

Supplementary material for “PYRAMID: A label hierarchical clustering approach for multi-label classification”

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1 Supplementary figures

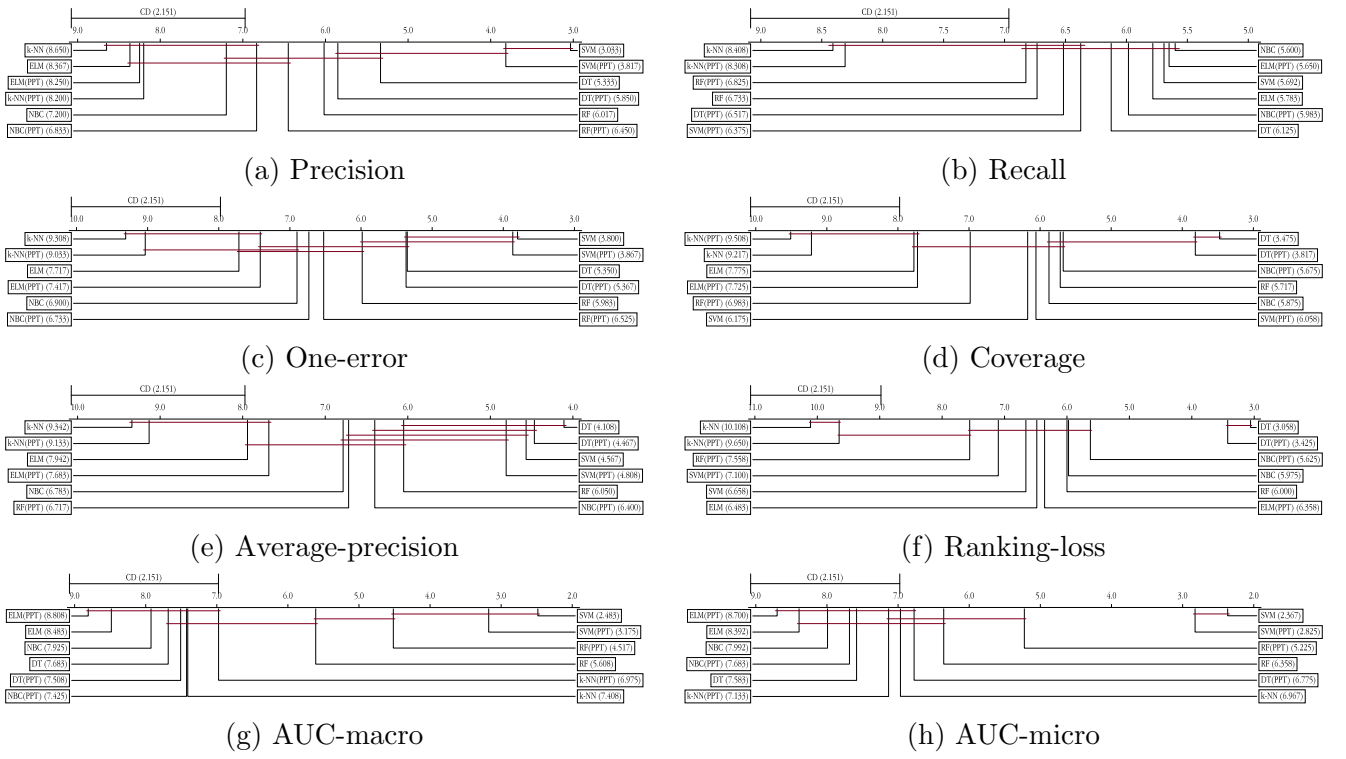
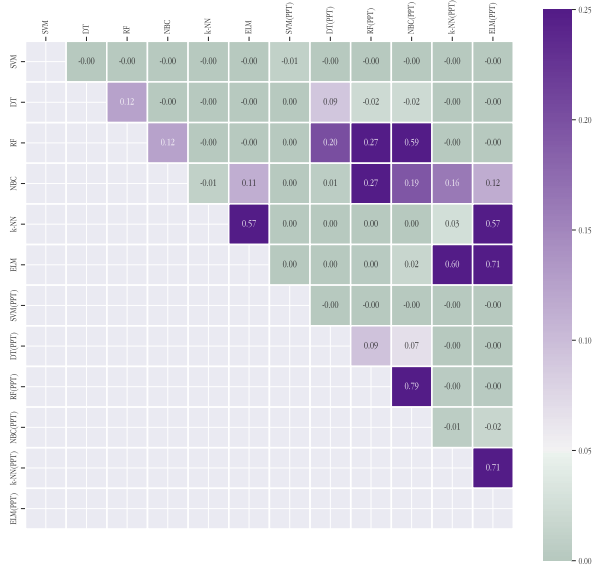


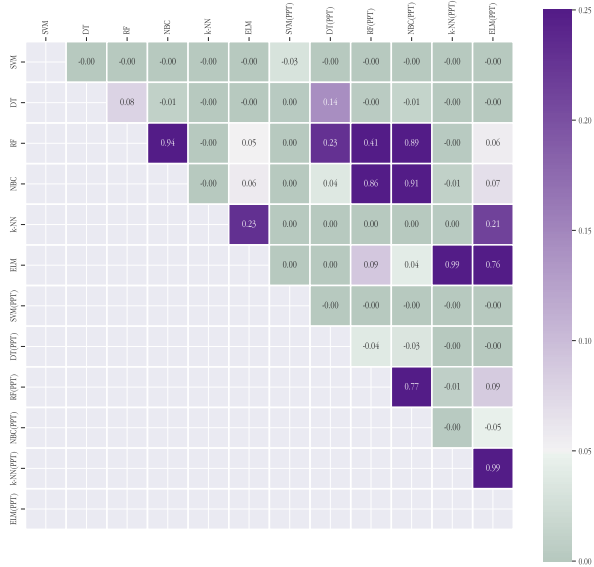
Figure 1: Nemenyi test for the different base learners.



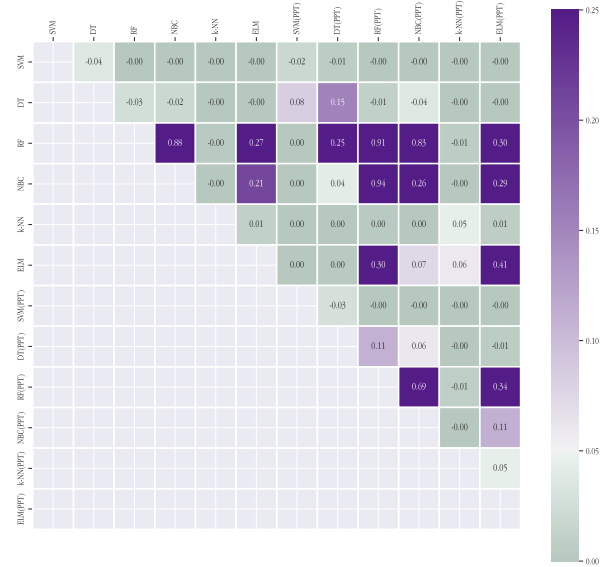
(a) Subset accuracy



(b) Hamming loss



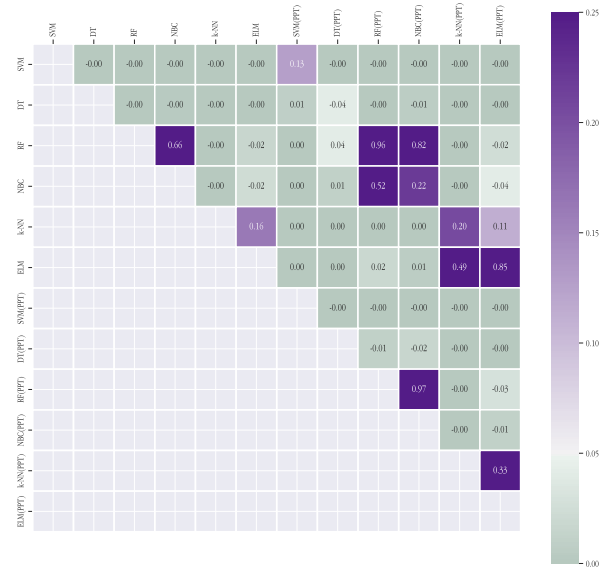
(c) Accuracy



(d) F1

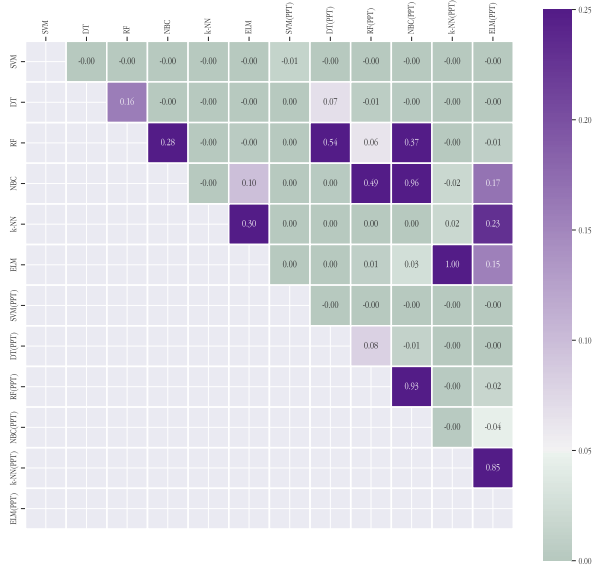


(e) F1-macro

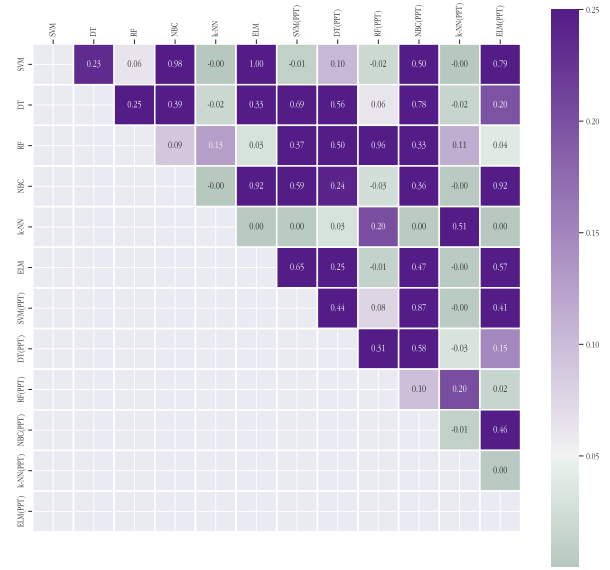


(f) F1-micro

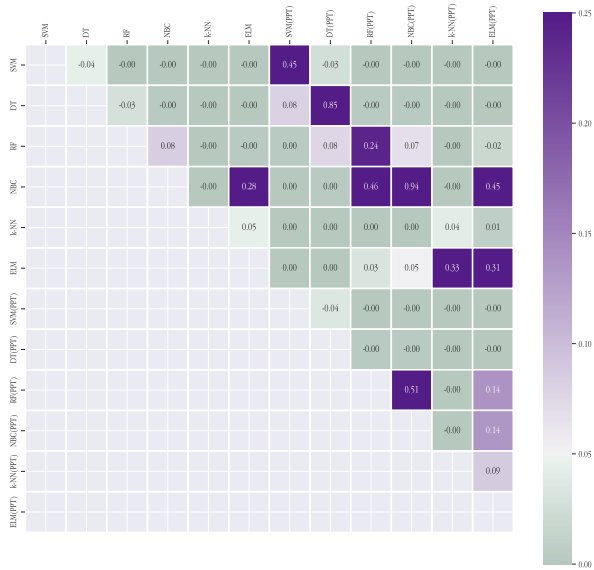
Figure 2: Wilcoxon test for the different base learners.



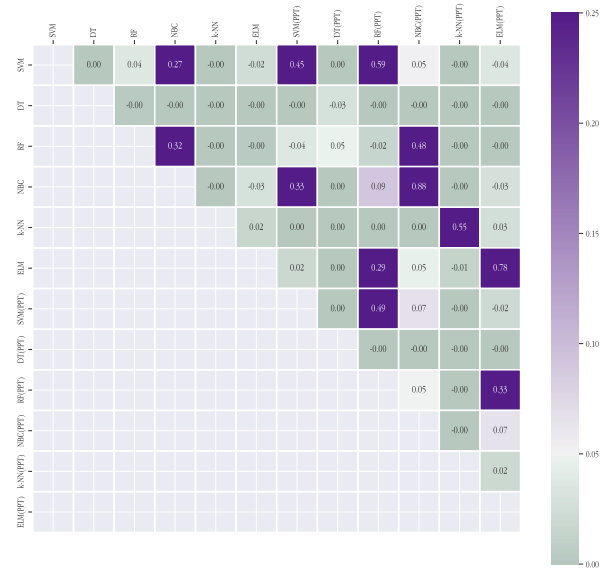
(a) Precision



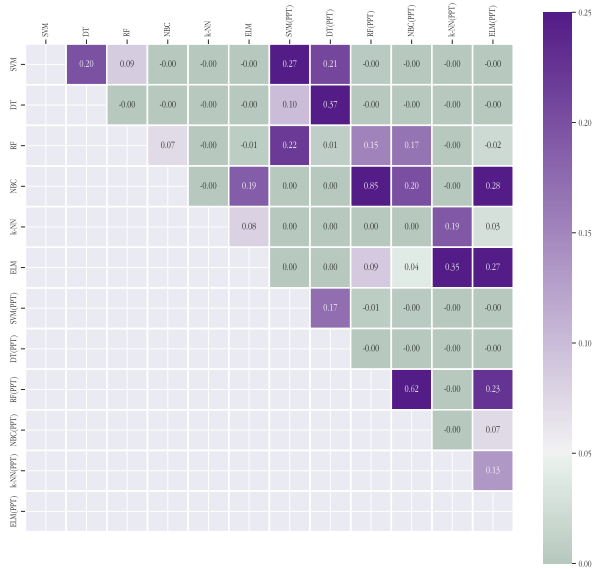
(b) Recall



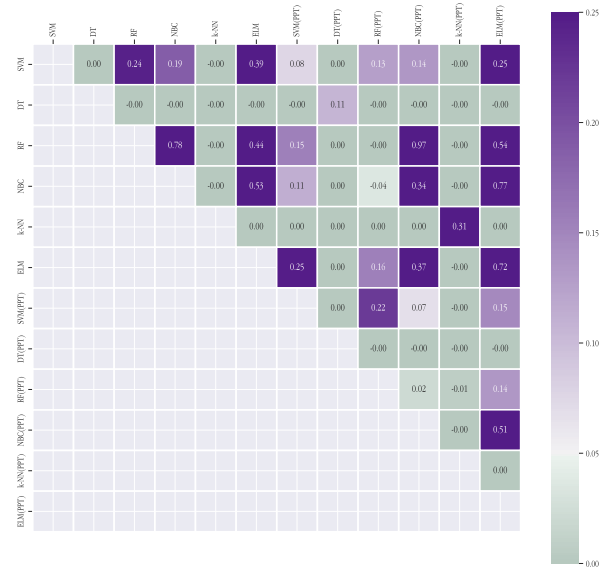
(c) One-error



(d) Coverage

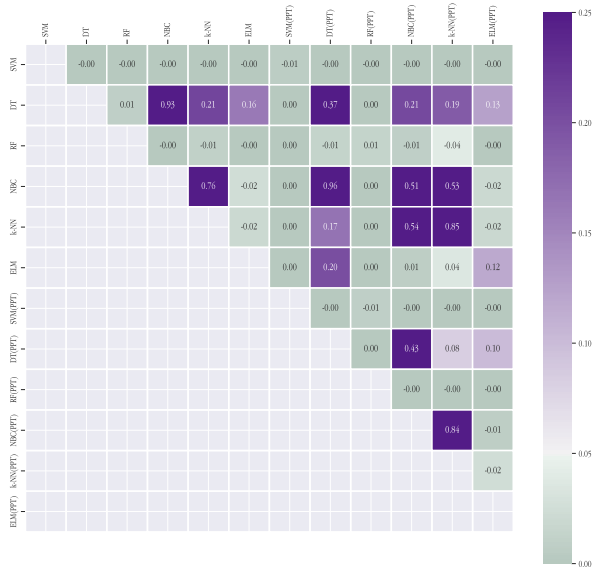


(e) Average-precision

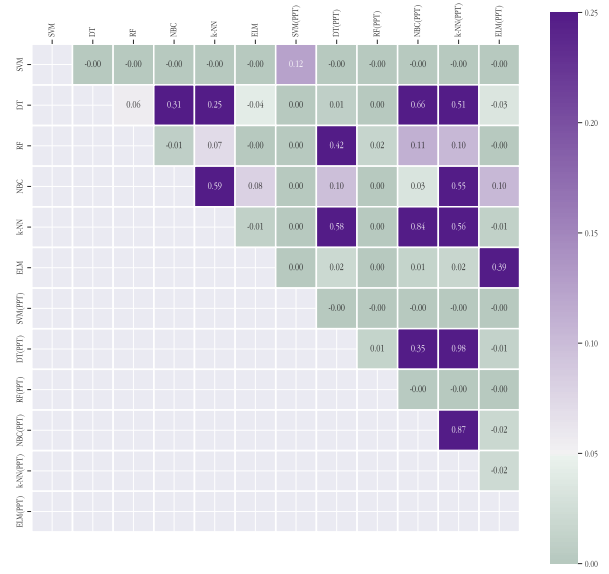


(f) Ranking-loss

Figure 3: Wilcoxon test for the different base learners.

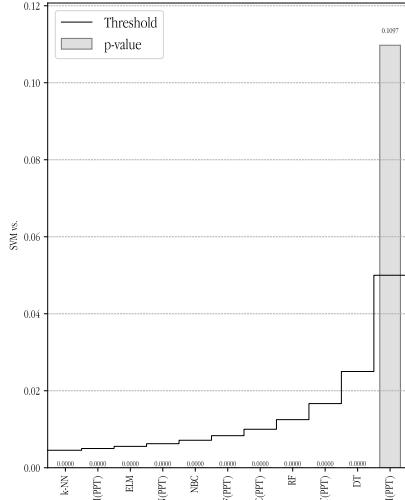


(a) AUC-macro

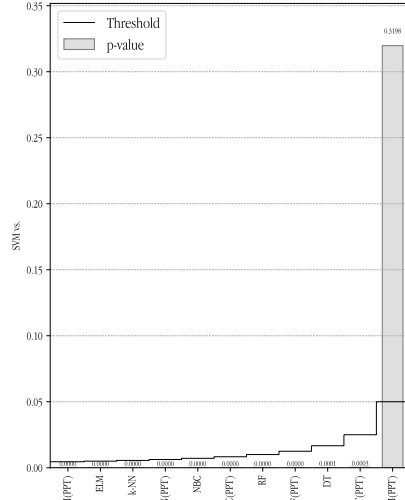


(b) AUC-micro

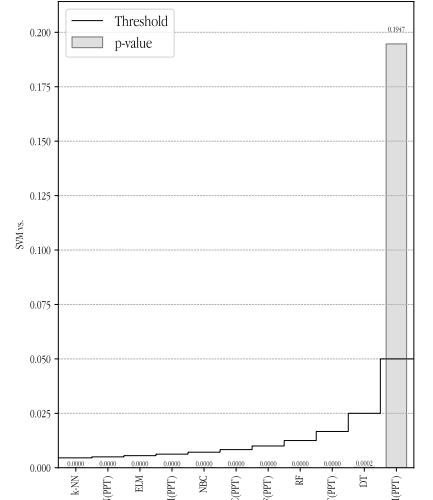
Figure 4: Wilcoxon test for the different base learners.



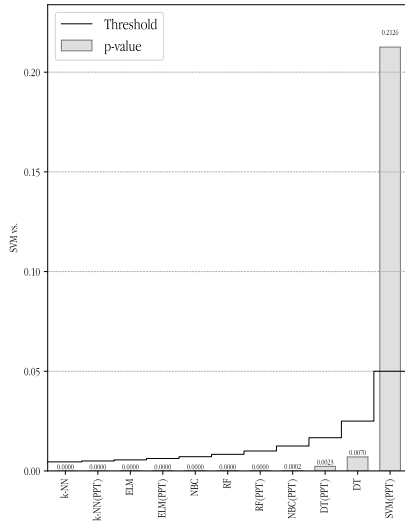
(a) Subset accuracy



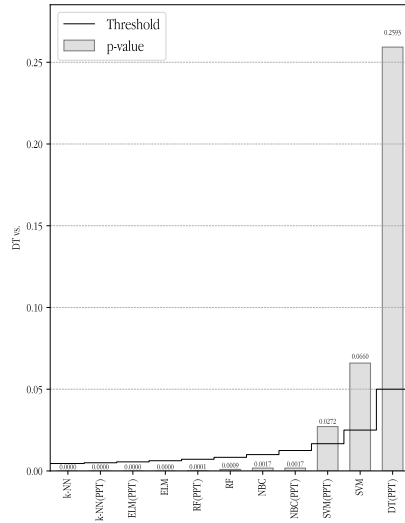
(b) Hamming loss



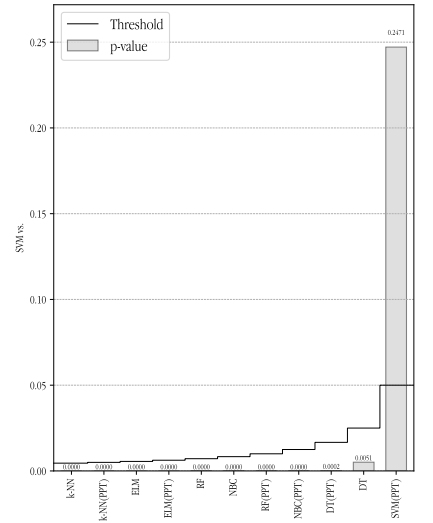
(c) Accuracy



(d) F1

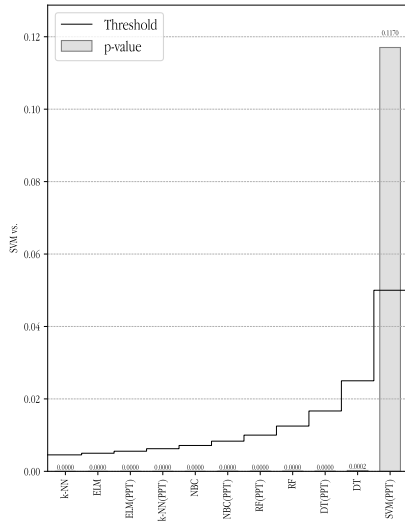


(e) F1-macro

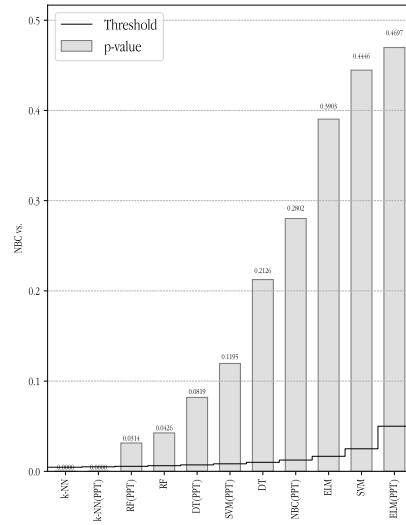


(f) F1-micro

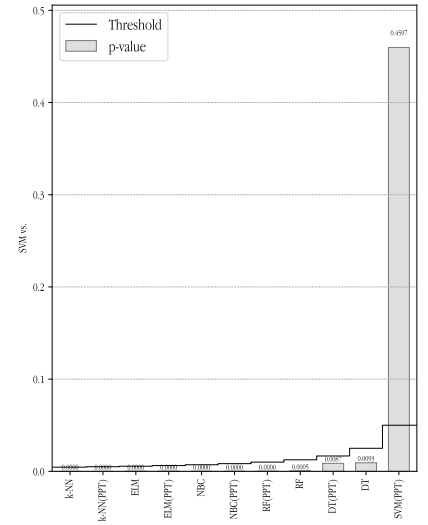
Figure 5: Holm test for the different base learners.



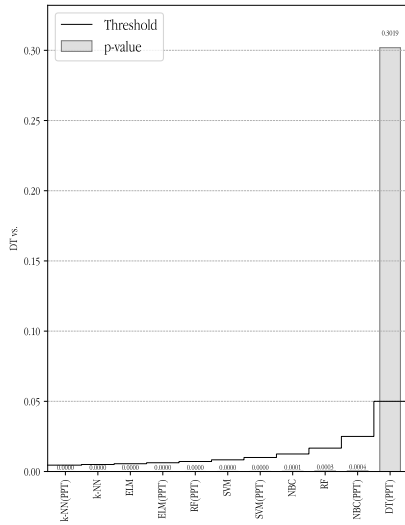
(a) Precision



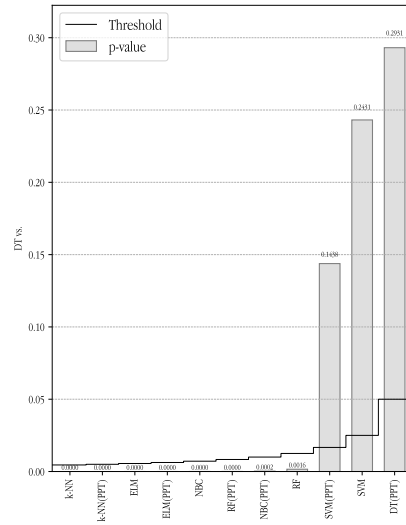
(b) Recall



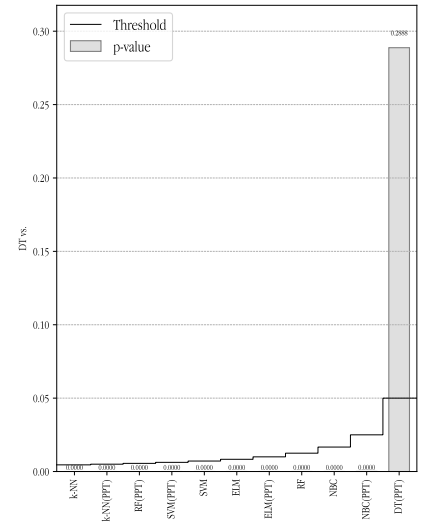
(c) One-error



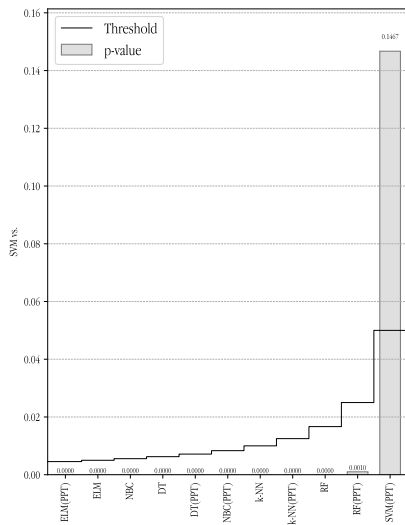
(d) Coverage



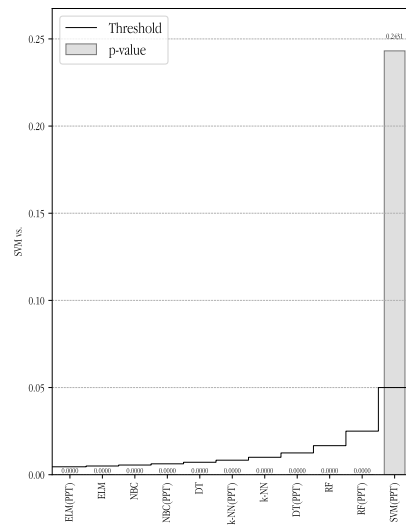
(e) Average-precision



(f) Ranking-loss

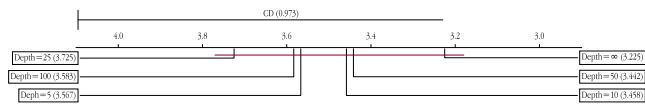


(g) AUC-macro

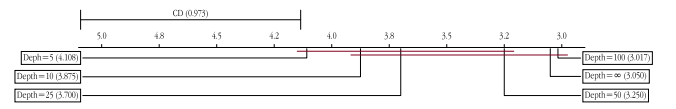


(h) AUC-micro

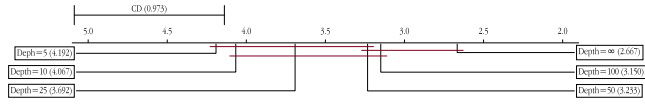
Figure 6: Holm test for the different base learners.



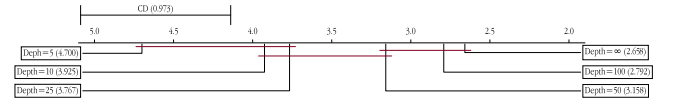
(a) Precision



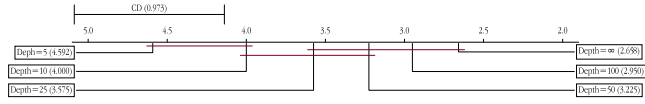
(b) Recall



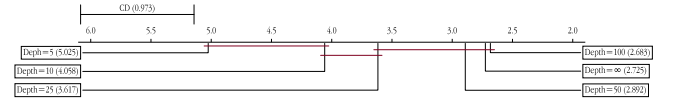
(c) One-error



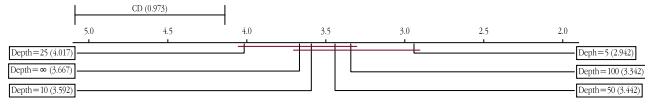
(d) Coverage



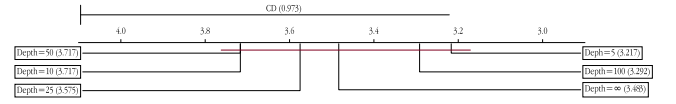
(e) Average-precision



(f) Ranking-loss

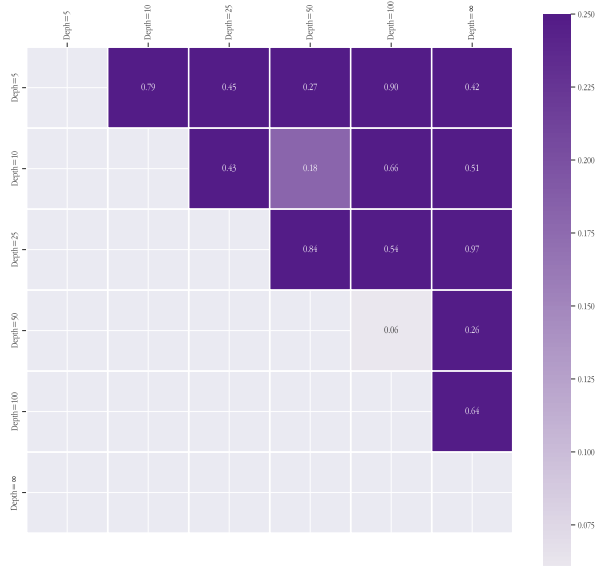


(g) AUC-macro

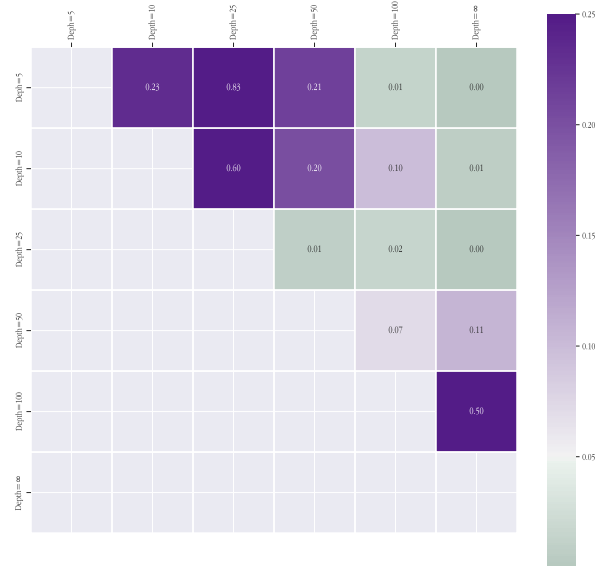


(h) AUC-micro

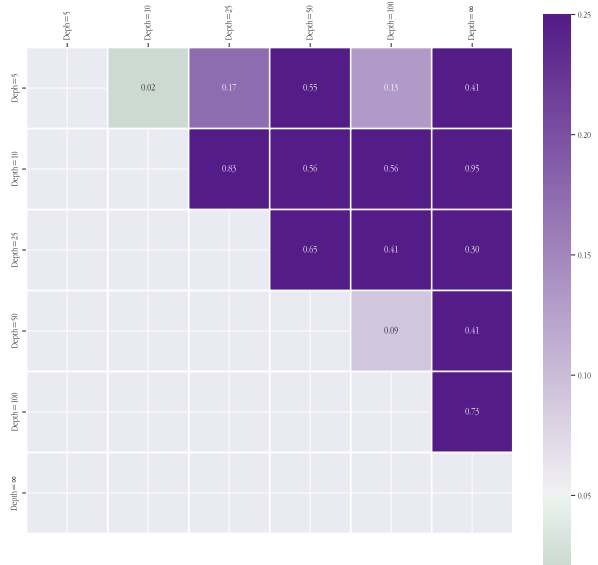
Figure 7: Nemenyi test for the different PYRAMID's depths.



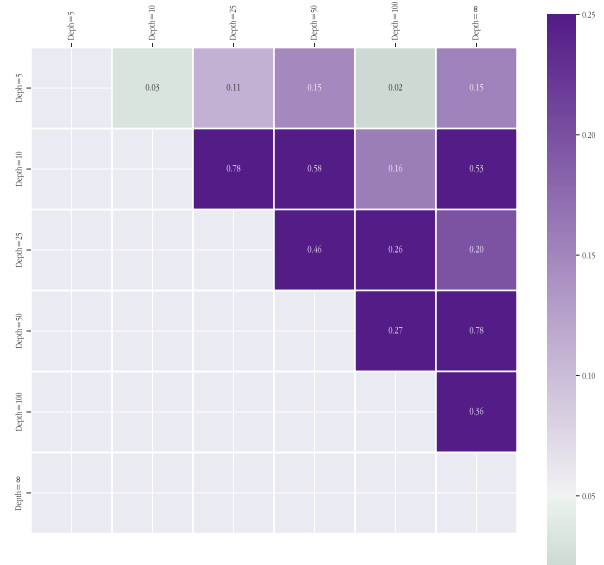
(a) Subset accuracy



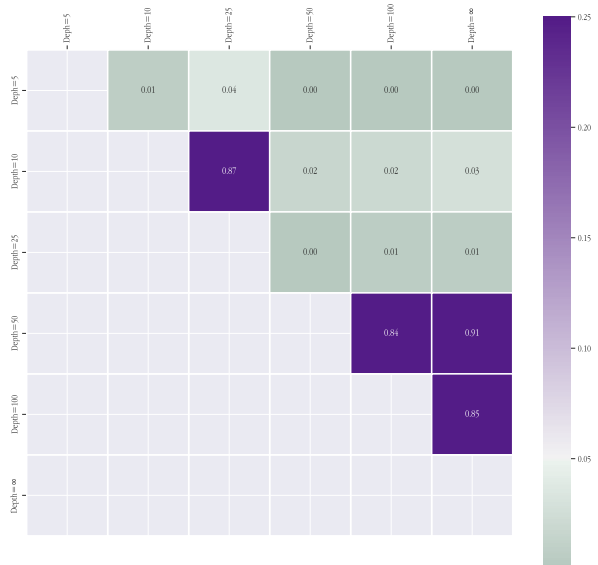
(b) Hamming loss



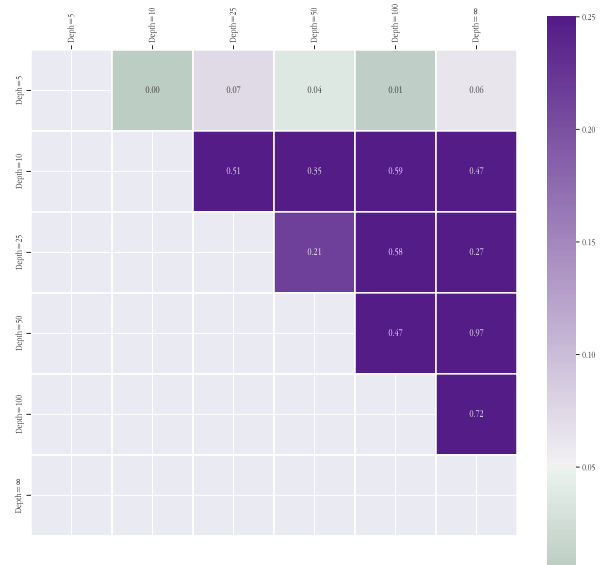
(c) Accuracy



(d) F1

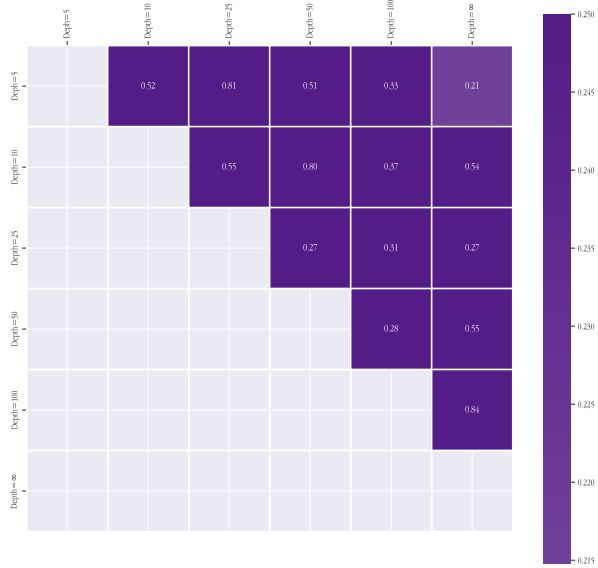


(e) F1-macro

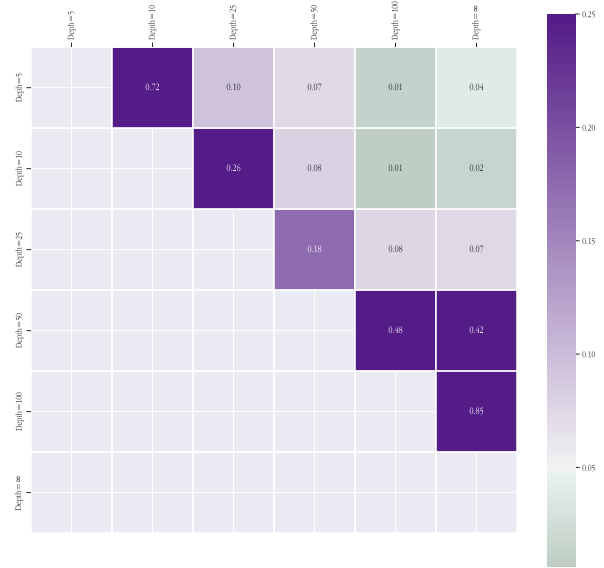


(f) F1-micro

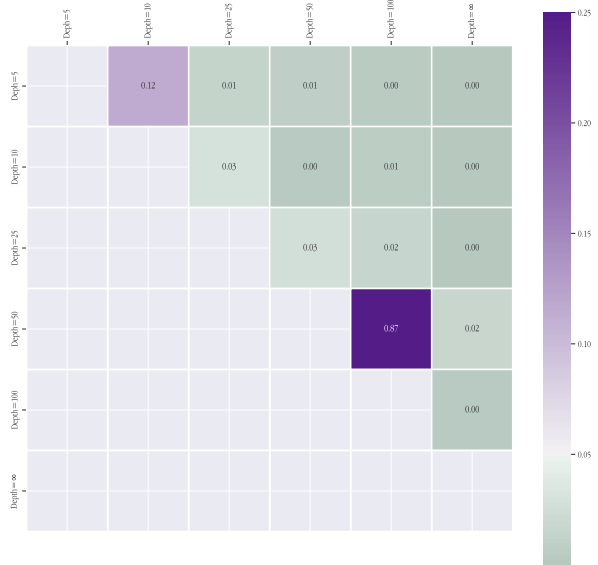
Figure 8: Wilcoxon test for the different PYRAMID's depths.



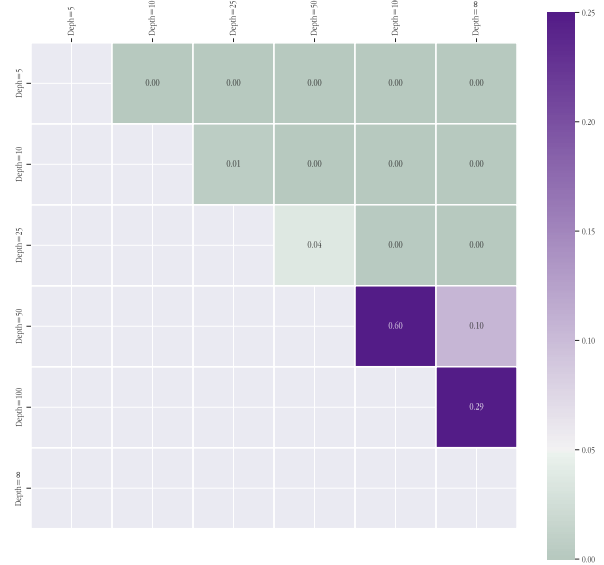
(a) Precision



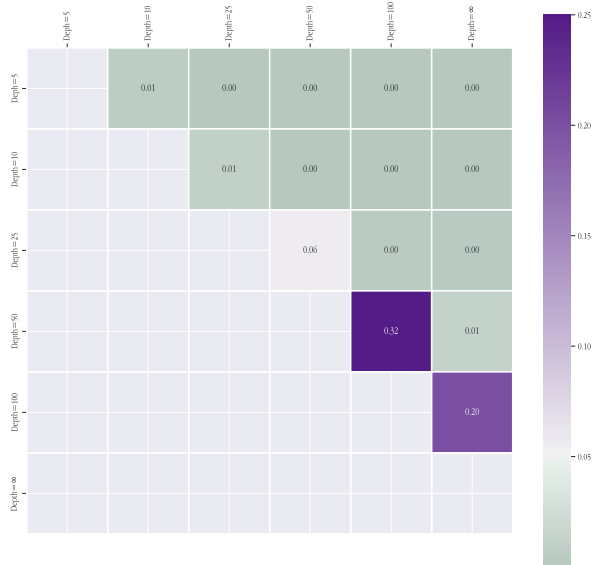
(b) Recall



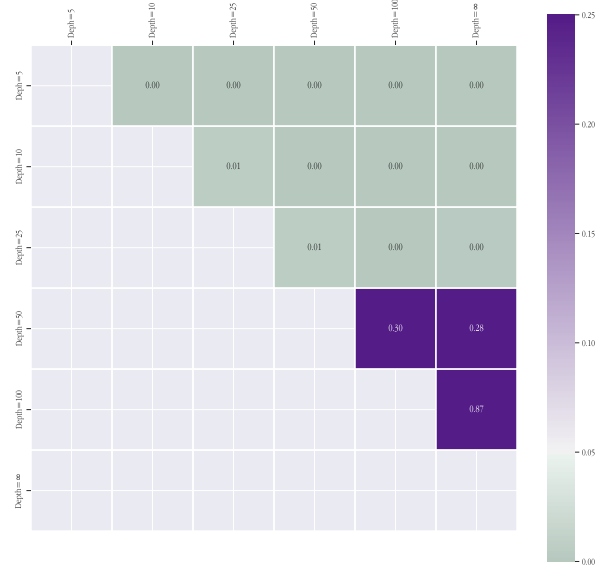
(c) One-error



(d) Coverage

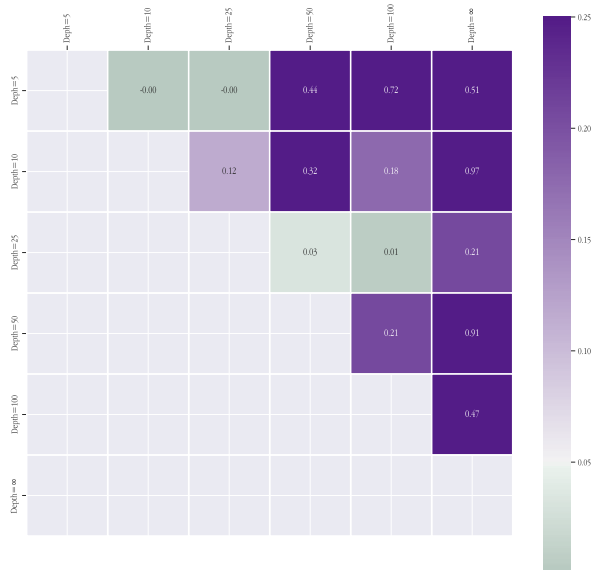


(e) Average-precision

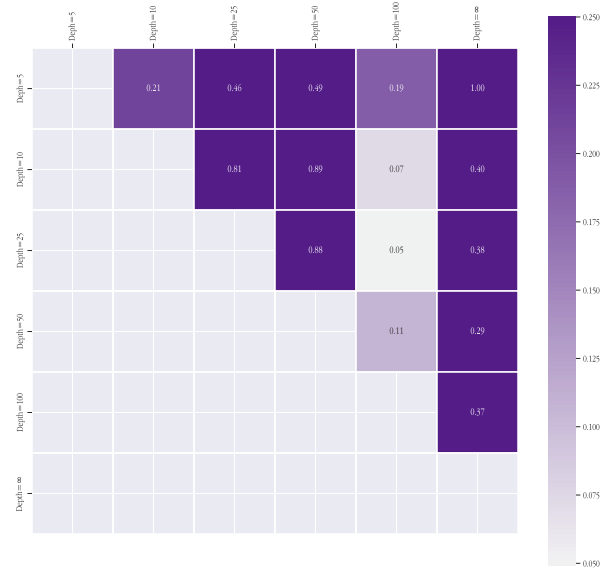


(f) Ranking-loss

Figure 9: Wilcoxon test for the different PYRAMID's depths.

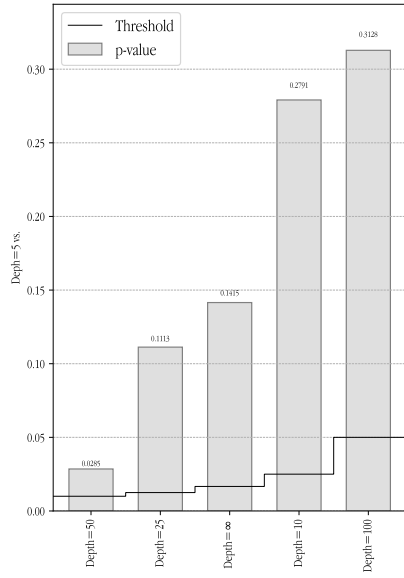


(a) AUC-macro

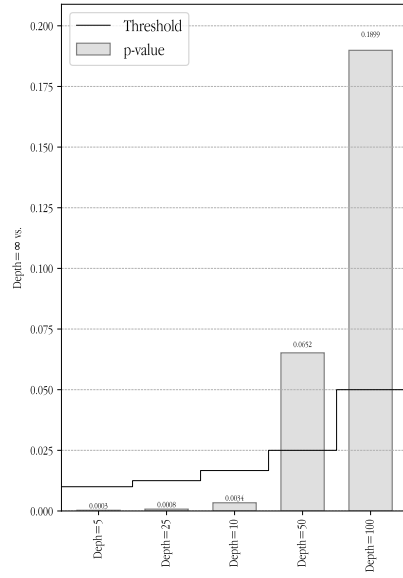


(b) AUC-micro

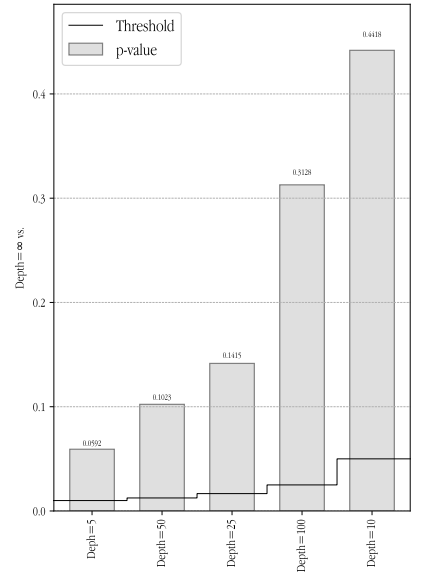
Figure 10: Wilcoxon test for the different PYRAMID's depths.



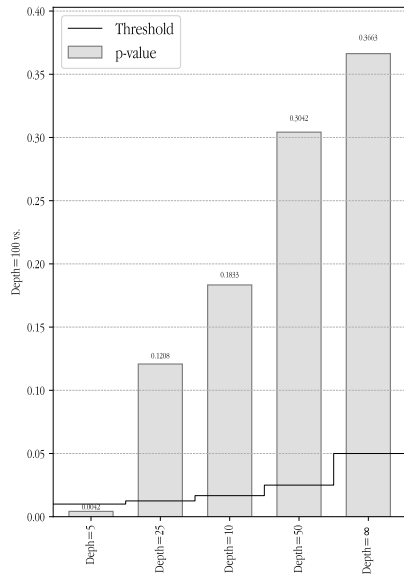
(a) Subset accuracy



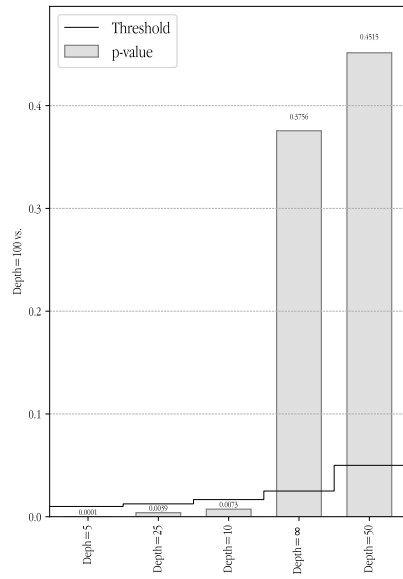
(b) Hamming loss



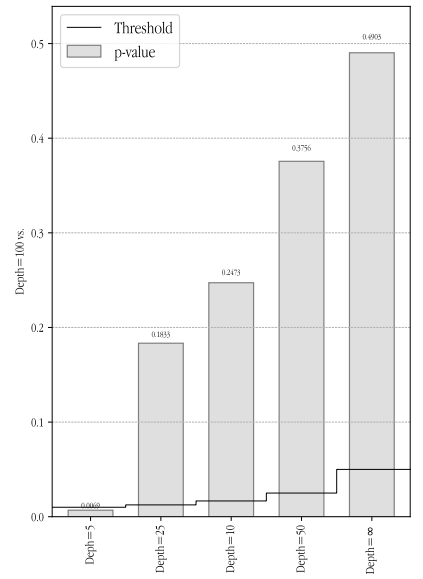
(c) Accuracy



(d) F1

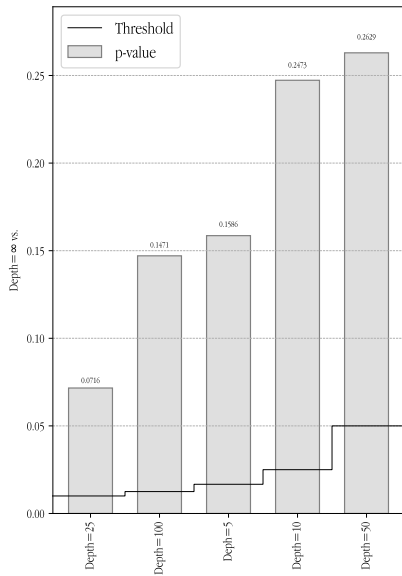


(e) F1-macro

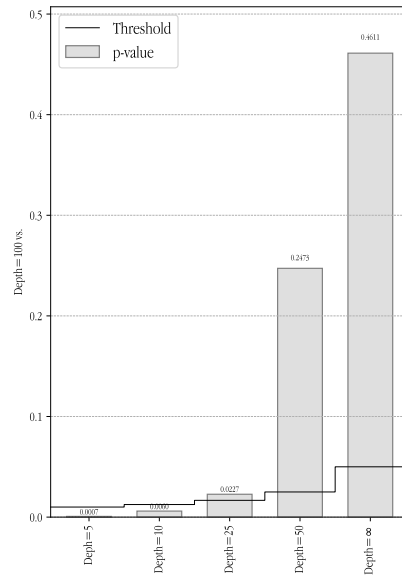


(f) F1-micro

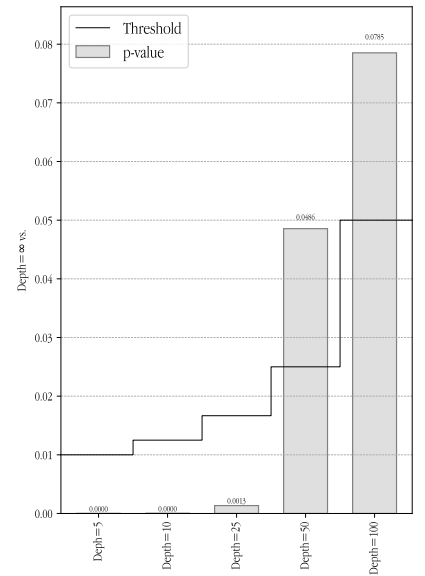
Figure 11: Holm test for the different PYRAMID's depths.



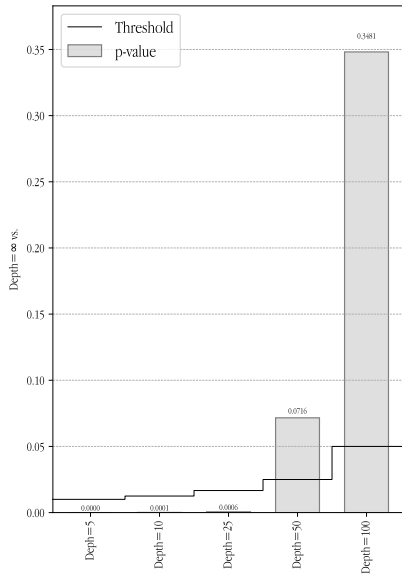
(a) Precision



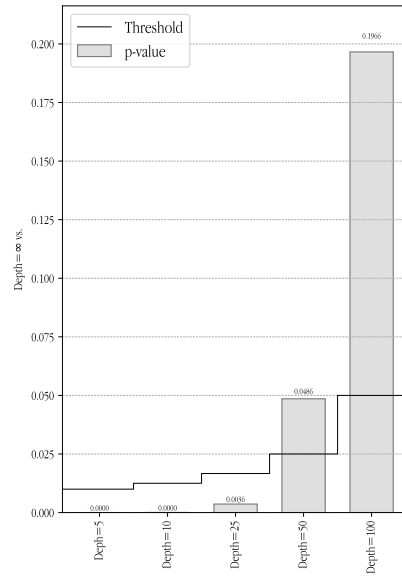
(b) Recall



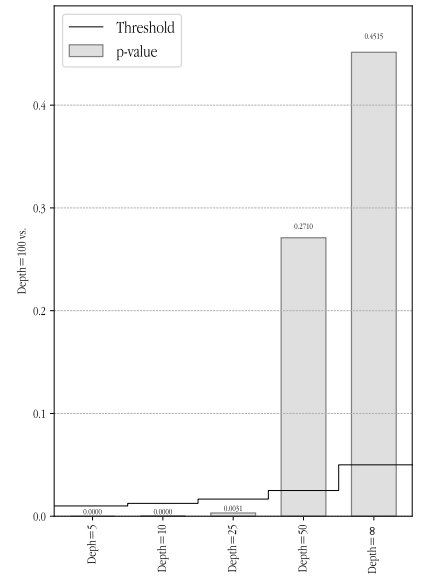
(c) One-error



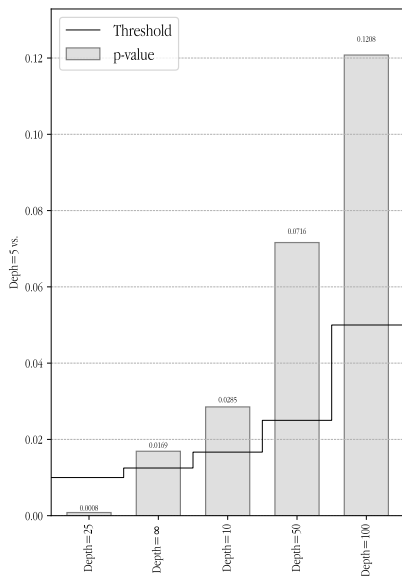
(d) Coverage



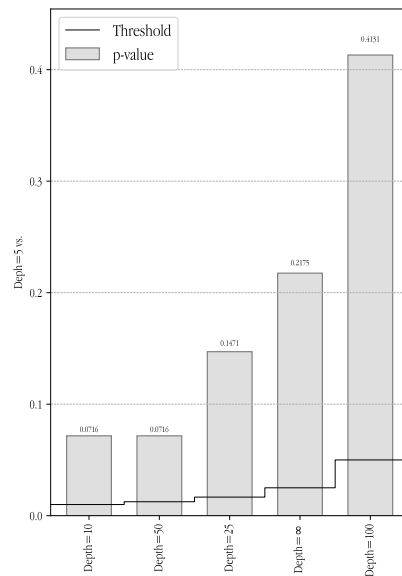
(e) Average-precision



(f) Ranking-loss

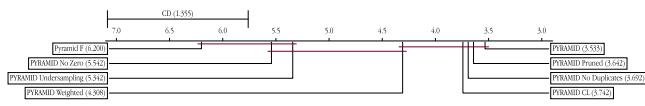


(g) AUC-macro

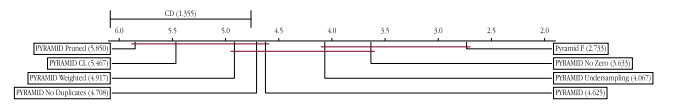


(h) AUC-micro

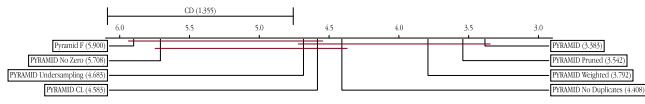
Figure 12: Holm test for the different PYRAMID's depths.



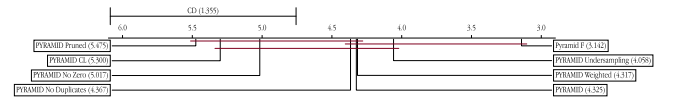
(a) Precision



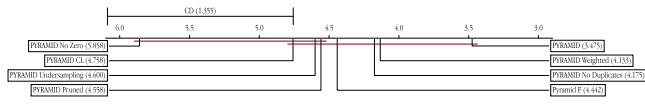
(b) Recall



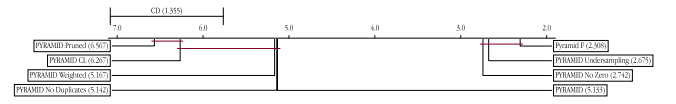
(c) One-error



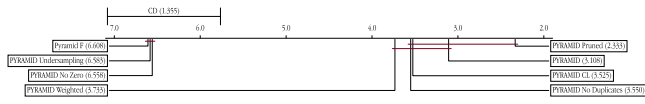
(d) Coverage



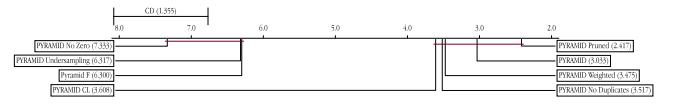
(e) Average-precision



(f) Ranking-loss



(g) AUC-macro



(h) AUC-micro

Figure 13: Nemenyi test for the different PYRAMID's versions.



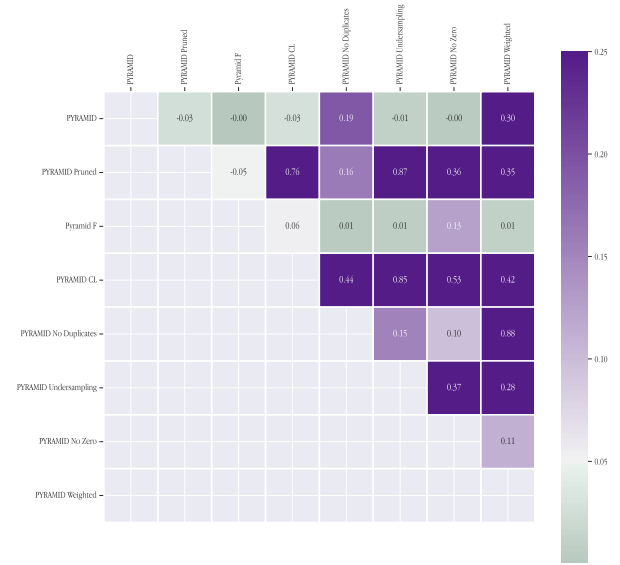
(a) Subset accuracy



(b) Hamming loss



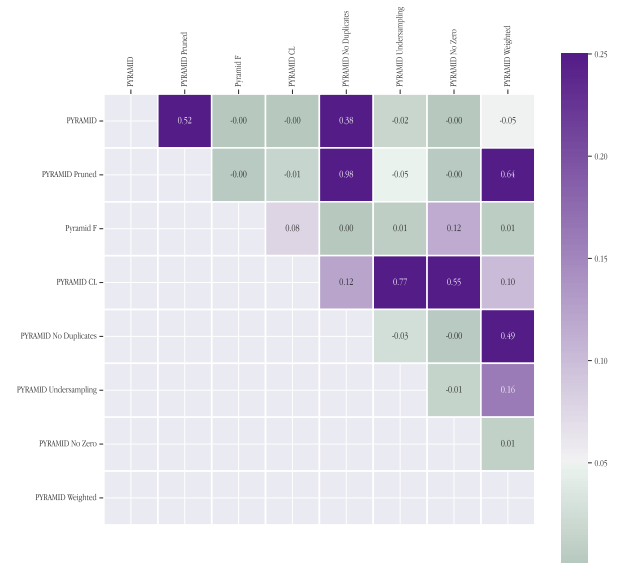
(c) Accuracy



(d) F1



(e) F1-macro



(f) F1-micro

Figure 14: Wilcoxon test for the different PYRAMID's versions.



(a) Precision



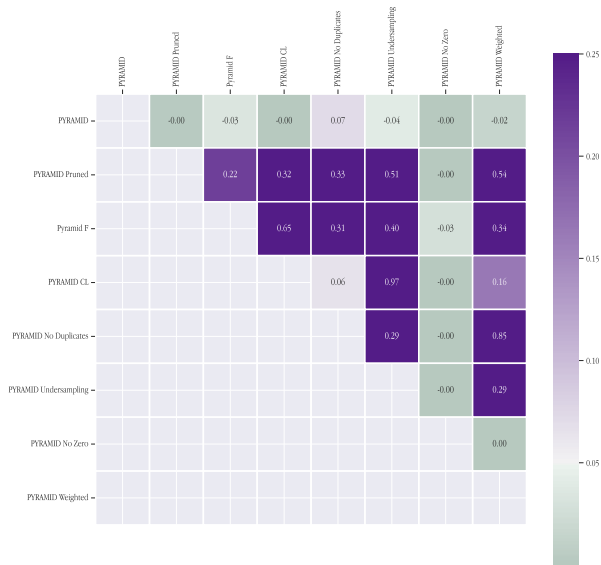
(b) Recall



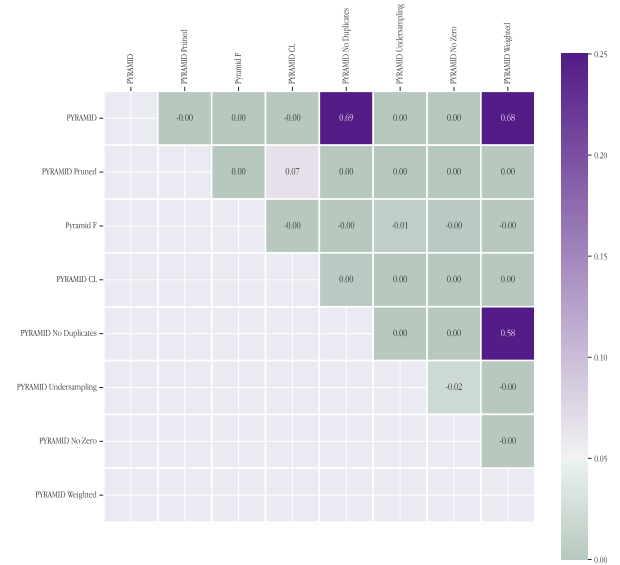
(c) One-error



(d) Coverage



(e) Average-precision



(f) Ranking-loss

Figure 15: Wilcoxon test for the different PYRAMID's versions.

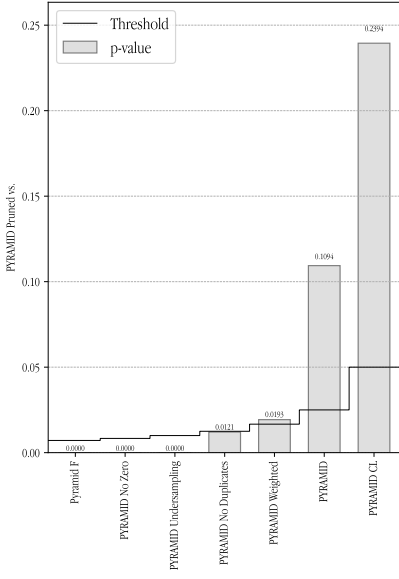


(a) AUC-macro

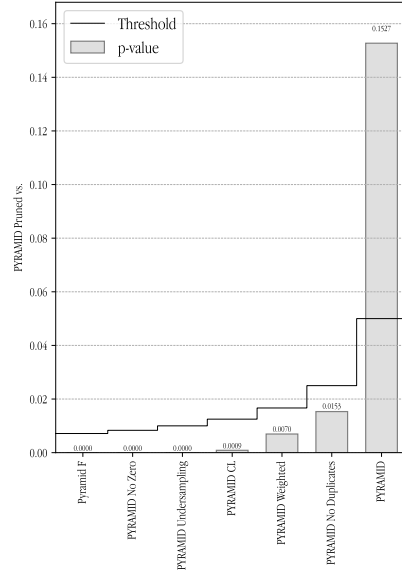


(b) AUC-micro

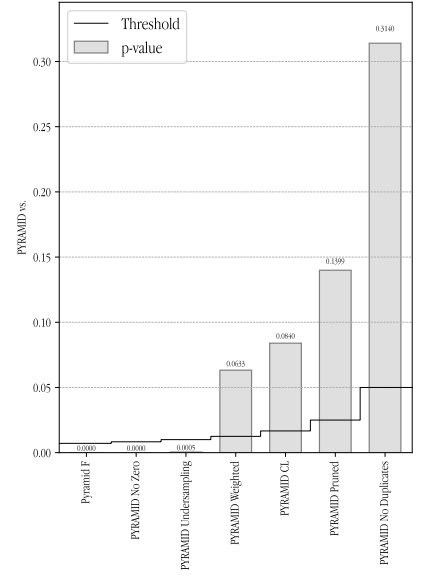
Figure 16: Wilcoxon test for the different PYRAMID's versions.



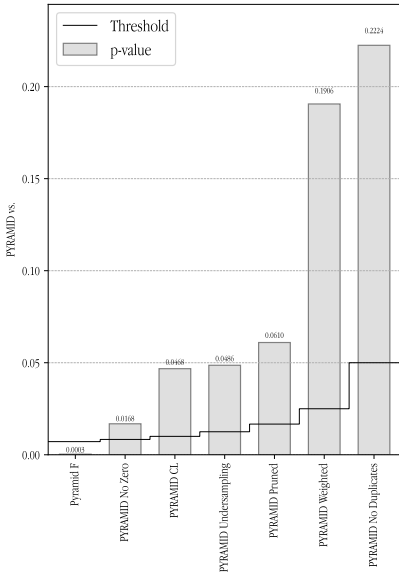
(a) Subset accuracy



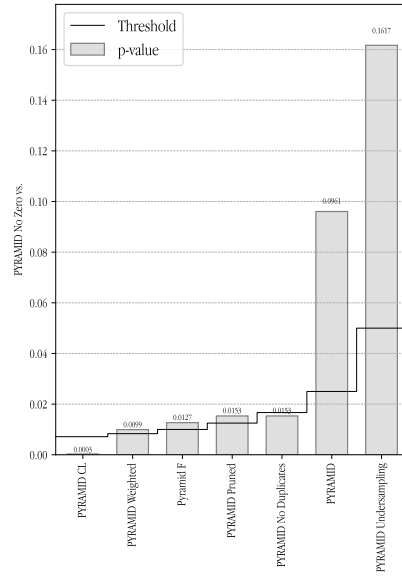
(b) Hamming loss



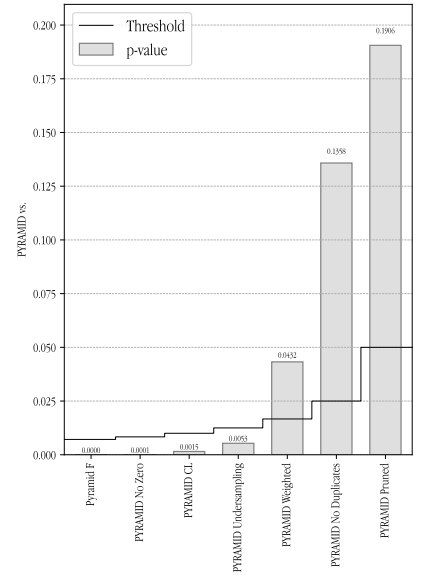
(c) Accuracy



(d) F1

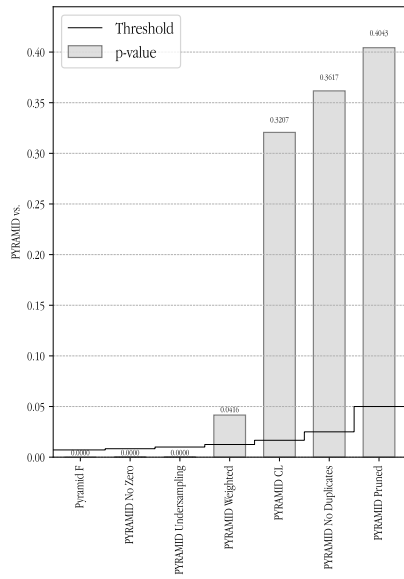


(e) F1-macro

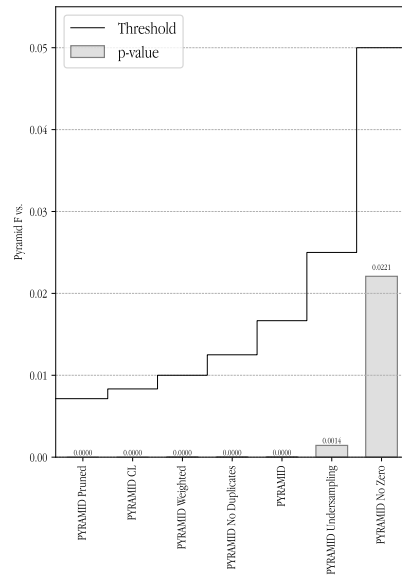


(f) F1-micro

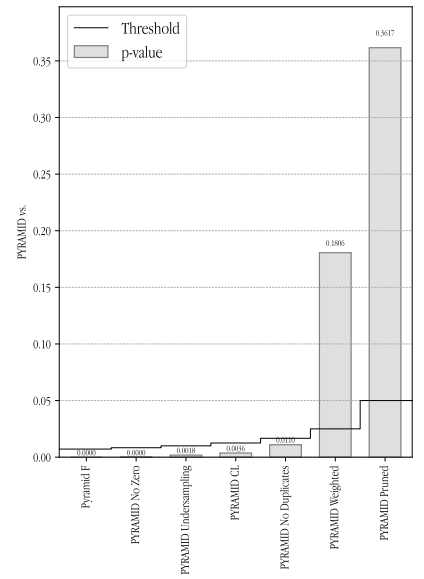
Figure 17: Holm test for the different PYRAMID's versions.



