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Table 1: General statistics

metric	value
number of certificates	9072
number of plot coordinates	3360
number of failures	150
fraction of failures	0.044642857142857144
mean absolute error (all $p_{\mathcal{T}}$)	0.04854405987222857
mean absolute error ($p_{\mathcal{T}} \geq p_{\mathcal{S}}$)	0.008883532822442112

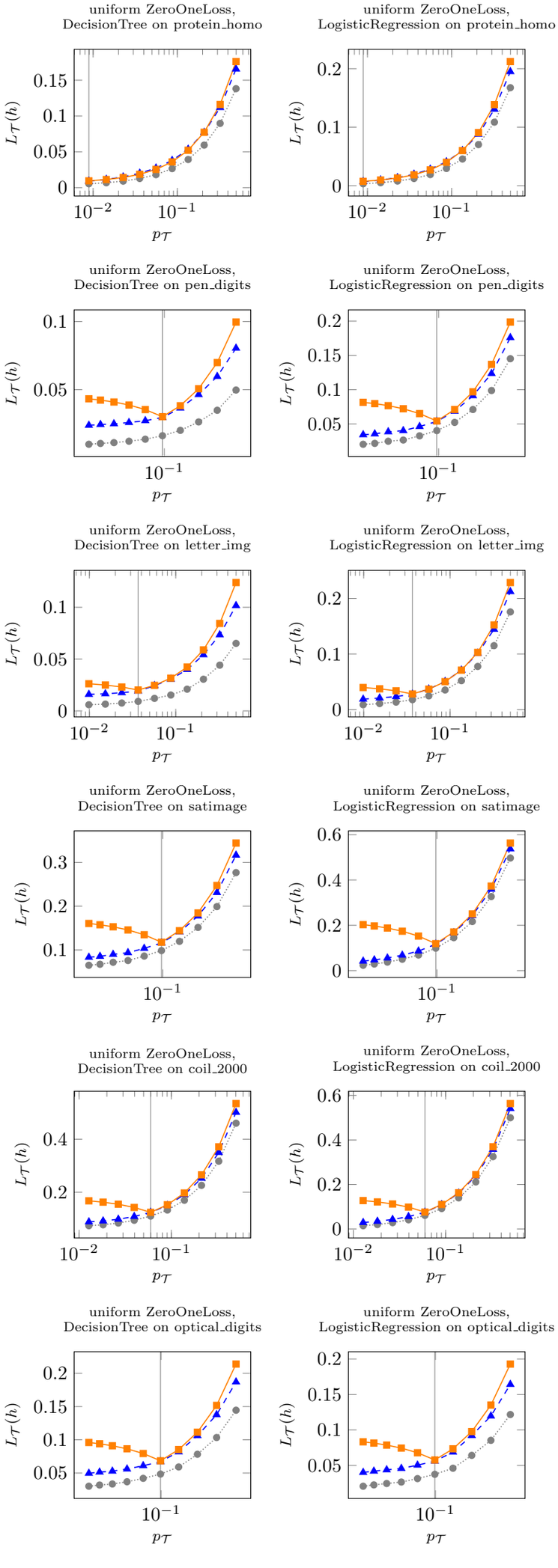

Figure 1: imblearn: uniform ZeroOneLoss with $\delta = 0.01$

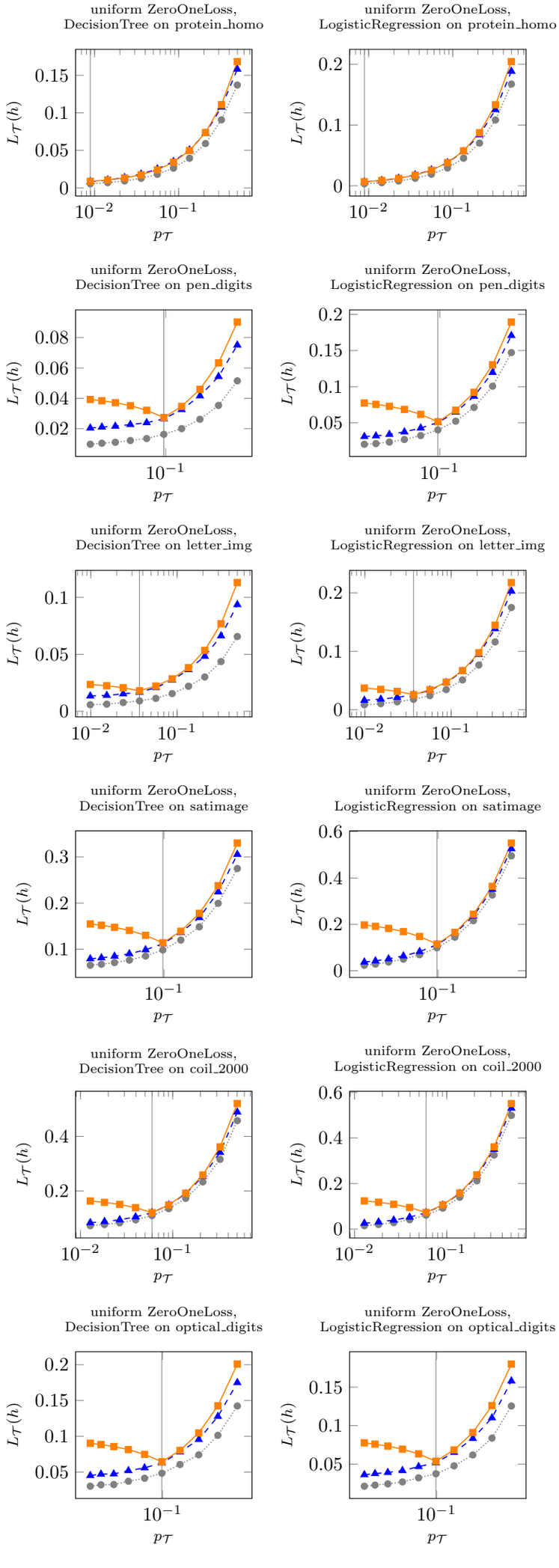

Figure 2: imblearn: uniform ZeroOneLoss with $\delta = 0.05$

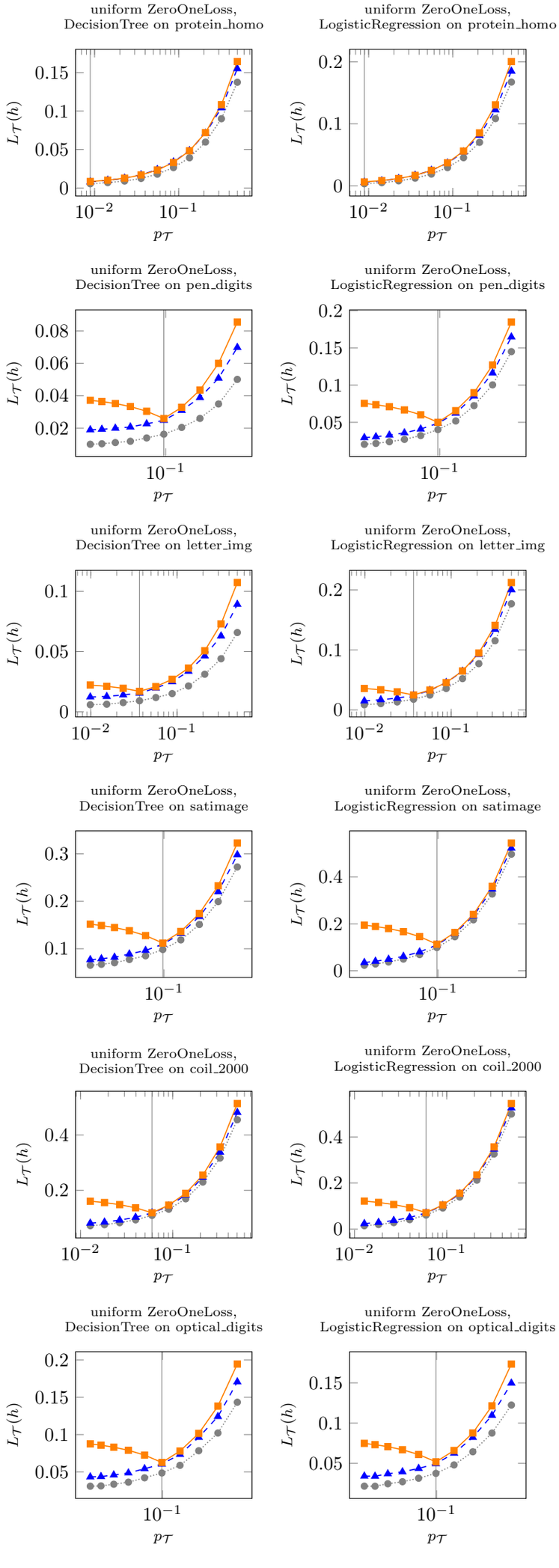

Figure 3: imblearn: uniform ZeroOneLoss with $\delta = 0.1$

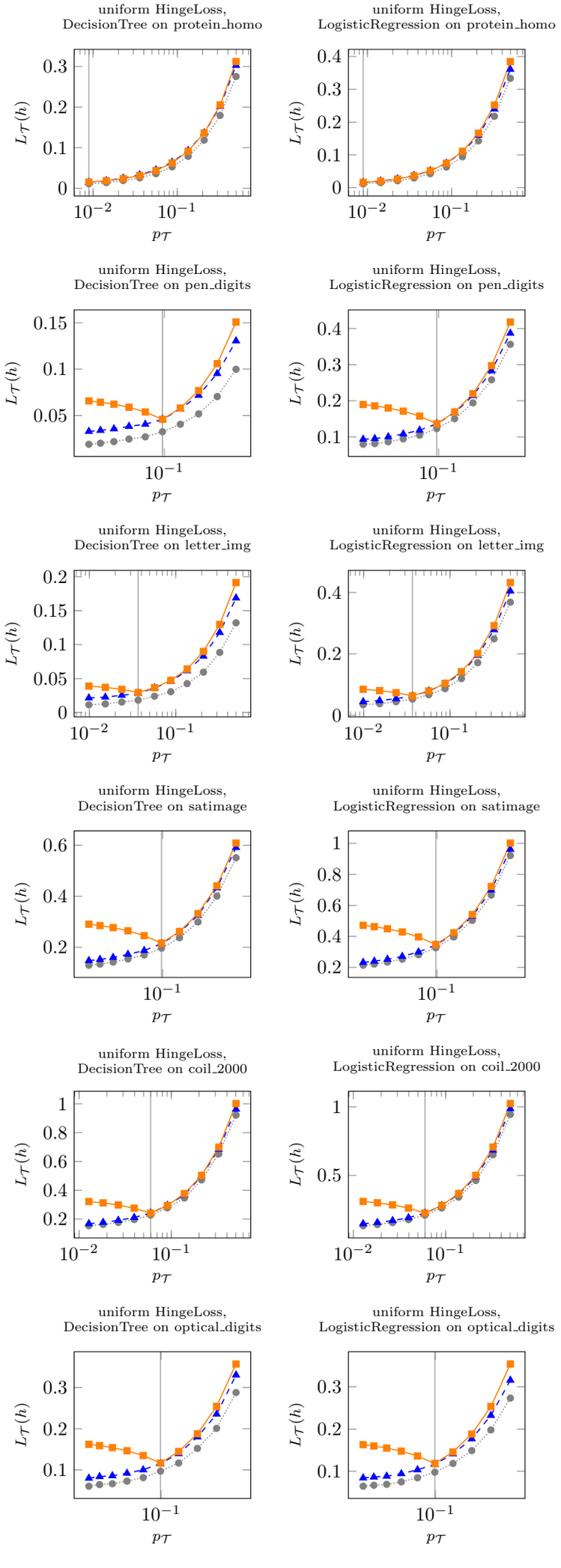

Figure 4: imblearn: uniform HingeLoss with $\delta = 0.01$

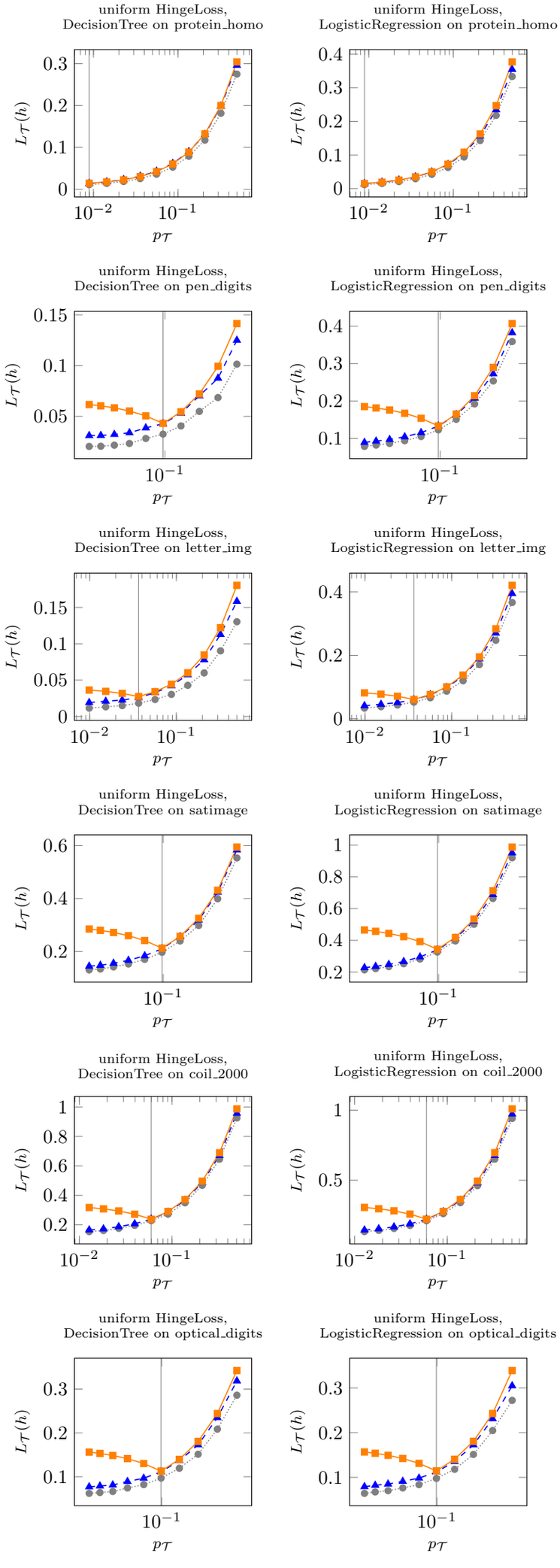

Figure 5: imblearn: uniform HingeLoss with $\delta = 0.05$

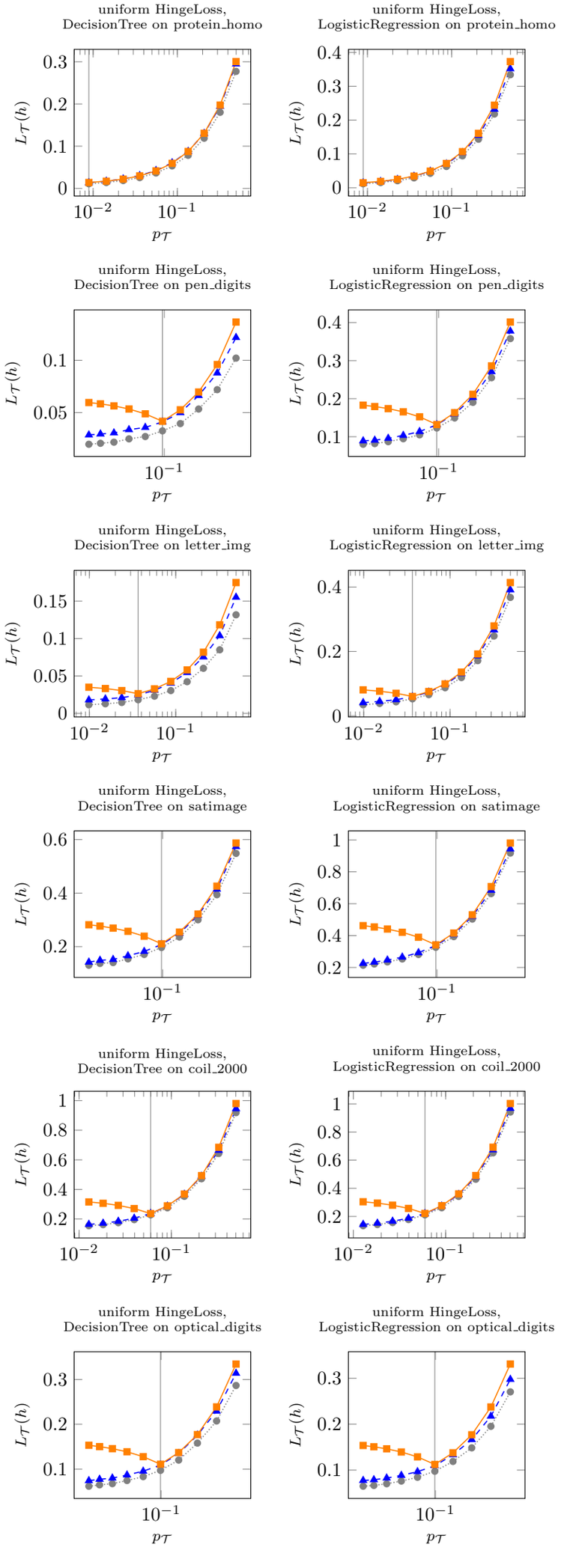

Figure 6: imblearn: uniform HingeLoss with $\delta = 0.1$

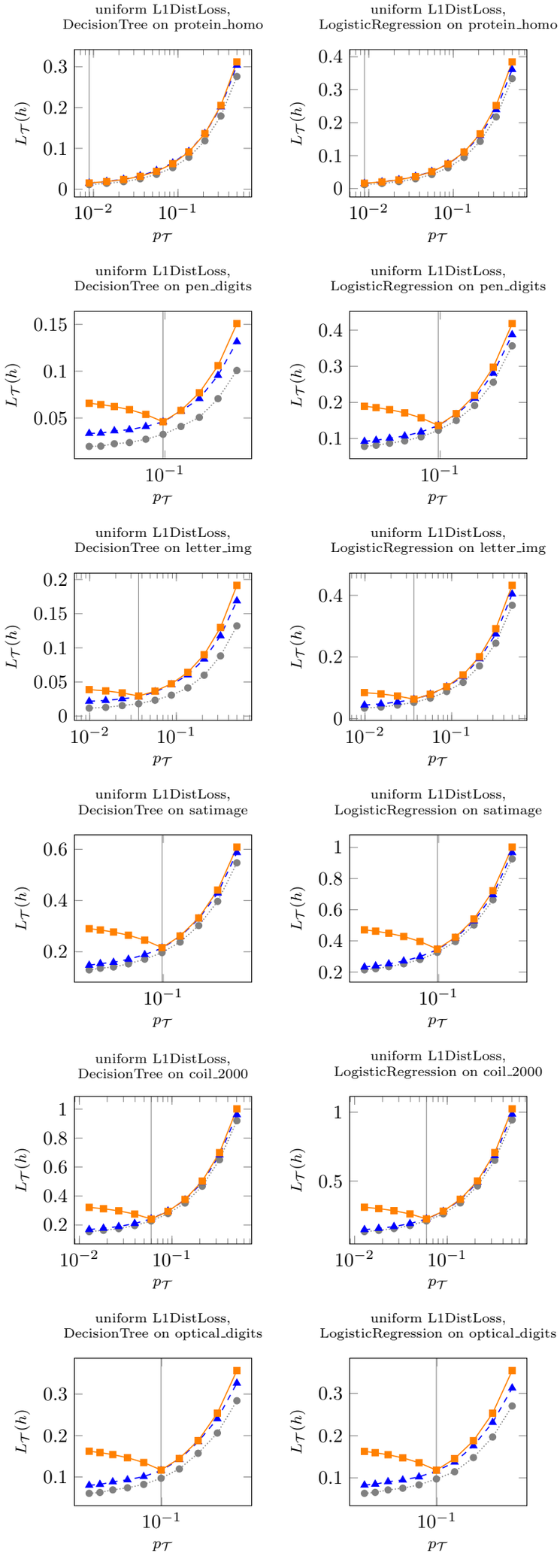

Figure 7: imblearn: uniform L1DistLoss with $\delta = 0.01$

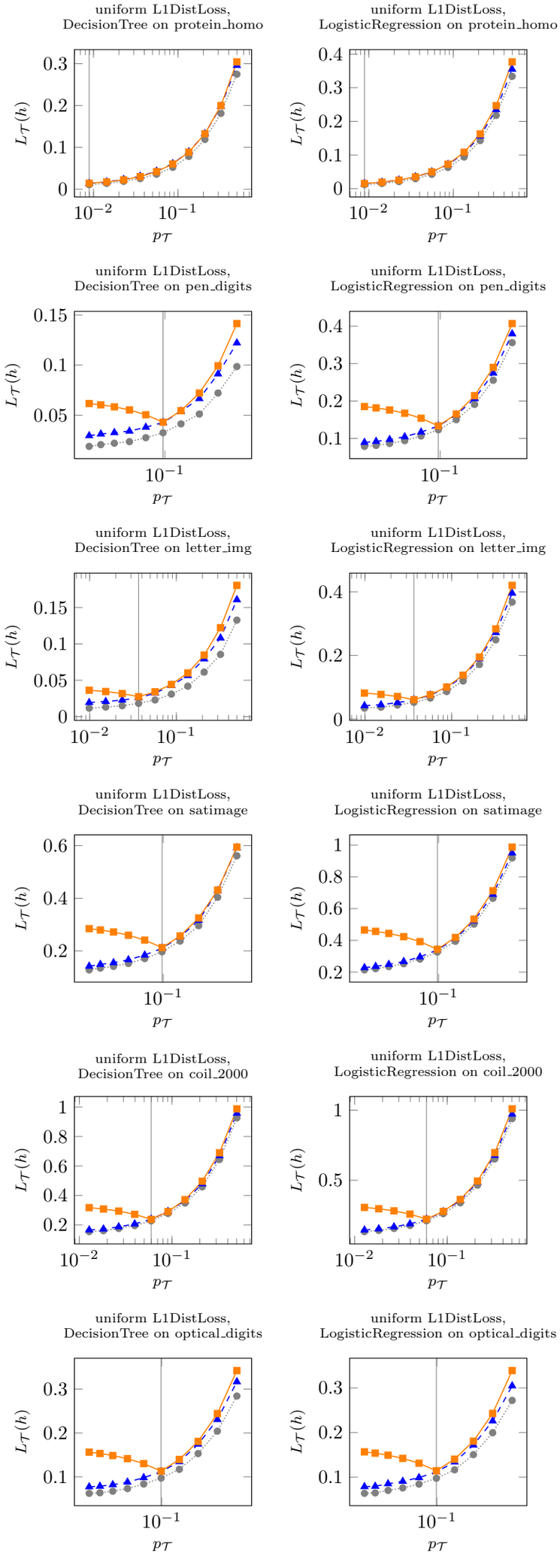

Figure 8: imblearn: uniform L1DistLoss with $\delta = 0.05$

