0.112
vowel0	0.963 ± 0.028 $2,3,4,5$	0.955 ± 0.029 $4,5$	0.956 ± 0.029 4.5	0.859 ± 0.058	0.852 ± 0.057	0.968 ± 0.022 $2,3,4,5$	0.963 ± 0.029 $2,4,5$
$glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$	0.992 ± 0.016	0.991 ± 0.018	0.992 ± 0.016	0.939 ± 0.131	0.950 ± 0.122	0.931 ± 0.136	0.944 ± 0.127
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	0.573 ± 0.117	0.556 ± 0.101	0.559 ± 0.105	0.684 ± 0.139 $1,2,3,6$	0.700 ± 0.135 $1,2,3$	0.653 ± 0.140 $1,2,3$	0.707 ± 0.143 $1,2,3,6$
yeast4	0.668 ± 0.071 $2,3$	0.596 ± 0.059	0.594 ± 0.054	0.761 ± 0.072 $1,2,3$	0.754 ± 0.073 $1,2,3$	0.809 ± 0.061 $1,2,3,4,5$	0.815 ± 0.063 $1,2,3,4,5$
ecoli- 0 - 4 - 6 - vs - 5	0.814 ± 0.102	0.850 ± 0.095	0.850 ± 0.095	0.890 ± 0.088	0.911 ± 0.083	0.878 ± 0.091	0.892 ± 0.076
$page-blocks\hbox{-} 1\hbox{-} 3\hbox{-} vs\hbox{-} 4$	0.956 ± 0.064	0.979 ± 0.052	0.979 ± 0.052	0.759 ± 0.109	0.850 ± 0.104	0.940 ± 0.069	0.938 ± 0.075
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	0.844 ± 0.051	0.872 ± 0.046	0.873 ± 0.046	0.899 ± 0.037	0.901 ± 0.037	0.866 ± 0.032	0.876 ± 0.028
ecoli-0-1- vs -2-3-5	0.786 ± 0.114	0.810 ± 0.098	0.813 ± 0.099	$1,2,3,6,7$ 0.855 ± 0.091	0.857 ± 0.091	0.850 ± 0.094	0.847 ± 0.088
ecoli-0-6-7- vs -3-5	0.821 ± 0.123	0.830 ± 0.110	0.831 ± 0.110	0.829 ± 0.107	0.830 ± 0.105	0.806 ± 0.092	0.802 ± 0.092
ecoli-0-3-4-7-vs-5-6	0.843 ± 0.085	0.853 ± 0.089	0.857 ± 0.086	0.881 ± 0.081	$0.879 \pm 0.078 \\ 1,6,7$	0.858 ± 0.069	0.856 ± 0.067
ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5	0.813 ± 0.129	0.821 ± 0.101	0.821 ± 0.101	0.835 ± 0.113 $1,6,7$ $1,6,7$	0.842 ± 0.101 $1,6,7$ $1,6,7$	0.812 ± 0.092	0.819 ± 0.083
shuttle-c0-vs-c4	1.000 ± 0.000	1.000 ± 0.000	$1.000 \stackrel{1}{\pm} 0.000$	0.998 ± 0.006	0.998 ± 0.006	0.998 ± 0.006	0.998 ± 0.006
ecoli-0-3-4- vs -5	0.828 ± 0.116	0.870 ± 0.115	0.875 ± 0.112	0.897 ± 0.111	0.912 ± 0.112	0.876 ± 0.093	0.889 ± 0.096
	I –	1	1	1,2,6,7	1,2,6,7	1	1

Table 9: Results for AUC metric

	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
$Mean\ rank$	2.720	2.854	3.329	4.707	5.073	4.268	5.049
	_	_	2	1,2,3	1,2,3,6	1,2	1,2,3,6