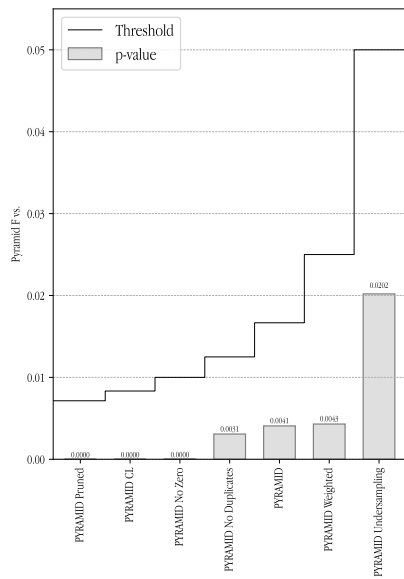
(a) Precision



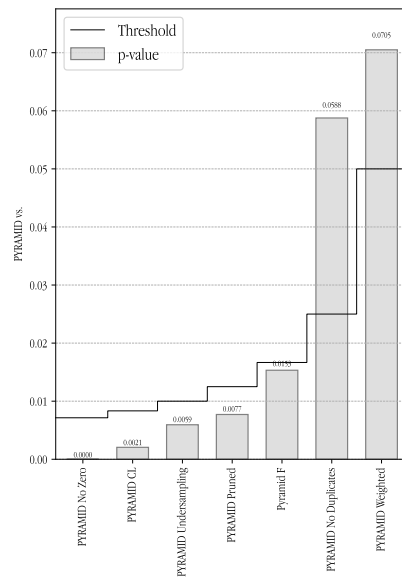
(b) Recall



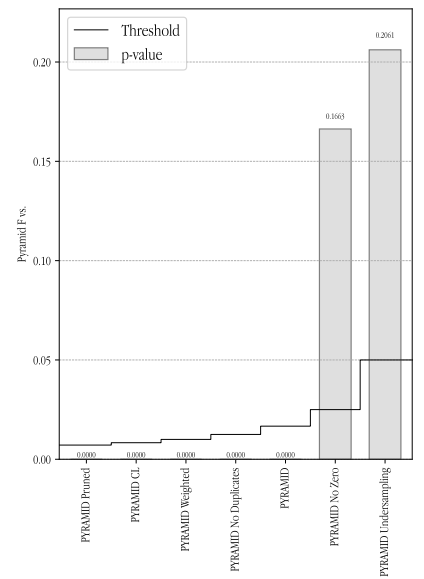
(c) One-error



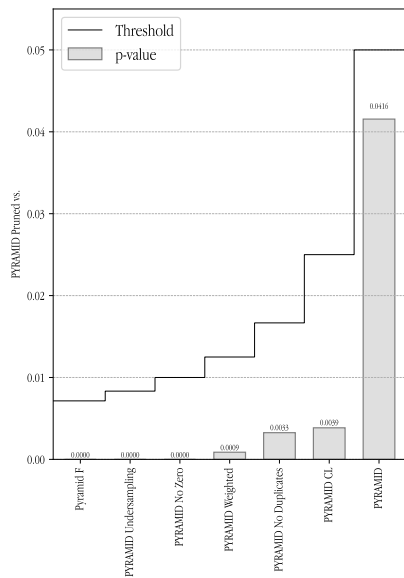
(d) Coverage



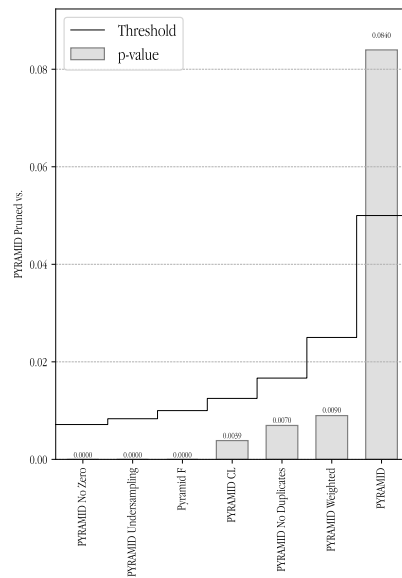
(e) Average-precision



(f) Ranking-loss

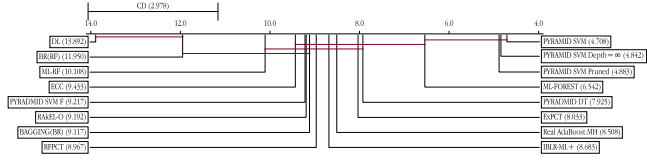


(g) AUC-macro

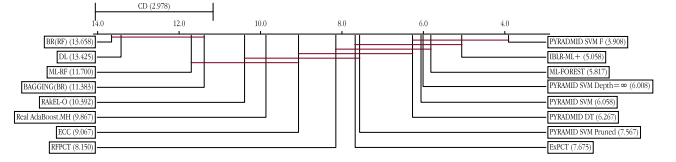


(h) AUC-micro

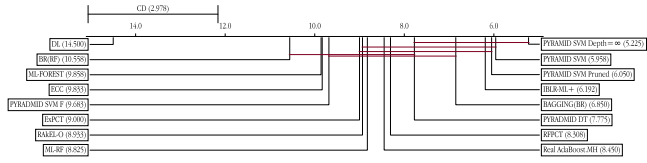
Figure 18: Holm test for the different PYRAMID's versions.



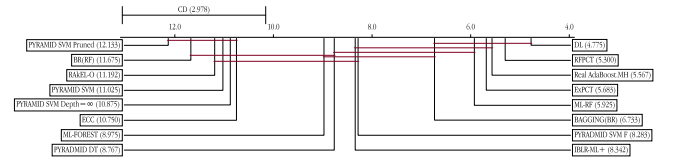
(a) Precision



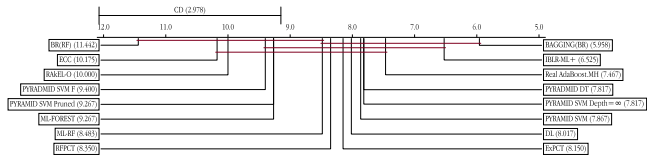
(b) Recall



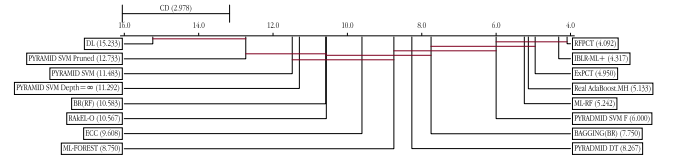
(c) One-error



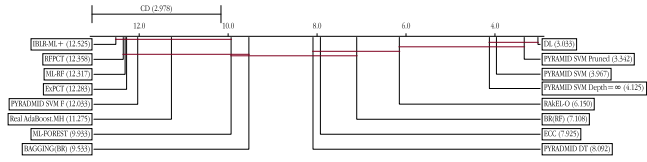
(d) Coverage



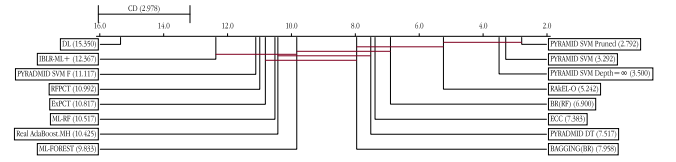
(e) Average-precision



(f) Ranking-loss

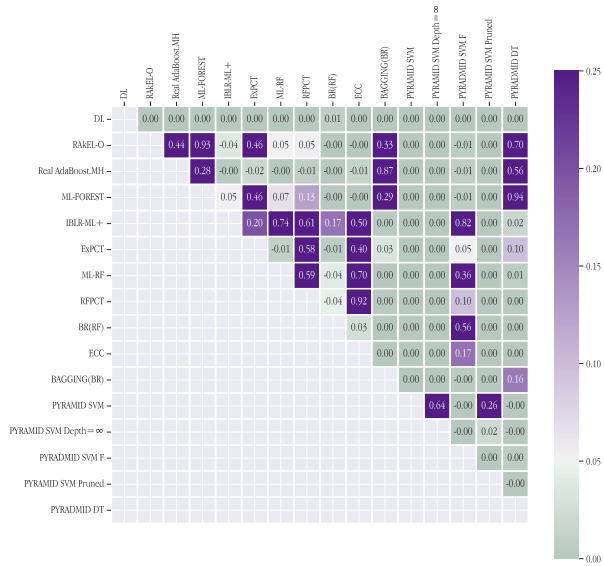


(g) AUC-macro

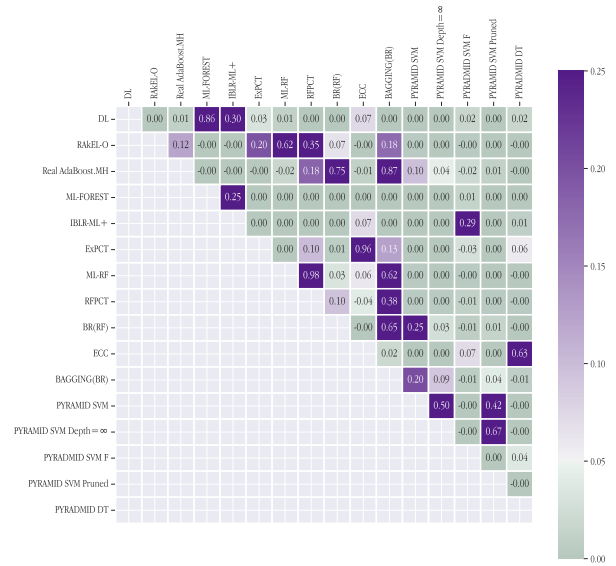


(h) AUC-micro

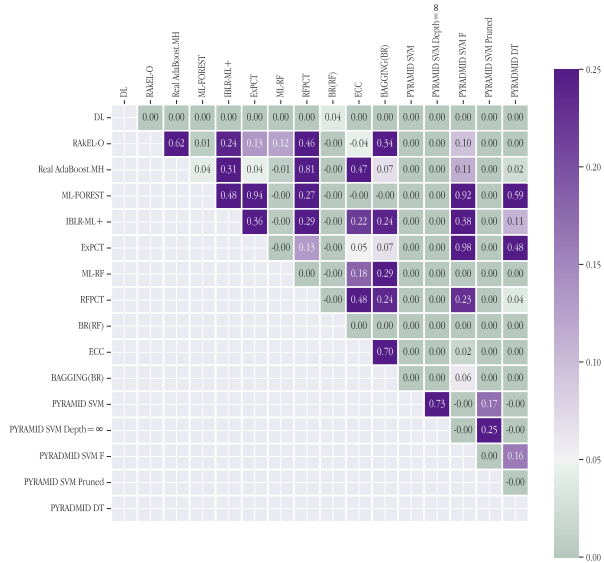
Figure 19: Nemenyi test for the different PYRAMID's pyramid.



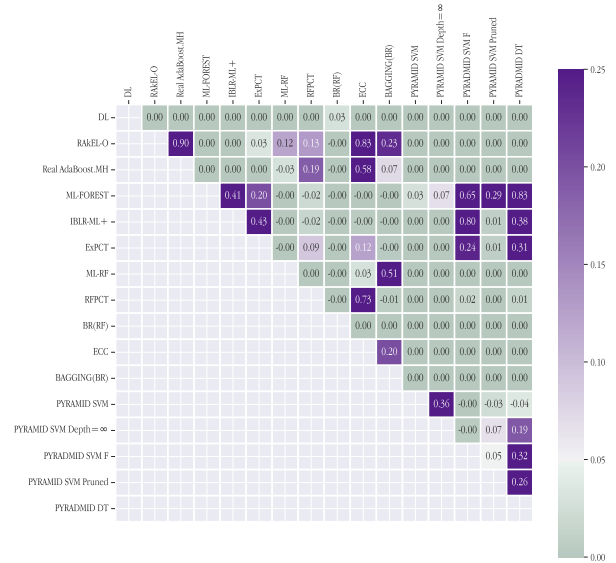
(a) Subset accuracy



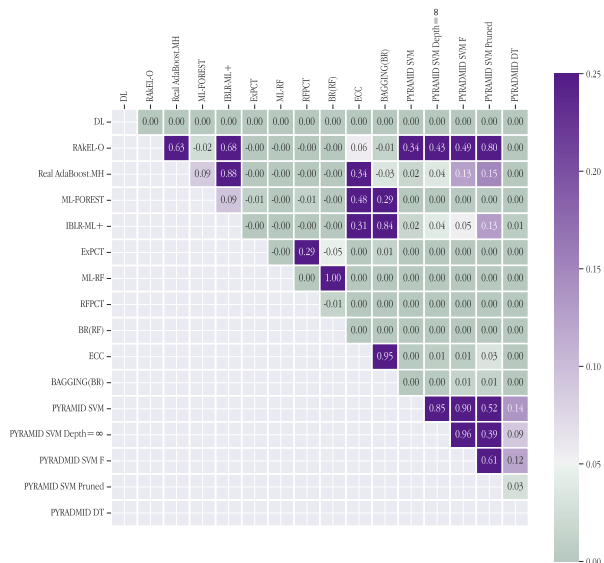
(b) Hamming loss



(c) Accuracy



(d) F1

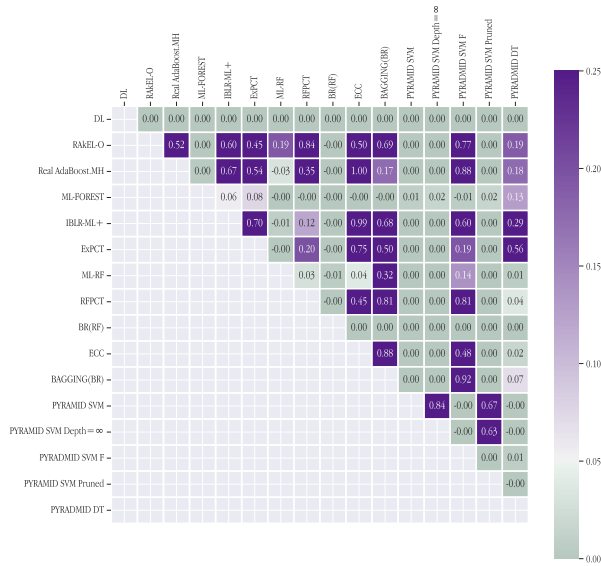


(e) F1-macro

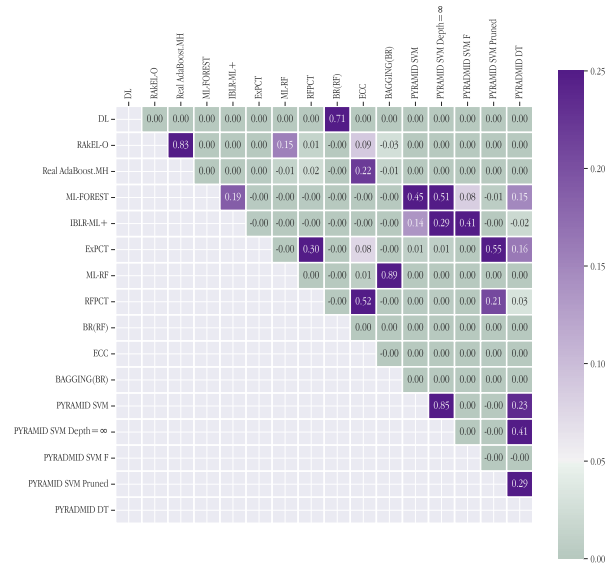


(f) F1-micro

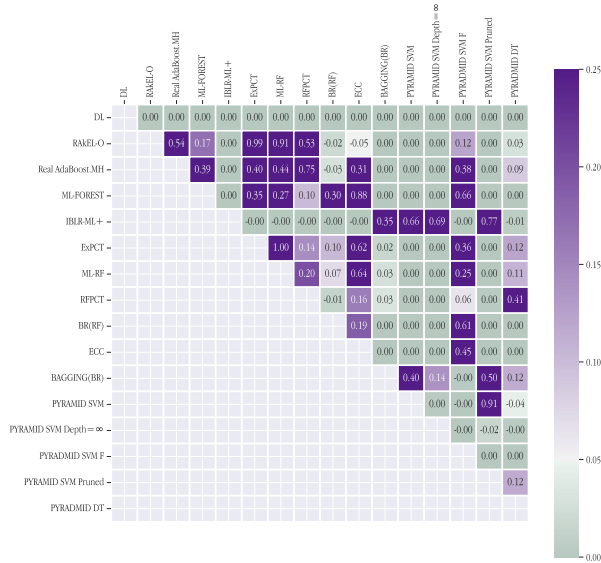
Figure 20: Wilcoxon test for the different PYRAMID's pyramid.



(a) Precision



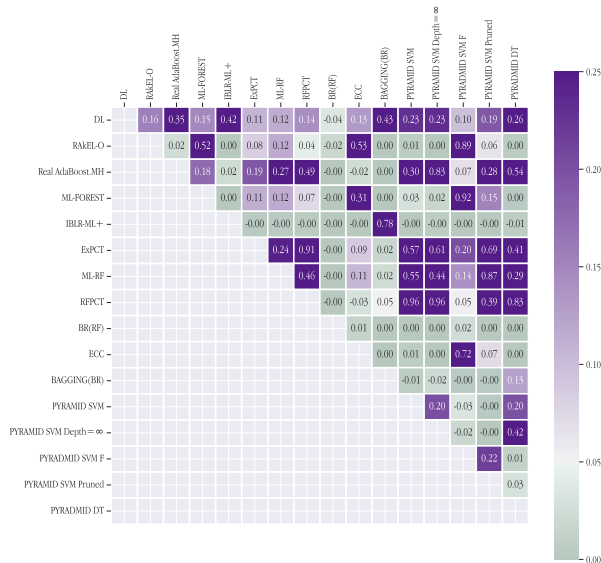
(b) Recall



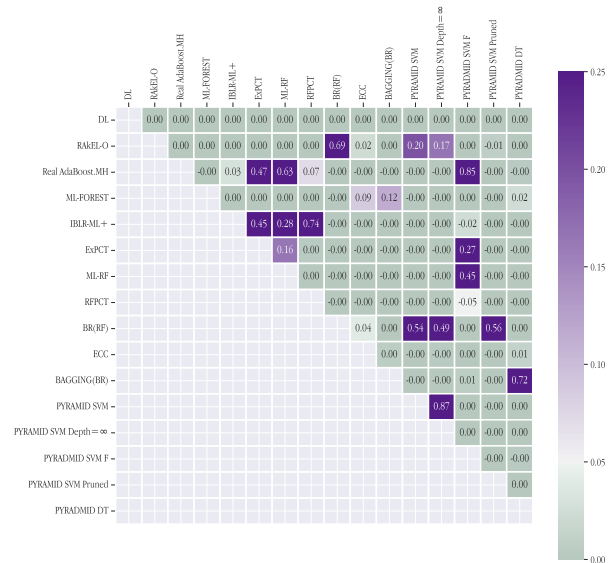
(c) One-error



(d) Coverage



(e) Average-precision

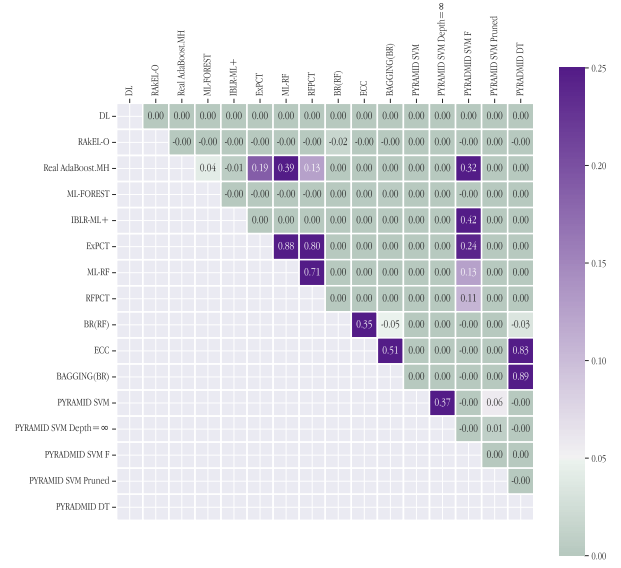


(f) Ranking-loss

Figure 21: Wilcoxon test for the different PYRAMID's pyramid.

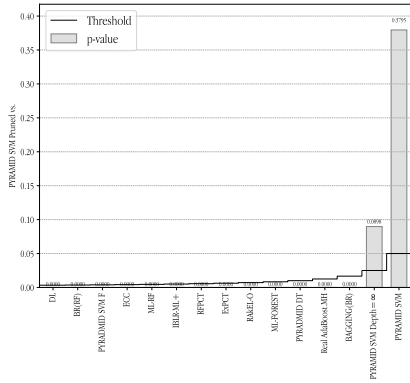


(a) AUC-macro

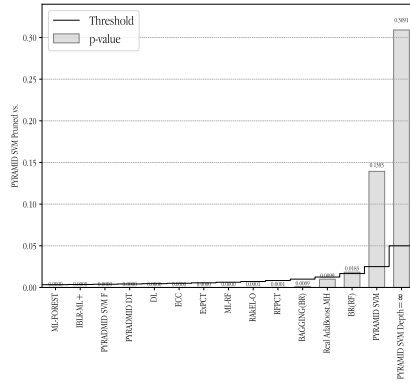


(b) AUC-micro

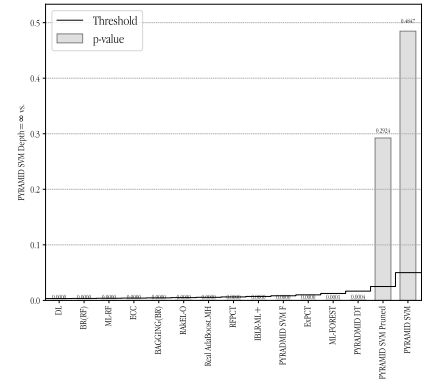
Figure 22: Wilcoxon test for the different PYRAMID's pyramid.



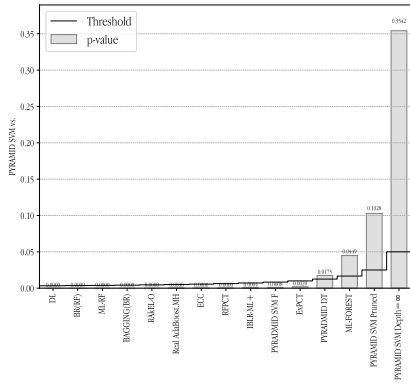
(a) Subset accuracy



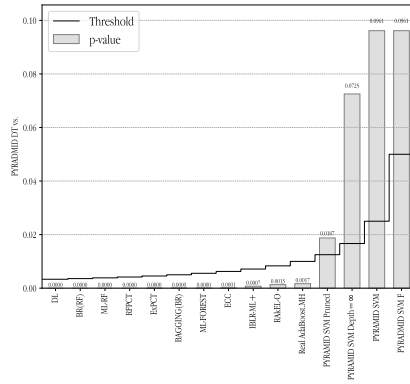
(b) Hamming loss



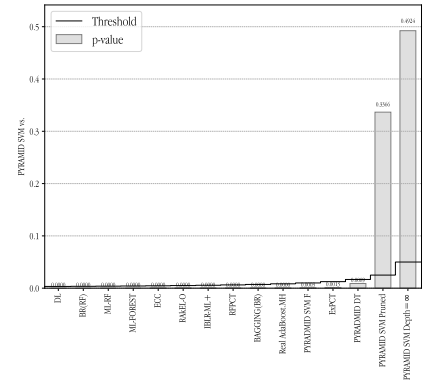
(c) Accuracy



(d) F1

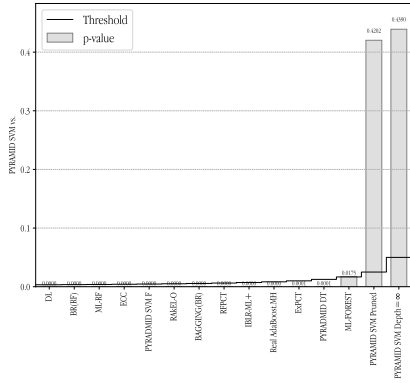


(e) F1-macro

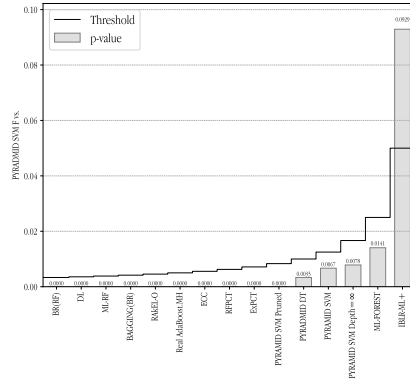


(f) F1-micro

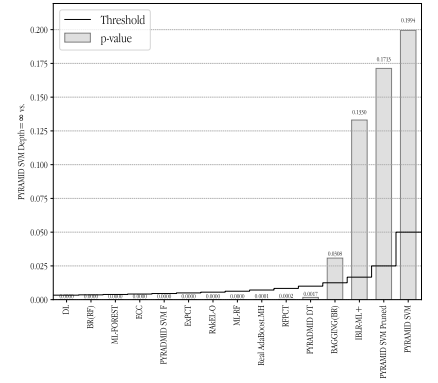
Figure 23: Holm test for the different PYRAMID's pyramid.



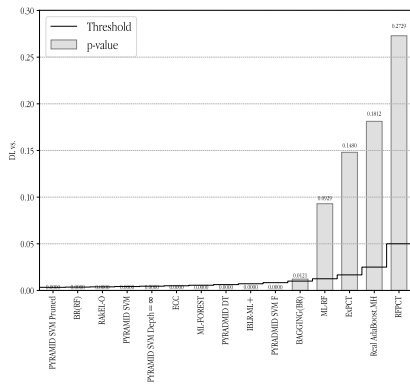
(a) Precision



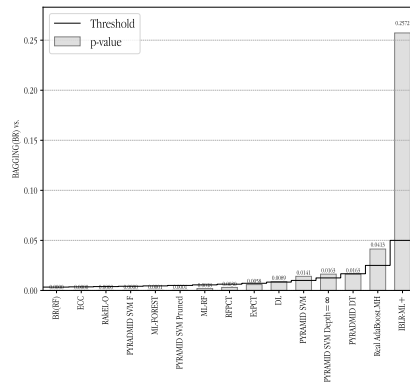
(b) Recall



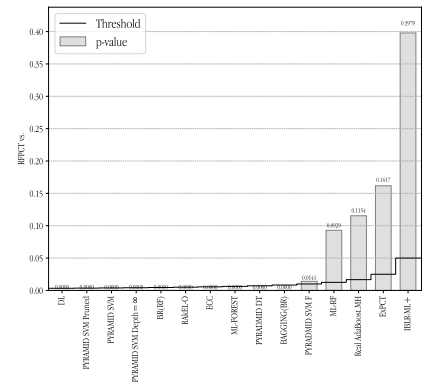
(c) One-error



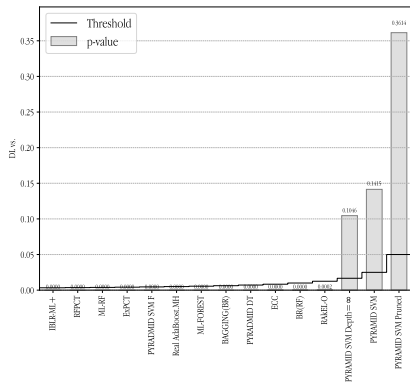
(d) Coverage



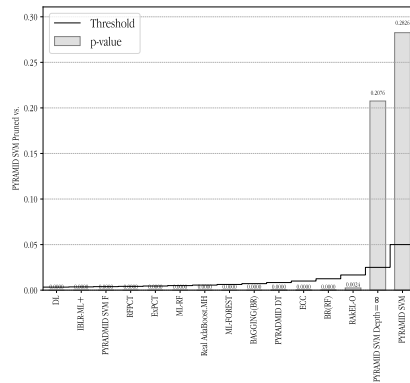
(e) Average-precision



(f) Ranking-loss

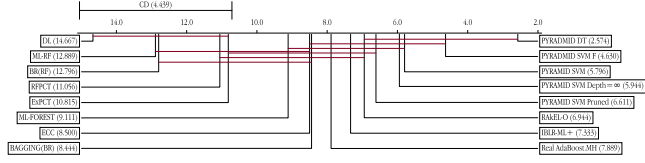


(g) AUC-macro

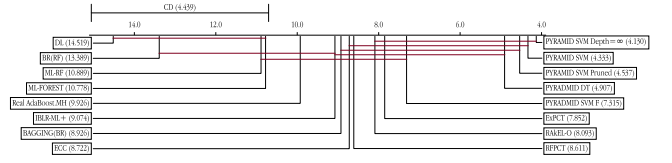


(h) AUC-micro

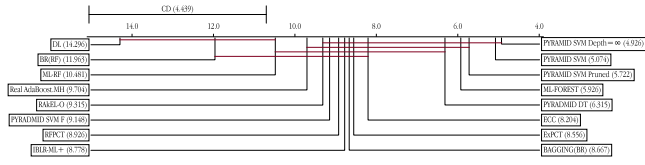
Figure 24: Holm test for the different PYRAMID's pyramid.



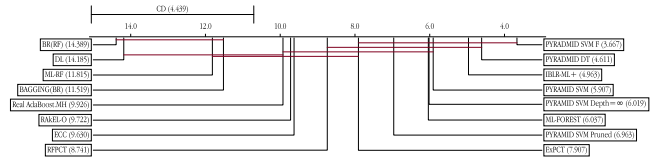
(a) F1-macro



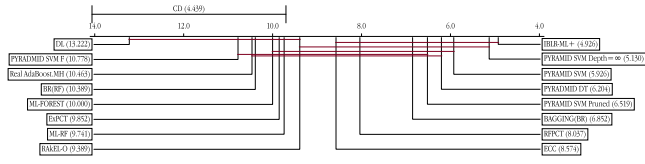
(b) F1-micro



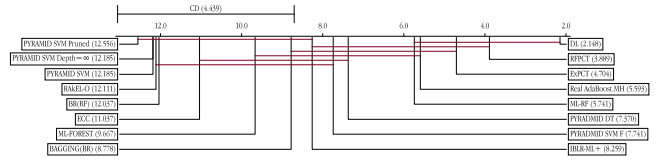
(c) Precision



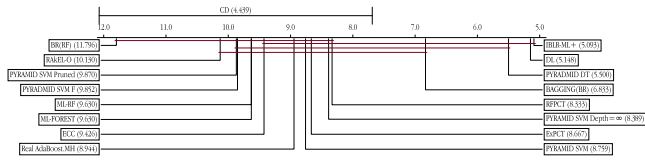
(d) Recall



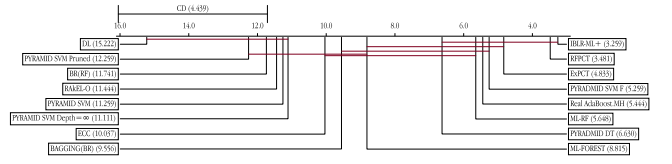
(e) One-error



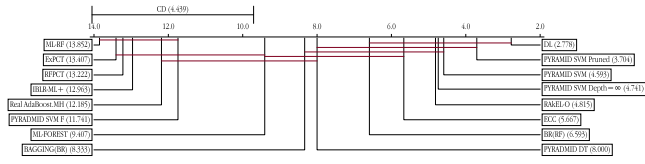
(f) Coverage



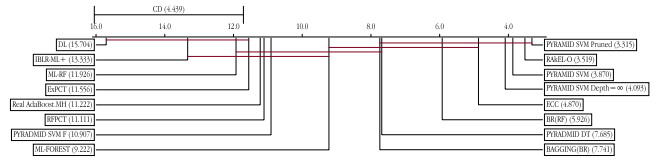
(g) Average-precision



(h) Ranking-loss



(i) AUC-macro



(j) AUC-micro

Figure 25: Nemenyi test for the different methods for datasets with many labels.

(a) F1-macro

(b) F1-micro

(c) Precision

(d) Recall

(e) One-error

(f) Coverage

Average-precision

(h) Ranking-loss

(i) AUC-macro

(j) AUC-micro

Figure 26: Nemenyi test for the different methods for class-imbalanced datasets.

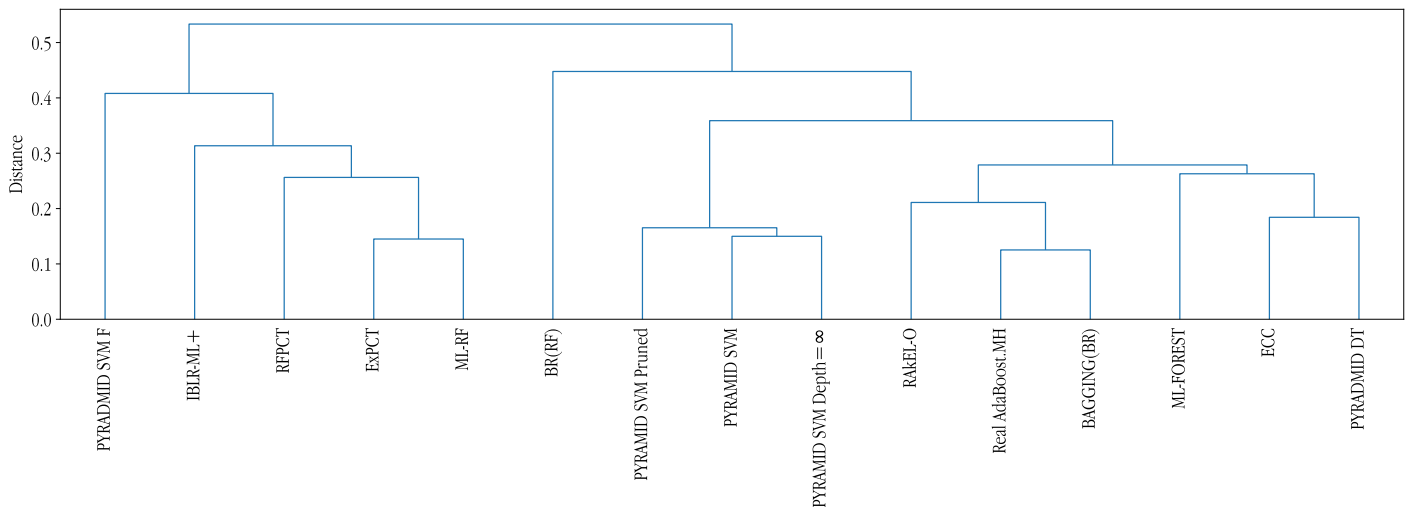


Figure 27: Clustering of multilabel methods based on their behavior for subset-accuracy metric.

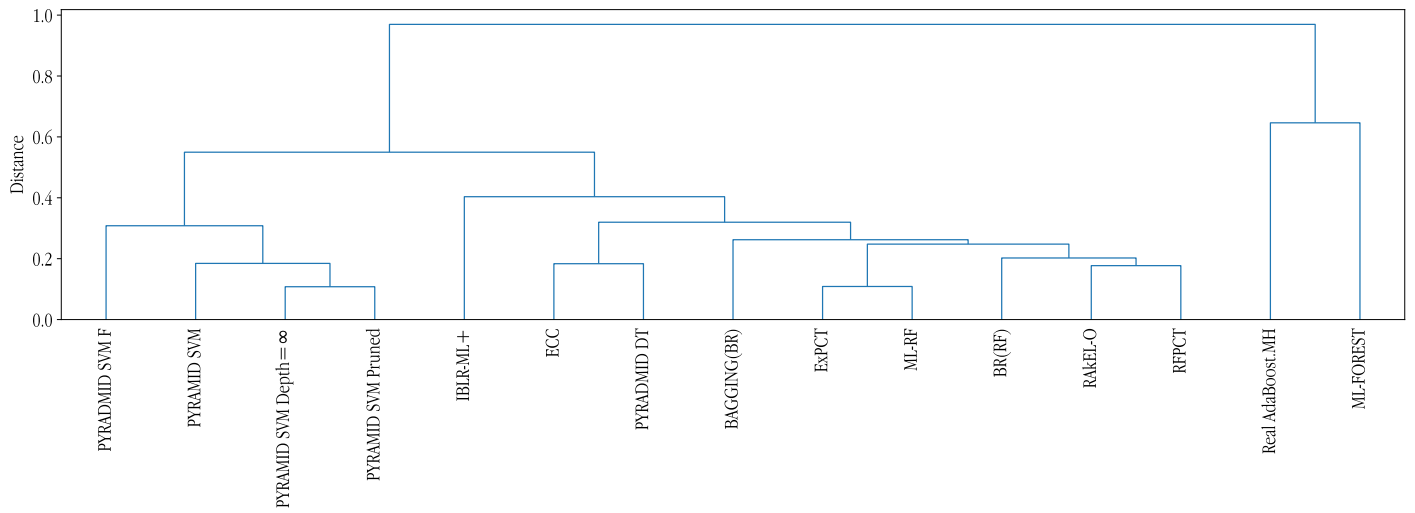


Figure 28: Clustering of multilabel methods based on their behavior for Hamming-loss metric.

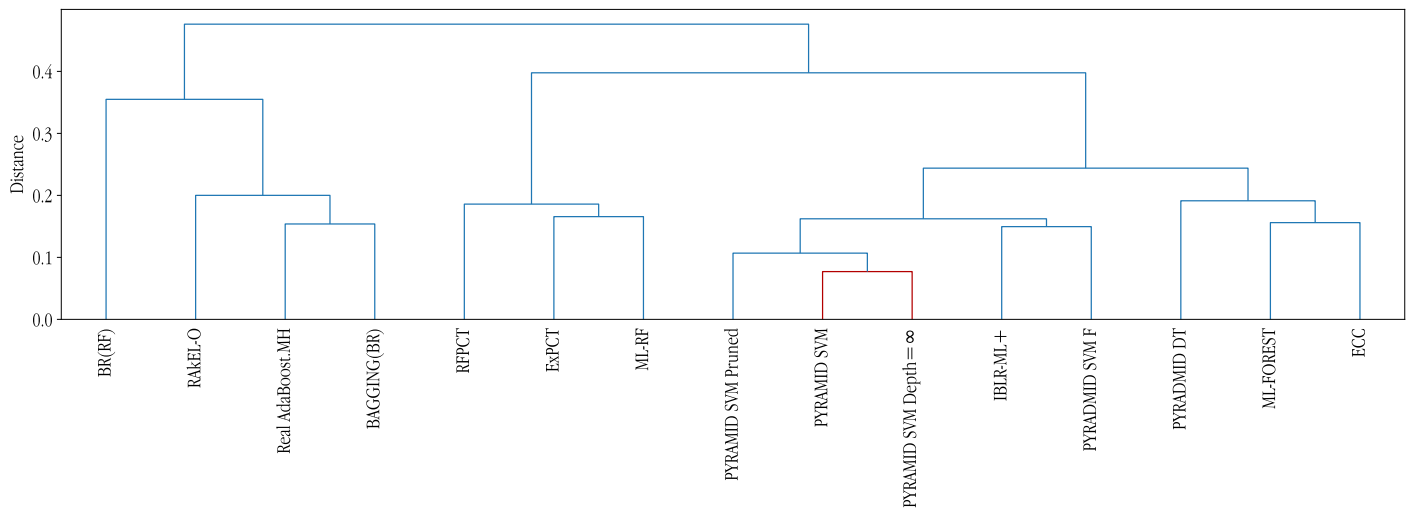


Figure 29: Clustering of multilabel methods based on their behavior for Hamming-loss metric.

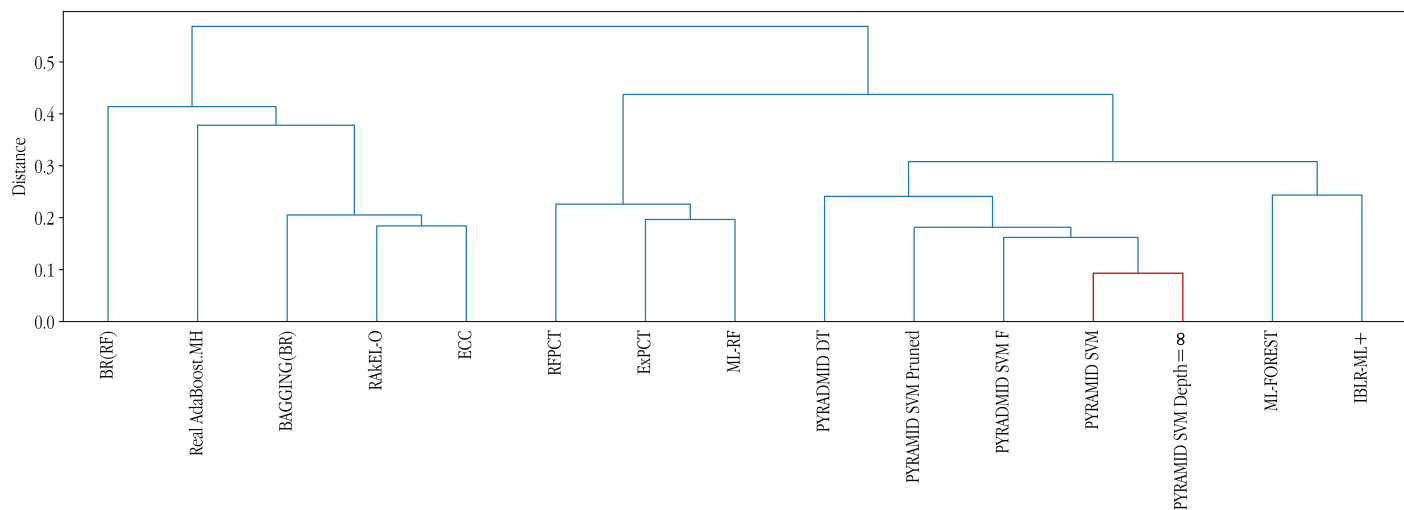


Figure 30: Clustering of multilabel methods based on their behavior for recall metric.

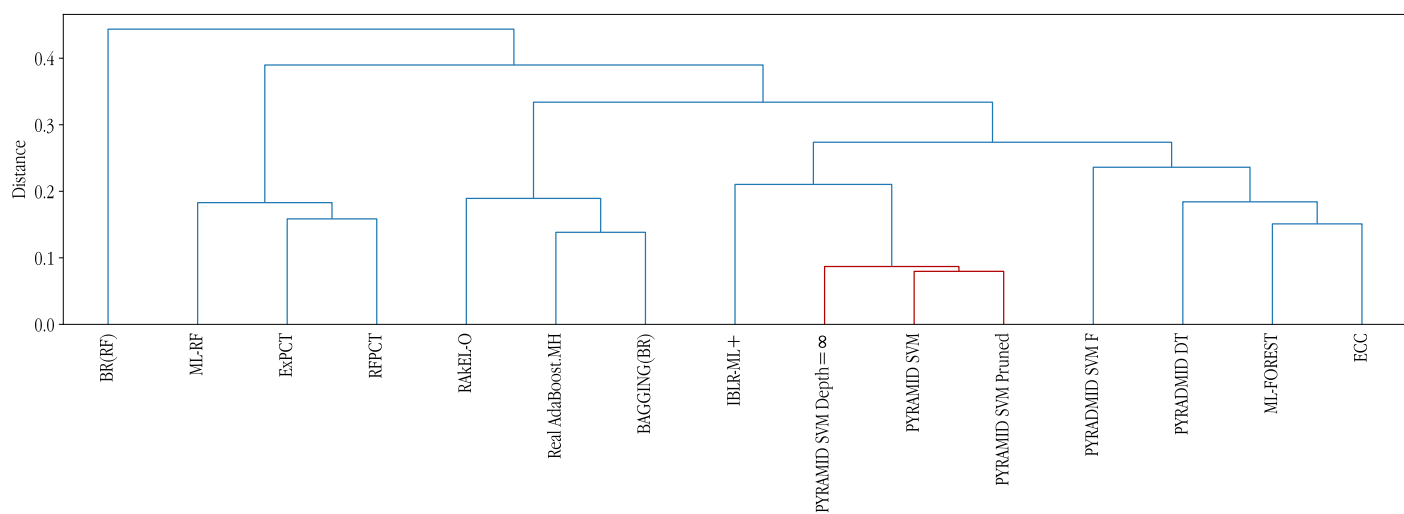


Figure 31: Clustering of multilabel methods based on their behavior for precision metric.

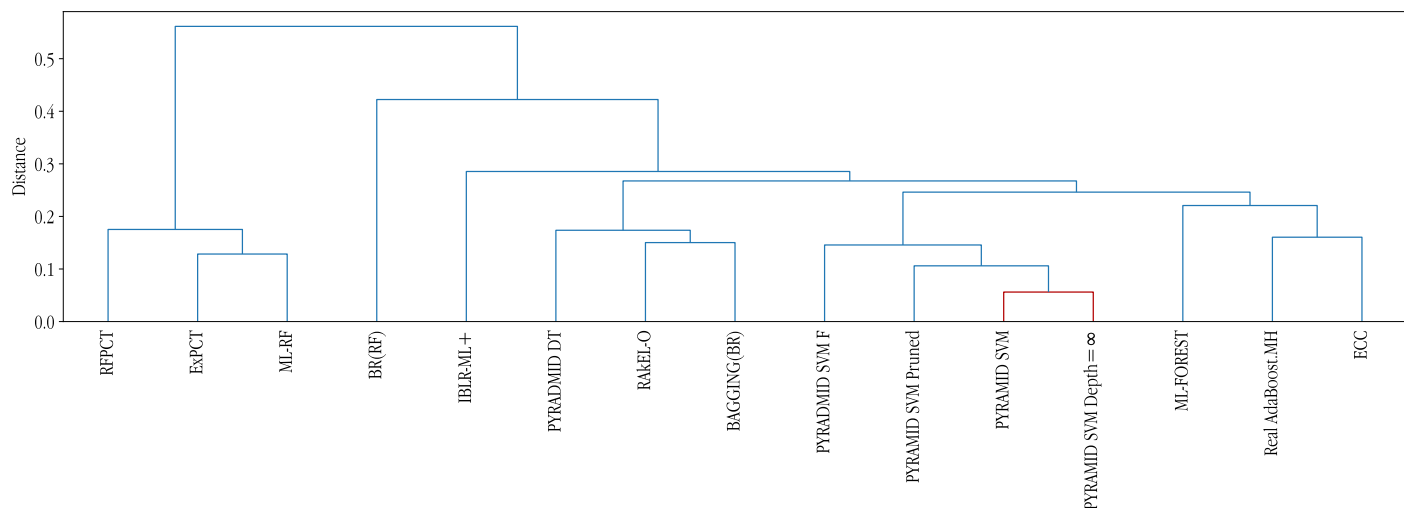


Figure 32: Clustering of multilabel methods based on their behavior for F1-macro metric.

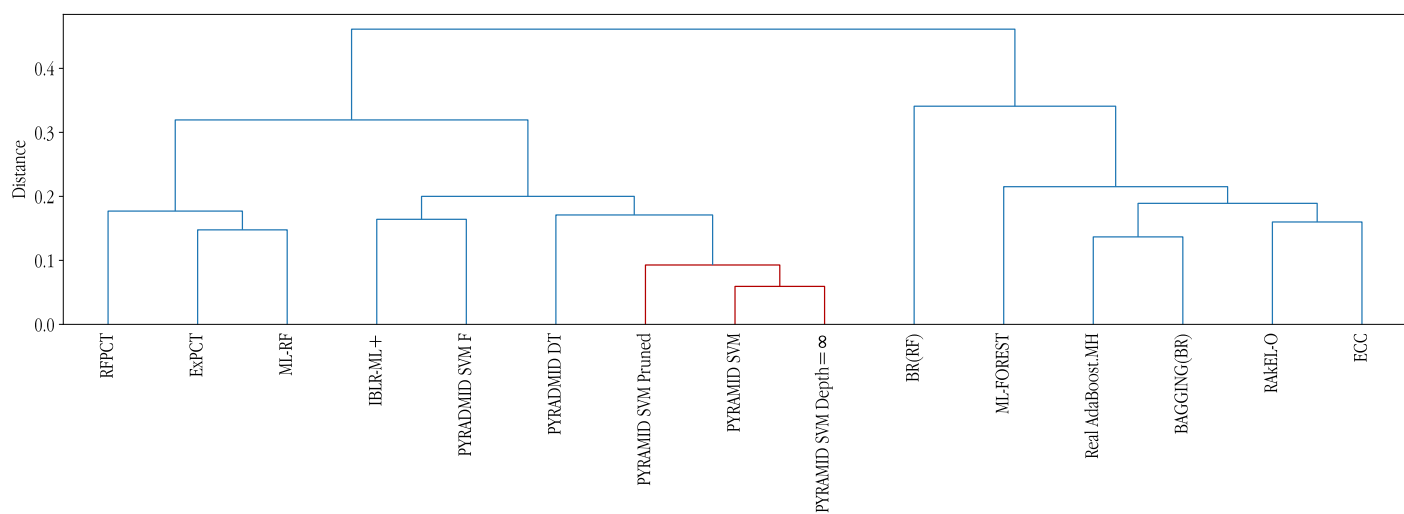


Figure 33: Clustering of multilabel methods based on their behavior for F1-micro metric.

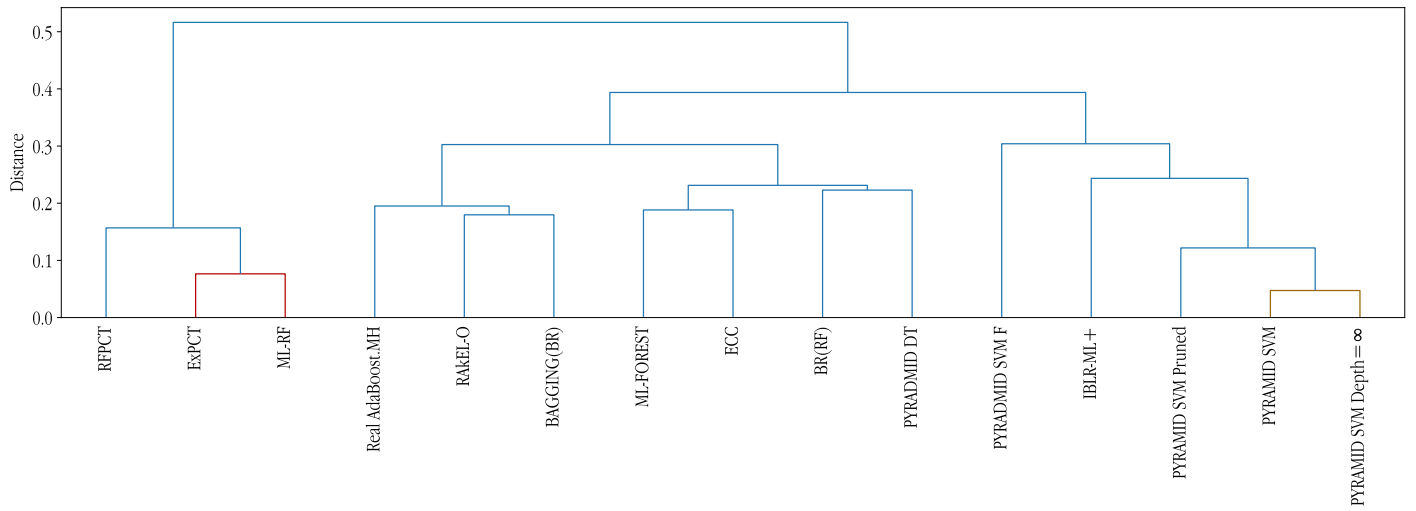


Figure 34: Clustering of multilabel methods based on their behavior for one-error metric.

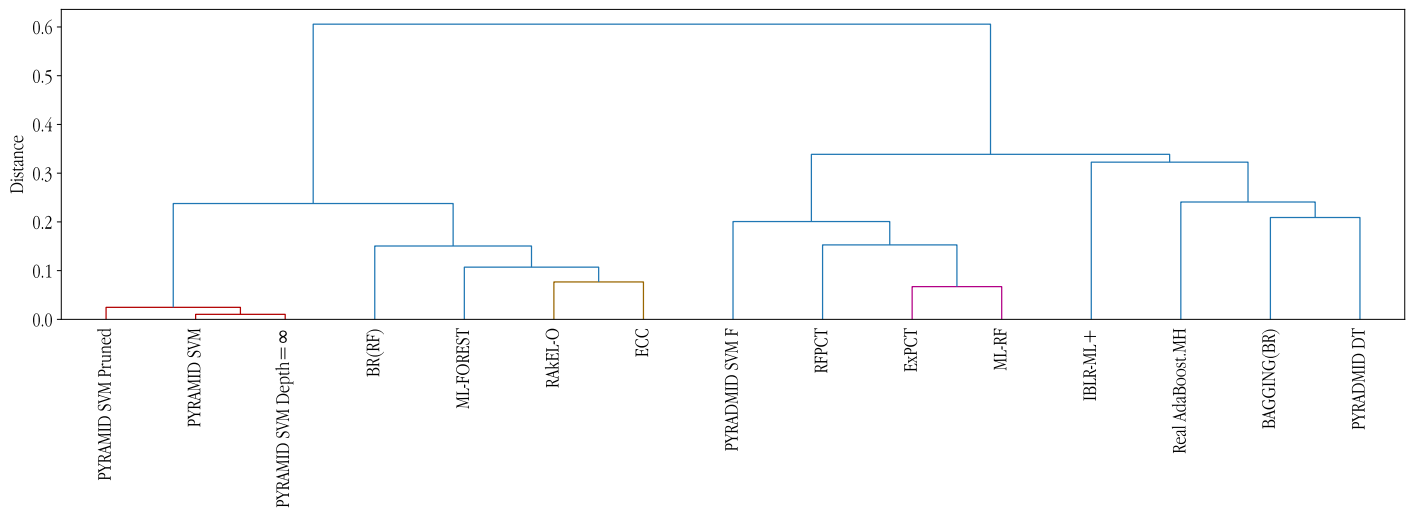


Figure 35: Clustering of multilabel methods based on their behavior for coverage metric.

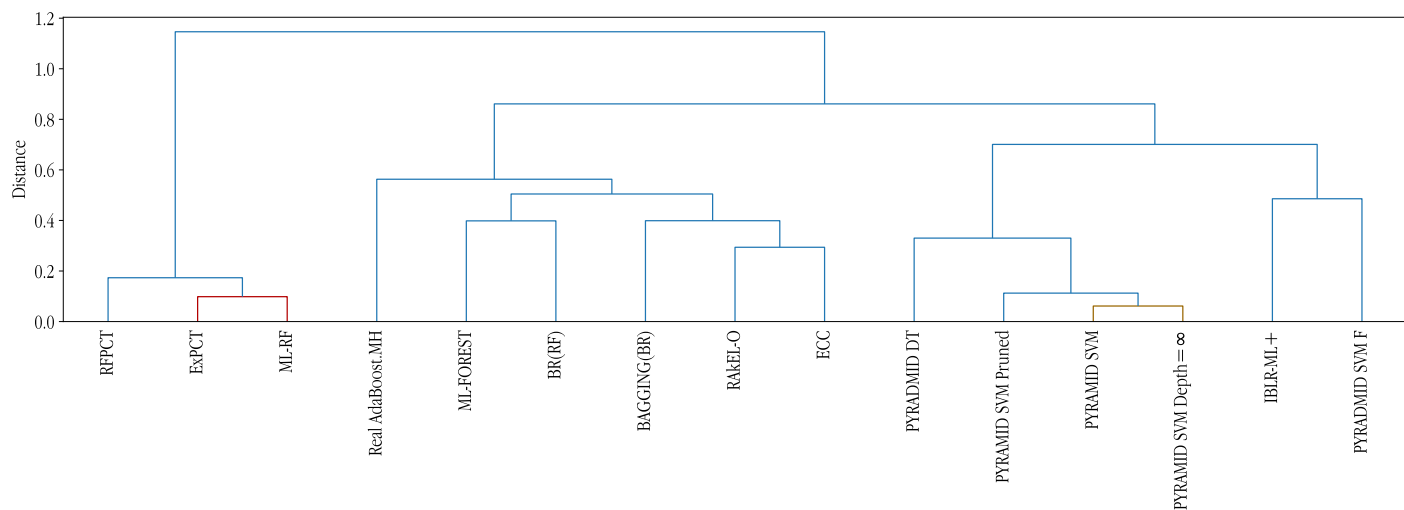


Figure 36: Clustering of multilabel methods based on their behavior for ranking-loss metric.

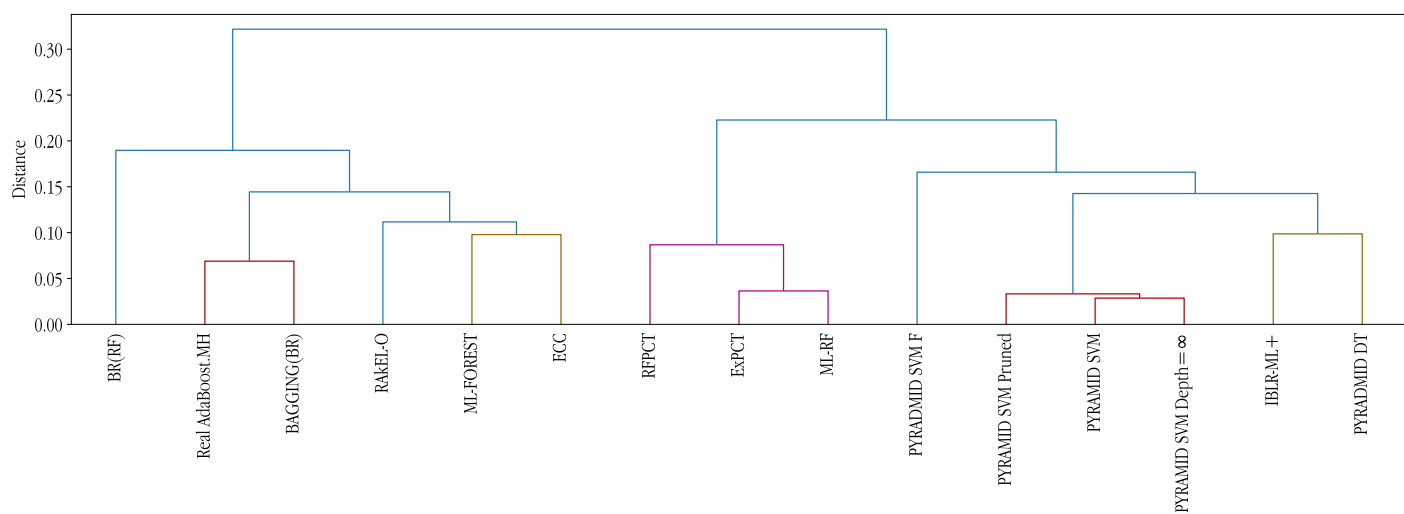


Figure 37: Clustering of multilabel methods based on their behavior for average-precision metric.

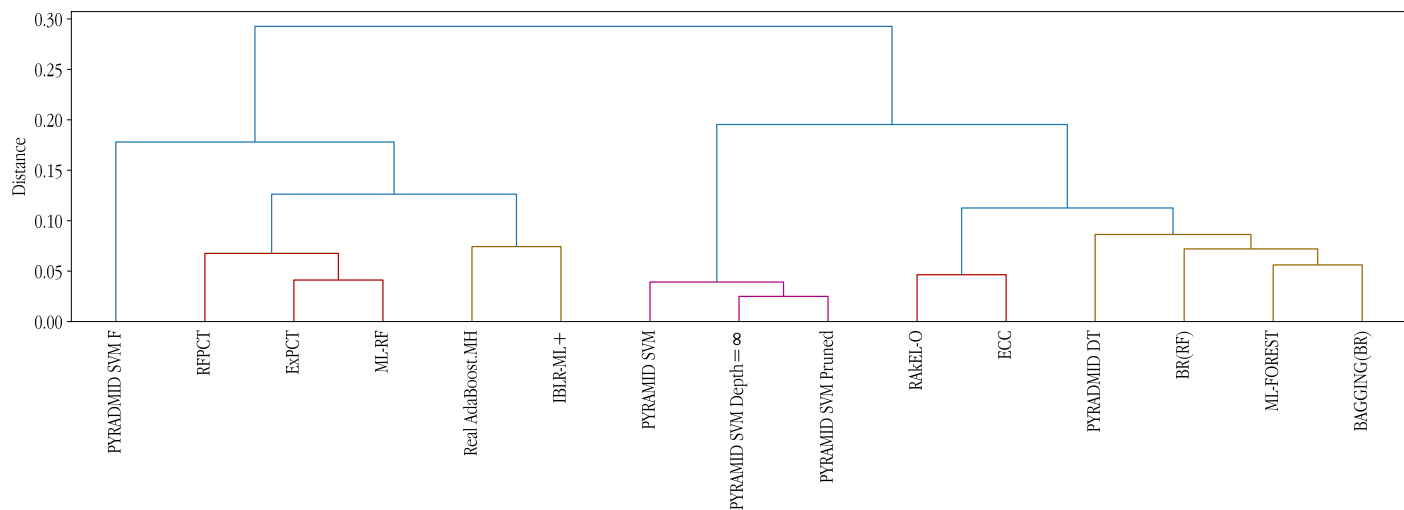


Figure 38: Clustering of multilabel methods based on their behavior for AUC-macro metric.

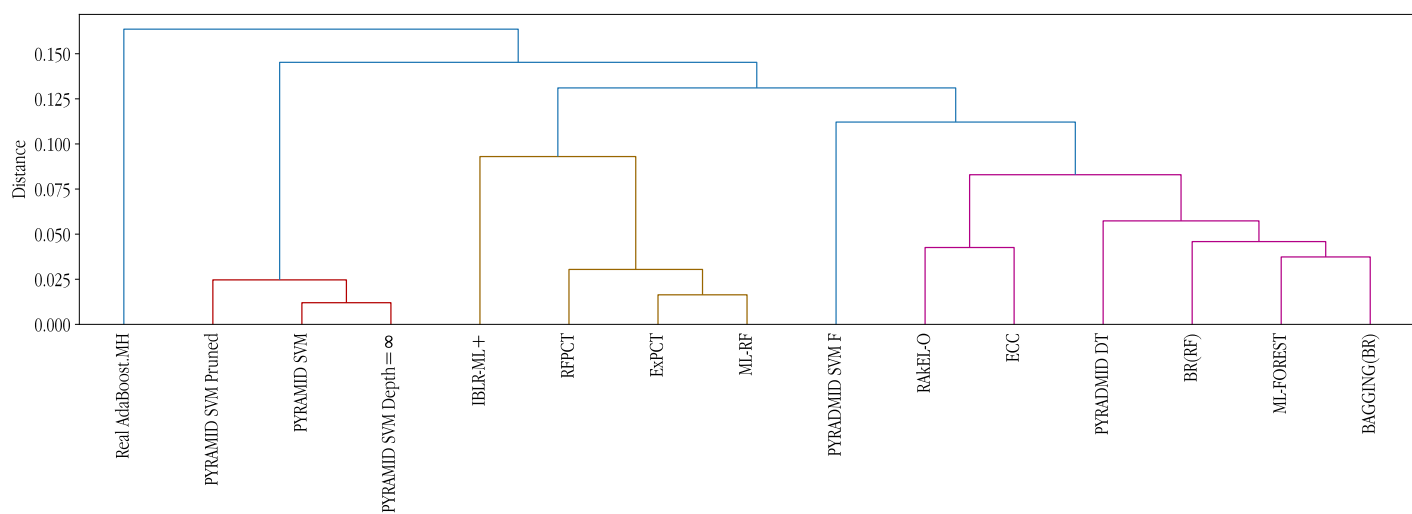


Figure 39: Clustering of multilabel methods based on their behavior for AUC-micro metric.

2 PYRAMID versions

Table 1: Summary of the different versions of PYRAMID.