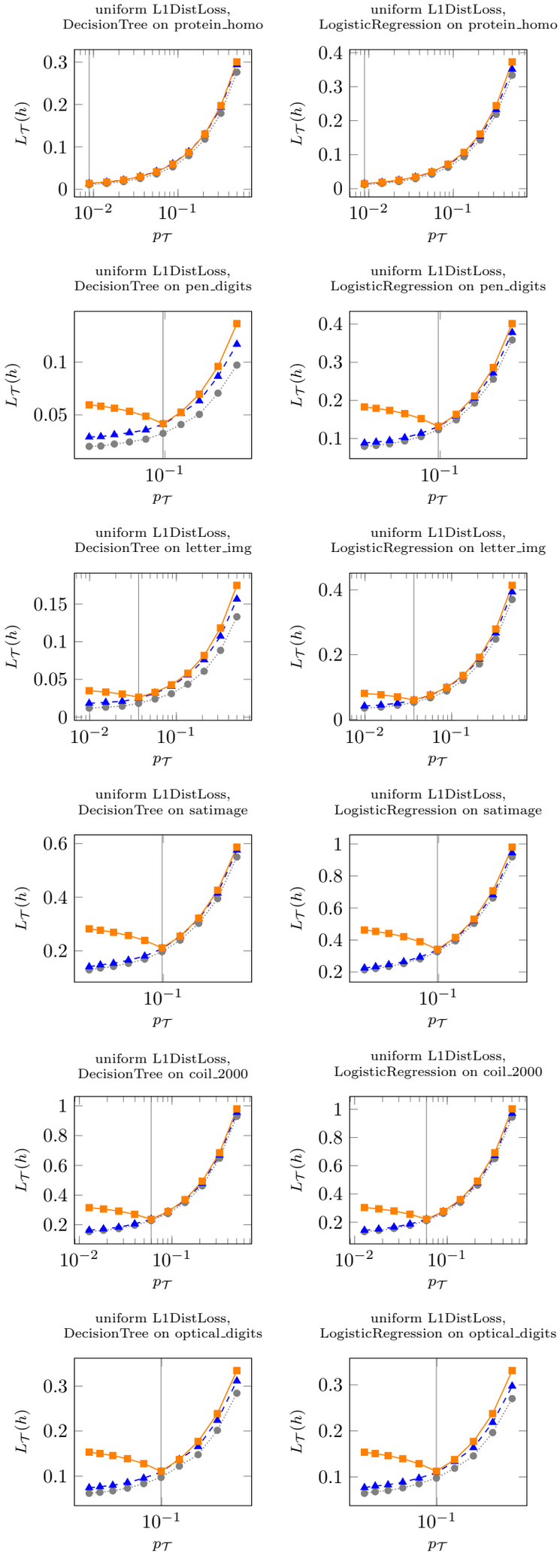

Figure 9: imblearn: uniform L1DistLoss with $\delta = 0.1$

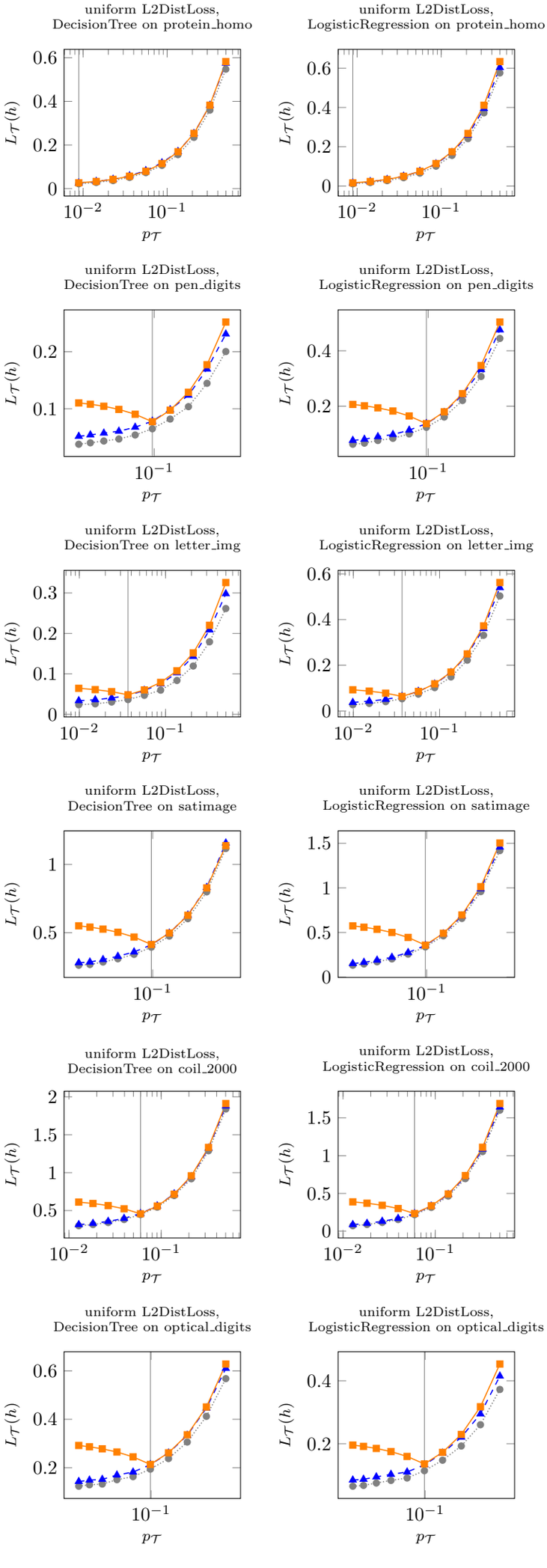

Figure 10: imblearn: uniform L2DistLoss with $\delta = 0.01$

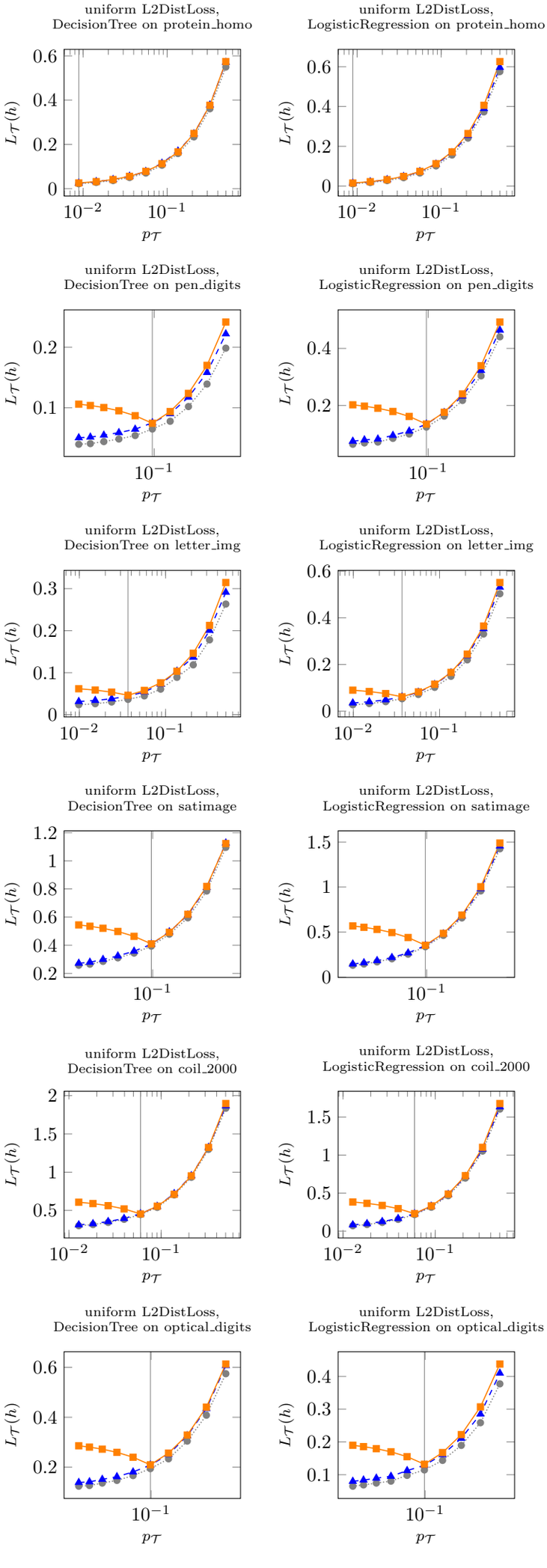

Figure 11: imblearn: uniform L2DistLoss with $\delta = 0.05$

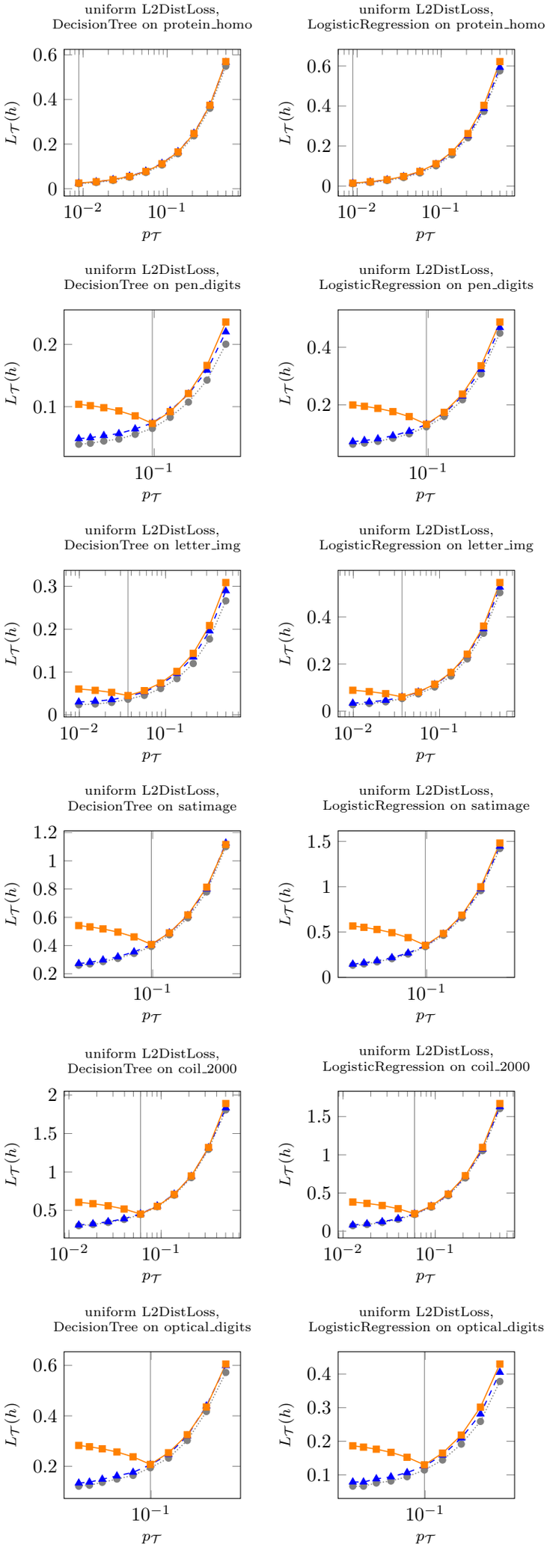

Figure 12: imblearn: uniform L2DistLoss with $\delta = 0.1$

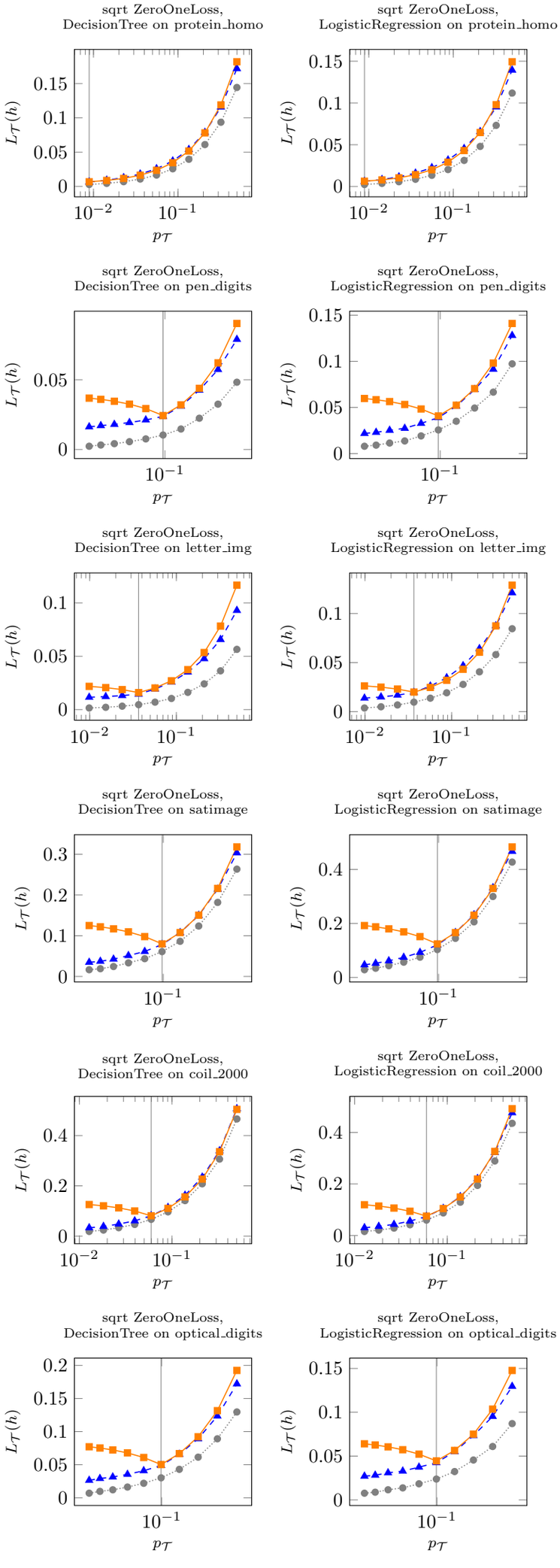

Figure 13: imblearn: sqrt ZeroOneLoss with $\delta = 0.01$

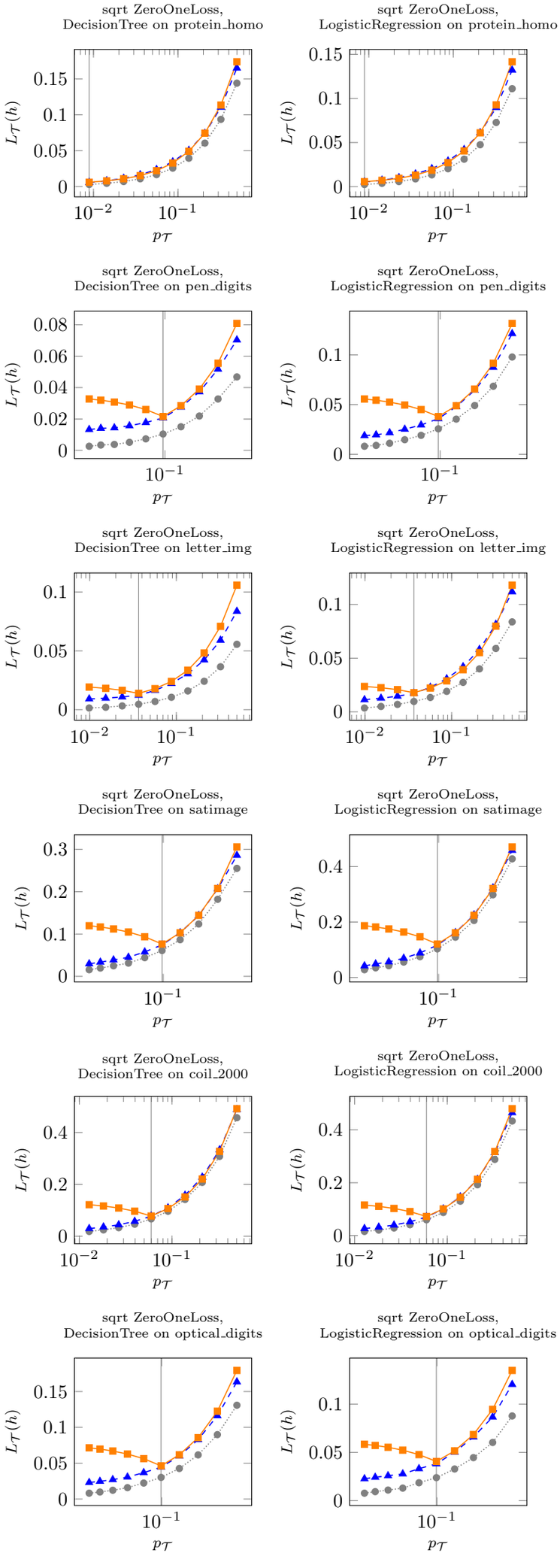

Figure 14: imblearn: sqrt ZeroOneLoss with $\delta = 0.05$

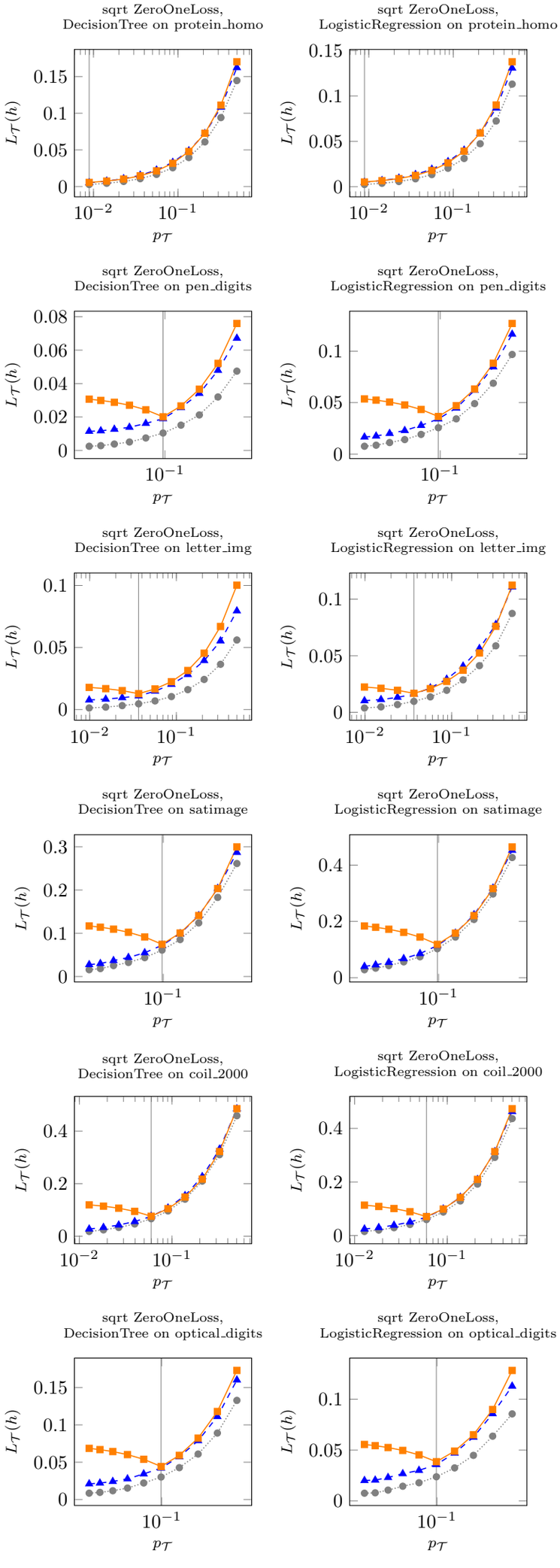

Figure 15: imblearn: sqrt ZeroOneLoss with $\delta = 0.1$

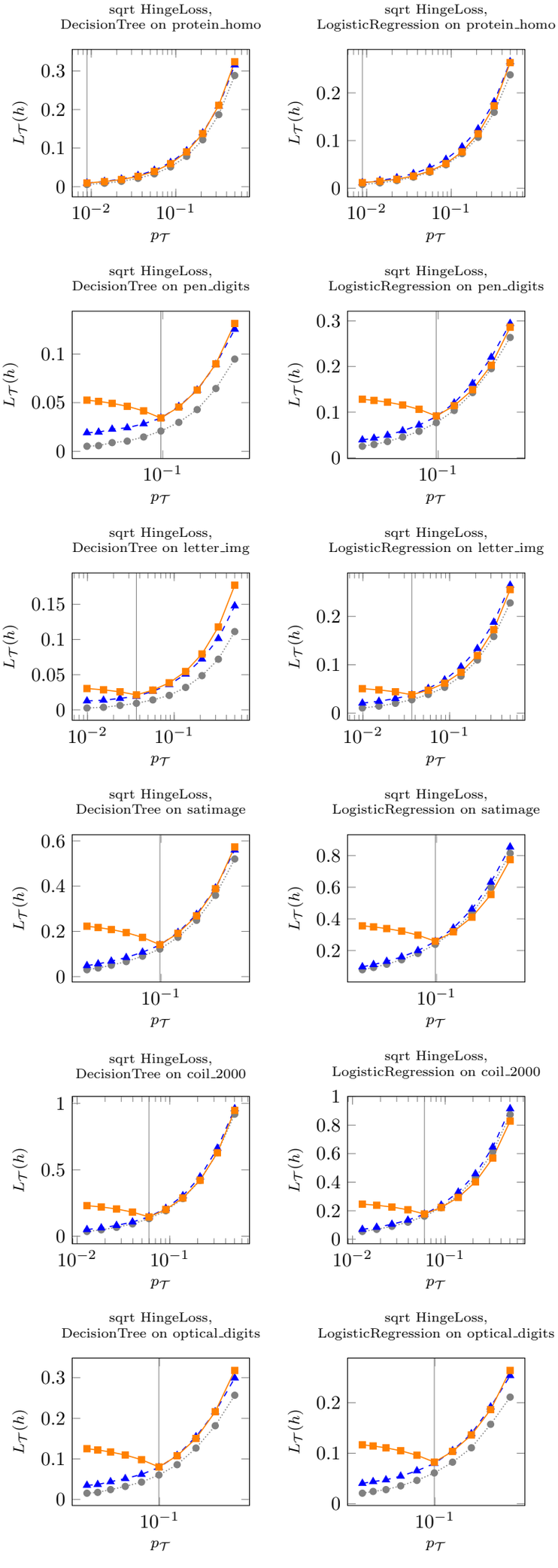

Figure 16: imblearn: sqrt HingeLoss with $\delta = 0.01$

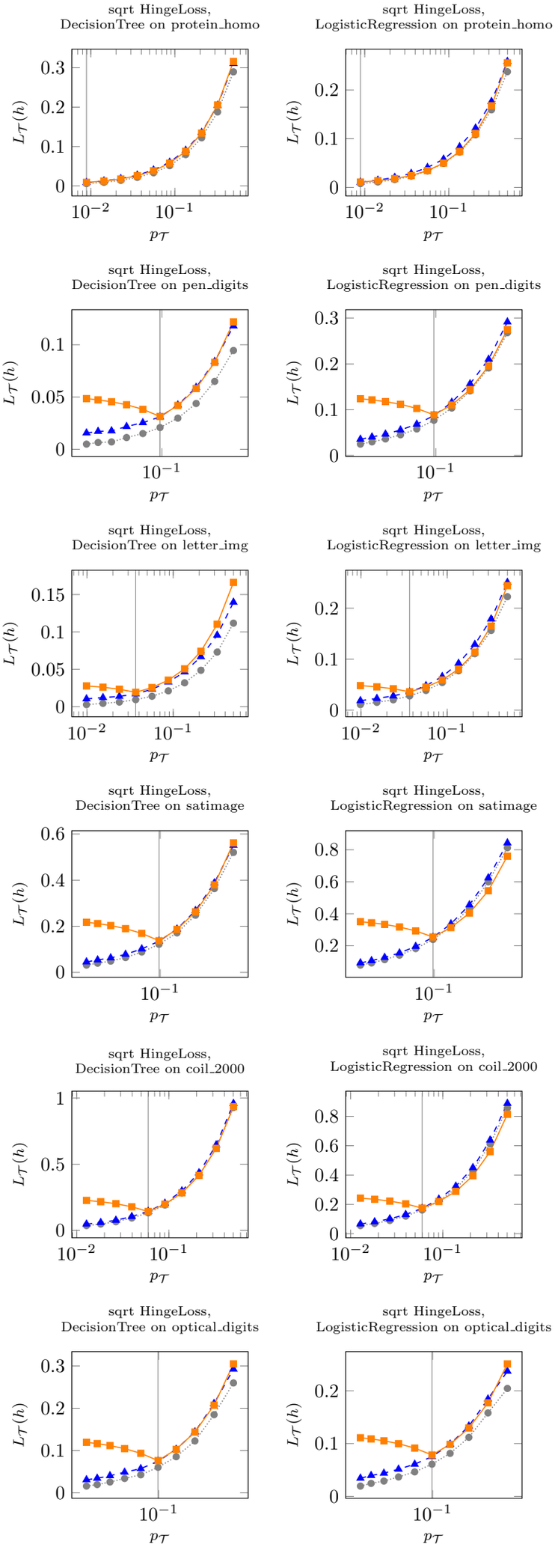

Figure 17: imblearn: sqrt HingeLoss with $\delta = 0.05$

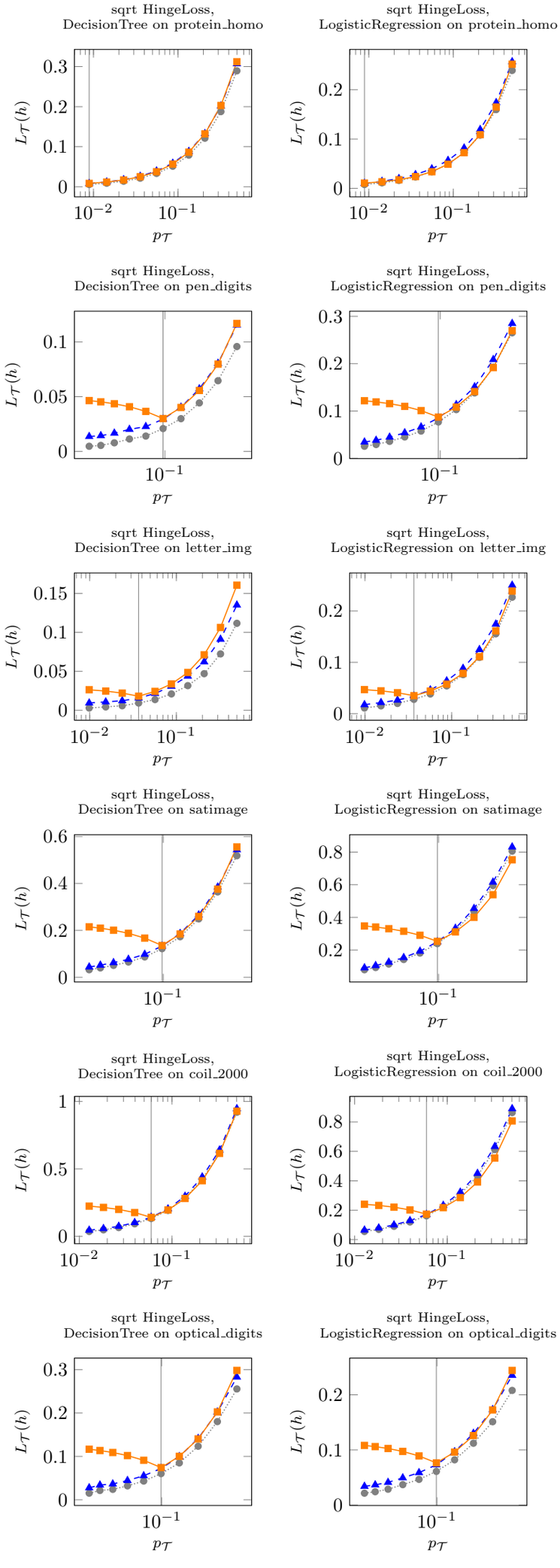

Figure 18: imblearn: sqrt HingeLoss with $\delta = 0.1$

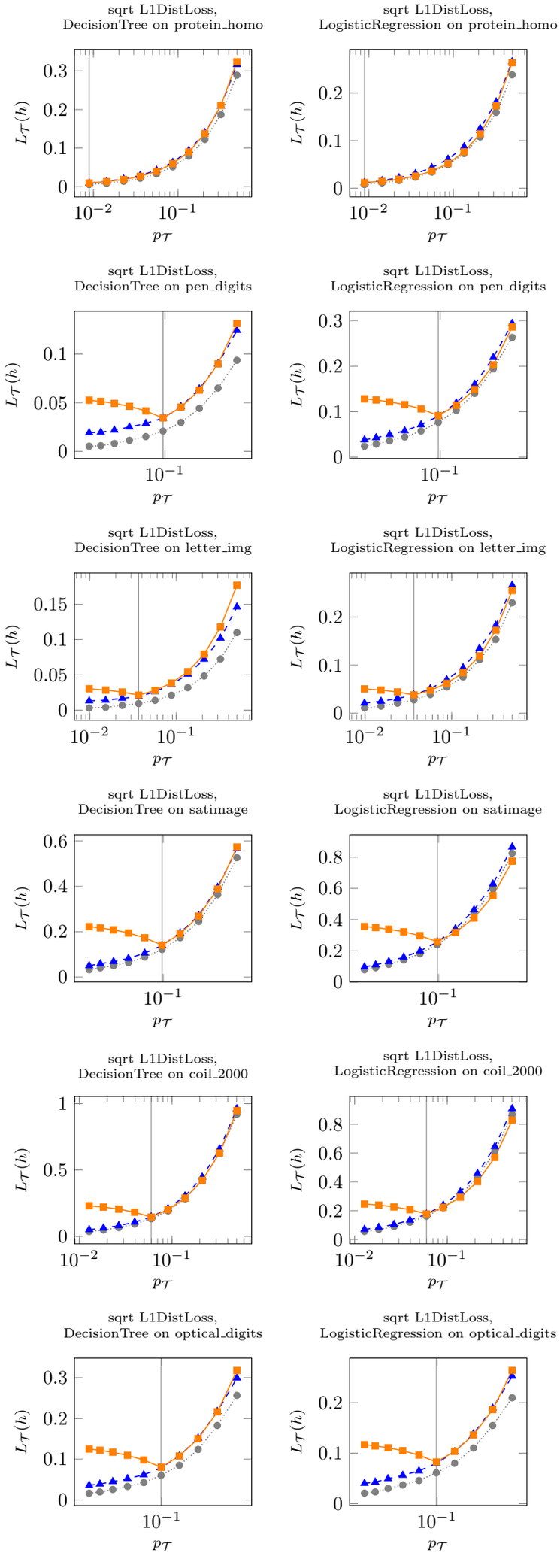

Figure 19: imblearn: sqrt L1DistLoss with $\delta = 0.01$

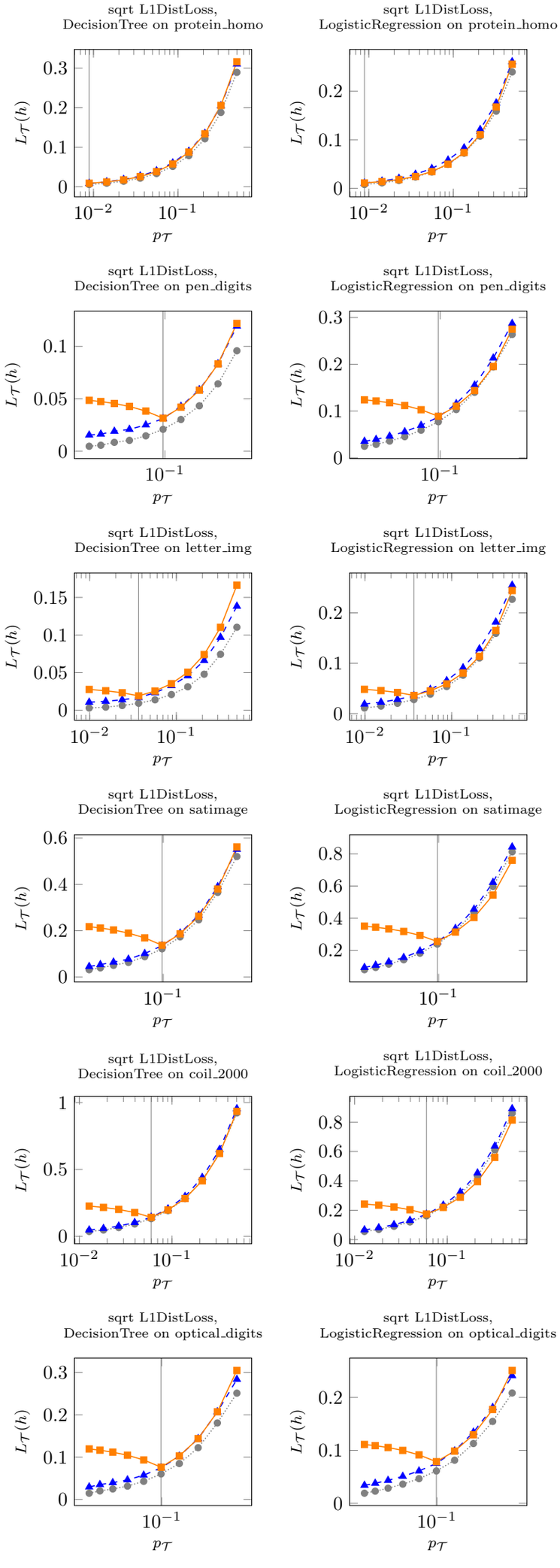

Figure 20: imblearn: sqrt L1DistLoss with $\delta = 0.05$