Table 10: Results for mean ranks according to AUC metric

Dataset	CART (1)	OSB (2)	OKNORAU (3)	TBAC (4)	OTBAC (5)	TBAW (6)	OTBAW (7)
glass4	0.813 ± 0.193	0.830 ± 0.170	0.831 ± 0.170	0.732 ± 0.256	0.729 ± 0.251	0.792 ± 0.175	0.883 ± 0.115
ecoli - 0 - 2 - 3 - 4 - vs - 5	0.834 ± 0.109	0.847 ± 0.121	0.850 ± 0.119	0.893 ± 0.098	0.901 ± 0.091	0.874 ± 0.095	0.880 ± 0.085
glass-0-1-6-vs-2	0.358 ± 0.310	0.189 ± 0.294	0.190 ± 0.294	0.678 ± 0.175	0.709 ± 0.139	0.618 ± 0.148	0.721 ± 0.094
ecoli-0-1-vs-5	0.788 ± 0.125	0.822 ± 0.132	0.824 ± 0.134	0.882 ± 0.092	0.893 ± 0.087	0.890 ± 0.087	0.892 ± 0.078
yeast-1-4-5-8-vs-7	$\begin{array}{c} - \\ 0.261 \pm 0.254 \end{array}$	0.041 ± 0.122	0.041 ± 0.122	0.515 ± 0.150	0.543 ± 0.144	0.621 ± 0.102	0.608 ± 0.128
ecoli4	0.854 ± 0.106	0.854 ± 0.131	0.854 ± 0.131	0.911 ± 0.097	0.911 ± 0.115	0.912 ± 0.074	0.913 ± 0.078
led7digit-0-2-4-5-6-7-8-9-vs-1	0.871 ± 0.081	0.870 ± 0.081	0.871 ± 0.081	0.516 ± 0.202	0.523 ± 0.192	0.860 ± 0.084	0.856 ± 0.084
glass5	0.729 ± 0.364	0.692 ± 0.369	0.692 ± 0.369	0.847 ± 0.276	0.876 ± 0.248	0.893 ± 0.203	0.932 ± 0.160
ecoli-0-3-4-6-vs-5	0.796 ± 0.143	0.830 ± 0.145	0.834 ± 0.138	0.880 ± 0.124	0.895 ± 0.097	0.871 ± 0.103	0.879 ± 0.079
yeast-0-5-6-7-9-vs-4	0.605 ± 0.121	$0.568 \stackrel{1}{\pm} 0.138$	0.564 ± 0.140	0.780 ± 0.057	0.779 ± 0.059	0.751 ± 0.050	0.769 ± 0.052
yeast6	0.670 ± 0.136	0.647 ± 0.137	0.647 ± 0.137	0.802 ± 0.122	0.793 ± 0.114	0.808 ± 0.090	0.809 ± 0.108
ecoli-0-6-7-vs-5	0.811 ± 0.182	0.852 ± 0.144	0.852 ± 0.144	0.851 ± 0.127	0.851 ± 0.124	0.836 ± 0.122	0.836 ± 0.122
$glass\hbox{-} 0\hbox{-} 1\hbox{-} 6\hbox{-} vs\hbox{-} 5$	0.729 ± 0.343	0.770 ± 0.290	0.770 ± 0.290	0.805 ± 0.273	0.820 ± 0.275	0.872 ± 0.207	0.908 ± 0.170
ecoli-0-1-3-7-vs-2-6	0.695 ± 0.405	0.393 ± 0.452	0.447 ± 0.457	0.735 ± 0.383	$0.732 \stackrel{4}{\pm} 0.382$	0.726 ± 0.378	0.696 ± 0.381
yeast - 0 - 2 - 5 - 6 - vs - 3 - 7 - 8 - 9	$0.690 \stackrel{2}{\pm} 0.067$	0.680 ± 0.068	0.680 ± 0.065	0.732 ± 0.076	0.732 ± 0.075	0.724 ± 0.033	0.729 ± 0.035