Name	Description
PYRAMID	PYRAMID standard version
PYRAMID PPT	PYRAMID using PPT approach instead of LP approach
PYRAMID No Duplicates	PYRAMID considering duplicated classifiers just once for the voting of the labels
PYRAMID Undersampling	PYRAMID undersampling the 0 majority class if it is the case
PYRAMID No Zero	PYRAMID removing the 0 class from the labelsets of each partition
PYRAMID Weighted	PYRAMID using weighted voting for combining the classifiers
PYRAMID Pruned	PYRAMID pruning classifiers that do not improve performance
PYRAMID CL	PYRAMID using complete linkage hierarchical clustering to obtain the partitions of labels
PYRAMID F	PYRAMID using f instead of h for the voting process

3 Datasets

Dataset	Inst.	Inputs	Labels	Card.	Density	Diver.	Prop. dist. labels
20NG-F	19279	1006	20	1.03	0.0514	55	0.0029
3s-guardian1000	302	1000	6	1.13	0.1876	14	0.0464
3s-inter3000	169	3000	6	1.14	0.1903	11	0.0651
3s-reuters1000	294	1000	6	1.13	0.1876	14	0.0476
amphibians	189	17	7	3.21	0.4590	42	0.2295
bibtex	7395	1836	159	2.40	0.0151	1654	0.2237
birds	351	271	19	1.86	0.0981	132	0.3761
bookmarks	8786	2150	208	2.00	0.0096	1516	0.1725
CAL500	502	68	174	26.04	0.1497	495	0.9861
corel16k001	13766	500	153	2.86	0.0187	1791	0.1301
Corel5k	5000	499	374	3.52	0.0094	1453	0.2906
emotions	593	72	6	1.87	0.3114	27	0.0455
enron	1694	1001	53	3.39	0.0639	753	0.4445
EukaryoteGO	7752	12689	22	1.15	0.0521	112	0.0144
EukaryotePseAAC	7766	440	22	1.15	0.0521	112	0.0144
flags	194	43	7	3.39	0.4845	54	0.2784
foodtruck	407	31	12	2.29	0.1908	116	0.2850
genbase	662	1185	27	1.25	0.0464	32	0.0483
GnegativeGO	1392	1717	8	1.05	0.1307	19	0.0136
GnegativePseAAC	1392	440	8	1.05	0.1307	19	0.0136
GpositiveGO	519	912	4	1.01	0.2519	7	0.0135
GpositivePseAAC	519	440	4	1.01	0.2519	7	0.0135
HumanGO	3103	9844	14	1.18	0.0846	85	0.0274
HumanPseAAC	3106	440	14	1.19	0.0847	85	0.0274
Image	2000	294	5	1.24	0.2472	20	0.0100
IMDB-ECC-F	9543	1001	28	1.92	0.0686	1046	0.1096
IMDB-F	12087	1001	28	2.00	0.0714	1316	0.1089
LLOG-F	1253	1004	75	1.38	0.0183	278	0.2219
mediamill	4210	120	101	4.55	0.0451	946	0.2247
medical	978	1449	45	1.25	0.0277	94	0.0961
Music	592	71	6	1.87	0.3117	27	0.0456
NUS-WIDE-bow	20801	500	81	2.37	0.0293	2697	0.1297
NUS-WIDE-cVLADplus	20801	128	81	2.37	0.0293	2697	0.1297
OHSUMED-F	13929	1002	23	1.66	0.0723	1147	0.0823
PlantGO	969	3091	12	1.08	0.0900	32	0.0330
PlantPseAAC	978	440	12	1.08	0.0899	32	0.0327
rcv1subset1	6000	47236	101	2.88	0.0285	837	0.1395
REUTERS-K500-EX2	5883	500	103	1.47	0.0143	618	0.1050
scene	2407	294	6	1.07	0.1790	15	0.0062
SLASHDOT-F	3749	1079	22	1.18	0.0537	156	0.0416
solar_flare-L3	58	28	3	1.29	0.4310	7	0.1207
Stackex_chess	1669	585	227	2.42	0.0107	508	0.3044
Stackex_coffee	225	1763	123	1.99	0.0162	149	0.6622
Stackex_philosophy	3957	842	233	2.28	0.0098	1072	0.2709
tmc2007-500	28588	500	22	2.16	0.0981	1341	0.0469
VirusGO	207	749	6	1.22	0.2029	17	0.0821
VirusPseAAC	207	440	6	1.22	0.2029	17	0.0821
Water-quality	1054	16	14	5.10	0.3644	824	0.7818
Yahoo_Arts	7484	23146	26	1.65	0.0636	599	0.0800
Yahoo_Business	11214	21924	30	1.60	0.0533	233	0.0208
Yahoo_Computers	12444	34096	33	1.51	0.0457	428	0.0344
Yahoo_Education	12030	27534	33	1.46	0.0443	511	0.0425
Yahoo_Entertainment	12730	32001	21	1.41	0.0673	337	0.0265
Yahoo_Health	9205	30605	32	1.64	0.0514	335	0.0364
Yahoo_Recreation	12828	30324	22	1.43	0.0650	530	0.0413
Yahoo_Reference	8027	39679	33	1.17	0.0356	275	0.0343
Yahoo_Science	6428	37187	40	1.45	0.0362	457	0.0711
Yahoo_Social	12111	52350	39	1.28	0.0328	361	0.0298
yeast	2417	103	14	4.24	0.3026	198	0.0819
Yelp	10005	671	5	1.77	0.3539	31	0.0031

Table 2: Characteristics of the datasets used in the experiments

4 Detailed results

Table 3: Detailed results for RAKEL-O

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5145	0.0295	0.5606	0.5667	0.6024	0.5840	0.6696	0.6752
3s-guardian1000	0.1613	0.2473	0.2796	0.3226	0.3548	0.3379	0.2402	0.3784
3s-inter3000	0.0000	0.2451	0.0294	0.0294	0.0588	0.0392	0.0833	0.0741
3s-reuters1000	0.1667	0.2611	0.1833	0.1833	0.2000	0.1913	0.1722	0.2034
amphibians	0.1667	0.2937	0.5029	0.6778	0.7140	0.6954	0.5139	0.6667
bibtex	0.1541	0.0144	0.3321	0.4657	0.4037	0.4325	0.3329	0.4386
birds	0.1795	0.0864	0.3581	0.4573	0.4150	0.4351	0.3686	0.4754
bookmarks	0.0000	0.0197	0.0823	0.0910	0.2219	0.1291	0.0705	0.1290
CAL500	0.0000	0.1650	0.2449	0.4374	0.3565	0.3929	0.1378	0.3905
corel16k001	0.0036	0.0229	0.0658	0.1381	0.0862	0.1062	0.0475	0.1249
Corel5k	0.0020	0.0111	0.0623	0.1430	0.0745	0.0980	0.0279	0.1162
emotions	0.1667	0.2639	0.4464	0.5750	0.5889	0.5819	0.5677	0.5740
enron	0.0117	0.0562	0.2986	0.5070	0.3585	0.4200	0.1460	0.4884
EukaryoteGO	0.6959	0.0206	0.7742	0.7944	0.8323	0.8129	0.7537	0.8081
EukaryotePseAAC	0.1622	0.0640	0.2470	0.2771	0.3054	0.2906	0.1221	0.3337
flags	0.1500	0.3143	0.4886	0.6525	0.6008	0.6256	0.5048	0.6452
foodtruck	0.1707	0.1667	0.3885	0.5325	0.5324	0.5325	0.2305	0.4875
genbase	0.9701	0.0011	0.9876	0.9876	1.0000	0.9937	0.6543	0.9878
GnegativeGO	0.9357	0.0098	0.9607	0.9750	0.9714	0.9732	0.8378	0.9625
GnegativePseAAC	0.5857	0.0857	0.6310	0.6381	0.6714	0.6543	0.3227	0.6643
GpositiveGO	0.8654	0.0625	0.8750	0.8846	0.8750	0.8798	0.8186	0.8762
GpositivePseAAC	0.5577	0.2356	0.5577	0.5577	0.5577	0.5577	0.4154	0.5421
HumanGO	0.6206	0.0425	0.7219	0.7647	0.7931	0.7787	0.6968	0.7517
HumanPseAAC	0.1897	0.0884	0.2556	0.2819	0.2985	0.2900	0.1639	0.3529
Image	0.3600	0.2100	0.5038	0.5550	0.6017	0.5774	0.5565	0.5588
IMDB-ECC-F	0.0031	0.0708	0.0123	0.0238	0.0141	0.0177	0.0158	0.0278
IMDB-F	0.0066	0.0742	0.0161	0.0257	0.0182	0.0213	0.0238	0.0317
LLOG-F	0.0656	0.0211	0.1206	0.1540	0.1578	0.1559	0.0503	0.1992
mediamill	0.0000	0.0549	0.2420	0.3727	0.3902	0.3812	0.0365	0.3608
medical	0.6224	0.0116	0.7401	0.7883	0.8078	0.7979	0.3475	0.7952
Music	0.1333	0.2139	0.4833	0.6972	0.5972	0.6434	0.6451	0.6516
NUS-WIDE-bow	0.0024	0.0266	0.0036	0.0058	0.0039	0.0046	0.0033	0.0083
NUS-WIDE-cVLADplus	0.0052	0.0381	0.0196	0.0421	0.0208	0.0278	0.0021	0.0291
OHSUMED-F	0.2283	0.0601	0.4072	0.5211	0.4857	0.5028	0.3926	0.5242
PlantGO	0.6354	0.0434	0.7049	0.7240	0.7517	0.7376	0.6693	0.7596
PlantPseAAC	0.1429	0.1114	0.1820	0.1973	0.2092	0.2031	0.1259	0.2514
rcv1subset1	0.0750	0.0305	0.2834	0.4492	0.3574	0.3981	0.2513	0.3986
REUTERS-K500-EX2	0.2801	0.0130	0.3899	0.4368	0.4578	0.4470	0.2308	0.4697
scene	0.5187	0.1134	0.6148	0.6438	0.6846	0.6636	0.6971	0.6797
SLASHDOT-F	0.3677	0.0435	0.4475	0.4885	0.4899	0.4892	0.3747	0.5371
solar_flare-L3	0.2000	0.4667	0.3000	0.3000	0.4000	0.3429	0.2444	0.3636
Stackex_chess	0.0179	0.0117	0.1015	0.1956	0.1311	0.1569	0.0674	0.2068
Stackex_coffee	0.0000	0.0251	0.1204	0.2072	0.2319	0.2189	0.0633	0.2366
Stackex_philosophy	0.0553	0.0112	0.2049	0.3164	0.2835	0.2990	0.0950	0.3081
tmc2007-500	0.2287	0.0706	0.4992	0.6548	0.6219	0.6379	0.5170	0.6126
VirusGO	0.7619	0.0556	0.8333	0.8571	0.8651	0.8611	0.6949	0.8571
VirusPseAAC	0.4762	0.1508	0.5476	0.5714	0.5952	0.5831	0.4547	0.5778
Water-quality	0.0189	0.3100	0.4234	0.6087	0.5867	0.5975	0.5325	0.5826
Yahoo_Arts	0.2710	0.0541	0.3831	0.4646	0.4272	0.4451	0.3245	0.4690
Yahoo_Business	0.5463	0.0253	0.7253	0.8507	0.7909	0.8197	0.4058	0.7496
Yahoo_Computers	0.3357	0.0382	0.4691	0.5376	0.5461	0.5418	0.3372	0.5462
Yahoo_Education	0.0116	0.0435	0.0143	0.0183	0.0143	0.0160	0.0950	0.0249
Yahoo_Entertainment	0.4250	0.0463	0.5134	0.5704	0.5511	0.5606	0.4134	0.5934
Yahoo_Health	0.4332	0.0319	0.5887	0.6860	0.6570	0.6712	0.3502	0.6614
Yahoo_Recreation	0.3874	0.0475	0.4951	0.5480	0.5552	0.5516	0.4962	0.5729
Yahoo_Reference	0.4496	0.0256	0.5231	0.5555	0.5696	0.5625	0.2737	0.5922
Yahoo_Science	0.2970	0.0299	0.3976	0.4606	0.4508	0.4556	0.3464	0.4867
Yahoo_Social	0.5272	0.0196	0.6085	0.6592	0.6433	0.6512	0.3554	0.6623
yeast	0.0868	0.2202	0.4730	0.6681	0.5913	0.6273	0.3736	0.6131
Yelp	0.5344	0.1406	0.7399	0.8333	0.8180	0.8256	0.7579	0.7995

Table 4: Detailed results for Real AdaBoost.MH

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5808	0.0259	0.6142	0.6191	0.6433	0.6310	0.7100	0.7171
3s-guardian1000	0.1290	0.2097	0.1613	0.1935	0.1613	0.1760	0.1897	0.2642
3s-inter3000	0.0000	0.4706	0.2363	0.2363	0.7059	0.3540	0.2974	0.3514
3s-reuters1000	0.1000	0.2111	0.1000	0.1000	0.1000	0.1000	0.0972	0.1364
amphibians	0.0556	0.3016	0.4757	0.5815	0.7775	0.6654	0.5701	0.6780
bibtex	0.1838	0.0121	0.3535	0.5255	0.3897	0.4475	0.3196	0.4669
birds	0.2308	0.0688	0.3936	0.5299	0.4107	0.4627	0.3683	0.5405
bookmarks	0.1298	0.0177	0.1710	0.1991	0.2093	0.2041	0.0528	0.1292
CAL500	0.0000	0.1468	0.2239	0.5215	0.2865	0.3699	0.1043	0.3628
corel16k001	0.0000	0.0657	0.0539	0.0641	0.1891	0.0958	0.0224	0.0975
Corel5k	0.0040	0.0109	0.0783	0.1800	0.0950	0.1244	0.0339	0.1438
emotions	0.3000	0.1917	0.5361	0.6639	0.6083	0.6349	0.6447	0.6667
enron	0.1287	0.0595	0.4040	0.5717	0.4992	0.5330	0.1911	0.5166
EukaryoteGO	0.6641	0.0230	0.7569	0.7798	0.8278	0.8031	0.7351	0.7866
EukaryotePseAAC	0.1532	0.0501	0.1795	0.1976	0.1892	0.1933	0.0749	0.2770
flags	0.2500	0.2500	0.6025	0.7150	0.7092	0.7121	0.6046	0.7200
foodtruck	0.3415	0.1402	0.4948	0.6382	0.5584	0.5956	0.2658	0.5548
genbase	0.9403	0.0022	0.9751	0.9801	0.9950	0.9875	0.6416	0.9756
GnegativeGO	0.9429	0.0089	0.9643	0.9786	0.9714	0.9750	0.8412	0.9658
GnegativePseAAC	0.6143	0.0616	0.6464	0.6571	0.6679	0.6625	0.3226	0.7336
GpositiveGO	0.8654	0.0433	0.8942	0.9038	0.9135	0.9086	0.8569	0.9143
GpositivePseAAC	0.6154	0.1346	0.6250	0.6250	0.6346	0.6298	0.5148	0.7021
HumanGO	0.6270	0.0402	0.7386	0.7846	0.8087	0.7964	0.6835	0.7626
HumanPseAAC	0.1608	0.0836	0.1758	0.1897	0.1790	0.1842	0.0830	0.2541
Image	0.5500	0.1230	0.6242	0.6783	0.6442	0.6608	0.6997	0.6993
IMDB-ECC-F	0.0000	0.6473	0.0676	0.0693	0.6562	0.1253	0.1083	0.1252
IMDB-F	0.0000	0.7741	0.0793	0.0800	0.9204	0.1471	0.1266	0.1451
LLOG-F	0.0738	0.0169	0.1045	0.1393	0.1045	0.1194	0.0520	0.1799
mediamill	0.0024	0.0485	0.1880	0.4064	0.2455	0.3061	0.0454	0.3025
medical	0.6837	0.0095	0.7730	0.8078	0.8316	0.8196	0.3748	0.8346
Music	0.2667	0.1833	0.5667	0.7167	0.6778	0.6967	0.7081	0.7105
NUS-WIDE-bow	0.0000	0.1322	0.0183	0.0235	0.0783	0.0361	0.0151	0.0380
NUS-WIDE-cVLADplus	0.0010	0.0467	0.0093	0.0192	0.0139	0.0161	0.0088	0.0224
OHSUMED-F	0.2477	0.0537	0.4230	0.5575	0.4762	0.5136	0.3902	0.5457
PlantGO	0.7041	0.0400	0.7517	0.7653	0.7823	0.7737	0.6733	0.7793
PlantPseAAC	0.0816	0.0944	0.0918	0.1020	0.0918	0.0967	0.0881	0.1527
rcv1subset1	0.0700	0.0284	0.2162	0.3911	0.2371	0.2952	0.1604	0.3059
REUTERS-K500-EX2	0.3233	0.0160	0.4210	0.4651	0.4940	0.4791	0.2357	0.4317
scene	0.6266	0.0747	0.6826	0.7158	0.7054	0.7105	0.7777	0.7692
SLASHDOT-F	0.3404	0.0439	0.4400	0.4875	0.4978	0.4926	0.3190	0.5390
solar_flare-L3	0.2000	0.4667	0.3000	0.3000	0.4000	0.3429	0.2667	0.3636
Stackex_chess	0.0298	0.0114	0.1785	0.3322	0.2313	0.2727	0.0696	0.2973
Stackex_coffee	0.0000	0.0258	0.0656	0.1123	0.1051	0.1086	0.0379	0.1205
Stackex_philosophy	0.0779	0.0103	0.2323	0.3594	0.2893	0.3206	0.0942	0.3282
tmc2007-500	0.2070	0.0738	0.4862	0.6351	0.6249	0.6300	0.5195	0.6029
VirusGO	0.8571	0.0397	0.8968	0.9286	0.9048	0.9165	0.7154	0.8980
VirusPseAAC	0.4762	0.1032	0.5714	0.5952	0.6429	0.6181	0.3722	0.6829
Water-quality	0.0283	0.2925	0.4171	0.6331	0.5496	0.5884	0.5210	0.5843
Yahoo_Arts	0.1549	0.0651	0.2235	0.2842	0.2450	0.2631	0.1534	0.2789
Yahoo_Business	0.5062	0.0287	0.6899	0.8393	0.7391	0.7860	0.2843	0.7031
Yahoo_Computers	0.1976	0.0412	0.2400	0.2786	0.2495	0.2633	0.1670	0.3187
Yahoo_Education	0.1687	0.0498	0.3080	0.3644	0.4047	0.3835	0.2189	0.3875
Yahoo_Entertainment	0.2836	0.0578	0.3522	0.4035	0.3795	0.3912	0.2007	0.4404
Yahoo_Health	0.3453	0.0409	0.4753	0.5943	0.5079	0.5477	0.2435	0.5263
Yahoo_Recreation	0.2065	0.0545	0.2437	0.2798	0.2497	0.2639	0.2342	0.3288
Yahoo_Reference	0.4184	0.0330	0.4878	0.5320	0.5158	0.5237	0.1855	0.5125
Yahoo_Science	0.1851	0.0338	0.2303	0.2697	0.2414	0.2548	0.2099	0.3018
Yahoo_Social	0.4480	0.0245	0.5199	0.5737	0.5469	0.5600	0.2637	0.5643
yeast	0.1488	0.1936	0.5130	0.7063	0.5999	0.6488	0.3996	0.6511
Yelp	0.5583	0.1332	0.7557	0.8406	0.8382	0.8394	0.7673	0.8120

Table 5: Detailed results for ML-FOREST

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5420	0.0442	0.6164	0.6233	0.7000	0.6594	0.6716	0.6171
3s-guardian1000	0.3226	0.2366	0.4274	0.4812	0.5161	0.4980	0.3199	0.4634
3s-inter3000	0.0588	0.3824	0.1873	0.1873	0.4706	0.2679	0.2508	0.3158
3s-reuters1000	0.1000	0.3111	0.1583	0.1583	0.2333	0.1887	0.1411	0.2000
amphibians	0.0556	0.3254	0.5308	0.5907	0.9401	0.7256	0.5652	0.7007
bibtex	0.1622	0.0177	0.3434	0.5736	0.4014	0.4723	0.2362	0.3621
birds	0.1795	0.1039	0.3894	0.5598	0.4470	0.4971	0.2933	0.4539
bookmarks	0.2167	0.0279	0.2939	0.3498	0.4429	0.3954	0.1054	0.1298
CAL500	0.0000	0.1412	0.1898	0.5926	0.2234	0.3245	0.0519	0.3157
corel16k001	0.0094	0.0368	0.1170	0.2345	0.1871	0.2082	0.0528	0.1578
Corel5k	0.0020	0.0137	0.1258	0.3186	0.1718	0.2232	0.0262	0.1923
emotions	0.2500	0.2444	0.5467	0.6378	0.7694	0.6975	0.6309	0.6562
enron	0.0175	0.0557	0.3174	0.6270	0.4038	0.4912	0.0719	0.4633
EukaryoteGO	0.6628	0.0238	0.7591	0.8123	0.8082	0.8103	0.6567	0.7734
EukaryotePseAAC	0.1660	0.0917	0.3133	0.3394	0.5028	0.4052	0.1511	0.3664
flags	0.0500	0.3143	0.5936	0.6050	0.9567	0.7412	0.6215	0.7349
foodtruck	0.3415	0.1463	0.4885	0.7276	0.5112	0.6005	0.1539	0.4857
genbase	0.7463	0.0155	0.8134	0.8955	0.8134	0.8525	0.2827	0.8108
GnegativeGO	0.8286	0.0384	0.8500	0.8607	0.8607	0.8607	0.6999	0.8532
GnegativePseAAC	0.4857	0.1232	0.6024	0.6071	0.7286	0.6623	0.3041	0.6034
GpositiveGO	0.8654	0.0481	0.9038	0.9038	0.9423	0.9227	0.7965	0.9091
GpositivePseAAC	0.3846	0.2837	0.5577	0.5577	0.7692	0.6466	0.5265	0.5755
HumanGO	0.6527	0.0418	0.7509	0.7806	0.8296	0.8043	0.6959	0.7642
HumanPseAAC	0.1704	0.1569	0.3054	0.3220	0.5150	0.3963	0.1960	0.3551
Image	0.5100	0.1770	0.6538	0.7246	0.7667	0.7450	0.6644	0.6616
IMDB-ECC-F	0.0147	0.3425	0.1168	0.1468	0.4983	0.2268	0.1092	0.1625
IMDB-F	0.0066	0.3739	0.1123	0.1426	0.5149	0.2234	0.1132	0.1621
LLOG-F	0.0738	0.1245	0.1283	0.1528	0.4057	0.2220	0.0644	0.1053
mediamill	0.0713	0.0366	0.3839	0.6629	0.4453	0.5327	0.0343	0.4866
medical	0.5408	0.0329	0.6350	0.7235	0.6650	0.6930	0.1723	0.5183
Music	0.2167	0.2611	0.5200	0.6558	0.7056	0.6798	0.6311	0.6385
NUS-WIDE-bow	0.0081	0.5819	0.0640	0.0821	0.6889	0.1468	0.0458	0.0597
NUS-WIDE-cVLADplus	0.0048	0.6155	0.0648	0.0826	0.7225	0.1482	0.0457	0.0584
OHSUMED-F	0.2240	0.1015	0.4399	0.5736	0.5912	0.5823	0.3258	0.4430
PlantGO	0.6531	0.0476	0.7381	0.7619	0.8095	0.7850	0.6373	0.7544
PlantPseAAC	0.0612	0.3095	0.1859	0.1967	0.5629	0.2916	0.1783	0.2510
rcv1subset1	0.0383	0.0616	0.2197	0.3793	0.3725	0.3759	0.1318	0.2723
REUTERS-K500-EX2	0.2083	0.0649	0.2886	0.3316	0.4668	0.3877	0.1152	0.1659
scene	0.5477	0.1293	0.6723	0.7048	0.7946	0.7470	0.7141	0.6847
SLASHDOT-F	0.3668	0.0976	0.4541	0.4944	0.5712	0.5300	0.2229	0.3777
solar_flare-L3	0.1811	0.3923	0.3761	0.3929	0.5818	0.4612	0.3127	0.4776
Stackex_chess	0.0298	0.0338	0.1450	0.2988	0.2723	0.2849	0.0416	0.1447
Stackex_coffee	0.0000	0.0562	0.1101	0.1865	0.3514	0.2437	0.0521	0.1762
Stackex_philosophy	0.0804	0.0366	0.2302	0.3928	0.3969	0.3948	0.0606	0.1613
tmc2007-500	0.1808	0.0745	0.4688	0.6193	0.6172	0.6182	0.3964	0.6035
VirusGO	0.8095	0.0397	0.8889	0.9286	0.9127	0.9206	0.7154	0.8980
VirusPseAAC	0.3333	0.2302	0.5325	0.5325	0.8095	0.6424	0.4375	0.5672
Water-quality	0.0094	0.3551	0.2998	0.5841	0.4223	0.4902	0.3319	0.4606
Yahoo_Arts	0.2150	0.1595	0.3606	0.4428	0.5873	0.5049	0.2006	0.3013
Yahoo_Business	0.5481	0.0253	0.7244	0.8577	0.7810	0.8176	0.2351	0.7458
Yahoo_Computers	0.3052	0.0433	0.4558	0.5498	0.5359	0.5428	0.2157	0.5064
Yahoo_Education	0.3026	0.0523	0.4358	0.5057	0.5477	0.5259	0.2816	0.4534
Yahoo_Entertainment	0.4792	0.0673	0.5876	0.6507	0.6796	0.6648	0.3699	0.5610
Yahoo_Health	0.2975	0.0411	0.5305	0.6205	0.6675	0.6431	0.2412	0.6067
Yahoo_Recreation	0.4677	0.0631	0.5761	0.6406	0.6527	0.6466	0.4372	0.5408
Yahoo_Reference	0.4757	0.0684	0.5747	0.6125	0.7379	0.6694	0.1856	0.4226
Yahoo_Science	0.3048	0.1075	0.4166	0.4772	0.6431	0.5478	0.1898	0.2801
Yahoo_Social	0.5578	0.0264	0.6540	0.7106	0.7202	0.7154	0.2999	0.6207
yeast	0.0744	0.2223	0.4391	0.6992	0.5395	0.6091	0.3491	0.5954
Yelp	0.2393	0.2142	0.6012	0.7137	0.8276	0.7664	0.6602	0.7199

Table 6: Detailed results for IBLR-ML+

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.1098	0.1098	0.3729	0.3732	0.8852	0.5251	0.4600	0.4519
3s-guardian1000	0.0968	0.3602	0.3414	0.3522	0.7097	0.4707	0.4150	0.4370
3s-inter3000	0.0000	0.4706	0.1912	0.1912	0.5294	0.2809	0.2471	0.2941
3s-reuters1000	0.0667	0.3167	0.3028	0.3111	0.6333	0.4173	0.4464	0.4124
amphibians	0.0556	0.2698	0.5247	0.6704	0.8544	0.7513	0.5926	0.7119
bibtex	0.0662	0.0260	0.3172	0.3727	0.6298	0.4683	0.3366	0.4174
birds	0.1795	0.1174	0.4085	0.4465	0.6346	0.5242	0.4200	0.5140
bookmarks	0.0934	0.1070	0.1589	0.1656	0.6219	0.2615	0.0838	0.0993
CAL500	0.0000	0.1410	0.2248	0.5720	0.2718	0.3685	0.0881	0.3621
corel16k001	0.0116	0.0236	0.1447	0.2634	0.2074	0.2321	0.0718	0.2401
Corel5k	0.0120	0.0103	0.1368	0.2748	0.1739	0.2130	0.0383	0.2471
emotions	0.3167	0.1944	0.5653	0.6375	0.7083	0.6711	0.6698	0.6903
enron	0.1637	0.0535	0.4784	0.6342	0.6081	0.6209	0.2116	0.5865
EukaryoteGO	0.4620	0.0476	0.6435	0.6548	0.8730	0.7483	0.4883	0.6565
EukaryotePseAAC	0.1802	0.0579	0.2859	0.3137	0.3696	0.3393	0.1292	0.4010
flags	0.1500	0.2857	0.5511	0.6742	0.7050	0.6892	0.5560	0.6923
foodtruck	0.2195	0.1565	0.4201	0.6138	0.5392	0.5741	0.1538	0.5032
genbase	0.9403	0.0022	0.9577	0.9577	0.9701	0.9639	0.6153	0.9753
GnegativeGO	0.8143	0.0250	0.9012	0.9083	0.9786	0.9421	0.7847	0.9108
GnegativePseAAC	0.5857	0.0777	0.7065	0.7250	0.8143	0.7671	0.4673	0.7290
GpositiveGO	0.7308	0.0962	0.8045	0.8045	0.8846	0.8427	0.7209	0.8246
GpositivePseAAC	0.6538	0.1394	0.7019	0.7019	0.7500	0.7252	0.6318	0.7290
HumanGO	0.4084	0.0845	0.6048	0.6306	0.8483	0.7234	0.4945	0.6214
HumanPseAAC	0.2122	0.0958	0.3266	0.3609	0.4164	0.3867	0.1991	0.4151
Image	0.4350	0.1830	0.6008	0.6292	0.7408	0.6804	0.6523	0.6474
IMDB-ECC-F	0.0618	0.0783	0.1435	0.2262	0.1713	0.1950	0.0677	0.2118
IMDB-F	0.0513	0.0771	0.1329	0.2218	0.1493	0.1784	0.0603	0.2029
LLOG-F	0.1557	0.0161	0.1960	0.2377	0.2042	0.2197	0.0536	0.2967
mediamill	0.0713	0.0313	0.4358	0.7630	0.4992	0.6035	0.0433	0.5494
medical	0.3163	0.0401	0.5439	0.5457	0.9303	0.6879	0.3015	0.5714
Music	0.2000	0.2028	0.5556	0.7000	0.6972	0.6986	0.6858	0.6920
NUS-WIDE-bow	0.1256	0.0252	0.2390	0.3322	0.2691	0.2973	0.0397	0.3547
NUS-WIDE-cVLADplus	0.1656	0.0253	0.3192	0.4290	0.3743	0.3998	0.0549	0.4225
OHSUMED-F	0.1701	0.0708	0.4432	0.5158	0.6620	0.5798	0.4577	0.5687
PlantGO	0.3571	0.0867	0.5527	0.5612	0.7772	0.6518	0.5806	0.6194
PlantPseAAC	0.1531	0.1480	0.3070	0.3333	0.4728	0.3910	0.2607	0.3696
rcv1subset1	0.1067	0.0347	0.3164	0.4307	0.4328	0.4318	0.2205	0.4104
REUTERS-K500-EX2	0.0350	0.0460	0.2449	0.2534	0.7655	0.3808	0.1732	0.3087
scene	0.3195	0.1618	0.5930	0.6082	0.8838	0.7206	0.6660	0.6619
SLASHDOT-F	0.3905	0.0431	0.5165	0.5589	0.6095	0.5831	0.3667	0.5962
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0119	0.0243	0.1977	0.2695	0.4609	0.3402	0.1188	0.2831
Stackex_coffee	0.0000	0.1149	0.0996	0.1171	0.5870	0.1952	0.0692	0.1425
Stackex_philosophy	0.0503	0.0190	0.2493	0.3530	0.4907	0.4106	0.1306	0.3228
tmc2007-500	0.2804	0.0634	0.5700	0.6880	0.7285	0.7076	0.5704	0.6769
VirusGO	0.6190	0.0873	0.7857	0.7937	0.9365	0.8592	0.6561	0.8070
VirusPseAAC	0.3333	0.2143	0.4881	0.4921	0.6905	0.5746	0.4246	0.5263
Water-quality	0.0189	0.3073	0.3661	0.6409	0.4618	0.5368	0.4057	0.5260
Yahoo_Arts	0.1108	0.1239	0.2751	0.3192	0.5471	0.4032	0.2319	0.3428
Yahoo_Business	0.4599	0.0411	0.6590	0.7629	0.7857	0.7741	0.2842	0.6514
Yahoo_Computers	0.2900	0.0693	0.4365	0.4906	0.6389	0.5550	0.2601	0.4411
Yahoo_Education	0.1239	0.0809	0.2687	0.3010	0.5120	0.3791	0.1760	0.3412
Yahoo_Entertainment	0.2035	0.1065	0.3720	0.4022	0.6354	0.4926	0.2900	0.4362
Yahoo_Health	0.2595	0.0670	0.4771	0.5519	0.7166	0.6235	0.2107	0.5018
Yahoo_Recreation	0.1512	0.1268	0.3301	0.3581	0.6684	0.4663	0.3087	0.3849
Yahoo_Reference	0.3026	0.0623	0.4527	0.4823	0.6996	0.5709	0.1762	0.4285
Yahoo_Science	0.0793	0.1229	0.2237	0.2443	0.6013	0.3475	0.1667	0.2475
Yahoo_Social	0.2962	0.0598	0.4334	0.4628	0.6743	0.5489	0.1698	0.4041
yeast	0.1901	0.1865	0.5333	0.7430	0.6139	0.6723	0.3690	0.6606
Yelp	0.4217	0.1731	0.6530	0.7628	0.7432	0.7529	0.6890	0.7483

Table 7: Detailed results for ExPCT

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.1950	0.0641	0.2439	0.2457	0.2980	0.2693	0.3192	0.3239
3s-guardian1000	0.2581	0.2097	0.3172	0.3710	0.3226	0.3451	0.1381	0.3810
3s-inter3000	0.2941	0.2255	0.3922	0.4020	0.5000	0.4457	0.2380	0.4390
3s-reuters1000	0.0667	0.3111	0.1167	0.1167	0.1667	0.1373	0.0673	0.1515
amphibians	0.0556	0.2619	0.5173	0.6278	0.7747	0.6936	0.5185	0.7130
bibtex	0.0554	0.0151	0.1306	0.2203	0.1524	0.1802	0.0901	0.2271
birds	0.1795	0.0918	0.4128	0.5120	0.5269	0.5193	0.3317	0.5278
bookmarks	0.1902	0.0130	0.2419	0.2718	0.2884	0.2798	0.1117	0.2451
CAL500	0.0000	0.1679	0.3139	0.4446	0.5144	0.4770	0.1430	0.4776
corel16k001	0.0087	0.0232	0.1236	0.2318	0.1658	0.1934	0.0374	0.2015
Corel5k	0.0180	0.0113	0.1255	0.2636	0.1568	0.1966	0.0312	0.2090
emotions	0.3000	0.1861	0.5611	0.6833	0.6611	0.6720	0.6408	0.6825
enron	0.1111	0.0577	0.4569	0.6029	0.6035	0.6032	0.1293	0.5638
EukaryoteGO	0.6830	0.0205	0.7858	0.8011	0.8733	0.8356	0.5866	0.8154
EukaryotePseAAC	0.1493	0.0698	0.3289	0.3443	0.4961	0.4065	0.0851	0.4338
flags	0.2000	0.2500	0.6283	0.6883	0.8175	0.7474	0.6125	0.7482
foodtruck	0.1951	0.1606	0.4496	0.5976	0.6201	0.6086	0.1724	0.5380
genbase	0.8806	0.0044	0.9428	0.9950	0.9478	0.9708	0.4815	0.9487
GnegativeGO	0.9500	0.0071	0.9714	0.9821	0.9821	0.9821	0.8442	0.9728
GnegativePseAAC	0.6000	0.0688	0.6381	0.6536	0.6607	0.6571	0.2344	0.7116
GpositiveGO	0.8846	0.0481	0.9038	0.9135	0.9135	0.9135	0.8360	0.9057
GpositivePseAAC	0.6346	0.1731	0.6827	0.6827	0.7308	0.7059	0.5194	0.6786
HumanGO	0.6592	0.0411	0.7283	0.7621	0.7680	0.7650	0.5478	0.7503
HumanPseAAC	0.1608	0.1162	0.3132	0.3307	0.4491	0.3809	0.1229	0.3933
Image	0.5300	0.1440	0.6704	0.7275	0.7542	0.7406	0.7056	0.7012
IMDB-ECC-F	0.0262	0.1026	0.2327	0.3055	0.4148	0.3518	0.0688	0.3271
IMDB-F	0.0232	0.1076	0.2498	0.3241	0.4503	0.3769	0.0731	0.3552
LLOG-F	0.0656	0.0234	0.1093	0.1243	0.1366	0.1302	0.0230	0.1641
mediamill	0.0641	0.0365	0.4520	0.5927	0.6536	0.6216	0.0796	0.5895
medical	0.3265	0.0240	0.5672	0.6054	0.7891	0.6852	0.1855	0.6467
Music	0.2500	0.1972	0.5472	0.6861	0.6722	0.6791	0.6748	0.6953
NUS-WIDE-bow	0.0580	0.0340	0.2395	0.3354	0.3530	0.3440	0.0269	0.3488
NUS-WIDE-cVLADplus	0.0775	0.0330	0.2664	0.3675	0.3789	0.3731	0.0270	0.3601
OHSUMED-F	0.0409	0.1088	0.2082	0.2767	0.3346	0.3029	0.0973	0.3048
PlantGO	0.6458	0.0460	0.7153	0.7344	0.7691	0.7513	0.6839	0.7535
PlantPseAAC	0.2755	0.1173	0.3248	0.3401	0.3622	0.3508	0.1105	0.3491
rcv1subset1	0.0167	0.0364	0.3075	0.4039	0.5187	0.4542	0.1542	0.4360
REUTERS-K500-EX2	0.2096	0.0162	0.3741	0.4160	0.5224	0.4631	0.1628	0.4375
scene	0.6141	0.0830	0.7199	0.7552	0.7905	0.7724	0.7836	0.7701
SLASHDOT-F	0.2354	0.0749	0.3721	0.4037	0.5009	0.4470	0.2849	0.4095
solar_flare-L3	0.2000	0.4667	0.3000	0.3000	0.4000	0.3429	0.1905	0.3636
Stackex_chess	0.0298	0.0122	0.1421	0.2847	0.1697	0.2127	0.0192	0.2211
Stackex_coffee	0.0000	0.0244	0.0862	0.1232	0.1449	0.1332	0.0085	0.1687
Stackex_philosophy	0.0578	0.0105	0.1411	0.2439	0.1566	0.1907	0.0165	0.1885
tmc2007-500	0.1259	0.0918	0.4397	0.5333	0.6624	0.5909	0.3280	0.5719
VirusGO	0.7619	0.0635	0.8333	0.8651	0.8730	0.8690	0.6711	0.8400
VirusPseAAC	0.2857	0.1587	0.5476	0.5714	0.7857	0.6617	0.3758	0.6429
Water-quality	0.0189	0.3019	0.4695	0.5951	0.7026	0.6444	0.5678	0.6370
Yahoo_Arts	0.0441	0.1039	0.2591	0.3067	0.4934	0.3782	0.1278	0.3407
Yahoo_Business	0.4225	0.0311	0.6696	0.7862	0.7948	0.7905	0.2351	0.7112
Yahoo_Computers	0.2313	0.0549	0.4366	0.4995	0.6289	0.5568	0.1798	0.4823
Yahoo_Education	0.2136	0.0521	0.2864	0.3403	0.3185	0.3291	0.0884	0.3224
Yahoo_Entertainment	0.2883	0.0727	0.3628	0.4106	0.3987	0.4045	0.1873	0.3993
Yahoo_Health	0.3051	0.0476	0.4588	0.5513	0.5255	0.5381	0.1767	0.5117
Yahoo_Recreation	0.1231	0.1000	0.2742	0.2985	0.4327	0.3533	0.2468	0.3261
Yahoo_Reference	0.3848	0.0356	0.4967	0.5378	0.5765	0.5565	0.1232	0.5220
Yahoo_Science	0.0949	0.0547	0.2414	0.2733	0.3781	0.3173	0.0762	0.2988
Yahoo_Social	0.3804	0.0322	0.5064	0.5523	0.5952	0.5729	0.0757	0.5155
yeast	0.1488	0.2022	0.5577	0.6591	0.7371	0.6959	0.4069	0.6815
Yelp	0.4796	0.1535	0.7165	0.8583	0.7954	0.8256	0.6991	0.7742

Table 8: Detailed results for ML-RF

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.1149	0.0565	0.1452	0.1463	0.1776	0.1601	0.2032	0.2110
3s-guardian1000	0.0645	0.2366	0.1102	0.1210	0.1452	0.1320	0.0567	0.1528
3s-inter3000	0.1765	0.2157	0.2353	0.2353	0.2941	0.2614	0.1574	0.3125
3s-reuters1000	0.0333	0.2556	0.0583	0.0583	0.0833	0.0686	0.0319	0.0725
amphibians	0.0000	0.3016	0.4747	0.6185	0.7970	0.6965	0.4875	0.6724
bibtex	0.0318	0.0147	0.0937	0.1808	0.1058	0.1310	0.0502	0.1692
birds	0.1410	0.0918	0.2724	0.3590	0.3173	0.3341	0.2088	0.3835
bookmarks	0.1925	0.0132	0.2363	0.2586	0.2786	0.2682	0.0956	0.2292
CAL500	0.0000	0.1553	0.2648	0.5320	0.3922	0.4131	0.1076	0.4128
corel16k001	0.0054	0.0210	0.0642	0.1222	0.0845	0.0999	0.0195	0.1040
Corel5k	0.0100	0.0104	0.0584	0.1278	0.0718	0.0916	0.0132	0.0986
emotions	0.3083	0.1944	0.5528	0.6583	0.6681	0.6626	0.6369	0.6740
enron	0.1170	0.0527	0.4339	0.6662	0.5179	0.5745	0.1117	0.5404
EukaryoteGO	0.6825	0.0203	0.7701	0.7904	0.8375	0.8131	0.5681	0.8093
EukaryotePseAAC	0.1113	0.0593	0.2089	0.2196	0.2969	0.2516	0.0710	0.2700
flags	0.1500	0.2643	0.6033	0.6800	0.7883	0.7302	0.5717	0.7299
foodtruck	0.2561	0.1504	0.4621	0.6494	0.5827	0.6084	0.1635	0.5282
genbase	0.8806	0.0044	0.9415	0.9975	0.9440	0.9700	0.4630	0.9484
GnegativeGO	0.9464	0.0085	0.9661	0.9804	0.9714	0.9759	0.8405	0.9674
GnegativePseAAC	0.5786	0.0674	0.6048	0.6143	0.6214	0.6178	0.2759	0.6971
GpositiveGO	0.8846	0.0481	0.9038	0.9135	0.9135	0.9135	0.8360	0.9057
GpositivePseAAC	0.5865	0.1538	0.5865	0.5865	0.5865	0.5865	0.4868	0.6548
HumanGO	0.6383	0.0413	0.7074	0.7404	0.7476	0.7439	0.5292	0.7432
HumanPseAAC	0.1077	0.0963	0.1983	0.2114	0.2744	0.2378	0.1029	0.2639
Image	0.4900	0.1355	0.5988	0.6562	0.6492	0.6521	0.6697	0.6728
IMDB-ECC-F	0.0262	0.1029	0.2273	0.2957	0.4120	0.3443	0.0673	0.3255
IMDB-F	0.0207	0.1080	0.2427	0.3170	0.4352	0.3668	0.0672	0.3480
LLOG-F	0.0451	0.0208	0.0741	0.0902	0.0905	0.0902	0.0139	0.1081
mediamill	0.0641	0.0351	0.4561	0.6163	0.6364	0.6262	0.0868	0.5925
medical	0.3980	0.0193	0.5251	0.5685	0.6139	0.5877	0.1643	0.6347
Music	0.2083	0.2069	0.5204	0.6778	0.6361	0.6557	0.6591	0.6759
NUS-WIDE-bow	0.0856	0.0329	0.2725	0.3610	0.3973	0.3783	0.0329	0.3718
NUS-WIDE-cVLADplus	0.1170	0.0312	0.3232	0.4135	0.4504	0.4312	0.0537	0.4145
OHSUMED-F	0.0240	0.0904	0.1072	0.1421	0.1714	0.1550	0.0522	0.1595
PlantGO	0.6648	0.0404	0.7259	0.7499	0.7666	0.7579	0.7073	0.7752
PlantPseAAC	0.1071	0.1063	0.1692	0.1760	0.2245	0.1971	0.1014	0.2176
rcv1subset1	0.0300	0.0306	0.1499	0.2448	0.1954	0.2163	0.0658	0.2325
REUTERS-K500-EX2	0.1628	0.0154	0.2368	0.2568	0.3047	0.2777	0.0969	0.2848
scene	0.5809	0.0868	0.6504	0.6795	0.6909	0.6848	0.7385	0.7276
SLASHDOT-F	0.2523	0.0605	0.3363	0.3656	0.4020	0.3808	0.2218	0.3978
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0208	0.0112	0.1045	0.2088	0.1231	0.1536	0.0148	0.1723
Stackex_coffee	0.0000	0.0223	0.0576	0.0833	0.0942	0.0884	0.0068	0.0899
Stackex_philosophy	0.0352	0.0103	0.0869	0.1441	0.1015	0.1188	0.0097	0.1240
tmc2007-500	0.1369	0.0862	0.3885	0.5283	0.5215	0.5151	0.2387	0.5151
VirusGO	0.7857	0.0595	0.8373	0.8730	0.8611	0.8669	0.6624	0.8455
VirusPseAAC	0.3095	0.1429	0.4603	0.4643	0.6071	0.5219	0.3285	0.5636
Water-quality	0.0047	0.2898	0.4076	0.6505	0.5272	0.5796	0.4798	0.5745
Yahoo_Arts	0.0921	0.0689	0.1297	0.1660	0.1433	0.1538	0.0607	0.1544
Yahoo_Business	0.5080	0.0288	0.6800	0.8620	0.7017	0.7732	0.1013	0.6841
Yahoo_Computers	0.3112	0.0412	0.4104	0.5085	0.4389	0.4706	0.1362	0.4579
Yahoo_Education	0.1218	0.0483	0.1759	0.2069	0.2056	0.2059	0.0798	0.2278
Yahoo_Entertainment	0.1984	0.0680	0.2552	0.2893	0.2837	0.2863	0.1611	0.3221
Yahoo_Health	0.2693	0.0483	0.3882	0.4759	0.4386	0.4549	0.1336	0.4389
Yahoo_Recreation	0.0768	0.0841	0.1495	0.1636	0.2288	0.1892	0.1517	0.2019
Yahoo_Reference	0.3443	0.0348	0.4241	0.4595	0.4759	0.4664	0.0968	0.4738
Yahoo_Science	0.0412	0.0477	0.1147	0.1323	0.1858	0.1541	0.0410	0.1512
Yahoo_Social	0.3808	0.0287	0.4533	0.4966	0.4899	0.4927	0.0647	0.4884
yeast	0.1529	0.1919	0.5042	0.7304	0.5823	0.6447	0.3552	0.6410
Yelp	0.4796	0.1572	0.7030	0.8783	0.7549	0.8109	0.6716	0.7561

Table 9: Detailed results for RFPCT

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.1921	0.0724	0.2345	0.2507	0.2935	0.2572	0.3154	0.3362
3s-guardian1000	0.0323	0.2258	0.0806	0.1290	0.0806	0.0993	0.0513	0.1600
3s-inter3000	0.0588	0.2157	0.0882	0.1176	0.0882	0.1008	0.0476	0.1538
3s-reuters1000	0.1333	0.2444	0.1333	0.1333	0.1333	0.1333	0.0556	0.1538
amphibians	0.1111	0.2381	0.5947	0.6500	0.9447	0.7701	0.6170	0.7619
bibtex	0.0502	0.0221	0.1208	0.2227	0.1322	0.1587	0.0950	0.2198
birds	0.0513	0.1269	0.3159	0.3868	0.5397	0.4506	0.2973	0.4535
bookmarks	0.1230	0.0093	0.1367	0.1509	0.1377	0.1440	0.0157	0.1377
CAL500	0.0000	0.1651	0.3079	0.4480	0.4881	0.4672	0.1361	0.4702
corel16k001	0.0145	0.0195	0.0806	0.1733	0.0906	0.1190	0.0278	0.1416
Corel5k	0.0120	0.0116	0.1776	0.3251	0.2401	0.2762	0.0361	0.2843
emotions	0.3000	0.2028	0.5875	0.6861	0.7667	0.7242	0.6570	0.6946
enron	0.1111	0.0544	0.4794	0.6040	0.6360	0.6196	0.1484	0.5982
EukaryoteGO	0.6868	0.0027	0.7792	0.8015	0.8519	0.8358	0.5996	0.7916
EukaryotePseAAC	0.1493	0.0599	0.2484	0.2793	0.3168	0.2969	0.0605	0.3624
flags	0.2500	0.2000	0.6792	0.7375	0.8358	0.7836	0.6628	0.7941
foodtruck	0.1707	0.1646	0.4150	0.5772	0.5814	0.5793	0.1620	0.5150
genbase	0.9701	0.0011	0.9876	0.9950	0.9925	0.9938	0.6296	0.9877
GnegativeGO	0.9357	0.0098	0.9607	0.9679	0.9786	0.9732	0.8412	0.9630
GnegativePseAAC	0.4143	0.1321	0.5786	0.5810	0.7500	0.6547	0.2682	0.5956
GpositiveGO	0.9038	0.0433	0.9135	0.9231	0.9135	0.9182	0.9243	0.9143
GpositivePseAAC	0.5192	0.2212	0.5929	0.5929	0.6731	0.6305	0.4488	0.6034
HumanGO	0.6660	0.0505	0.7424	0.7569	0.7755	0.7682	0.5293	0.7340
HumanPseAAC	0.0900	0.1364	0.2931	0.3087	0.4904	0.3789	0.1196	0.3800
Image	0.3500	0.1980	0.5892	0.6217	0.7958	0.6980	0.6611	0.6514
IMDB-ECC-F	0.0304	0.0716	0.0563	0.0805	0.0680	0.0737	0.0225	0.0972
IMDB-F	0.0207	0.0736	0.0504	0.0785	0.0604	0.0683	0.0290	0.0967
LLOG-F	0.0984	0.0193	0.1407	0.1667	0.1598	0.1632	0.0218	0.2063
mediamill	0.0143	0.0523	0.3925	0.4657	0.7298	0.5685	0.1146	0.5341
medical	0.6429	0.0109	0.7483	0.7908	0.8095	0.8001	0.2605	0.8065
Music	0.2833	0.1972	0.5694	0.7083	0.6917	0.6999	0.6762	0.7004
NUS-WIDE-bow	0.0823	0.0321	0.2423	0.3306	0.3466	0.3384	0.0236	0.3435
NUS-WIDE-cVLADplus	0.0809	0.0336	0.2566	0.3577	0.3557	0.3567	0.0234	0.3458
OHSUMED-F	0.1292	0.0678	0.2612	0.3808	0.2992	0.3351	0.1162	0.3791
PlantGO	0.5625	0.0538	0.6615	0.6719	0.7465	0.7072	0.5936	0.7182
PlantPseAAC	0.1531	0.1522	0.2942	0.3027	0.4541	0.3633	0.1223	0.3538
rcv1subset1	0.0064	0.0446	0.3031	0.4016	0.5214	0.4535	0.1549	0.4340
REUTERS-K500-EX2	0.1932	0.0089	0.3817	0.3947	0.5142	0.4548	0.1686	0.4509
scene	0.4647	0.1148	0.6252	0.6556	0.7552	0.7019	0.7094	0.6971
SLASHDOT-F	0.3651	0.0414	0.4162	0.4471	0.4383	0.4426	0.2544	0.5141
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0476	0.0099	0.1688	0.3452	0.1773	0.2343	0.0300	0.2651
Stackex_coffee	0.0000	0.0180	0.0254	0.0870	0.0254	0.0393	0.0105	0.0727
Stackex_philosophy	0.0905	0.0093	0.1799	0.2969	0.1932	0.2341	0.0292	0.2388
tmc2007-500	0.1710	0.0756	0.5129	0.6063	0.7366	0.6652	0.4416	0.6389
VirusGO	0.8095	0.0476	0.8810	0.9048	0.9127	0.9087	0.6600	0.8800
VirusPseAAC	0.1905	0.1667	0.4286	0.4524	0.6429	0.5311	0.2213	0.5882
Water-quality	0.0283	0.3019	0.4631	0.5982	0.6776	0.6354	0.5484	0.6279
Yahoo_Arts	0.0422	0.0803	0.2504	0.2919	0.4771	0.3830	0.1044	0.3400
Yahoo_Business	0.4275	0.0325	0.6577	0.7684	0.7764	0.7970	0.2441	0.7064
Yahoo_Computers	0.2076	0.0307	0.4483	0.5019	0.6385	0.5380	0.1754	0.4777
Yahoo_Education	0.2143	0.0314	0.2628	0.3505	0.3226	0.3245	0.0860	0.3284
Yahoo_Entertainment	0.2983	0.0623	0.3556	0.3937	0.3966	0.3923	0.1794	0.3864
Yahoo_Health	0.2821	0.0232	0.4489	0.5282	0.5133	0.5414	0.1868	0.5198
Yahoo_Recreation	0.1240	0.0764	0.2781	0.3026	0.4233	0.3327	0.2414	0.3104
Yahoo_Reference	0.3859	0.0412	0.5007	0.5442	0.5891	0.5393	0.1352	0.5241
Yahoo_Science	0.0940	0.0329	0.2408	0.2808	0.3540	0.3220	0.0608	0.2818
Yahoo_Social	0.3800	0.0098	0.4981	0.5534	0.5932	0.5679	0.0575	0.5082
yeast	0.1612	0.2051	0.5190	0.6764	0.6442	0.6599	0.3303	0.6485
Yelp	0.4865	0.1503	0.7157	0.8736	0.7773	0.8226	0.6821	0.7721

Table 10: Detailed results for BR(RF)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4549	0.0314	0.4872	0.4911	0.5174	0.5039	0.6054	0.6264
3s-guardian1000	0.0000	0.2043	0.0269	0.0484	0.0323	0.0387	0.0778	0.0952
3s-inter3000	0.0000	0.2059	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3s-reuters1000	0.0667	0.1722	0.0667	0.0667	0.0667	0.0667	0.1032	0.1143
amphibians	0.0556	0.2302	0.5549	0.7204	0.7790	0.7485	0.6082	0.7339
bibtex	0.1392	0.0124	0.2641	0.4467	0.2739	0.3396	0.1930	0.3601
birds	0.1538	0.0810	0.2534	0.3462	0.2662	0.3010	0.2591	0.3878
bookmarks	0.1788	0.0090	0.1917	0.2065	0.1952	0.2007	0.0633	0.2098
CAL500	0.0000	0.1562	0.1725	0.5423	0.2145	0.3074	0.0592	0.2826
corel16k001	0.0029	0.0189	0.0193	0.0471	0.0196	0.0277	0.0141	0.0382
Corel5k	0.0040	0.0093	0.0325	0.0887	0.0342	0.0494	0.0117	0.0665
emotions	0.1500	0.2361	0.3500	0.4917	0.3917	0.4360	0.4272	0.5143
enron	0.0175	0.0529	0.2956	0.5291	0.3403	0.4142	0.1364	0.4910
EukaryoteGO	0.6203	0.0246	0.7661	0.7761	0.9148	0.8398	0.5404	0.7951
EukaryotePseAAC	0.0142	0.0524	0.0142	0.0142	0.0142	0.0142	0.0063	0.0240
flags	0.3500	0.2286	0.6200	0.7550	0.6967	0.7247	0.5992	0.7377
foodtruck	0.3171	0.1402	0.4734	0.7195	0.4999	0.5899	0.1268	0.4889
genbase	0.9701	0.0011	0.9876	0.9950	0.9925	0.9938	0.6296	0.9877
GnegativeGO	0.9286	0.0089	0.9571	0.9643	0.9786	0.9714	0.8370	0.9662
GnegativePseAAC	0.5071	0.0750	0.5143	0.5214	0.5143	0.5178	0.2225	0.6348
GpositiveGO	0.8846	0.0385	0.9038	0.9038	0.9231	0.9134	0.8619	0.9245
GpositivePseAAC	0.4423	0.1971	0.4423	0.4423	0.4423	0.4423	0.3476	0.5287
HumanGO	0.5016	0.0544	0.6705	0.6935	0.8344	0.7574	0.5378	0.7168
HumanPseAAC	0.0161	0.0838	0.0161	0.0161	0.0161	0.0161	0.0071	0.0267
Image	0.0800	0.2170	0.0983	0.1133	0.1000	0.1062	0.1561	0.1811
IMDB-ECC-F	0.0031	0.0674	0.0046	0.0068	0.0047	0.0056	0.0069	0.0077
IMDB-F	0.0050	0.0723	0.0090	0.0136	0.0097	0.0114	0.0161	0.0177
LLOG-F	0.0574	0.0174	0.0820	0.1066	0.0820	0.0927	0.0196	0.1405
mediamill	0.0618	0.0335	0.3962	0.7424	0.4192	0.5358	0.0517	0.5014
medical	0.6837	0.0102	0.7577	0.7857	0.7976	0.7916	0.2959	0.8193
Music	0.1333	0.2389	0.3639	0.5694	0.4083	0.4756	0.4578	0.5426
NUS-WIDE-bow	0.0014	0.0266	0.0025	0.0047	0.0026	0.0034	0.0017	0.0057
NUS-WIDE-cVLADplus	0.0005	0.0267	0.0012	0.0020	0.0013	0.0016	0.0014	0.0039
OHSUMED-F	0.2161	0.0559	0.3657	0.4922	0.4058	0.4448	0.3334	0.4921
PlantGO	0.4694	0.0561	0.5663	0.5799	0.6565	0.6158	0.3505	0.6827
PlantPseAAC	0.0102	0.0944	0.0102	0.0102	0.0102	0.0102	0.0060	0.0177
rcv1subset1	0.0050	0.0290	0.0766	0.1972	0.0773	0.1111	0.0692	0.1256
REUTERS-K500-EX2	0.1633	0.0127	0.1852	0.2059	0.1924	0.1989	0.1182	0.2533
scene	0.1909	0.1494	0.2178	0.2344	0.2282	0.2313	0.3366	0.3571
SLASHDOT-F	0.2269	0.0449	0.2731	0.3047	0.2894	0.2969	0.2514	0.4006
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0179	0.0104	0.0778	0.1647	0.0869	0.1138	0.0288	0.1469
Stackex_coffee	0.0000	0.0191	0.0145	0.0435	0.0145	0.0217	0.0081	0.0357
Stackex_philosophy	0.0251	0.0094	0.0799	0.1535	0.0889	0.1126	0.0525	0.1484
tmc2007-500	0.1937	0.0741	0.4638	0.6455	0.5683	0.6044	0.4420	0.5819
VirusGO	0.8095	0.0397	0.8889	0.8889	0.9524	0.9195	0.7433	0.9057
VirusPseAAC	0.2857	0.1429	0.3095	0.3095	0.3333	0.3210	0.2619	0.4375
Water-quality	0.0094	0.3356	0.2220	0.6560	0.2458	0.3576	0.1536	0.3395
Yahoo_Arts	0.0748	0.0603	0.1012	0.1331	0.1033	0.1163	0.1038	0.1504
Yahoo_Business	0.5285	0.0274	0.6940	0.8836	0.7064	0.7852	0.2322	0.6947
Yahoo_Computers	0.3245	0.0419	0.4368	0.5472	0.4640	0.5022	0.2104	0.4843
Yahoo_Education	0.0740	0.0398	0.0866	0.1027	0.0875	0.0945	0.1579	0.1676
Yahoo_Entertainment	0.1901	0.0563	0.2065	0.2251	0.2069	0.2156	0.1809	0.3068
Yahoo_Health	0.3062	0.0448	0.4649	0.5727	0.5246	0.5476	0.2098	0.5115
Yahoo_Recreation	0.2089	0.0514	0.2312	0.2549	0.2333	0.2436	0.2609	0.3379
Yahoo_Reference	0.1980	0.0292	0.2136	0.2275	0.2165	0.2218	0.1326	0.3243
Yahoo_Science	0.1400	0.0321	0.1660	0.1921	0.1687	0.1797	0.1200	0.2380
Yahoo_Social	0.0545	0.0829	0.2218	0.2365	0.5076	0.3227	0.1782	0.2771
yeast	0.0455	0.2305	0.3515	0.7262	0.3587	0.4802	0.1695	0.4965
Yelp	0.3091	0.2167	0.5204	0.6627	0.5824	0.6200	0.5711	0.6568

Table 11: Detailed results for ECC

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4093	0.0405	0.5224	0.5267	0.6492	0.5816	0.6246	0.6206
3s-guardian1000	0.0323	0.3656	0.1720	0.1962	0.3226	0.2440	0.2694	0.2766
3s-inter3000	0.0000	0.2843	0.1765	0.1765	0.3529	0.2353	0.2545	0.2927
3s-reuters1000	0.1000	0.3000	0.2139	0.2306	0.3500	0.2780	0.2541	0.2895
amphibians	0.0556	0.3413	0.4041	0.6231	0.6513	0.6369	0.4484	0.5743
bibtex	0.1027	0.0151	0.2779	0.4085	0.3574	0.3813	0.2420	0.3775
birds	0.1538	0.1026	0.3697	0.4645	0.4876	0.4758	0.3650	0.4795
bookmarks	0.1938	0.0097	0.2507	0.3124	0.2683	0.2887	0.1325	0.2624
CAL500	0.0000	0.1508	0.1963	0.4910	0.2467	0.3283	0.1095	0.3276
corel16k001	0.0080	0.0205	0.0615	0.1446	0.0694	0.0937	0.0208	0.1108
Corel5k	0.0000	0.0100	0.0480	0.1525	0.0532	0.0789	0.0097	0.0932
emotions	0.3000	0.2278	0.5097	0.6278	0.6056	0.6165	0.6027	0.6204
enron	0.1287	0.0574	0.4005	0.5903	0.5040	0.5437	0.1704	0.5140
EukaryoteGO	0.6628	0.0223	0.7716	0.7894	0.8614	0.8238	0.7548	0.8008
EukaryotePseAAC	0.1532	0.0694	0.2695	0.2945	0.3739	0.3295	0.1411	0.3587
flags	0.1000	0.3286	0.4850	0.6433	0.6133	0.6280	0.5211	0.6290
foodtruck	0.0976	0.1707	0.3778	0.5528	0.5562	0.5545	0.1839	0.4815
genbase	0.9701	0.0011	0.9876	0.9876	1.0000	0.9937	0.6543	0.9878
GnegativeGO	0.9357	0.0089	0.9643	0.9750	0.9821	0.9786	0.8433	0.9662
GnegativePseAAC	0.3500	0.1330	0.5351	0.5393	0.7500	0.6274	0.3408	0.5940
GpositiveGO	0.8654	0.0337	0.9038	0.9038	0.9423	0.9227	0.8779	0.9346
GpositivePseAAC	0.1346	0.3413	0.3942	0.3942	0.6923	0.5024	0.4624	0.5035
HumanGO	0.5884	0.0469	0.7111	0.7379	0.8194	0.7765	0.6714	0.7411
HumanPseAAC	0.1736	0.1201	0.2899	0.3209	0.3971	0.3550	0.2045	0.3519
Image	0.4100	0.1890	0.5146	0.5692	0.5650	0.5671	0.5782	0.5791
IMDB-ECC-F	0.0094	0.0723	0.0178	0.0272	0.0214	0.0239	0.0144	0.0331
IMDB-F	0.0903	0.0838	0.2078	0.3670	0.2189	0.2743	0.0418	0.2520
LLOG-F	0.0984	0.0257	0.1717	0.2086	0.2309	0.2192	0.0825	0.2295
mediamill	0.0071	0.0409	0.2148	0.6777	0.2304	0.3439	0.0461	0.3141
medical	0.5816	0.0138	0.7104	0.7509	0.7976	0.7735	0.3183	0.7645
Music	0.1333	0.2444	0.4414	0.6528	0.5278	0.5837	0.5801	0.5849
NUS-WIDE-bow	0.0019	0.0271	0.0041	0.0076	0.0046	0.0057	0.0034	0.0086
NUS-WIDE-cVLADplus	0.0019	0.0271	0.0048	0.0081	0.0058	0.0068	0.0038	0.0124
OHSUMED-F	0.1565	0.0699	0.3499	0.4550	0.4576	0.4563	0.3591	0.4726
PlantGO	0.5306	0.0476	0.7075	0.7177	0.8741	0.7882	0.6994	0.7705
PlantPseAAC	0.1224	0.1497	0.1815	0.1925	0.2500	0.2175	0.1518	0.2281
rcv1subset1	0.0217	0.0301	0.1675	0.3518	0.1986	0.2539	0.0833	0.2348
REUTERS-K500-EX2	0.2067	0.0145	0.3439	0.3926	0.4490	0.4189	0.1873	0.4217
scene	0.5270	0.1314	0.5882	0.6030	0.6349	0.6185	0.6444	0.6275
SLASHDOT-F	0.3536	0.0461	0.4446	0.4833	0.5004	0.4917	0.3434	0.5294
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0119	0.0125	0.1404	0.2593	0.1955	0.2229	0.0649	0.2520
Stackex_coffee	0.0000	0.0262	0.1406	0.2478	0.2536	0.2507	0.0711	0.2449
Stackex_philosophy	0.0477	0.0118	0.1796	0.2738	0.2582	0.2658	0.0868	0.2805
tmc2007-500	0.1748	0.0782	0.4391	0.6108	0.5562	0.5822	0.4533	0.5527
VirusGO	0.7619	0.0556	0.8254	0.8810	0.8492	0.8648	0.6742	0.8511
VirusPseAAC	0.1905	0.2222	0.4381	0.4405	0.7381	0.5517	0.4370	0.5484
Water-quality	0.0094	0.3430	0.3534	0.5407	0.5086	0.5242	0.4780	0.5194
Yahoo_Arts	0.2029	0.0634	0.3356	0.4241	0.4062	0.4150	0.2691	0.4048
Yahoo_Business	0.5285	0.0272	0.7018	0.8681	0.7360	0.7966	0.1923	0.7100
Yahoo_Computers	0.2329	0.0445	0.4334	0.5098	0.5865	0.5454	0.2022	0.4992
Yahoo_Education	0.2369	0.0442	0.3776	0.4444	0.4747	0.4591	0.2475	0.4506
Yahoo_Entertainment	0.3582	0.0597	0.4975	0.5592	0.5972	0.5776	0.3010	0.5267
Yahoo_Health	0.2964	0.0410	0.5176	0.6462	0.6436	0.6449	0.1863	0.5830
Yahoo_Recreation	0.3281	0.0558	0.4497	0.5027	0.5351	0.5184	0.3792	0.5081
Yahoo_Reference	0.3873	0.0302	0.5037	0.5374	0.5987	0.5664	0.2298	0.5647
Yahoo_Science	0.2224	0.0357	0.3445	0.4007	0.4311	0.4154	0.2707	0.4231
Yahoo_Social	0.4538	0.0238	0.5942	0.6568	0.6893	0.6727	0.2674	0.6271
yeast	0.1364	0.2042	0.4539	0.6923	0.5281	0.5992	0.3696	0.6028
Yelp	0.3539	0.2165	0.6382	0.6943	0.8340	0.7578	0.7076	0.7286

Table 12: Detailed results for BAGGING(BR)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5563	0.0306	0.5189	0.5813	0.5901	0.5720	0.6711	0.6499
3s-guardian1000	0.0245	0.1984	0.0448	0.1013	0.0106	0.0289	0.0902	0.1361
3s-inter3000	0.0326	0.2212	0.0438	0.0525	0.1162	0.1188	0.1248	0.1130
3s-reuters1000	0.0491	0.2021	0.0041	0.0252	0.0187	0.0372	0.0245	0.0302
amphibians	0.0000	0.2867	0.5167	0.6655	0.8997	0.7483	0.5731	0.7399
bibtex	0.1617	0.0340	0.3097	0.5289	0.3668	0.4478	0.2434	0.4018
birds	0.2287	0.0907	0.3867	0.5256	0.3952	0.4458	0.3191	0.4879
bookmarks	0.2079	0.0000	0.2491	0.2654	0.2721	0.2706	0.1033	0.1895
CAL500	0.0000	0.1861	0.1840	0.5327	0.2488	0.3757	0.0558	0.3619
corel16k001	0.0000	0.0134	0.0301	0.0103	0.0428	0.0426	0.0000	0.0086
Corel5k	0.0038	0.0387	0.0442	0.1195	0.0824	0.0923	0.0000	0.1162
emotions	0.3191	0.1588	0.5705	0.6409	0.5923	0.6545	0.6191	0.6887
enron	0.1539	0.0610	0.4247	0.6959	0.4707	0.5464	0.1838	0.5469
EukaryoteGO	0.7295	0.0555	0.7644	0.8008	0.8493	0.8266	0.7243	0.8340
EukaryotePseAAC	0.1071	0.0274	0.1012	0.1479	0.1494	0.1601	0.0587	0.2092
flags	0.2204	0.3042	0.5553	0.6537	0.7460	0.7259	0.6360	0.7449
foodtruck	0.2968	0.1546	0.5078	0.6533	0.5228	0.6044	0.2199	0.5217
genbase	0.9649	0.0229	0.9799	1.0000	0.9835	0.9811	0.6412	0.9462
GnegativeGO	0.9206	0.0000	0.9524	0.9401	0.9362	1.0000	0.7933	0.9590
GnegativePseAAC	0.5915	0.0914	0.6349	0.5904	0.6109	0.5824	0.2645	0.7242
GpositiveGO	0.8771	0.0558	0.8707	0.9175	0.8808	0.8734	0.8370	0.9393
GpositivePseAAC	0.5562	0.1346	0.5427	0.4973	0.5571	0.5574	0.4052	0.6330
HumanGO	0.6014	0.0474	0.7072	0.7201	0.8008	0.7624	0.6402	0.7094
HumanPseAAC	0.1128	0.0741	0.1081	0.1663	0.0883	0.1389	0.0153	0.1626
Image	0.5442	0.1654	0.5843	0.6619	0.6150	0.6437	0.6936	0.6681
IMDB-ECC-F	0.0359	0.0851	0.0664	0.0721	0.0782	0.0604	0.0370	0.0562
IMDB-F	0.0000	0.0618	0.0201	0.0390	0.0681	0.0663	0.0162	0.0411
LLOG-F	0.1065	0.0606	0.1244	0.1191	0.0963	0.0919	0.0383	0.1849
mediamill	0.0375	0.0646	0.3795	0.6559	0.3771	0.5289	0.0497	0.4404
medical	0.6824	0.0000	0.7590	0.8311	0.8302	0.8060	0.3005	0.8008
Music	0.1983	0.2521	0.4737	0.6322	0.5663	0.5778	0.6457	0.6455
NUS-WIDE-bow	0.0119	0.0753	0.0321	0.0390	0.0215	0.0000	0.0034	0.0306
NUS-WIDE-cVLADplus	0.0178	0.0184	0.0000	0.0000	0.0306	0.0163	0.0000	0.0228
OHSUMED-F	0.2462	0.0488	0.4401	0.5535	0.4322	0.5142	0.3531	0.5262
PlantGO	0.6240	0.0268	0.7327	0.7387	0.7828	0.7400	0.6253	0.7423
PlantPseAAC	0.0232	0.1045	0.0305	0.0660	0.0980	0.0965	0.0160	0.0926
rcv1subset1	0.0123	0.0552	0.1846	0.3905	0.1907	0.2554	0.1579	0.3219
REUTERS-K500-EX2	0.3218	0.0178	0.3915	0.4196	0.4170	0.4466	0.2363	0.5086
scene	0.6046	0.1079	0.6168	0.6513	0.6346	0.6267	0.7640	0.7209
SLASHDOT-F	0.3499	0.0434	0.4015	0.4184	0.4701	0.4248	0.3168	0.5309
solar_flare-L3	0.1606	0.4400	0.4006	0.3598	0.5844	0.4814	0.3118	0.4837
Stackex_chess	0.0379	0.0458	0.2068	0.3272	0.1891	0.2583	0.0831	0.3237
Stackex_coffee	0.0000	0.0317	0.0000	0.0898	0.0600	0.0035	0.0264	0.0904
Stackex_philosophy	0.0923	0.0163	0.2036	0.3439	0.2305	0.2997	0.0988	0.3491
tmc2007-500	0.2058	0.0996	0.4906	0.6690	0.5891	0.6519	0.5304	0.6291
VirusGO	0.8318	0.0283	0.8561	0.9047	0.8817	0.9183	0.6849	0.8532
VirusPseAAC	0.4054	0.1032	0.5609	0.5611	0.6501	0.5625	0.3517	0.6637
Water-quality	0.0349	0.2713	0.4163	0.5992	0.5026	0.5958	0.4744	0.5975
Yahoo_Arts	0.2178	0.0524	0.3161	0.4056	0.3364	0.3445	0.3155	0.4196
Yahoo_Business	0.5476	0.0375	0.6980	0.8674	0.7210	0.7714	0.3863	0.7557
Yahoo_Computers	0.3227	0.0301	0.4019	0.4951	0.4569	0.4761	0.2832	0.4932
Yahoo_Education	0.2109	0.0165	0.2614	0.2523	0.2774	0.2341	0.2151	0.3674
Yahoo_Entertainment	0.3741	0.0356	0.4027	0.4471	0.4505	0.4502	0.3680	0.4971
Yahoo_Health	0.3994	0.0784	0.5815	0.6921	0.6540	0.6526	0.2883	0.6143
Yahoo_Recreation	0.3567	0.0273	0.4417	0.4416	0.4251	0.4777	0.4455	0.5441
Yahoo_Reference	0.3663	0.0242	0.3846	0.4436	0.4267	0.4205	0.2466	0.5041
Yahoo_Science	0.2870	0.0345	0.3427	0.3797	0.3671	0.3634	0.3092	0.4054
Yahoo_Social	0.4957	0.0109	0.5263	0.5867	0.5714	0.5398	0.3227	0.5960
yeast	0.1734	0.1939	0.4804	0.7151	0.5711	0.6868	0.3937	0.6430
Yelp	0.5416	0.1671	0.7439	0.8320	0.8566	0.7951	0.7885	0.8209