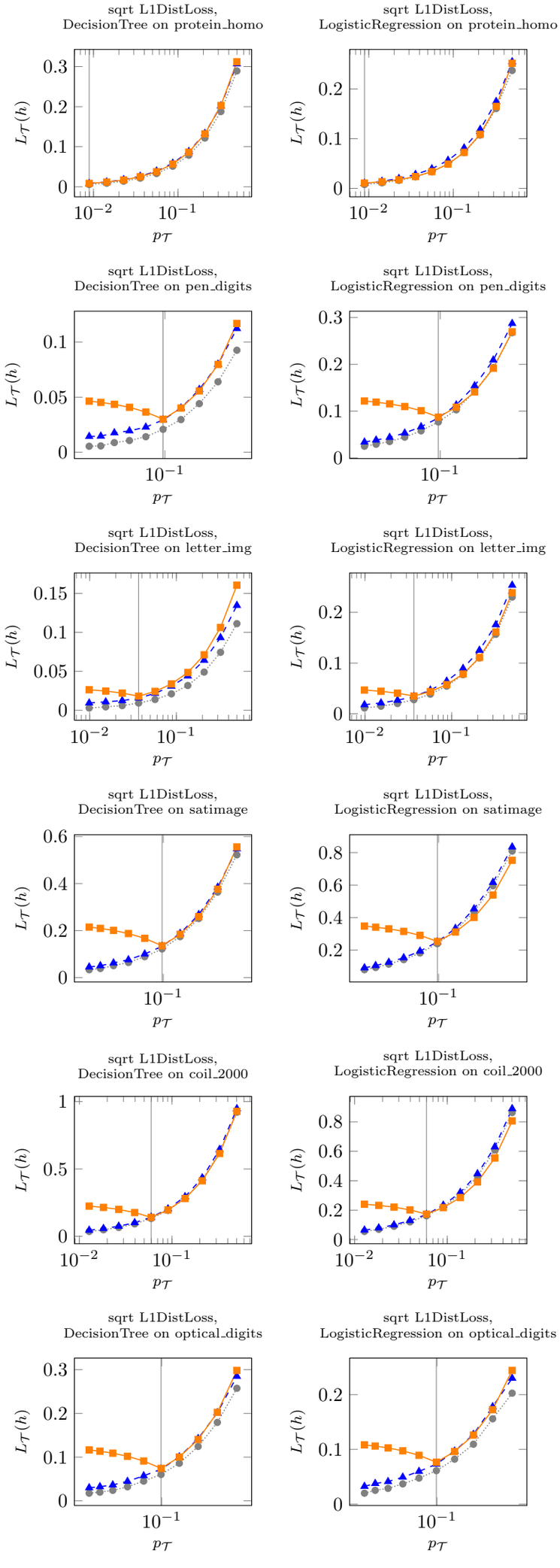

Figure 21: imblearn: sqrt L1DistLoss with $\delta = 0.1$

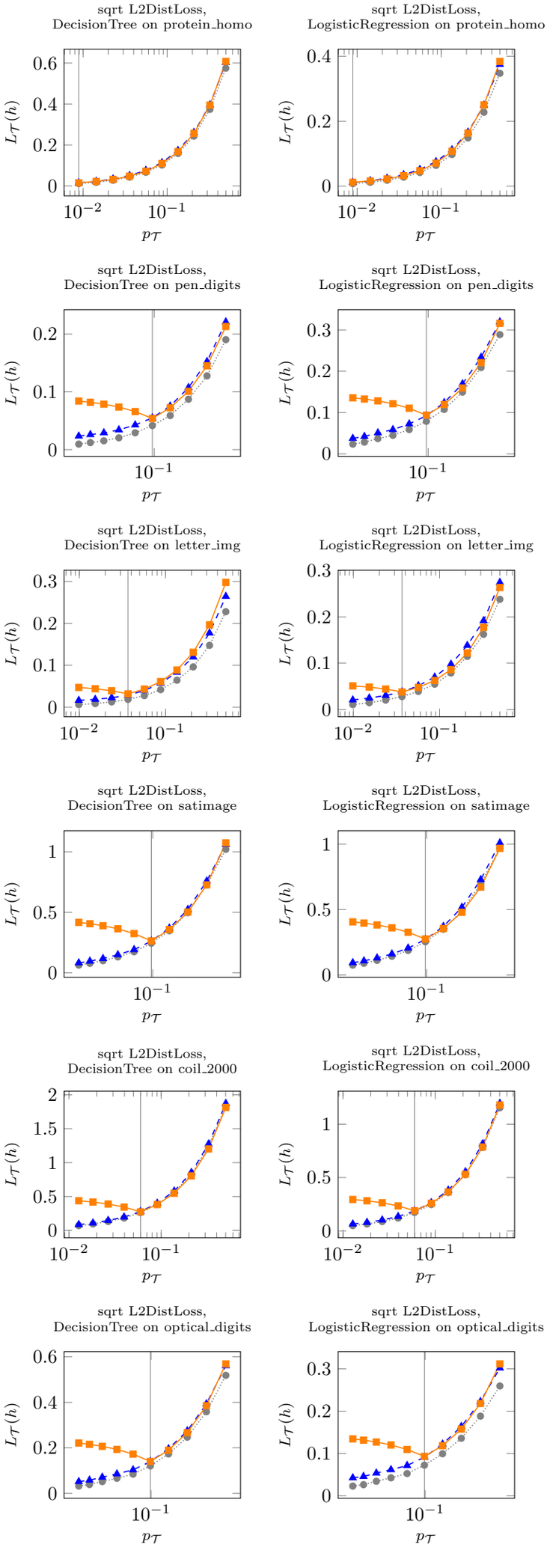

Figure 22: imblearn: sqrt L2DistLoss with $\delta = 0.01$

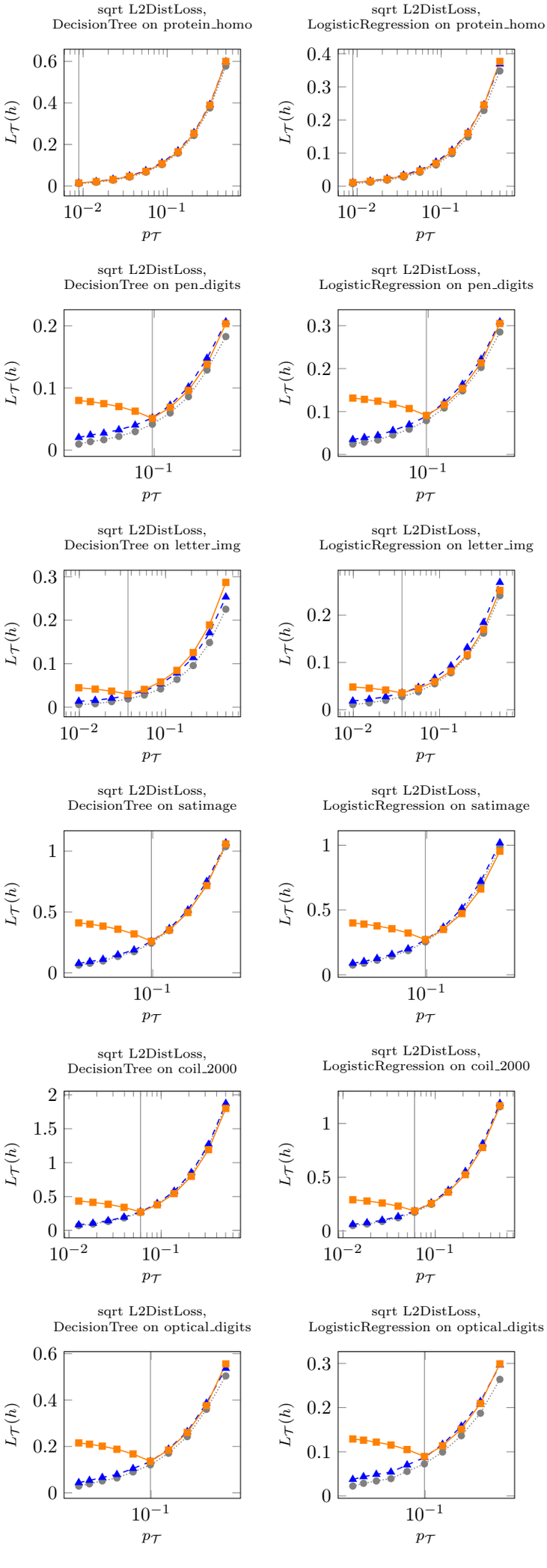

Figure 23: imblearn: sqrt L2DistLoss with $\delta = 0.05$

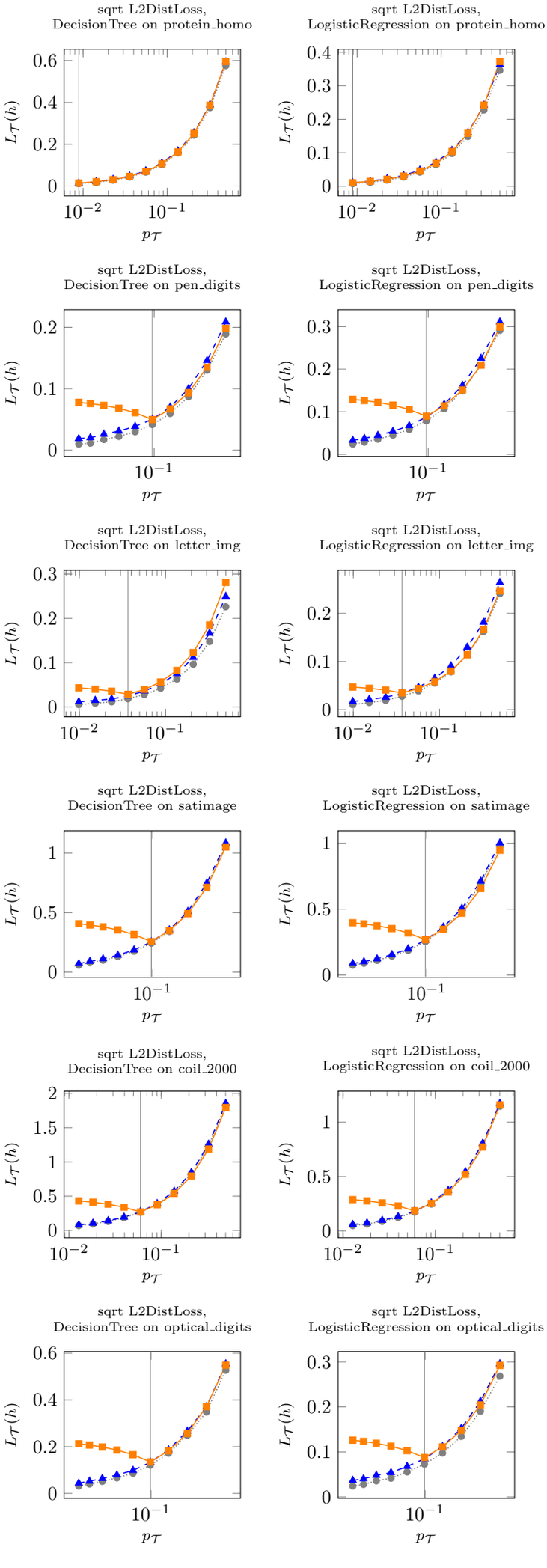

Figure 24: imblearn: sqrt L2DistLoss with $\delta = 0.1$

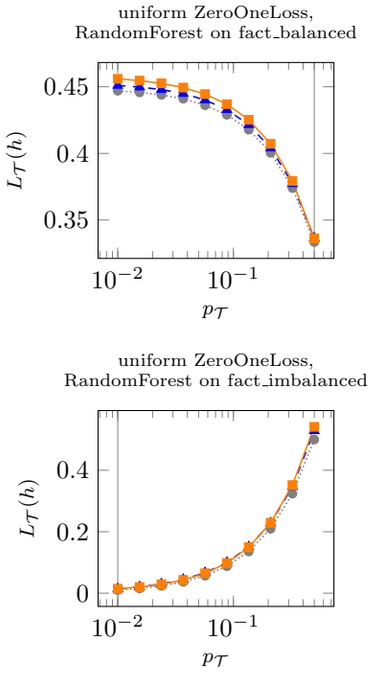

Figure 25: FACT: uniform ZeroOneLoss with $\delta = 0.01$

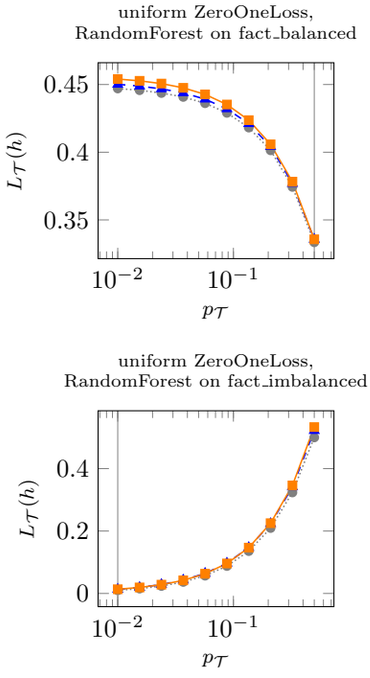

Figure 26: FACT: uniform ZeroOneLoss with $\delta = 0.05$

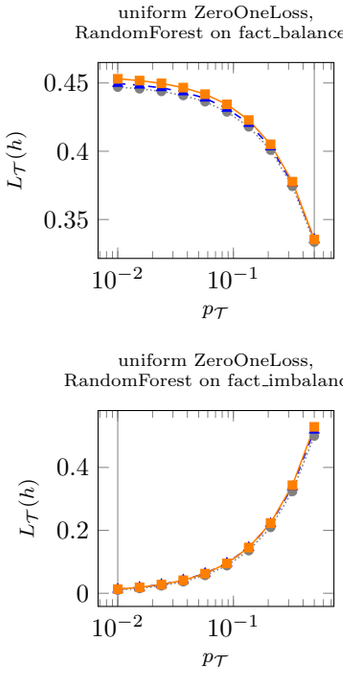

Figure 27: FACT: uniform ZeroOneLoss with $\delta = 0.1$

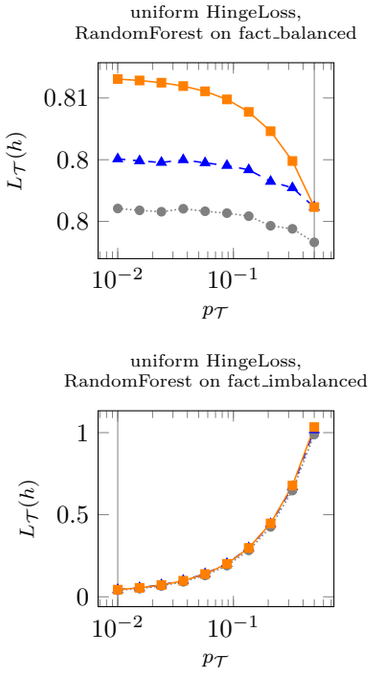

Figure 28: FACT: uniform HingeLoss with $\delta = 0.01$

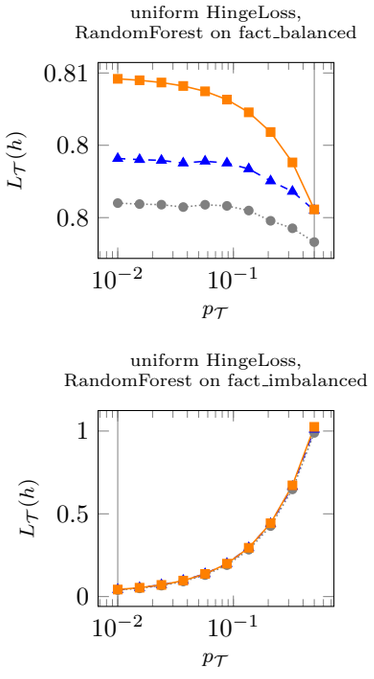

Figure 29: FACT: uniform HingeLoss with $\delta = 0.05$

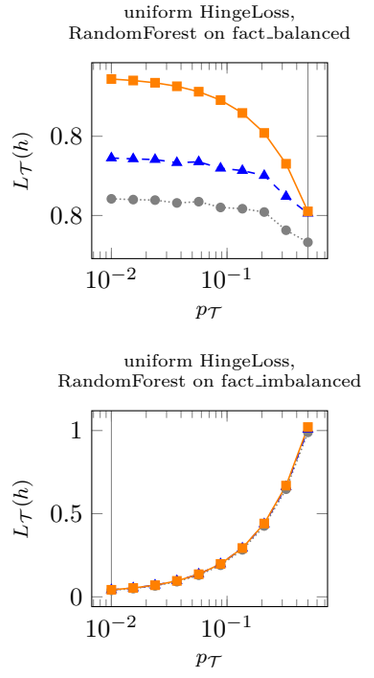

Figure 30: FACT: uniform HingeLoss with $\delta = 0.1$

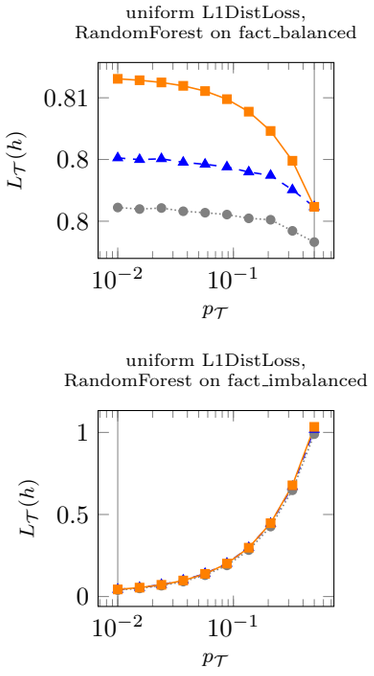

Figure 31: FACT: uniform L1DistLoss with $\delta = 0.01$

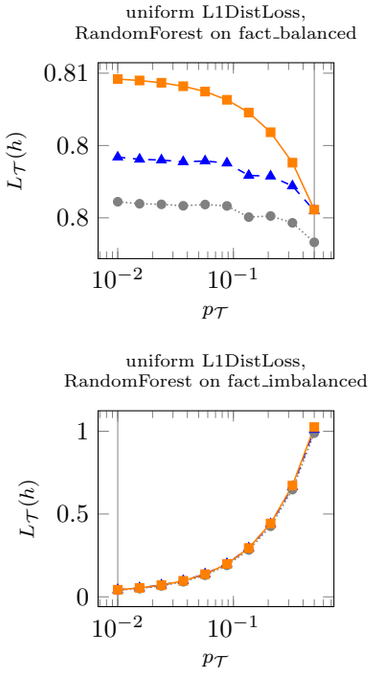