ecoli-0-1-4-7-vs-5-6	0.784 ± 0.121	0.786 ± 0.121	0.789 ± 0.119	0.859 ± 0.122	0.882 ± 0.090	0.833 ± 0.104	0.874 ± 0.063
yeast5	0.793 ± 0.113	0.792 ± 0.102	0.797 ± 0.097	0.922 ± 0.056	0.924 ± 0.067	0.934 ± 0.049	0.942 ± 0.054
shuttle-c2-vs-c4	1.000 ± 0.000	1.000 ± 0.000	1.000 ± 0.000	0.994 ± 0.041	0.994 ± 0.041	0.994 ± 0.041	0.994 ± 0.041
ecoli - 0 - 1 - 4 - 7 - vs - 2 - 3 - 5 - 6	0.770 ± 0.117	0.780 ± 0.136	0.782 ± 0.137	0.831 ± 0.117	0.841 ± 0.105	0.783 ± 0.084	0.817 ± 0.068
yeast - 0 - 3 - 5 - 9 - vs - 7 - 8	0.588 ± 0.119	0.421 ± 0.168	0.426 ± 0.166	0.560 ± 0.137	0.585 ± 0.145	0.677 ± 0.066	0.674 ± 0.056
yeast-1- vs -7	0.582 ± 0.181	0.241 ± 0.218	0.241 ± 0.218	0.625 ± 0.158	0.603 ± 0.166	0.720 ± 0.073	0.713 ± 0.085
$yeast\hbox{-} 1\hbox{-} 2\hbox{-} 8\hbox{-} 9\hbox{-} vs\hbox{-} 7$	0.475 ± 0.209	0.243 ± 0.232	0.243 ± 0.232	0.595 ± 0.124	0.570 ± 0.152	0.664 ± 0.123	0.688 ± 0.112
ecoli- 0 - 1 - 4 - 6 - vs - 5	0.756 ± 0.151	0.815 ± 0.116	0.818 ± 0.116	0.879 ± 0.086	0.889 ± 0.096	0.864 ± 0.086	0.874 ± 0.086
$glass\hbox{-}0\hbox{-}1\hbox{-}5\hbox{-}vs\hbox{-}2$	0.389 ± 0.300	0.221 ± 0.305	0.221 ± 0.305	0.673 ± 0.191	0.702 ± 0.175	0.642 ± 0.093	0.690 ± 0.147
yeast-2- vs -4	0.831 ± 0.076	0.823 ± 0.075	0.822 ± 0.074	0.833 ± 0.078	0.833 ± 0.080	0.924 ± 0.045	0.918 ± 0.047
glass-0-6-vs-5	0.846 ± 0.301 $4,5,6,7$	0.856 ± 0.277	0.856 ± 0.277	0.717 ± 0.340	0.686 ± 0.367	0.771 ± 0.265	0.756 ± 0.329
glass2	0.276 ± 0.311	0.316 ± 0.285	0.321 ± 0.289	0.646 ± 0.215 $1,2,3$	$0.715 \pm 0.165 \\ 1,2,3,6$	0.635 ± 0.135 $1,2,3$	0.738 ± 0.108 $1,2,3,4,6$
yeast-2-vs-8	0.598 ± 0.252	0.646 ± 0.238	0.646 ± 0.238	0.728 ± 0.153 $1,2,3$	0.728 ± 0.153 $1,2,3$	0.753 ± 0.139 $1,2,3$	0.747 ± 0.140 $1,2,3$
vowel0	0.962 ± 0.029 $2,3,4,5$	0.954 ± 0.030	0.955 ± 0.030	0.845 ± 0.071	0.838 ± 0.067	0.968 ± 0.022 $2,3,4,5$	0.962 ± 0.030 $2.3,4,5$
$glass\hbox{-} 0\hbox{-} 4\hbox{-} vs\hbox{-} 5$	0.991 ± 0.017	0.991 ± 0.018	0.991 ± 0.017	0.913 ± 0.215	0.925 ± 0.211	0.906 ± 0.215	0.920 ± 0.211