Table 13: Detailed results for DL

Dataset	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.0378	0.0672	0.0396	0.0404	0.0407	0.0405	0.0531	0.0581
3s-guardian1000	0.0645	0.3925	0.3247	0.3301	0.7097	0.4506	0.4243	0.4252
3s-inter3000	0.0000	0.2065	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3s-reuters1000	0.0333	0.3611	0.0944	0.1056	0.1667	0.1293	0.1487	0.1558
amphibians	0.0555	0.2310	0.5608	0.7308	0.7791	0.7389	0.6041	0.7396
bibtex	0.0000	0.0151	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
birds	0.0000	0.2483	0.0727	0.0861	0.1974	0.1199	0.0706	0.1154
bookmarks10%	0.1804	0.0089	0.1944	0.2057	0.1978	0.1990	0.0639	0.2105
CAL500	0.0000	0.3792	0.1552	0.1889	0.4699	0.2694	0.1705	0.2683
corel16k001	0.0000	0.0188	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Corel5k	0.0000	0.0095	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
emotions	0.0333	0.4111	0.2697	0.3072	0.4583	0.3679	0.3720	0.4080
enron	0.0000	0.1103	0.1813	0.2685	0.3692	0.3109	0.0418	0.3141
EukaryoteGO	0.2986	0.0408	0.3402	0.3610	0.3614	0.3612	0.1223	0.4807
EukaryotePseAAC	0.0425	0.0524	0.0470	0.0515	0.0470	0.0491	0.0181	0.0820
flags	0.3506	0.2313	0.6275	0.7622	0.6965	0.7182	0.6057	0.7445
foodtruck	0.0000	0.2866	0.2810	0.3439	0.7188	0.4652	0.2284	0.4291
genbase	0.0000	0.2642	0.0090	0.0101	0.0373	0.0159	0.0045	0.0165
GnegativeGO	0.3786	0.1384	0.3857	0.3929	0.3857	0.3893	0.0795	0.4151
GnegativePseAAC	0.4000	0.0866	0.4274	0.4286	0.4536	0.4407	0.1713	0.5689
GpositiveGO	0.8826	0.0385	0.9085	0.8984	0.9205	0.9144	0.8639	0.9374
GpositivePseAAC	0.2115	0.2837	0.2212	0.2212	0.2308	0.2259	0.1854	0.2892
HumanGO	0.1897	0.0712	0.2074	0.2251	0.2074	0.2159	0.0679	0.3111
HumanPseAAC	0.0322	0.0870	0.0370	0.0386	0.0402	0.0394	0.0150	0.0642
Image	0.3300	0.1910	0.3817	0.4075	0.4092	0.4083	0.4530	0.4960
IMDB-ECC-F10%	0.0031	0.0675	0.0046	0.0067	0.0047	0.0055	0.0068	0.0077
IMDB-F10%	0.0050	0.0731	0.0089	0.0136	0.0098	0.0114	0.0163	0.0178
LLOG-F	0.0000	0.1600	0.0145	0.0152	0.1175	0.0270	0.0045	0.0266
mediamill10%	0.0623	0.0331	0.4006	0.7495	0.4195	0.5428	0.0522	0.5060
medical	0.0000	0.1662	0.0376	0.0398	0.2007	0.0665	0.0279	0.0662
Music	0.0833	0.3444	0.3319	0.4486	0.4583	0.4534	0.3888	0.4655
NUS-WIDE-bow10%	0.0014	0.0266	0.0025	0.0047	0.0027	0.0033	0.0017	0.0056
NUS-WIDE-cVLADplus10%	0.0005	0.0271	0.0012	0.0020	0.0014	0.0016	0.0014	0.0039
OHSUMED-F	0.1163	0.0639	0.1830	0.2563	0.1915	0.2192	0.0927	0.2791
PlantGO	0.0204	0.2551	0.1032	0.1054	0.2143	0.1413	0.0596	0.1429
PlantPseAAC	0.0000	0.3656	0.0940	0.0976	0.3486	0.1525	0.0889	0.1502
rcv1subset1	0.0017	0.0306	0.0177	0.0458	0.0181	0.0259	0.0047	0.0323
REUTERS-K500-EX2	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
scene	0.4108	0.1314	0.4564	0.4806	0.4793	0.4799	0.5560	0.5622
SLASHDOT-F	0.0079	0.0603	0.0079	0.0079	0.0079	0.0079	0.0040	0.0118
solar_flare-L3	0.1986	0.4025	0.3957	0.3944	0.6069	0.4801	0.3228	0.4990
Stackex_chess	0.0060	0.0130	0.0060	0.0060	0.0060	0.0060	0.0006	0.0040
Stackex_coffee	0.0000	0.3775	0.0196	0.0199	0.4203	0.0381	0.0180	0.0378
Stackex_philosophy	0.0000	0.0097	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
tmc2007-500	0.2787	0.0633	0.5191	0.6869	0.6012	0.6412	0.4024	0.6284
VirusGO	0.0000	0.3651	0.0833	0.1190	0.1349	0.1265	0.0764	0.1481
VirusPseAAC	0.0476	0.3095	0.3294	0.3373	0.7857	0.4720	0.3454	0.4800
Water-quality	0.0000	0.4340	0.2520	0.4113	0.3920	0.4014	0.3496	0.4070
Yahoo_Arts	0.1282	0.0583	0.1678	0.2106	0.1734	0.1902	0.0894	0.2335
Yahoo_Business	0.5490	0.0272	0.6950	0.8699	0.7013	0.7765	0.0920	0.6955
Yahoo_Computers	0.3655	0.0358	0.4324	0.5186	0.4370	0.4743	0.0913	0.4842
Yahoo_Education	0.1039	0.0400	0.1272	0.1499	0.1317	0.1402	0.0568	0.2133
Yahoo_Entertainment	0.3016	0.0503	0.3529	0.4020	0.3584	0.3790	0.2179	0.4586
Yahoo_Health	0.3160	0.0379	0.4073	0.5086	0.4186	0.4592	0.1515	0.4904
Yahoo_Recreation	0.1917	0.0538	0.2307	0.2681	0.2386	0.2525	0.2002	0.3276
Yahoo_Reference	0.3599	0.0284	0.3843	0.4085	0.3855	0.3967	0.0392	0.4663
Yahoo_Science	0.0622	0.0346	0.0805	0.1011	0.0826	0.0909	0.0235	0.1310
Yahoo_Social	0.4645	0.0235	0.4989	0.5359	0.5020	0.5184	0.0517	0.5405
yeast	0.0207	0.2692	0.3641	0.5636	0.4895	0.5240	0.2849	0.5235
Yelp	0.3330	0.2026	0.5787	0.7015	0.6778	0.6894	0.5288	0.7001

Table 14: Detailed results for PYRAMID SVM

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5581	0.0343	0.6793	0.6821	0.8107	0.7408	0.7112	0.7074
3s-guardian1000	0.3548	0.2204	0.4032	0.4516	0.4032	0.4260	0.1822	0.4058
3s-inter3000	0.2941	0.2157	0.3529	0.3824	0.3824	0.3824	0.1703	0.3889
3s-reuters1000	0.1333	0.3000	0.1333	0.1333	0.1333	0.1333	0.0392	0.1290
amphibians	0.0000	0.2778	0.4931	0.6667	0.7709	0.7150	0.5501	0.6789
bibtex	0.2002	0.0000	0.3883	0.5294	0.4330	0.4717	0.3382	0.4912
birds	0.2051	0.0810	0.3504	0.4573	0.3991	0.4262	0.2898	0.4545
bookmarks	0.1997	0.0000	0.2678	0.2595	0.2421	0.2849	0.1011	0.3062
CAL500	0.0000	0.1774	0.2783	0.4147	0.4588	0.4357	0.1043	0.4342
corel16k001	0.0194	0.0355	0.1470	0.1502	0.3747	0.2281	0.0639	0.2155
Corel5k	0.0197	0.0102	0.1836	0.2810	0.2744	0.2927	0.0332	0.2759
emotions	0.3333	0.1972	0.5922	0.6889	0.7417	0.7143	0.6664	0.6953
enron	0.1681	0.0403	0.4411	0.6729	0.5319	0.5775	0.1566	0.5448
EukaryoteGO	0.7036	0.0202	0.7741	0.7966	0.8219	0.8091	0.6511	0.8082
EukaryotePseAAC	0.3376	0.0407	0.4268	0.4594	0.4685	0.4913	0.1977	0.4618
flags	0.2000	0.2429	0.6002	0.7383	0.7400	0.7392	0.5939	0.7344
foodtruck	0.3659	0.1402	0.5100	0.7175	0.5356	0.6134	0.1557	0.5241
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9214	0.0143	0.9393	0.9500	0.9464	0.9482	0.8167	0.9452
GnegativePseAAC	0.6571	0.0679	0.7095	0.7250	0.7464	0.7356	0.4589	0.7379
GpositiveGO	0.9038	0.0337	0.9231	0.9327	0.9327	0.9327	0.9453	0.9333
GpositivePseAAC	0.7885	0.0913	0.7981	0.7981	0.8077	0.8029	0.6253	0.8155
HumanGO	0.6270	0.0416	0.7412	0.7733	0.8237	0.7977	0.7111	0.7615
HumanPseAAC	0.2733	0.0955	0.3427	0.3725	0.3875	0.3798	0.1697	0.3918
Image	0.4450	0.1860	0.5917	0.6367	0.7017	0.6676	0.6299	0.6280
IMDB-ECC-F	0.0000	0.2074	0.1595	0.1743	0.5749	0.2676	0.0698	0.2654
IMDB-F	0.0000	0.2097	0.1719	0.1890	0.5984	0.2873	0.0778	0.2850
LLOG-F	0.2292	0.0000	0.2740	0.2777	0.2829	0.2734	0.0509	0.3439
mediamill	0.0887	0.0565	0.4837	0.6796	0.6338	0.6448	0.0584	0.5881
medical	0.7143	0.0084	0.7925	0.8418	0.8146	0.8280	0.3110	0.8452
Music	0.2667	0.1694	0.5972	0.7806	0.7083	0.7427	0.7223	0.7313
NUS-WIDE-bow	0.0589	0.0250	0.2405	0.2775	0.3956	0.3045	0.0264	0.3245
NUS-WIDE-cVLADplus	0.2036	0.0253	0.3821	0.5022	0.4535	0.4766	0.0662	0.4572
OHSUMED-F	0.2383	0.0623	0.4581	0.5854	0.5640	0.5745	0.3967	0.5537
PlantGO	0.6667	0.0434	0.7292	0.7448	0.7726	0.7584	0.6347	0.7642
PlantPseAAC	0.2959	0.1029	0.3325	0.3554	0.3503	0.3529	0.1525	0.3795
rcv1subset1	0.1208	0.0371	0.3508	0.5319	0.4278	0.4512	0.2351	0.4478
REUTERS-K500-EX2	0.3654	0.0000	0.5031	0.5220	0.5928	0.5808	0.2627	0.5461
scene	0.5228	0.1065	0.6995	0.7265	0.8527	0.7845	0.7508	0.7399
SLASHDOT-F	0.4339	0.0440	0.5249	0.5719	0.5754	0.5736	0.3799	0.5783
solar_flare-L3	0.2000	0.2667	0.6000	0.6000	1.0000	0.7500	0.4722	0.7143
Stackex_chess	0.0632	0.0013	0.1907	0.3313	0.2518	0.3248	0.0739	0.3400
Stackex_coffee	0.0870	0.0198	0.1467	0.2696	0.1522	0.1945	0.0314	0.2000
Stackex_philosophy	0.0890	0.0000	0.2245	0.3659	0.2729	0.3282	0.1066	0.3278
tmc2007-500	0.2499	0.0847	0.5720	0.6935	0.8100	0.7210	0.5913	0.6774
VirusGO	0.8571	0.0397	0.8968	0.9048	0.9286	0.9165	0.7100	0.9020
VirusPseAAC	0.3810	0.1429	0.5476	0.5952	0.6667	0.6289	0.3814	0.6250
Water-quality	0.0094	0.2837	0.4123	0.6781	0.5366	0.5991	0.5006	0.5860
Yahoo_Arts	0.2644	0.0722	0.3714	0.4455	0.4421	0.4438	0.2311	0.3960
Yahoo_Business	0.5586	0.0389	0.7469	0.8830	0.7855	0.8321	0.3795	0.7296
Yahoo_Computers	0.4082	0.0046	0.4952	0.5339	0.5287	0.5319	0.2897	0.5404
Yahoo_Education	0.2662	0.0383	0.3699	0.4206	0.4381	0.4226	0.2953	0.4374
Yahoo_Entertainment	0.3354	0.0710	0.4839	0.5379	0.6624	0.5689	0.3512	0.5024
Yahoo_Health	0.3518	0.0422	0.5186	0.6036	0.6212	0.6123	0.2566	0.5828
Yahoo_Recreation	0.3783	0.0584	0.4467	0.5078	0.5324	0.5178	0.3734	0.4770
Yahoo_Reference	0.4019	0.0264	0.4973	0.5254	0.5429	0.5058	0.2307	0.5105
Yahoo_Science	0.3003	0.0218	0.3426	0.4429	0.4645	0.4255	0.2038	0.4113
Yahoo_Social	0.5705	0.0035	0.6215	0.6805	0.7000	0.6714	0.2839	0.6333
yeast	0.2149	0.1892	0.5744	0.6911	0.7159	0.7033	0.4535	0.6917
Yelp	0.5354	0.1328	0.7635	0.8368	0.8804	0.8580	0.7750	0.8207

Table 15: Detailed results for PYRAMID DT

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4528	0.0380	0.5542	0.5566	0.6758	0.6105	0.6419	0.6459
3s-guardian1000	0.0968	0.3118	0.1425	0.1720	0.1613	0.1665	0.1587	0.2162
3s-inter3000	0.0000	0.2549	0.0294	0.0294	0.0588	0.0392	0.0303	0.0714
3s-reuters1000	0.1667	0.2444	0.2722	0.2778	0.3833	0.3221	0.3671	0.3529
amphibians	0.0556	0.3095	0.4817	0.5971	0.8198	0.6910	0.6241	0.6929
bibtex	0.1457	0.0389	0.3593	0.4661	0.4685	0.4700	0.3516	0.4575
birds	0.1795	0.0931	0.3590	0.4658	0.4487	0.4571	0.3551	0.5036
bookmarks	0.1704	0.0302	0.2766	0.3055	0.3374	0.3379	0.1583	0.2867
CAL500	0.0000	0.1690	0.2290	0.4129	0.3357	0.3703	0.1453	0.3708
corel16k001	0.0003	0.0240	0.0743	0.1522	0.1921	0.1769	0.0598	0.1797
Corel5k	0.0040	0.0162	0.1164	0.1740	0.2079	0.1895	0.0458	0.1980
emotions	0.2500	0.2194	0.5256	0.6264	0.6667	0.6459	0.6338	0.6580
enron	0.0936	0.0682	0.4119	0.5329	0.5957	0.5626	0.2054	0.5217
EukaryoteGO	0.6843	0.0220	0.7779	0.7969	0.8557	0.8252	0.7592	0.8013
EukaryotePseAAC	0.1686	0.0665	0.2592	0.2832	0.3350	0.3070	0.1225	0.3416
flags	0.2500	0.2571	0.6169	0.7217	0.7508	0.7360	0.5994	0.7273
foodtruck	0.1220	0.1870	0.4043	0.5642	0.6465	0.6026	0.2842	0.5054
genbase	0.9701	0.0011	0.9876	0.9876	1.0000	0.9937	0.6543	0.9878
GnegativeGO	0.9286	0.0098	0.9607	0.9750	0.9786	0.9768	0.8401	0.9627
GnegativePseAAC	0.5286	0.1000	0.6042	0.6042	0.6929	0.6455	0.3696	0.6410
GpositiveGO	0.9307	0.0438	0.9219	0.9068	0.9279	0.9209	0.8737	0.9434
GpositivePseAAC	0.4615	0.2260	0.4872	0.4872	0.5192	0.5027	0.3834	0.5347
HumanGO	0.6206	0.0439	0.7211	0.7433	0.8060	0.7734	0.7060	0.7503
HumanPseAAC	0.1640	0.1174	0.2607	0.2846	0.3489	0.3135	0.1710	0.3232
Image	0.4200	0.1840	0.5535	0.5967	0.6492	0.6218	0.6147	0.6151
IMDB-ECC-F	0.0409	0.1184	0.2026	0.2803	0.3633	0.3164	0.1051	0.2708
IMDB-F	0.0481	0.1144	0.2100	0.2996	0.3518	0.3236	0.1101	0.2872
LLOG-F	0.1236	0.0386	0.2364	0.2884	0.2973	0.3027	0.1200	0.2847
mediamill	0.0687	0.0397	0.3777	0.5426	0.5395	0.5712	0.1087	0.5407
medical	0.6327	0.0111	0.7469	0.7900	0.8129	0.8013	0.3681	0.8048
Music	0.1667	0.2333	0.5139	0.6403	0.7000	0.6688	0.6586	0.6613
NUS-WIDE-bow	0.0599	0.0381	0.2257	0.2925	0.3725	0.3277	0.0421	0.3101
NUS-WIDE-cVLADplus	0.0747	0.0374	0.2511	0.3244	0.4022	0.3591	0.0546	0.3304
OHSUMED-F	0.1651	0.0692	0.3830	0.4803	0.5275	0.5028	0.4084	0.5141
PlantGO	0.6250	0.0460	0.7135	0.7344	0.7778	0.7555	0.6585	0.7558
PlantPseAAC	0.1633	0.1190	0.2134	0.2355	0.2500	0.2426	0.1584	0.2784
rcv1subset1	0.0811	0.0530	0.3305	0.4258	0.4831	0.4643	0.2730	0.4683
REUTERS-K500-EX2	0.2423	0.0158	0.4058	0.4448	0.5581	0.4951	0.2648	0.4782
scene	0.5353	0.1134	0.6483	0.6708	0.7407	0.7040	0.7065	0.6963
SLASHDOT-F	0.3228	0.0504	0.4271	0.4705	0.4960	0.4829	0.3635	0.5065
solar_flare-L3	0.4000	0.2667	0.6667	0.6667	1.0000	0.8000	0.5079	0.7143
Stackex_chess	0.0228	0.0000	0.1807	0.3298	0.2921	0.3215	0.1097	0.3313
Stackex_coffee	0.0770	0.0391	0.1697	0.2350	0.1959	0.2197	0.0631	0.2086
Stackex_philosophy	0.0477	0.0144	0.2346	0.3347	0.4044	0.3663	0.1109	0.3378
tmc2007-500	0.1881	0.0791	0.4996	0.6193	0.6864	0.6511	0.5465	0.6138
VirusGO	0.8095	0.0556	0.8571	0.8810	0.8810	0.8810	0.6321	0.8511
VirusPseAAC	0.1905	0.1905	0.3135	0.3175	0.4524	0.3731	0.2976	0.4545
Water-quality	0.0189	0.3194	0.4204	0.5653	0.6160	0.5895	0.5524	0.5878
Yahoo_Arts	0.1827	0.0826	0.3556	0.4171	0.5385	0.4755	0.4082	0.4231
Yahoo_Business	0.4764	0.0352	0.7004	0.8218	0.7983	0.8089	0.3556	0.7197
Yahoo_Computers	0.3102	0.0346	0.4853	0.5349	0.6237	0.6096	0.3567	0.5449
Yahoo_Education	0.2389	0.0502	0.3911	0.4500	0.5512	0.4921	0.2510	0.4551
Yahoo_Entertainment	0.3606	0.0639	0.5214	0.5529	0.6528	0.6038	0.4265	0.5679
Yahoo_Health	0.3961	0.0236	0.6015	0.6710	0.7226	0.6957	0.3628	0.6240
Yahoo_Recreation	0.3366	0.0732	0.5020	0.5365	0.6580	0.6058	0.4627	0.5687
Yahoo_Reference	0.4089	0.0239	0.5340	0.5869	0.6739	0.6197	0.2494	0.5699
Yahoo_Science	0.2180	0.0640	0.3980	0.4059	0.5633	0.5019	0.3363	0.4607
Yahoo_Social	0.4875	0.0419	0.6175	0.6608	0.7464	0.7265	0.3568	0.6384
yeast	0.0579	0.2479	0.4266	0.6041	0.5619	0.5823	0.3787	0.5727
Yelp	0.4965	0.1553	0.7164	0.7945	0.8188	0.8065	0.7500	0.7856

Table 16: Detailed results for PYRAMID RF

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4234	0.0116	0.5854	0.5407	0.8321	0.6751	0.5807	0.5593
3s-guardian1000	0.0323	0.2097	0.0645	0.0968	0.0645	0.0774	0.2000	0.1333
3s-inter3000	0.0000	0.1961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3s-reuters1000	0.0333	0.1944	0.0333	0.0333	0.0333	0.0333	0.0417	0.0541
amphibians	0.1111	0.2937	0.4708	0.6454	0.6825	0.6634	0.5396	0.6542
bibtex	0.1366	0.0206	0.3601	0.4451	0.4425	0.4799	0.3434	0.4793
birds	0.0769	0.1039	0.2650	0.3671	0.3765	0.3717	0.2923	0.4031
bookmarks	0.2030	0.0307	0.2497	0.3090	0.3433	0.3575	0.1796	0.2703
CAL500	0.0000	0.1964	0.1806	0.4188	0.3137	0.3954	0.1600	0.4098
corel16k001	0.0119	0.0000	0.0865	0.1475	0.1735	0.1556	0.1178	0.1522
Corel5k	0.0000	0.0000	0.1017	0.2490	0.1474	0.1958	0.0436	0.1609
emotions	0.1667	0.2306	0.3792	0.4889	0.4583	0.4731	0.5172	0.5654
enron	0.1450	0.0602	0.4769	0.6380	0.5811	0.5887	0.1971	0.5266
EukaryoteGO	0.7213	0.0606	0.8103	0.8252	0.9115	0.8419	0.8127	0.7913
EukaryotePseAAC	0.1609	0.1184	0.2725	0.2502	0.4352	0.3065	0.0891	0.3751
flags	0.3000	0.2429	0.6025	0.7017	0.7092	0.7054	0.6159	0.7302
foodtruck	0.2195	0.1707	0.4283	0.6248	0.5812	0.6022	0.2083	0.4940
genbase	0.9552	0.0017	0.9801	0.9876	0.9925	0.9900	0.6173	0.9816
GnegativeGO	0.9429	0.0071	0.9714	0.9821	0.9893	0.9857	0.8463	0.9730
GnegativePseAAC	0.5429	0.1062	0.5905	0.6083	0.6250	0.6166	0.2462	0.6020
GpositiveGO	0.9038	0.0385	0.9135	0.9135	0.9231	0.9182	0.8619	0.9245
GpositivePseAAC	0.5385	0.2067	0.5481	0.5481	0.5577	0.5528	0.4095	0.5743
HumanGO	0.5659	0.0524	0.7093	0.7395	0.8151	0.7763	0.6005	0.7259
HumanPseAAC	0.0547	0.1516	0.2580	0.2696	0.4486	0.3367	0.0637	0.3387
Image	0.0000	0.5260	0.2572	0.2687	0.7267	0.3923	0.3703	0.3898
IMDB-ECC-F	0.0000	0.0940	0.2242	0.2714	0.5025	0.3610	0.0440	0.3500
IMDB-F	0.0217	0.1224	0.2125	0.2622	0.4971	0.3216	0.0880	0.3109
LLOG-F	0.0935	0.0128	0.1337	0.1472	0.1587	0.1467	0.0414	0.1884
mediamill	0.0398	0.0592	0.3968	0.6001	0.5521	0.5756	0.0388	0.5435
medical	0.6734	0.0091	0.7871	0.8258	0.8492	0.8589	0.3316	0.8392
Music	0.1500	0.2417	0.4164	0.6150	0.4861	0.5430	0.5305	0.5797
NUS-WIDE-bow	0.0815	0.0611	0.2451	0.2963	0.3867	0.3112	0.0185	0.2898
NUS-WIDE-cVLADplus	0.0983	0.0360	0.2473	0.3298	0.4080	0.3541	0.0478	0.3363
OHSUMED-F	0.1547	0.1085	0.4073	0.5077	0.6341	0.5566	0.4375	0.5164
PlantGO	0.5312	0.0582	0.5799	0.6094	0.6024	0.6059	0.3813	0.6492
PlantPseAAC	0.2143	0.1471	0.2398	0.2415	0.2806	0.2596	0.0693	0.2445
rcv1subset1	0.0602	0.0110	0.3244	0.4473	0.4768	0.4804	0.2539	0.4103
REUTERS-K500-EX2	0.0131	0.0481	0.0974	0.0771	0.6674	0.2361	0.2117	0.2577
scene	0.4357	0.1750	0.5107	0.5294	0.5705	0.5492	0.5473	0.5358
SLASHDOT-F	0.3016	0.0428	0.3638	0.3986	0.3920	0.3953	0.2883	0.4855
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0412	0.0115	0.2113	0.2821	0.2839	0.3293	0.1385	0.3257
Stackex_coffee	0.0205	0.0160	0.0394	0.0765	0.0147	0.0205	0.0229	0.0595
Stackex_philosophy	0.0559	0.0211	0.1992	0.3341	0.3861	0.3607	0.1205	0.3150
tmc2007-500	0.2370	0.0652	0.5196	0.6609	0.6594	0.6349	0.5135	0.6011
VirusGO	0.8571	0.0317	0.9127	0.9127	0.9524	0.9321	0.7433	0.9231
VirusPseAAC	0.2381	0.1905	0.3849	0.4167	0.5714	0.4819	0.4055	0.5200
Water-quality	0.0189	0.3794	0.3802	0.5024	0.6018	0.5476	0.4138	0.5412
Yahoo_Arts	0.1455	0.0214	0.3350	0.4404	0.5365	0.5025	0.3434	0.4613
Yahoo_Business	0.4671	0.0096	0.7130	0.8113	0.8390	0.7740	0.3358	0.7335
Yahoo_Computers	0.3227	0.0548	0.5070	0.5972	0.6296	0.5770	0.3810	0.5287
Yahoo_Education	0.2358	0.0686	0.3864	0.4426	0.5528	0.4784	0.2582	0.4364
Yahoo_Entertainment	0.3177	0.1033	0.5281	0.5598	0.6911	0.5684	0.3684	0.5602
Yahoo_Health	0.3692	0.0738	0.5355	0.6573	0.6868	0.6800	0.3446	0.6656
Yahoo_Recreation	0.3647	0.1108	0.5036	0.5557	0.6507	0.6080	0.4250	0.4932
Yahoo_Reference	0.4107	0.0275	0.5412	0.6194	0.6698	0.6073	0.2745	0.5342
Yahoo_Science	0.2479	0.0260	0.3885	0.4485	0.5552	0.4739	0.3531	0.4483
Yahoo_Social	0.5043	0.0414	0.6333	0.6610	0.7344	0.7333	0.3857	0.6412
yeast	0.0248	0.3022	0.4369	0.5003	0.7491	0.5999	0.3179	0.5911
Yelp	0.3440	0.2010	0.6188	0.7096	0.7565	0.7323	0.6766	0.7280

Table 17: Detailed results for PYRAMID NBC

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.2770	0.0589	0.5003	0.5026	0.7645	0.6065	0.5934	0.5697
3s-guardian1000	0.0968	0.2527	0.1586	0.1747	0.2097	0.1906	0.1639	0.2540
3s-inter3000	0.0000	0.1961	0.0588	0.0588	0.1176	0.0784	0.0741	0.1667
3s-reuters1000	0.1000	0.2500	0.1417	0.1417	0.2000	0.1659	0.2091	0.2105
amphibians	0.0000	0.3492	0.4602	0.5812	0.7947	0.6714	0.5296	0.6452
bibtex	0.1174	0.0286	0.2746	0.4505	0.4570	0.4244	0.2997	0.3930
birds	0.1795	0.0985	0.3501	0.4188	0.4269	0.4228	0.3146	0.4593
bookmarks	0.1223	0.0000	0.2534	0.2929	0.3386	0.3110	0.1733	0.2049
CAL500	0.0000	0.1945	0.2771	0.4126	0.4187	0.3986	0.1573	0.4182
corel16k001	0.0000	0.0556	0.1727	0.2316	0.3256	0.2822	0.0966	0.2782
Corel5k	0.0000	0.0329	0.1101	0.1462	0.2378	0.1871	0.0000	0.1795
emotions	0.3167	0.2083	0.5844	0.6611	0.7417	0.6991	0.6461	0.6835
enron	0.0000	0.1107	0.3335	0.3938	0.6950	0.4835	0.1682	0.4662
EukaryoteGO	0.5454	0.0101	0.7297	0.7211	0.8494	0.7403	0.3485	0.7467
EukaryotePseAAC	0.0103	0.1609	0.2160	0.2192	0.6858	0.3322	0.1561	0.3138
flags	0.2000	0.2571	0.6215	0.6757	0.8150	0.7389	0.6842	0.7429
foodtruck	0.2439	0.1626	0.4871	0.6329	0.6539	0.6433	0.2600	0.5402
genbase	0.4328	0.0249	0.4776	0.5373	0.4776	0.5057	0.1469	0.6154
GnegativeGO	0.7857	0.0312	0.8286	0.8536	0.8464	0.8500	0.5188	0.8746
GnegativePseAAC	0.6143	0.0875	0.6869	0.6917	0.7571	0.7229	0.3852	0.6859
GpositiveGO	0.8462	0.0625	0.8750	0.8846	0.8942	0.8894	0.6612	0.8785
GpositivePseAAC	0.6346	0.1538	0.6731	0.6731	0.7115	0.6918	0.6081	0.6981
HumanGO	0.4662	0.0781	0.5654	0.6162	0.6468	0.6311	0.2728	0.5718
HumanPseAAC	0.1318	0.1644	0.2557	0.2654	0.4711	0.3395	0.1891	0.3168
Image	0.4450	0.1770	0.5858	0.6325	0.6817	0.6562	0.6443	0.6395
IMDB-ECC-F	0.0776	0.1187	0.2298	0.3031	0.3787	0.3367	0.1090	0.2808
IMDB-F	0.0530	0.1198	0.2344	0.3165	0.4066	0.3559	0.1305	0.3134
LLOG-F	0.0146	0.0498	0.1945	0.1729	0.2014	0.1439	0.0822	0.2626
mediamill	0.0207	0.1113	0.1960	0.2381	0.7960	0.3525	0.1105	0.3030
medical	0.3259	0.0299	0.4697	0.5567	0.5294	0.5320	0.0825	0.5177
Music	0.2167	0.2194	0.5297	0.6639	0.6750	0.6694	0.6597	0.6695
NUS-WIDE-bow	0.0109	0.1023	0.1515	0.1642	0.6006	0.2578	0.0858	0.2314
NUS-WIDE-cVLADplus	0.0871	0.0423	0.2920	0.3469	0.5139	0.4142	0.1036	0.3830
OHSUMED-F	0.0940	0.0936	0.3646	0.4249	0.6196	0.5041	0.4082	0.4836
PlantGO	0.3646	0.0781	0.4014	0.4170	0.4323	0.4245	0.2046	0.5055
PlantPseAAC	0.1020	0.2007	0.2726	0.2855	0.5272	0.3704	0.2124	0.3295
rcv1subset1	0.0946	0.0719	0.3112	0.4441	0.4897	0.4661	0.2528	0.3991
REUTERS-K500-EX2	0.2539	0.0051	0.3180	0.3850	0.4581	0.4496	0.0992	0.3102
scene	0.5145	0.0989	0.6798	0.7109	0.8154	0.7596	0.7724	0.7442
SLASHDOT-F	0.3889	0.0464	0.5137	0.5613	0.6010	0.5805	0.3318	0.5749
solar_flare-L3	0.4000	0.4000	0.4667	0.4667	0.6000	0.5250	0.3556	0.5000
Stackex_chess	0.0000	0.0000	0.1022	0.1768	0.3061	0.2216	0.0038	0.1668
Stackex_coffee	0.0082	0.0593	0.1175	0.1022	0.3565	0.1855	0.0245	0.1601
Stackex_philosophy	0.0833	0.0182	0.2054	0.2660	0.3008	0.2833	0.0354	0.2546
tmc2007-500	0.1598	0.0890	0.5034	0.5677	0.7989	0.6638	0.5077	0.6254
VirusGO	0.4762	0.1190	0.5635	0.5714	0.6429	0.6050	0.2671	0.6667
VirusPseAAC	0.5238	0.1270	0.6429	0.6667	0.7381	0.7006	0.5089	0.6800
Water-quality	0.0094	0.3443	0.4464	0.5261	0.7318	0.6121	0.5859	0.6212
Yahoo_Arts	0.0358	0.1332	0.1725	0.1984	0.4604	0.3321	0.1409	0.2142
Yahoo_Business	0.4938	0.0412	0.6571	0.7890	0.7825	0.7728	0.1162	0.6491
Yahoo_Computers	0.3196	0.0514	0.4401	0.4950	0.5031	0.4976	0.0662	0.4378
Yahoo_Education	0.1893	0.0356	0.3831	0.3985	0.5585	0.4685	0.3066	0.4740
Yahoo_Entertainment	0.0801	0.1249	0.2738	0.2565	0.5823	0.3760	0.1305	0.3906
Yahoo_Health	0.3964	0.0000	0.5634	0.6330	0.7440	0.6351	0.3566	0.5761
Yahoo_Recreation	0.0000	0.2108	0.1393	0.1666	0.5144	0.2023	0.1109	0.2569
Yahoo_Reference	0.3773	0.0493	0.4909	0.5815	0.6622	0.6203	0.2284	0.5785
Yahoo_Science	0.1828	0.0383	0.3499	0.4274	0.5006	0.4380	0.2842	0.4194
Yahoo_Social	0.4468	0.0159	0.6544	0.7068	0.7531	0.6728	0.3297	0.6629
yeast	0.0868	0.2751	0.5029	0.5566	0.8179	0.6624	0.4481	0.6365
Yelp	0.3320	0.2247	0.6018	0.7049	0.7519	0.7277	0.6465	0.7022

Table 18: Detailed results for PYRAMID k-NN

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4139	0.0467	0.4354	0.4380	0.4544	0.4460	0.4985	0.5004
3s-guardian1000	0.0323	0.3333	0.2366	0.2742	0.4032	0.3264	0.1293	0.3261
3s-inter3000	0.0000	0.4804	0.1980	0.2029	0.6176	0.3055	0.1845	0.3099
3s-reuters1000	0.0000	0.3611	0.1444	0.1444	0.3000	0.1950	0.1009	0.2169
amphibians	0.0000	0.3175	0.5131	0.5806	0.9288	0.7145	0.4903	0.6970
bibtex	0.0758	0.0207	0.1604	0.2384	0.1840	0.1928	0.1260	0.2380
birds	0.0256	0.1741	0.1990	0.2415	0.3940	0.2994	0.0971	0.2951
bookmarks	0.1775	0.0000	0.1775	0.2218	0.2454	0.2046	0.0761	0.1854
CAL500	0.0000	0.2231	0.3110	0.3652	0.6702	0.4727	0.1534	0.4731
corel16k001	0.0051	0.0326	0.0731	0.1172	0.1195	0.1183	0.0451	0.1201
Corel5k	0.0040	0.0168	0.0566	0.0877	0.0906	0.0891	0.0196	0.0939
emotions	0.0000	0.5833	0.3206	0.3306	0.8833	0.4811	0.4205	0.4724
enron	0.0234	0.0790	0.3404	0.4480	0.5786	0.5050	0.1127	0.4758
EukaryoteGO	0.4742	0.0381	0.6143	0.6425	0.7298	0.6834	0.4242	0.6643
EukaryotePseAAC	0.1699	0.0744	0.2748	0.3081	0.3503	0.3279	0.1170	0.3312
flags	0.0000	0.3500	0.5383	0.5850	0.8925	0.7068	0.5115	0.6957
foodtruck	0.1463	0.1829	0.4054	0.5610	0.5808	0.5707	0.1371	0.4828
genbase	0.0000	0.1222	0.1485	0.1530	0.4328	0.2261	0.0391	0.2191
GnegativeGO	0.4286	0.1161	0.5643	0.5786	0.6857	0.6276	0.4970	0.6037
GnegativePseAAC	0.6071	0.0973	0.6619	0.6667	0.7143	0.6897	0.2796	0.6562
GpositiveGO	0.0000	0.3990	0.3558	0.3590	0.7212	0.4793	0.2834	0.4780
GpositivePseAAC	0.0000	0.3990	0.3686	0.3686	0.7692	0.4984	0.3768	0.4908
HumanGO	0.3408	0.0804	0.5490	0.5804	0.7438	0.6520	0.4189	0.6023
HumanPseAAC	0.1447	0.1197	0.2481	0.2902	0.3146	0.3019	0.1226	0.3063
Image	0.4300	0.1990	0.5858	0.6292	0.7117	0.6679	0.6097	0.6090
IMDB-ECC-F	0.0178	0.1046	0.1873	0.2594	0.3183	0.2858	0.0477	0.2720
IMDB-F	0.0307	0.1104	0.1709	0.2490	0.2685	0.2584	0.0615	0.2439
LLOG-F	0.0410	0.0381	0.1017	0.1126	0.1844	0.1398	0.0450	0.1340
mediamill	0.0784	0.0380	0.4479	0.5960	0.6325	0.6137	0.1216	0.5705
medical	0.0000	0.0587	0.1743	0.1964	0.3435	0.2499	0.0306	0.2493
Music	0.0000	0.5694	0.3425	0.3550	0.8389	0.4989	0.4519	0.4862
NUS-WIDE-bow	0.0461	0.0419	0.2165	0.2965	0.3594	0.3250	0.0612	0.3079
NUS-WIDE-cVLADplus	0.0842	0.0466	0.2849	0.3436	0.5132	0.4116	0.0806	0.3499
OHSUMED-F	0.0560	0.1109	0.1525	0.1986	0.2279	0.2123	0.1278	0.2116
PlantGO	0.1458	0.1432	0.1875	0.1979	0.2188	0.2078	0.0359	0.2105
PlantPseAAC	0.1735	0.1514	0.2483	0.2483	0.3265	0.2821	0.0592	0.2645
rcv1subset1	0.0612	0.0608	0.1491	0.2362	0.2667	0.2590	0.0629	0.2167
REUTERS-K500-EX2	0.3127	0.0143	0.4055	0.4454	0.4642	0.4546	0.2211	0.4385
scene	0.5726	0.1072	0.6874	0.7172	0.7739	0.7444	0.7454	0.7207
SLASHDOT-F	0.1349	0.0851	0.1874	0.2037	0.2249	0.2138	0.1211	0.2151
solar_flare-L3	0.0000	0.3333	0.5000	0.5000	1.0000	0.6667	0.4405	0.6667
Stackex_chess	0.0000	0.0194	0.0812	0.1393	0.1473	0.1432	0.0295	0.1358
Stackex_coffee	0.0000	0.0841	0.0731	0.0793	0.3623	0.1301	0.0105	0.1314
Stackex_philosophy	0.0327	0.0194	0.0964	0.1405	0.1649	0.1517	0.0206	0.1280
tmc2007-500	0.2196	0.0786	0.5036	0.6199	0.6719	0.6448	0.4479	0.6086
VirusGO	0.0000	0.3810	0.3095	0.3135	0.7857	0.4482	0.3194	0.4545
VirusPseAAC	0.0000	0.3968	0.2857	0.2857	0.7619	0.4156	0.2060	0.4186
Water-quality	0.0000	0.5472	0.3845	0.4024	0.9073	0.5575	0.5002	0.5548
Yahoo_Arts	0.0867	0.0711	0.2296	0.2889	0.3858	0.3305	0.0639	0.2916
Yahoo_Business	0.4931	0.0293	0.6718	0.8446	0.7223	0.7886	0.1830	0.6582
Yahoo_Computers	0.3685	0.0210	0.4207	0.5432	0.4911	0.5439	0.1640	0.4892
Yahoo_Education	0.1467	0.0584	0.2368	0.3011	0.2803	0.2896	0.0997	0.3173
Yahoo_Entertainment	0.1496	0.1111	0.3042	0.3310	0.4323	0.3942	0.2403	0.3788
Yahoo_Health	0.2364	0.0640	0.3958	0.4799	0.5304	0.4617	0.1463	0.4483
Yahoo_Recreation	0.1423	0.1016	0.2349	0.2863	0.3118	0.2946	0.2570	0.3020
Yahoo_Reference	0.3960	0.0000	0.5134	0.4879	0.5121	0.4762	0.1102	0.5157
Yahoo_Science	0.1456	0.0717	0.1786	0.2155	0.2973	0.2644	0.0750	0.2057
Yahoo_Social	0.2498	0.0505	0.4274	0.4793	0.5879	0.5055	0.1323	0.4786
yeast	0.2025	0.2119	0.5447	0.6624	0.7005	0.6809	0.4939	0.6594
Yelp	0.3769	0.2084	0.6169	0.8039	0.6881	0.7415	0.5879	0.6780

Table 19: Detailed results for PYRAMID ELM

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.2464	0.0712	0.3397	0.3425	0.4541	0.3905	0.3824	0.3927
3s-guardian1000	0.0968	0.3333	0.2016	0.2151	0.3065	0.2527	0.2159	0.2619
3s-inter3000	0.0588	0.2451	0.1275	0.1373	0.2059	0.1647	0.1667	0.2424
3s-reuters1000	0.0333	0.3833	0.1083	0.1083	0.2333	0.1480	0.1430	0.1687
amphibians	0.0556	0.3095	0.5020	0.7028	0.7770	0.7380	0.4919	0.6422
bibtex	0.0743	0.0157	0.1604	0.2779	0.1850	0.2221	0.0454	0.2232
birds	0.1026	0.1646	0.3262	0.3770	0.5782	0.4564	0.3306	0.3960
bookmarks	0.1572	0.0243	0.1900	0.2062	0.2549	0.2280	0.0508	0.1290
CAL500	0.0000	0.2200	0.2492	0.3634	0.4550	0.4041	0.1898	0.3834
corel16k001	0.0000	0.0832	0.0957	0.1039	0.4500	0.1688	0.0233	0.1685
Corel5k	0.0000	0.0229	0.1316	0.1647	0.3400	0.2219	0.0223	0.2208
emotions	0.2167	0.2278	0.5336	0.6289	0.7222	0.6723	0.6301	0.6583
enron	0.1404	0.0623	0.4618	0.5746	0.6266	0.5995	0.1785	0.5624
EukaryoteGO	0.6031	0.0303	0.7238	0.7433	0.8424	0.7898	0.3516	0.7409
EukaryotePseAAC	0.1737	0.0754	0.3443	0.3675	0.5129	0.4282	0.1162	0.4170
flags	0.1500	0.3214	0.5226	0.6267	0.6783	0.6515	0.5392	0.6565
foodtruck	0.1220	0.2581	0.3479	0.4868	0.6690	0.5635	0.2739	0.4356
genbase	0.8657	0.0094	0.8893	0.8893	0.9254	0.9070	0.5692	0.8982
GnegativeGO	0.9214	0.0125	0.9500	0.9571	0.9714	0.9642	0.8230	0.9530
GnegativePseAAC	0.4857	0.1107	0.6137	0.6208	0.7500	0.6793	0.3160	0.6353
GpositiveGO	0.8846	0.0433	0.9038	0.9038	0.9231	0.9134	0.9322	0.9143
GpositivePseAAC	0.4615	0.2356	0.5737	0.5737	0.7115	0.6352	0.4619	0.6016
HumanGO	0.5113	0.0620	0.6650	0.6979	0.8173	0.7529	0.4617	0.6770
HumanPseAAC	0.1768	0.1284	0.3190	0.3471	0.4571	0.3946	0.1352	0.3640
Image	0.3450	0.2250	0.5021	0.5350	0.6367	0.5814	0.5675	0.5597
IMDB-ECC-F	0.0000	0.2144	0.1575	0.1717	0.5848	0.2655	0.0858	0.2636
IMDB-F	0.0000	0.2138	0.1711	0.1873	0.6060	0.2862	0.0869	0.2830
LLOG-F	0.0820	0.0326	0.1561	0.1851	0.2357	0.2073	0.0348	0.1946
mediamill	0.0618	0.0420	0.4330	0.5756	0.6335	0.6032	0.0868	0.5478
medical	0.5306	0.0161	0.6769	0.7129	0.7891	0.7491	0.2524	0.7321
Music	0.1833	0.2167	0.5389	0.6569	0.7250	0.6893	0.6927	0.6880
NUS-WIDE-bow	0.0081	0.0410	0.2508	0.3158	0.4999	0.3871	0.0347	0.3605
NUS-WIDE-cVLADplus	0.0200	0.0529	0.2266	0.2672	0.5431	0.3581	0.0537	0.3359
OHSUMED-F	0.0962	0.0998	0.2821	0.3609	0.4331	0.3937	0.1913	0.3724
PlantGO	0.6042	0.0530	0.6892	0.7170	0.7535	0.7348	0.5875	0.7215
PlantPseAAC	0.1429	0.1420	0.2347	0.2517	0.3299	0.2856	0.1406	0.3013
rcv1subset1	0.0017	0.0860	0.1781	0.2245	0.5179	0.3132	0.0745	0.2560
REUTERS-K500-EX2	0.2509	0.0247	0.3750	0.4196	0.5040	0.4579	0.1277	0.3403
scene	0.4772	0.1217	0.5795	0.6093	0.6535	0.6306	0.6711	0.6535
SLASHDOT-F	0.2804	0.0587	0.3865	0.4228	0.4660	0.4434	0.2279	0.4480
solar_flare-L3	0.0000	0.6000	0.2000	0.2000	0.4000	0.2667	0.1905	0.3077
Stackex_chess	0.0000	0.0363	0.1262	0.1820	0.3961	0.2494	0.0554	0.1740
Stackex_coffee	0.0435	0.0392	0.1063	0.1377	0.1739	0.1537	0.0121	0.0976
Stackex_philosophy	0.0000	0.0441	0.1066	0.1251	0.4535	0.1961	0.0407	0.1543
tmc2007-500	0.2353	0.0735	0.5206	0.6355	0.6801	0.6570	0.3495	0.6281
VirusGO	0.5714	0.1111	0.7183	0.7381	0.8492	0.7898	0.4706	0.7407
VirusPseAAC	0.2381	0.2222	0.4365	0.4365	0.6667	0.5276	0.3568	0.5172
Water-quality	0.0189	0.3551	0.4282	0.5499	0.6921	0.6129	0.5671	0.5968
Yahoo_Arts	0.0387	0.1587	0.1939	0.2279	0.5102	0.3151	0.1073	0.2674
Yahoo_Business	0.2843	0.0460	0.5625	0.6454	0.7873	0.7093	0.0789	0.6211
Yahoo_Computers	0.1068	0.0829	0.3270	0.3767	0.6402	0.4743	0.0722	0.3831
Yahoo_Education	0.0050	0.1358	0.1865	0.1990	0.6373	0.3033	0.0795	0.2816
Yahoo_Entertainment	0.1053	0.1426	0.2756	0.3012	0.5939	0.3997	0.1421	0.3388
Yahoo_Health	0.0825	0.0967	0.3121	0.3607	0.6587	0.4661	0.0903	0.3942
Yahoo_Recreation	0.0304	0.1620	0.1728	0.1878	0.4591	0.2666	0.1103	0.2362
Yahoo_Reference	0.1208	0.0906	0.2858	0.3052	0.6148	0.4079	0.0597	0.3158
Yahoo_Science	0.0560	0.1031	0.1853	0.2022	0.4826	0.2850	0.0715	0.2317
Yahoo_Social	0.1749	0.0597	0.3658	0.3891	0.6642	0.4907	0.0485	0.3939
yeast	0.1198	0.2370	0.5171	0.6026	0.7437	0.6658	0.4502	0.6498
Yelp	0.1715	0.2889	0.5228	0.5988	0.7799	0.6774	0.4995	0.6534

Table 20: Detailed results for PYRAMID SVM(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5451	0.0351	0.6726	0.6755	0.8122	0.7376	0.7077	0.7027
3s-guardian1000	0.3226	0.2151	0.3871	0.4516	0.3871	0.4169	0.1761	0.4118
3s-inter3000	0.2941	0.2255	0.3235	0.3529	0.3235	0.3376	0.0870	0.3429
3s-reuters1000	0.0000	0.2000	0.0167	0.0167	0.0333	0.0222	0.0417	0.0526
amphibians	0.0556	0.2540	0.5434	0.6435	0.8443	0.7304	0.6155	0.7333
bibtex	0.1878	0.0120	0.3585	0.5163	0.3972	0.4490	0.2928	0.4760
birds	0.2051	0.0823	0.3455	0.4487	0.3940	0.4196	0.2598	0.4404
bookmarks	0.1659	0.0000	0.2129	0.2858	0.2801	0.2671	0.0913	0.2954
CAL500	0.0000	0.1969	0.3006	0.3896	0.5644	0.4610	0.1257	0.4610
corel16k001	0.0000	0.0115	0.1550	0.1522	0.3778	0.2298	0.0508	0.2316
Corel5k	0.0000	0.0150	0.1546	0.2360	0.2699	0.2518	0.0319	0.2569
emotions	0.3000	0.1944	0.5819	0.6708	0.7389	0.7032	0.6920	0.6983
enron	0.1930	0.0501	0.4731	0.6561	0.5500	0.5984	0.1568	0.5741
EukaryoteGO	0.7023	0.0200	0.7844	0.8035	0.8486	0.8254	0.6906	0.8143
EukaryotePseAAC	0.2960	0.0569	0.3985	0.4468	0.4588	0.4527	0.1620	0.4549
flags	0.2000	0.2500	0.6102	0.7000	0.7650	0.7311	0.5975	0.7368
foodtruck	0.3659	0.1423	0.5039	0.7114	0.5356	0.6111	0.1281	0.5139
genbase	0.9552	0.0017	0.9801	0.9876	0.9925	0.9900	0.6173	0.9816
GnegativeGO	0.9357	0.0125	0.9464	0.9571	0.9464	0.9518	0.8176	0.9517
GnegativePseAAC	0.6714	0.0661	0.7202	0.7357	0.7536	0.7445	0.4707	0.7448
GpositiveGO	0.9038	0.0337	0.9231	0.9327	0.9327	0.9327	0.9402	0.9333
GpositivePseAAC	0.7885	0.0913	0.7981	0.7981	0.8077	0.8029	0.6253	0.8155
HumanGO	0.6238	0.0418	0.7420	0.7749	0.8301	0.8016	0.6534	0.7618
HumanPseAAC	0.2765	0.0953	0.3481	0.3757	0.3960	0.3856	0.1925	0.3959
Image	0.4850	0.1610	0.6300	0.6767	0.7283	0.7016	0.6710	0.6680
IMDB-ECC-F	0.0000	0.1342	0.1598	0.1979	0.3186	0.2441	0.0498	0.2455
IMDB-F	0.0000	0.2083	0.1716	0.1890	0.5891	0.2862	0.0768	0.2840
LLOG-F	0.2159	0.0063	0.2529	0.2643	0.2618	0.2615	0.0421	0.3294
mediamill	0.0821	0.0164	0.5006	0.7322	0.5746	0.6637	0.0950	0.5947
medical	0.7041	0.0091	0.7840	0.8333	0.8146	0.8239	0.2879	0.8347
Music	0.2333	0.1778	0.5833	0.7528	0.7000	0.7254	0.7135	0.7168
NUS-WIDE-bow	0.0430	0.0341	0.2275	0.2798	0.3724	0.3174	0.0628	0.2962
NUS-WIDE-cVLADplus	0.2060	0.0100	0.3696	0.5030	0.4372	0.4612	0.0901	0.4796
OHSUMED-F	0.2448	0.0620	0.4740	0.6034	0.5858	0.5945	0.3996	0.5638
PlantGO	0.6667	0.0434	0.7292	0.7448	0.7726	0.7584	0.6436	0.7642
PlantPseAAC	0.2653	0.1097	0.3019	0.3248	0.3197	0.3223	0.1832	0.3452
rcv1subset1	0.1213	0.0514	0.3372	0.5338	0.4406	0.4369	0.2122	0.4458
REUTERS-K500-EX2	0.3620	0.0026	0.4839	0.5214	0.5769	0.5570	0.2562	0.5365
scene	0.5270	0.1065	0.7050	0.7320	0.8610	0.7913	0.7486	0.7416
SLASHDOT-F	0.4048	0.0456	0.5090	0.5606	0.5675	0.5640	0.3729	0.5678
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0476	0.0112	0.1880	0.3276	0.2407	0.2775	0.0636	0.3057
Stackex_coffee	0.0435	0.0187	0.1258	0.2065	0.1522	0.1752	0.0338	0.2090
Stackex_philosophy	0.0653	0.0100	0.2031	0.3275	0.2555	0.2871	0.0674	0.3088
tmc2007-500	0.2606	0.0743	0.5961	0.6662	0.7917	0.7472	0.5784	0.7002
VirusGO	0.8095	0.0397	0.8889	0.9286	0.9127	0.9206	0.7306	0.8980
VirusPseAAC	0.5238	0.1032	0.5952	0.6429	0.6190	0.6307	0.3833	0.6829
Water-quality	0.0283	0.2925	0.4198	0.6281	0.5645	0.5946	0.5060	0.5875
Yahoo_Arts	0.2951	0.0704	0.4063	0.4878	0.4765	0.4821	0.2294	0.4203
Yahoo_Business	0.5476	0.0430	0.7227	0.8677	0.7712	0.8178	0.3558	0.7234
Yahoo_Computers	0.3891	0.0252	0.4717	0.5242	0.5243	0.5228	0.2774	0.5352
Yahoo_Education	0.2253	0.0499	0.3329	0.3714	0.4052	0.4122	0.2657	0.3884
Yahoo_Entertainment	0.4077	0.0730	0.5143	0.5940	0.5918	0.6171	0.3559	0.5401
Yahoo_Health	0.3562	0.0476	0.4702	0.5897	0.5591	0.5821	0.2466	0.5789
Yahoo_Recreation	0.3687	0.0646	0.4292	0.4953	0.5148	0.5113	0.3669	0.4692
Yahoo_Reference	0.3910	0.0331	0.4601	0.4953	0.5145	0.5047	0.2019	0.5068
Yahoo_Science	0.2519	0.0456	0.3405	0.3968	0.4262	0.4110	0.1822	0.3704
Yahoo_Social	0.5215	0.0248	0.6041	0.6503	0.6602	0.6553	0.2387	0.6058
yeast	0.2025	0.1933	0.5604	0.6865	0.6970	0.6917	0.4224	0.6803
Yelp	0.5464	0.1290	0.7676	0.8488	0.8670	0.8578	0.7767	0.8225

Table 21: Detailed results for PYRAMID DT(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4533	0.0376	0.5556	0.5583	0.6756	0.6114	0.6445	0.6479
3s-guardian1000	0.0645	0.2796	0.0941	0.1075	0.1129	0.1101	0.1705	0.1875
3s-inter3000	0.0588	0.2941	0.1373	0.1471	0.2059	0.1716	0.0833	0.2105
3s-reuters1000	0.1333	0.2722	0.2389	0.2389	0.3667	0.2893	0.2828	0.3099
amphibians	0.0000	0.3095	0.4385	0.6026	0.7247	0.6581	0.5790	0.6609
bibtex	0.1320	0.0281	0.3480	0.4436	0.4729	0.4739	0.3526	0.4295
birds	0.1282	0.1012	0.3004	0.3983	0.3915	0.3948	0.2695	0.4444
bookmarks	0.1952	0.0000	0.2562	0.2938	0.3676	0.3340	0.1544	0.2584
CAL500	0.0000	0.1752	0.2300	0.3976	0.3515	0.3731	0.1457	0.3747
corel16k001	0.0225	0.0372	0.1106	0.1267	0.1956	0.1508	0.0968	0.1465
Corel5k	0.0000	0.0342	0.1318	0.1787	0.2246	0.2056	0.0662	0.2096
emotions	0.2167	0.2139	0.5306	0.6250	0.6972	0.6591	0.6613	0.6751
enron	0.0936	0.0686	0.4175	0.5354	0.6060	0.5685	0.2082	0.5230
EukaryoteGO	0.6869	0.0216	0.7743	0.7965	0.8430	0.8191	0.7562	0.8015
EukaryotePseAAC	0.1519	0.0655	0.2359	0.2614	0.2986	0.2787	0.1154	0.3237
flags	0.2000	0.2571	0.6083	0.7050	0.7383	0.7213	0.6346	0.7231
foodtruck	0.0976	0.2073	0.3543	0.4793	0.5509	0.5126	0.2695	0.4742
genbase	0.9552	0.0017	0.9801	0.9876	0.9925	0.9900	0.6173	0.9816
GnegativeGO	0.9357	0.0089	0.9643	0.9786	0.9786	0.9786	0.8416	0.9660
GnegativePseAAC	0.5500	0.0973	0.6006	0.6006	0.6643	0.6308	0.3474	0.6379
GpositiveGO	0.9231	0.0385	0.9231	0.9231	0.9231	0.9231	0.8538	0.9245
GpositivePseAAC	0.4615	0.2260	0.4872	0.4872	0.5192	0.5027	0.3834	0.5347
HumanGO	0.6109	0.0459	0.7168	0.7401	0.8081	0.7726	0.6829	0.7416
HumanPseAAC	0.1768	0.1052	0.2425	0.2634	0.2926	0.2772	0.1538	0.3102
Image	0.4200	0.1800	0.5567	0.5992	0.6533	0.6251	0.6238	0.6234
IMDB-ECC-F	0.0409	0.1168	0.2013	0.2754	0.3611	0.3125	0.1021	0.2701
IMDB-F	0.0423	0.1167	0.1860	0.2694	0.3169	0.2912	0.1100	0.2626
LLOG-F	0.0990	0.0192	0.2379	0.2398	0.3282	0.2753	0.1147	0.2741
mediamill	0.0320	0.0656	0.3939	0.5678	0.5897	0.5676	0.0917	0.5281
medical	0.6327	0.0113	0.7622	0.8010	0.8435	0.8217	0.3557	0.8077
Music	0.1500	0.2306	0.5214	0.6589	0.7139	0.6853	0.6618	0.6693
NUS-WIDE-bow	0.0618	0.0380	0.2270	0.2945	0.3734	0.3293	0.0433	0.3112
NUS-WIDE-cVLADplus	0.0752	0.0375	0.2475	0.3194	0.3990	0.3547	0.0557	0.3284
OHSUMED-F	0.1644	0.0706	0.3858	0.4808	0.5389	0.5082	0.4072	0.5133
PlantGO	0.6354	0.0460	0.7135	0.7344	0.7674	0.7505	0.6579	0.7535
PlantPseAAC	0.1429	0.1156	0.1947	0.2168	0.2296	0.2230	0.1319	0.2688
rcv1subset1	0.0817	0.0145	0.3260	0.4315	0.4479	0.4769	0.2519	0.4143
REUTERS-K500-EX2	0.2371	0.0158	0.4015	0.4414	0.5547	0.4916	0.2555	0.4765
scene	0.4896	0.1196	0.6452	0.6667	0.7801	0.7189	0.7138	0.6970
SLASHDOT-F	0.3254	0.0515	0.4300	0.4689	0.5066	0.4870	0.3685	0.5069
solar_flare-L3	0.4000	0.2000	0.7000	0.7000	1.0000	0.8235	0.5079	0.7692
Stackex_chess	0.0298	0.0140	0.2007	0.3179	0.3124	0.3151	0.0952	0.3144
Stackex_coffee	0.0523	0.0158	0.1463	0.2266	0.2283	0.2358	0.0603	0.2176
Stackex_philosophy	0.0578	0.0139	0.2365	0.3381	0.3932	0.3636	0.1185	0.3410
tmc2007-500	0.1878	0.0797	0.4981	0.6162	0.6862	0.6493	0.5467	0.6119
VirusGO	0.8095	0.0397	0.8889	0.9286	0.9127	0.9206	0.7154	0.8980
VirusPseAAC	0.1905	0.2222	0.2897	0.2937	0.4048	0.3404	0.2831	0.3913
Water-quality	0.0189	0.3154	0.4242	0.5748	0.6210	0.5970	0.5486	0.5923
Yahoo_Arts	0.1840	0.0867	0.3874	0.4435	0.5785	0.5199	0.3303	0.4615
Yahoo_Business	0.5088	0.0279	0.6778	0.8063	0.7908	0.8266	0.3111	0.7330
Yahoo_Computers	0.3178	0.0369	0.4854	0.5435	0.5961	0.5901	0.3222	0.5595
Yahoo_Education	0.2189	0.0567	0.3768	0.4407	0.5755	0.4982	0.2887	0.4418
Yahoo_Entertainment	0.3354	0.0549	0.4851	0.5184	0.5504	0.5565	0.4023	0.5546
Yahoo_Health	0.3979	0.0452	0.5986	0.6374	0.7225	0.6713	0.3521	0.6238
Yahoo_Recreation	0.3295	0.0831	0.4590	0.5168	0.5597	0.5592	0.4448	0.5241
Yahoo_Reference	0.4231	0.0554	0.5320	0.5846	0.6702	0.6322	0.2457	0.5626
Yahoo_Science	0.2280	0.0304	0.3686	0.4102	0.5638	0.4918	0.3681	0.4326
Yahoo_Social	0.4833	0.0195	0.6359	0.6736	0.7206	0.6827	0.3880	0.6366
yeast	0.0496	0.2465	0.4332	0.6036	0.5794	0.5913	0.3945	0.5823
Yelp	0.4985	0.1551	0.7180	0.7970	0.8200	0.8083	0.7498	0.7858

Table 22: Detailed results for PYRAMID RF(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4915	0.0467	0.5487	0.5216	0.5759	0.5541	0.6761	0.6778
3s-guardian1000	0.0645	0.2043	0.0968	0.1290	0.0968	0.1106	0.1448	0.1739
3s-inter3000	0.0000	0.1961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
3s-reuters1000	0.0333	0.1944	0.0333	0.0333	0.0333	0.0333	0.0476	0.0541
amphibians	0.0556	0.2619	0.4971	0.6833	0.7295	0.7057	0.6696	0.6972
bibtex	0.1362	0.0000	0.3506	0.4769	0.4294	0.4512	0.3597	0.4162
birds	0.1282	0.0945	0.3265	0.4252	0.4329	0.4290	0.3242	0.4531
bookmarks	0.1931	0.0290	0.2572	0.3061	0.3768	0.3152	0.1620	0.2847
CAL500	0.0000	0.2017	0.2147	0.4476	0.3661	0.4130	0.1443	0.3529
corel16k001	0.0000	0.0441	0.0931	0.1358	0.2045	0.1235	0.0961	0.1229
Corel5k	0.0196	0.0306	0.0968	0.2546	0.1278	0.1751	0.0262	0.1776
emotions	0.1667	0.2361	0.3792	0.4889	0.4583	0.4731	0.5019	0.5550
enron	0.1530	0.0803	0.4218	0.5656	0.5047	0.5433	0.1607	0.5000
EukaryoteGO	0.7134	0.0102	0.7328	0.8099	0.8444	0.8252	0.7752	0.8217
EukaryotePseAAC	0.0102	0.1213	0.2478	0.2471	0.5785	0.3289	0.0759	0.3147
flags	0.3000	0.2571	0.5852	0.7158	0.6800	0.6975	0.5787	0.7097
foodtruck	0.1707	0.1585	0.4308	0.6057	0.5958	0.6007	0.2420	0.5412
genbase	0.9701	0.0011	0.9876	0.9950	0.9925	0.9938	0.6296	0.9877
GnegativeGO	0.9357	0.0080	0.9679	0.9821	0.9857	0.9839	0.8046	0.9695
GnegativePseAAC	0.5786	0.1018	0.6131	0.6310	0.6393	0.6351	0.2507	0.6175
GpositiveGO	0.9231	0.0288	0.9423	0.9423	0.9615	0.9518	0.9513	0.9444
GpositivePseAAC	0.4423	0.2260	0.5000	0.5000	0.5577	0.5273	0.4097	0.5524
HumanGO	0.5172	0.0571	0.6983	0.6947	0.8253	0.7576	0.5658	0.7020
HumanPseAAC	0.0579	0.1509	0.2591	0.2706	0.4486	0.3376	0.0639	0.3397
Image	0.0000	0.5250	0.2592	0.2703	0.7342	0.3952	0.3781	0.3931
IMDB-ECC-F	0.0230	0.1049	0.2397	0.2753	0.5011	0.3541	0.0299	0.3590
IMDB-F	0.0043	0.1305	0.2397	0.2263	0.5240	0.3489	0.0594	0.3146
LLOG-F	0.0897	0.0083	0.1114	0.1764	0.1343	0.1584	0.0635	0.2127
mediamill	0.0147	0.0343	0.4057	0.6025	0.5136	0.5767	0.0591	0.5500
medical	0.6655	0.0149	0.8052	0.8505	0.8133	0.8405	0.3154	0.8290
Music	0.1167	0.2472	0.3678	0.5469	0.4444	0.4904	0.4970	0.5572
NUS-WIDE-bow	0.0550	0.0443	0.2292	0.2699	0.3879	0.3498	0.0470	0.3223
NUS-WIDE-cVLADplus	0.0000	0.0736	0.1611	0.1843	0.5881	0.2806	0.0238	0.2718
OHSUMED-F	0.1891	0.0808	0.4200	0.5113	0.5049	0.5050	0.4188	0.5112
PlantGO	0.5312	0.0573	0.5833	0.6111	0.6076	0.6094	0.4105	0.6562
PlantPseAAC	0.2041	0.1454	0.2347	0.2364	0.2806	0.2566	0.0765	0.2467
rcv1subset1	0.0471	0.0000	0.3222	0.4194	0.4412	0.4869	0.2772	0.4354
REUTERS-K500-EX2	0.2125	0.0127	0.2792	0.3001	0.2810	0.2692	0.1484	0.3213
scene	0.4315	0.1750	0.5107	0.5287	0.5768	0.5517	0.5605	0.5392
SLASHDOT-F	0.3016	0.0428	0.3589	0.3920	0.3840	0.3880	0.3139	0.4826
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0000	0.0177	0.0889	0.2263	0.1399	0.1710	0.0585	0.2342
Stackex_coffee	0.0211	0.0000	0.0018	0.0422	0.0353	0.0227	0.0071	0.0231
Stackex_philosophy	0.0946	0.0000	0.2396	0.3412	0.4031	0.3732	0.1039	0.3357
tmc2007-500	0.2246	0.0503	0.5109	0.6322	0.6195	0.6438	0.4968	0.6214
VirusGO	0.8095	0.0397	0.8889	0.8889	0.9524	0.9195	0.7433	0.9057
VirusPseAAC	0.2381	0.2302	0.4087	0.4167	0.6429	0.5056	0.3536	0.5085
Water-quality	0.0000	0.3969	0.3906	0.4814	0.6628	0.5577	0.4282	0.5561
Yahoo_Arts	0.2098	0.0877	0.3732	0.4386	0.5759	0.5179	0.3534	0.4471
Yahoo_Business	0.4679	0.0319	0.7160	0.8150	0.8453	0.8542	0.3312	0.6913
Yahoo_Computers	0.2994	0.0388	0.4826	0.5469	0.5889	0.5915	0.3313	0.5211
Yahoo_Education	0.1928	0.0437	0.3718	0.4222	0.5839	0.4958	0.2811	0.4549
Yahoo_Entertainment	0.3660	0.0720	0.4715	0.5291	0.5442	0.5266	0.3676	0.5064
Yahoo_Health	0.3892	0.0594	0.5542	0.6360	0.7452	0.6592	0.3795	0.6179
Yahoo_Recreation	0.3228	0.0520	0.4793	0.5190	0.5620	0.5619	0.4533	0.5009
Yahoo_Reference	0.4470	0.0730	0.5293	0.5589	0.6753	0.6223	0.2504	0.5780
Yahoo_Science	0.1974	0.0334	0.3366	0.4140	0.5670	0.5150	0.3450	0.4092
Yahoo_Social	0.5302	0.0422	0.6224	0.6492	0.7036	0.7286	0.3761	0.6634
yeast	0.0207	0.3017	0.4359	0.5001	0.7471	0.5992	0.3220	0.5912
Yelp	0.3420	0.2010	0.6189	0.7103	0.7580	0.7333	0.6800	0.7284

Table 23: Detailed results for PYRAMID NBC(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.2770	0.0582	0.5008	0.5031	0.7645	0.6069	0.5938	0.5726
3s-guardian1000	0.0968	0.2527	0.1586	0.1747	0.2097	0.1906	0.1639	0.2540
3s-inter3000	0.1176	0.1863	0.1176	0.1176	0.1176	0.1176	0.1111	0.1739
3s-reuters1000	0.1000	0.2500	0.1417	0.1417	0.2000	0.1659	0.2105	0.2105
amphibians	0.0000	0.3492	0.4630	0.5914	0.8114	0.6841	0.5191	0.6452
bibtex	0.0713	0.0441	0.2321	0.3159	0.5189	0.3696	0.2439	0.3341
birds	0.2564	0.0985	0.4252	0.5085	0.5167	0.5126	0.3275	0.4895
bookmarks	0.2280	0.0055	0.2547	0.2684	0.3163	0.2740	0.1138	0.2059
CAL500	0.0025	0.1924	0.2730	0.4012	0.4688	0.4402	0.1745	0.4530
corel16k001	0.0053	0.0523	0.1497	0.2627	0.3208	0.2952	0.0967	0.2862
Corel5k	0.0175	0.0394	0.0804	0.1567	0.1653	0.2032	0.0211	0.2292
emotions	0.2333	0.2222	0.5192	0.6278	0.6667	0.6466	0.6182	0.6460
enron	0.0000	0.1053	0.3071	0.3690	0.6942	0.5097	0.2043	0.4595
EukaryoteGO	0.5142	0.0344	0.5990	0.6332	0.6602	0.6464	0.2031	0.6632
EukaryotePseAAC	0.0129	0.1468	0.2079	0.2171	0.6053	0.3196	0.1538	0.3051
flags	0.2000	0.2571	0.6249	0.6724	0.8250	0.7409	0.6886	0.7465
foodtruck	0.2195	0.1524	0.4611	0.6382	0.5989	0.6179	0.1902	0.5342
genbase	0.4328	0.0249	0.4776	0.5373	0.4776	0.5057	0.1469	0.6154
GnegativeGO	0.7857	0.0312	0.8286	0.8536	0.8464	0.8500	0.5188	0.8746
GnegativePseAAC	0.6071	0.0857	0.6905	0.6964	0.7679	0.7304	0.4124	0.6943
GpositiveGO	0.8462	0.0625	0.8750	0.8846	0.8942	0.8894	0.6612	0.8785
GpositivePseAAC	0.6538	0.1538	0.6827	0.6827	0.7115	0.6968	0.6089	0.6981
HumanGO	0.4662	0.0779	0.5670	0.6178	0.6501	0.6335	0.2732	0.5736
HumanPseAAC	0.1415	0.1654	0.2580	0.2681	0.4711	0.3417	0.1881	0.3156
Image	0.4450	0.1770	0.5858	0.6325	0.6817	0.6562	0.6443	0.6395
IMDB-ECC-F	0.0776	0.1187	0.2298	0.3031	0.3787	0.3367	0.1090	0.2808
IMDB-F	0.0530	0.1198	0.2344	0.3165	0.4066	0.3559	0.1305	0.3134
LLOG-F	0.0081	0.0296	0.1305	0.1144	0.3153	0.1729	0.0352	0.1908
mediamill	0.0043	0.1211	0.1846	0.2256	0.7783	0.3313	0.1085	0.3414
medical	0.3164	0.0048	0.4824	0.5560	0.5438	0.5327	0.0909	0.5505
Music	0.2167	0.2222	0.5214	0.6500	0.6583	0.6541	0.6506	0.6639
NUS-WIDE-bow	0.0660	0.0399	0.1800	0.2960	0.3733	0.3458	0.0503	0.3232
NUS-WIDE-cVLADplus	0.0927	0.0000	0.2243	0.3289	0.3867	0.3484	0.0647	0.2865
OHSUMED-F	0.0940	0.0936	0.3646	0.4249	0.6196	0.5041	0.4082	0.4836
PlantGO	0.3646	0.0781	0.4014	0.4170	0.4323	0.4245	0.2046	0.5055
PlantPseAAC	0.1020	0.1990	0.2665	0.2747	0.5119	0.3575	0.1881	0.3237
rcv1subset1	0.0782	0.0369	0.3247	0.4463	0.4338	0.3985	0.2514	0.4086
REUTERS-K500-EX2	0.1747	0.0202	0.3178	0.4002	0.4812	0.4539	0.1498	0.4132
scene	0.5145	0.0982	0.6819	0.7130	0.8195	0.7626	0.7732	0.7464
SLASHDOT-F	0.3889	0.0464	0.5137	0.5613	0.6010	0.5805	0.3318	0.5749
solar_flare-L3	0.4000	0.4000	0.4667	0.4667	0.6000	0.5250	0.3556	0.5000
Stackex_chess	0.0304	0.0050	0.1429	0.2674	0.2507	0.2488	0.0458	0.2582
Stackex_coffee	0.0070	0.0761	0.1060	0.0767	0.3516	0.1398	0.0081	0.1363
Stackex_philosophy	0.0749	0.0017	0.1698	0.2848	0.3054	0.2899	0.0598	0.2590
tmc2007-500	0.1598	0.0890	0.5034	0.5677	0.7989	0.6638	0.5077	0.6254
VirusGO	0.4762	0.1190	0.5635	0.5714	0.6429	0.6050	0.2671	0.6667
VirusPseAAC	0.5238	0.1270	0.6429	0.6667	0.7381	0.7006	0.5089	0.6800
Water-quality	0.0094	0.3565	0.4378	0.5088	0.7379	0.6023	0.5807	0.6158
Yahoo_Arts	0.1638	0.0927	0.3362	0.4624	0.5087	0.4938	0.3675	0.4418
Yahoo_Business	0.5389	0.0000	0.6933	0.7823	0.7953	0.8220	0.2715	0.7474
Yahoo_Computers	0.3313	0.0103	0.4602	0.5656	0.6243	0.5760	0.3302	0.5073
Yahoo_Education	0.1709	0.0379	0.3276	0.3909	0.4148	0.3896	0.0959	0.4033
Yahoo_Entertainment	0.2709	0.0718	0.3924	0.4275	0.4416	0.4071	0.1436	0.4009
Yahoo_Health	0.3700	0.0196	0.5241	0.6492	0.7401	0.6451	0.3044	0.5924
Yahoo_Recreation	0.3071	0.0000	0.4712	0.5180	0.5474	0.5068	0.4196	0.5232
Yahoo_Reference	0.3842	0.0410	0.5282	0.5574	0.6463	0.5643	0.2042	0.5650
Yahoo_Science	0.2381	0.0616	0.4039	0.3562	0.5399	0.4564	0.3128	0.4273
Yahoo_Social	0.5032	0.0146	0.6515	0.6971	0.7283	0.6805	0.3789	0.6219
yeast	0.0909	0.2842	0.4930	0.5449	0.8108	0.6518	0.4364	0.6280
Yelp	0.3320	0.2247	0.6018	0.7049	0.7519	0.7277	0.6465	0.7022