Figure 32: FACT: uniform L1DistLoss with $\delta = 0.05$

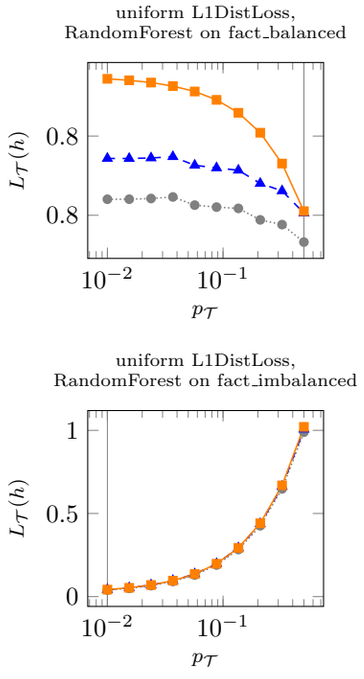

Figure 33: FACT: uniform L1DistLoss with $\delta = 0.1$

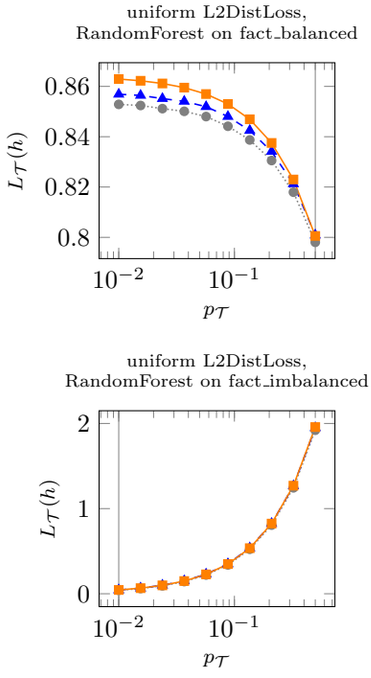

Figure 34: FACT: uniform L2DistLoss with $\delta = 0.01$

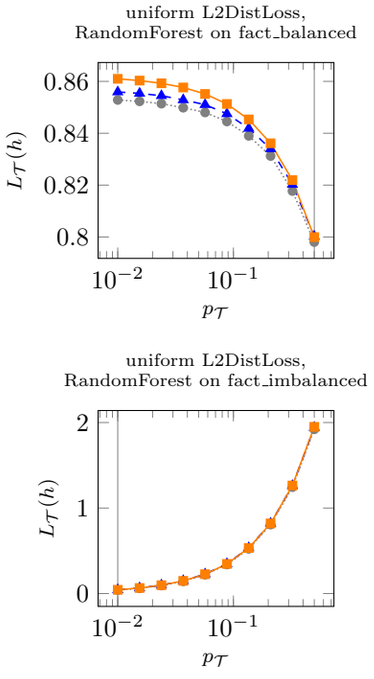

Figure 35: FACT: uniform L2DistLoss with $\delta = 0.05$

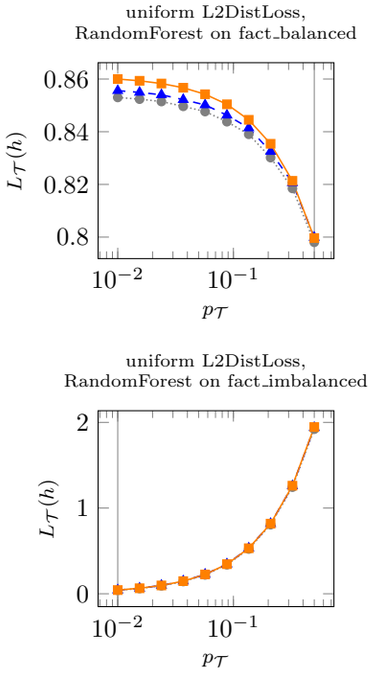

Figure 36: FACT: uniform L2DistLoss with $\delta = 0.1$

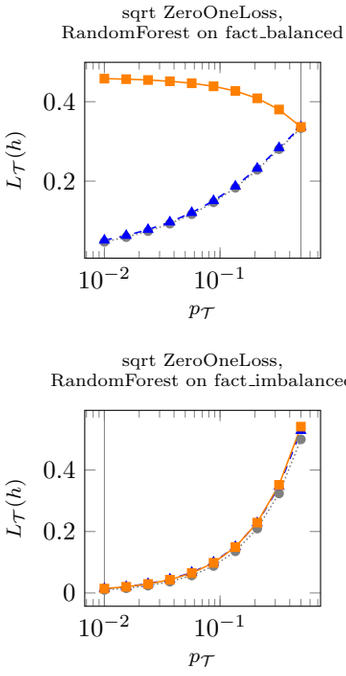

Figure 37: FACT: sqrt ZeroOneLoss with $\delta = 0.01$

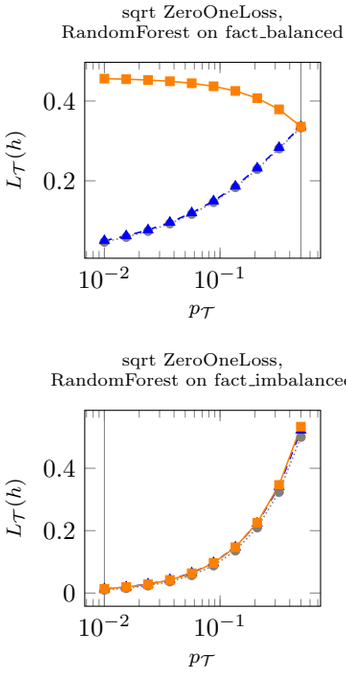

Figure 38: FACT: sqrt ZeroOneLoss with $\delta = 0.05$

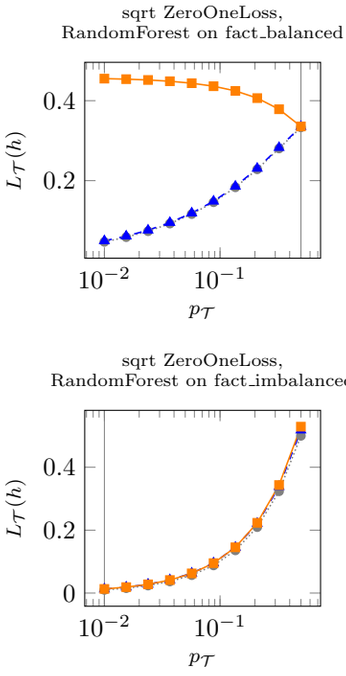

Figure 39: FACT: sqrt ZeroOneLoss with $\delta = 0.1$

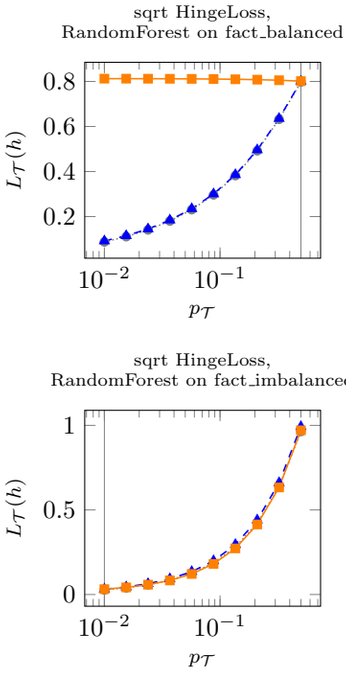

Figure 40: FACT: sqrt HingeLoss with $\delta = 0.01$

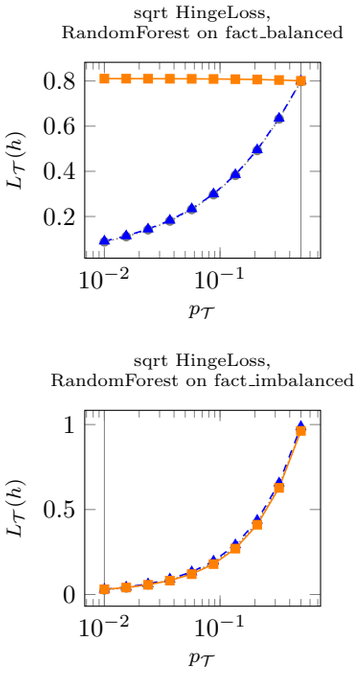

Figure 41: FACT: sqrt HingeLoss with $\delta = 0.05$

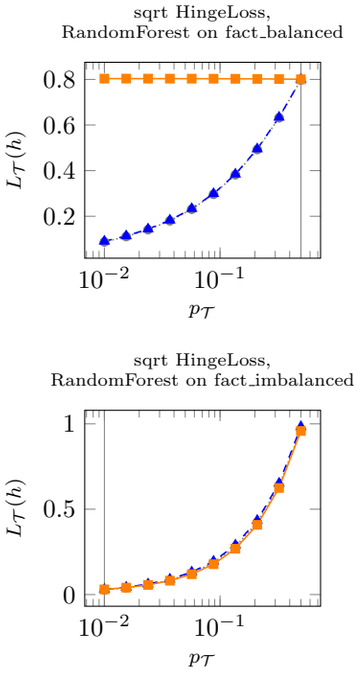

Figure 42: FACT: sqrt HingeLoss with $\delta = 0.1$

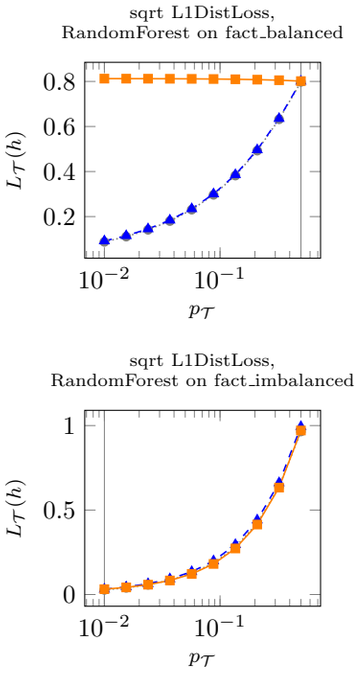

Figure 43: FACT: sqrt L1DistLoss with $\delta = 0.01$

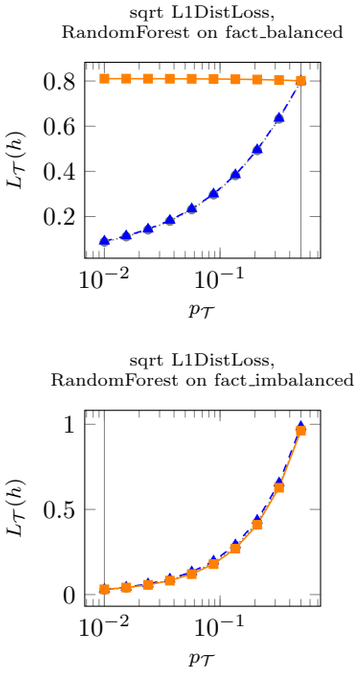

Figure 44: FACT: sqrt L1DistLoss with $\delta = 0.05$