$glass\hbox{-}0\hbox{-}1\hbox{-}4\hbox{-}6\hbox{-}vs\hbox{-}2$	0.336 ± 0.298	0.206 ± 0.293	0.210 ± 0.300	0.623 ± 0.244 $1,2,3$	0.658 ± 0.210 $1,2,3$	0.615 ± 0.188 $1,2,3$	0.680 ± 0.186 $1,2,3,6$
yeast4	0.581 ± 0.126	0.420 ± 0.151	0.417 ± 0.147	0.728 ± 0.099 $1,2,3$	0.718 ± 0.103	0.804 ± 0.070	0.809 ± 0.069 $1,2,3,4,5$
ecoli-0-4-6- vs -5	0.787 ± 0.136	0.830 ± 0.119	0.830 ± 0.119	0.880 ± 0.100 $1,2,3,6$	$ \begin{array}{c} 1,2,3\\0.905 \pm 0.092\\1,2,3,6,7 \end{array} $	0.872 ± 0.098	0.889 ± 0.079 $1,2,3$
page-blocks-1-3-vs-4	0.952 ± 0.072 $4.5.6$	0.977 ± 0.058 1,4,5,6,7	0.977 ± 0.058	0.702 ± 0.175	0.825 ± 0.135	0.937 ± 0.074 4.5	0.933 ± 0.084 $4,5$
yeast - 0 - 2 - 5 - 7 - 9 - vs - 3 - 6 - 8	0.832 ± 0.061	0.863 ± 0.053	0.864 ± 0.053	0.894 ± 0.041 $1,2,3,6,7$	0.896 ± 0.041 $1,2,3,6,7$	0.863 ± 0.033	0.874 ± 0.029 1.6
ecoli- 0 - 1 - vs - 2 - 3 - 5	0.746 ± 0.175	0.782 ± 0.129	0.784 ± 0.130	0.836 ± 0.113 $1,2,3$	0.838 ± 0.112 $1,2,3$	0.841 ± 0.108 $1,2,3$	0.838 ± 0.102 $1,2,3$
ecoli-0-6-7- vs -3-5	0.780 ± 0.206	0.797 ± 0.172 6.7	0.797 ± 0.172 6.7	0.805 ± 0.132 $6,7$	0.807 ± 0.130 $6,7$	0.793 ± 0.106	0.788 ± 0.109
ecoli - 0 - 3 - 4 - 7 - vs - 5 - 6	0.828 ± 0.102	0.835 ± 0.107	0.840 ± 0.104	0.871 ± 0.094 1.6	0.869 ± 0.091 $_{1,6}$	0.852 ± 0.073	0.852 ± 0.070
ecoli - 0 - 2 - 6 - 7 - vs - 3 - 5	0.771 ± 0.207	0.793 ± 0.133	0.794 ± 0.133	0.809 ± 0.145 $1,6,7$	0.822 ± 0.125 $1,6,7$	0.796 ± 0.111	0.807 ± 0.097
shuttle-c0-vs-c4	1.000 ± 0.000	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-0-3-4-vs-5	0.802 ± 0.148	0.851 ± 0.142	0.857 ± 0.138	0.883 ± 0.134 $1,6,7$	0.893 ± 0.169 $1,6,7$	0.866 ± 0.109	0.880 ± 0.114
	-	. +	<u>.</u>	1,0,1	1,0,7		

Table 11: Results for GMEAN metric $\,$

	CART (1) OSB (2) OKNORAU (3) TBAC (4) OTBAC (5) TBAW (6) OTBAW (7)									
Mean rank	2.695	2.646	3.146	4.585	4.951	4.634	5.341			
	_	_	2	1,2,3	1,2,3	1,2,3	1,2,3,4,6			

Table 12: Results for mean ranks according to GMEAN metric