Table 24: Detailed results for PYRAMID k-NN(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4870	0.0513	0.5347	0.5371	0.5819	0.5586	0.5561	0.5382
3s-guardian1000	0.1613	0.2634	0.3656	0.4247	0.5323	0.4725	0.2093	0.4368
3s-inter3000	0.0000	0.3333	0.2745	0.2843	0.6176	0.3894	0.1627	0.3929
3s-reuters1000	0.0333	0.3722	0.1333	0.1333	0.2333	0.1697	0.0827	0.1728
amphibians	0.0000	0.3968	0.4664	0.5222	0.9368	0.6706	0.4677	0.6528
bibtex	0.0489	0.0300	0.1713	0.2709	0.1891	0.2190	0.1568	0.2056
birds	0.0000	0.1997	0.1563	0.1979	0.3598	0.2553	0.0824	0.2449
bookmarks	0.1566	0.0112	0.1894	0.2470	0.2435	0.2312	0.1093	0.1971
CAL500	0.0000	0.2236	0.3065	0.3634	0.6558	0.4677	0.1443	0.4672
corel16k001	0.0077	0.0180	0.0914	0.1065	0.1289	0.1323	0.0550	0.0977
Corel5k	0.0047	0.0000	0.1087	0.1255	0.1337	0.1456	0.0186	0.1668
emotions	0.0000	0.5667	0.3278	0.3378	0.8472	0.4830	0.4286	0.4715
enron	0.1111	0.0655	0.3818	0.5122	0.5152	0.5137	0.1537	0.4897
EukaryoteGO	0.6508	0.0262	0.7317	0.7597	0.7839	0.7716	0.4755	0.7553
EukaryotePseAAC	0.1647	0.0769	0.2622	0.2937	0.3308	0.3111	0.1158	0.3147
flags	0.0000	0.3714	0.5217	0.5600	0.8925	0.6882	0.5006	0.6829
foodtruck	0.0732	0.1850	0.3861	0.5163	0.6038	0.5566	0.1230	0.4972
genbase	0.0000	0.1288	0.1556	0.1586	0.4627	0.2362	0.0478	0.2207
GnegativeGO	0.8857	0.0170	0.9345	0.9464	0.9714	0.9588	0.8242	0.9369
GnegativePseAAC	0.5714	0.0875	0.6286	0.6357	0.6786	0.6564	0.3031	0.6644
GpositiveGO	0.0000	0.3990	0.3526	0.3558	0.7019	0.4722	0.2540	0.4713
GpositivePseAAC	0.2115	0.3606	0.4006	0.4006	0.5962	0.4792	0.3176	0.4526
HumanGO	0.5434	0.0517	0.6868	0.7240	0.7974	0.7589	0.5427	0.7148
HumanPseAAC	0.1479	0.1334	0.2556	0.2848	0.3532	0.3153	0.1384	0.3108
Image	0.4000	0.1940	0.6025	0.6417	0.7767	0.7027	0.6449	0.6421
IMDB-ECC-F	0.0409	0.1072	0.1816	0.2480	0.2815	0.2637	0.0757	0.2420
IMDB-F	0.0398	0.1032	0.1991	0.2977	0.3002	0.2989	0.0583	0.2799
LLOG-F	0.0738	0.0322	0.1258	0.1488	0.1728	0.1599	0.0516	0.1499
mediamill	0.0784	0.0389	0.4467	0.5843	0.6372	0.6096	0.1232	0.5678
medical	0.0000	0.0642	0.1888	0.2083	0.4405	0.2829	0.0304	0.2799
Music	0.0000	0.5972	0.3314	0.3419	0.8806	0.4926	0.4657	0.4844
NUS-WIDE-bow	0.0490	0.0440	0.2185	0.2898	0.3584	0.3205	0.0606	0.3021
NUS-WIDE-cVLADplus	0.1094	0.0409	0.2758	0.3470	0.4200	0.3800	0.0782	0.3385
OHSUMED-F	0.0754	0.0976	0.1787	0.2411	0.2361	0.2386	0.1231	0.2492
PlantGO	0.0000	0.1866	0.2049	0.2205	0.4028	0.2850	0.0876	0.2904
PlantPseAAC	0.1633	0.1497	0.2364	0.2398	0.3163	0.2728	0.0780	0.2667
rcv1subset1	0.0690	0.0355	0.2381	0.3294	0.3283	0.3529	0.1057	0.3092
REUTERS-K500-EX2	0.3402	0.0136	0.4292	0.4737	0.4807	0.4772	0.2371	0.4632
scene	0.5768	0.1030	0.6971	0.7185	0.7946	0.7547	0.7582	0.7353
SLASHDOT-F	0.2249	0.0703	0.2692	0.2857	0.2972	0.2913	0.1336	0.2960
solar_flare-L3	0.0000	0.3333	0.5000	0.5000	1.0000	0.6667	0.4405	0.6667
Stackex_chess	0.0119	0.0233	0.1013	0.1703	0.1847	0.1772	0.0356	0.1397
Stackex_coffee	0.0000	0.0707	0.0875	0.0970	0.3478	0.1517	0.0098	0.1453
Stackex_philosophy	0.0369	0.0026	0.0968	0.1440	0.1807	0.1520	0.0089	0.1198
tmc2007-500	0.2192	0.0809	0.5018	0.6124	0.6743	0.6419	0.4385	0.6028
VirusGO	0.0952	0.2540	0.4127	0.4524	0.7063	0.5515	0.1937	0.5152
VirusPseAAC	0.0000	0.3968	0.2857	0.2857	0.7619	0.4156	0.2060	0.4186
Water-quality	0.0000	0.5377	0.3843	0.4050	0.9023	0.5591	0.4894	0.5557
Yahoo_Arts	0.0921	0.1098	0.2283	0.2791	0.3722	0.3190	0.1272	0.2762
Yahoo_Business	0.5116	0.0298	0.6782	0.8591	0.6997	0.7712	0.1680	0.6757
Yahoo_Computers	0.3534	0.0435	0.4448	0.5432	0.4706	0.5043	0.1838	0.4691
Yahoo_Education	0.1114	0.0702	0.2251	0.2631	0.3251	0.2909	0.1245	0.2770
Yahoo_Entertainment	0.2003	0.0945	0.3148	0.3548	0.4093	0.3801	0.1952	0.3500
Yahoo_Health	0.2769	0.0557	0.4153	0.5023	0.4907	0.4964	0.1657	0.4477
Yahoo_Recreation	0.1551	0.0966	0.2595	0.2852	0.3513	0.3148	0.2219	0.2937
Yahoo_Reference	0.3400	0.0343	0.3834	0.4201	0.3929	0.4060	0.0965	0.4325
Yahoo_Science	0.1213	0.0600	0.1967	0.2273	0.2610	0.2430	0.0826	0.2132
Yahoo_Social	0.2595	0.0588	0.4041	0.4351	0.5774	0.4931	0.1631	0.4548
yeast	0.1694	0.2184	0.5402	0.6480	0.7001	0.6730	0.4475	0.6545
Yelp	0.4457	0.1838	0.6480	0.8699	0.6688	0.7562	0.6050	0.6947

Table 25: Detailed results for PYRAMID ELM(PPT)

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.2417	0.0748	0.3368	0.3396	0.4549	0.3889	0.3685	0.3822
3s-guardian1000	0.0000	0.3817	0.1720	0.2097	0.3387	0.2590	0.2369	0.2680
3s-inter3000	0.0588	0.3529	0.1373	0.1667	0.2059	0.1842	0.0833	0.1818
3s-reuters1000	0.0667	0.4222	0.1644	0.1678	0.3667	0.2302	0.2261	0.2400
amphibians	0.0556	0.3730	0.3976	0.6287	0.6310	0.6298	0.4169	0.5524
bibtex	0.0703	0.0162	0.1623	0.2949	0.1887	0.2301	0.0469	0.2234
birds	0.1026	0.1525	0.3120	0.3809	0.4906	0.4288	0.3098	0.3892
bookmarks	0.1492	0.0246	0.1798	0.1926	0.2377	0.2128	0.0446	0.1176
CAL500	0.0000	0.2257	0.2515	0.3473	0.4938	0.4078	0.2021	0.3961
corel16k001	0.0000	0.0830	0.0961	0.1043	0.4528	0.1695	0.0281	0.1696
Corel5k	0.0000	0.0218	0.1338	0.1722	0.3241	0.2249	0.0234	0.2212
emotions	0.1833	0.2583	0.5078	0.5697	0.7306	0.6402	0.6081	0.6265
enron	0.1170	0.0785	0.3990	0.4894	0.5921	0.5359	0.1819	0.4896
EukaryoteGO	0.5876	0.0301	0.7181	0.7362	0.8447	0.7867	0.3550	0.7443
EukaryotePseAAC	0.1750	0.0778	0.3420	0.3685	0.5056	0.4263	0.1116	0.4078
flags	0.1500	0.2857	0.5567	0.6858	0.7017	0.6937	0.5818	0.6875
foodtruck	0.0732	0.2744	0.3317	0.4615	0.6818	0.5504	0.2541	0.4398
genbase	0.8507	0.0122	0.8930	0.8980	0.9552	0.9257	0.5029	0.8736
GnegativeGO	0.9071	0.0152	0.9393	0.9571	0.9536	0.9554	0.7765	0.9420
GnegativePseAAC	0.5786	0.0902	0.6702	0.6774	0.7643	0.7182	0.3536	0.6834
GpositiveGO	0.9231	0.0337	0.9231	0.9231	0.9231	0.9231	0.9415	0.9333
GpositivePseAAC	0.5000	0.1731	0.5962	0.5962	0.6923	0.6406	0.5163	0.6667
HumanGO	0.5338	0.0560	0.6803	0.7165	0.8221	0.7656	0.4773	0.7032
HumanPseAAC	0.1576	0.1282	0.3143	0.3441	0.4673	0.3963	0.1462	0.3716
Image	0.4000	0.2040	0.5567	0.5913	0.6883	0.6361	0.6160	0.6031
IMDB-ECC-F	0.0000	0.2206	0.1584	0.1714	0.6154	0.2681	0.0799	0.2644
IMDB-F	0.0000	0.2153	0.1684	0.1846	0.5961	0.2819	0.0824	0.2795
LLOG-F	0.0820	0.0349	0.1531	0.1708	0.2295	0.1958	0.0337	0.1799
mediamill	0.0523	0.0409	0.4268	0.5841	0.6247	0.6037	0.0768	0.5465
medical	0.5204	0.0172	0.6745	0.7150	0.7959	0.7533	0.2403	0.7185
Music	0.2167	0.2111	0.5736	0.6764	0.7972	0.7319	0.7133	0.7099
NUS-WIDE-bow	0.0071	0.0414	0.2487	0.3156	0.5051	0.3885	0.0380	0.3613
NUS-WIDE-cVLADplus	0.0233	0.0503	0.2420	0.2886	0.5631	0.3816	0.0523	0.3498
OHSUMED-F	0.1034	0.1031	0.2771	0.3573	0.4134	0.3833	0.1833	0.3587
PlantGO	0.6458	0.0477	0.7222	0.7344	0.7865	0.7595	0.6518	0.7465
PlantPseAAC	0.1429	0.1344	0.2483	0.2704	0.3401	0.3013	0.1437	0.3190
rcv1subset1	0.0033	0.0832	0.1778	0.2286	0.4933	0.3124	0.0680	0.2501
REUTERS-K500-EX2	0.2560	0.0256	0.3764	0.4197	0.5067	0.4591	0.1251	0.3339
scene	0.5270	0.1224	0.6183	0.6452	0.6826	0.6634	0.6837	0.6629
SLASHDOT-F	0.2778	0.0572	0.3761	0.4106	0.4475	0.4283	0.2283	0.4439
solar_flare-L3	0.2000	0.6000	0.2000	0.2000	0.2000	0.2000	0.1333	0.1818
Stackex_chess	0.0000	0.0375	0.1223	0.1696	0.3842	0.2353	0.0547	0.1668
Stackex_coffee	0.0000	0.0371	0.1152	0.1964	0.2319	0.2127	0.0195	0.1732
Stackex_philosophy	0.0025	0.0445	0.1093	0.1303	0.4413	0.2012	0.0398	0.1542
tmc2007-500	0.2269	0.0742	0.5121	0.6290	0.6730	0.6503	0.3612	0.6251
VirusGO	0.5714	0.0873	0.7659	0.7659	0.9524	0.8490	0.6689	0.8136
VirusPseAAC	0.2381	0.2619	0.4325	0.4405	0.6905	0.5378	0.3681	0.4923
Water-quality	0.0094	0.3275	0.4477	0.5636	0.7145	0.6302	0.5832	0.6244
Yahoo_Arts	0.0187	0.1498	0.1916	0.2200	0.5120	0.3077	0.1027	0.2855
Yahoo_Business	0.2656	0.0484	0.5448	0.6257	0.7834	0.6958	0.0873	0.6074
Yahoo_Computers	0.1124	0.0812	0.3318	0.3844	0.6325	0.4782	0.0734	0.3834
Yahoo_Education	0.0000	0.1470	0.1702	0.1801	0.6706	0.2840	0.0782	0.2727
Yahoo_Entertainment	0.1115	0.1377	0.2835	0.3117	0.5827	0.4061	0.1365	0.3371
Yahoo_Health	0.0793	0.0920	0.3114	0.3606	0.6404	0.4614	0.0941	0.3977
Yahoo_Recreation	0.0390	0.1565	0.1742	0.1900	0.4387	0.2652	0.1041	0.2335
Yahoo_Reference	0.1245	0.0844	0.2988	0.3190	0.6133	0.4197	0.0641	0.3320
Yahoo_Science	0.0389	0.1079	0.1644	0.1792	0.4609	0.2580	0.0644	0.2173
Yahoo_Social	0.1675	0.0623	0.3560	0.3775	0.6635	0.4812	0.0448	0.3834
yeast	0.0868	0.2400	0.5149	0.5979	0.7453	0.6635	0.4315	0.6479
Yelp	0.2044	0.2734	0.5257	0.6221	0.7427	0.6771	0.5086	0.6532

Table 26: Detailed results for PYRAMID SVM Deph=5

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5825	0.0327	0.6890	0.6918	0.8013	0.7425	0.7179	0.7145
3s-guardian1000	0.3871	0.2151	0.4301	0.4677	0.4355	0.4510	0.1870	0.4286
3s-inter3000	0.0000	0.3529	0.2255	0.2353	0.4412	0.3069	0.1220	0.3077
3s-reuters1000	0.1667	0.2778	0.2000	0.2000	0.2333	0.2154	0.1831	0.2188
amphibians	0.0000	0.3175	0.4733	0.6343	0.7538	0.6889	0.4581	0.6429
bibtex	0.1405	0.0157	0.2479	0.4051	0.2846	0.3343	0.1286	0.3076
birds	0.1795	0.0837	0.3150	0.4274	0.3479	0.3835	0.2586	0.4151
bookmarks	0.0000	0.0207	0.0729	0.0799	0.2136	0.1163	0.0369	0.1143
CAL500	0.0000	0.2412	0.3018	0.3469	0.6957	0.4629	0.1549	0.4623
corel16k001	0.0000	0.0623	0.1162	0.1310	0.4141	0.1990	0.0279	0.1983
Corel5k	0.0000	0.0276	0.1054	0.1253	0.3143	0.1792	0.0074	0.1799
emotions	0.3333	0.1944	0.5708	0.6944	0.6694	0.6817	0.6543	0.6759
enron	0.1813	0.0519	0.4485	0.6516	0.5042	0.5685	0.1135	0.5392
EukaryoteGO	0.7049	0.0211	0.7715	0.8013	0.8091	0.8052	0.6389	0.7971
EukaryotePseAAC	0.3037	0.0583	0.4007	0.4509	0.4517	0.4513	0.1620	0.4448
flags	0.1500	0.2429	0.5958	0.7150	0.7342	0.7245	0.5992	0.7344
foodtruck	0.3659	0.1382	0.5011	0.7317	0.5153	0.6047	0.1204	0.5072
genbase	0.9701	0.0011	0.9876	0.9950	0.9925	0.9938	0.6296	0.9877
GnegativeGO	0.9214	0.0125	0.9429	0.9536	0.9536	0.9536	0.8180	0.9521
GnegativePseAAC	0.7000	0.0634	0.7440	0.7536	0.7786	0.7659	0.4723	0.7593
GpositiveGO	0.9038	0.0337	0.9231	0.9327	0.9327	0.9327	0.9402	0.9333
GpositivePseAAC	0.7500	0.1058	0.7596	0.7596	0.7692	0.7644	0.6036	0.7843
HumanGO	0.6399	0.0420	0.7337	0.7787	0.7840	0.7813	0.6148	0.7483
HumanPseAAC	0.2733	0.0967	0.3430	0.3810	0.3826	0.3818	0.1665	0.3890
Image	0.5550	0.1470	0.6592	0.7050	0.7158	0.7104	0.6827	0.6811
IMDB-ECC-F	0.0010	0.1150	0.2307	0.2780	0.4868	0.3539	0.0573	0.3425
IMDB-F	0.0025	0.1164	0.2504	0.3021	0.5049	0.3780	0.0623	0.3657
LLOG-F	0.1885	0.0175	0.2425	0.2951	0.2507	0.2711	0.0597	0.3220
mediamill	0.0000	0.0629	0.3095	0.3691	0.6823	0.4791	0.0494	0.4623
medical	0.7041	0.0086	0.7976	0.8622	0.8197	0.8404	0.3225	0.8403
Music	0.2500	0.1889	0.5792	0.7444	0.7028	0.7230	0.6970	0.7069
NUS-WIDE-bow	0.1922	0.0281	0.3459	0.4530	0.4102	0.4305	0.0347	0.3855
NUS-WIDE-cVLADplus	0.2193	0.0260	0.3654	0.4763	0.4082	0.4396	0.0513	0.4187
OHSUMED-F	0.2383	0.0631	0.4435	0.5763	0.5270	0.5506	0.3985	0.5299
PlantGO	0.6875	0.0408	0.7413	0.7656	0.7743	0.7699	0.7065	0.7751
PlantPseAAC	0.2653	0.1139	0.3036	0.3265	0.3197	0.3231	0.1439	0.3366
rcv1subset1	0.1233	0.0325	0.3195	0.4662	0.3974	0.4290	0.1792	0.4053
REUTERS-K500-EX2	0.4072	0.0115	0.4822	0.5396	0.5134	0.5262	0.1884	0.5181
scene	0.5519	0.0989	0.7089	0.7393	0.8382	0.7856	0.7645	0.7504
SLASHDOT-F	0.4444	0.0447	0.5313	0.5860	0.5661	0.5759	0.3555	0.5684
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0000	0.0275	0.0927	0.1175	0.2504	0.1599	0.0045	0.1590
Stackex_coffee	0.0000	0.0636	0.0946	0.1056	0.3478	0.1620	0.0098	0.1589
Stackex_philosophy	0.0000	0.0452	0.0813	0.0889	0.4326	0.1474	0.0072	0.1449
tmc2007-500	0.3105	0.0602	0.5865	0.7164	0.7250	0.7207	0.5886	0.6854
VirusGO	0.7619	0.0476	0.8651	0.9286	0.8889	0.9083	0.6544	0.8750
VirusPseAAC	0.4286	0.1429	0.5000	0.5238	0.5476	0.5354	0.3212	0.5714
Water-quality	0.0283	0.2999	0.4031	0.6243	0.5332	0.5751	0.4572	0.5667
Yahoo_Arts	0.2764	0.0658	0.3600	0.4351	0.3882	0.4103	0.2123	0.3854
Yahoo_Business	0.5758	0.0258	0.7259	0.8915	0.7428	0.8104	0.2835	0.7245
Yahoo_Computers	0.4450	0.0376	0.5233	0.6048	0.5461	0.5739	0.2715	0.5405
Yahoo_Education	0.3142	0.0432	0.3929	0.4475	0.4333	0.4402	0.2415	0.4372
Yahoo_Entertainment	0.4446	0.0544	0.5488	0.6073	0.6033	0.6053	0.3625	0.5795
Yahoo_Health	0.4452	0.0369	0.5804	0.6807	0.6303	0.6545	0.2706	0.6142
Yahoo_Recreation	0.3687	0.0635	0.4606	0.5058	0.5238	0.5147	0.3995	0.4813
Yahoo_Reference	0.4595	0.0315	0.5327	0.5829	0.5695	0.5761	0.2051	0.5467
Yahoo_Science	0.2830	0.0366	0.3589	0.4150	0.3987	0.4067	0.2041	0.4068
Yahoo_Social	0.5677	0.0232	0.6312	0.6895	0.6460	0.6670	0.2279	0.6176
yeast	0.2273	0.1924	0.5583	0.6823	0.6893	0.6858	0.4362	0.6798
Yelp	0.5384	0.1318	0.7581	0.8378	0.8593	0.8484	0.7720	0.8184

Table 27: Detailed results for PYRAMID SVM Depth=10

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5674	0.0334	0.6808	0.6844	0.8029	0.7390	0.7144	0.7106
3s-guardian1000	0.2903	0.2204	0.3548	0.4194	0.3548	0.3844	0.1569	0.3881
3s-inter3000	0.0000	0.3529	0.2255	0.2353	0.4412	0.3069	0.1220	0.3077
3s-reuters1000	0.1667	0.3056	0.1778	0.1778	0.2000	0.1882	0.1228	0.1791
amphibians	0.0000	0.2778	0.5063	0.6361	0.7888	0.7043	0.5788	0.7009
bibtex	0.1541	0.0140	0.2843	0.4534	0.3186	0.3742	0.1790	0.3717
birds	0.2821	0.0810	0.4145	0.5385	0.4444	0.4870	0.3359	0.4737
bookmarks	0.0909	0.0000	0.1051	0.1453	0.1671	0.1490	0.0513	0.1412
CAL500	0.0000	0.2453	0.2967	0.3409	0.6899	0.4563	0.1536	0.4567
corel16k001	0.0000	0.0515	0.1294	0.1520	0.3812	0.2174	0.0400	0.2165
Corel5k	0.0000	0.0234	0.1266	0.1573	0.3297	0.2130	0.0176	0.2127
emotions	0.3167	0.1889	0.5681	0.6972	0.6694	0.6831	0.6701	0.6852
enron	0.1813	0.0513	0.4563	0.6757	0.5168	0.5856	0.1036	0.5481
EukaryoteGO	0.6933	0.0211	0.7728	0.7979	0.8275	0.8124	0.6911	0.8013
EukaryotePseAAC	0.3050	0.0577	0.3977	0.4432	0.4500	0.4466	0.1625	0.4467
flags	0.2000	0.2571	0.6067	0.6883	0.7675	0.7258	0.5924	0.7313
foodtruck	0.3659	0.1463	0.4917	0.7236	0.5112	0.5992	0.1174	0.4857
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9143	0.0152	0.9357	0.9536	0.9393	0.9464	0.6911	0.9412
GnegativePseAAC	0.6857	0.0661	0.7190	0.7321	0.7393	0.7357	0.4532	0.7413
GpositiveGO	0.9038	0.0288	0.9327	0.9423	0.9519	0.9471	0.9521	0.9434
GpositivePseAAC	0.7115	0.1154	0.7308	0.7308	0.7500	0.7403	0.5846	0.7647
HumanGO	0.6656	0.0367	0.7621	0.8060	0.8124	0.8092	0.6709	0.7796
HumanPseAAC	0.2701	0.0898	0.3103	0.3392	0.3269	0.3330	0.1518	0.3622
Image	0.5500	0.1490	0.6808	0.7225	0.7708	0.7459	0.6995	0.6965
IMDB-ECC-F	0.0000	0.1159	0.2322	0.2787	0.4972	0.3572	0.0613	0.3447
IMDB-F	0.0033	0.1166	0.2464	0.2988	0.4963	0.3730	0.0628	0.3610
LLOG-F	0.2049	0.0169	0.2466	0.2910	0.2507	0.2693	0.0589	0.3348
mediamill	0.0475	0.0375	0.4374	0.6299	0.5977	0.6134	0.0587	0.5544
medical	0.6837	0.0100	0.7653	0.8248	0.7840	0.8039	0.3010	0.8151
Music	0.2333	0.1833	0.5847	0.7389	0.7250	0.7319	0.7216	0.7203
NUS-WIDE-bow	0.1727	0.0392	0.3659	0.4446	0.4032	0.4400	0.0556	0.3748
NUS-WIDE-cVLADplus	0.2260	0.0252	0.3885	0.5104	0.4420	0.4738	0.0556	0.4492
OHSUMED-F	0.2505	0.0626	0.4718	0.5998	0.5822	0.5909	0.4015	0.5596
PlantGO	0.6875	0.0425	0.7396	0.7552	0.7726	0.7638	0.7116	0.7678
PlantPseAAC	0.2755	0.1080	0.3223	0.3452	0.3503	0.3478	0.1759	0.3682
rcv1subset1	0.0850	0.0320	0.3303	0.4713	0.4468	0.4587	0.2246	0.4418
REUTERS-K500-EX2	0.3866	0.0112	0.4779	0.5311	0.5215	0.5263	0.2172	0.5355
scene	0.5726	0.0954	0.7220	0.7545	0.8402	0.7951	0.7688	0.7570
SLASHDOT-F	0.4233	0.0432	0.5130	0.5619	0.5595	0.5607	0.3593	0.5751
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0119	0.0141	0.1153	0.1981	0.1588	0.1763	0.0148	0.1848
Stackex_coffee	0.0000	0.0233	0.1283	0.2536	0.1594	0.1958	0.0246	0.1951
Stackex_philosophy	0.0176	0.0131	0.1361	0.2109	0.2072	0.2090	0.0198	0.1984
tmc2007-500	0.2896	0.0728	0.5973	0.7026	0.7162	0.7186	0.6031	0.6624
VirusGO	0.8571	0.0317	0.9048	0.9286	0.9286	0.9286	0.7378	0.9200
VirusPseAAC	0.3333	0.1349	0.5000	0.5238	0.6429	0.5773	0.3873	0.6383
Water-quality	0.0189	0.2884	0.4066	0.6614	0.5242	0.5849	0.4769	0.5746
Yahoo_Arts	0.2777	0.0682	0.3821	0.4599	0.4370	0.4482	0.2158	0.4071
Yahoo_Business	0.5695	0.0258	0.7269	0.8819	0.7555	0.8138	0.3426	0.7315
Yahoo_Computers	0.4556	0.0436	0.5126	0.5817	0.5596	0.5976	0.2692	0.5572
Yahoo_Education	0.3330	0.0251	0.4140	0.4667	0.4122	0.4232	0.2444	0.4512
Yahoo_Entertainment	0.4682	0.0553	0.5480	0.6169	0.5999	0.6181	0.3500	0.5644
Yahoo_Health	0.4072	0.0405	0.5566	0.6543	0.6273	0.6405	0.2602	0.5905
Yahoo_Recreation	0.3841	0.0862	0.4854	0.4871	0.5238	0.4937	0.3781	0.4914
Yahoo_Reference	0.4384	0.0300	0.4982	0.5387	0.5289	0.5337	0.1929	0.5377
Yahoo_Science	0.2961	0.0481	0.3824	0.4339	0.3891	0.3915	0.2113	0.4262
Yahoo_Social	0.5673	0.0132	0.6460	0.6658	0.6703	0.6783	0.2335	0.6257
yeast	0.2149	0.1910	0.5750	0.6864	0.7211	0.7034	0.4509	0.6897
Yelp	0.5125	0.1404	0.7473	0.8235	0.8668	0.8446	0.7654	0.8099

Table 28: Detailed results for PYRAMID SVM Depth=25

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5451	0.0351	0.6636	0.6670	0.7918	0.7240	0.7007	0.6974
3s-guardian1000	0.0645	0.1989	0.0645	0.0645	0.0645	0.0645	0.0417	0.0976
3s-inter3000	0.0000	0.3039	0.3039	0.3137	0.6176	0.4161	0.1627	0.4151
3s-reuters1000	0.0667	0.3278	0.1500	0.1500	0.2333	0.1826	0.0918	0.1918
amphibians	0.0556	0.2619	0.5386	0.6435	0.8396	0.7286	0.5982	0.7227
bibtex	0.1544	0.0111	0.3399	0.5001	0.3660	0.4362	0.2543	0.4362
birds	0.2308	0.0742	0.3786	0.5043	0.4128	0.4540	0.3374	0.4954
bookmarks	0.1770	0.0154	0.1880	0.2171	0.2220	0.2125	0.0905	0.2002
CAL500	0.0000	0.2455	0.2974	0.3412	0.6918	0.4570	0.1542	0.4573
corel16k001	0.0000	0.0460	0.1362	0.1662	0.3650	0.2284	0.0423	0.2264
Corel5k	0.0000	0.0218	0.1329	0.1684	0.3310	0.2232	0.0258	0.2257
emotions	0.3333	0.1944	0.5928	0.6833	0.7528	0.7164	0.6772	0.7034
enron	0.1988	0.0489	0.4975	0.6888	0.5752	0.6269	0.1508	0.5902
EukaryoteGO	0.6881	0.0211	0.7657	0.7960	0.8142	0.8050	0.6923	0.7980
EukaryotePseAAC	0.3164	0.0406	0.3881	0.4405	0.4272	0.4710	0.1570	0.4633
flags	0.1500	0.2786	0.5736	0.6700	0.7358	0.7014	0.5818	0.7068
foodtruck	0.3415	0.1382	0.4877	0.7195	0.5243	0.6066	0.1495	0.5143
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9143	0.0134	0.9429	0.9607	0.9536	0.9571	0.7888	0.9485
GnegativePseAAC	0.6786	0.0652	0.7167	0.7321	0.7393	0.7357	0.4625	0.7439
GpositiveGO	0.9231	0.0288	0.9327	0.9423	0.9327	0.9375	0.9498	0.9423
GpositivePseAAC	0.7500	0.1154	0.7692	0.7692	0.7885	0.7787	0.5947	0.7736
HumanGO	0.6720	0.0358	0.7696	0.8071	0.8296	0.8182	0.6719	0.7886
HumanPseAAC	0.2830	0.0974	0.3650	0.4014	0.4159	0.4085	0.1793	0.4028
Image	0.4700	0.1800	0.6150	0.6525	0.7292	0.6887	0.6487	0.6443
IMDB-ECC-F	0.0000	0.2074	0.1599	0.1747	0.5790	0.2684	0.0766	0.2666
IMDB-F	0.0000	0.2192	0.1718	0.1874	0.6436	0.2902	0.0762	0.2860
LLOG-F	0.1721	0.0186	0.2275	0.2691	0.2507	0.2596	0.0503	0.3089
mediamill	0.1093	0.0318	0.4797	0.7190	0.5853	0.6453	0.0867	0.5882
medical	0.6837	0.0093	0.7772	0.8316	0.8095	0.8204	0.2926	0.8299
Music	0.2833	0.1833	0.6000	0.7694	0.7167	0.7421	0.7095	0.7155
NUS-WIDE-bow	0.1786	0.0550	0.3860	0.4230	0.3977	0.4335	0.0472	0.3581
NUS-WIDE-cVLADplus	0.2121	0.0402	0.3840	0.5179	0.4320	0.4507	0.0424	0.4566
OHSUMED-F	0.2570	0.0602	0.4620	0.5871	0.5559	0.5711	0.4029	0.5582
PlantGO	0.6667	0.0434	0.7292	0.7500	0.7674	0.7586	0.6329	0.7642
PlantPseAAC	0.2857	0.1020	0.3427	0.3707	0.3759	0.3733	0.1744	0.4000
rcv1subset1	0.0850	0.0319	0.3298	0.4728	0.4484	0.4603	0.2228	0.4425
REUTERS-K500-EX2	0.3540	0.0118	0.4818	0.5264	0.5707	0.5477	0.2464	0.5460
scene	0.5477	0.1051	0.7047	0.7303	0.8402	0.7814	0.7508	0.7397
SLASHDOT-F	0.4365	0.0432	0.5322	0.5833	0.5820	0.5827	0.3673	0.5850
solar_flare-L3	0.2000	0.4000	0.4000	0.4000	0.6000	0.4800	0.3238	0.5000
Stackex_chess	0.0298	0.0108	0.1478	0.2904	0.1740	0.2176	0.0378	0.2509
Stackex_coffee	0.0000	0.0209	0.0910	0.1775	0.1522	0.1639	0.0355	0.1918
Stackex_philosophy	0.0804	0.0104	0.2029	0.3300	0.2349	0.2745	0.0482	0.2743
tmc2007-500	0.2912	0.0645	0.5898	0.6805	0.7360	0.7302	0.5948	0.6651
VirusGO	0.7619	0.0476	0.8651	0.9286	0.8889	0.9083	0.6544	0.8750
VirusPseAAC	0.4762	0.1270	0.5714	0.6190	0.6190	0.6190	0.3706	0.6364
Water-quality	0.0094	0.2945	0.3987	0.6415	0.5278	0.5791	0.4795	0.5711
Yahoo_Arts	0.3007	0.0763	0.3635	0.4456	0.4382	0.4235	0.2010	0.4289
Yahoo_Business	0.5459	0.0339	0.7473	0.9046	0.7383	0.8005	0.3271	0.7195
Yahoo_Computers	0.4422	0.0507	0.5327	0.5848	0.5450	0.5872	0.2659	0.5808
Yahoo_Education	0.3119	0.0084	0.3926	0.4791	0.4009	0.4304	0.2511	0.4448
Yahoo_Entertainment	0.4486	0.0339	0.5571	0.5931	0.6083	0.5947	0.3332	0.5568
Yahoo_Health	0.4030	0.0634	0.5799	0.6414	0.6089	0.6267	0.2743	0.5693
Yahoo_Recreation	0.4019	0.0969	0.4963	0.4712	0.5437	0.4994	0.3821	0.4824
Yahoo_Reference	0.4206	0.0217	0.4915	0.5160	0.5537	0.5225	0.2042	0.5543
Yahoo_Science	0.2613	0.0438	0.3501	0.4048	0.4304	0.4172	0.1933	0.3831
Yahoo_Social	0.4917	0.0263	0.5899	0.6390	0.6598	0.6493	0.2342	0.5939
yeast	0.1777	0.1951	0.5515	0.6853	0.6948	0.6900	0.4118	0.6777
Yelp	0.5105	0.1428	0.7387	0.8123	0.8516	0.8315	0.7627	0.8058

Table 29: Detailed results for PYRAMID SVM Depth=50

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5446	0.0345	0.6660	0.6693	0.7951	0.7268	0.7024	0.7016
3s-guardian1000	0.1935	0.2258	0.2204	0.2258	0.2419	0.2336	0.1581	0.2759
3s-inter3000	0.0000	0.2941	0.3333	0.3431	0.7353	0.4679	0.2580	0.4643
3s-reuters1000	0.1667	0.2889	0.1833	0.1833	0.2000	0.1913	0.0921	0.1875
amphibians	0.0556	0.2460	0.5493	0.6870	0.8179	0.7468	0.5811	0.7257
bibtex	0.1730	0.0126	0.3355	0.4869	0.3803	0.4270	0.2652	0.4483
birds	0.2051	0.0796	0.3657	0.4940	0.4128	0.4498	0.3265	0.4779
bookmarks	0.1965	0.0000	0.2601	0.2740	0.2771	0.2538	0.1098	0.3026
CAL500	0.0000	0.2194	0.3001	0.3640	0.6287	0.4611	0.1416	0.4614
corel16k001	0.0007	0.0344	0.1290	0.1843	0.2460	0.2107	0.0435	0.2129
Corel5k	0.0000	0.0136	0.1186	0.2299	0.2000	0.2139	0.0330	0.2196
emotions	0.3000	0.2056	0.5125	0.6250	0.6028	0.6137	0.6250	0.6442
enron	0.1813	0.0490	0.4802	0.6739	0.5623	0.6130	0.1536	0.5850
EukaryoteGO	0.6972	0.0204	0.7741	0.8005	0.8262	0.8132	0.6816	0.8065
EukaryotePseAAC	0.3252	0.0587	0.4152	0.4824	0.4795	0.4816	0.2222	0.4395
flags	0.2000	0.2500	0.6067	0.7075	0.7608	0.7332	0.5954	0.7368
foodtruck	0.3659	0.1362	0.5129	0.7236	0.5568	0.6293	0.1784	0.5379
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9071	0.0143	0.9393	0.9536	0.9571	0.9554	0.7073	0.9456
GnegativePseAAC	0.7000	0.0589	0.7476	0.7607	0.7821	0.7713	0.4728	0.7740
GpositiveGO	0.9231	0.0288	0.9327	0.9327	0.9423	0.9375	0.9502	0.9434
GpositivePseAAC	0.7500	0.1010	0.7692	0.7692	0.7885	0.7787	0.6115	0.7961
HumanGO	0.6399	0.0402	0.7489	0.7862	0.8221	0.8037	0.6638	0.7664
HumanPseAAC	0.2701	0.0896	0.3084	0.3371	0.3237	0.3302	0.1523	0.3607
Image	0.5050	0.1600	0.6467	0.6942	0.7408	0.7167	0.6764	0.6721
IMDB-ECC-F	0.0000	0.2082	0.1597	0.1744	0.5837	0.2685	0.0747	0.2662
IMDB-F	0.0000	0.2088	0.1715	0.1888	0.5905	0.2861	0.0772	0.2839
LLOG-F	0.1803	0.0170	0.2357	0.2814	0.2630	0.2719	0.0644	0.3390
mediamill	0.0998	0.0328	0.4753	0.6927	0.6003	0.6432	0.0843	0.5864
medical	0.6939	0.0098	0.7866	0.8316	0.8350	0.8333	0.3063	0.8273
Music	0.2833	0.1778	0.6014	0.7556	0.7306	0.7428	0.7160	0.7288
NUS-WIDE-bow	0.0345	0.0304	0.2607	0.2653	0.3730	0.3266	0.0125	0.3047
NUS-WIDE-cVLADplus	0.2056	0.0388	0.3593	0.5161	0.4508	0.4995	0.0607	0.4534
OHSUMED-F	0.2383	0.0634	0.4698	0.5924	0.5915	0.5920	0.4028	0.5627
PlantGO	0.6667	0.0417	0.7292	0.7500	0.7674	0.7586	0.6523	0.7714
PlantPseAAC	0.2857	0.1029	0.3291	0.3520	0.3503	0.3512	0.2021	0.3795
rcv1subset1	0.0950	0.0308	0.3369	0.4802	0.4393	0.4589	0.2379	0.4486
REUTERS-K500-EX2	0.3832	0.0113	0.5026	0.5490	0.5797	0.5640	0.2612	0.5650
scene	0.5560	0.0982	0.7075	0.7420	0.8257	0.7817	0.7595	0.7482
SLASHDOT-F	0.4286	0.0458	0.5300	0.5763	0.5886	0.5824	0.3595	0.5733
solar_flare-L3	0.0000	0.3333	0.5000	0.5000	1.0000	0.6667	0.4405	0.6667
Stackex_chess	0.0238	0.0112	0.1574	0.2924	0.1973	0.2356	0.0513	0.2701
Stackex_coffee	0.0435	0.0180	0.0942	0.1884	0.0978	0.1288	0.0318	0.1639
Stackex_philosophy	0.0729	0.0097	0.2020	0.3359	0.2408	0.2805	0.0608	0.3041
tmc2007-500	0.2620	0.0835	0.5475	0.6872	0.8319	0.7015	0.6079	0.6758
VirusGO	0.8095	0.0476	0.8810	0.9048	0.9127	0.9087	0.6600	0.8800
VirusPseAAC	0.6190	0.0952	0.6905	0.7381	0.7143	0.7260	0.4111	0.7273
Water-quality	0.0094	0.2884	0.3983	0.6492	0.5219	0.5786	0.4800	0.5729
Yahoo_Arts	0.2684	0.0716	0.3911	0.4734	0.4704	0.4719	0.2446	0.4166
Yahoo_Business	0.5365	0.0580	0.7322	0.8984	0.7775	0.8262	0.3712	0.7271
Yahoo_Computers	0.4327	0.0000	0.5040	0.5520	0.5164	0.5146	0.3076	0.5638
Yahoo_Education	0.2773	0.0456	0.3505	0.4274	0.4418	0.4249	0.3017	0.4254
Yahoo_Entertainment	0.3319	0.0602	0.5065	0.5195	0.6435	0.5717	0.3456	0.5054
Yahoo_Health	0.3527	0.0356	0.5206	0.5835	0.6019	0.6086	0.2517	0.5931
Yahoo_Recreation	0.3934	0.0792	0.4463	0.5261	0.5442	0.4955	0.3705	0.4784
Yahoo_Reference	0.3886	0.0177	0.4958	0.5445	0.5260	0.4990	0.2258	0.5205
Yahoo_Science	0.2457	0.0404	0.3365	0.3935	0.4156	0.4043	0.2003	0.3951
Yahoo_Social	0.5033	0.0255	0.5944	0.6451	0.6565	0.6508	0.2300	0.5993
yeast	0.1901	0.1972	0.5557	0.6742	0.7056	0.6895	0.4326	0.6792
Yelp	0.5294	0.1400	0.7463	0.8188	0.8527	0.8354	0.7686	0.8091

Table 30: Detailed results for PYRAMID SVM Depth= ∞

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.6022	0.0308	0.7081	0.7101	0.8224	0.7621	0.7345	0.7315
3s-guardian1000	0.1290	0.2043	0.1452	0.1613	0.1452	0.1528	0.1042	0.2083
3s-inter3000	0.0000	0.2941	0.3137	0.3235	0.6176	0.4246	0.1627	0.4231
3s-reuters1000	0.0333	0.2722	0.0667	0.0667	0.1000	0.0800	0.0822	0.1091
amphibians	0.1111	0.2460	0.5553	0.6528	0.8470	0.7373	0.5968	0.7350
bibtex	0.1765	0.0000	0.3695	0.5030	0.3900	0.4648	0.2789	0.4742
birds	0.1538	0.0823	0.2795	0.3889	0.3094	0.3446	0.2806	0.3960
bookmarks	0.2220	0.0000	0.3008	0.2773	0.2645	0.2838	0.1343	0.2978
CAL500	0.0000	0.1739	0.2785	0.4226	0.4494	0.4356	0.1079	0.4342
corel16k001	0.0000	0.0385	0.1068	0.1484	0.2227	0.1781	0.0369	0.1801
Corel5k	0.0000	0.0140	0.1564	0.2467	0.2496	0.2481	0.0333	0.2567
emotions	0.3333	0.2000	0.5625	0.6750	0.6694	0.6722	0.6512	0.6697
enron	0.1871	0.0503	0.4817	0.6751	0.5599	0.6121	0.1498	0.5762
EukaryoteGO	0.7049	0.0204	0.7768	0.7964	0.8284	0.8121	0.6731	0.8077
EukaryotePseAAC	0.3715	0.0584	0.4082	0.4628	0.4686	0.5358	0.1854	0.4655
flags	0.2000	0.2643	0.5852	0.7050	0.7275	0.7161	0.5749	0.7176
foodtruck	0.3659	0.1362	0.4950	0.7561	0.4950	0.5983	0.0934	0.4885
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9143	0.0134	0.9429	0.9571	0.9571	0.9571	0.7784	0.9488
GnegativePseAAC	0.6786	0.0625	0.7298	0.7464	0.7643	0.7553	0.4712	0.7586
GpositiveGO	0.9231	0.0288	0.9327	0.9423	0.9327	0.9375	0.9498	0.9423
GpositivePseAAC	0.7308	0.1106	0.7500	0.7500	0.7692	0.7595	0.5976	0.7767
HumanGO	0.6495	0.0386	0.7594	0.7905	0.8376	0.8134	0.7379	0.7778
HumanPseAAC	0.2637	0.0960	0.3430	0.3842	0.3891	0.3866	0.1644	0.3942
Image	0.4500	0.1720	0.5975	0.6417	0.7058	0.6722	0.6493	0.6461
IMDB-ECC-F	0.0000	0.2087	0.1613	0.1759	0.5910	0.2711	0.0748	0.2689
IMDB-F	0.0000	0.2092	0.1720	0.1891	0.5964	0.2872	0.0773	0.2848
LLOG-F	0.1803	0.0176	0.2343	0.2842	0.2480	0.2648	0.0579	0.3207
mediamill	0.1069	0.0322	0.4871	0.6947	0.6046	0.6465	0.0713	0.5925
medical	0.6837	0.0093	0.7653	0.8146	0.7942	0.8043	0.2897	0.8285
Music	0.2833	0.1778	0.6125	0.7639	0.7556	0.7597	0.7234	0.7333
NUS-WIDE-bow	0.0844	0.0054	0.2455	0.2637	0.4259	0.2914	0.0183	0.3148
NUS-WIDE-cVLADplus	0.2002	0.0000	0.3779	0.5025	0.4860	0.4701	0.0664	0.4794
OHSUMED-F	0.2556	0.0600	0.4645	0.5917	0.5596	0.5752	0.4086	0.5604
PlantGO	0.6771	0.0425	0.7344	0.7552	0.7674	0.7612	0.6349	0.7678
PlantPseAAC	0.2755	0.1037	0.3172	0.3401	0.3401	0.3401	0.1819	0.3711
rcv1subset1	0.1134	0.0226	0.3686	0.5578	0.4515	0.4443	0.2650	0.4529
REUTERS-K500-EX2	0.3832	0.0110	0.4989	0.5495	0.5659	0.5576	0.2639	0.5644
scene	0.5353	0.1017	0.7099	0.7382	0.8610	0.7949	0.7624	0.7504
SLASHDOT-F	0.4286	0.0456	0.5357	0.5833	0.6005	0.5918	0.3607	0.5803
solar_flare-L3	0.0000	0.3333	0.5000	0.5000	1.0000	0.6667	0.4405	0.6667
Stackex_chess	0.0357	0.0104	0.1735	0.3267	0.2047	0.2517	0.0578	0.2908
Stackex_coffee	0.0000	0.0191	0.0813	0.1478	0.1341	0.1406	0.0256	0.1818
Stackex_philosophy	0.0763	0.0000	0.2219	0.3675	0.2560	0.3061	0.0829	0.3474
tmc2007-500	0.2743	0.0858	0.5742	0.6712	0.8062	0.7015	0.5818	0.6620
VirusGO	0.8095	0.0397	0.8810	0.9286	0.9048	0.9165	0.7044	0.8980
VirusPseAAC	0.4286	0.1270	0.6190	0.6429	0.7857	0.7071	0.4014	0.6923
Water-quality	0.0189	0.2864	0.4248	0.6510	0.5676	0.6065	0.5066	0.5941
Yahoo_Arts	0.2398	0.0555	0.3757	0.4907	0.4620	0.4262	0.2351	0.3868
Yahoo_Business	0.5494	0.0000	0.7782	0.8758	0.7954	0.8522	0.4132	0.7607
Yahoo_Computers	0.4514	0.0000	0.5295	0.5174	0.5446	0.5568	0.3237	0.5518
Yahoo_Education	0.3027	0.0215	0.3794	0.4440	0.4538	0.4489	0.2858	0.4409
Yahoo_Entertainment	0.3309	0.0494	0.5051	0.5310	0.7058	0.5473	0.3417	0.5135
Yahoo_Health	0.3471	0.0313	0.5484	0.6242	0.6151	0.6518	0.2633	0.5620
Yahoo_Recreation	0.4038	0.0354	0.4263	0.5471	0.5685	0.5284	0.3952	0.4573
Yahoo_Reference	0.4246	0.0472	0.5092	0.5428	0.5468	0.5199	0.2285	0.5014
Yahoo_Science	0.2878	0.0268	0.3541	0.4266	0.4605	0.4653	0.2306	0.4573
Yahoo_Social	0.6073	0.0269	0.6257	0.7146	0.7189	0.6554	0.2698	0.6727
yeast	0.2066	0.1883	0.5689	0.6967	0.7000	0.6984	0.4306	0.6869
Yelp	0.5015	0.1440	0.7358	0.8164	0.8472	0.8315	0.7576	0.8028

Table 31: Detailed results for PYRAMID SVM Pruned

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.7469	0.0236	0.7626	0.7676	0.7733	0.7705	0.7690	0.7697
3s-guardian1000	0.3226	0.1989	0.3978	0.4677	0.4032	0.4331	0.2389	0.4478
3s-inter3000	0.0000	0.3431	0.2451	0.2549	0.5000	0.3377	0.2054	0.3396
3s-reuters1000	0.1000	0.3056	0.1167	0.1167	0.1333	0.1244	0.0614	0.1270
amphibians	0.0556	0.2540	0.5392	0.6472	0.8364	0.7297	0.6012	0.7288
bibtex	0.1865	0.0121	0.3543	0.5184	0.3910	0.4458	0.2841	0.4672
birds	0.2308	0.0756	0.3573	0.4658	0.3786	0.4177	0.3062	0.4717
bookmarks	0.1855	0.0000	0.2840	0.2498	0.2772	0.2819	0.1369	0.3433
CAL500	0.0000	0.1756	0.2841	0.4218	0.4660	0.4428	0.1083	0.4412
corel16k001	0.0174	0.0195	0.0781	0.1614	0.0851	0.1114	0.0369	0.1295
Corel5k	0.0020	0.0163	0.1531	0.2146	0.2840	0.2445	0.0359	0.2521
emotions	0.3333	0.2000	0.5514	0.6194	0.6694	0.6435	0.6657	0.6727
enron	0.1930	0.0477	0.4826	0.6987	0.5545	0.6183	0.1644	0.5838
EukaryoteGO	0.7023	0.0202	0.7781	0.7981	0.8331	0.8152	0.6716	0.8108
EukaryotePseAAC	0.3308	0.0523	0.3930	0.4434	0.4069	0.4244	0.1614	0.4461
flags	0.1500	0.2643	0.5761	0.6875	0.7358	0.7108	0.5765	0.7176
foodtruck	0.3415	0.1382	0.4889	0.7195	0.5153	0.6005	0.1320	0.5072
genbase	0.9701	0.0011	0.9876	0.9876	1.0000	0.9937	0.6543	0.9878
GnegativeGO	0.9214	0.0125	0.9464	0.9607	0.9571	0.9589	0.7900	0.9521
GnegativePseAAC	0.6714	0.0696	0.7060	0.7214	0.7250	0.7232	0.4397	0.7273
GpositiveGO	0.9231	0.0288	0.9327	0.9423	0.9327	0.9375	0.9498	0.9423
GpositivePseAAC	0.7692	0.1010	0.7692	0.7692	0.7692	0.7692	0.6099	0.7921
HumanGO	0.6688	0.0372	0.7487	0.7937	0.7835	0.7886	0.6543	0.7705
HumanPseAAC	0.2894	0.0861	0.3298	0.3666	0.3382	0.3518	0.1678	0.3842
Image	0.5500	0.1640	0.6350	0.6767	0.6817	0.6792	0.6519	0.6496
IMDB-ECC-F	0.0000	0.2090	0.1475	0.1636	0.5270	0.2497	0.0637	0.2491
IMDB-F	0.0000	0.1903	0.1390	0.1634	0.4109	0.2338	0.0654	0.2327
LLOG-F	0.2276	0.0000	0.2973	0.2832	0.2623	0.3096	0.0689	0.3746
mediamill	0.1259	0.0286	0.4994	0.7783	0.5733	0.6602	0.0724	0.6091
medical	0.6939	0.0095	0.7721	0.8265	0.7891	0.8074	0.3053	0.8235
Music	0.2500	0.1889	0.5500	0.7139	0.6389	0.6743	0.6839	0.6881
NUS-WIDE-bow	0.0675	0.0337	0.2384	0.2702	0.4050	0.2802	0.0095	0.3201
NUS-WIDE-cVLADplus	0.2084	0.0234	0.3504	0.4706	0.3826	0.4221	0.0631	0.4415
OHSUMED-F	0.2448	0.0621	0.4649	0.5925	0.5690	0.5805	0.4062	0.5566
PlantGO	0.6875	0.0434	0.7413	0.7656	0.7743	0.7699	0.6249	0.7642
PlantPseAAC	0.2959	0.1029	0.3189	0.3316	0.3299	0.3308	0.1659	0.3598
rcv1subset1	0.1546	0.0081	0.3678	0.5366	0.4138	0.4834	0.2479	0.4515
REUTERS-K500-EX2	0.3935	0.0110	0.4923	0.5381	0.5434	0.5407	0.2626	0.5526
scene	0.6846	0.0795	0.7372	0.7739	0.7531	0.7633	0.7842	0.7695
SLASHDOT-F	0.4471	0.0444	0.5434	0.6036	0.5833	0.5933	0.3864	0.5783
solar_flare-L3	0.4000	0.3333	0.4000	0.4000	0.4000	0.4000	0.2222	0.4444
Stackex_chess	0.0357	0.0108	0.1620	0.2909	0.1975	0.2353	0.0587	0.2802
Stackex_coffee	0.0435	0.0191	0.0924	0.1391	0.1232	0.1307	0.0205	0.1562
Stackex_philosophy	0.0829	0.0094	0.2037	0.3295	0.2350	0.2743	0.0609	0.3015
tmc2007-500	0.3147	0.0600	0.5895	0.7188	0.7264	0.7226	0.5933	0.6859
VirusGO	0.7619	0.0476	0.8651	0.9286	0.8889	0.9083	0.6544	0.8750
VirusPseAAC	0.5238	0.1270	0.5952	0.6190	0.6429	0.6307	0.3847	0.6364
Water-quality	0.0094	0.2965	0.3900	0.6441	0.4950	0.5598	0.4409	0.5519
Yahoo_Arts	0.3218	0.0211	0.4301	0.4948	0.5104	0.5311	0.2608	0.4592
Yahoo_Business	0.5871	0.0065	0.7481	0.8982	0.8007	0.8198	0.3754	0.7726
Yahoo_Computers	0.3913	0.0000	0.4772	0.5468	0.5551	0.5559	0.3173	0.5823
Yahoo_Education	0.2558	0.0443	0.3379	0.3969	0.4124	0.4175	0.2723	0.3996
Yahoo_Entertainment	0.4517	0.0580	0.5704	0.6286	0.6497	0.6390	0.3991	0.5809
Yahoo_Health	0.3853	0.0208	0.4864	0.6107	0.5864	0.6234	0.2593	0.6148
Yahoo_Recreation	0.4152	0.0528	0.4724	0.5309	0.5359	0.5504	0.4033	0.4844
Yahoo_Reference	0.4308	0.0223	0.4994	0.5010	0.5370	0.5452	0.2181	0.5537
Yahoo_Science	0.2628	0.0175	0.3597	0.4464	0.4286	0.4446	0.2109	0.4033
Yahoo_Social	0.5318	0.0158	0.6381	0.6505	0.7054	0.6712	0.2528	0.6106
yeast	0.1942	0.1883	0.5380	0.7179	0.6425	0.6781	0.4265	0.6670
Yelp	0.5354	0.1398	0.7398	0.8569	0.8022	0.8287	0.7481	0.7960

Table 32: Detailed results for Pyramid SVM F

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.1898	0.0738	0.3805	0.3819	0.6362	0.4772	0.4856	0.4651
3s-guardian1000	0.2903	0.2258	0.4032	0.4677	0.4516	0.4595	0.1814	0.4324
3s-inter3000	0.0000	0.3431	0.2990	0.3039	0.7353	0.4301	0.2183	0.4262
3s-reuters1000	0.0667	0.3222	0.0833	0.0833	0.1000	0.0909	0.0345	0.0938
amphibians	0.1111	0.3889	0.4868	0.5333	0.9405	0.6807	0.4838	0.6621
bibtex	0.0216	0.0281	0.2082	0.2614	0.4723	0.3366	0.2348	0.3147
birds	0.0513	0.1134	0.3350	0.4402	0.5350	0.4830	0.3570	0.4615
bookmarks	0.1036	0.0209	0.1881	0.2103	0.3376	0.2591	0.1287	0.2048
CAL500	0.0000	0.2523	0.2982	0.3370	0.7188	0.4589	0.1638	0.4590
corel16k001	0.0000	0.0590	0.1331	0.1534	0.4481	0.2285	0.0773	0.2187
Corel5k	0.0000	0.0232	0.1405	0.1727	0.3648	0.2344	0.0526	0.2303
emotions	0.1000	0.3111	0.4594	0.5083	0.7833	0.6166	0.6096	0.6000
enron	0.0117	0.0755	0.3647	0.4562	0.6542	0.5376	0.1951	0.5250
EukaryoteGO	0.5915	0.0279	0.7495	0.7568	0.9203	0.8306	0.7237	0.7747
EukaryotePseAAC	0.3497	0.0000	0.4887	0.4495	0.5053	0.5003	0.1989	0.5233
flags	0.0500	0.4357	0.4919	0.5200	0.8983	0.6587	0.5625	0.6514
foodtruck	0.0732	0.1687	0.4096	0.5488	0.6390	0.5905	0.1851	0.5363
genbase	0.7015	0.0133	0.8495	0.8507	0.9925	0.9162	0.5935	0.8696
GnegativeGO	0.9071	0.0134	0.9464	0.9643	0.9679	0.9661	0.7018	0.9492
GnegativePseAAC	0.6714	0.0598	0.7238	0.7321	0.7679	0.7496	0.4415	0.7666
GpositiveGO	0.9038	0.0385	0.9135	0.9135	0.9231	0.9182	0.9319	0.9245
GpositivePseAAC	0.6731	0.1010	0.6923	0.6923	0.7115	0.7018	0.6040	0.7789
HumanGO	0.5756	0.0469	0.7165	0.7546	0.8210	0.7864	0.6483	0.7378
HumanPseAAC	0.0772	0.1470	0.3155	0.3346	0.6050	0.4309	0.2093	0.4074
Image	0.4850	0.1690	0.5975	0.6500	0.6608	0.6554	0.6319	0.6318
IMDB-ECC-F	0.0010	0.1363	0.2126	0.2496	0.5260	0.3386	0.0832	0.3247
IMDB-F	0.0000	0.1659	0.2097	0.2363	0.6150	0.3415	0.1003	0.3273
LLOG-F	0.0000	0.0510	0.1106	0.1219	0.3156	0.1758	0.0650	0.1764
mediamill	0.0000	0.0609	0.3408	0.4004	0.7093	0.5119	0.0928	0.4815
medical	0.3980	0.0218	0.6318	0.6633	0.8690	0.7523	0.3399	0.6923
Music	0.1833	0.2722	0.5319	0.5778	0.7750	0.6620	0.6649	0.6549
NUS-WIDE-bow	0.0527	0.0221	0.2409	0.2850	0.4073	0.3024	0.0378	0.3356
NUS-WIDE-cVLADplus	0.0000	0.0719	0.1922	0.2131	0.6740	0.3238	0.0908	0.3175
OHSUMED-F	0.1041	0.0816	0.3843	0.4621	0.6170	0.5284	0.4082	0.5131
PlantGO	0.5417	0.0538	0.6944	0.7083	0.8368	0.7672	0.7208	0.7373
PlantPseAAC	0.1735	0.1250	0.2262	0.2534	0.2585	0.2559	0.1873	0.2759
rcv1subset1	0.0033	0.0503	0.2686	0.3235	0.5966	0.4195	0.2783	0.4020
REUTERS-K500-EX2	0.0000	0.0434	0.1863	0.1939	0.6851	0.3023	0.2380	0.2882
scene	0.4523	0.1203	0.6259	0.6556	0.7697	0.7081	0.7319	0.6915
SLASHDOT-F	0.3466	0.0530	0.4970	0.5328	0.6323	0.5783	0.3809	0.5559
solar_flare-L3	0.0000	0.3333	0.5000	0.5000	1.0000	0.6667	0.4405	0.6667
Stackex_chess	0.0119	0.0233	0.1503	0.2178	0.3111	0.2562	0.0784	0.2209
Stackex_coffee	0.0000	0.0368	0.1326	0.1783	0.3043	0.2248	0.0257	0.2000
Stackex_philosophy	0.0151	0.0214	0.1847	0.2403	0.4193	0.3055	0.1098	0.2597
tmc2007-500	0.3006	0.0918	0.5577	0.7582	0.7880	0.7123	0.5760	0.7450
VirusGO	0.7143	0.0556	0.8254	0.8413	0.8889	0.8644	0.7005	0.8627
VirusPseAAC	0.0476	0.2222	0.3889	0.4365	0.7143	0.5419	0.3450	0.5333
Water-quality	0.0000	0.3329	0.4012	0.5523	0.5977	0.5741	0.4697	0.5689
Yahoo_Arts	0.3212	0.0552	0.4371	0.4905	0.4264	0.5181	0.2267	0.4616
Yahoo_Business	0.5807	0.0000	0.8143	0.9356	0.7856	0.9056	0.4503	0.7156
Yahoo_Computers	0.4252	0.0000	0.5080	0.5722	0.5795	0.5651	0.2848	0.5713
Yahoo_Education	0.3397	0.0036	0.4082	0.4081	0.4219	0.4364	0.2995	0.4897
Yahoo_Entertainment	0.4066	0.0057	0.4637	0.5413	0.6689	0.5495	0.3447	0.5274
Yahoo_Health	0.4074	0.0000	0.5686	0.6619	0.6280	0.6105	0.2462	0.6345
Yahoo_Recreation	0.3806	0.0754	0.4587	0.5248	0.5635	0.5302	0.3843	0.4946
Yahoo_Reference	0.4087	0.0058	0.4974	0.5738	0.5600	0.5191	0.3054	0.5365
Yahoo_Science	0.1042	0.0632	0.2809	0.3084	0.4929	0.3794	0.2025	0.3332
Yahoo_Social	0.2038	0.0480	0.4319	0.4627	0.7199	0.5633	0.2167	0.4738
yeast	0.0041	0.3055	0.4565	0.5022	0.8191	0.6226	0.4454	0.6154
Yelp	0.3121	0.1988	0.6489	0.7095	0.8948	0.7914	0.7011	0.7559

Table 33: Detailed results for PYRAMID SVM CL

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.6234	0.0278	0.7114	0.7139	0.8001	0.7545	0.7451	0.7465
3s-guardian1000	0.2258	0.2043	0.2688	0.2903	0.2903	0.2903	0.1667	0.3448
3s-inter3000	0.0000	0.3529	0.2255	0.2353	0.4412	0.3069	0.1220	0.3077
3s-reuters1000	0.1333	0.2444	0.1333	0.1333	0.1333	0.1333	0.0837	0.1538
amphibians	0.0556	0.2778	0.5455	0.6880	0.8353	0.7545	0.4946	0.6957
bibtex	0.1688	0.0346	0.3702	0.5038	0.4145	0.4593	0.2691	0.4312
birds	0.2051	0.0837	0.3415	0.4658	0.3543	0.4025	0.2590	0.4364
bookmarks	0.2027	0.0524	0.2493	0.2607	0.2857	0.2798	0.1185	0.2888
CAL500	0.0117	0.1463	0.2375	0.5655	0.2678	0.3612	0.0840	0.3586
corel16k001	0.0000	0.0713	0.1251	0.1084	0.3437	0.2341	0.0355	0.1731
Corel5k	0.0235	0.0414	0.0914	0.1997	0.2154	0.2116	0.0147	0.2133
emotions	0.3500	0.2000	0.5847	0.6583	0.7361	0.6951	0.6727	0.6897
enron	0.1696	0.0600	0.4418	0.5880	0.5557	0.5714	0.1173	0.5253
EukaryoteGO	0.6946	0.0220	0.7677	0.8007	0.8093	0.8050	0.6449	0.7909
EukaryotePseAAC	0.3243	0.0550	0.3981	0.4436	0.4288	0.4361	0.1562	0.4431
flags	0.2000	0.2643	0.5844	0.6842	0.7358	0.7091	0.5719	0.7176
foodtruck	0.3659	0.1362	0.5080	0.7276	0.5397	0.6197	0.1335	0.5180
genbase	0.9552	0.0017	0.9801	0.9876	0.9925	0.9900	0.6173	0.9816
GnegativeGO	0.9214	0.0125	0.9500	0.9643	0.9643	0.9643	0.8311	0.9524
GnegativePseAAC	0.7000	0.0661	0.7357	0.7536	0.7536	0.7536	0.4817	0.7448
GpositiveGO	0.9038	0.0433	0.9135	0.9231	0.9135	0.9182	0.8486	0.9143
GpositivePseAAC	0.7308	0.1010	0.7404	0.7404	0.7500	0.7452	0.6075	0.7879
HumanGO	0.4277	0.0556	0.4695	0.5000	0.4829	0.4913	0.5542	0.5754
HumanPseAAC	0.3119	0.0939	0.3682	0.4116	0.3875	0.3992	0.1739	0.3976
Image	0.6200	0.1410	0.6904	0.7400	0.7117	0.7256	0.6940	0.6901
IMDB-ECC-F	0.1331	0.0799	0.2400	0.3588	0.2635	0.3039	0.0438	0.2630
IMDB-F	0.0008	0.1184	0.2493	0.2997	0.5210	0.3805	0.0609	0.3671
LLOG-F	0.1557	0.0161	0.1728	0.1967	0.1728	0.1840	0.0414	0.2538
mediamill	0.0779	0.0617	0.4443	0.7089	0.6120	0.6697	0.0827	0.5828
medical	0.7245	0.0091	0.8010	0.8469	0.8248	0.8357	0.3116	0.8361
Music	0.2667	0.1778	0.5944	0.7361	0.7333	0.7347	0.7298	0.7288
NUS-WIDE-bow	0.0530	0.0510	0.2652	0.2550	0.3582	0.3127	0.0315	0.3012
NUS-WIDE-cVLADplus	0.1879	0.0360	0.3175	0.3731	0.4348	0.4016	0.0383	0.3470
OHSUMED-F	0.2491	0.0630	0.4640	0.6049	0.5518	0.5771	0.3908	0.5432
PlantGO	0.7500	0.0391	0.7743	0.7969	0.7795	0.7881	0.7256	0.7826
PlantPseAAC	0.3061	0.1148	0.3537	0.3724	0.3827	0.3775	0.1665	0.3721
rcv1subset1	0.0954	0.0605	0.3100	0.4653	0.4242	0.4814	0.1917	0.4110
REUTERS-K500-EX2	0.3365	0.0000	0.4202	0.4568	0.4809	0.4687	0.2461	0.5088
scene	0.6515	0.0899	0.7344	0.7656	0.7863	0.7758	0.7644	0.7556
SLASHDOT-F	0.4630	0.0456	0.5425	0.6019	0.5648	0.5827	0.3507	0.5629
solar_flare-L3	0.4000	0.2667	0.6000	0.6000	0.8000	0.6857	0.4444	0.6667
Stackex_chess	0.0294	0.0208	0.1430	0.3003	0.1700	0.2154	0.0430	0.3034
Stackex_coffee	0.0168	0.0170	0.1108	0.1674	0.2823	0.1986	0.0556	0.2095
Stackex_philosophy	0.0758	0.0508	0.2196	0.2809	0.2323	0.3053	0.0451	0.2809
tmc2007-500	0.2645	0.1037	0.5531	0.6772	0.8306	0.7081	0.6041	0.6755
VirusGO	0.7619	0.0556	0.8492	0.9048	0.8968	0.9008	0.6694	0.8571
VirusPseAAC	0.4762	0.1508	0.5000	0.5238	0.5000	0.5116	0.3508	0.5366
Water-quality	0.0094	0.3086	0.3905	0.6119	0.5299	0.5680	0.4427	0.5605
Yahoo_Arts	0.2951	0.0714	0.4037	0.4764	0.4716	0.4740	0.2364	0.4143
Yahoo_Business	0.5686	0.0267	0.7236	0.8761	0.7529	0.8099	0.3168	0.7245
Yahoo_Computers	0.4026	0.0000	0.5142	0.5508	0.5265	0.5369	0.2939	0.5459
Yahoo_Education	0.2730	0.0391	0.3696	0.4364	0.4187	0.4100	0.2766	0.4186
Yahoo_Entertainment	0.3457	0.0855	0.4803	0.5446	0.6839	0.5469	0.3750	0.5169
Yahoo_Health	0.4126	0.0413	0.5623	0.6508	0.6445	0.6477	0.2562	0.5944
Yahoo_Recreation	0.3768	0.0480	0.4628	0.5303	0.5214	0.5059	0.3956	0.4883
Yahoo_Reference	0.4062	0.0299	0.4798	0.5376	0.5593	0.4810	0.2556	0.5162
Yahoo_Science	0.3213	0.0212	0.3609	0.4263	0.4494	0.4409	0.2089	0.4120
Yahoo_Social	0.5550	0.0167	0.6173	0.6833	0.7074	0.6573	0.2830	0.6171
yeast	0.2314	0.1921	0.5571	0.6889	0.6784	0.6836	0.4352	0.6753
Yelp	0.5244	0.1376	0.7472	0.8541	0.8297	0.8417	0.7609	0.8039