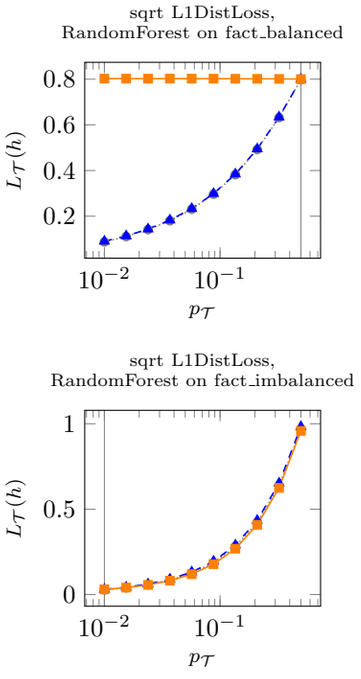

Figure 45: FACT: sqrt L1DistLoss with $\delta = 0.1$

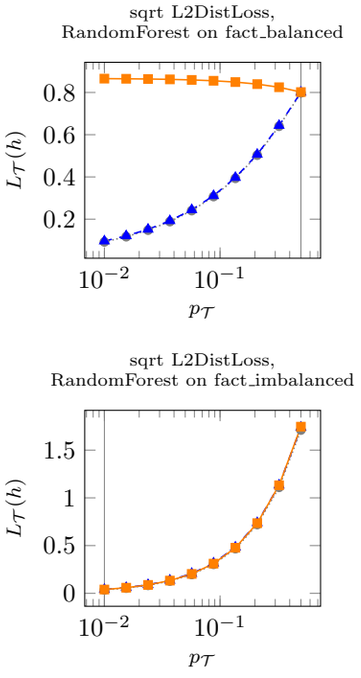

Figure 46: FACT: sqrt L2DistLoss with $\delta = 0.01$

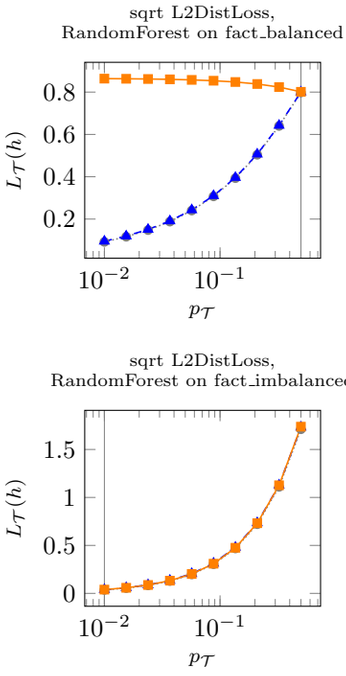

Figure 47: FACT: sqrt L2DistLoss with $\delta = 0.05$

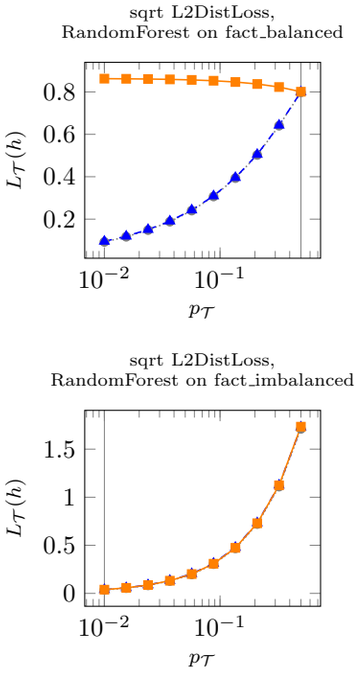

Figure 48: FACT: sqrt L2DistLoss with $\delta = 0.1$

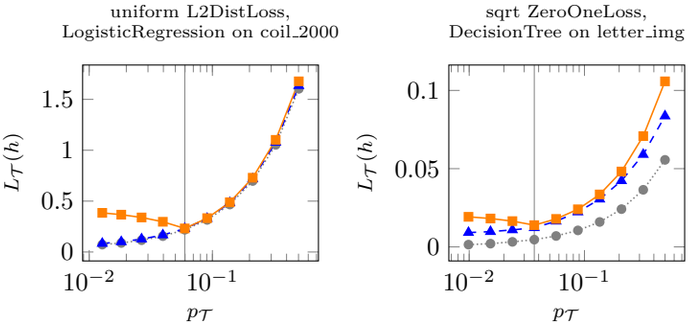

Figure 49: Fig. 4 in our paper

Table 2: uniform ZeroOneLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0763	0.0597	0.0091
coil_2000	DecisionTree	0.1238	0.0597	0.0108
fact_balanced	RandomForest	0.3363	0.5	0.0409
fact_imbalanced	RandomForest	0.0144	0.01	0.0093
letter_img	LogisticRegression	0.0281	0.0367	0.0231
letter_img	DecisionTree	0.0201	0.0367	0.0446
optical_digits	LogisticRegression	0.0577	0.0986	0.0305
optical_digits	DecisionTree	0.0685	0.0986	0.0283
pen_digits	LogisticRegression	0.0543	0.096	0.0285
pen_digits	DecisionTree	0.0302	0.096	0.0594
protein_homo	LogisticRegression	0.0074	0.0089	0.0239
protein_homo	DecisionTree	0.0096	0.0089	0.0294
satimage	LogisticRegression	0.1188	0.0973	0.0093
satimage	DecisionTree	0.1175	0.0973	0.0182

Table 3: uniform ZeroOneLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0733	0.0597	0.0093
coil_2000	DecisionTree	0.1208	0.0597	0.0111
fact_balanced	RandomForest	0.3357	0.5	0.0414
fact_imbalanced	RandomForest	0.0135	0.01	0.0094
letter_img	LogisticRegression	0.026	0.0367	0.0242
letter_img	DecisionTree	0.0181	0.0367	0.0488
optical_digits	LogisticRegression	0.0537	0.0986	0.0326
optical_digits	DecisionTree	0.0646	0.0986	0.0302
pen_digits	LogisticRegression	0.0515	0.096	0.0299
pen_digits	DecisionTree	0.0274	0.096	0.0656
protein_homo	LogisticRegression	0.0066	0.0089	0.0248
protein_homo	DecisionTree	0.0088	0.0089	0.0307
satimage	LogisticRegression	0.1151	0.0973	0.0095
satimage	DecisionTree	0.1139	0.0973	0.019

Table 4: uniform ZeroOneLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0718	0.0597	0.0094
coil_2000	DecisionTree	0.1193	0.0597	0.0112
fact_balanced	RandomForest	0.3354	0.5	0.0416
fact_imbalanced	RandomForest	0.0131	0.01	0.0095
letter_img	LogisticRegression	0.025	0.0367	0.0247
letter_img	DecisionTree	0.017	0.0367	0.0512
optical_digits	LogisticRegression	0.0517	0.0986	0.0339
optical_digits	DecisionTree	0.0626	0.0986	0.0312
pen_digits	LogisticRegression	0.05	0.096	0.0306
pen_digits	DecisionTree	0.0259	0.096	0.0693
protein_homo	LogisticRegression	0.0062	0.0089	0.0252
protein_homo	DecisionTree	0.0084	0.0089	0.0314
satimage	LogisticRegression	0.1132	0.0973	0.0096
satimage	DecisionTree	0.112	0.0973	0.0195

Table 5: uniform HingeLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0056
coil_2000	DecisionTree	0.2414	0.0597	0.0058
fact_balanced	RandomForest	0.8012	0.5	0.4725
fact_imbalanced	RandomForest	0.0435	0.01	0.0049
letter_img	LogisticRegression	0.0633	0.0367	0.0126
letter_img	DecisionTree	0.0295	0.0367	0.0286
optical_digits	LogisticRegression	0.1183	0.0986	0.0175
optical_digits	DecisionTree	0.1168	0.0986	0.0172
pen_digits	LogisticRegression	0.1363	0.096	0.0146
pen_digits	DecisionTree	0.0459	0.096	0.0393
protein_homo	LogisticRegression	0.0161	0.0089	0.0133
protein_homo	DecisionTree	0.0152	0.0089	0.0165
satimage	LogisticRegression	0.3474	0.0973	0.0063
satimage	DecisionTree	0.2162	0.0973	0.0105

Table 6: uniform HingeLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0056
coil_2000	DecisionTree	0.2384	0.0597	0.0059
fact_balanced	RandomForest	0.8006	0.5	0.5428
fact_imbalanced	RandomForest	0.0427	0.01	0.005
letter_img	LogisticRegression	0.0612	0.0367	0.0129
letter_img	DecisionTree	0.0275	0.0367	0.0303
optical_digits	LogisticRegression	0.1144	0.0986	0.0184
optical_digits	DecisionTree	0.1129	0.0986	0.018
pen_digits	LogisticRegression	0.1335	0.096	0.0151
pen_digits	DecisionTree	0.0431	0.096	0.0419
protein_homo	LogisticRegression	0.0153	0.0089	0.0136
protein_homo	DecisionTree	0.0144	0.0089	0.0169
satimage	LogisticRegression	0.3437	0.0973	0.0064
satimage	DecisionTree	0.2125	0.0973	0.0108

Table 7: uniform HingeLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0057
coil_2000	DecisionTree	0.2369	0.0597	0.006
fact_balanced	RandomForest	0.8003	0.5	0.5865
fact_imbalanced	RandomForest	0.0422	0.01	0.005
letter_img	LogisticRegression	0.0601	0.0367	0.0131
letter_img	DecisionTree	0.0264	0.0367	0.0312
optical_digits	LogisticRegression	0.1124	0.0986	0.0188
optical_digits	DecisionTree	0.1109	0.0986	0.0184
pen_digits	LogisticRegression	0.132	0.096	0.0153
pen_digits	DecisionTree	0.0417	0.096	0.0434
protein_homo	LogisticRegression	0.0149	0.0089	0.0137
protein_homo	DecisionTree	0.014	0.0089	0.0171
satimage	LogisticRegression	0.3418	0.0973	0.0065
satimage	DecisionTree	0.2106	0.0973	0.0109

Table 8: uniform L1DistLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0056
coil_2000	DecisionTree	0.2414	0.0597	0.0058
fact_balanced	RandomForest	0.8012	0.5	0.4725
fact_imbalanced	RandomForest	0.0435	0.01	0.0049
letter_img	LogisticRegression	0.0633	0.0367	0.0126
letter_img	DecisionTree	0.0295	0.0367	0.0286
optical_digits	LogisticRegression	0.1183	0.0986	0.0175
optical_digits	DecisionTree	0.1168	0.0986	0.0172
pen_digits	LogisticRegression	0.1363	0.096	0.0146
pen_digits	DecisionTree	0.0459	0.096	0.0393
protein_homo	LogisticRegression	0.0161	0.0089	0.0133
protein_homo	DecisionTree	0.0152	0.0089	0.0165
satimage	LogisticRegression	0.3474	0.0973	0.0063
satimage	DecisionTree	0.2162	0.0973	0.0105

Table 9: uniform L1DistLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0056
coil_2000	DecisionTree	0.2384	0.0597	0.0059
fact_balanced	RandomForest	0.8006	0.5	0.5428
fact_imbalanced	RandomForest	0.0427	0.01	0.005
letter_img	LogisticRegression	0.0612	0.0367	0.0129
letter_img	DecisionTree	0.0275	0.0367	0.0303
optical_digits	LogisticRegression	0.1144	0.0986	0.0184
optical_digits	DecisionTree	0.1129	0.0986	0.018
pen_digits	LogisticRegression	0.1335	0.096	0.0151
pen_digits	DecisionTree	0.0431	0.096	0.0419
protein_homo	LogisticRegression	0.0153	0.0089	0.0136
protein_homo	DecisionTree	0.0144	0.0089	0.0169
satimage	LogisticRegression	0.3437	0.0973	0.0064
satimage	DecisionTree	0.2125	0.0973	0.0108

Table 10: uniform L1DistLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0057
coil_2000	DecisionTree	0.2369	0.0597	0.006
fact_balanced	RandomForest	0.8003	0.5	0.5865
fact_imbalanced	RandomForest	0.0422	0.01	0.005
letter_img	LogisticRegression	0.0601	0.0367	0.0131
letter_img	DecisionTree	0.0264	0.0367	0.0312
optical_digits	LogisticRegression	0.1124	0.0986	0.0188
optical_digits	DecisionTree	0.1109	0.0986	0.0184
pen_digits	LogisticRegression	0.132	0.096	0.0153
pen_digits	DecisionTree	0.0417	0.096	0.0434
protein_homo	LogisticRegression	0.0149	0.0089	0.0137
protein_homo	DecisionTree	0.014	0.0089	0.0171
satimage	LogisticRegression	0.3418	0.0973	0.0065
satimage	DecisionTree	0.2106	0.0973	0.0109

Table 11: uniform L2DistLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2346	0.0597	0.003
coil_2000	DecisionTree	0.4576	0.0597	0.003
fact_balanced	RandomForest	0.8006	0.5	0.0786
fact_imbalanced	RandomForest	0.0445	0.01	0.0026
letter_img	LogisticRegression	0.0639	0.0367	0.0093
letter_img	DecisionTree	0.0483	0.0367	0.0167
optical_digits	LogisticRegression	0.1359	0.0986	0.013
optical_digits	DecisionTree	0.2133	0.0986	0.0099
pen_digits	LogisticRegression	0.1372	0.096	0.0113
pen_digits	DecisionTree	0.0773	0.096	0.0236
protein_homo	LogisticRegression	0.0161	0.0089	0.0079
protein_homo	DecisionTree	0.0264	0.0089	0.0088
satimage	LogisticRegression	0.3575	0.0973	0.0036
satimage	DecisionTree	0.4134	0.0973	0.0057

Table 12: uniform L2DistLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2317	0.0597	0.0031
coil_2000	DecisionTree	0.4547	0.0597	0.0031
fact_balanced	RandomForest	0.8	0.5	0.0803
fact_imbalanced	RandomForest	0.0436	0.01	0.0026
letter_img	LogisticRegression	0.0618	0.0367	0.0095
letter_img	DecisionTree	0.0463	0.0367	0.0173
optical_digits	LogisticRegression	0.132	0.0986	0.0135
optical_digits	DecisionTree	0.2094	0.0986	0.0102
pen_digits	LogisticRegression	0.1344	0.096	0.0115
pen_digits	DecisionTree	0.0745	0.096	0.0247
protein_homo	LogisticRegression	0.0154	0.0089	0.008
protein_homo	DecisionTree	0.0256	0.0089	0.0089
satimage	LogisticRegression	0.3538	0.0973	0.0036
satimage	DecisionTree	0.4098	0.0973	0.0058

Table 13: uniform L2DistLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2301	0.0597	0.0031
coil_2000	DecisionTree	0.4532	0.0597	0.0031
fact_balanced	RandomForest	0.7996	0.5	0.0812
fact_imbalanced	RandomForest	0.0432	0.01	0.0026
letter_img	LogisticRegression	0.0607	0.0367	0.0095
letter_img	DecisionTree	0.0452	0.0367	0.0176
optical_digits	LogisticRegression	0.1299	0.0986	0.0137
optical_digits	DecisionTree	0.2074	0.0986	0.0104
pen_digits	LogisticRegression	0.1329	0.096	0.0116
pen_digits	DecisionTree	0.0731	0.096	0.0253
protein_homo	LogisticRegression	0.015	0.0089	0.0081
protein_homo	DecisionTree	0.0252	0.0089	0.009
satimage	LogisticRegression	0.352	0.0973	0.0036
satimage	DecisionTree	0.4079	0.0973	0.0058

Table 14: sqrt ZeroOneLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0752	0.0597	0.0106
coil_2000	DecisionTree	0.0808	0.0597	0.0105
fact_balanced	RandomForest	0.3365	0.5	0.0403
fact_imbalanced	RandomForest	0.0144	0.01	0.0093
letter_img	LogisticRegression	0.0199	0.0367	0.0426
letter_img	DecisionTree	0.016	0.0367	0.046
optical_digits	LogisticRegression	0.0445	0.0986	0.0399
optical_digits	DecisionTree	0.0502	0.0986	0.029
pen_digits	LogisticRegression	0.0408	0.096	0.0411
pen_digits	DecisionTree	0.0244	0.096	0.0625
protein_homo	LogisticRegression	0.0064	0.0089	0.0343
protein_homo	DecisionTree	0.0068	0.0089	0.028
satimage	LogisticRegression	0.1241	0.0973	0.0115
satimage	DecisionTree	0.08	0.0973	0.0173

Table 15: sqrt ZeroOneLoss with $\delta = 0.05, \epsilon = 0.01$ (Tab. 1 in our paper)

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0722	0.0597	0.0109
coil_2000	DecisionTree	0.0778	0.0597	0.0107
fact_balanced	RandomForest	0.3359	0.5	0.0407
fact_imbalanced	RandomForest	0.0135	0.01	0.0094
letter_img	LogisticRegression	0.0179	0.0367	0.0463
letter_img	DecisionTree	0.0139	0.0367	0.0504
optical_digits	LogisticRegression	0.0406	0.0986	0.0437
optical_digits	DecisionTree	0.0463	0.0986	0.0309
pen_digits	LogisticRegression	0.038	0.096	0.044
pen_digits	DecisionTree	0.0216	0.096	0.0695
protein_homo	LogisticRegression	0.0056	0.0089	0.036
protein_homo	DecisionTree	0.006	0.0089	0.0291
satimage	LogisticRegression	0.1205	0.0973	0.0118
satimage	DecisionTree	0.0763	0.0973	0.018

Table 16: sqrt ZeroOneLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0707	0.0597	0.011
coil_2000	DecisionTree	0.0763	0.0597	0.0108
fact_balanced	RandomForest	0.3356	0.5	0.041
fact_imbalanced	RandomForest	0.0131	0.01	0.0095
letter_img	LogisticRegression	0.0168	0.0367	0.0485
letter_img	DecisionTree	0.0128	0.0367	0.053
optical_digits	LogisticRegression	0.0385	0.0986	0.0459
optical_digits	DecisionTree	0.0443	0.0986	0.0321
pen_digits	LogisticRegression	0.0365	0.096	0.0456
pen_digits	DecisionTree	0.0201	0.096	0.0738
protein_homo	LogisticRegression	0.0052	0.0089	0.037
protein_homo	DecisionTree	0.0056	0.0089	0.0298
satimage	LogisticRegression	0.1186	0.0973	0.0119
satimage	DecisionTree	0.0744	0.0973	0.0183

Table 17: sqrt HingeLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.0068
coil_2000	DecisionTree	0.1457	0.0597	0.0055
fact_balanced	RandomForest	0.8014	0.5	0.4438
fact_imbalanced	RandomForest	0.0317	0.01	0.0052
letter_img	LogisticRegression	0.0381	0.0367	0.0213
letter_img	DecisionTree	0.0212	0.0367	0.0297
optical_digits	LogisticRegression	0.0824	0.0986	0.0227
optical_digits	DecisionTree	0.0801	0.0986	0.0173
pen_digits	LogisticRegression	0.0916	0.096	0.0212
pen_digits	DecisionTree	0.0342	0.096	0.0424
protein_homo	LogisticRegression	0.0117	0.0089	0.0195
protein_homo	DecisionTree	0.0096	0.0089	0.0156
satimage	LogisticRegression	0.2584	0.0973	0.008
satimage	DecisionTree	0.141	0.0973	0.0095

Table 18: sqrt HingeLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0069
coil_2000	DecisionTree	0.1427	0.0597	0.0056
fact_balanced	RandomForest	0.8008	0.5	0.5057
fact_imbalanced	RandomForest	0.0308	0.01	0.0053
letter_img	LogisticRegression	0.036	0.0367	0.0222
letter_img	DecisionTree	0.0192	0.0367	0.0315
optical_digits	LogisticRegression	0.0785	0.0986	0.0239
optical_digits	DecisionTree	0.0762	0.0986	0.018
pen_digits	LogisticRegression	0.0888	0.096	0.0221
pen_digits	DecisionTree	0.0314	0.096	0.0456
protein_homo	LogisticRegression	0.0109	0.0089	0.02
protein_homo	DecisionTree	0.0088	0.0089	0.0159
satimage	LogisticRegression	0.2547	0.0973	0.0082
satimage	DecisionTree	0.1374	0.0973	0.0097

Table 19: sqrt HingeLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.007
coil_2000	DecisionTree	0.1412	0.0597	0.0056
fact_balanced	RandomForest	0.8005	0.5	1.6583
fact_imbalanced	RandomForest	0.0304	0.01	0.0053
letter_img	LogisticRegression	0.035	0.0367	0.0227
letter_img	DecisionTree	0.0181	0.0367	0.0325
optical_digits	LogisticRegression	0.0765	0.0986	0.0246
optical_digits	DecisionTree	0.0742	0.0986	0.0184
pen_digits	LogisticRegression	0.0873	0.096	0.0226
pen_digits	DecisionTree	0.03	0.096	0.0474
protein_homo	LogisticRegression	0.0106	0.0089	0.0203
protein_homo	DecisionTree	0.0084	0.0089	0.0161
satimage	LogisticRegression	0.2529	0.0973	0.0082
satimage	DecisionTree	0.1355	0.0973	0.0098

Table 20: sqrt L1DistLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.0068
coil_2000	DecisionTree	0.1457	0.0597	0.0055
fact_balanced	RandomForest	0.8014	0.5	0.4438
fact_imbalanced	RandomForest	0.0317	0.01	0.0052
letter_img	LogisticRegression	0.0381	0.0367	0.0213
letter_img	DecisionTree	0.0212	0.0367	0.0297
optical_digits	LogisticRegression	0.0824	0.0986	0.0227
optical_digits	DecisionTree	0.0801	0.0986	0.0173
pen_digits	LogisticRegression	0.0916	0.096	0.0212
pen_digits	DecisionTree	0.0342	0.096	0.0424
protein_homo	LogisticRegression	0.0117	0.0089	0.0195
protein_homo	DecisionTree	0.0096	0.0089	0.0156
satimage	LogisticRegression	0.2584	0.0973	0.008
satimage	DecisionTree	0.141	0.0973	0.0095

Table 21: sqrt L1DistLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0069
coil_2000	DecisionTree	0.1427	0.0597	0.0056
fact_balanced	RandomForest	0.8008	0.5	0.5057
fact_imbalanced	RandomForest	0.0308	0.01	0.0053
letter_img	LogisticRegression	0.036	0.0367	0.0222
letter_img	DecisionTree	0.0192	0.0367	0.0315
optical_digits	LogisticRegression	0.0785	0.0986	0.0239
optical_digits	DecisionTree	0.0762	0.0986	0.018
pen_digits	LogisticRegression	0.0888	0.096	0.0221
pen_digits	DecisionTree	0.0314	0.096	0.0456
protein_homo	LogisticRegression	0.0109	0.0089	0.02
protein_homo	DecisionTree	0.0088	0.0089	0.0159
satimage	LogisticRegression	0.2547	0.0973	0.0082
satimage	DecisionTree	0.1374	0.0973	0.0097