Table 34: Detailed results for PYRAMID SVM No Duplicates

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5482	0.0346	0.6694	0.6726	0.7982	0.7301	0.7042	0.7019
3s-guardian1000	0.0645	0.2527	0.0968	0.1129	0.1129	0.1129	0.0962	0.1455
3s-inter3000	0.0000	0.2941	0.3137	0.3235	0.6176	0.4246	0.1627	0.4231
3s-reuters1000	0.1000	0.3111	0.1333	0.1333	0.1667	0.1481	0.1146	0.1515
amphibians	0.0000	0.2778	0.5030	0.6250	0.7993	0.7015	0.5478	0.6957
bibtex	0.1730	0.0124	0.3503	0.5126	0.3947	0.4460	0.2903	0.4705
birds	0.2308	0.0796	0.3547	0.4530	0.3889	0.4185	0.2979	0.4381
bookmarks	0.1948	0.0091	0.2363	0.2780	0.2567	0.2670	0.1119	0.2820
CAL500	0.0000	0.2214	0.3005	0.3627	0.6354	0.4618	0.1447	0.4612
corel16k001	0.0007	0.0265	0.0912	0.1679	0.1400	0.1527	0.0473	0.1587
Corel5k	0.0000	0.0136	0.1502	0.2608	0.2423	0.2512	0.0364	0.2543
emotions	0.3500	0.1972	0.5903	0.6722	0.7333	0.7014	0.6701	0.6926
enron	0.2047	0.0493	0.4841	0.6734	0.5609	0.6120	0.1590	0.5811
EukaryoteGO	0.6959	0.0212	0.7718	0.8011	0.8207	0.8108	0.6454	0.7996
EukaryotePseAAC	0.3550	0.0452	0.4470	0.4720	0.4860	0.4727	0.2109	0.4836
flags	0.2500	0.2571	0.6269	0.6833	0.8067	0.7399	0.6145	0.7429
foodtruck	0.3415	0.1402	0.4970	0.7317	0.5356	0.6185	0.1218	0.5036
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9143	0.0143	0.9393	0.9536	0.9500	0.9518	0.7011	0.9452
GnegativePseAAC	0.6643	0.0634	0.7333	0.7500	0.7857	0.7674	0.4763	0.7609
GpositiveGO	0.9038	0.0337	0.9231	0.9327	0.9327	0.9327	0.9402	0.9333
GpositivePseAAC	0.7308	0.1250	0.7404	0.7404	0.7500	0.7452	0.5743	0.7500
HumanGO	0.6559	0.0395	0.7503	0.7937	0.8055	0.7995	0.6649	0.7657
HumanPseAAC	0.2958	0.0949	0.3722	0.4143	0.4100	0.4121	0.1945	0.4092
Image	0.4950	0.1600	0.6383	0.6817	0.7383	0.7089	0.6751	0.6721
IMDB-ECC-F	0.0000	0.1150	0.2309	0.2784	0.4870	0.3543	0.0579	0.3430
IMDB-F	0.0000	0.1758	0.1956	0.2185	0.5769	0.3169	0.0743	0.3139
LLOG-F	0.1885	0.0170	0.2398	0.2855	0.2548	0.2693	0.0611	0.3333
mediamill	0.0831	0.0320	0.4762	0.7016	0.6016	0.6478	0.0786	0.5935
medical	0.7143	0.0093	0.7917	0.8401	0.8146	0.8272	0.3061	0.8313
Music	0.2833	0.1889	0.5806	0.7361	0.6917	0.7132	0.7031	0.7069
NUS-WIDE-bow	0.0456	0.0175	0.2564	0.2576	0.3946	0.3027	0.0153	0.3275
NUS-WIDE-cVLADplus	0.2154	0.0359	0.3624	0.5212	0.4660	0.4819	0.0651	0.4734
OHSMED-F	0.2505	0.0614	0.4794	0.6019	0.5969	0.5994	0.4178	0.5724
PlantGO	0.6979	0.0408	0.7552	0.7812	0.7830	0.7821	0.7309	0.7773
PlantPseAAC	0.2857	0.1097	0.3240	0.3520	0.3350	0.3433	0.1599	0.3582
rcv1subset1	0.0917	0.0311	0.3396	0.4830	0.4466	0.4641	0.2263	0.4477
REUTERS-K500-EX2	0.3711	0.0120	0.5006	0.5491	0.5912	0.5694	0.2560	0.5561
scene	0.5353	0.1051	0.6967	0.7293	0.8278	0.7754	0.7523	0.7361
SLASHDOT-F	0.4312	0.0429	0.5150	0.5653	0.5529	0.5590	0.3618	0.5735
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0357	0.0114	0.1691	0.2909	0.2260	0.2544	0.0589	0.2913
Stackex_coffee	0.0000	0.0198	0.1002	0.1791	0.1630	0.1707	0.0368	0.2222
Stackex_philosophy	0.0653	0.0101	0.1980	0.3213	0.2461	0.2788	0.0675	0.3019
tmc2007-500	0.2352	0.1064	0.5866	0.6918	0.8313	0.6992	0.5969	0.6597
VirusGO	0.8095	0.0397	0.8810	0.9286	0.9048	0.9165	0.7044	0.8980
VirusPseAAC	0.3333	0.1508	0.5238	0.5714	0.6667	0.6154	0.3826	0.6122
Water-quality	0.0094	0.2844	0.4221	0.6519	0.5584	0.6016	0.5094	0.5950
Yahoo_Arts	0.2684	0.0692	0.3881	0.4664	0.4591	0.4627	0.2233	0.4185
Yahoo_Business	0.5686	0.0269	0.7268	0.8798	0.7576	0.8141	0.3391	0.7251
Yahoo_Computers	0.4324	0.0128	0.4781	0.5220	0.5405	0.5398	0.2835	0.5413
Yahoo_Education	0.2551	0.0382	0.3890	0.4002	0.4459	0.4107	0.3005	0.4255
Yahoo_Entertainment	0.3472	0.0935	0.4814	0.5596	0.6737	0.5768	0.3309	0.4978
Yahoo_Health	0.4278	0.0405	0.5758	0.6739	0.6527	0.6631	0.2588	0.6001
Yahoo_Recreation	0.3878	0.0340	0.4686	0.5224	0.5268	0.5189	0.3967	0.4601
Yahoo_Reference	0.3777	0.0080	0.5161	0.5346	0.5574	0.4862	0.2277	0.5058
Yahoo_Science	0.2628	0.0429	0.3506	0.4071	0.4293	0.4179	0.1924	0.3853
Yahoo_Social	0.5256	0.0242	0.5933	0.6430	0.6263	0.6346	0.2330	0.6001
yeast	0.2273	0.1939	0.5528	0.6858	0.6756	0.6807	0.3984	0.6726
Yelp	0.5035	0.1420	0.7346	0.8225	0.8344	0.8284	0.7638	0.8021

Table 35: Detailed results for PYRAMID SVM Undersampling

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.5244	0.0341	0.6460	0.6520	0.7684	0.7054	0.7015	0.6962
3s-guardian1000	0.0323	0.3011	0.1452	0.1935	0.2097	0.2013	0.1636	0.2222
3s-inter3000	0.0000	0.5098	0.2373	0.2402	0.9118	0.3802	0.2534	0.3810
3s-reuters1000	0.0667	0.3222	0.1333	0.1333	0.2000	0.1600	0.1483	0.1714
amphibians	0.0000	0.3571	0.4938	0.5601	0.8925	0.6882	0.5582	0.6715
bibtex	0.1769	0.0000	0.3945	0.5288	0.4285	0.4813	0.3177	0.5068
birds	0.1538	0.1026	0.3526	0.4573	0.4632	0.4602	0.3413	0.4493
bookmarks	0.2086	0.0000	0.2701	0.2406	0.2412	0.2910	0.0877	0.2917
CAL500	0.0000	0.2165	0.2855	0.3606	0.5753	0.4433	0.1562	0.4424
corel16k001	0.0000	0.0491	0.1495	0.1767	0.4251	0.2497	0.1230	0.2428
Corel5k	0.0080	0.0186	0.1622	0.2162	0.3253	0.2597	0.0672	0.2494
emotions	0.2167	0.2083	0.5306	0.6528	0.6972	0.6743	0.6595	0.6696
enron	0.0994	0.0620	0.4306	0.5769	0.6009	0.5887	0.2193	0.5438
EukaryoteGO	0.6843	0.0213	0.7751	0.7955	0.8473	0.8206	0.6632	0.8047
EukaryotePseAAC	0.1699	0.0743	0.3628	0.3841	0.5669	0.4579	0.1976	0.4493
flags	0.2500	0.2500	0.6092	0.7200	0.7358	0.7278	0.5883	0.7287
foodtruck	0.2439	0.1463	0.4676	0.6362	0.5725	0.6027	0.2460	0.5500
genbase	0.9552	0.0017	0.9801	0.9876	0.9925	0.9900	0.6296	0.9816
GnegativeGO	0.9214	0.0134	0.9464	0.9607	0.9571	0.9589	0.6988	0.9488
GnegativePseAAC	0.7143	0.0598	0.7488	0.7607	0.7714	0.7660	0.4590	0.7666
GpositiveGO	0.9423	0.0240	0.9423	0.9423	0.9423	0.9423	0.9590	0.9524
GpositivePseAAC	0.6923	0.1298	0.7308	0.7308	0.7692	0.7495	0.5718	0.7477
HumanGO	0.6238	0.0423	0.7128	0.7578	0.7588	0.7583	0.6491	0.7401
HumanPseAAC	0.1833	0.1109	0.3535	0.3896	0.4984	0.4373	0.2442	0.4298
Image	0.5050	0.1640	0.5950	0.6450	0.6367	0.6408	0.6403	0.6356
IMDB-ECC-F	0.0178	0.1203	0.2085	0.2620	0.4374	0.3277	0.1158	0.3058
IMDB-F	0.0124	0.1400	0.2121	0.2607	0.4769	0.3371	0.1192	0.3148
LLOG-F	0.0574	0.0289	0.1975	0.2359	0.3559	0.2837	0.0883	0.2979
mediamill	0.0214	0.0502	0.3955	0.4696	0.7129	0.5662	0.1457	0.5392
medical	0.5204	0.0141	0.6947	0.7398	0.8180	0.7769	0.2955	0.7652
Music	0.2167	0.2028	0.5639	0.6944	0.7250	0.7094	0.6992	0.7045
NUS-WIDE-bow	0.0949	0.0000	0.2757	0.2706	0.4178	0.2831	0.0594	0.3062
NUS-WIDE-cVLADplus	0.0124	0.0548	0.2397	0.2688	0.6043	0.3721	0.1248	0.3614
OHSUMED-F	0.2146	0.0643	0.4339	0.5524	0.5455	0.5489	0.4183	0.5372
PlantGO	0.6667	0.0391	0.7726	0.7917	0.8559	0.8225	0.7181	0.7982
PlantPseAAC	0.1735	0.1250	0.2959	0.3061	0.4286	0.3571	0.2261	0.3745
rcv1subset1	0.1450	0.0607	0.3269	0.5078	0.4238	0.4622	0.2177	0.4402
REUTERS-K500-EX2	0.1821	0.0190	0.3716	0.4044	0.5725	0.4740	0.2663	0.4505
scene	0.6141	0.0885	0.7082	0.7427	0.7676	0.7550	0.7676	0.7519
SLASHDOT-F	0.4074	0.0464	0.5168	0.5635	0.5807	0.5720	0.3917	0.5633
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0119	0.0198	0.1671	0.2354	0.3437	0.2794	0.0864	0.2608
Stackex_coffee	0.0000	0.0293	0.1077	0.1565	0.2210	0.1833	0.0340	0.2095
Stackex_philosophy	0.0201	0.0164	0.1791	0.2557	0.3429	0.2930	0.0980	0.2766
tmc2007-500	0.2497	0.0690	0.5772	0.6502	0.8136	0.7227	0.5836	0.6845
VirusGO	0.7143	0.0635	0.8175	0.8810	0.8413	0.8607	0.6616	0.8333
VirusPseAAC	0.2857	0.1587	0.4762	0.5000	0.6429	0.5625	0.3720	0.5833
Water-quality	0.0189	0.2958	0.4455	0.6297	0.6243	0.6270	0.5568	0.6091
Yahoo_Arts	0.2029	0.0753	0.3398	0.4101	0.4375	0.4234	0.2333	0.3885
Yahoo_Business	0.4777	0.0299	0.6918	0.7981	0.8113	0.8046	0.3259	0.7240
Yahoo_Computers	0.3349	0.0449	0.4760	0.5357	0.5824	0.5580	0.2680	0.5149
Yahoo_Education	0.2161	0.0516	0.3562	0.4065	0.4687	0.4354	0.2168	0.4216
Yahoo_Entertainment	0.3802	0.0559	0.4984	0.5557	0.5633	0.5595	0.3449	0.5568
Yahoo_Health	0.3464	0.0387	0.5278	0.6193	0.6225	0.6209	0.2626	0.6015
Yahoo_Recreation	0.2993	0.0680	0.4186	0.4625	0.5054	0.4830	0.3460	0.4624
Yahoo_Reference	0.3711	0.0330	0.4803	0.5167	0.5674	0.5408	0.2221	0.5331
Yahoo_Science	0.2037	0.0427	0.3268	0.3803	0.4135	0.3962	0.1917	0.3815
Yahoo_Social	0.4010	0.0288	0.5097	0.5523	0.5916	0.5713	0.1984	0.5420
yeast	0.1488	0.2090	0.5311	0.6511	0.6935	0.6716	0.4332	0.6625
Yelp	0.4347	0.1617	0.7166	0.7758	0.8920	0.8299	0.7390	0.7921

Table 36: Detailed results for PYRAMID SVM No Zero

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.4606	0.0379	0.6186	0.6240	0.7788	0.6929	0.6911	0.6763
3s-guardian1000	0.1613	0.2527	0.2957	0.3387	0.3871	0.3613	0.3079	0.4051
3s-inter3000	0.0000	0.3529	0.2255	0.2353	0.4412	0.3069	0.1220	0.3077
3s-reuters1000	0.0667	0.3611	0.1889	0.2000	0.3000	0.2400	0.2071	0.2353
amphibians	0.1111	0.2460	0.5455	0.6509	0.8390	0.7331	0.6010	0.7304
bibtex	0.2240	0.0000	0.3887	0.5048	0.4202	0.4907	0.3350	0.4731
birds	0.1538	0.0985	0.3462	0.4444	0.4376	0.4410	0.3181	0.4427
bookmarks	0.1881	0.0000	0.2491	0.2629	0.2565	0.2630	0.0902	0.3132
CAL500	0.0000	0.2345	0.2962	0.3476	0.6569	0.4546	0.1672	0.4571
corel16k001	0.0000	0.0637	0.1168	0.1327	0.4273	0.2025	0.1099	0.1994
Corel5k	0.0020	0.0242	0.1245	0.1525	0.3246	0.2075	0.0684	0.2024
emotions	0.3167	0.2056	0.5458	0.6583	0.6583	0.6583	0.6438	0.6636
enron	0.0643	0.0644	0.4159	0.5217	0.6307	0.5710	0.2137	0.5494
EukaryoteGO	0.6224	0.0235	0.7606	0.7777	0.8853	0.8280	0.6398	0.7961
EukaryotePseAAC	0.1686	0.0767	0.3743	0.3990	0.6006	0.4794	0.1905	0.4526
flags	0.2500	0.2571	0.5992	0.7308	0.7050	0.7177	0.5754	0.7143
foodtruck	0.2927	0.1463	0.4835	0.7012	0.5668	0.6269	0.1895	0.5263
genbase	0.9701	0.0011	0.9876	0.9950	0.9925	0.9938	0.6296	0.9877
GnegativeGO	0.9429	0.0098	0.9571	0.9679	0.9607	0.9643	0.8345	0.9622
GnegativePseAAC	0.6571	0.0679	0.7131	0.7286	0.7536	0.7409	0.4693	0.7397
GpositiveGO	0.9231	0.0337	0.9327	0.9327	0.9423	0.9375	0.9465	0.9346
GpositivePseAAC	0.7885	0.0913	0.7981	0.7981	0.8077	0.8029	0.6253	0.8155
HumanGO	0.5691	0.0469	0.7152	0.7513	0.8258	0.7868	0.6662	0.7398
HumanPseAAC	0.2605	0.1068	0.3708	0.4073	0.4534	0.4291	0.2102	0.4091
Image	0.4450	0.1780	0.5533	0.6000	0.6133	0.6066	0.5975	0.6044
IMDB-ECC-F	0.0000	0.1747	0.1909	0.2133	0.6154	0.3168	0.1131	0.3025
IMDB-F	0.0199	0.1166	0.1971	0.2743	0.3417	0.3043	0.0971	0.2825
LLOG-F	0.1475	0.0225	0.2268	0.2705	0.2794	0.2749	0.0778	0.2993
mediamill	0.0000	0.0521	0.3706	0.4471	0.6958	0.5444	0.1386	0.5220
medical	0.6429	0.0113	0.7423	0.7789	0.8027	0.7906	0.3420	0.8000
Music	0.1667	0.1944	0.5222	0.7278	0.6361	0.6789	0.6733	0.6789
NUS-WIDE-bow	0.0195	0.0498	0.2078	0.2534	0.4640	0.3278	0.0917	0.3012
NUS-WIDE-cVLADplus	0.0186	0.0518	0.2350	0.2712	0.5532	0.3639	0.1141	0.3455
OHSUMED-F	0.1680	0.0738	0.4260	0.5232	0.6049	0.5611	0.4208	0.5291
PlantGO	0.6667	0.0443	0.7378	0.7535	0.7934	0.7729	0.6447	0.7650
PlantPseAAC	0.2755	0.1241	0.3461	0.3656	0.4014	0.3827	0.2505	0.3652
rcv1subset1	0.0167	0.0425	0.2940	0.3647	0.5513	0.4390	0.2842	0.4244
REUTERS-K500-EX2	0.0928	0.0215	0.3385	0.3710	0.6270	0.4661	0.2574	0.4336
scene	0.6224	0.0906	0.7337	0.7718	0.8071	0.7890	0.7684	0.7587
SLASHDOT-F	0.3995	0.0475	0.5126	0.5626	0.5794	0.5709	0.3547	0.5567
solar_flare-L3	0.4000	0.2667	0.6000	0.6000	0.8000	0.6857	0.4571	0.6667
Stackex_chess	0.0000	0.0230	0.1442	0.1876	0.3547	0.2454	0.0812	0.2383
Stackex_coffee	0.0000	0.0336	0.1129	0.1681	0.2174	0.1896	0.0304	0.1739
Stackex_philosophy	0.0000	0.0239	0.1410	0.1738	0.4018	0.2426	0.1054	0.2323
tmc2007-500	0.1399	0.0846	0.5102	0.5666	0.8208	0.6704	0.5383	0.6415
VirusGO	0.7619	0.0556	0.8333	0.8651	0.8730	0.8690	0.6949	0.8571
VirusPseAAC	0.1429	0.1905	0.4444	0.4921	0.7143	0.5827	0.3763	0.5714
Water-quality	0.0094	0.2992	0.4232	0.6136	0.5876	0.6003	0.5207	0.5896
Yahoo_Arts	0.1802	0.0799	0.3539	0.4245	0.4954	0.4572	0.2531	0.4049
Yahoo_Business	0.1640	0.0491	0.5285	0.5676	0.8754	0.6886	0.3119	0.6420
Yahoo_Computers	0.1253	0.0599	0.3702	0.4140	0.6213	0.4969	0.2805	0.4637
Yahoo_Education	0.2303	0.0532	0.3760	0.4289	0.5060	0.4643	0.2397	0.4286
Yahoo_Entertainment	0.4077	0.0578	0.5080	0.5634	0.5710	0.5671	0.3558	0.5468
Yahoo_Health	0.2172	0.0473	0.4585	0.5403	0.6295	0.5815	0.2761	0.5615
Yahoo_Recreation	0.2845	0.0728	0.4220	0.4624	0.5450	0.5003	0.3650	0.4613
Yahoo_Reference	0.3587	0.0324	0.4461	0.4805	0.5129	0.4962	0.2278	0.5125
Yahoo_Science	0.2208	0.0474	0.3502	0.4018	0.4708	0.4336	0.2205	0.3877
Yahoo_Social	0.3416	0.0301	0.4643	0.4993	0.5792	0.5363	0.2169	0.5296
yeast	0.1240	0.2057	0.5436	0.6504	0.7230	0.6848	0.4611	0.6754
Yelp	0.4965	0.1442	0.7357	0.8221	0.8498	0.8357	0.7489	0.8019

Table 37: Detailed results for PYRAMID SVM Weighted

Datasets	Subset-accuracy	Hamming-loss	Accuracy	Precision	Recall	F1	F1-macro	F1-micro
20NG-F	0.6146	0.0303	0.7127	0.7150	0.8159	0.7621	0.7328	0.7332
3s-guardian1000	0.0645	0.2204	0.0645	0.0645	0.0645	0.0645	0.0370	0.0889
3s-inter3000	0.0000	0.3529	0.2255	0.2353	0.4412	0.3069	0.1220	0.3077
3s-reuters1000	0.2333	0.2667	0.2333	0.2333	0.2333	0.2333	0.1138	0.2258
amphibians	0.0556	0.3016	0.4996	0.6389	0.8015	0.7110	0.4937	0.6667
bibtex	0.1747	0.0161	0.3578	0.5113	0.3799	0.4272	0.3108	0.4568
birds	0.2051	0.0756	0.3868	0.4979	0.4406	0.4675	0.3332	0.5172
bookmarks	0.2218	0.0000	0.2681	0.2588	0.2343	0.3074	0.1140	0.3014
CAL500	0.0000	0.2237	0.2921	0.3549	0.6078	0.4481	0.1338	0.4503
corel16k001	0.0000	0.0574	0.1165	0.1343	0.3815	0.1986	0.0348	0.1988
Corel5k	0.0000	0.0139	0.1520	0.2435	0.2377	0.2406	0.0305	0.2491
emotions	0.2833	0.2194	0.5264	0.6278	0.6472	0.6374	0.6281	0.6425
enron	0.1813	0.0493	0.4807	0.6742	0.5491	0.6052	0.1470	0.5811
EukaryoteGO	0.6843	0.0209	0.7693	0.7921	0.8325	0.8118	0.6730	0.8040
EukaryotePseAAC	0.3181	0.0291	0.4023	0.4499	0.4460	0.4971	0.2042	0.4729
flags	0.2500	0.2286	0.6442	0.7225	0.8092	0.7634	0.6193	0.7612
foodtruck	0.2927	0.1463	0.4714	0.6870	0.5519	0.6121	0.1493	0.5135
genbase	0.9851	0.0006	0.9950	0.9950	1.0000	0.9975	0.6667	0.9939
GnegativeGO	0.9214	0.0134	0.9429	0.9571	0.9500	0.9536	0.7826	0.9485
GnegativePseAAC	0.6786	0.0625	0.7298	0.7464	0.7643	0.7553	0.4831	0.7586
GpositiveGO	0.9231	0.0288	0.9423	0.9519	0.9519	0.9519	0.9502	0.9434
GpositivePseAAC	0.7500	0.1106	0.7788	0.7788	0.8077	0.7930	0.6026	0.7850
HumanGO	0.6785	0.0365	0.7658	0.8006	0.8173	0.8089	0.6768	0.7825
HumanPseAAC	0.3087	0.0944	0.3767	0.4212	0.4046	0.4127	0.1739	0.4069
Image	0.5150	0.1590	0.6542	0.7025	0.7458	0.7235	0.6787	0.6748
IMDB-ECC-F	0.0000	0.2070	0.1588	0.1737	0.5679	0.2660	0.0676	0.2646
IMDB-F	0.0000	0.2072	0.1709	0.1886	0.5799	0.2846	0.0721	0.2828
LLOG-F	0.1721	0.0166	0.2042	0.2336	0.2138	0.2233	0.0516	0.2897
mediamill	0.0998	0.0305	0.4800	0.7525	0.5683	0.6476	0.0711	0.5890
medical	0.7143	0.0084	0.7874	0.8367	0.8044	0.8203	0.3148	0.8439
Music	0.3000	0.1722	0.6056	0.7778	0.7056	0.7399	0.7210	0.7257
NUS-WIDE-bow	0.0762	0.0011	0.2375	0.2676	0.4007	0.3024	0.0382	0.3309
NUS-WIDE-cVLADplus	0.1946	0.0239	0.3347	0.4562	0.3702	0.4087	0.0567	0.4176
OHSUMED-F	0.2469	0.0581	0.4507	0.5784	0.5430	0.5601	0.4005	0.5609
PlantGO	0.6667	0.0443	0.7292	0.7500	0.7674	0.7586	0.6309	0.7606
PlantPseAAC	0.2755	0.0995	0.3044	0.3214	0.3197	0.3206	0.1391	0.3607
rcv1subset1	0.1157	0.0543	0.3468	0.5185	0.4367	0.4676	0.2199	0.4425
REUTERS-K500-EX2	0.3763	0.0114	0.4773	0.5212	0.5437	0.5322	0.2538	0.5447
scene	0.5270	0.1058	0.6981	0.7272	0.8423	0.7805	0.7538	0.7385
SLASHDOT-F	0.4365	0.0467	0.5304	0.5794	0.5807	0.5800	0.3623	0.5650
solar_flare-L3	0.0000	0.4000	0.4000	0.4000	0.8000	0.5333	0.3810	0.5714
Stackex_chess	0.0476	0.0109	0.1655	0.3000	0.1959	0.2370	0.0557	0.2732
Stackex_coffee	0.0435	0.0184	0.1149	0.2283	0.1196	0.1569	0.0331	0.1875
Stackex_philosophy	0.0678	0.0095	0.1924	0.3184	0.2316	0.2681	0.0663	0.3011
tmc2007-500	0.2523	0.0943	0.5602	0.6795	0.7883	0.7331	0.5725	0.6890
VirusGO	0.8571	0.0397	0.8968	0.9048	0.9286	0.9165	0.7100	0.9020
VirusPseAAC	0.2381	0.1429	0.4762	0.5238	0.6667	0.5867	0.3830	0.6250
Water-quality	0.0000	0.3005	0.4050	0.6121	0.5535	0.5813	0.4735	0.5785
Yahoo_Arts	0.2857	0.0705	0.3941	0.4730	0.4590	0.4659	0.2192	0.4095
Yahoo_Business	0.5631	0.0337	0.7490	0.8811	0.7891	0.8542	0.3893	0.7400
Yahoo_Computers	0.4276	0.0249	0.4857	0.5306	0.5480	0.5207	0.3096	0.5335
Yahoo_Education	0.2595	0.0416	0.3502	0.4131	0.4536	0.4314	0.2836	0.4338
Yahoo_Entertainment	0.3299	0.0711	0.4803	0.5506	0.6577	0.5818	0.3529	0.4944
Yahoo_Health	0.3594	0.0417	0.5151	0.6020	0.6063	0.6041	0.2544	0.5795
Yahoo_Recreation	0.3962	0.0714	0.4468	0.5074	0.5471	0.5219	0.3908	0.4649
Yahoo_Reference	0.3812	0.0258	0.4950	0.5371	0.5530	0.5251	0.2506	0.4991
Yahoo_Science	0.2722	0.0457	0.3682	0.4209	0.4587	0.4390	0.1969	0.3888
Yahoo_Social	0.4992	0.0254	0.5934	0.6442	0.6577	0.6509	0.2320	0.6009
yeast	0.1694	0.1951	0.5614	0.6764	0.7160	0.6956	0.4380	0.6839
Yelp	0.4457	0.1511	0.7186	0.7977	0.8605	0.8279	0.7625	0.7972

Table 38: Detailed results for RAKEL-O

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3055	2.3112	0.2095	0.7650	0.9818	0.9824
3s-guardian1000	0.6452	2.2903	0.4758	0.5371	0.7123	0.7393
3s-inter3000	0.8824	2.5294	0.8471	0.4049	0.7484	0.8671
3s-reuters1000	0.8333	2.6000	0.7917	0.4069	0.6764	0.6419
amphibians	0.1111	2.3889	0.1565	0.9042	0.6555	0.7778
bibtex	0.4149	60.8865	0.4190	0.4910	0.9828	0.9855
birds	0.3846	5.4615	0.2887	0.6458	0.8104	0.9183
bookmarks	0.7244	99.9533	0.6959	0.2755	0.9692	0.9850
CAL500	0.4510	149.2941	0.4766	0.4179	0.6444	0.8222
corel16k001	0.7967	98.4394	0.7032	0.1859	0.9667	0.9690
Corel5k	0.8100	163.5340	0.8805	0.1698	0.6731	0.9936
emotions	0.3167	1.9500	0.2361	0.7639	0.8187	0.8272
enron	0.3216	23.4327	0.4002	0.5634	0.8053	0.9661
EukaryoteGO	0.1817	1.1508	0.0786	0.8737	0.9931	0.9950
EukaryotePseAAC	0.6216	4.9884	0.3422	0.5065	0.9073	0.9255
flags	0.1500	3.7500	0.3008	0.7905	0.7020	0.8080
foodtruck	0.3902	3.7317	0.3187	0.6835	0.7135	0.8404
genbase	0.0000	0.2090	0.0000	1.0000	0.6667	0.9999
GnegativeGO	0.0357	0.1429	0.0214	0.9752	0.8746	0.9996
GnegativePseAAC	0.3000	0.8143	0.1839	0.7983	0.8144	0.9488
GpositiveGO	0.1154	0.3269	0.1250	0.9183	0.9947	0.9949
GpositivePseAAC	0.4423	0.9615	0.3269	0.7099	0.9095	0.9154
HumanGO	0.2026	1.1479	0.0970	0.8558	0.9836	0.9875
HumanPseAAC	0.6206	3.2186	0.2837	0.5427	0.8516	0.8794
Image	0.3500	1.0500	0.1950	0.7692	0.8600	0.8616
IMDB-ECC-F	0.8721	14.9308	0.9022	0.2119	0.9660	0.9691
IMDB-F	0.9097	15.7606	0.9302	0.1911	0.9719	0.9733
LLOG-F	0.7623	30.2131	0.7818	0.2421	0.5863	0.9845
mediamill	0.3088	66.7245	0.5713	0.4406	0.8119	0.9922
medical	0.1735	5.6327	0.1335	0.8312	0.5523	0.9973
Music	0.2500	1.9500	0.2250	0.7940	0.8690	0.8711
NUS-WIDE-bow	0.9662	47.4805	0.9948	0.1107	0.8882	0.9993
NUS-WIDE-cVLADplus	0.9729	47.5147	0.9965	0.1077	0.8881	0.9993
OHSUMED-F	0.3632	6.2778	0.2789	0.6470	0.9322	0.9421
PlantGO	0.1979	1.0938	0.1337	0.8517	0.9891	0.9887
PlantPseAAC	0.7143	3.2857	0.3827	0.4793	0.8200	0.8394
rcv1subset1	0.4583	33.6167	0.3174	0.5170	0.9105	0.9733
REUTERS-K500-EX2	0.4811	23.3900	0.3899	0.5499	0.7751	0.9898
scene	0.2739	0.7344	0.1183	0.8256	0.9265	0.9364
SLASHDOT-F	0.4259	5.7566	0.3558	0.6198	0.7465	0.9769
solar_flare-L3	0.6000	0.6000	0.6000	0.7000	0.2222	0.7000
Stackex_chess	0.7679	138.7500	0.8371	0.1583	0.5481	0.9965
Stackex_coffee	0.7826	67.5217	0.6984	0.2293	0.2562	0.9867
Stackex_philosophy	0.5905	111.5000	0.5648	0.3433	0.7397	0.9888
tmc2007-500	0.2878	4.4262	0.1735	0.7449	0.9428	0.9573
VirusGO	0.0476	0.4762	0.0635	0.9500	0.8212	0.9905
VirusPseAAC	0.3810	0.7619	0.0476	0.7817	0.6999	0.9122
Water-quality	0.2642	9.0660	0.3072	0.7013	0.6935	0.7297
Yahoo_Arts	0.4112	6.7730	0.3147	0.6248	0.8943	0.9367
Yahoo_Business	0.0945	2.5276	0.1180	0.8976	0.8375	0.9882
Yahoo_Computers	0.3526	4.9639	0.3242	0.6828	0.8666	0.9678
Yahoo_Education	0.8063	11.1089	0.9423	0.3370	0.9075	0.9983
Yahoo_Entertainment	0.3197	2.8861	0.2239	0.7370	0.9511	0.9569
Yahoo_Health	0.2367	4.2606	0.2121	0.7764	0.8186	0.9807
Yahoo_Recreation	0.3390	4.1606	0.2736	0.7096	0.9528	0.9560
Yahoo_Reference	0.3425	3.3761	0.2218	0.7293	0.7901	0.9795
Yahoo_Science	0.4215	8.9891	0.3267	0.6137	0.9396	0.9662
Yahoo_Social	0.2583	4.4307	0.2031	0.7664	0.9039	0.9865
yeast	0.2603	6.9132	0.2705	0.7340	0.7062	0.8211
Yelp	0.0987	1.1665	0.0992	0.9209	0.9078	0.9321

Table 39: Detailed results for Real AdaBoost.MH

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2642	1.7010	0.0951	0.8044	0.9540	0.9218
3s-guardian1000	0.6774	1.9355	0.4597	0.5613	0.6415	0.7020
3s-inter3000	0.9412	2.4118	0.5059	0.3706	0.4474	0.5820
3s-reuters1000	0.8333	2.2333	0.8000	0.4275	0.6640	0.5764
amphibians	0.3333	3.2222	0.2111	0.7402	0.5542	0.7155
bibtex	0.3851	40.1473	0.1491	0.5034	0.9120	0.8609
birds	0.3333	3.7949	0.0819	0.7042	0.7610	0.8784
bookmarks	0.7540	57.2802	0.2176	0.2732	0.7317	0.7918
CAL500	0.2549	137.4118	0.4475	0.4593	0.5218	0.8028
corel16k001	0.9673	54.9920	0.0681	0.1127	0.7134	0.7869
Corel5k	0.7360	129.3460	0.4567	0.2282	0.6124	0.9392
emotions	0.2833	1.6333	0.1431	0.8044	0.8634	0.8790
enron	0.3275	16.2105	0.1331	0.6200	0.5993	0.8762
EukaryoteGO	0.1789	0.6165	0.0019	0.8900	0.9840	0.9830
EukaryotePseAAC	0.5495	2.4247	0.0249	0.6189	0.8087	0.9104
flags	0.1500	3.6000	0.2450	0.8285	0.6096	0.7928
foodtruck	0.2927	2.7561	0.2351	0.7655	0.6821	0.8285
genbase	0.0000	0.2090	0.0000	1.0000	0.6352	0.9987
GnegativeGO	0.0214	0.1143	0.0107	0.9851	0.8671	0.9920
GnegativePseAAC	0.2500	0.6786	0.1339	0.8382	0.8098	0.9436
GpositiveGO	0.1154	0.2115	0.0641	0.9327	0.9794	0.9502
GpositivePseAAC	0.3462	0.5577	0.1923	0.7965	0.8555	0.8819
HumanGO	0.1608	0.6109	0.0216	0.8965	0.9591	0.9752
HumanPseAAC	0.5820	2.2669	0.0692	0.5943	0.7151	0.8552
Image	0.2050	0.6650	0.0608	0.8662	0.9018	0.9037
IMDB-ECC-F	0.9864	17.1887	0.5899	0.1164	0.5557	0.4703
IMDB-F	0.9835	16.5021	0.5624	0.1296	0.5629	0.4850
LLOG-F	0.6066	12.7787	0.2162	0.4810	0.4842	0.8909
mediamill	0.6698	23.7815	0.1059	0.4203	0.6318	0.9059
medical	0.1429	1.5816	0.0408	0.8883	0.5464	0.9899
Music	0.2167	1.8500	0.2306	0.8202	0.8661	0.8772
NUS-WIDE-bow	0.9772	47.1660	0.5126	0.0631	0.5828	0.5435
NUS-WIDE-cVLADplus	0.9753	51.7226	0.5782	0.0591	0.5428	0.4650
OHSUMED-F	0.3037	3.5844	0.1060	0.7282	0.8613	0.9063
PlantGO	0.2143	0.6020	0.0204	0.8730	0.9634	0.9612
PlantPseAAC	0.6224	2.3367	0.1862	0.5709	0.7087	0.8149
rcv1subset1	0.4500	16.0583	0.1087	0.5599	0.8674	0.9253
REUTERS-K500-EX2	0.4350	11.2067	0.1949	0.6124	0.7210	0.9219
scene	0.1992	0.4938	0.0633	0.8732	0.9457	0.9468
SLASHDOT-F	0.4222	2.8892	0.0407	0.6550	0.6809	0.9003
solar_flare-L3	0.6000	0.8000	0.5000	0.6667	0.2222	0.6400
Stackex_chess	0.6190	62.5417	0.2468	0.3436	0.5139	0.9531
Stackex_coffee	0.8261	56.1304	0.3137	0.3005	0.2458	0.9491
Stackex_philosophy	0.5377	54.8970	0.1853	0.4158	0.6976	0.9465
tmc2007-500	0.2843	3.6063	0.0863	0.7561	0.8627	0.9175
VirusGO	0.0476	0.4762	0.0476	0.9524	0.8014	0.9612
VirusPseAAC	0.3333	0.8095	0.0000	0.7833	0.6422	0.9000
Water-quality	0.2264	8.8208	0.2564	0.7252	0.6952	0.7328
Yahoo_Arts	0.5848	5.0067	0.4402	0.5529	0.7492	0.8490
Yahoo_Business	0.1185	1.8797	0.1300	0.8872	0.7311	0.9594
Yahoo_Computers	0.4827	3.1912	0.1938	0.6635	0.7406	0.9099
Yahoo_Education	0.5611	3.3807	0.4956	0.5849	0.7836	0.9194
Yahoo_Entertainment	0.4446	2.7581	0.0796	0.6574	0.8486	0.8870
Yahoo_Health	0.3648	2.7068	0.2031	0.7352	0.7398	0.9482
Yahoo_Recreation	0.5019	3.6337	0.4692	0.6133	0.8029	0.8583
Yahoo_Reference	0.4645	2.4334	0.0802	0.6732	0.7207	0.9399
Yahoo_Science	0.5863	5.0809	0.0778	0.5576	0.8299	0.8966
Yahoo_Social	0.3573	2.5140	0.0713	0.7440	0.7702	0.9415
yeast	0.2190	6.2438	0.2181	0.7664	0.7183	0.8461
Yelp	0.0887	1.1326	0.0959	0.9277	0.8705	0.9054

Table 40: Detailed results for ML-FOREST

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3689	1.6927	0.3089	0.7468	0.9693	0.9622
3s-guardian1000	0.5484	1.7097	0.4516	0.6215	0.6667	0.7425
3s-inter3000	0.7647	2.1765	0.4853	0.4667	0.4238	0.5880
3s-reuters1000	0.9000	2.2333	0.8583	0.4253	0.6309	0.5766
amphibians	0.2222	2.5556	0.1407	0.8565	0.5476	0.7690
bibtex	0.4041	57.2095	0.4085	0.5016	0.9596	0.9644
birds	0.4103	5.6154	0.3496	0.6077	0.7670	0.8557
bookmarks	0.5659	72.4451	0.4007	0.3833	0.9257	0.9280
CAL500	0.4118	138.8824	0.4239	0.4802	0.5363	0.8169
corel16k001	0.7567	73.5701	0.4647	0.2490	0.8898	0.9084
Corel5k	0.6660	137.3100	0.6250	0.2650	0.6113	0.9414
emotions	0.2167	1.7000	0.1583	0.8269	0.8334	0.8571
enron	0.4737	17.9181	0.2048	0.5605	0.6953	0.9133
EukaryoteGO	0.1892	0.6680	0.0483	0.8859	0.9922	0.9927
EukaryotePseAAC	0.6538	3.4929	0.5256	0.5245	0.8411	0.8943
flags	0.2000	3.7500	0.2592	0.8153	0.7069	0.8129
foodtruck	0.2439	2.7073	0.2970	0.8027	0.6650	0.8284
genbase	0.1045	2.9851	0.1343	0.8755	0.6667	0.9960
GnegativeGO	0.1357	0.3071	0.1321	0.9182	0.8721	0.9923
GnegativePseAAC	0.3214	1.2286	0.3071	0.7700	0.8225	0.9276
GpositiveGO	0.1154	0.2115	0.0769	0.9327	0.9936	0.9925
GpositivePseAAC	0.3846	0.7115	0.3846	0.7628	0.8775	0.8450
HumanGO	0.2058	0.7299	0.0621	0.8758	0.9797	0.9838
HumanPseAAC	0.6624	3.0322	0.5106	0.5190	0.7281	0.8222
Image	0.2400	0.7750	0.1717	0.8369	0.8918	0.8840
IMDB-ECC-F	0.8375	13.4235	0.6872	0.2660	0.8493	0.8661
IMDB-F	0.8616	14.0124	0.7138	0.2489	0.8510	0.8669
LLOG-F	0.7869	26.8279	0.4806	0.2764	0.5079	0.8907
mediamill	0.3278	39.9691	0.1937	0.5942	0.7115	0.9418
medical	0.2755	7.6633	0.1505	0.7412	0.5251	0.9702
Music	0.3167	2.1500	0.1912	0.7586	0.8459	0.8441
NUS-WIDE-bow	0.9049	43.1989	0.8444	0.1591	0.8521	0.9658
NUS-WIDE-cVLADplus	0.9030	42.6218	0.8425	0.1659	0.8566	0.9706
OHSUMED-F	0.3819	5.3510	0.1734	0.6503	0.8509	0.8895
PlantGO	0.2347	1.0000	0.0867	0.8381	0.9800	0.9759
PlantPseAAC	0.7449	3.4592	0.3265	0.4526	0.7068	0.7646
rcv1subset1	0.5383	32.7533	0.2777	0.4236	0.8489	0.9216
REUTERS-K500-EX2	0.6300	34.1700	0.3684	0.4047	0.7281	0.9322
scene	0.2739	0.5187	0.0747	0.8420	0.9341	0.9462
SLASHDOT-F	0.4855	6.1135	0.2460	0.5874	0.6773	0.8875
solar_flare-L3	0.5922	0.5777	0.2910	0.6871	0.3138	0.7547
Stackex_chess	0.6667	116.7738	0.4807	0.2606	0.5097	0.9515
Stackex_coffee	0.6957	61.4348	0.4275	0.2780	0.2432	0.9339
Stackex_philosophy	0.5628	99.0503	0.4051	0.3627	0.7081	0.9561
tmc2007-500	0.4517	3.7357	0.1298	0.6933	0.9013	0.9382
VirusGO	0.0476	0.3810	0.0476	0.9563	0.8076	0.9747
VirusPseAAC	0.5238	0.9524	0.0000	0.6960	0.6332	0.8873
Water-quality	0.4245	9.4340	0.3073	0.6419	0.6081	0.6861
Yahoo_Arts	0.5020	6.9693	0.2530	0.5540	0.7697	0.8449
Yahoo_Business	0.1319	2.3467	0.1448	0.8845	0.7559	0.9638
Yahoo_Computers	0.4924	4.4988	0.4871	0.6246	0.8115	0.9338
Yahoo_Education	0.4705	5.5062	0.2853	0.6233	0.8343	0.9385
Yahoo_Entertainment	0.3229	2.6677	0.1483	0.7407	0.9207	0.9338
Yahoo_Health	0.4843	3.2975	0.2321	0.6953	0.7602	0.9503
Yahoo_Recreation	0.3383	3.8020	0.2986	0.7177	0.9177	0.9223
Yahoo_Reference	0.3412	3.1009	0.1289	0.7240	0.7207	0.9433
Yahoo_Science	0.4728	7.6112	0.1729	0.5841	0.8389	0.8911
Yahoo_Social	0.2756	3.9777	0.1517	0.7709	0.8656	0.9658
yeast	0.2438	6.3347	0.2599	0.7443	0.6866	0.8305
Yelp	0.3659	1.4237	0.4038	0.7959	0.7854	0.8475

Table 41: Detailed results for IBLR-ML+

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2705	1.0430	0.0492	0.8201	0.9511	0.9511
3s-guardian1000	0.6129	1.8710	0.1613	0.5863	0.7133	0.6942
3s-inter3000	0.6471	2.4118	0.4662	0.4961	0.4696	0.5000
3s-reuters1000	0.6667	1.6000	0.3000	0.5622	0.7247	0.7069
amphibians	0.1667	2.7222	0.1046	0.8598	0.6354	0.7909
bibtex	0.3541	26.8108	0.0849	0.5989	0.8913	0.9102
birds	0.3590	4.7436	0.1491	0.6673	0.7536	0.8467
bookmarks	0.5911	53.7415	0.1673	0.4316	0.7692	0.8030
CAL500	0.1176	134.6078	0.3842	0.4954	0.5336	0.8123
corel16k001	0.6412	65.1801	0.2038	0.3237	0.7104	0.7798
Corel5k	0.6000	185.4480	0.3150	0.3013	0.4719	0.7813
emotions	0.3000	1.6833	0.2014	0.7948	0.8576	0.8763
enron	0.2281	18.0994	0.1187	0.6812	0.6256	0.8519
EukaryoteGO	0.2381	1.4093	0.0479	0.8390	0.9688	0.9463
EukaryotePseAAC	0.5611	3.3861	0.0816	0.5961	0.6941	0.8647
flags	0.2500	3.9500	0.2433	0.7969	0.5806	0.7763
foodtruck	0.3415	3.0244	0.2939	0.7143	0.6311	0.8094
genbase	0.0000	0.2090	0.0000	1.0000	0.6667	0.9999
GnegativeGO	0.0643	0.1643	0.0089	0.9635	0.8703	0.9910
GnegativePseAAC	0.2143	0.7500	0.0571	0.8504	0.6812	0.9238
GpositiveGO	0.1538	0.2308	0.0705	0.9151	0.9676	0.9572
GpositivePseAAC	0.2692	0.4038	0.0769	0.8462	0.9014	0.9144
HumanGO	0.2347	1.2444	0.0787	0.8409	0.9204	0.9203
HumanPseAAC	0.5659	2.9100	0.1422	0.6011	0.6700	0.8034
Image	0.2850	0.8150	0.0983	0.8204	0.8446	0.8442
IMDB-ECC-F	0.6845	10.6520	0.2654	0.4129	0.5972	0.7154
IMDB-F	0.6319	10.0364	0.2346	0.4518	0.6289	0.7515
LLOG-F	0.5738	12.9836	0.1547	0.4917	0.4747	0.8696
mediamill	0.1283	18.8314	0.0572	0.7127	0.5739	0.9296
medical	0.1939	1.3163	0.0383	0.8672	0.5190	0.9773
Music	0.1667	1.9000	0.1685	0.8284	0.8516	0.8597
NUS-WIDE-bow	0.5029	17.9676	0.1253	0.5226	0.6317	0.8533
NUS-WIDE-cVLADplus	0.4724	17.7079	0.1278	0.5446	0.6304	0.8584
OHSUMED-F	0.3116	4.5879	0.1104	0.7128	0.8523	0.8732
PlantGO	0.3367	1.0918	0.0757	0.7901	0.9395	0.9203
PlantPseAAC	0.5918	3.1122	0.2543	0.5504	0.6952	0.7454
rcv1subset1	0.4417	20.8400	0.1064	0.5599	0.7680	0.8890
REUTERS-K500-EX2	0.4633	10.5283	0.0776	0.6290	0.6728	0.9187
scene	0.2199	0.4896	0.0840	0.8654	0.9306	0.9343
SLASHDOT-F	0.3588	2.8179	0.0786	0.7221	0.6761	0.9013
solar_flare-L3	0.6000	0.6000	0.3000	0.7000	0.3333	0.7600
Stackex_chess	0.4821	64.7202	0.1600	0.4411	0.4488	0.8321
Stackex_coffee	0.9130	35.5652	0.1416	0.2610	0.1926	0.7898
Stackex_philosophy	0.4322	65.7387	0.1528	0.4993	0.5982	0.8407
tmc2007-500	0.2087	2.9990	0.0553	0.8185	0.9183	0.9403
VirusGO	0.1429	0.3810	0.0714	0.9272	0.7472	0.9461
VirusPseAAC	0.3810	1.4286	0.2738	0.7238	0.5978	0.7573
Water-quality	0.2264	8.9245	0.2447	0.7109	0.6895	0.7252
Yahoo_Arts	0.4232	8.3485	0.2045	0.5948	0.7054	0.7430
Yahoo_Business	0.1658	3.9554	0.0827	0.8407	0.7259	0.9060
Yahoo_Computers	0.3357	7.3044	0.2274	0.6902	0.7307	0.8201
Yahoo_Education	0.4788	10.7066	0.2082	0.5622	0.7264	0.7237
Yahoo_Entertainment	0.3519	5.2003	0.2150	0.6753	0.7814	0.7827
Yahoo_Health	0.2693	6.6297	0.1280	0.7448	0.6332	0.8403
Yahoo_Recreation	0.3539	4.8644	0.1592	0.6836	0.8341	0.8085
Yahoo_Reference	0.3512	5.7011	0.1171	0.7083	0.5971	0.8428
Yahoo_Science	0.4588	11.7947	0.2368	0.5640	0.7847	0.7390
Yahoo_Social	0.3210	8.2756	0.1623	0.7086	0.7181	0.8130
yeast	0.1694	6.2479	0.1977	0.7832	0.6894	0.8446
Yelp	0.1595	1.3121	0.1145	0.8840	0.8293	0.8613

Table 42: Detailed results for ExPCT

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.6831	4.2816	0.1705	0.4692	0.7907	0.7950
3s-guardian1000	0.6129	2.0645	0.5645	0.5772	0.5397	0.6591
3s-inter3000	0.6471	1.7647	0.3353	0.5686	0.4114	0.6601
3s-reuters1000	0.8667	2.4333	0.8667	0.4039	0.5129	0.5112
amphibians	0.2222	2.6111	0.0935	0.8515	0.6342	0.7809
bibtex	0.6703	47.8784	0.2093	0.3058	0.7614	0.8182
birds	0.4872	3.8462	0.1073	0.6428	0.7981	0.8838
bookmarks	0.6834	57.7153	0.2217	0.3464	0.7606	0.8298
CAL500	0.1373	131.6667	0.3925	0.5108	0.5379	0.8226
corel16k001	0.7008	49.5338	0.1057	0.3010	0.7044	0.8390
Corel5k	0.6900	111.2380	0.4551	0.2719	0.5232	0.8941
emotions	0.1833	1.4833	0.1056	0.8550	0.8630	0.8851
enron	0.1988	12.7368	0.0598	0.6856	0.6432	0.9157
EukaryoteGO	0.1804	0.5851	0.0061	0.8901	0.9787	0.9918
EukaryotePseAAC	0.6100	2.7503	0.0169	0.5693	0.7337	0.8935
flags	0.1000	3.5000	0.1858	0.8463	0.6623	0.8135
foodtruck	0.2683	3.0488	0.3187	0.7625	0.5957	0.7960
genbase	0.0000	0.5373	0.0075	0.9932	0.6588	0.9984
GnegativeGO	0.0214	0.0929	0.0107	0.9871	0.8676	0.9958
GnegativePseAAC	0.2929	0.8286	0.1661	0.8022	0.8075	0.9344
GpositiveGO	0.0962	0.1154	0.0321	0.9519	0.9945	0.9948
GpositivePseAAC	0.2885	0.5577	0.1538	0.8173	0.8683	0.8638
HumanGO	0.2187	0.7878	0.0330	0.8624	0.9347	0.9721
HumanPseAAC	0.6367	2.3891	0.0693	0.5610	0.7083	0.8444
Image	0.1900	0.7000	0.0612	0.8650	0.8949	0.8967
IMDB-ECC-F	0.6551	8.1520	0.2006	0.4483	0.5810	0.7832
IMDB-F	0.6280	8.5360	0.1975	0.4649	0.5762	0.7897
LLOG-F	0.7869	16.1393	0.1995	0.3196	0.3882	0.8271
mediamill	0.1330	17.4703	0.0503	0.7186	0.6534	0.9454
medical	0.2653	2.9898	0.1122	0.7796	0.5213	0.9669
Music	0.2167	1.9333	0.1630	0.8068	0.8745	0.8796
NUS-WIDE-bow	0.6094	17.1760	0.1188	0.4413	0.6041	0.8666
NUS-WIDE-cVLADplus	0.5671	16.2088	0.1115	0.4745	0.6154	0.8762
OHSUMED-F	0.6633	7.3747	0.3038	0.4305	0.6103	0.7565
PlantGO	0.2292	0.5104	0.0365	0.8704	0.9719	0.9748
PlantPseAAC	0.6531	2.5306	0.1658	0.5450	0.7341	0.7991
rcv1subset1	0.5000	18.4900	0.1210	0.5172	0.8040	0.9117
REUTERS-K500-EX2	0.4983	7.8883	0.0587	0.6029	0.7161	0.9486
scene	0.1826	0.3734	0.0415	0.8934	0.9492	0.9578
SLASHDOT-F	0.5714	3.5661	0.0810	0.5692	0.6191	0.8782
solar_flare-L3	0.8000	0.8000	0.4000	0.6000	0.1111	0.5800
Stackex_chess	0.6786	54.2083	0.1350	0.2998	0.4322	0.8817
Stackex_coffee	0.9130	49.6087	0.1996	0.2397	0.2096	0.7879
Stackex_philosophy	0.7236	63.7513	0.1849	0.3099	0.5310	0.8540
tmc2007-500	0.3577	3.9790	0.1200	0.6938	0.8398	0.9093
VirusGO	0.0952	0.5714	0.0476	0.9206	0.7784	0.9517
VirusPseAAC	0.2857	0.6667	0.0000	0.8230	0.6878	0.9067
Water-quality	0.2170	8.5849	0.2029	0.7300	0.7158	0.7467
Yahoo_Arts	0.6208	5.5100	0.3456	0.5205	0.6668	0.8284
Yahoo_Business	0.1275	2.0535	0.1437	0.8867	0.7177	0.9580
Yahoo_Computers	0.4337	3.9526	0.3873	0.6542	0.6657	0.8948
Yahoo_Education	0.6434	3.9177	0.2857	0.5302	0.6686	0.9036
Yahoo_Entertainment	0.5546	3.2608	0.1038	0.5918	0.7300	0.8718
Yahoo_Health	0.4528	3.5114	0.2680	0.6639	0.6342	0.9293
Yahoo_Recreation	0.6633	4.4341	0.4926	0.4987	0.7019	0.8117
Yahoo_Reference	0.4508	3.0224	0.1183	0.6538	0.6305	0.9223
Yahoo_Science	0.7014	7.0762	0.1379	0.4476	0.6814	0.8438
Yahoo_Social	0.4109	3.6931	0.1321	0.6877	0.6894	0.9190
yeast	0.2603	6.1488	0.2343	0.7502	0.6931	0.8420
Yelp	0.0708	1.1745	0.1404	0.9276	0.8424	0.9008

Table 43: Detailed results for ML-RF

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.6804	4.2978	0.1703	0.4699	0.7901	0.7945
3s-guardian1000	0.6452	2.1452	0.5524	0.5546	0.5780	0.6689
3s-inter3000	0.7647	1.8824	0.3735	0.5005	0.4253	0.6422
3s-reuters1000	0.8833	2.3000	0.8292	0.4196	0.5141	0.5182
amphibians	0.2778	2.5556	0.0870	0.8315	0.6956	0.7922
bibtex	0.6628	47.6716	0.2053	0.3068	0.7606	0.8192
birds	0.4487	4.1410	0.1155	0.6171	0.7670	0.8658
bookmarks	0.6822	58.3098	0.2230	0.3454	0.7578	0.8282
CAL500	0.1471	130.8039	0.3917	0.5109	0.5356	0.8236
corel16k001	0.7059	48.8900	0.1075	0.2990	0.7071	0.8394
Corel5k	0.6940	113.1040	0.4545	0.2729	0.5200	0.8934
emotions	0.1917	1.5500	0.1292	0.8386	0.8642	0.8857
enron	0.2105	12.8596	0.0663	0.6808	0.6388	0.9146
EukaryoteGO	0.1854	0.6137	0.0087	0.8883	0.9759	0.9912
EukaryotePseAAC	0.5689	2.4820	0.0168	0.6051	0.7401	0.9032
flags	0.1500	3.5000	0.1808	0.8432	0.6953	0.8185
foodtruck	0.2439	2.9024	0.3104	0.7867	0.6168	0.8048
genbase	0.0000	0.5448	0.0075	0.9919	0.6571	0.9978
GnegativeGO	0.0214	0.0929	0.0107	0.9871	0.8678	0.9959
GnegativePseAAC	0.2714	0.6893	0.1152	0.8263	0.7808	0.9496
GpositiveGO	0.0962	0.1154	0.0321	0.9519	0.9952	0.9950
GpositivePseAAC	0.2981	0.5096	0.1731	0.8205	0.8618	0.8682
HumanGO	0.2154	0.7637	0.0282	0.8629	0.9248	0.9728
HumanPseAAC	0.5997	2.3248	0.0698	0.5874	0.7020	0.8545
Image	0.1950	0.7175	0.0650	0.8616	0.8986	0.8980
IMDB-ECC-F	0.6488	8.2117	0.2017	0.4510	0.5765	0.7817
IMDB-F	0.6263	8.4946	0.1980	0.4643	0.5823	0.7898
LLOG-F	0.7828	16.1598	0.2213	0.3214	0.3909	0.8271
mediamill	0.1354	17.5344	0.0510	0.7185	0.6412	0.9456
medical	0.2755	2.9286	0.1097	0.7789	0.5218	0.9681
Music	0.2167	1.8917	0.1475	0.8155	0.8609	0.8703
NUS-WIDE-bow	0.5628	16.9139	0.1165	0.4787	0.6066	0.8676
NUS-WIDE-cVLADplus	0.5214	14.9529	0.1049	0.5158	0.6517	0.8882
OHSUMED-F	0.6777	7.3457	0.3029	0.4253	0.6070	0.7559
PlantGO	0.2216	0.5412	0.0309	0.8724	0.9710	0.9750
PlantPseAAC	0.6276	2.1276	0.1390	0.5755	0.7784	0.8386
rcv1subset1	0.5275	20.8317	0.1411	0.4894	0.7829	0.8988
REUTERS-K500-EX2	0.5727	10.6520	0.0827	0.5291	0.6930	0.9339
scene	0.1784	0.4149	0.0482	0.8898	0.9459	0.9543
SLASHDOT-F	0.5746	3.4505	0.0873	0.5706	0.6224	0.8808
solar_flare-L3	0.6000	0.6000	0.3000	0.7000	0.2778	0.6600
Stackex_chess	0.6577	68.1220	0.2170	0.2895	0.4281	0.8755
Stackex_coffee	0.8913	50.7174	0.2219	0.2297	0.2103	0.8020
Stackex_philosophy	0.7236	71.7789	0.2303	0.2887	0.5616	0.8629
tmc2007-500	0.3605	4.0240	0.1207	0.6925	0.8362	0.9081
VirusGO	0.0714	0.5000	0.0516	0.9381	0.7769	0.9614
VirusPseAAC	0.2143	0.5714	0.0000	0.8607	0.6952	0.9263
Water-quality	0.2406	8.7264	0.2210	0.7197	0.7032	0.7416
Yahoo_Arts	0.6575	5.9733	0.3584	0.4895	0.6213	0.8136
Yahoo_Business	0.1243	2.2259	0.1426	0.8845	0.6740	0.9515
Yahoo_Computers	0.4277	4.1643	0.3812	0.6476	0.6482	0.8861
Yahoo_Education	0.6446	4.1696	0.3030	0.5209	0.6755	0.9000
Yahoo_Entertainment	0.5609	3.4737	0.1172	0.5795	0.7222	0.8648
Yahoo_Health	0.4435	3.6699	0.2745	0.6590	0.6456	0.9238
Yahoo_Recreation	0.6820	4.8465	0.4835	0.4765	0.6636	0.7932
Yahoo_Reference	0.4489	3.4271	0.1350	0.6431	0.6223	0.9138
Yahoo_Science	0.7100	8.0023	0.1859	0.4245	0.6510	0.8247
Yahoo_Social	0.4224	3.9950	0.1363	0.6829	0.6781	0.9137
yeast	0.2376	6.1508	0.2205	0.7608	0.7204	0.8482
Yelp	0.0728	1.1750	0.1441	0.9261	0.8430	0.9007

Table 44: Detailed results for RFPCT

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.6918	4.2688	0.1632	0.4723	0.7799	0.8084
3s-guardian1000	0.5484	1.8387	0.5484	0.6142	0.5385	0.6787
3s-inter3000	0.6471	1.8235	0.3441	0.5451	0.3724	0.6501
3s-reuters1000	0.8667	2.4667	0.8667	0.4036	0.5816	0.5207
amphibians	0.2222	2.4444	0.0741	0.8663	0.6789	0.7906
bibtex	0.6648	47.8694	0.2014	0.2881	0.7705	0.8107
birds	0.5385	4.5641	0.1601	0.5725	0.7655	0.8419
bookmarks	0.7620	60.0683	0.2020	0.2739	0.7467	0.7855
CAL500	0.1373	131.5686	0.4051	0.5014	0.5178	0.8183
corel16k001	0.6536	43.1924	0.0808	0.3426	0.7475	0.8646
Corel5k	0.6260	95.1140	0.4009	0.3213	0.5276	0.9072
emotions	0.2667	1.5333	0.1264	0.8245	0.8532	0.8749
enron	0.1813	12.8772	0.0597	0.6973	0.6321	0.9127
EukaryoteGO	0.1649	0.5857	0.0089	0.8824	0.9818	0.9945
EukaryotePseAAC	0.6577	2.9382	0.0158	0.5358	0.7333	0.8886
flags	0.1500	3.4500	0.1692	0.8411	0.6405	0.8076
foodtruck	0.2439	2.8049	0.3130	0.7842	0.6402	0.8107
genbase	0.0000	0.2239	0.0000	0.9975	0.6667	1.0000
GnegativeGO	0.0286	0.0929	0.0071	0.9833	0.8722	0.9978
GnegativePseAAC	0.3500	1.0357	0.2375	0.7625	0.7214	0.9101
GpositiveGO	0.0769	0.0962	0.0256	0.9615	0.9932	0.9914
GpositivePseAAC	0.4231	0.6923	0.1346	0.7500	0.8809	0.8512
HumanGO	0.1993	0.7731	0.0100	0.8398	0.9386	0.9757
HumanPseAAC	0.6495	2.4341	0.0560	0.5469	0.7243	0.8400
Image	0.2650	0.8500	0.0517	0.8215	0.8703	0.8655
IMDB-ECC-F	0.6415	7.2233	0.1725	0.4734	0.5595	0.8122
IMDB-F	0.6114	7.5228	0.1729	0.4831	0.6115	0.8165
LLOG-F	0.6721	12.2377	0.1261	0.3891	0.4542	0.8659
mediamill	0.1734	17.9596	0.0514	0.6845	0.6112	0.9407
medical	0.1735	1.8061	0.0893	0.8643	0.5420	0.9800
Music	0.2833	2.1000	0.1560	0.7645	0.8539	0.8567
NUS-WIDE-bow	0.5861	17.4063	0.1192	0.4630	0.5898	0.8624
NUS-WIDE-cVLADplus	0.5723	17.1332	0.1177	0.4656	0.5827	0.8656
OHSUMED-F	0.5327	4.9835	0.1695	0.5640	0.8231	0.8555
PlantGO	0.2500	0.6667	0.0260	0.8518	0.9595	0.9640
PlantPseAAC	0.6531	2.7449	0.1854	0.5286	0.6967	0.7887
rcv1subset1	0.4855	18.4901	0.1002	0.5100	0.7928	0.9103
REUTERS-K500-EX2	0.4876	7.8782	0.0582	0.5910	0.7167	0.9487
scene	0.2365	0.4772	0.0622	0.8621	0.9322	0.9301
SLASHDOT-F	0.3915	2.2460	0.0112	0.7077	0.6909	0.9244
solar_flare-L3	0.8000	0.8000	0.4000	0.6000	0.2222	0.6400
Stackex_chess	0.5417	45.5000	0.1133	0.4030	0.4702	0.9105
Stackex_coffee	0.6522	40.3913	0.1437	0.3855	0.2424	0.8229
Stackex_philosophy	0.5729	44.1231	0.1179	0.4331	0.6257	0.9109
tmc2007-500	0.3070	3.0129	0.0821	0.7580	0.9169	0.9395
VirusGO	0.0476	0.4762	0.0556	0.9500	0.7656	0.9465
VirusPseAAC	0.1429	0.5714	0.0000	0.8921	0.6974	0.9029
Water-quality	0.2358	8.7925	0.2124	0.7229	0.7008	0.7375
Yahoo_Arts	0.6180	5.5061	0.3416	0.5129	0.6617	0.8353
Yahoo_Business	0.1082	2.0590	0.1341	0.8647	0.7057	0.9592
Yahoo_Computers	0.4418	3.9589	0.3696	0.6325	0.6513	0.8863
Yahoo_Education	0.6541	3.9061	0.2676	0.5433	0.6815	0.8883
Yahoo_Entertainment	0.5596	3.2498	0.1125	0.6020	0.7271	0.8603
Yahoo_Health	0.4473	3.5174	0.2739	0.6638	0.6281	0.9166
Yahoo_Recreation	0.6398	4.4385	0.4923	0.4737	0.6770	0.8051
Yahoo_Reference	0.4550	3.0141	0.1125	0.6495	0.6343	0.9229
Yahoo_Science	0.6981	7.0617	0.1420	0.4523	0.6732	0.8430
Yahoo_Social	0.3902	3.6928	0.1325	0.6710	0.6646	0.9279
yeast	0.2603	6.1736	0.2476	0.7451	0.6983	0.8344
Yelp	0.0678	1.1436	0.1441	0.9320	0.8911	0.9082

Table 45: Detailed results for BR(RF)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3580	3.0212	0.2870	0.7149	0.9784	0.9789
3s-guardian1000	0.6774	2.0645	0.3306	0.5384	0.6479	0.6847
3s-inter3000	0.8824	2.4706	0.5456	0.3961	0.4345	0.5985
3s-reuters1000	0.6667	1.9000	0.5417	0.5369	0.7090	0.7124
amphibians	0.2778	3.0000	0.1546	0.7981	0.6343	0.7827
bibtex	0.3838	45.8703	0.2848	0.5304	0.9604	0.9683
birds	0.4615	5.4615	0.1799	0.5992	0.7670	0.8691
bookmarks	0.6549	76.3462	0.4617	0.3660	0.9167	0.9411
CAL500	0.4314	149.7843	0.5739	0.3559	0.6063	0.7566
corel16k001	0.8134	103.1271	0.7420	0.1682	0.9566	0.9583
Corel5k	0.7380	143.2660	0.6874	0.2128	0.6526	0.9726
emotions	0.3667	2.1667	0.2222	0.7317	0.8536	0.8333
enron	0.3450	19.8889	0.3460	0.5404	0.7448	0.9239
EukaryoteGO	0.2098	0.8430	0.0367	0.8704	0.9933	0.9936
EukaryotePseAAC	0.9498	10.6332	0.9217	0.1848	0.9560	0.9547
flags	0.1000	3.4000	0.1800	0.8549	0.7746	0.8460
foodtruck	0.2439	3.0244	0.3501	0.7587	0.7156	0.8334
genbase	0.0000	0.2090	0.0000	1.0000	0.6667	1.0000
GnegativeGO	0.0214	0.0929	0.0143	0.9863	0.8737	0.9989
GnegativePseAAC	0.3071	1.3643	0.2625	0.7637	0.8025	0.9412
GpositiveGO	0.0577	0.0769	0.0192	0.9712	0.9965	0.9956
GpositivePseAAC	0.4423	0.7308	0.1346	0.7388	0.8059	0.8296
HumanGO	0.2347	0.7942	0.0506	0.8550	0.9786	0.9795
HumanPseAAC	0.9100	6.9711	0.8794	0.2617	0.9178	0.9098
Image	0.6550	1.8650	0.5783	0.5666	0.8894	0.8880
IMDB-ECC-F	0.7883	12.8784	0.6521	0.2977	0.8444	0.8639
IMDB-F	0.7899	13.3176	0.6672	0.2913	0.8539	0.8660
LLOG-F	0.6721	22.2623	0.4795	0.3655	0.5354	0.9232
mediamill	0.2779	59.1116	0.4321	0.5060	0.7601	0.9524
medical	0.1531	1.9490	0.0587	0.8883	0.5502	0.9959
Music	0.3167	2.5833	0.2148	0.7236	0.8384	0.8018
NUS-WIDE-bow	0.9481	46.6108	0.9400	0.1174	0.8693	0.9792
NUS-WIDE-cVLADplus	0.9629	47.0590	0.9577	0.1059	0.8683	0.9770
OHSUMED-F	0.3833	7.5061	0.3698	0.6110	0.9503	0.9569
PlantGO	0.2551	1.0612	0.0986	0.8291	0.9636	0.9719
PlantPseAAC	0.8367	4.2041	0.6582	0.3594	0.8171	0.8246
rcv1subset1	0.5800	46.9050	0.5629	0.3473	0.9079	0.9680
REUTERS-K500-EX2	0.6267	34.9233	0.5781	0.4028	0.7753	0.9880
scene	0.4481	1.7012	0.3672	0.6658	0.8992	0.8877
SLASHDOT-F	0.4011	5.2401	0.3188	0.6458	0.7412	0.9703
solar_flare-L3	0.6000	0.6000	0.3000	0.7000	0.3333	0.7400
Stackex_chess	0.6429	112.3095	0.5889	0.2803	0.5349	0.9782
Stackex_coffee	0.5652	59.2174	0.4161	0.3339	0.2453	0.9471
Stackex_philosophy	0.6658	122.0201	0.6656	0.2554	0.7339	0.9806
tmc2007-500	0.3899	6.2797	0.3239	0.6547	0.9699	0.9669
VirusGO	0.0476	0.3810	0.0476	0.9563	0.8111	0.9810
VirusPseAAC	0.4286	0.8571	0.0952	0.7516	0.6543	0.8653
Water-quality	0.3113	10.0755	0.3914	0.6575	0.8028	0.7400
Yahoo_Arts	0.5140	11.1455	0.5733	0.4780	0.9317	0.9707
Yahoo_Business	0.1194	3.0918	0.1795	0.8708	0.8532	0.9910
Yahoo_Computers	0.4586	6.6538	0.5304	0.5734	0.8936	0.9801
Yahoo_Education	0.6367	9.4988	0.6701	0.4566	0.8969	0.9871
Yahoo_Entertainment	0.5090	4.2090	0.5497	0.5867	0.9891	0.9901
Yahoo_Health	0.3974	6.8024	0.3536	0.6491	0.8300	0.9824
Yahoo_Recreation	0.4295	6.1738	0.4510	0.6157	0.9875	0.9883
Yahoo_Reference	0.5106	4.9751	0.5109	0.5833	0.8042	0.9870
Yahoo_Science	0.5505	12.9300	0.5634	0.4740	0.9510	0.9776
Yahoo_Social	0.5891	9.2599	0.3605	0.4794	0.8234	0.8547
yeast	0.2562	6.7851	0.4001	0.7108	0.8802	0.8949
Yelp	0.2473	1.5593	0.2883	0.8220	0.9018	0.9078