Table 22: sqrt L1DistLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.007
coil_2000	DecisionTree	0.1412	0.0597	0.0056
fact_balanced	RandomForest	0.8005	0.5	2.4769
fact_imbalanced	RandomForest	0.0304	0.01	0.0053
letter_img	LogisticRegression	0.035	0.0367	0.0227
letter_img	DecisionTree	0.0181	0.0367	0.0325
optical_digits	LogisticRegression	0.0765	0.0986	0.0246
optical_digits	DecisionTree	0.0742	0.0986	0.0184
pen_digits	LogisticRegression	0.0873	0.096	0.0226
pen_digits	DecisionTree	0.03	0.096	0.0474
protein_homo	LogisticRegression	0.0106	0.0089	0.0203
protein_homo	DecisionTree	0.0084	0.0089	0.0161
satimage	LogisticRegression	0.2529	0.0973	0.0082
satimage	DecisionTree	0.1355	0.0973	0.0098

Table 23: sqrt L2DistLoss with $\delta = 0.01, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1897	0.0597	0.0045
coil_2000	DecisionTree	0.2742	0.0597	0.0029
fact_balanced	RandomForest	0.8018	0.5	0.077
fact_imbalanced	RandomForest	0.0402	0.01	0.0029
letter_img	LogisticRegression	0.0378	0.0367	0.0205
letter_img	DecisionTree	0.0317	0.0367	0.0174
optical_digits	LogisticRegression	0.0932	0.0986	0.0188
optical_digits	DecisionTree	0.1401	0.0986	0.0096
pen_digits	LogisticRegression	0.0937	0.096	0.0186
pen_digits	DecisionTree	0.054	0.096	0.0259
protein_homo	LogisticRegression	0.0119	0.0089	0.0132
protein_homo	DecisionTree	0.0152	0.0089	0.0083
satimage	LogisticRegression	0.2749	0.0973	0.0059
satimage	DecisionTree	0.2632	0.0973	0.0051

Table 24: sqrt L2DistLoss with $\delta = 0.05, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1868	0.0597	0.0045
coil_2000	DecisionTree	0.2712	0.0597	0.0029
fact_balanced	RandomForest	0.8012	0.5	0.0786
fact_imbalanced	RandomForest	0.0393	0.01	0.0029
letter_img	LogisticRegression	0.0358	0.0367	0.0214
letter_img	DecisionTree	0.0297	0.0367	0.018
optical_digits	LogisticRegression	0.0893	0.0986	0.0197
optical_digits	DecisionTree	0.1361	0.0986	0.0098
pen_digits	LogisticRegression	0.0909	0.096	0.0193
pen_digits	DecisionTree	0.0512	0.096	0.0271
protein_homo	LogisticRegression	0.0112	0.0089	0.0134
protein_homo	DecisionTree	0.0144	0.0089	0.0084
satimage	LogisticRegression	0.2712	0.0973	0.006
satimage	DecisionTree	0.2595	0.0973	0.0051

Table 25: sqrt L2DistLoss with $\delta = 0.1, \epsilon = 0.01$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1852	0.0597	0.0046
coil_2000	DecisionTree	0.2697	0.0597	0.0029
fact_balanced	RandomForest	0.8009	0.5	0.0795
fact_imbalanced	RandomForest	0.0389	0.01	0.0029
letter_img	LogisticRegression	0.0347	0.0367	0.0218
letter_img	DecisionTree	0.0286	0.0367	0.0183
optical_digits	LogisticRegression	0.0873	0.0986	0.0201
optical_digits	DecisionTree	0.1341	0.0986	0.0099
pen_digits	LogisticRegression	0.0895	0.096	0.0196
pen_digits	DecisionTree	0.0498	0.096	0.0277
protein_homo	LogisticRegression	0.0108	0.0089	0.0135
protein_homo	DecisionTree	0.014	0.0089	0.0084
satimage	LogisticRegression	0.2693	0.0973	0.0061
satimage	DecisionTree	0.2576	0.0973	0.0052

Table 26: uniform ZeroOneLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0763	0.0597	0.0455
coil_2000	DecisionTree	0.1238	0.0597	0.0539
fact_balanced	RandomForest	0.3363	0.5	0.2047
fact_imbalanced	RandomForest	0.0144	0.01	0.0465
letter_img	LogisticRegression	0.0281	0.0367	0.1155
letter_img	DecisionTree	0.0201	0.0367	0.2231
optical_digits	LogisticRegression	0.0577	0.0986	0.1523
optical_digits	DecisionTree	0.0685	0.0986	0.1416
pen_digits	LogisticRegression	0.0543	0.096	0.1427
pen_digits	DecisionTree	0.0302	0.096	0.2969
protein_homo	LogisticRegression	0.0074	0.0089	0.1196
protein_homo	DecisionTree	0.0096	0.0089	0.1472
satimage	LogisticRegression	0.1188	0.0973	0.0464
satimage	DecisionTree	0.1175	0.0973	0.0908

Table 27: uniform ZeroOneLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0733	0.0597	0.0464
coil_2000	DecisionTree	0.1208	0.0597	0.0554
fact_balanced	RandomForest	0.3357	0.5	0.207
fact_imbalanced	RandomForest	0.0135	0.01	0.0472
letter_img	LogisticRegression	0.026	0.0367	0.1208
letter_img	DecisionTree	0.0181	0.0367	0.2439
optical_digits	LogisticRegression	0.0537	0.0986	0.1632
optical_digits	DecisionTree	0.0646	0.0986	0.151
pen_digits	LogisticRegression	0.0515	0.096	0.1494
pen_digits	DecisionTree	0.0274	0.096	0.328
protein_homo	LogisticRegression	0.0066	0.0089	0.1238
protein_homo	DecisionTree	0.0088	0.0089	0.1537
satimage	LogisticRegression	0.1151	0.0973	0.0473
satimage	DecisionTree	0.1139	0.0973	0.0952

Table 28: uniform ZeroOneLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0718	0.0597	0.0469
coil_2000	DecisionTree	0.1193	0.0597	0.0562
fact_balanced	RandomForest	0.3354	0.5	0.2082
fact_imbalanced	RandomForest	0.0131	0.01	0.0475
letter_img	LogisticRegression	0.025	0.0367	0.1237
letter_img	DecisionTree	0.017	0.0367	0.2562
optical_digits	LogisticRegression	0.0517	0.0986	0.1694
optical_digits	DecisionTree	0.0626	0.0986	0.1562
pen_digits	LogisticRegression	0.05	0.096	0.1531
pen_digits	DecisionTree	0.0259	0.096	0.3465
protein_homo	LogisticRegression	0.0062	0.0089	0.1261
protein_homo	DecisionTree	0.0084	0.0089	0.1572
satimage	LogisticRegression	0.1132	0.0973	0.0478
satimage	DecisionTree	0.112	0.0973	0.0977

Table 29: uniform HingeLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0278
coil_2000	DecisionTree	0.2414	0.0597	0.0291
fact_balanced	RandomForest	0.8012	0.5	2.3627
fact_imbalanced	RandomForest	0.0435	0.01	0.0247
letter_img	LogisticRegression	0.0633	0.0367	0.0628
letter_img	DecisionTree	0.0295	0.0367	0.1431
optical_digits	LogisticRegression	0.1183	0.0986	0.0874
optical_digits	DecisionTree	0.1168	0.0986	0.0858
pen_digits	LogisticRegression	0.1363	0.096	0.0732
pen_digits	DecisionTree	0.0459	0.096	0.1965
protein_homo	LogisticRegression	0.0161	0.0089	0.0665
protein_homo	DecisionTree	0.0152	0.0089	0.0825
satimage	LogisticRegression	0.3474	0.0973	0.0315
satimage	DecisionTree	0.2162	0.0973	0.0525

Table 30: uniform HingeLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0282
coil_2000	DecisionTree	0.2384	0.0597	0.0296
fact_balanced	RandomForest	0.8006	0.5	2.7139
fact_imbalanced	RandomForest	0.0427	0.01	0.0249
letter_img	LogisticRegression	0.0612	0.0367	0.0645
letter_img	DecisionTree	0.0275	0.0367	0.1514
optical_digits	LogisticRegression	0.1144	0.0986	0.0918
optical_digits	DecisionTree	0.1129	0.0986	0.0898
pen_digits	LogisticRegression	0.1335	0.096	0.0754
pen_digits	DecisionTree	0.0431	0.096	0.2097
protein_homo	LogisticRegression	0.0153	0.0089	0.0678
protein_homo	DecisionTree	0.0144	0.0089	0.0845
satimage	LogisticRegression	0.3437	0.0973	0.032
satimage	DecisionTree	0.2125	0.0973	0.054

Table 31: uniform HingeLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0284
coil_2000	DecisionTree	0.2369	0.0597	0.0298
fact_balanced	RandomForest	0.8003	0.5	2.9326
fact_imbalanced	RandomForest	0.0422	0.01	0.025
letter_img	LogisticRegression	0.0601	0.0367	0.0654
letter_img	DecisionTree	0.0264	0.0367	0.1561
optical_digits	LogisticRegression	0.1124	0.0986	0.0942
optical_digits	DecisionTree	0.1109	0.0986	0.0921
pen_digits	LogisticRegression	0.132	0.096	0.0765
pen_digits	DecisionTree	0.0417	0.096	0.2172
protein_homo	LogisticRegression	0.0149	0.0089	0.0684
protein_homo	DecisionTree	0.014	0.0089	0.0856
satimage	LogisticRegression	0.3418	0.0973	0.0323
satimage	DecisionTree	0.2106	0.0973	0.0547

Table 32: uniform L1DistLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0278
coil_2000	DecisionTree	0.2414	0.0597	0.0291
fact_balanced	RandomForest	0.8012	0.5	2.3627
fact_imbalanced	RandomForest	0.0435	0.01	0.0247
letter_img	LogisticRegression	0.0633	0.0367	0.0628
letter_img	DecisionTree	0.0295	0.0367	0.1431
optical_digits	LogisticRegression	0.1183	0.0986	0.0874
optical_digits	DecisionTree	0.1168	0.0986	0.0858
pen_digits	LogisticRegression	0.1363	0.096	0.0732
pen_digits	DecisionTree	0.0459	0.096	0.1965
protein_homo	LogisticRegression	0.0161	0.0089	0.0665
protein_homo	DecisionTree	0.0152	0.0089	0.0825
satimage	LogisticRegression	0.3474	0.0973	0.0315
satimage	DecisionTree	0.2162	0.0973	0.0525

Table 33: uniform L1DistLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0282
coil_2000	DecisionTree	0.2384	0.0597	0.0296
fact_balanced	RandomForest	0.8006	0.5	2.7139
fact_imbalanced	RandomForest	0.0427	0.01	0.0249
letter_img	LogisticRegression	0.0612	0.0367	0.0645
letter_img	DecisionTree	0.0275	0.0367	0.1514
optical_digits	LogisticRegression	0.1144	0.0986	0.0918
optical_digits	DecisionTree	0.1129	0.0986	0.0898
pen_digits	LogisticRegression	0.1335	0.096	0.0754
pen_digits	DecisionTree	0.0431	0.096	0.2097
protein_homo	LogisticRegression	0.0153	0.0089	0.0678
protein_homo	DecisionTree	0.0144	0.0089	0.0845
satimage	LogisticRegression	0.3437	0.0973	0.032
satimage	DecisionTree	0.2125	0.0973	0.054

Table 34: uniform L1DistLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0284
coil_2000	DecisionTree	0.2369	0.0597	0.0298
fact_balanced	RandomForest	0.8003	0.5	2.9326
fact_imbalanced	RandomForest	0.0422	0.01	0.025
letter_img	LogisticRegression	0.0601	0.0367	0.0654
letter_img	DecisionTree	0.0264	0.0367	0.1561
optical_digits	LogisticRegression	0.1124	0.0986	0.0942
optical_digits	DecisionTree	0.1109	0.0986	0.0921
pen_digits	LogisticRegression	0.132	0.096	0.0765
pen_digits	DecisionTree	0.0417	0.096	0.2172
protein_homo	LogisticRegression	0.0149	0.0089	0.0684
protein_homo	DecisionTree	0.014	0.0089	0.0856
satimage	LogisticRegression	0.3418	0.0973	0.0323
satimage	DecisionTree	0.2106	0.0973	0.0547

Table 35: uniform L2DistLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2346	0.0597	0.0152
coil_2000	DecisionTree	0.4576	0.0597	0.0152
fact_balanced	RandomForest	0.8006	0.5	0.3928
fact_imbalanced	RandomForest	0.0445	0.01	0.0128
letter_img	LogisticRegression	0.0639	0.0367	0.0465
letter_img	DecisionTree	0.0483	0.0367	0.0835
optical_digits	LogisticRegression	0.1359	0.0986	0.0649
optical_digits	DecisionTree	0.2133	0.0986	0.0496
pen_digits	LogisticRegression	0.1372	0.096	0.0563
pen_digits	DecisionTree	0.0773	0.096	0.118
protein_homo	LogisticRegression	0.0161	0.0089	0.0397
protein_homo	DecisionTree	0.0264	0.0089	0.0441
satimage	LogisticRegression	0.3575	0.0973	0.018
satimage	DecisionTree	0.4134	0.0973	0.0285

Table 36: uniform L2DistLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2317	0.0597	0.0153
coil_2000	DecisionTree	0.4547	0.0597	0.0154
fact_balanced	RandomForest	0.8	0.5	0.4014
fact_imbalanced	RandomForest	0.0436	0.01	0.0129
letter_img	LogisticRegression	0.0618	0.0367	0.0473
letter_img	DecisionTree	0.0463	0.0367	0.0863
optical_digits	LogisticRegression	0.132	0.0986	0.0674
optical_digits	DecisionTree	0.2094	0.0986	0.051
pen_digits	LogisticRegression	0.1344	0.096	0.0575
pen_digits	DecisionTree	0.0745	0.096	0.1235
protein_homo	LogisticRegression	0.0154	0.0089	0.0401
protein_homo	DecisionTree	0.0256	0.0089	0.0447
satimage	LogisticRegression	0.3538	0.0973	0.0182
satimage	DecisionTree	0.4098	0.0973	0.0289

Table 37: uniform L2DistLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2301	0.0597	0.0154
coil_2000	DecisionTree	0.4532	0.0597	0.0154
fact_balanced	RandomForest	0.7996	0.5	0.4059
fact_imbalanced	RandomForest	0.0432	0.01	0.0129
letter_img	LogisticRegression	0.0607	0.0367	0.0477
letter_img	DecisionTree	0.0452	0.0367	0.0879
optical_digits	LogisticRegression	0.1299	0.0986	0.0687
optical_digits	DecisionTree	0.2074	0.0986	0.0518
pen_digits	LogisticRegression	0.1329	0.096	0.0582
pen_digits	DecisionTree	0.0731	0.096	0.1267
protein_homo	LogisticRegression	0.015	0.0089	0.0404
protein_homo	DecisionTree	0.0252	0.0089	0.045
satimage	LogisticRegression	0.352	0.0973	0.0182
satimage	DecisionTree	0.4079	0.0973	0.0291

Table 38: sqrt ZeroOneLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0752	0.0597	0.0531
coil_2000	DecisionTree	0.0808	0.0597	0.0523
fact_balanced	RandomForest	0.3365	0.5	0.2015
fact_imbalanced	RandomForest	0.0144	0.01	0.0465
letter_img	LogisticRegression	0.0199	0.0367	0.2128
letter_img	DecisionTree	0.016	0.0367	0.23
optical_digits	LogisticRegression	0.0445	0.0986	0.1995
optical_digits	DecisionTree	0.0502	0.0986	0.1449
pen_digits	LogisticRegression	0.0408	0.096	0.2056
pen_digits	DecisionTree	0.0244	0.096	0.3123
protein_homo	LogisticRegression	0.0064	0.0089	0.1713
protein_homo	DecisionTree	0.0068	0.0089	0.1399
satimage	LogisticRegression	0.1241	0.0973	0.0574
satimage	DecisionTree	0.08	0.0973	0.0866

Table 39: sqrt ZeroOneLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0722	0.0597	0.0543
coil_2000	DecisionTree	0.0778	0.0597	0.0535
fact_balanced	RandomForest	0.3359	0.5	0.2037
fact_imbalanced	RandomForest	0.0135	0.01	0.0471
letter_img	LogisticRegression	0.0179	0.0367	0.2314
letter_img	DecisionTree	0.0139	0.0367	0.252
optical_digits	LogisticRegression	0.0406	0.0986	0.2185
optical_digits	DecisionTree	0.0463	0.0986	0.1547
pen_digits	LogisticRegression	0.038	0.096	0.2199
pen_digits	DecisionTree	0.0216	0.096	0.3476
protein_homo	LogisticRegression	0.0056	0.0089	0.1801
protein_homo	DecisionTree	0.006	0.0089	0.1457
satimage	LogisticRegression	0.1205	0.0973	0.0588
satimage	DecisionTree	0.0763	0.0973	0.0898

Table 40: sqrt ZeroOneLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.0707	0.0597	0.055
coil_2000	DecisionTree	0.0763	0.0597	0.0541
fact_balanced	RandomForest	0.3356	0.5	0.2049
fact_imbalanced	RandomForest	0.0131	0.01	0.0475
letter_img	LogisticRegression	0.0168	0.0367	0.2423
letter_img	DecisionTree	0.0128	0.0367	0.2651
optical_digits	LogisticRegression	0.0385	0.0986	0.2297
optical_digits	DecisionTree	0.0443	0.0986	0.1603
pen_digits	LogisticRegression	0.0365	0.096	0.228
pen_digits	DecisionTree	0.0201	0.096	0.369
protein_homo	LogisticRegression	0.0052	0.0089	0.185
protein_homo	DecisionTree	0.0056	0.0089	0.1489
satimage	LogisticRegression	0.1186	0.0973	0.0596
satimage	DecisionTree	0.0744	0.0973	0.0915

Table 41: sqrt HingeLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_S(h)$	p_S	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.034
coil_2000	DecisionTree	0.1457	0.0597	0.0276
fact_balanced	RandomForest	0.8014	0.5	2.219
fact_imbalanced	RandomForest	0.0317	0.01	0.0261
letter_img	LogisticRegression	0.0381	0.0367	0.1067
letter_img	DecisionTree	0.0212	0.0367	0.1485
optical_digits	LogisticRegression	0.0824	0.0986	0.1136
optical_digits	DecisionTree	0.0801	0.0986	0.0866
pen_digits	LogisticRegression	0.0916	0.096	0.1059
pen_digits	DecisionTree	0.0342	0.096	0.2118
protein_homo	LogisticRegression	0.0117	0.0089	0.0973
protein_homo	DecisionTree	0.0096	0.0089	0.078
satimage	LogisticRegression	0.2584	0.0973	0.04
satimage	DecisionTree	0.141	0.0973	0.0477