Table 46: Detailed results for ECC

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3637	2.3373	0.1484	0.7335	0.9494	0.9399
3s-guardian1000	0.7742	2.7097	0.3065	0.4478	0.6714	0.5441
3s-inter3000	0.8824	2.2941	0.7176	0.4324	0.7009	0.8532
3s-reuters1000	0.7333	2.1000	0.4750	0.5011	0.5110	0.5669
amphibians	0.3333	3.1111	0.2537	0.7667	0.5570	0.6821
bibtex	0.5068	64.6108	0.4851	0.4405	0.9882	0.9889
birds	0.5385	6.9744	0.5359	0.5244	0.8556	0.9587
bookmarks	0.6074	83.7231	0.5410	0.3821	0.9810	0.9826
CAL500	0.3725	147.4314	0.4656	0.4274	0.6150	0.8128
corel16k001	0.7553	86.2237	0.5927	0.2374	0.9630	0.9637
Corel5k	0.7120	161.2780	0.7106	0.2138	0.6660	0.9860
emotions	0.3167	1.7667	0.2236	0.7785	0.8238	0.8422
enron	0.3567	21.3743	0.2257	0.5902	0.7731	0.9323
EukaryoteGO	0.1956	0.8121	0.0376	0.8804	0.9925	0.9945
EukaryotePseAAC	0.6332	3.3115	0.1063	0.5527	0.8649	0.9012
flags	0.1000	3.9500	0.3508	0.8060	0.5954	0.7142
foodtruck	0.2927	3.9268	0.3579	0.7241	0.7119	0.8594
genbase	0.0000	0.2090	0.0000	1.0000	0.6667	0.9999
GnegativeGO	0.0357	0.1071	0.0143	0.9792	0.8747	0.9996
GnegativePseAAC	0.4000	0.9571	0.3250	0.7465	0.7744	0.9148
GpositiveGO	0.0962	0.1538	0.0641	0.9455	0.9970	0.9963
GpositivePseAAC	0.4038	0.7115	0.1923	0.7516	0.8053	0.7917
HumanGO	0.2412	1.0997	0.0997	0.8425	0.9802	0.9854
HumanPseAAC	0.6559	2.8714	0.1166	0.5272	0.8235	0.8390
Image	0.3500	1.0150	0.1283	0.7686	0.8647	0.8661
IMDB-ECC-F	0.7348	11.2579	0.5381	0.3753	0.9353	0.9199
IMDB-F	0.6280	12.2394	0.5497	0.4020	0.9385	0.9234
LLOG-F	0.7787	32.2049	0.7623	0.2566	0.5847	0.9838
mediamill	0.3112	66.0166	0.5466	0.4532	0.8000	0.9848
medical	0.2143	5.1122	0.1233	0.8214	0.5523	0.9960
Music	0.3833	2.1000	0.2648	0.7480	0.8378	0.8486
NUS-WIDE-bow	0.9672	47.4301	0.9934	0.1114	0.8879	0.9990
NUS-WIDE-cVLADplus	0.9672	47.3934	0.9905	0.1112	0.8876	0.9987
OHSUMED-F	0.4257	7.0517	0.3373	0.6000	0.9280	0.9349
PlantGO	0.1939	0.6224	0.0646	0.8774	0.9893	0.9868
PlantPseAAC	0.7449	3.0816	0.3333	0.4770	0.8364	0.8407
rcv1subset1	0.4750	35.4100	0.3470	0.5014	0.9186	0.9787
REUTERS-K500-EX2	0.5300	25.4100	0.4099	0.5229	0.7760	0.9895
scene	0.3402	0.8797	0.1691	0.7858	0.9241	0.9314
SLASHDOT-F	0.4380	4.0026	0.1649	0.6480	0.6940	0.9149
solar_flare-L3	0.8000	0.8000	0.4000	0.6000	0.2222	0.7000
Stackex_chess	0.7083	133.7738	0.7291	0.2215	0.5449	0.9939
Stackex_coffee	0.7391	67.6087	0.7518	0.2040	0.2569	0.9898
Stackex_philosophy	0.6734	125.4899	0.6642	0.2764	0.7438	0.9927
tmc2007-500	0.3098	4.5070	0.1812	0.7298	0.9381	0.9506
VirusGO	0.0476	0.6190	0.0873	0.9421	0.8287	0.9949
VirusPseAAC	0.5238	1.2381	0.1429	0.6730	0.5641	0.8417
Water-quality	0.4434	9.7264	0.4481	0.6248	0.6973	0.7234
Yahoo_Arts	0.4780	6.6876	0.3818	0.5993	0.8854	0.9152
Yahoo_Business	0.1052	2.9733	0.1402	0.8687	0.8227	0.9750
Yahoo_Computers	0.3606	4.4602	0.2406	0.6984	0.8447	0.9304
Yahoo_Education	0.4480	5.3766	0.3573	0.6341	0.8520	0.9403
Yahoo_Entertainment	0.3409	2.9254	0.1326	0.7257	0.9187	0.9122
Yahoo_Health	0.2443	4.9305	0.2662	0.7433	0.8079	0.9565
Yahoo_Recreation	0.4030	4.0429	0.2685	0.6725	0.9188	0.9022
Yahoo_Reference	0.3636	3.3935	0.1574	0.7098	0.7669	0.9523
Yahoo_Science	0.4837	9.5956	0.3319	0.5693	0.9359	0.9539
Yahoo_Social	0.2574	3.5619	0.1226	0.7860	0.8954	0.9700
yeast	0.2479	6.7355	0.2696	0.7460	0.6883	0.8235
Yelp	0.1206	1.3280	0.1156	0.8949	0.8379	0.8517

Table 47: Detailed results for BAGGING(BR)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2866	1.3040	0.1306	0.8311	0.9783	0.9650
3s-guardian1000	0.5567	2.0885	0.4614	0.5583	0.6614	0.7110
3s-inter3000	0.6369	1.8509	0.3577	0.5452	0.3644	0.6124
3s-reuters1000	0.8061	2.1465	0.7052	0.4767	0.5618	0.5787
amphibians	0.2690	2.6243	0.1059	0.8222	0.6295	0.7575
bibtex	0.3369	32.9264	0.2250	0.5685	0.9518	0.9472
birds	0.3260	4.2182	0.1897	0.7045	0.8121	0.8655
bookmarks	0.6603	82.4233	0.5487	0.3286	0.9411	0.9301
CAL500	0.1662	141.4982	0.4291	0.4643	0.5299	0.7983
corel16k001	0.7732	95.7377	0.6134	0.1698	0.9401	0.9612
Corel5k	0.7311	137.9166	0.5416	0.2300	0.6073	0.9631
emotions	0.2526	1.6904	0.2226	0.8061	0.8151	0.8441
enron	0.1520	15.0909	0.1494	0.7174	0.6747	0.8930
EukaryoteGO	0.1574	0.4608	0.0000	0.9197	0.9590	1.0000
EukaryotePseAAC	0.5854	2.5957	0.0780	0.6027	0.7836	0.8645
flags	0.0959	3.5718	0.1897	0.8708	0.7342	0.8462
foodtruck	0.3351	3.0532	0.2981	0.7356	0.6324	0.8032
genbase	0.0071	0.2563	0.0000	1.0000	0.6369	0.9577
GnegativeGO	0.0611	0.0913	0.0117	0.9830	0.8930	0.9500
GnegativePseAAC	0.2986	0.6997	0.1477	0.8420	0.7566	0.9205
GpositiveGO	0.1215	0.1480	0.0783	0.9415	0.9581	1.0000
GpositivePseAAC	0.2693	0.4456	0.1154	0.8550	0.8350	0.8588
HumanGO	0.2174	0.6794	0.0392	0.8832	0.9405	0.9507
HumanPseAAC	0.6072	2.3301	0.0829	0.6071	0.7609	0.8508
Image	0.2291	0.7133	0.0988	0.8290	0.8816	0.8992
IMDB-ECC-F	0.8197	13.9386	0.7952	0.2799	0.8722	0.9325
IMDB-F	0.8780	14.7681	0.8314	0.2368	0.9183	0.9107
LLOG-F	0.6082	12.2066	0.2364	0.4475	0.5386	0.8910
mediamill	0.2820	64.6194	0.5215	0.4571	0.7767	0.9646
medical	0.1182	1.6444	0.0560	0.8851	0.5572	0.9522
Music	0.2794	1.9396	0.2044	0.8208	0.8047	0.8139
NUS-WIDE-bow	0.9770	46.6454	0.9477	0.0937	0.8427	1.0000
NUS-WIDE-cVLADplus	0.9806	47.0798	0.9896	0.0983	0.8451	0.9462
OHSUMED-F	0.2916	3.7739	0.1050	0.7376	0.9048	0.9081
PlantGO	0.2466	0.6339	0.0791	0.8971	0.9939	0.9939
PlantPseAAC	0.6400	2.2424	0.1935	0.5815	0.6867	0.8262
rcv1subset1	0.4494	17.7549	0.1738	0.5638	0.9069	0.9310
REUTERS-K500-EX2	0.4280	12.9033	0.1695	0.6580	0.7135	0.9733
scene	0.1888	0.4164	0.0937	0.8665	0.9477	0.9311
SLASHDOT-F	0.4254	3.4396	0.1764	0.6556	0.6731	0.9250
solar_flare-L3	0.8189	0.8174	0.4428	0.5673	0.2640	0.6614
Stackex_chess	0.5331	71.8129	0.3773	0.4320	0.5390	0.9899
Stackex_coffee	0.7394	60.9444	0.4395	0.2834	0.2147	0.9384
Stackex_philosophy	0.4527	74.2866	0.3333	0.4357	0.7201	0.9958
tmc2007-500	0.2435	2.7702	0.0761	0.7928	0.9238	0.9796
VirusGO	0.0804	0.3164	0.0891	0.9332	0.7920	1.0000
VirusPseAAC	0.3221	0.7471	0.0478	0.7769	0.6156	0.8979
Water-quality	0.1906	8.5800	0.2157	0.7643	0.7023	0.7311
Yahoo_Arts	0.3807	7.6019	0.3715	0.5779	0.9241	0.9609
Yahoo_Business	0.0773	2.2436	0.1546	0.9169	0.7832	0.9534
Yahoo_Computers	0.3606	4.8033	0.4024	0.6589	0.8576	0.9523
Yahoo_Education	0.5020	6.3712	0.4491	0.6344	0.8644	0.9390
Yahoo_Entertainment	0.3460	3.0625	0.3656	0.7051	0.9348	0.9860
Yahoo_Health	0.2633	4.1392	0.1904	0.7648	0.7725	0.9830
Yahoo_Recreation	0.3689	4.3093	0.3049	0.6685	0.9778	0.9780
Yahoo_Reference	0.4053	3.1164	0.3079	0.6830	0.7990	0.9619
Yahoo_Science	0.4031	8.7151	0.3405	0.5837	0.9278	0.9360
Yahoo_Social	0.2950	5.0969	0.3016	0.7241	0.8553	0.9603
yeast	0.2378	6.2400	0.2147	0.7845	0.7113	0.8711
Yelp	0.0881	1.1048	0.1239	0.9247	0.8629	0.9129

Table 48: Detailed results for PYRAMID SVM

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2391	2.0752	0.1876	0.8104	0.9912	0.9914
3s-guardian1000	0.5484	1.9355	0.5968	0.6253	0.9461	0.9275
3s-inter3000	0.7059	1.6471	0.6588	0.5676	0.8333	0.8975
3s-reuters1000	0.8667	2.6333	0.8667	0.3950	1.0000	0.8463
amphibians	0.1667	2.6667	0.2713	0.8728	0.7910	0.8359
bibtex	0.3947	69.4385	0.5021	0.4521	1.0000	0.9843
birds	0.4872	7.4103	0.5503	0.5280	0.8577	0.9558
bookmarks	0.6839	101.7925	0.7316	0.2707	0.9643	0.9906
CAL500	0.1373	150.1373	0.3770	0.4462	0.6796	0.8189
corel16k001	0.8303	111.6577	0.8478	0.1095	0.9683	0.9907
Corel5k	0.6857	157.1516	0.7323	0.2195	0.6719	0.9719
emotions	0.2500	1.7833	0.2773	0.8101	0.9098	0.9174
enron	0.2305	23.8789	0.3379	0.6429	0.8192	0.9394
EukaryoteGO	0.1830	1.0992	0.0690	0.8794	0.9928	0.9946
EukaryotePseAAC	0.5191	5.6298	0.4126	0.5533	1.0000	1.0000
flags	0.2000	3.6500	0.3008	0.8005	0.7673	0.8400
foodtruck	0.2439	4.5610	0.4422	0.7232	0.8820	0.9697
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	0.9999
GnegativeGO	0.0429	0.1571	0.0194	0.9729	0.8743	0.9992
GnegativePseAAC	0.2071	0.8143	0.1827	0.8507	0.8577	0.9853
GpositiveGO	0.0577	0.1923	0.0673	0.9567	0.9973	0.9977
GpositivePseAAC	0.2115	0.4423	0.1987	0.8622	0.9860	0.9827
HumanGO	0.1865	1.1383	0.1259	0.8643	0.9865	0.9896
HumanPseAAC	0.5659	3.4984	0.5210	0.5573	0.9613	0.9578
Image	0.3150	0.9950	0.2833	0.7947	0.9360	0.9313
IMDB-ECC-F	0.6405	12.5776	0.7592	0.3616	0.9973	0.9788
IMDB-F	0.6065	13.1392	0.7462	0.3673	0.9893	0.9756
LLOG-F	0.6404	25.7143	0.6329	0.3431	0.6297	1.0000
mediamill	0.1949	51.0839	0.3352	0.6016	0.8059	0.9602
medical	0.1224	4.7347	0.1221	0.8695	0.5495	0.9944
Music	0.2333	1.8833	0.2563	0.8268	0.9368	0.9312
NUS-WIDE-bow	0.6756	20.5424	0.2117	0.3751	0.6903	0.8754
NUS-WIDE-cVLADplus	0.4857	30.9948	0.4850	0.4863	0.8685	0.9760
OHSUMED-F	0.3288	7.8579	0.4170	0.6211	0.9761	0.9786
PlantGO	0.2083	1.2917	0.1754	0.8375	0.9942	0.9907
PlantPseAAC	0.6531	3.5510	0.5897	0.4975	0.9549	0.9464
rcv1subset1	0.3933	34.5778	0.3494	0.5423	0.8769	0.9536
REUTERS-K500-EX2	0.4009	22.2070	0.3667	0.6205	0.7808	0.9855
scene	0.1992	0.8174	0.1594	0.8504	0.9703	0.9724
SLASHDOT-F	0.4074	5.5767	0.3679	0.6378	0.7555	0.9822
solar_flare-L3	0.4000	0.4000	0.2000	0.8000	0.6667	0.9200
Stackex_chess	0.5940	124.3592	0.6546	0.2933	0.5358	1.0000
Stackex_coffee	0.6957	74.3043	0.7438	0.2522	0.2549	0.9679
Stackex_philosophy	0.6168	122.1852	0.6702	0.3011	0.7534	0.9881
tmc2007-500	0.2771	5.0423	0.2486	0.7646	0.9657	0.9894
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8191	0.9921
VirusPseAAC	0.2857	1.0000	0.2667	0.7865	0.7811	0.9388
Water-quality	0.2925	9.7736	0.4419	0.6978	0.8428	0.8424
Yahoo_Arts	0.4913	9.3912	0.5061	0.5356	0.9316	0.9655
Yahoo_Business	0.0622	3.2051	0.2307	0.8993	0.8667	0.9988
Yahoo_Computers	0.3449	5.4095	0.3252	0.6793	0.8887	1.0000
Yahoo_Education	0.4891	7.1135	0.4018	0.5734	0.8928	0.9920
Yahoo_Entertainment	0.4380	3.9815	0.3543	0.6234	0.9886	0.9595
Yahoo_Health	0.2834	5.7948	0.2964	0.7227	0.8257	0.9836
Yahoo_Recreation	0.4116	5.4736	0.3889	0.6247	1.0000	0.9977
Yahoo_Reference	0.3967	4.9156	0.3097	0.6707	0.8094	0.9970
Yahoo_Science	0.5236	12.0040	0.4636	0.5210	0.9898	0.9648
Yahoo_Social	0.2737	6.3780	0.2788	0.7463	0.9173	0.9993
yeast	0.1901	6.0248	0.2876	0.7783	0.8680	0.9104
Yelp	0.0738	1.1366	0.1461	0.9346	0.9422	0.9574

Table 49: Detailed results for PYRAMID DT

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3273	2.6831	0.2458	0.7412	0.9781	0.9782
3s-guardian1000	0.6774	2.4839	0.5927	0.5065	0.6932	0.7137
3s-inter3000	0.7647	2.8824	0.6926	0.4176	0.3970	0.5390
3s-reuters1000	0.7333	2.3333	0.5883	0.4831	0.7351	0.7130
amphibians	0.1111	2.6667	0.1907	0.8928	0.6490	0.7569
bibtex	0.3910	36.4834	0.2398	0.5850	0.9239	0.9334
birds	0.4615	5.0513	0.2580	0.6118	0.7843	0.8902
bookmarks	0.6505	66.7657	0.4078	0.3784	0.9077	0.9248
CAL500	0.1961	141.4118	0.2211	0.4562	0.5334	0.7949
corel16k001	0.7951	96.9904	0.6825	0.1622	0.9197	0.9396
Corel5k	0.7620	141.2320	0.5283	0.2107	0.6245	0.9434
emotions	0.3500	1.8667	0.2509	0.7642	0.8245	0.8441
enron	0.2690	16.6082	0.1885	0.6516	0.7445	0.9358
EukaryoteGO	0.1765	0.8776	0.0609	0.8849	0.9926	0.9947
EukaryotePseAAC	0.6268	3.5701	0.2330	0.5415	0.8700	0.9093
flags	0.1500	3.2000	0.2242	0.8511	0.7454	0.8411
foodtruck	0.3415	3.9756	0.2477	0.6874	0.6809	0.8316
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	0.9999
GnegativeGO	0.0357	0.1429	0.0255	0.9752	0.8746	0.9995
GnegativePseAAC	0.3357	0.9643	0.1994	0.7772	0.7958	0.9418
GpositiveGO	0.0837	0.1617	0.0748	0.9326	1.0000	1.0000
GpositivePseAAC	0.4808	0.9231	0.3782	0.6987	0.8211	0.8480
HumanGO	0.1994	0.9582	0.0901	0.8647	0.9815	0.9872
HumanPseAAC	0.6431	3.1736	0.3106	0.5267	0.8150	0.8547
Image	0.3500	0.9400	0.2504	0.7836	0.8740	0.8795
IMDB-ECC-F	0.6971	11.0304	0.5586	0.3861	0.8961	0.9094
IMDB-F	0.6761	11.0522	0.5411	0.4021	0.8993	0.9136
LLOG-F	0.6720	15.9128	0.2771	0.4218	0.5212	0.8860
mediamill	0.2446	25.2989	0.1062	0.6608	0.6909	0.9245
medical	0.1633	2.5408	0.0691	0.8836	0.5499	0.9944
Music	0.3000	1.9667	0.2267	0.7891	0.8447	0.8537
NUS-WIDE-bow	0.6855	20.5366	0.2166	0.3855	0.6976	0.8769
NUS-WIDE-cVLADplus	0.6532	18.4929	0.1938	0.4119	0.7208	0.8925
OHSUMED-F	0.3762	6.4508	0.3075	0.6405	0.9368	0.9463
PlantGO	0.2500	1.1562	0.1716	0.8248	0.9878	0.9867
PlantPseAAC	0.6939	3.2959	0.3914	0.4831	0.7878	0.8195
rcv1subset1	0.4223	17.3028	0.1231	0.5850	0.9015	0.9656
REUTERS-K500-EX2	0.4570	14.1271	0.2033	0.6150	0.7597	0.9754
scene	0.2822	0.6929	0.1568	0.8253	0.9383	0.9410
SLASHDOT-F	0.4683	6.5794	0.4170	0.5809	0.7432	0.9673
solar_flare-L3	0.2000	0.2000	0.1000	0.9000	0.6111	0.9600
Stackex_chess	0.5455	81.8204	0.3374	0.4096	0.5119	0.9524
Stackex_coffee	0.5865	59.4553	0.4541	0.3604	0.2570	0.9357
Stackex_philosophy	0.5452	78.9322	0.3577	0.4106	0.7056	0.9563
tmc2007-500	0.3024	3.9178	0.1292	0.7475	0.9327	0.9520
VirusGO	0.0476	0.4762	0.0694	0.9500	0.8212	0.9925
VirusPseAAC	0.5238	1.2857	0.2798	0.6675	0.6234	0.8400
Water-quality	0.2453	8.4528	0.3024	0.6967	0.6917	0.7236
Yahoo_Arts	0.4263	6.0469	0.2253	0.5899	0.8669	0.9059
Yahoo_Business	0.0857	2.5518	0.1524	0.9078	0.8147	0.9726
Yahoo_Computers	0.3646	4.3563	0.2145	0.6850	0.8498	0.9667
Yahoo_Education	0.4485	5.5547	0.2794	0.6459	0.8505	0.9709
Yahoo_Entertainment	0.3205	2.8214	0.1774	0.7332	0.9500	0.9443
Yahoo_Health	0.2724	3.8810	0.1578	0.7840	0.8322	0.9626
Yahoo_Recreation	0.3390	3.8386	0.1961	0.7092	0.9267	0.9277
Yahoo_Reference	0.3380	3.0304	0.1571	0.7312	0.8078	0.9882
Yahoo_Science	0.4170	8.6567	0.3092	0.6254	0.9379	0.9398
Yahoo_Social	0.2463	4.1112	0.1896	0.7513	0.9023	0.9549
yeast	0.2686	6.9917	0.2277	0.7249	0.6679	0.8107
Yelp	0.1186	1.1914	0.1622	0.9108	0.9096	0.9296

Table 50: Detailed results for PYRAMID RF

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2531	1.8955	0.1373	0.7340	0.9575	0.9541
3s-guardian1000	0.5161	2.3871	0.5452	0.5844	0.9539	0.9102
3s-inter3000	0.7647	2.0000	0.7412	0.5059	0.7101	0.8274
3s-reuters1000	0.8667	2.6667	0.8733	0.3894	0.9448	0.8290
amphibians	0.1667	2.5556	0.2194	0.8848	0.7094	0.7945
bibtex	0.4201	36.5045	0.2063	0.5711	0.9464	0.9678
birds	0.5128	7.9231	0.5532	0.5078	0.8463	0.9352
bookmarks	0.6164	66.7104	0.3473	0.3768	0.9009	0.9290
CAL500	0.2616	141.0154	0.2209	0.4881	0.4969	0.7807
corel16k001	0.8155	97.0053	0.6565	0.1375	0.9655	0.9401
Corel5k	0.7919	158.2545	0.8188	0.1323	0.6583	0.9633
emotions	0.3667	2.3833	0.3887	0.7031	0.8993	0.8189
enron	0.2278	22.0761	0.2929	0.6288	0.8074	0.9482
EukaryoteGO	0.1668	0.9997	0.0557	0.9034	0.9890	0.9397
EukaryotePseAAC	0.6292	3.6145	0.2361	0.5093	0.8198	0.8727
flags	0.2000	3.4500	0.2725	0.8194	0.7303	0.8411
foodtruck	0.2195	4.1220	0.3834	0.7532	0.8388	0.9422
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	0.9999
GnegativeGO	0.0286	0.1214	0.0148	0.9806	0.8747	0.9996
GnegativePseAAC	0.4571	1.5643	0.3271	0.6867	0.8561	0.9504
GpositiveGO	0.0769	0.1346	0.0513	0.9567	0.9982	0.9966
GpositivePseAAC	0.4615	1.0577	0.4423	0.6923	0.9345	0.9059
HumanGO	0.2010	1.2980	0.1477	0.8297	0.9956	0.9778
HumanPseAAC	0.6913	5.1286	0.7333	0.4210	0.9965	0.9584
Image	0.6100	1.6700	0.6521	0.5923	0.9838	0.8496
IMDB-ECC-F	0.6534	12.6536	0.7823	0.3578	0.9797	0.9858
IMDB-F	0.6084	13.5966	0.7629	0.3382	0.9764	0.9811
LLOG-F	0.7468	25.5529	0.6886	0.2809	0.5707	0.9935
mediamill	0.2253	67.7261	0.5406	0.4504	0.8132	0.9665
medical	0.1409	3.6297	0.0868	0.8583	0.5494	0.9994
Music	0.3667	2.6833	0.3912	0.6993	0.8908	0.8274
NUS-WIDE-bow	0.6800	20.5349	0.2396	0.3803	0.6820	0.8583
NUS-WIDE-cVLADplus	0.6299	18.4990	0.2048	0.4000	0.7285	0.8965
OHSUMED-F	0.3899	5.1715	0.2092	0.7248	0.9295	0.9098
PlantGO	0.3750	2.1771	0.2992	0.7206	0.9822	0.9679
PlantPseAAC	0.7245	4.1429	0.7055	0.4302	0.9615	0.9304
rcv1subset1	0.4317	17.2979	0.1291	0.5855	0.8472	0.9319
REUTERS-K500-EX2	0.4385	13.0121	0.1484	0.6663	0.6865	0.9922
scene	0.4191	1.5353	0.4329	0.6994	0.9739	0.9352
SLASHDOT-F	0.5053	7.3677	0.5125	0.5333	0.7658	0.9683
solar_flare-L3	0.6000	0.6000	0.4000	0.7000	0.3333	0.7400
Stackex_chess	0.5542	80.6045	0.3669	0.3975	0.4789	0.9704
Stackex_coffee	0.6605	73.8487	0.7559	0.2241	0.2454	0.9764
Stackex_philosophy	0.5599	78.5193	0.3635	0.4286	0.6961	0.9367
tmc2007-500	0.3679	5.5207	0.2905	0.6679	0.9683	0.9373
VirusGO	0.0476	0.3333	0.0571	0.9643	0.8256	0.9917
VirusPseAAC	0.4286	1.3810	0.3357	0.6944	0.7033	0.8966
Water-quality	0.3585	10.2453	0.4620	0.6397	0.8148	0.7587
Yahoo_Arts	0.5042	6.0757	0.2511	0.5771	0.8478	0.8641
Yahoo_Business	0.0827	2.5963	0.1243	0.9185	0.8693	0.9758
Yahoo_Computers	0.3490	4.3001	0.2400	0.7295	0.8253	0.9595
Yahoo_Education	0.4896	5.5157	0.2611	0.6298	0.8324	0.9308
Yahoo_Entertainment	0.3419	2.8419	0.1952	0.7024	0.9040	0.9522
Yahoo_Health	0.2599	3.9102	0.1702	0.7714	0.7934	0.9732
Yahoo_Recreation	0.2826	3.8548	0.2568	0.7286	0.9611	0.9390
Yahoo_Reference	0.3118	2.9752	0.1788	0.7632	0.7758	0.9903
Yahoo_Science	0.4627	8.6786	0.2651	0.5944	0.9032	0.9589
Yahoo_Social	0.2608	4.0698	0.1928	0.7357	0.8651	0.9840
yeast	0.2727	6.7273	0.3799	0.6985	0.9261	0.8732
Yelp	0.2592	1.5055	0.2590	0.8270	0.8783	0.8891

Table 51: Detailed results for PYRAMID NBC

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3211	1.8641	0.1513	0.7679	0.9637	0.9619
3s-guardian1000	0.5806	2.1935	0.6161	0.5763	0.8759	0.8798
3s-inter3000	0.7647	1.9412	0.7176	0.5186	0.7364	0.8631
3s-reuters1000	0.8333	2.4000	0.7867	0.4272	0.9003	0.8254
amphibians	0.2222	2.5556	0.3083	0.8644	0.6819	0.7667
bibtex	0.3908	36.5245	0.1690	0.5672	0.9400	0.8826
birds	0.5385	6.6923	0.4232	0.5414	0.8361	0.9011
bookmarks	0.6761	66.7167	0.3593	0.3877	0.8936	0.9527
CAL500	0.1928	145.4013	0.2759	0.4212	0.5870	0.7730
corel16k001	0.7091	88.3965	0.5432	0.2588	0.9377	0.9110
Corel5k	0.7114	141.8062	0.5042	0.1854	0.6023	0.8917
emotions	0.2833	1.8167	0.2642	0.7868	0.8375	0.8544
enron	0.4010	19.7395	0.2179	0.5557	0.7081	0.8583
EukaryoteGO	0.2613	1.8268	0.1298	0.7750	1.0000	1.0000
EukaryotePseAAC	0.7529	6.0373	0.3969	0.3945	0.7768	0.8061
flags	0.2000	3.5000	0.2950	0.8091	0.7477	0.8337
foodtruck	0.2195	3.7073	0.3673	0.7607	0.8344	0.9381
genbase	0.4776	5.8507	0.5226	0.5578	0.6667	0.9835
GnegativeGO	0.1357	0.5000	0.1423	0.8973	0.8727	0.9957
GnegativePseAAC	0.3000	0.9786	0.1969	0.7999	0.8141	0.9583
GpositiveGO	0.1154	0.3077	0.1122	0.9199	0.9931	0.9933
GpositivePseAAC	0.3077	0.6731	0.2756	0.7981	0.9309	0.9326
HumanGO	0.3408	2.5820	0.3476	0.7098	0.9692	0.9744
HumanPseAAC	0.7299	4.0482	0.4263	0.4550	0.7766	0.8078
Image	0.2900	0.8900	0.2254	0.8093	0.8987	0.9008
IMDB-ECC-F	0.6771	12.2432	0.6238	0.3755	0.8940	0.9107
IMDB-F	0.6661	12.0729	0.5974	0.3858	0.8990	0.9155
LLOG-F	0.7372	26.3868	0.6909	0.2341	0.6003	0.9451
mediamill	0.6087	37.6113	0.2130	0.3884	0.6054	0.8419
medical	0.4026	16.4086	0.4478	0.5732	0.5424	0.9745
Music	0.2333	2.2667	0.2655	0.7715	0.8638	0.8597
NUS-WIDE-bow	0.8801	24.3920	0.2886	0.2530	0.7308	0.8602
NUS-WIDE-cVLADplus	0.5733	24.6817	0.3484	0.4706	0.7857	0.9222
OHSUMED-F	0.4307	6.3999	0.2950	0.6125	0.9190	0.9288
PlantGO	0.5938	3.5104	0.5724	0.5312	0.9715	0.9545
PlantPseAAC	0.7143	3.2959	0.4327	0.4487	0.7991	0.8144
rcv1subset1	0.3808	17.2419	0.0917	0.5669	0.8524	0.9428
REUTERS-K500-EX2	0.5510	22.2514	0.3787	0.5339	0.7519	0.9043
scene	0.2241	0.6017	0.1335	0.8586	0.9415	0.9490
SLASHDOT-F	0.3862	5.4841	0.3729	0.6451	0.7562	0.9825
solar_flare-L3	0.6000	0.6000	0.5000	0.7000	0.3333	0.7200
Stackex_chess	0.7275	95.5542	0.4615	0.1543	0.4163	0.8816
Stackex_coffee	0.9998	83.3234	0.9699	0.0277	0.2260	0.9610
Stackex_philosophy	0.6431	113.5874	0.6331	0.2772	0.6881	0.9595
tmc2007-500	0.2878	4.0129	0.1441	0.7526	0.9326	0.9454
VirusGO	0.2381	1.2381	0.2937	0.7963	0.8023	0.9545
VirusPseAAC	0.3333	1.3333	0.3000	0.7349	0.7288	0.9202
Water-quality	0.3585	9.2736	0.3766	0.6753	0.7382	0.7528
Yahoo_Arts	0.8063	11.0939	0.5139	0.3468	0.7022	0.7050
Yahoo_Business	0.1011	3.8775	0.2528	0.8391	0.8675	1.0000
Yahoo_Computers	0.5402	6.3839	0.3492	0.5389	0.8424	0.9475
Yahoo_Education	0.4311	5.5204	0.2329	0.5884	0.8700	0.9757
Yahoo_Entertainment	0.6753	6.6933	0.4580	0.4412	0.7581	0.7846
Yahoo_Health	0.2621	3.9165	0.1424	0.7883	0.8471	0.9558
Yahoo_Recreation	0.8876	8.5015	0.4920	0.2920	0.7364	0.7621
Yahoo_Reference	0.2636	3.0107	0.1920	0.7489	0.7264	0.9595
Yahoo_Science	0.3759	8.5742	0.2689	0.5812	0.8650	0.9838
Yahoo_Social	0.1985	4.0785	0.1637	0.7691	0.8768	0.9761
yeast	0.3058	6.9174	0.2570	0.7042	0.7425	0.8199
Yelp	0.2223	1.4536	0.3100	0.8423	0.8607	0.8869

Table 52: Detailed results for PYRAMID k-NN

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.5384	5.4735	0.5201	0.5382	0.9832	0.9811
3s-guardian1000	0.8710	2.7742	0.8774	0.4151	0.7953	0.7879
3s-inter3000	0.8824	2.4706	0.8588	0.4225	0.5910	0.7606
3s-reuters1000	0.8000	2.5667	0.7717	0.4181	0.7593	0.7517
amphibians	0.1667	2.4444	0.1389	0.8824	0.7188	0.8004
bibtex	0.6985	85.5632	0.7542	0.2233	0.9553	0.9726
birds	0.7436	8.9231	0.5947	0.3755	0.7695	0.8593
bookmarks	0.7408	105.5460	0.7345	0.2642	0.9781	0.9927
CAL500	0.1569	142.7255	0.2601	0.4624	0.5497	0.8071
corel16k001	0.8548	101.9426	0.7073	0.1495	0.9286	0.9250
Corel5k	0.8820	165.9820	0.7310	0.1282	0.6285	0.9443
emotions	0.7000	3.3667	0.6731	0.5133	0.5668	0.5821
enron	0.3509	26.8129	0.3966	0.5390	0.7775	0.9456
EukaryoteGO	0.2655	2.2822	0.1593	0.7968	0.9865	0.9880
EukaryotePseAAC	0.6783	6.6216	0.5686	0.4331	0.9518	0.9564
flags	0.3500	3.6500	0.2983	0.7758	0.5556	0.7356
foodtruck	0.2439	3.6341	0.3426	0.7633	0.7832	0.9095
genbase	0.9254	7.0597	0.8071	0.2643	0.6082	0.9364
GnegativeGO	0.3857	1.0714	0.2919	0.7579	0.8206	0.9499
GnegativePseAAC	0.3214	1.4000	0.2863	0.7608	0.8494	0.9724
GpositiveGO	0.7115	1.5385	0.5593	0.5401	0.8296	0.7933
GpositivePseAAC	0.6538	1.1346	0.4551	0.6090	0.8409	0.8121
HumanGO	0.2797	2.1543	0.2445	0.7657	0.9678	0.9717
HumanPseAAC	0.6688	5.0225	0.6302	0.4450	0.9383	0.9371
Image	0.2950	1.0450	0.3187	0.7919	0.9353	0.9312
IMDB-ECC-F	0.6792	12.3470	0.6956	0.3661	0.9599	0.9589
IMDB-F	0.7249	11.9180	0.6090	0.3652	0.9210	0.9270
LLOG-F	0.8770	30.7049	0.7558	0.1926	0.5645	0.9568
mediamill	0.1948	41.2043	0.2318	0.6473	0.7515	0.9555
medical	0.7755	15.8571	0.5554	0.3444	0.4901	0.9360
Music	0.6000	3.3500	0.6302	0.5763	0.6984	0.7133
NUS-WIDE-bow	0.6770	31.5871	0.4954	0.3561	0.8400	0.9578
NUS-WIDE-cVLADplus	0.5276	29.9876	0.4544	0.4689	0.8473	0.9634
OHSUMED-F	0.7818	11.7408	0.7745	0.3106	0.9408	0.9388
PlantGO	0.7604	4.4062	0.6610	0.4059	0.8971	0.8748
PlantPseAAC	0.7857	4.5306	0.7273	0.3817	0.8859	0.8864
rcv1subset1	0.7589	48.3857	0.5375	0.2785	0.8655	0.9003
REUTERS-K500-EX2	0.5241	30.0979	0.4715	0.4967	0.7745	0.9821
scene	0.2614	0.9129	0.2295	0.8152	0.9699	0.9689
SLASHDOT-F	0.7645	10.0767	0.6882	0.3300	0.7198	0.9463
solar_flare-L3	0.8000	0.8000	0.5000	0.6000	0.2222	0.6200
Stackex_chess	0.8095	130.9643	0.7584	0.1471	0.5113	0.9542
Stackex_coffee	0.9565	73.1304	0.7601	0.1056	0.2373	0.9404
Stackex_philosophy	0.8492	136.1784	0.7863	0.1345	0.7155	0.9580
tmc2007-500	0.3301	6.4329	0.3014	0.6766	0.9602	0.9683
VirusGO	0.4762	1.8095	0.3782	0.6532	0.6410	0.8491
VirusPseAAC	0.4286	1.2381	0.3524	0.6976	0.7555	0.9130
Water-quality	0.4245	10.7170	0.4675	0.5910	0.5872	0.6562
Yahoo_Arts	0.6733	12.0140	0.6421	0.3926	0.8965	0.9448
Yahoo_Business	0.1285	3.7419	0.3096	0.8535	0.8288	0.9963
Yahoo_Computers	0.4486	6.2518	0.3774	0.5825	0.8957	1.0000
Yahoo_Education	0.6964	9.3162	0.5825	0.4405	0.8354	0.9878
Yahoo_Entertainment	0.5985	4.9747	0.5408	0.4868	0.9407	0.9504
Yahoo_Health	0.4563	7.5263	0.4203	0.6092	0.8080	0.9871
Yahoo_Recreation	0.7096	7.6967	0.6460	0.4313	0.9074	0.9741
Yahoo_Reference	0.4506	6.2059	0.4229	0.5940	0.8036	0.9664
Yahoo_Science	0.7426	14.1915	0.6241	0.3406	0.9025	0.9201
Yahoo_Social	0.5022	8.0925	0.3846	0.5483	0.8890	0.9949
yeast	0.2355	6.0165	0.2833	0.7722	0.8486	0.8964
Yelp	0.1735	1.4546	0.3244	0.8651	0.9345	0.9202

Table 53: Detailed results for PYRAMID ELM

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.6193	5.1312	0.5089	0.5019	0.9660	0.9605
3s-guardian1000	0.7419	2.2903	0.5790	0.5172	0.6120	0.6278
3s-inter3000	0.8235	2.7647	0.5824	0.3951	0.4541	0.6124
3s-reuters1000	0.8333	2.7667	0.6142	0.3933	0.5792	0.5785
amphibians	0.2222	3.1667	0.2593	0.7954	0.6848	0.7356
bibtex	0.7068	90.7176	0.7913	0.2049	0.9860	0.9764
birds	0.4615	5.7949	0.3008	0.5839	0.7819	0.8818
bookmarks	0.7927	100.8907	0.6765	0.2324	0.9417	0.9509
CAL500	0.0980	142.8431	0.2448	0.4641	0.5490	0.7884
corel16k001	0.7916	105.8860	0.7879	0.1519	0.9722	0.9623
Corel5k	0.6820	163.8460	0.6462	0.2228	0.6512	0.9669
emotions	0.2500	1.8833	0.2513	0.7885	0.8505	0.8583
enron	0.2222	20.9357	0.2849	0.6411	0.7941	0.9548
EukaryoteGO	0.2204	1.7835	0.1122	0.8365	0.9865	0.9887
EukaryotePseAAC	0.6216	5.5560	0.4534	0.5033	0.9518	0.9539
flags	0.2500	3.8500	0.3100	0.7805	0.6460	0.7566
foodtruck	0.2683	3.3415	0.2598	0.7550	0.7231	0.8659
genbase	0.0448	0.4478	0.0092	0.9628	0.6662	0.9990
GnegativeGO	0.0429	0.1714	0.0316	0.9705	0.8738	0.9990
GnegativePseAAC	0.3357	1.1643	0.2440	0.7655	0.8315	0.9591
GpositiveGO	0.0577	0.1154	0.0449	0.9663	0.9952	0.9959
GpositivePseAAC	0.3654	0.7500	0.3269	0.7628	0.9002	0.8985
HumanGO	0.2605	1.5048	0.1552	0.8106	0.9699	0.9738
HumanPseAAC	0.6399	3.9550	0.5386	0.5048	0.9282	0.9282
Image	0.3650	1.0250	0.2854	0.7668	0.8638	0.8634
IMDB-ECC-F	0.6478	11.7379	0.6346	0.3946	0.9486	0.9498
IMDB-F	0.6321	11.9495	0.6293	0.3984	0.9505	0.9492
LLOG-F	0.7541	24.9344	0.6895	0.2793	0.5778	0.9624
mediamill	0.1876	43.1401	0.2308	0.6292	0.7329	0.9418
medical	0.1837	5.0612	0.1126	0.8384	0.5408	0.9895
Music	0.2333	2.0500	0.2427	0.7957	0.8746	0.8785
NUS-WIDE-bow	0.5828	31.4567	0.4649	0.4374	0.8569	0.9658
NUS-WIDE-cVLADplus	0.6817	31.7978	0.3001	0.3036	0.5597	0.7266
OHSUMED-F	0.6080	9.8378	0.5547	0.4435	0.9496	0.9397
PlantGO	0.3021	1.4583	0.1725	0.7884	0.9779	0.9716
PlantPseAAC	0.6429	3.5102	0.5512	0.5024	0.9140	0.9027
rcv1subset1	0.8017	40.6833	0.2931	0.2250	0.6567	0.7557
REUTERS-K500-EX2	0.5258	23.2904	0.3771	0.5108	0.7470	0.9581
scene	0.2780	0.7676	0.1466	0.8188	0.9238	0.9258
SLASHDOT-F	0.5847	7.4048	0.4873	0.4929	0.7412	0.9538
solar_flare-L3	0.8000	1.0000	0.7000	0.5667	0.1667	0.5200
Stackex_chess	0.7440	92.7738	0.3973	0.2217	0.4489	0.8728
Stackex_coffee	0.9565	52.0000	0.3148	0.1581	0.2151	0.7395
Stackex_philosophy	0.8392	92.3568	0.3822	0.1923	0.6100	0.8618
tmc2007-500	0.3336	6.1049	0.2775	0.6805	0.9613	0.9602
VirusGO	0.1429	0.4286	0.0540	0.9222	0.7900	0.9655
VirusPseAAC	0.5714	1.3333	0.3238	0.6421	0.6009	0.8641
Water-quality	0.2170	9.3679	0.3666	0.7049	0.7481	0.7785
Yahoo_Arts	0.7784	11.0414	0.4698	0.3284	0.6748	0.7341
Yahoo_Business	0.1916	5.1943	0.1760	0.7499	0.6117	0.8732
Yahoo_Computers	0.5478	8.6321	0.3203	0.4853	0.6404	0.8064
Yahoo_Education	0.8096	10.9643	0.4373	0.3024	0.6503	0.7687
Yahoo_Entertainment	0.7078	6.5695	0.4427	0.4154	0.7194	0.7696
Yahoo_Health	0.5689	8.8947	0.3195	0.4774	0.6308	0.8258
Yahoo_Recreation	0.8519	8.6921	0.5018	0.2994	0.6889	0.7155
Yahoo_Reference	0.6501	7.8232	0.3075	0.4382	0.5105	0.7851
Yahoo_Science	0.8491	14.3250	0.4214	0.2637	0.6549	0.7393
Yahoo_Social	0.6040	9.6807	0.3094	0.4689	0.6381	0.8151
yeast	0.2273	6.9421	0.2366	0.7519	0.7001	0.8306
Yelp	0.2891	1.7278	0.3099	0.7905	0.8208	0.8464

Table 54: Detailed results for PYRAMID SVM(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2391	2.0524	0.1863	0.8108	0.9909	0.9913
3s-guardian1000	0.5484	2.0323	0.6129	0.6091	0.9441	0.9275
3s-inter3000	0.8824	2.6471	0.8824	0.4020	0.6783	0.8413
3s-reuters1000	0.8667	2.6333	0.8667	0.3911	0.8865	0.8290
amphibians	0.2222	2.6667	0.2194	0.8496	0.7593	0.8251
bibtex	0.4230	69.4838	0.5418	0.4400	0.9800	0.9766
birds	0.4103	6.4359	0.4471	0.6041	0.8639	0.9634
bookmarks	0.6682	101.6849	0.7175	0.3146	0.9785	0.9633
CAL500	0.1765	148.4314	0.3689	0.4603	0.7066	0.8404
corel16k001	0.8118	111.6525	0.8651	0.0869	0.9682	1.0000
Corel5k	0.6920	157.1940	0.7482	0.2091	0.6578	0.9699
emotions	0.2500	1.6000	0.2677	0.8254	0.9876	0.9084
enron	0.2339	24.1988	0.3583	0.6153	0.8153	0.9652
EukaryoteGO	0.1843	1.0838	0.0739	0.8778	0.9927	0.9944
EukaryotePseAAC	0.5238	5.6731	0.4517	0.5512	0.9726	0.9742
flags	0.1000	3.7500	0.3100	0.8222	0.7560	0.8458
foodtruck	0.2439	4.3415	0.4381	0.7314	0.8686	0.9642
genbase	0.0000	0.4925	0.0078	0.9932	0.6667	0.9999
GnegativeGO	0.0357	0.1214	0.0245	0.9768	0.8746	0.9993
GnegativePseAAC	0.2071	0.8286	0.1939	0.8489	0.8579	0.9856
GpositiveGO	0.0192	0.1154	0.0417	0.9808	0.9980	0.9987
GpositivePseAAC	0.1923	0.4231	0.1923	0.8718	0.9888	0.9852
HumanGO	0.1994	1.1318	0.1316	0.8597	0.9858	0.9894
HumanPseAAC	0.5627	3.4534	0.5158	0.5606	0.9617	0.9582
Image	0.2700	0.9600	0.2683	0.8123	0.9360	0.9312
IMDB-ECC-F	0.6405	12.4057	0.7472	0.3666	0.9947	0.9776
IMDB-F	0.6098	13.2320	0.7555	0.3611	0.9917	0.9772
LLOG-F	0.6606	25.7324	0.6535	0.3309	0.6111	0.9964
mediamill	0.1855	50.6252	0.2990	0.6408	0.8052	0.9783
medical	0.1122	4.7245	0.1219	0.8765	0.5491	0.9945
Music	0.2167	1.8167	0.2518	0.8365	0.9317	0.9308
NUS-WIDE-bow	0.6625	20.4431	0.2248	0.3624	0.7272	0.8931
NUS-WIDE-cVLADplus	0.5066	30.9742	0.4687	0.4693	0.8605	0.9706
OHSUMED-F	0.3230	7.9476	0.4185	0.6220	0.9780	0.9803
PlantGO	0.2188	1.2292	0.1711	0.8363	0.9941	0.9902
PlantPseAAC	0.6122	3.4898	0.5949	0.5139	0.9567	0.9507
rcv1subset1	0.3835	34.5896	0.3290	0.5346	0.8995	0.9782
REUTERS-K500-EX2	0.4040	22.2273	0.3834	0.6026	0.7719	0.9713
scene	0.2116	0.8216	0.1652	0.8452	0.9721	0.9729
SLASHDOT-F	0.4101	5.6640	0.3700	0.6340	0.7541	0.9814
solar_flare-L3	0.4000	0.4000	0.3000	0.8000	0.4444	0.8000
Stackex_chess	0.6310	124.3810	0.6974	0.2479	0.5354	0.9776
Stackex_coffee	0.6957	74.3043	0.7545	0.2255	0.2542	0.9682
Stackex_philosophy	0.6332	122.2161	0.6936	0.2633	0.7407	0.9786
tmc2007-500	0.2516	4.7185	0.2075	0.7603	0.9538	0.9809
VirusGO	0.0476	0.3333	0.0571	0.9643	0.8235	0.9921
VirusPseAAC	0.2857	0.8571	0.2429	0.8008	0.7887	0.9455
Water-quality	0.2830	9.6132	0.4288	0.7032	0.8395	0.8412
Yahoo_Arts	0.4833	9.2029	0.5027	0.5467	0.9355	0.9712
Yahoo_Business	0.0731	3.2100	0.2338	0.8900	0.8532	0.9853
Yahoo_Computers	0.3687	5.4238	0.3259	0.6664	0.8865	0.9857
Yahoo_Education	0.5087	7.2291	0.4139	0.6035	0.8918	0.9518
Yahoo_Entertainment	0.3391	3.7391	0.3759	0.6842	0.9627	0.9839
Yahoo_Health	0.3191	6.4016	0.3594	0.6779	0.8483	0.9892
Yahoo_Recreation	0.4237	5.4881	0.4076	0.6108	0.9968	0.9957
Yahoo_Reference	0.3973	4.9328	0.3243	0.6616	0.7987	0.9780
Yahoo_Science	0.5365	12.0467	0.4833	0.5052	0.9487	0.9643
Yahoo_Social	0.3094	6.3845	0.3054	0.7021	0.9125	0.9826
yeast	0.2149	6.1281	0.3048	0.7628	0.8658	0.9101
Yelp	0.0748	1.1476	0.1467	0.9317	0.9414	0.9559

Table 55: Detailed results for PYRAMID DT(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3257	2.6732	0.2455	0.7421	0.9779	0.9781
3s-guardian1000	0.7742	2.6129	0.6597	0.4543	0.6528	0.6735
3s-inter3000	0.7647	2.8235	0.6926	0.4225	0.3999	0.5403
3s-reuters1000	0.7667	2.3667	0.6125	0.4653	0.7085	0.6943
amphibians	0.1111	2.5556	0.2426	0.9024	0.6576	0.7603
bibtex	0.3897	37.9982	0.2183	0.5414	0.9338	0.9590
birds	0.3846	5.0769	0.2563	0.6387	0.7865	0.8953
bookmarks	0.6443	67.2586	0.3931	0.3593	0.9198	0.9545
CAL500	0.2353	141.7647	0.2262	0.4510	0.5376	0.7953
corel16k001	0.7966	98.3132	0.6995	0.1761	0.9204	0.9415
Corel5k	0.7512	140.9332	0.5053	0.2291	0.6024	0.9352
emotions	0.2833	1.8000	0.2296	0.7945	0.8403	0.8520
enron	0.2632	16.7953	0.1921	0.6507	0.7440	0.9354
EukaryoteGO	0.1791	0.9317	0.0656	0.8824	0.9927	0.9947
EukaryotePseAAC	0.6384	3.5380	0.2298	0.5397	0.8705	0.9097
flags	0.1500	3.3500	0.2283	0.8477	0.7696	0.8518
foodtruck	0.2927	3.7317	0.2335	0.7136	0.6830	0.8382
genbase	0.0000	0.4925	0.0081	0.9932	0.6667	0.9999
GnegativeGO	0.0357	0.1429	0.0255	0.9752	0.8746	0.9996
GnegativePseAAC	0.3429	0.8000	0.1683	0.7864	0.8024	0.9478
GpositiveGO	0.0769	0.1731	0.0513	0.9519	0.9982	0.9971
GpositivePseAAC	0.5000	0.9423	0.3974	0.6891	0.8090	0.8353
HumanGO	0.2090	0.9100	0.0853	0.8643	0.9813	0.9870
HumanPseAAC	0.6527	3.2637	0.3271	0.5191	0.8120	0.8525
Image	0.3500	0.9750	0.2562	0.7790	0.8723	0.8780
IMDB-ECC-F	0.6981	11.0451	0.5611	0.3858	0.8966	0.9101
IMDB-F	0.6819	11.0373	0.5441	0.4031	0.9049	0.9176
LLOG-F	0.6713	16.6111	0.3169	0.4306	0.5298	0.9278
mediamill	0.2291	26.5611	0.0823	0.6216	0.6801	0.9372
medical	0.1735	2.6939	0.0711	0.8719	0.5495	0.9942
Music	0.2833	1.9833	0.2281	0.7919	0.8447	0.8532
NUS-WIDE-bow	0.6874	20.4510	0.2144	0.3844	0.7025	0.8774
NUS-WIDE-cVLADplus	0.6532	19.0119	0.1998	0.4107	0.7211	0.8920
OHSUMED-F	0.3676	6.3905	0.3068	0.6447	0.9382	0.9480
PlantGO	0.2396	1.1354	0.1621	0.8296	0.9881	0.9871
PlantPseAAC	0.6837	3.2449	0.3885	0.4909	0.7849	0.8197
rcv1subset1	0.4136	16.8107	0.1249	0.5682	0.8714	0.9652
REUTERS-K500-EX2	0.4553	14.3333	0.2130	0.6144	0.7604	0.9757
scene	0.2739	0.6805	0.1500	0.8299	0.9404	0.9427
SLASHDOT-F	0.4683	6.6190	0.4142	0.5819	0.7456	0.9687
solar_flare-L3	0.2000	0.2000	0.1000	0.9000	0.6667	0.9800
Stackex_chess	0.5476	81.2619	0.3707	0.4014	0.5144	0.9591
Stackex_coffee	0.7642	62.7502	0.5008	0.2756	0.2305	0.9535
Stackex_philosophy	0.5377	78.3417	0.3592	0.4128	0.7041	0.9563
tmc2007-500	0.2990	3.9017	0.1265	0.7497	0.9326	0.9521
VirusGO	0.0476	0.4762	0.0790	0.9500	0.8212	0.9925
VirusPseAAC	0.6190	1.4762	0.3238	0.6056	0.5892	0.8324
Water-quality	0.2453	8.6132	0.3052	0.6958	0.6875	0.7235
Yahoo_Arts	0.4246	6.8774	0.3360	0.6059	0.9060	0.9427
Yahoo_Business	0.0865	2.5064	0.1129	0.8884	0.8317	0.9832
Yahoo_Computers	0.3348	4.2853	0.2060	0.7054	0.8733	0.9440
Yahoo_Education	0.4400	5.4964	0.2377	0.6256	0.8568	0.9538
Yahoo_Entertainment	0.3895	3.3896	0.3353	0.6541	0.9572	0.9489
Yahoo_Health	0.2568	3.9936	0.1839	0.7628	0.8264	0.9845
Yahoo_Recreation	0.4341	4.9400	0.3281	0.6346	0.9646	0.9685
Yahoo_Reference	0.3186	3.0482	0.1963	0.7446	0.7657	0.9843
Yahoo_Science	0.4401	8.7577	0.3201	0.6120	0.9217	0.9533
Yahoo_Social	0.2775	4.1658	0.1804	0.7943	0.8854	0.9946
yeast	0.2479	7.0124	0.2284	0.7290	0.6707	0.8117
Yelp	0.1186	1.1954	0.1616	0.9103	0.9099	0.9298

Table 56: Detailed results for PYRAMID RF(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.4121	3.7093	0.3375	0.6778	0.9683	0.9605
3s-guardian1000	0.5484	2.3226	0.5419	0.5817	0.9483	0.9043
3s-inter3000	0.7647	2.1176	0.7647	0.5010	0.7586	0.8519
3s-reuters1000	0.8667	2.6333	0.8400	0.3950	0.9848	0.8351
amphibians	0.1667	2.5000	0.2009	0.8838	0.7278	0.8074
bibtex	0.3751	38.0326	0.2331	0.5925	0.9635	0.9540
birds	0.4872	7.7179	0.5298	0.5183	0.8570	0.9391
bookmarks	0.6838	67.2405	0.3932	0.3752	0.9253	0.8898
CAL500	0.1539	148.1899	0.3850	0.4012	0.6154	0.8204
corel16k001	0.8109	98.3289	0.6860	0.2285	0.9156	0.9224
Corel5k	0.7915	159.0248	0.8063	0.1514	0.6630	0.9916
emotions	0.3667	2.3667	0.3908	0.7046	0.8971	0.8148
enron	0.2341	23.6408	0.3446	0.5901	0.7805	0.9676
EukaryoteGO	0.1764	0.9470	0.0670	0.8539	0.9896	0.9982
EukaryotePseAAC	0.6901	7.3197	0.7254	0.3585	1.0000	0.9884
flags	0.2000	3.4500	0.3050	0.8085	0.7533	0.8507
foodtruck	0.2683	3.8049	0.3895	0.7503	0.8402	0.9437
genbase	0.0000	0.4925	0.0081	0.9932	0.6667	0.9999
GnegativeGO	0.0286	0.1000	0.0112	0.9827	0.8748	0.9996
GnegativePseAAC	0.3643	1.4857	0.3668	0.7302	0.8652	0.9737
GpositiveGO	0.0577	0.1154	0.0513	0.9663	0.9957	0.9959
GpositivePseAAC	0.4423	0.9808	0.4167	0.7083	0.9168	0.8967
HumanGO	0.2780	1.8562	0.1423	0.7886	0.9691	0.9682
HumanPseAAC	0.6881	5.1222	0.7331	0.4222	0.9977	0.9589
Image	0.6050	1.6550	0.6488	0.5957	0.9795	0.8486
IMDB-ECC-F	0.6311	12.6569	0.7716	0.3649	0.9779	0.9780
IMDB-F	0.6063	13.6143	0.7872	0.3243	1.0000	0.9906
LLOG-F	0.7913	28.7249	0.7577	0.2373	0.5829	0.9951
mediamill	0.1900	67.5557	0.5828	0.4607	0.7956	0.9577
medical	0.1594	3.6167	0.0914	0.8859	0.5310	1.0000
Music	0.3333	2.6667	0.4564	0.7068	0.8863	0.8435
NUS-WIDE-bow	0.6928	20.4413	0.2276	0.4045	0.6806	0.8654
NUS-WIDE-cVLADplus	0.7236	37.7431	0.6944	0.3273	0.8874	0.9709
OHSUMED-F	0.4242	8.9497	0.4917	0.5349	0.9681	0.9497
PlantGO	0.3229	1.8125	0.2471	0.7680	0.9841	0.9776
PlantPseAAC	0.7347	4.0306	0.6971	0.4319	0.9606	0.9319
rcv1subset1	0.3911	16.8456	0.0959	0.5453	0.8971	0.9193
REUTERS-K500-EX2	0.6639	43.0069	0.6709	0.3446	0.7654	0.9638
scene	0.4191	1.5145	0.4250	0.7005	0.9629	0.9345
SLASHDOT-F	0.4947	7.4735	0.5144	0.5353	0.7656	0.9685
solar_flare-L3	0.6000	0.6000	0.5000	0.7000	0.3333	0.7400
Stackex_chess	0.7460	135.7746	0.7856	0.1541	0.5458	0.9596
Stackex_coffee	0.7952	76.4569	0.8905	0.1609	0.2491	0.9922
Stackex_philosophy	0.5460	80.1933	0.3655	0.4086	0.7247	0.9370
tmc2007-500	0.3681	5.4653	0.2910	0.6816	0.9558	0.9679
VirusGO	0.0476	0.3333	0.0571	0.9643	0.8235	0.9901
VirusPseAAC	0.4762	1.4286	0.3476	0.6690	0.6938	0.8953
Water-quality	0.4340	10.2925	0.5289	0.6273	0.8619	0.7958
Yahoo_Arts	0.4136	6.9115	0.2807	0.6098	0.9092	0.9327
Yahoo_Business	0.1226	2.5150	0.1571	0.8982	0.8458	1.0000
Yahoo_Computers	0.3523	4.2633	0.2136	0.7056	0.8908	0.9456
Yahoo_Education	0.4294	5.4846	0.2511	0.6407	0.8368	0.9711
Yahoo_Entertainment	0.4290	3.4110	0.3327	0.6814	0.9999	0.9592
Yahoo_Health	0.2653	4.0157	0.1728	0.7845	0.8135	0.9834
Yahoo_Recreation	0.4013	4.8972	0.3507	0.6785	0.9378	0.9764
Yahoo_Reference	0.3282	3.0300	0.1623	0.7468	0.7430	0.9625
Yahoo_Science	0.4531	8.7479	0.3231	0.6039	0.9192	0.9734
Yahoo_Social	0.2241	4.1853	0.1847	0.7746	0.9165	0.9660
yeast	0.2727	6.6983	0.3807	0.6992	0.9265	0.8753
Yelp	0.2622	1.5045	0.2581	0.8262	0.8777	0.8885

Table 57: Detailed results for PYRAMID NBC(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3200	1.8553	0.1510	0.7687	0.9639	0.9622
3s-guardian1000	0.5806	2.1935	0.6161	0.5763	0.8780	0.8839
3s-inter3000	0.7059	1.8824	0.7059	0.5480	0.7427	0.8796
3s-reuters1000	0.8333	2.4333	0.7867	0.4217	0.8947	0.8199
amphibians	0.2222	2.5556	0.2972	0.8644	0.6881	0.7667
bibtex	0.5455	44.0041	0.2787	0.4311	0.9156	0.9548
birds	0.5385	6.5385	0.4088	0.5537	0.8404	0.9108
bookmarks	0.6432	67.2579	0.3468	0.4140	0.8953	0.9083
CAL500	0.1533	145.3279	0.2687	0.4387	0.5884	0.7511
corel16k001	0.6909	88.3891	0.5884	0.2629	0.9291	0.9351
Corel5k	0.7810	140.8963	0.5354	0.2197	0.5993	0.9521
emotions	0.2833	1.9000	0.2888	0.7837	0.8412	0.8509
enron	0.4038	21.5326	0.2261	0.5648	0.7213	0.8614
EukaryoteGO	0.3363	4.1366	0.3231	0.6976	0.9854	0.9876
EukaryotePseAAC	0.7503	6.5869	0.4313	0.3865	0.7779	0.8029
flags	0.2000	3.5000	0.2950	0.8091	0.7477	0.8337
foodtruck	0.2195	4.1220	0.4133	0.7422	0.8430	0.9463
genbase	0.4776	5.8507	0.5226	0.5578	0.6667	0.9835
GnegativeGO	0.1357	0.5000	0.1423	0.8973	0.8727	0.9957
GnegativePseAAC	0.2857	0.9500	0.1882	0.8077	0.8140	0.9583
GpositiveGO	0.1154	0.3077	0.1122	0.9199	0.9931	0.9933
GpositivePseAAC	0.3077	0.6731	0.2821	0.7981	0.9354	0.9361
HumanGO	0.3441	2.5563	0.3448	0.7098	0.9692	0.9745
HumanPseAAC	0.7299	4.5145	0.4795	0.4338	0.7675	0.7995
Image	0.3000	0.9000	0.2279	0.8043	0.8981	0.9005
IMDB-ECC-F	0.6771	12.2432	0.6238	0.3755	0.8940	0.9107
IMDB-F	0.6661	12.0729	0.5974	0.3858	0.8990	0.9155
LLOG-F	0.7759	23.5805	0.5380	0.2983	0.5475	0.9375
mediamill	0.6192	38.0747	0.1964	0.4053	0.5836	0.8432
medical	0.4043	16.4142	0.4425	0.5565	0.5478	0.9894
Music	0.2333	2.2667	0.2592	0.7720	0.8692	0.8620
NUS-WIDE-bow	0.6668	20.4476	0.1845	0.3639	0.6968	0.8501
NUS-WIDE-cVLADplus	0.6044	19.0087	0.2234	0.3710	0.7253	0.9163
OHSUMED-F	0.4307	6.3999	0.2950	0.6125	0.9190	0.9288
PlantGO	0.5938	3.5104	0.5724	0.5312	0.9715	0.9545
PlantPseAAC	0.7041	3.2449	0.4322	0.4581	0.8045	0.8174
rcv1subset1	0.4537	16.8163	0.0584	0.5594	0.9264	0.9457
REUTERS-K500-EX2	0.5254	26.7795	0.4110	0.4935	0.7682	0.9729
scene	0.2282	0.6100	0.1335	0.8562	0.9404	0.9491
SLASHDOT-F	0.3862	5.4841	0.3729	0.6451	0.7562	0.9825
solar_flare-L3	0.6000	0.6000	0.5000	0.7000	0.3333	0.7200
Stackex_chess	0.6379	120.3698	0.6615	0.2447	0.5402	0.9448
Stackex_coffee	1.0000	83.1540	0.9446	0.0391	0.2684	0.9824
Stackex_philosophy	0.6394	112.1452	0.6233	0.2876	0.6838	0.9624
tmc2007-500	0.2878	4.0129	0.1441	0.7526	0.9326	0.9454
VirusGO	0.2381	1.2381	0.2937	0.7963	0.8023	0.9545
VirusPseAAC	0.3333	1.3333	0.3000	0.7349	0.7229	0.9219
Water-quality	0.3302	9.2925	0.3773	0.6815	0.7370	0.7533
Yahoo_Arts	0.4010	6.8785	0.2945	0.6227	0.8803	0.9389
Yahoo_Business	0.0338	2.4885	0.1156	0.9144	0.8757	0.9543
Yahoo_Computers	0.3592	4.2598	0.2380	0.6717	0.8163	0.9392
Yahoo_Education	0.6125	8.2372	0.4739	0.5110	0.8540	0.9782
Yahoo_Entertainment	0.5764	5.0689	0.5565	0.5242	0.9637	0.9486
Yahoo_Health	0.2823	3.9903	0.1154	0.8078	0.8386	0.9757
Yahoo_Recreation	0.4582	4.8907	0.3013	0.6313	0.9723	0.9359
Yahoo_Reference	0.3170	3.0425	0.1775	0.7151	0.7502	0.9558
Yahoo_Science	0.4571	8.7578	0.2647	0.6083	0.9136	0.9951
Yahoo_Social	0.2759	4.1807	0.1335	0.7156	0.8348	0.9900
yeast	0.3140	6.9793	0.2670	0.7013	0.7353	0.8145
Yelp	0.2223	1.4536	0.3100	0.8423	0.8607	0.8869

Table 58: Detailed results for PYRAMID k-NN(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.4570	4.3968	0.4213	0.6159	0.9842	0.9844
3s-guardian1000	0.7742	2.2581	0.5226	0.4820	0.7345	0.7004
3s-inter3000	0.8235	2.0588	0.6000	0.4745	0.6211	0.8095
3s-reuters1000	0.9000	3.0000	0.8400	0.3569	0.7217	0.6670
amphibians	0.2222	2.5000	0.1481	0.8704	0.6464	0.7876
bibtex	0.7086	83.3341	0.7612	0.2120	0.9506	0.9744
birds	0.8205	8.6410	0.6451	0.3188	0.7070	0.8267
bookmarks	0.7563	102.8331	0.7166	0.2662	0.9727	0.9611
CAL500	0.1765	143.1373	0.2554	0.4651	0.5565	0.8085
corel16k001	0.8259	106.8904	0.7450	0.1280	0.9382	0.9469
Corel5k	0.8384	159.1604	0.6678	0.1474	0.6552	0.9629
emotions	0.6667	3.3000	0.6420	0.5272	0.6281	0.6428
enron	0.3158	25.1813	0.4166	0.5378	0.7567	0.9290
EukaryoteGO	0.2049	2.2938	0.1619	0.8261	0.9922	0.9932
EukaryotePseAAC	0.6847	7.0296	0.6092	0.4152	0.9526	0.9575
flags	0.2000	3.8500	0.3075	0.7706	0.6738	0.7714
foodtruck	0.2439	4.9268	0.4716	0.6955	0.7742	0.9153
genbase	0.9403	7.4627	0.8850	0.2210	0.5628	0.8925
GnegativeGO	0.0429	0.1571	0.0291	0.9702	0.8736	0.9986
GnegativePseAAC	0.3929	1.4786	0.3042	0.7269	0.8450	0.9566
GpositiveGO	0.6731	1.4423	0.5545	0.5673	0.7001	0.7256
GpositivePseAAC	0.5192	1.0192	0.4679	0.6747	0.8642	0.8217
HumanGO	0.2444	1.6238	0.1715	0.8133	0.9819	0.9849
HumanPseAAC	0.6817	4.8682	0.6170	0.4437	0.9181	0.9228
Image	0.2900	1.0000	0.2654	0.8012	0.9321	0.9287
IMDB-ECC-F	0.7201	12.3459	0.6461	0.3546	0.9322	0.9375
IMDB-F	0.6819	12.8567	0.6857	0.3547	0.9408	0.9464
LLOG-F	0.8197	29.8852	0.7447	0.2311	0.5666	0.9615
mediamill	0.2090	42.7672	0.2378	0.6475	0.7552	0.9575
medical	0.7551	18.1020	0.5960	0.3374	0.5010	0.9420
Music	0.5500	3.2333	0.5630	0.5813	0.6700	0.6841
NUS-WIDE-bow	0.6660	31.9600	0.4958	0.3605	0.8271	0.9477
NUS-WIDE-cVLADplus	0.5514	30.0395	0.4507	0.4549	0.8462	0.9617
OHSUMED-F	0.7258	11.2994	0.7368	0.3430	0.9437	0.9430
PlantGO	0.8646	4.9167	0.7695	0.3188	0.8441	0.8411
PlantPseAAC	0.7857	4.0918	0.7076	0.3976	0.9054	0.9046
rcv1subset1	0.6718	45.6496	0.4736	0.3512	0.8624	0.9102
REUTERS-K500-EX2	0.4811	28.4296	0.4513	0.5310	0.7726	0.9830
scene	0.2614	0.8506	0.2188	0.8211	0.9688	0.9684
SLASHDOT-F	0.7593	10.2063	0.7001	0.3341	0.7471	0.9534
solar_flare-L3	0.6000	0.6000	0.4000	0.7000	0.4444	0.7600
Stackex_chess	0.7440	128.6369	0.7155	0.1731	0.5150	0.9570
Stackex_coffee	0.7826	74.9130	0.7323	0.2104	0.2344	0.9443
Stackex_philosophy	0.7856	130.9597	0.7447	0.1951	0.6965	0.9567
tmc2007-500	0.3150	6.3346	0.2940	0.6847	0.9610	0.9681
VirusGO	0.6667	2.7143	0.5611	0.4921	0.5150	0.7172
VirusPseAAC	0.6667	1.6667	0.4821	0.5563	0.5689	0.7953
Water-quality	0.4528	10.3868	0.4518	0.5840	0.5677	0.6426
Yahoo_Arts	0.6862	11.9893	0.6218	0.3839	0.9011	0.9410
Yahoo_Business	0.1194	3.8084	0.2964	0.8540	0.8612	0.9964
Yahoo_Computers	0.4329	6.4442	0.4030	0.5958	0.8886	0.9748
Yahoo_Education	0.7182	9.0241	0.5365	0.4258	0.8647	0.9529
Yahoo_Entertainment	0.6339	5.0597	0.5693	0.4927	0.9490	0.9496
Yahoo_Health	0.4745	8.2410	0.4813	0.5732	0.8212	0.9778
Yahoo_Recreation	0.6937	7.7857	0.6250	0.4347	0.9521	0.9508
Yahoo_Reference	0.4583	6.3188	0.4068	0.6014	0.8002	0.9757
Yahoo_Science	0.7387	14.6874	0.6368	0.3532	0.9317	0.9492
Yahoo_Social	0.4782	8.1116	0.3976	0.5593	0.8962	0.9926
yeast	0.2149	6.0537	0.2703	0.7818	0.8517	0.8967
Yelp	0.1386	1.4776	0.3219	0.8726	0.9462	0.9232

Table 59: Detailed results for PYRAMID ELM(PPT)

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.6219	5.2707	0.5137	0.4968	0.9655	0.9599
3s-guardian1000	0.7419	2.8710	0.6218	0.4570	0.5509	0.5580
3s-inter3000	0.7059	2.6471	0.5912	0.4500	0.4819	0.5741
3s-reuters1000	0.8000	2.6333	0.6167	0.4233	0.5607	0.5608
amphibians	0.2222	3.2222	0.2880	0.8113	0.5985	0.6929
bibtex	0.6892	90.0122	0.7798	0.2135	0.9865	0.9760
birds	0.5641	6.3846	0.3382	0.5403	0.7775	0.8827
bookmarks	0.8030	100.6185	0.6936	0.2248	0.9436	0.9503
CAL500	0.1373	143.4314	0.2320	0.4692	0.5344	0.7905
corel16k001	0.7691	107.0879	0.7841	0.1587	0.9726	0.9625
Corel5k	0.6820	160.1080	0.6560	0.2191	0.6519	0.9668
emotions	0.2833	1.9167	0.2518	0.7811	0.8361	0.8528
enron	0.2807	19.8830	0.2631	0.6046	0.7718	0.9413
EukaryoteGO	0.2371	1.7371	0.1071	0.8299	0.9851	0.9885
EukaryotePseAAC	0.6100	5.3205	0.4461	0.5149	0.9539	0.9552
flags	0.2000	3.6000	0.2867	0.7987	0.7010	0.7954
foodtruck	0.2439	4.1220	0.3436	0.7361	0.7016	0.8512
genbase	0.0299	0.3284	0.0041	0.9785	0.6656	0.9990
GnegativeGO	0.0429	0.1429	0.0316	0.9714	0.8728	0.9985
GnegativePseAAC	0.3429	1.0357	0.2172	0.7732	0.8408	0.9633
GpositiveGO	0.0769	0.1346	0.0705	0.9567	0.9944	0.9955
GpositivePseAAC	0.3462	0.5192	0.2372	0.8045	0.9397	0.9276
HumanGO	0.1994	1.3537	0.1372	0.8471	0.9750	0.9772
HumanPseAAC	0.6592	3.8842	0.5266	0.4977	0.9291	0.9302
Image	0.3300	1.0200	0.2633	0.7802	0.8741	0.8763
IMDB-ECC-F	0.6426	11.7715	0.6422	0.3967	0.9505	0.9505
IMDB-F	0.6371	11.9586	0.6292	0.3966	0.9468	0.9473
LLOG-F	0.7951	26.3852	0.6973	0.2523	0.5718	0.9612
mediamill	0.1876	43.5677	0.2268	0.6228	0.7355	0.9417
medical	0.1633	4.7755	0.1051	0.8407	0.5414	0.9888
Music	0.2167	1.9167	0.2249	0.8119	0.8687	0.8733
NUS-WIDE-bow	0.5833	31.4600	0.4669	0.4372	0.8571	0.9653
NUS-WIDE-cVLADplus	0.6755	31.9448	0.3007	0.3174	0.5696	0.7231
OHSUMED-F	0.6080	10.1766	0.5644	0.4369	0.9472	0.9388
PlantGO	0.2917	1.2500	0.1343	0.8059	0.9835	0.9770
PlantPseAAC	0.6939	3.4082	0.5284	0.4832	0.9047	0.8982
rcv1subset1	0.8267	42.9767	0.3205	0.2146	0.6389	0.7452
REUTERS-K500-EX2	0.5172	23.7131	0.3793	0.5185	0.7437	0.9588
scene	0.2780	0.6971	0.1432	0.8247	0.9214	0.9263
SLASHDOT-F	0.5899	7.4153	0.4762	0.4967	0.7407	0.9538
solar_flare-L3	0.6000	0.8000	0.7000	0.6667	0.2222	0.6000
Stackex_chess	0.7679	97.6369	0.3922	0.2131	0.4459	0.8715
Stackex_coffee	0.7391	56.9565	0.3157	0.2492	0.2141	0.7566
Stackex_philosophy	0.8241	92.0653	0.3737	0.2010	0.6085	0.8639
tmc2007-500	0.3336	6.0301	0.2733	0.6818	0.9600	0.9599
VirusGO	0.0952	0.5238	0.0677	0.9317	0.7920	0.9719
VirusPseAAC	0.4286	1.1905	0.2429	0.7079	0.6690	0.8886
Water-quality	0.1792	9.0094	0.3228	0.7210	0.7477	0.7800
Yahoo_Arts	0.7904	10.9733	0.4743	0.3160	0.6629	0.7338
Yahoo_Business	0.2210	5.2406	0.1827	0.7296	0.6103	0.8701
Yahoo_Computers	0.5510	8.8120	0.3206	0.4811	0.6375	0.8059
Yahoo_Education	0.8047	10.9468	0.4438	0.3110	0.6344	0.7650
Yahoo_Entertainment	0.7062	6.7290	0.4536	0.4110	0.7159	0.7666
Yahoo_Health	0.5798	9.0293	0.3314	0.4755	0.6158	0.8230
Yahoo_Recreation	0.8301	8.4747	0.4962	0.3105	0.7020	0.7215
Yahoo_Reference	0.6463	8.2466	0.3178	0.4344	0.5131	0.7833
Yahoo_Science	0.8787	14.8258	0.4386	0.2309	0.6493	0.7220
Yahoo_Social	0.5982	9.6865	0.3093	0.4713	0.6358	0.8159
yeast	0.2107	6.6983	0.2327	0.7517	0.6989	0.8279
Yelp	0.2961	1.7218	0.3110	0.7890	0.8204	0.8472

Table 60: Detailed results for PYRAMID SVM Deph=5

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2557	2.1608	0.1969	0.7992	0.9915	0.9919
3s-guardian1000	0.5161	1.9677	0.5645	0.6306	0.9314	0.9207
3s-inter3000	0.7059	1.8824	0.7059	0.5480	0.8333	0.8968
3s-reuters1000	0.8000	2.2667	0.7733	0.4500	0.8743	0.8581
amphibians	0.1667	2.5000	0.2083	0.8981	0.7884	0.8290
bibtex	0.7676	82.6000	0.6908	0.2350	0.9836	0.9763
birds	0.5385	7.5641	0.5689	0.5081	0.8629	0.9585
bookmarks	0.9465	121.7847	0.9183	0.0696	0.9788	0.9812
CAL500	0.6863	151.3333	0.5795	0.2688	0.7027	0.7928
corel16k001	0.9579	114.0828	0.8880	0.0724	0.9827	0.9654
Corel5k	0.9900	169.0100	0.9729	0.0649	0.6721	0.9804
emotions	0.2667	1.7500	0.2944	0.8081	0.9042	0.9116
enron	0.2690	27.7193	0.4298	0.5551	0.8192	0.9642
EukaryoteGO	0.1856	1.6456	0.1230	0.8560	0.9932	0.9950
EukaryotePseAAC	0.5225	5.9897	0.4812	0.5382	0.9742	0.9758
flags	0.2000	3.6500	0.3225	0.7972	0.7466	0.8386
foodtruck	0.2439	4.6341	0.4806	0.7145	0.8904	0.9743
genbase	0.0000	0.4925	0.0078	0.9932	0.6667	1.0000
GnegativeGO	0.0214	0.1357	0.0184	0.9836	0.8745	0.9993
GnegativePseAAC	0.2500	0.8214	0.1878	0.8307	0.8573	0.9846
GpositiveGO	0.0385	0.1346	0.0417	0.9712	0.9976	0.9981
GpositivePseAAC	0.2500	0.4808	0.2244	0.8429	0.9818	0.9769
HumanGO	0.1994	1.6334	0.1870	0.8332	0.9885	0.9910
HumanPseAAC	0.5595	3.6945	0.5459	0.5504	0.9614	0.9583
Image	0.2500	0.9600	0.2579	0.8213	0.9382	0.9329
IMDB-ECC-F	0.6405	12.4895	0.7517	0.3652	0.9956	0.9780
IMDB-F	0.6098	13.2742	0.7538	0.3628	0.9903	0.9767
LLOG-F	0.7049	25.0082	0.6622	0.3256	0.5884	0.9774
mediamill	0.1663	60.3112	0.4742	0.5133	0.7975	0.9716
medical	0.1327	5.7347	0.1412	0.8496	0.5525	0.9941
Music	0.2500	1.9500	0.2626	0.8148	0.9311	0.9248
NUS-WIDE-bow	0.5599	34.1137	0.5400	0.4264	0.8734	0.9748
NUS-WIDE-cVLADplus	0.5052	33.5657	0.5298	0.4609	0.8759	0.9767
OHSUMED-F	0.3381	8.1141	0.4305	0.6105	0.9743	0.9784
PlantGO	0.1979	1.3542	0.1978	0.8375	0.9947	0.9918
PlantPseAAC	0.6224	3.7143	0.6246	0.4979	0.9562	0.9492
rcv1subset1	0.4833	44.5717	0.4645	0.4230	0.8855	0.9395
REUTERS-K500-EX2	0.4570	28.0430	0.4463	0.5372	0.7790	0.9850
scene	0.1867	0.8050	0.1614	0.8566	0.9741	0.9751
SLASHDOT-F	0.4206	5.9603	0.4048	0.6177	0.7574	0.9840
solar_flare-L3	0.6000	0.6000	0.4000	0.7000	0.4444	0.7400
Stackex_chess	0.9821	154.1488	0.9679	0.0332	0.5450	0.9787
Stackex_coffee	0.9565	82.9130	0.9717	0.0597	0.2527	0.9738
Stackex_philosophy	0.9950	149.5352	0.9635	0.0286	0.7445	0.9772
tmc2007-500	0.2573	5.3626	0.2518	0.7409	0.9748	0.9806
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8251	0.9933
VirusPseAAC	0.2381	0.8571	0.2429	0.8206	0.7807	0.9439
Water-quality	0.2642	9.8774	0.4860	0.6857	0.8523	0.8437
Yahoo_Arts	0.5300	9.5661	0.5203	0.5130	0.9354	0.9681
Yahoo_Business	0.0989	3.4055	0.2510	0.8770	0.8615	0.9970
Yahoo_Computers	0.3719	5.6345	0.3433	0.6610	0.8918	0.9784
Yahoo_Education	0.5137	7.6085	0.4532	0.5744	0.8878	0.9726
Yahoo_Entertainment	0.3653	3.7321	0.3531	0.6848	0.9815	0.9787
Yahoo_Health	0.3029	6.1661	0.3241	0.7071	0.8294	0.9862
Yahoo_Recreation	0.4739	5.7973	0.4391	0.6061	0.9750	0.9739
Yahoo_Reference	0.4022	4.9788	0.3369	0.6552	0.8058	0.9812
Yahoo_Science	0.5443	12.3764	0.5070	0.4907	0.9555	0.9696
Yahoo_Social	0.3185	6.4653	0.3143	0.6986	0.9158	0.9837
yeast	0.1860	6.0331	0.3021	0.7835	0.8833	0.9165
Yelp	0.0778	1.1605	0.1618	0.9298	0.9393	0.9522

Table 61: Detailed results for PYRAMID SVM Depth=10

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2396	2.0773	0.1883	0.8099	0.9911	0.9914
3s-guardian1000	0.5806	2.2258	0.6452	0.5790	0.9325	0.9200
3s-inter3000	0.7059	1.8824	0.7059	0.5480	0.8333	0.8968
3s-reuters1000	0.8000	2.4333	0.8000	0.4328	0.8631	0.8359
amphibians	0.2222	2.7222	0.2519	0.8450	0.7399	0.8117
bibtex	0.5027	78.3554	0.6334	0.3561	0.9842	0.9784
birds	0.4359	7.4359	0.5204	0.5433	0.8545	0.9511
bookmarks	0.9380	120.7889	0.8893	0.0739	0.9556	0.9789
CAL500	0.4510	150.9804	0.4271	0.3805	0.6838	0.8101
corel16k001	0.8526	112.7988	0.8657	0.1151	0.9803	0.9653
Corel5k	0.8840	165.1620	0.8697	0.1093	0.6614	0.9693
emotions	0.2167	1.7167	0.2634	0.8253	0.9095	0.9168
enron	0.2281	26.9825	0.3906	0.5941	0.8170	0.9627
EukaryoteGO	0.1933	1.2526	0.0790	0.8706	0.9926	0.9944
EukaryotePseAAC	0.5199	5.8018	0.4716	0.5433	0.9732	0.9748
flags	0.2000	3.6500	0.3017	0.8067	0.7243	0.8345
foodtruck	0.2439	4.9268	0.4888	0.7079	0.8910	0.9728
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	1.0000
GnegativeGO	0.0357	0.1786	0.0367	0.9723	0.8744	0.9992
GnegativePseAAC	0.2286	0.7929	0.1827	0.8426	0.8587	0.9858
GpositiveGO	0.0192	0.1154	0.0288	0.9808	0.9989	0.9987
GpositivePseAAC	0.2500	0.5192	0.2372	0.8381	0.9764	0.9734
HumanGO	0.1833	1.1383	0.1272	0.8649	0.9863	0.9898
HumanPseAAC	0.5659	3.9614	0.5847	0.5342	0.9701	0.9624
Image	0.2600	0.9250	0.2458	0.8217	0.9516	0.9493
IMDB-ECC-F	0.6426	12.4675	0.7502	0.3650	0.9953	0.9777
IMDB-F	0.6106	13.1127	0.7431	0.3668	0.9888	0.9750
LLOG-F	0.6967	24.9180	0.6576	0.3343	0.5873	0.9774
mediamill	0.1924	53.5938	0.3573	0.5910	0.7878	0.9683
medical	0.1429	5.3980	0.1334	0.8483	0.5507	0.9939
Music	0.2333	1.8667	0.2626	0.8240	0.9341	0.9303
NUS-WIDE-bow	0.5633	34.1136	0.5589	0.4027	0.8705	0.9573
NUS-WIDE-cVLADplus	0.4938	32.3559	0.5137	0.4721	0.8711	0.9765
OHSUMED-F	0.3274	7.9864	0.4226	0.6184	0.9779	0.9801
PlantGO	0.2083	1.3125	0.1754	0.8372	0.9946	0.9917
PlantPseAAC	0.6122	3.4592	0.5940	0.5154	0.9568	0.9511
rcv1subset1	0.4417	36.7267	0.3597	0.4950	0.8888	0.9459
REUTERS-K500-EX2	0.4588	26.5876	0.4239	0.5481	0.7797	0.9863
scene	0.2075	0.7718	0.1510	0.8520	0.9711	0.9736
SLASHDOT-F	0.4048	5.8942	0.3898	0.6282	0.7556	0.9832
solar_flare-L3	0.6000	0.6000	0.4000	0.7000	0.4444	0.7400
Stackex_chess	0.7560	138.6369	0.8159	0.1469	0.5414	0.9773
Stackex_coffee	0.9130	79.4783	0.9077	0.0887	0.2524	0.9728
Stackex_philosophy	0.8040	131.6809	0.7897	0.1603	0.7379	0.9772
tmc2007-500	0.2668	5.3573	0.2646	0.7593	0.9665	0.9605
VirusGO	0.0476	0.3333	0.0571	0.9643	0.8235	0.9925
VirusPseAAC	0.3333	0.9524	0.2429	0.7730	0.7800	0.9401
Water-quality	0.2453	9.6415	0.4406	0.7125	0.8473	0.8436
Yahoo_Arts	0.4927	9.5007	0.5161	0.5369	0.9359	0.9717
Yahoo_Business	0.0989	3.2478	0.2304	0.8804	0.8588	0.9960
Yahoo_Computers	0.3940	5.6459	0.3321	0.6804	0.8920	1.0000
Yahoo_Education	0.5263	7.6155	0.4533	0.5581	0.9076	0.9767
Yahoo_Entertainment	0.3570	3.7350	0.3432	0.6987	0.9946	0.9890
Yahoo_Health	0.3062	6.1737	0.3235	0.7023	0.8273	0.9846
Yahoo_Recreation	0.4607	5.7779	0.4448	0.5877	0.9745	0.9933
Yahoo_Reference	0.4209	5.0174	0.3307	0.6489	0.8013	0.9788
Yahoo_Science	0.5464	12.3636	0.4854	0.4782	0.9369	0.9761
Yahoo_Social	0.3247	6.4896	0.3289	0.6977	0.8974	0.9652
yeast	0.1901	6.0289	0.2932	0.7809	0.8729	0.9131
Yelp	0.0927	1.1715	0.1680	0.9228	0.9346	0.9470

Table 62: Detailed results for PYRAMID SVM Depth=25

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2469	2.1105	0.1937	0.8049	0.9901	0.9905
3s-guardian1000	0.5806	2.0000	0.5726	0.6110	0.9335	0.9202
3s-inter3000	0.7059	1.9412	0.7059	0.5382	0.8214	0.8882
3s-reuters1000	0.8333	2.4667	0.8333	0.4167	0.8969	0.8465
amphibians	0.2222	2.6111	0.2194	0.8635	0.7938	0.8320
bibtex	0.4693	70.4581	0.5376	0.4143	0.9736	0.9955
birds	0.4359	7.2051	0.5148	0.5525	0.8643	0.9590
bookmarks	0.7704	105.8623	0.7814	0.2169	0.9939	0.9956
CAL500	0.1765	151.5490	0.3968	0.4367	0.6766	0.8272
corel16k001	0.8177	111.2716	0.8447	0.1336	0.9797	0.9655
Corel5k	0.7440	161.0140	0.7849	0.1784	0.6585	0.9696
emotions	0.2500	1.7333	0.2697	0.8129	0.9125	0.9191
enron	0.2222	23.9766	0.3530	0.6243	0.8133	0.9654
EukaryoteGO	0.1843	1.0992	0.0746	0.8757	0.9920	0.9939
EukaryotePseAAC	0.5414	5.8160	0.4772	0.5605	0.9677	0.9520
flags	0.2000	3.7500	0.3142	0.7896	0.7122	0.8218
foodtruck	0.2439	4.6829	0.4536	0.7182	0.8719	0.9644
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	1.0000
GnegativeGO	0.0357	0.1071	0.0122	0.9792	0.8746	0.9994
GnegativePseAAC	0.2286	0.8286	0.1888	0.8411	0.8588	0.9858
GpositiveGO	0.0192	0.0769	0.0321	0.9856	0.9980	0.9985
GpositivePseAAC	0.2308	0.4615	0.2179	0.8526	0.9838	0.9797
HumanGO	0.1833	1.1190	0.1233	0.8675	0.9863	0.9894
HumanPseAAC	0.5370	3.6045	0.5341	0.5651	0.9638	0.9591
Image	0.2950	1.0050	0.2929	0.7997	0.9290	0.9258
IMDB-ECC-F	0.6426	12.4423	0.7494	0.3653	0.9955	0.9779
IMDB-F	0.6139	12.5244	0.6597	0.3927	0.9745	0.9598
LLOG-F	0.7049	25.0246	0.6617	0.3260	0.5877	0.9771
mediamill	0.1520	51.5511	0.3248	0.6238	0.7874	0.9703
medical	0.1327	4.7551	0.1225	0.8627	0.5503	0.9946
Music	0.2333	1.9500	0.2722	0.8181	0.9286	0.9257
NUS-WIDE-bow	0.5834	34.1221	0.5706	0.4025	0.8604	0.9777
NUS-WIDE-cVLADplus	0.4927	32.3808	0.5238	0.4794	0.8686	0.9787
OHSUMED-F	0.3324	7.8335	0.4162	0.6210	0.9775	0.9797
PlantGO	0.2083	1.2917	0.1849	0.8375	0.9938	0.9910
PlantPseAAC	0.6633	3.4898	0.5740	0.4984	0.9589	0.9492
rcv1subset1	0.4283	35.3483	0.3483	0.5152	0.8901	0.9498
REUTERS-K500-EX2	0.4278	23.4656	0.3912	0.5829	0.7775	0.9866
scene	0.2075	0.8299	0.1664	0.8461	0.9718	0.9723
SLASHDOT-F	0.4101	5.5159	0.3748	0.6375	0.7555	0.9830
solar_flare-L3	0.4000	0.4000	0.4000	0.8000	0.3333	0.7600
Stackex_chess	0.6845	130.2321	0.7533	0.2027	0.5387	0.9778
Stackex_coffee	0.7391	75.1304	0.8034	0.1891	0.2520	0.9694
Stackex_philosophy	0.6859	124.0980	0.7083	0.2404	0.7389	0.9780
tmc2007-500	0.2419	5.3378	0.2890	0.7500	0.9450	0.9469
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8251	0.9933
VirusPseAAC	0.3333	1.0000	0.2524	0.7651	0.7624	0.9363
Water-quality	0.2453	9.7736	0.4394	0.7046	0.8411	0.8413
Yahoo_Arts	0.4793	9.5161	0.5164	0.5375	0.9120	0.9575
Yahoo_Business	0.1193	3.2447	0.2448	0.8621	0.8632	1.0000
Yahoo_Computers	0.4186	5.6673	0.3320	0.6761	0.9009	1.0000
Yahoo_Education	0.5063	7.6252	0.4394	0.5496	0.9157	0.9742
Yahoo_Entertainment	0.3349	3.7337	0.3244	0.6971	1.0000	1.0000
Yahoo_Health	0.2990	6.1793	0.3109	0.6817	0.8141	0.9937
Yahoo_Recreation	0.4625	5.7969	0.4234	0.5714	0.9786	0.9726
Yahoo_Reference	0.4108	5.0337	0.3309	0.6569	0.7995	0.9611
Yahoo_Science	0.5288	12.0669	0.4902	0.5081	0.9494	0.9661
Yahoo_Social	0.2987	6.0611	0.2876	0.7171	0.9117	0.9822
yeast	0.1860	6.1240	0.2966	0.7792	0.8673	0.9089
Yelp	0.1117	1.1944	0.1779	0.9136	0.9294	0.9441

Table 63: Detailed results for PYRAMID SVM Depth=50

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2500	2.1240	0.1930	0.8033	0.9906	0.9906
3s-guardian1000	0.5806	2.0968	0.6040	0.5941	0.9045	0.9038
3s-inter3000	0.8235	2.3529	0.7588	0.4461	0.6679	0.8446
3s-reuters1000	0.8000	2.5000	0.8000	0.4289	0.9609	0.8524
amphibians	0.2222	2.6667	0.2046	0.8496	0.7989	0.8405
bibtex	0.4473	70.4676	0.5588	0.4204	0.9820	0.9780
birds	0.4359	7.3846	0.4964	0.5512	0.8577	0.9529
bookmarks	0.6866	101.8034	0.7148	0.2630	1.0000	0.9598
CAL500	0.1176	151.2549	0.4001	0.4472	0.6863	0.8328
corel16k001	0.8163	111.3929	0.8463	0.1332	0.9794	0.9656
Corel5k	0.6940	155.2420	0.7452	0.2106	0.6576	0.9696
emotions	0.2833	1.6333	0.2844	0.8114	0.9063	0.9118
enron	0.2515	23.7368	0.3376	0.6155	0.8164	0.9628
EukaryoteGO	0.1804	1.1031	0.0730	0.8796	0.9927	0.9945
EukaryotePseAAC	0.5134	5.6498	0.3946	0.5625	0.9801	0.9972
flags	0.1500	3.7000	0.3317	0.7991	0.7431	0.8343
foodtruck	0.2439	4.6585	0.4472	0.7166	0.8838	0.9697
genbase	0.0000	0.2239	0.0006	0.9975	0.6667	1.0000
GnegativeGO	0.0357	0.1500	0.0184	0.9765	0.8743	0.9991
GnegativePseAAC	0.1929	0.7214	0.1705	0.8623	0.8632	0.9891
GpositiveGO	0.0577	0.1538	0.0449	0.9615	0.9989	0.9974
GpositivePseAAC	0.1923	0.4231	0.1923	0.8718	0.9821	0.9778
HumanGO	0.1865	1.2122	0.1314	0.8615	0.9871	0.9897
HumanPseAAC	0.5595	3.9936	0.5856	0.5355	0.9689	0.9624
Image	0.2650	0.9750	0.2662	0.8132	0.9396	0.9359
IMDB-ECC-F	0.6405	12.3616	0.7428	0.3681	0.9921	0.9764
IMDB-F	0.6139	13.2461	0.7542	0.3613	0.9900	0.9765
LLOG-F	0.6721	25.4426	0.6539	0.3520	0.5926	0.9774
mediamill	0.1734	51.3800	0.3181	0.6231	0.7875	0.9687
medical	0.1224	5.0204	0.1223	0.8626	0.5507	0.9944
Music	0.2167	1.9500	0.2705	0.8245	0.9344	0.9309
NUS-WIDE-bow	0.6898	20.5481	0.1973	0.3801	0.6912	0.8849
NUS-WIDE-cVLADplus	0.4736	30.9867	0.4911	0.4687	0.8804	0.9710
OHSUMED-F	0.3295	7.8737	0.4134	0.6229	0.9767	0.9790
PlantGO	0.2083	1.3646	0.1953	0.8335	0.9934	0.9909
PlantPseAAC	0.6327	3.3878	0.5875	0.5089	0.9577	0.9490
rcv1subset1	0.4133	33.6200	0.3237	0.5234	0.8906	0.9489
REUTERS-K500-EX2	0.4107	23.2629	0.3818	0.5955	0.7761	0.9868
scene	0.1992	0.8050	0.1606	0.8523	0.9722	0.9719
SLASHDOT-F	0.4153	5.6931	0.3780	0.6307	0.7549	0.9820
solar_flare-L3	0.4000	0.4000	0.2000	0.8000	0.5556	0.9200
Stackex_chess	0.6488	128.2679	0.7381	0.2243	0.5373	0.9774
Stackex_coffee	0.6522	73.3478	0.7514	0.2439	0.2514	0.9697
Stackex_philosophy	0.6382	124.4749	0.7038	0.2571	0.7397	0.9790
tmc2007-500	0.2742	5.0258	0.2353	0.7533	0.9779	0.9978
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8251	0.9933
VirusPseAAC	0.2857	0.9048	0.2333	0.7968	0.7887	0.9481
Water-quality	0.2642	9.5849	0.4250	0.7113	0.8410	0.8397
Yahoo_Arts	0.4873	9.3178	0.5001	0.5431	0.9340	0.9700
Yahoo_Business	0.0481	3.1966	0.2289	0.9023	0.8793	0.9848
Yahoo_Computers	0.3298	5.4039	0.3101	0.6907	0.8774	1.0000
Yahoo_Education	0.5011	7.1192	0.4200	0.5509	0.8804	0.9805
Yahoo_Entertainment	0.4137	3.9951	0.3791	0.6321	1.0000	0.9610
Yahoo_Health	0.2606	5.8107	0.3189	0.7328	0.8307	0.9745
Yahoo_Recreation	0.4217	5.4899	0.3968	0.6421	1.0000	1.0000
Yahoo_Reference	0.4171	4.9238	0.3024	0.6745	0.8132	1.0000
Yahoo_Science	0.5334	11.9642	0.4829	0.5094	0.9490	0.9651
Yahoo_Social	0.3061	6.1180	0.2936	0.7108	0.9117	0.9823
yeast	0.1942	6.0455	0.2911	0.7758	0.8629	0.9066
Yelp	0.0947	1.1755	0.1683	0.9219	0.9344	0.9483

Table 64: Detailed results for PYRAMID SVM Depth= ∞

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2220	1.9046	0.1756	0.8239	0.9927	0.9928
3s-guardian1000	0.5806	2.2258	0.6452	0.5726	0.9297	0.9168
3s-inter3000	0.7059	1.8824	0.7059	0.5480	0.8333	0.8968
3s-reuters1000	0.8667	2.4667	0.8400	0.4011	0.8527	0.8237
amphibians	0.1667	2.5000	0.2287	0.8959	0.7985	0.8405
bibtex	0.4006	68.1213	0.5111	0.4353	0.9659	0.9942
birds	0.4872	6.5128	0.4436	0.5688	0.8581	0.9557
bookmarks	0.6561	101.7819	0.7219	0.2706	0.9545	0.9813
CAL500	0.1176	151.0392	0.3984	0.4572	0.7213	0.8475
corel16k001	0.8192	110.5882	0.8341	0.1342	0.9772	0.9641
Corel5k	0.6980	158.0660	0.7429	0.2142	0.6570	0.9700
emotions	0.2500	1.7167	0.2834	0.8172	0.9066	0.9115
enron	0.2281	24.1871	0.3521	0.6157	0.8141	0.9650
EukaryoteGO	0.1804	1.0000	0.0662	0.8804	0.9921	0.9940
EukaryotePseAAC	0.4744	5.5924	0.4076	0.5491	1.0000	1.0000
flags	0.1500	3.6500	0.3175	0.8116	0.7385	0.8343
foodtruck	0.2439	4.9756	0.4915	0.7047	0.9048	0.9767
genbase	0.0000	0.2090	0.0006	1.0000	0.6667	0.9999
GnegativeGO	0.0357	0.1214	0.0245	0.9768	0.8745	0.9993
GnegativePseAAC	0.1929	0.8000	0.1776	0.8572	0.8603	0.9871
GpositiveGO	0.0385	0.1346	0.0417	0.9712	0.9976	0.9974
GpositivePseAAC	0.2308	0.4615	0.2179	0.8526	0.9796	0.9769
HumanGO	0.1961	1.1479	0.1266	0.8604	0.9864	0.9895
HumanPseAAC	0.5466	3.6656	0.5421	0.5580	0.9621	0.9584
Image	0.3050	1.0100	0.2779	0.7929	0.9301	0.9259
IMDB-ECC-F	0.6405	12.4140	0.7460	0.3666	0.9941	0.9771
IMDB-F	0.6114	13.1707	0.7477	0.3634	0.9895	0.9758
LLOG-F	0.6639	24.5820	0.6416	0.3545	0.5870	0.9783
mediamill	0.1781	52.0784	0.3282	0.6192	0.7859	0.9697
medical	0.1327	4.6224	0.1177	0.8648	0.5503	0.9946
Music	0.2333	1.9000	0.2572	0.8259	0.9300	0.9279
NUS-WIDE-bow	0.6439	20.5397	0.1840	0.3977	0.6947	0.8700
NUS-WIDE-cVLADplus	0.4561	30.9811	0.4990	0.4782	0.8923	0.9951
OHSUMED-F	0.3295	7.8765	0.4136	0.6238	0.9773	0.9795
PlantGO	0.2188	1.3750	0.1858	0.8282	0.9934	0.9906
PlantPseAAC	0.6327	3.5000	0.6046	0.5055	0.9554	0.9482
rcv1subset1	0.3915	34.5856	0.3338	0.5509	0.8870	0.9387
REUTERS-K500-EX2	0.4072	21.3265	0.3604	0.6057	0.7757	0.9869
scene	0.1867	0.7759	0.1487	0.8594	0.9722	0.9741
SLASHDOT-F	0.3915	5.5106	0.3678	0.6454	0.7559	0.9826
solar_flare-L3	0.4000	0.4000	0.2000	0.8000	0.5556	0.9200
Stackex_chess	0.6131	125.2381	0.7028	0.2539	0.5385	0.9778
Stackex_coffee	0.6957	73.1739	0.8084	0.2058	0.2538	0.9664
Stackex_philosophy	0.5899	120.9188	0.6381	0.2977	0.7308	1.0000
tmc2007-500	0.2500	5.0225	0.2503	0.7418	0.9538	1.0000
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8235	0.9913
VirusPseAAC	0.2381	0.8571	0.2333	0.8206	0.7904	0.9553
Water-quality	0.2453	9.6415	0.4300	0.7106	0.8453	0.8435
Yahoo_Arts	0.4426	9.4018	0.5159	0.5420	0.9531	0.9447
Yahoo_Business	0.0526	3.2274	0.1811	0.9098	0.8892	1.0000
Yahoo_Computers	0.3646	5.4242	0.3426	0.7189	0.8952	1.0000
Yahoo_Education	0.4478	7.1181	0.3747	0.6146	0.9282	0.9680
Yahoo_Entertainment	0.4031	3.9835	0.3620	0.6211	0.9878	0.9347
Yahoo_Health	0.2738	5.7770	0.2481	0.7363	0.8164	1.0000
Yahoo_Recreation	0.3915	5.4635	0.3572	0.6523	1.0000	1.0000
Yahoo_Reference	0.3917	4.9256	0.3226	0.7145	0.7911	1.0000
Yahoo_Science	0.5227	12.0178	0.4508	0.5004	0.9706	0.9449
Yahoo_Social	0.2356	6.3695	0.2657	0.7754	0.9644	0.9869
yeast	0.1983	6.0496	0.3000	0.7747	0.8717	0.9112
Yelp	0.1027	1.1894	0.1785	0.9173	0.9323	0.9464

Table 65: Detailed results for PYRAMID SVM Pruned

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2246	2.3615	0.2207	0.8062	0.9967	0.9967
3s-guardian1000	0.5161	1.9355	0.5968	0.6226	0.9379	0.9276
3s-inter3000	0.5882	2.2353	0.9412	0.5490	0.8333	1.0000
3s-reuters1000	0.8667	2.6333	0.8733	0.3911	0.8934	0.8349
amphibians	0.2222	2.6111	0.2028	0.8635	0.7867	0.8344
bibtex	0.4405	70.1676	0.5481	0.4297	0.9838	0.9832
birds	0.4615	7.5385	0.5516	0.5330	0.8729	0.9789
bookmarks	0.6796	101.7748	0.7126	0.2972	0.9792	0.9988
CAL500	0.3922	150.5098	0.4207	0.4257	0.7029	0.8293
corel16k001	0.8591	112.8918	0.9081	0.1065	0.9922	0.9854
Corel5k	0.7260	159.8140	0.8532	0.2068	0.6744	0.9950
emotions	0.3000	1.7167	0.2979	0.7966	0.9004	0.9010
enron	0.2222	25.5848	0.3908	0.6047	0.8291	0.9839
EukaryoteGO	0.1959	1.0129	0.0673	0.8745	0.9920	0.9942
EukaryotePseAAC	0.5084	6.7439	0.5460	0.5163	0.9820	0.9832
flags	0.2000	3.7500	0.3592	0.7871	0.7465	0.8366
foodtruck	0.2439	4.6098	0.4503	0.7165	0.8865	0.9725
genbase	0.0000	0.2090	0.0003	1.0000	0.6661	0.9998
GnegativeGO	0.0214	0.1357	0.0184	0.9836	0.8745	0.9994
GnegativePseAAC	0.2429	0.9357	0.2133	0.8275	0.8575	0.9848
GpositiveGO	0.0385	0.1731	0.0481	0.9663	0.9982	0.9987
GpositivePseAAC	0.2308	0.4615	0.2179	0.8526	0.9879	0.9824
HumanGO	0.2154	1.3666	0.1504	0.8410	0.9877	0.9900
HumanPseAAC	0.5402	3.9678	0.5809	0.5446	0.9738	0.9715
Image	0.3250	1.0800	0.3229	0.7791	0.9506	0.9459
IMDB-ECC-F	0.6457	12.6048	0.7621	0.3590	0.9967	0.9791
IMDB-F	0.6106	13.0978	0.7453	0.3655	0.9877	0.9752
LLOG-F	0.6213	25.6946	0.6303	0.3366	0.6223	1.0000
mediamill	0.1948	53.9525	0.3680	0.6038	0.8024	0.9841
medical	0.1429	6.1020	0.1725	0.8361	0.5536	0.9982
Music	0.2167	1.9667	0.2693	0.8273	0.9304	0.9211
NUS-WIDE-bow	0.6642	20.5305	0.2216	0.3870	0.6976	0.8546
NUS-WIDE-cVLADplus	0.5067	32.6927	0.5461	0.4628	0.8793	0.9858
OHSUMED-F	0.3597	8.1048	0.4364	0.5997	0.9779	0.9801
PlantGO	0.2083	1.2812	0.1943	0.8352	0.9943	0.9913
PlantPseAAC	0.6327	3.5102	0.6135	0.4993	0.9562	0.9486
rcv1subset1	0.3718	34.5730	0.3543	0.5426	0.8648	0.9508
REUTERS-K500-EX2	0.4107	23.9639	0.4011	0.5974	0.7840	0.9968
scene	0.1784	0.9004	0.1922	0.8516	0.9862	0.9876
SLASHDOT-F	0.4074	6.1402	0.4074	0.6171	0.7583	0.9848
solar_flare-L3	0.4000	0.4000	0.3000	0.8000	0.4444	0.8400
Stackex_chess	0.6190	128.8155	0.7490	0.2468	0.5456	0.9913
Stackex_coffee	0.7391	77.0000	0.7877	0.1938	0.2582	0.9848
Stackex_philosophy	0.6131	128.8719	0.7455	0.2585	0.7484	0.9950
tmc2007-500	0.2273	5.5004	0.2820	0.7423	0.9768	0.9818
VirusGO	0.0476	0.6667	0.0968	0.9405	0.8235	0.9917
VirusPseAAC	0.2381	0.9524	0.2571	0.8103	0.7976	0.9422
Water-quality	0.2925	10.0849	0.5032	0.6851	0.8628	0.8627
Yahoo_Arts	0.4542	9.1977	0.4829	0.5607	0.9384	0.9792
Yahoo_Business	0.0730	3.1772	0.2308	0.8940	0.8851	1.0000
Yahoo_Computers	0.3193	5.3957	0.2777	0.7158	0.8954	1.0000
Yahoo_Education	0.4917	7.1998	0.3697	0.6341	0.9146	0.9825
Yahoo_Entertainment	0.3566	3.6850	0.3465	0.6914	0.9822	0.9799
Yahoo_Health	0.3087	6.3874	0.3315	0.6805	0.8896	0.9954
Yahoo_Recreation	0.3935	5.4408	0.3872	0.6394	1.0000	1.0000
Yahoo_Reference	0.3667	4.9100	0.3107	0.7059	0.8039	0.9782
Yahoo_Science	0.5218	12.0435	0.4669	0.5081	0.9776	1.0000
Yahoo_Social	0.2760	6.3500	0.2834	0.7391	0.9313	0.9963
yeast	0.2562	6.0702	0.3173	0.7568	0.8743	0.9182
Yelp	0.0927	1.2293	0.2044	0.9176	0.9533	0.9620

Table 66: Detailed results for Pyramid SVM F

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.7324	2.8527	0.1466	0.4966	0.8979	0.8478
3s-guardian1000	0.5161	2.1290	0.3476	0.6008	0.5475	0.6408
3s-inter3000	0.7059	1.7647	0.3412	0.5186	0.2942	0.6204
3s-reuters1000	0.8333	2.5000	0.4858	0.4169	0.5731	0.5131
amphibians	0.2222	2.3333	0.0574	0.8796	0.6090	0.7914
bibtex	0.6919	34.3541	0.1285	0.3030	0.8466	0.8604
birds	0.6154	5.0256	0.1860	0.5336	0.7409	0.8129
bookmarks	0.8474	53.2597	0.1775	0.2193	0.7472	0.7928
CAL500	0.5490	157.3333	0.2705	0.3524	0.4668	0.7291
corel16k001	0.9187	60.7938	0.1992	0.1846	0.6919	0.7964
Corel5k	0.7720	127.7540	0.1568	0.2178	0.4836	0.8448
emotions	0.4667	2.1833	0.2503	0.6878	0.7760	0.7441
enron	0.2866	14.3333	0.1090	0.5713	0.6058	0.8801
EukaryoteGO	0.1959	0.5773	0.0191	0.8793	0.9745	0.9836
EukaryotePseAAC	0.5205	5.6379	0.4082	0.5510	1.0000	0.9910
flags	0.4000	3.7000	0.2708	0.7405	0.5419	0.7220
foodtruck	0.2439	3.9024	0.1878	0.7165	0.5365	0.7274
genbase	0.0448	0.8657	0.0138	0.9542	0.6296	0.9762
GnegativeGO	0.0357	0.1786	0.0141	0.9711	0.8508	0.9862
GnegativePseAAC	0.2071	0.6214	0.0784	0.8566	0.7363	0.9319
GpositiveGO	0.0769	0.1154	0.0321	0.9583	0.9838	0.9841
GpositivePseAAC	0.2500	0.4423	0.1474	0.8494	0.8369	0.8956
HumanGO	0.1929	0.7267	0.0348	0.8756	0.9604	0.9634
HumanPseAAC	0.5981	2.3441	0.1534	0.5870	0.6403	0.8416
Image	0.4550	1.1900	0.2437	0.7104	0.8230	0.7489
IMDB-ECC-F	0.7390	8.1017	0.1942	0.4150	0.5628	0.7865
IMDB-F	0.7556	8.3455	0.1935	0.4223	0.5825	0.7911
LLOG-F	0.7951	14.8934	0.1564	0.3155	0.4140	0.8346
mediamill	0.5416	45.8527	0.1963	0.3178	0.5723	0.7697
medical	0.1531	2.0204	0.0245	0.8778	0.5227	0.9656
Music	0.3000	2.4167	0.2642	0.7302	0.8130	0.7560
NUS-WIDE-bow	0.6793	20.5571	0.2220	0.3887	0.7043	0.8656
NUS-WIDE-cVLADplus	0.6893	18.0119	0.1355	0.3868	0.6514	0.8335
OHSUMED-F	0.4358	4.5700	0.1284	0.6256	0.8296	0.8674
PlantGO	0.2083	0.5938	0.0416	0.8756	0.9475	0.9614
PlantPseAAC	0.6020	2.3776	0.1965	0.5639	0.7147	0.8151
rcv1subset1	0.6950	19.7550	0.0983	0.3682	0.7976	0.8903
REUTERS-K500-EX2	0.7337	9.7663	0.0708	0.4071	0.6636	0.9079
scene	0.2697	0.6058	0.0969	0.8364	0.9130	0.9065
SLASHDOT-F	0.5079	2.8122	0.1095	0.6327	0.6599	0.8909
solar_flare-L3	0.6000	0.6000	0.3000	0.7000	0.3889	0.7200
Stackex_chess	0.8750	70.1310	0.1614	0.2391	0.4117	0.8298
Stackex_coffee	0.7826	64.5652	0.3215	0.2347	0.1923	0.6537
Stackex_philosophy	0.7211	56.3920	0.1287	0.2823	0.5512	0.8566
tmc2007-500	0.2813	5.0286	0.2122	0.8306	1.0000	1.0000
VirusGO	0.0952	0.4286	0.0476	0.9381	0.7454	0.9497
VirusPseAAC	0.4762	1.1429	0.2048	0.6976	0.6087	0.8067
Water-quality	0.3019	9.8208	0.3338	0.6294	0.6980	0.6574
Yahoo_Arts	0.4179	9.3424	0.4804	0.5996	0.9787	1.0000
Yahoo_Business	0.0520	3.1800	0.1633	0.9651	0.8809	0.9973
Yahoo_Computers	0.3094	5.4121	0.3470	0.7363	0.9628	1.0000
Yahoo_Education	0.4884	7.0859	0.3990	0.6257	0.8787	1.0000
Yahoo_Entertainment	0.4230	3.9354	0.3130	0.6746	1.0000	0.9722
Yahoo_Health	0.2993	5.7228	0.2650	0.7410	0.8444	1.0000
Yahoo_Recreation	0.3448	5.4168	0.3753	0.6868	1.0000	1.0000
Yahoo_Reference	0.3737	4.9369	0.3264	0.7154	0.8582	0.9929
Yahoo_Science	0.6796	6.3499	0.1236	0.4684	0.7582	0.8544
Yahoo_Social	0.3540	3.6262	0.0686	0.7160	0.6543	0.9082
yeast	0.4256	8.4008	0.3427	0.5767	0.6648	0.6480
Yelp	0.0977	1.2144	0.0901	0.9123	0.8516	0.8727

Table 67: Detailed results for PYRAMID SVM CL

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2500	1.6530	0.1400	0.8205	0.9893	0.9896
3s-guardian1000	0.6452	2.1613	0.6024	0.5591	0.8765	0.8759
3s-inter3000	0.7647	2.1765	0.7294	0.4912	0.7278	0.8565
3s-reuters1000	0.8667	2.6000	0.8200	0.3900	0.9238	0.8269
amphibians	0.1111	2.3889	0.1657	0.9256	0.8108	0.8449
bibtex	0.4235	70.1191	0.5610	0.4388	0.9671	0.9457
birds	0.5641	6.7179	0.5261	0.5306	0.8669	0.9534
bookmarks	0.6908	101.8421	0.7522	0.3062	0.9690	0.9481
CAL500	0.1304	150.7937	0.3999	0.4370	0.6553	0.8219
corel16k001	0.8329	111.6677	0.8896	0.1271	0.9562	0.9688
Corel5k	0.7017	156.5325	0.8185	0.2000	0.6172	0.9607
emotions	0.2667	1.6667	0.2856	0.8194	0.9286	0.9259
enron	0.3684	27.6433	0.3981	0.5428	0.7578	0.9222
EukaryoteGO	0.1920	1.6920	0.1203	0.8526	0.9929	0.9947
EukaryotePseAAC	0.5199	5.6783	0.4618	0.5486	0.9717	0.9733
flags	0.2000	3.6500	0.2983	0.8073	0.7401	0.8250
foodtruck	0.2439	4.6585	0.4625	0.7104	0.8922	0.9758
genbase	0.0000	0.4925	0.0075	0.9932	0.6661	0.9999
GnegativeGO	0.0214	0.1643	0.0306	0.9801	0.8745	0.9994
GnegativePseAAC	0.2571	0.9071	0.2041	0.8230	0.8594	0.9854
GpositiveGO	0.0769	0.2500	0.0737	0.9423	0.9968	0.9965
GpositivePseAAC	0.2115	0.4615	0.2051	0.8606	0.9873	0.9792
HumanGO	0.1768	1.5209	0.1646	0.8520	0.9884	0.9915
HumanPseAAC	0.5595	3.6785	0.5443	0.5534	0.9610	0.9589
Image	0.2600	0.9600	0.2783	0.8190	0.9573	0.9568
IMDB-ECC-F	0.6394	12.0388	0.7147	0.3805	0.9869	0.9732
IMDB-F	0.6164	12.9594	0.7294	0.3726	0.9843	0.9732
LLOG-F	0.7951	31.8525	0.7706	0.2288	0.5619	0.8960
mediamill	0.2201	51.1202	0.3459	0.6217	0.8110	0.9485
medical	0.1224	5.3163	0.1152	0.8548	0.5304	0.9807
Music	0.3000	1.9500	0.2813	0.7995	0.9379	0.9280
NUS-WIDE-bow	0.6817	20.5256	0.2519	0.3884	0.7020	0.8760
NUS-WIDE-cVLADplus	0.6256	39.2574	0.6187	0.3249	0.7758	0.8693
OHSUMED-F	0.3439	7.7732	0.3998	0.6190	0.9725	0.9752
PlantGO	0.2188	1.4479	0.2189	0.8201	0.9955	0.9933
PlantPseAAC	0.6020	3.2959	0.5830	0.5290	0.9630	0.9563
rcv1subset1	0.4512	34.6244	0.3778	0.5143	0.8452	0.9376
REUTERS-K500-EX2	0.4033	22.7917	0.3849	0.5791	0.7849	1.0000
scene	0.2199	0.8838	0.1802	0.8374	0.9755	0.9759
SLASHDOT-F	0.4021	5.7037	0.3823	0.6333	0.7554	0.9833
solar_flare-L3	0.6000	0.6000	0.4000	0.7000	0.5556	0.8000
Stackex_chess	0.6330	126.4459	0.7241	0.2462	0.5541	0.9530
Stackex_coffee	0.7776	67.0280	0.3340	0.2269	0.1631	0.6882
Stackex_philosophy	0.6231	122.0160	0.6897	0.2693	0.7132	0.9792
tmc2007-500	0.2964	5.0471	0.2681	0.7452	0.9748	1.0000
VirusGO	0.0476	0.6190	0.1127	0.9341	0.8207	0.9929
VirusPseAAC	0.4286	1.3333	0.3333	0.6992	0.7896	0.9409
Water-quality	0.3491	10.0472	0.4835	0.6609	0.8327	0.8280
Yahoo_Arts	0.5180	8.9880	0.4767	0.5387	0.9324	0.9614
Yahoo_Business	0.0989	3.2540	0.2296	0.8809	0.8587	0.9959
Yahoo_Computers	0.3429	5.4327	0.3273	0.6934	0.8720	1.0000
Yahoo_Education	0.4698	7.0891	0.4060	0.5566	0.8784	0.9782
Yahoo_Entertainment	0.4173	3.9868	0.3358	0.6258	0.9993	0.9369
Yahoo_Health	0.3464	6.1401	0.3310	0.6887	0.8286	0.9845
Yahoo_Recreation	0.4271	5.4571	0.3881	0.6452	1.0000	0.9795
Yahoo_Reference	0.3812	4.9304	0.3170	0.6777	0.8075	1.0000
Yahoo_Science	0.5472	12.0163	0.4511	0.5063	1.0000	0.9771
Yahoo_Social	0.2932	6.3978	0.2832	0.7297	0.9218	0.9837
yeast	0.2149	6.0207	0.2919	0.7795	0.8735	0.9111
Yelp	0.0957	1.2144	0.1687	0.9178	0.9384	0.9473

Table 68: Detailed results for PYRAMID SVM No Duplicates

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2604	2.1126	0.1942	0.7984	0.9905	0.9907
3s-guardian1000	0.6129	2.0323	0.5960	0.5812	0.8717	0.8798
3s-inter3000	0.7059	1.8824	0.7059	0.5480	0.8222	0.8968
3s-reuters1000	0.8667	2.4333	0.8400	0.4133	0.8990	0.8250
amphibians	0.5000	3.0000	0.2602	0.7320	0.7797	0.8161
bibtex	0.4365	68.5108	0.5191	0.4397	0.9812	0.9776
birds	0.4615	7.1538	0.5195	0.5501	0.8564	0.9532
bookmarks	0.7005	101.8326	0.7115	0.2807	0.9722	0.9750
CAL500	0.4510	150.3137	0.3879	0.4350	0.6873	0.8328
corel16k001	0.8214	110.6434	0.8359	0.1343	0.9778	0.9639
Corel5k	0.6980	156.0820	0.7538	0.2085	0.6587	0.9705
emotions	0.2500	1.7500	0.2665	0.8069	0.9074	0.9122
enron	0.3158	23.5556	0.3391	0.6119	0.8145	0.9648
EukaryoteGO	0.1869	1.0799	0.0737	0.8759	0.9928	0.9944
EukaryotePseAAC	0.5118	5.6249	0.3881	0.5395	0.9961	1.0000
flags	0.2000	3.5500	0.2925	0.8076	0.7371	0.8366
foodtruck	0.2439	4.6829	0.4585	0.7187	0.8858	0.9726
genbase	0.0149	0.2239	0.0012	0.9938	0.6667	0.9998
GnegativeGO	0.0357	0.1071	0.0122	0.9792	0.8745	0.9993
GnegativePseAAC	0.2000	0.7786	0.1756	0.8561	0.8598	0.9871
GpositiveGO	0.0385	0.1346	0.0417	0.9712	0.9976	0.9979
GpositivePseAAC	0.2500	0.5192	0.2372	0.8381	0.9810	0.9762
HumanGO	0.1704	1.0836	0.1262	0.8730	0.9865	0.9900
HumanPseAAC	0.5498	3.5563	0.5359	0.5605	0.9650	0.9608
Image	0.2700	0.9850	0.2600	0.8101	0.9359	0.9301
IMDB-ECC-F	0.6426	12.5545	0.7576	0.3617	0.9966	0.9784
IMDB-F	0.6089	13.1657	0.7491	0.3650	0.9904	0.9763
LLOG-F	0.6803	24.2541	0.6448	0.3500	0.5929	0.9776
mediamill	0.1639	51.8337	0.3255	0.6263	0.7874	0.9698
medical	0.1633	5.1327	0.1379	0.8430	0.5482	0.9938
Music	0.1667	1.9000	0.2639	0.8458	0.9308	0.9261
NUS-WIDE-bow	0.6824	20.5460	0.2211	0.3813	0.7083	0.8755
NUS-WIDE-cVLADplus	0.4816	31.0174	0.4839	0.4704	0.8796	0.9960
OHSUMED-F	0.3518	7.7968	0.4092	0.6153	0.9775	0.9797
PlantGO	0.2083	1.1667	0.1702	0.8453	0.9932	0.9911
PlantPseAAC	0.6633	3.5510	0.5805	0.4970	0.9479	0.9406
rcv1subset1	0.4333	34.1667	0.3217	0.5150	0.8887	0.9468
REUTERS-K500-EX2	0.4089	22.5653	0.3729	0.5987	0.7749	0.9866
scene	0.1992	0.8299	0.1672	0.8497	0.9702	0.9726
SLASHDOT-F	0.4021	5.7460	0.3747	0.6348	0.7559	0.9832
solar_flare-L3	0.4000	0.4000	0.3000	0.8000	0.4444	0.8400
Stackex_chess	0.6548	124.5238	0.7084	0.2341	0.5367	0.9770
Stackex_coffee	0.6957	72.7826	0.7287	0.2386	0.2548	0.9686
Stackex_philosophy	0.6256	122.7186	0.6951	0.2615	0.7405	0.9785
tmc2007-500	0.2938	5.0576	0.2565	0.7692	0.9420	1.0000
VirusGO	0.0952	0.4286	0.0631	0.9325	0.8235	0.9901
VirusPseAAC	0.2857	0.8571	0.2333	0.8008	0.7775	0.9253
Water-quality	0.2736	9.5849	0.4318	0.7061	0.8446	0.8374
Yahoo_Arts	0.4927	9.2136	0.4915	0.5426	0.9329	0.9686
Yahoo_Business	0.1007	3.2175	0.2291	0.8814	0.8581	0.9956
Yahoo_Computers	0.3527	5.3988	0.3486	0.6844	0.8734	1.0000
Yahoo_Education	0.4889	7.1163	0.3899	0.5921	0.8978	1.0000
Yahoo_Entertainment	0.4423	3.9804	0.3698	0.6313	1.0000	0.9622
Yahoo_Health	0.2964	5.9294	0.3026	0.7128	0.8263	0.9839
Yahoo_Recreation	0.4297	5.4741	0.3653	0.6445	1.0000	1.0000
Yahoo_Reference	0.3810	4.9374	0.3002	0.6551	0.7935	1.0000
Yahoo_Science	0.5257	11.9813	0.4768	0.5102	0.9477	0.9631
Yahoo_Social	0.3036	6.2913	0.3024	0.7077	0.9123	0.9821
yeast	0.2562	6.1405	0.3003	0.7525	0.8727	0.9095
Yelp	0.1186	1.1934	0.1700	0.9123	0.9336	0.9441

Table 69: Detailed results for PYRAMID SVM Undersampling

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2697	1.0415	0.0648	0.8187	0.9685	0.9673
3s-guardian1000	0.8387	3.0000	0.6597	0.3874	0.6357	0.5197
3s-inter3000	0.8235	1.9412	0.4221	0.4618	0.3955	0.6713
3s-reuters1000	0.8667	2.7000	0.5900	0.3806	0.5628	0.5226
amphibians	0.2222	2.8889	0.2472	0.8388	0.6326	0.7415
bibtex	0.4163	69.4136	0.5115	0.4467	0.9800	0.9941
birds	0.4872	5.5641	0.2197	0.5736	0.6861	0.8079
bookmarks	0.6682	101.7866	0.7175	0.2611	0.9406	0.9886
CAL500	0.1176	154.2549	0.3338	0.3895	0.4709	0.6749
corel16k001	0.7364	66.0980	0.2597	0.2527	0.7652	0.7770
Corel5k	0.6180	142.2700	0.2191	0.2664	0.5167	0.8222
emotions	0.2500	1.8167	0.2544	0.8011	0.8759	0.8895
enron	0.2456	21.6725	0.1914	0.5968	0.6084	0.8025
EukaryoteGO	0.1830	0.5696	0.0241	0.8928	0.9929	0.9906
EukaryotePseAAC	0.5907	4.8121	0.2433	0.5324	0.7814	0.8292
flags	0.3000	3.8000	0.3033	0.7827	0.7302	0.8205
foodtruck	0.4390	4.8293	0.3899	0.5727	0.5684	0.6624
genbase	0.0000	0.2537	0.0015	0.9955	0.6330	0.9928
GnegativeGO	0.0357	0.1214	0.0245	0.9768	0.8743	0.9989
GnegativePseAAC	0.2286	0.5214	0.1041	0.8561	0.7877	0.9592
GpositiveGO	0.0192	0.0385	0.0192	0.9904	0.9975	0.9982
GpositivePseAAC	0.2500	0.5000	0.2115	0.8413	0.9644	0.9639
HumanGO	0.1994	0.8585	0.0691	0.8738	0.9796	0.9838
HumanPseAAC	0.5659	3.7749	0.3051	0.5584	0.7151	0.7807
Image	0.3100	0.9200	0.2200	0.8010	0.9002	0.8984
IMDB-ECC-F	0.7254	12.5891	0.3649	0.3530	0.6126	0.6754
IMDB-F	0.7316	13.8550	0.3979	0.3364	0.6019	0.6408
LLOG-F	0.6230	23.7049	0.2570	0.4097	0.3980	0.7387
mediamill	0.1781	46.2589	0.1923	0.6058	0.5839	0.8071
medical	0.1429	3.0204	0.0422	0.8727	0.4883	0.9557
Music	0.2833	1.8833	0.2250	0.8065	0.9106	0.9081
NUS-WIDE-bow	0.6971	20.5260	0.2140	0.3618	0.6721	0.9019
NUS-WIDE-cVLADplus	0.5295	26.9596	0.2521	0.4791	0.6884	0.8143
OHSUMED-F	0.3482	4.9770	0.1688	0.6695	0.8695	0.8879
PlantGO	0.1667	0.3854	0.0299	0.9069	0.9850	0.9854
PlantPseAAC	0.6837	2.9592	0.2882	0.5137	0.7760	0.7668
rcv1subset1	0.3776	34.5954	0.3724	0.5419	0.8902	0.9648
REUTERS-K500-EX2	0.4914	12.6151	0.0991	0.5674	0.7052	0.9029
scene	0.1784	0.5021	0.0946	0.8860	0.9527	0.9622
SLASHDOT-F	0.3942	3.1455	0.1497	0.6905	0.6952	0.9169
solar_flare-L3	0.6000	0.6000	0.5000	0.7000	0.3333	0.7600
Stackex_chess	0.5893	98.4702	0.2618	0.2926	0.3875	0.7541
Stackex_coffee	0.8261	80.7826	0.4525	0.1746	0.1837	0.5460
Stackex_philosophy	0.6005	86.4824	0.2318	0.3388	0.5459	0.7769
tmc2007-500	0.2504	3.6640	0.1028	0.7789	0.9345	0.9432
VirusGO	0.0952	0.4286	0.0726	0.9325	0.8044	0.9834
VirusPseAAC	0.4286	1.1905	0.2607	0.7143	0.7050	0.8497
Water-quality	0.2453	8.9340	0.3334	0.7175	0.7631	0.7780
Yahoo_Arts	0.5314	7.9653	0.2512	0.5326	0.6944	0.7711
Yahoo_Business	0.2050	4.7317	0.1161	0.7619	0.7082	0.8845
Yahoo_Computers	0.4217	7.1422	0.1968	0.6173	0.6972	0.8039
Yahoo_Education	0.5270	8.1446	0.2304	0.5481	0.7254	0.8008
Yahoo_Entertainment	0.3928	4.5522	0.2071	0.6599	0.7676	0.8322
Yahoo_Health	0.3225	8.0467	0.1899	0.6638	0.6489	0.8125
Yahoo_Recreation	0.4809	4.9634	0.2174	0.6018	0.7975	0.8295
Yahoo_Reference	0.4384	7.2204	0.2130	0.6075	0.5786	0.7840
Yahoo_Science	0.5583	12.0607	0.2735	0.4853	0.6684	0.7462
Yahoo_Social	0.3746	8.3523	0.1958	0.6402	0.6959	0.8035
yeast	0.2190	6.7521	0.2220	0.7666	0.6881	0.8195
Yelp	0.1147	1.1984	0.1508	0.9113	0.8980	0.9181

Table 70: Detailed results for PYRAMID SVM No Zero

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.3278	1.5845	0.0877	0.7639	0.9483	0.9295
3s-guardian1000	0.5806	2.1290	0.4992	0.5793	0.7389	0.7306
3s-inter3000	0.8824	2.4118	0.5588	0.3990	0.5613	0.6779
3s-reuters1000	0.8667	2.7333	0.5975	0.3789	0.7552	0.5978
amphibians	0.2222	2.7222	0.1694	0.8561	0.7094	0.7665
bibtex	0.3936	69.4208	0.4851	0.4581	1.0000	0.9649
birds	0.4359	5.6410	0.2276	0.5722	0.7166	0.7962
bookmarks	0.6899	101.8082	0.7284	0.2759	0.9765	1.0000
CAL500	0.1961	153.1765	0.3143	0.3982	0.4783	0.6893
corel16k001	0.9056	81.5040	0.3249	0.1255	0.7281	0.6807
Corel5k	0.8680	145.0900	0.2189	0.1242	0.5171	0.7937
emotions	0.2333	1.8500	0.2233	0.8023	0.8548	0.8490
enron	0.2632	22.5146	0.2004	0.5463	0.5937	0.7946
EukaryoteGO	0.1959	0.8415	0.0336	0.8734	0.9804	0.9709
EukaryotePseAAC	0.8430	7.1583	0.3461	0.3138	0.7816	0.7056
flags	0.1500	3.6500	0.2442	0.8249	0.6526	0.7699
foodtruck	0.2195	3.6585	0.2054	0.7589	0.6169	0.7636
genbase	0.0000	0.5970	0.0087	0.9869	0.6470	0.9880
GnegativeGO	0.0214	0.1357	0.0150	0.9824	0.8608	0.9898
GnegativePseAAC	0.2143	0.6071	0.1135	0.8579	0.7889	0.9516
GpositiveGO	0.0385	0.0577	0.0192	0.9808	0.9976	0.9903
GpositivePseAAC	0.1923	0.3269	0.1538	0.8830	0.9763	0.9324
HumanGO	0.1961	1.3473	0.0829	0.8397	0.9672	0.9186
HumanPseAAC	0.7363	4.9839	0.4007	0.4183	0.7320	0.6774
Image	0.2850	0.9250	0.2058	0.8103	0.8682	0.8501
IMDB-ECC-F	0.7201	14.8973	0.4449	0.3178	0.7048	0.5778
IMDB-F	0.7374	14.9354	0.4455	0.2904	0.7345	0.5936
LLOG-F	0.7787	29.9918	0.3646	0.2581	0.3950	0.6537
mediamill	0.1924	49.2613	0.1891	0.5638	0.6117	0.8036
medical	0.1633	3.1327	0.0466	0.8431	0.5141	0.9491
Music	0.2500	2.2833	0.2334	0.7739	0.8522	0.8451
NUS-WIDE-bow	0.7217	34.2588	0.3073	0.2893	0.6664	0.7142
NUS-WIDE-cVLADplus	0.6361	32.4581	0.2874	0.3433	0.6688	0.7370
OHSUMED-F	0.4092	5.6001	0.1818	0.6068	0.8485	0.8317
PlantGO	0.2396	0.7708	0.0717	0.8463	0.9644	0.9448
PlantPseAAC	0.7449	3.7041	0.3682	0.4315	0.8035	0.7181
rcv1subset1	0.6100	32.1400	0.1848	0.3108	0.8511	0.8038
REUTERS-K500-EX2	0.5859	20.7973	0.1664	0.4446	0.7078	0.8292
scene	0.2282	0.5726	0.1065	0.8547	0.9339	0.9291
SLASHDOT-F	0.4180	3.5688	0.1546	0.6523	0.6707	0.8677
solar_flare-L3	0.2000	0.2000	0.1000	0.9000	0.4444	0.8200
Stackex_chess	0.6488	95.0476	0.2616	0.2515	0.3928	0.7510
Stackex_coffee	0.9130	75.6957	0.4952	0.0917	0.1829	0.4862
Stackex_philosophy	0.7563	75.0075	0.2021	0.2360	0.5770	0.7971
tmc2007-500	0.2685	4.5913	0.1137	0.7342	0.8972	0.8807
VirusGO	0.0952	0.5714	0.0874	0.9246	0.7437	0.9402
VirusPseAAC	0.5714	1.2381	0.2417	0.6500	0.7720	0.8480
Water-quality	0.2830	9.0189	0.3061	0.7007	0.6996	0.7224
Yahoo_Arts	0.7170	9.8959	0.3217	0.3822	0.7177	0.6897
Yahoo_Business	0.1034	7.8119	0.1606	0.7784	0.6846	0.7828
Yahoo_Computers	0.5012	9.9839	0.2763	0.5016	0.6671	0.7273
Yahoo_Education	0.7697	13.2693	0.3915	0.2885	0.7140	0.6319
Yahoo_Entertainment	0.6292	5.4438	0.2549	0.4970	0.7445	0.7747
Yahoo_Health	0.3789	7.9750	0.1913	0.6000	0.6378	0.7983
Yahoo_Recreation	0.6064	6.1824	0.2683	0.4869	0.7911	0.7557
Yahoo_Reference	0.5318	8.7734	0.2747	0.5089	0.6591	0.7394
Yahoo_Science	0.7449	14.4914	0.3385	0.3161	0.7302	0.6767
Yahoo_Social	0.5033	11.3680	0.2670	0.5077	0.6814	0.7251
yeast	0.1942	6.9587	0.2315	0.7627	0.6939	0.8034
Yelp	0.0977	1.1436	0.1119	0.9218	0.8772	0.9043

Table 71: Detailed results for PYRAMID SVM Weighted

Datasets	One-error	Coverage	Ranking-loss	Average-precision	AUC-macro	AUC-micro
20NG-F	0.2329	2.0265	0.1835	0.8150	0.9916	0.9919
3s-guardian1000	0.5806	2.3226	0.6613	0.5629	0.9366	0.9200
3s-inter3000	0.7059	2.7059	0.7353	0.4578	0.7604	0.8968
3s-reuters1000	0.7667	2.4000	0.7667	0.4567	0.9347	0.8632
amphibians	0.2222	2.6667	0.1630	0.8469	0.7606	0.8202
bibtex	0.4214	68.1554	0.5547	0.4122	0.9741	0.9838
birds	0.4103	7.0256	0.4966	0.5753	0.8563	0.9542
bookmarks	0.6928	101.7740	0.7250	0.2522	0.9420	0.9992
CAL500	0.3922	151.5882	0.3995	0.4437	0.6893	0.8295
corel16k001	0.8090	111.4365	0.8418	0.1379	0.9783	0.9649
Corel5k	0.7600	156.9780	0.7552	0.1902	0.6586	0.9704
emotions	0.2667	1.7000	0.2555	0.8156	0.8991	0.9028
enron	0.2573	23.8304	0.3415	0.6148	0.8172	0.9664
EukaryoteGO	0.1843	1.1224	0.0738	0.8758	0.9928	0.9945
EukaryotePseAAC	0.5270	5.6358	0.4228	0.5391	1.0000	0.9937
flags	0.3500	3.5500	0.2717	0.7929	0.7581	0.8400
foodtruck	0.2439	4.6098	0.4503	0.7165	0.8734	0.9646
genbase	0.0000	0.2090	0.0003	1.0000	0.6667	0.9999
GnegativeGO	0.0357	0.1071	0.0122	0.9792	0.8744	0.9993
GnegativePseAAC	0.2071	0.8143	0.1776	0.8501	0.8603	0.9870
GpositiveGO	0.0192	0.1154	0.0417	0.9808	0.9980	0.9987
GpositivePseAAC	0.1923	0.4231	0.1987	0.8718	0.9788	0.9753
HumanGO	0.1929	1.1222	0.1240	0.8640	0.9859	0.9893
HumanPseAAC	0.5434	3.6431	0.5282	0.5629	0.9606	0.9605
Image	0.2800	0.9600	0.2533	0.8105	0.9386	0.9341
IMDB-ECC-F	0.6394	12.4885	0.7527	0.3645	0.9958	0.9780
IMDB-F	0.6106	13.2303	0.7520	0.3634	0.9902	0.9766
LLOG-F	0.7049	24.3033	0.6401	0.3455	0.5876	0.9770
mediamill	0.1853	51.1686	0.3151	0.6144	0.7857	0.9686
medical	0.1327	5.0102	0.1272	0.8616	0.5501	0.9945
Music	0.2333	1.8667	0.2597	0.8217	0.9292	0.9245
NUS-WIDE-bow	0.6666	20.5461	0.2224	0.3732	0.6725	0.8714
NUS-WIDE-cVLADplus	0.4686	31.2774	0.4840	0.4886	0.8685	0.9759
OHSUMED-F	0.3288	7.6985	0.4034	0.6273	0.9776	0.9798
PlantGO	0.2292	1.2917	0.1928	0.8256	0.9944	0.9909
PlantPseAAC	0.6327	3.4490	0.5857	0.5082	0.9596	0.9517
rcv1subset1	0.3737	34.5850	0.3276	0.5185	0.8964	0.9394
REUTERS-K500-EX2	0.4278	23.0361	0.3726	0.5936	0.7760	0.9866
scene	0.1992	0.8299	0.1639	0.8497	0.9686	0.9711
SLASHDOT-F	0.4206	5.9233	0.3930	0.6220	0.7549	0.9821
solar_flare-L3	0.6000	0.6000	0.3000	0.7000	0.4444	0.7400
Stackex_chess	0.6131	128.3393	0.7249	0.2412	0.5337	0.9776
Stackex_coffee	0.6522	77.1739	0.7437	0.2488	0.2556	0.9685
Stackex_philosophy	0.6131	122.1608	0.6922	0.2731	0.7369	0.9787
tmc2007-500	0.2753	5.0324	0.2501	0.7540	0.9419	1.0000
VirusGO	0.0476	0.3810	0.0631	0.9563	0.8191	0.9913
VirusPseAAC	0.3333	1.1905	0.3048	0.7484	0.7552	0.9295
Water-quality	0.3019	9.5283	0.4158	0.7009	0.8478	0.8448
Yahoo_Arts	0.4806	9.2737	0.5028	0.5428	0.9334	0.9697
Yahoo_Business	0.0390	3.2278	0.2321	0.9056	0.8757	1.0000
Yahoo_Computers	0.3419	5.3976	0.3140	0.6646	0.8891	1.0000
Yahoo_Education	0.4886	7.1075	0.3836	0.5667	0.9092	0.9764
Yahoo_Entertainment	0.4473	3.9605	0.3493	0.6033	0.9664	0.9580
Yahoo_Health	0.2910	6.0261	0.3062	0.7140	0.8264	0.9840
Yahoo_Recreation	0.4349	5.4804	0.3815	0.6222	1.0000	0.9738
Yahoo_Reference	0.4087	4.9176	0.3165	0.6782	0.8014	1.0000
Yahoo_Science	0.4914	11.7263	0.4652	0.5349	0.9481	0.9661
Yahoo_Social	0.3069	6.0248	0.2879	0.7138	0.9116	0.9820
yeast	0.2479	6.0124	0.2794	0.7698	0.8586	0.9060
Yelp	0.1376	1.2203	0.1658	0.9009	0.9164	0.9324