Table 42: sqrt HingeLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0346
coil_2000	DecisionTree	0.1427	0.0597	0.028
fact_balanced	RandomForest	0.8008	0.5	2.5283
fact_imbalanced	RandomForest	0.0308	0.01	0.0263
letter_img	LogisticRegression	0.036	0.0367	0.1112
letter_img	DecisionTree	0.0192	0.0367	0.1575
optical_digits	LogisticRegression	0.0785	0.0986	0.1195
optical_digits	DecisionTree	0.0762	0.0986	0.0901
pen_digits	LogisticRegression	0.0888	0.096	0.1105
pen_digits	DecisionTree	0.0314	0.096	0.2278
protein_homo	LogisticRegression	0.0109	0.0089	0.1001
protein_homo	DecisionTree	0.0088	0.0089	0.0797
satimage	LogisticRegression	0.2547	0.0973	0.0408
satimage	DecisionTree	0.1374	0.0973	0.0486

Table 43: sqrt HingeLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.0349
coil_2000	DecisionTree	0.1412	0.0597	0.0282
fact_balanced	RandomForest	0.8005	0.5	8.2915
fact_imbalanced	RandomForest	0.0304	0.01	0.0264
letter_img	LogisticRegression	0.035	0.0367	0.1136
letter_img	DecisionTree	0.0181	0.0367	0.1625
optical_digits	LogisticRegression	0.0765	0.0986	0.1228
optical_digits	DecisionTree	0.0742	0.0986	0.0919
pen_digits	LogisticRegression	0.0873	0.096	0.113
pen_digits	DecisionTree	0.03	0.096	0.2371
protein_homo	LogisticRegression	0.0106	0.0089	0.1016
protein_homo	DecisionTree	0.0084	0.0089	0.0807
satimage	LogisticRegression	0.2529	0.0973	0.0412
satimage	DecisionTree	0.1355	0.0973	0.0491

Table 44: sqrt L1DistLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.034
coil_2000	DecisionTree	0.1457	0.0597	0.0276
fact_balanced	RandomForest	0.8014	0.5	2.219
fact_imbalanced	RandomForest	0.0317	0.01	0.0261
letter_img	LogisticRegression	0.0381	0.0367	0.1067
letter_img	DecisionTree	0.0212	0.0367	0.1485
optical_digits	LogisticRegression	0.0824	0.0986	0.1136
optical_digits	DecisionTree	0.0801	0.0986	0.0866
pen_digits	LogisticRegression	0.0916	0.096	0.1059
pen_digits	DecisionTree	0.0342	0.096	0.2118
protein_homo	LogisticRegression	0.0117	0.0089	0.0973
protein_homo	DecisionTree	0.0096	0.0089	0.078
satimage	LogisticRegression	0.2584	0.0973	0.04
satimage	DecisionTree	0.141	0.0973	0.0477

Table 45: sqrt L1DistLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0346
coil_2000	DecisionTree	0.1427	0.0597	0.028
fact_balanced	RandomForest	0.8008	0.5	2.5283
fact_imbalanced	RandomForest	0.0308	0.01	0.0263
letter_img	LogisticRegression	0.036	0.0367	0.1112
letter_img	DecisionTree	0.0192	0.0367	0.1575
optical_digits	LogisticRegression	0.0785	0.0986	0.1195
optical_digits	DecisionTree	0.0762	0.0986	0.0901
pen_digits	LogisticRegression	0.0888	0.096	0.1105
pen_digits	DecisionTree	0.0314	0.096	0.2278
protein_homo	LogisticRegression	0.0109	0.0089	0.1001
protein_homo	DecisionTree	0.0088	0.0089	0.0797
satimage	LogisticRegression	0.2547	0.0973	0.0408
satimage	DecisionTree	0.1374	0.0973	0.0486

Table 46: sqrt L1DistLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.0349
coil_2000	DecisionTree	0.1412	0.0597	0.0282
fact_balanced	RandomForest	0.8005	0.5	12.3846
fact_imbalanced	RandomForest	0.0304	0.01	0.0264
letter_img	LogisticRegression	0.035	0.0367	0.1136
letter_img	DecisionTree	0.0181	0.0367	0.1625
optical_digits	LogisticRegression	0.0765	0.0986	0.1228
optical_digits	DecisionTree	0.0742	0.0986	0.0919
pen_digits	LogisticRegression	0.0873	0.096	0.113
pen_digits	DecisionTree	0.03	0.096	0.2371
protein_homo	LogisticRegression	0.0106	0.0089	0.1016
protein_homo	DecisionTree	0.0084	0.0089	0.0807
satimage	LogisticRegression	0.2529	0.0973	0.0412
satimage	DecisionTree	0.1355	0.0973	0.0491

Table 47: sqrt L2DistLoss with $\delta = 0.01, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1897	0.0597	0.0224
coil_2000	DecisionTree	0.2742	0.0597	0.0144
fact_balanced	RandomForest	0.8018	0.5	0.385
fact_imbalanced	RandomForest	0.0402	0.01	0.0144
letter_img	LogisticRegression	0.0378	0.0367	0.1026
letter_img	DecisionTree	0.0317	0.0367	0.087
optical_digits	LogisticRegression	0.0932	0.0986	0.0942
optical_digits	DecisionTree	0.1401	0.0986	0.048
pen_digits	LogisticRegression	0.0937	0.096	0.0928
pen_digits	DecisionTree	0.054	0.096	0.1295
protein_homo	LogisticRegression	0.0119	0.0089	0.0658
protein_homo	DecisionTree	0.0152	0.0089	0.0413
satimage	LogisticRegression	0.2749	0.0973	0.0297
satimage	DecisionTree	0.2632	0.0973	0.0254

Table 48: sqrt L2DistLoss with $\delta = 0.05, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1868	0.0597	0.0226
coil_2000	DecisionTree	0.2712	0.0597	0.0145
fact_balanced	RandomForest	0.8012	0.5	0.3932
fact_imbalanced	RandomForest	0.0393	0.01	0.0144
letter_img	LogisticRegression	0.0358	0.0367	0.1068
letter_img	DecisionTree	0.0297	0.0367	0.0901
optical_digits	LogisticRegression	0.0893	0.0986	0.0983
optical_digits	DecisionTree	0.1361	0.0986	0.0491
pen_digits	LogisticRegression	0.0909	0.096	0.0963
pen_digits	DecisionTree	0.0512	0.096	0.1354
protein_homo	LogisticRegression	0.0112	0.0089	0.0671
protein_homo	DecisionTree	0.0144	0.0089	0.0418
satimage	LogisticRegression	0.2712	0.0973	0.0302
satimage	DecisionTree	0.2595	0.0973	0.0257

Table 49: sqrt L2DistLoss with $\delta = 0.1, \epsilon = 0.05$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1852	0.0597	0.0228
coil_2000	DecisionTree	0.2697	0.0597	0.0145
fact_balanced	RandomForest	0.8009	0.5	0.3975
fact_imbalanced	RandomForest	0.0389	0.01	0.0145
letter_img	LogisticRegression	0.0347	0.0367	0.1091
letter_img	DecisionTree	0.0286	0.0367	0.0917
optical_digits	LogisticRegression	0.0873	0.0986	0.1005
optical_digits	DecisionTree	0.1341	0.0986	0.0497
pen_digits	LogisticRegression	0.0895	0.096	0.0982
pen_digits	DecisionTree	0.0498	0.096	0.1387
protein_homo	LogisticRegression	0.0108	0.0089	0.0677
protein_homo	DecisionTree	0.014	0.0089	0.0421
satimage	LogisticRegression	0.2693	0.0973	0.0304
satimage	DecisionTree	0.2576	0.0973	0.0259

Table 50: uniform ZeroOneLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0763	0.0597	0.091
coil_2000	DecisionTree	0.1238	0.0597	0.1079
fact_balanced	RandomForest	0.3363	0.5	0.4093
fact_imbalanced	RandomForest	0.0144	0.01	0.093
letter_img	LogisticRegression	0.0281	0.0367	0.231
letter_img	DecisionTree	0.0201	0.0367	0.4463
optical_digits	LogisticRegression	0.0577	0.0986	0.3046
optical_digits	DecisionTree	0.0685	0.0986	0.2832
pen_digits	LogisticRegression	0.0543	0.096	0.2854
pen_digits	DecisionTree	0.0302	0.096	0.5939
protein_homo	LogisticRegression	0.0074	0.0089	0.2393
protein_homo	DecisionTree	0.0096	0.0089	0.2945
satimage	LogisticRegression	0.1188	0.0973	0.0928
satimage	DecisionTree	0.1175	0.0973	0.1816

Table 51: uniform ZeroOneLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0733	0.0597	0.0928
coil_2000	DecisionTree	0.1208	0.0597	0.1109
fact_balanced	RandomForest	0.3357	0.5	0.414
fact_imbalanced	RandomForest	0.0135	0.01	0.0943
letter_img	LogisticRegression	0.026	0.0367	0.2416
letter_img	DecisionTree	0.0181	0.0367	0.4879
optical_digits	LogisticRegression	0.0537	0.0986	0.3263
optical_digits	DecisionTree	0.0646	0.0986	0.3021
pen_digits	LogisticRegression	0.0515	0.096	0.2988
pen_digits	DecisionTree	0.0274	0.096	0.6559
protein_homo	LogisticRegression	0.0066	0.0089	0.2477
protein_homo	DecisionTree	0.0088	0.0089	0.3073
satimage	LogisticRegression	0.1151	0.0973	0.0946
satimage	DecisionTree	0.1139	0.0973	0.1905

Table 52: uniform ZeroOneLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0718	0.0597	0.0937
coil_2000	DecisionTree	0.1193	0.0597	0.1125
fact_balanced	RandomForest	0.3354	0.5	0.4164
fact_imbalanced	RandomForest	0.0131	0.01	0.095
letter_img	LogisticRegression	0.025	0.0367	0.2474
letter_img	DecisionTree	0.017	0.0367	0.5124
optical_digits	LogisticRegression	0.0517	0.0986	0.3387
optical_digits	DecisionTree	0.0626	0.0986	0.3124
pen_digits	LogisticRegression	0.05	0.096	0.3062
pen_digits	DecisionTree	0.0259	0.096	0.6931
protein_homo	LogisticRegression	0.0062	0.0089	0.2522
protein_homo	DecisionTree	0.0084	0.0089	0.3144
satimage	LogisticRegression	0.1132	0.0973	0.0955
satimage	DecisionTree	0.112	0.0973	0.1954

Table 53: uniform HingeLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0555
coil_2000	DecisionTree	0.2414	0.0597	0.0583
fact_balanced	RandomForest	0.8012	0.5	4.7254
fact_imbalanced	RandomForest	0.0435	0.01	0.0495
letter_img	LogisticRegression	0.0633	0.0367	0.1255
letter_img	DecisionTree	0.0295	0.0367	0.2862
optical_digits	LogisticRegression	0.1183	0.0986	0.1748
optical_digits	DecisionTree	0.1168	0.0986	0.1715
pen_digits	LogisticRegression	0.1363	0.096	0.1464
pen_digits	DecisionTree	0.0459	0.096	0.3929
protein_homo	LogisticRegression	0.0161	0.0089	0.133
protein_homo	DecisionTree	0.0152	0.0089	0.165
satimage	LogisticRegression	0.3474	0.0973	0.063
satimage	DecisionTree	0.2162	0.0973	0.105

Table 54: uniform HingeLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0563
coil_2000	DecisionTree	0.2384	0.0597	0.0591
fact_balanced	RandomForest	0.8006	0.5	5.4278
fact_imbalanced	RandomForest	0.0427	0.01	0.0499
letter_img	LogisticRegression	0.0612	0.0367	0.129
letter_img	DecisionTree	0.0275	0.0367	0.3029
optical_digits	LogisticRegression	0.1144	0.0986	0.1836
optical_digits	DecisionTree	0.1129	0.0986	0.1796
pen_digits	LogisticRegression	0.1335	0.096	0.1507
pen_digits	DecisionTree	0.0431	0.096	0.4194
protein_homo	LogisticRegression	0.0153	0.0089	0.1355
protein_homo	DecisionTree	0.0144	0.0089	0.169
satimage	LogisticRegression	0.3437	0.0973	0.064
satimage	DecisionTree	0.2125	0.0973	0.1079

Table 55: uniform HingeLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0567
coil_2000	DecisionTree	0.2369	0.0597	0.0596
fact_balanced	RandomForest	0.8003	0.5	5.8653
fact_imbalanced	RandomForest	0.0422	0.01	0.0501
letter_img	LogisticRegression	0.0601	0.0367	0.1309
letter_img	DecisionTree	0.0264	0.0367	0.3123
optical_digits	LogisticRegression	0.1124	0.0986	0.1884
optical_digits	DecisionTree	0.1109	0.0986	0.1843
pen_digits	LogisticRegression	0.132	0.096	0.153
pen_digits	DecisionTree	0.0417	0.096	0.4344
protein_homo	LogisticRegression	0.0149	0.0089	0.1369
protein_homo	DecisionTree	0.014	0.0089	0.1711
satimage	LogisticRegression	0.3418	0.0973	0.0645
satimage	DecisionTree	0.2106	0.0973	0.1095

Table 56: uniform L1DistLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2262	0.0597	0.0555
coil_2000	DecisionTree	0.2414	0.0597	0.0583
fact_balanced	RandomForest	0.8012	0.5	4.7254
fact_imbalanced	RandomForest	0.0435	0.01	0.0495
letter_img	LogisticRegression	0.0633	0.0367	0.1255
letter_img	DecisionTree	0.0295	0.0367	0.2862
optical_digits	LogisticRegression	0.1183	0.0986	0.1748
optical_digits	DecisionTree	0.1168	0.0986	0.1715
pen_digits	LogisticRegression	0.1363	0.096	0.1464
pen_digits	DecisionTree	0.0459	0.096	0.3929
protein_homo	LogisticRegression	0.0161	0.0089	0.133
protein_homo	DecisionTree	0.0152	0.0089	0.165
satimage	LogisticRegression	0.3474	0.0973	0.063
satimage	DecisionTree	0.2162	0.0973	0.105

Table 57: uniform L1DistLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2232	0.0597	0.0563
coil_2000	DecisionTree	0.2384	0.0597	0.0591
fact_balanced	RandomForest	0.8006	0.5	5.4278
fact_imbalanced	RandomForest	0.0427	0.01	0.0499
letter_img	LogisticRegression	0.0612	0.0367	0.129
letter_img	DecisionTree	0.0275	0.0367	0.3029
optical_digits	LogisticRegression	0.1144	0.0986	0.1836
optical_digits	DecisionTree	0.1129	0.0986	0.1796
pen_digits	LogisticRegression	0.1335	0.096	0.1507
pen_digits	DecisionTree	0.0431	0.096	0.4194
protein_homo	LogisticRegression	0.0153	0.0089	0.1355
protein_homo	DecisionTree	0.0144	0.0089	0.169
satimage	LogisticRegression	0.3437	0.0973	0.064
satimage	DecisionTree	0.2125	0.0973	0.1079

Table 58: uniform L1DistLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2217	0.0597	0.0567
coil_2000	DecisionTree	0.2369	0.0597	0.0596
fact_balanced	RandomForest	0.8003	0.5	5.8653
fact_imbalanced	RandomForest	0.0422	0.01	0.0501
letter_img	LogisticRegression	0.0601	0.0367	0.1309
letter_img	DecisionTree	0.0264	0.0367	0.3123
optical_digits	LogisticRegression	0.1124	0.0986	0.1884
optical_digits	DecisionTree	0.1109	0.0986	0.1843
pen_digits	LogisticRegression	0.132	0.096	0.153
pen_digits	DecisionTree	0.0417	0.096	0.4344
protein_homo	LogisticRegression	0.0149	0.0089	0.1369
protein_homo	DecisionTree	0.014	0.0089	0.1711
satimage	LogisticRegression	0.3418	0.0973	0.0645
satimage	DecisionTree	0.2106	0.0973	0.1095

Table 59: uniform L2DistLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2346	0.0597	0.0304
coil_2000	DecisionTree	0.4576	0.0597	0.0305
fact_balanced	RandomForest	0.8006	0.5	0.7857
fact_imbalanced	RandomForest	0.0445	0.01	0.0256
letter_img	LogisticRegression	0.0639	0.0367	0.093
letter_img	DecisionTree	0.0483	0.0367	0.167
optical_digits	LogisticRegression	0.1359	0.0986	0.1299
optical_digits	DecisionTree	0.2133	0.0986	0.0992
pen_digits	LogisticRegression	0.1372	0.096	0.1125
pen_digits	DecisionTree	0.0773	0.096	0.236
protein_homo	LogisticRegression	0.0161	0.0089	0.0794
protein_homo	DecisionTree	0.0264	0.0089	0.0881
satimage	LogisticRegression	0.3575	0.0973	0.036
satimage	DecisionTree	0.4134	0.0973	0.057

Table 60: uniform L2DistLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2317	0.0597	0.0307
coil_2000	DecisionTree	0.4547	0.0597	0.0307
fact_balanced	RandomForest	0.8	0.5	0.8029
fact_imbalanced	RandomForest	0.0436	0.01	0.0257
letter_img	LogisticRegression	0.0618	0.0367	0.0946
letter_img	DecisionTree	0.0463	0.0367	0.1726
optical_digits	LogisticRegression	0.132	0.0986	0.1347
optical_digits	DecisionTree	0.2094	0.0986	0.102
pen_digits	LogisticRegression	0.1344	0.096	0.1151
pen_digits	DecisionTree	0.0745	0.096	0.247
protein_homo	LogisticRegression	0.0154	0.0089	0.0803
protein_homo	DecisionTree	0.0256	0.0089	0.0893
satimage	LogisticRegression	0.3538	0.0973	0.0363
satimage	DecisionTree	0.4098	0.0973	0.0578

Table 61: uniform L2DistLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.2301	0.0597	0.0308
coil_2000	DecisionTree	0.4532	0.0597	0.0308
fact_balanced	RandomForest	0.7996	0.5	0.8119
fact_imbalanced	RandomForest	0.0432	0.01	0.0258
letter_img	LogisticRegression	0.0607	0.0367	0.0955
letter_img	DecisionTree	0.0452	0.0367	0.1757
optical_digits	LogisticRegression	0.1299	0.0986	0.1373
optical_digits	DecisionTree	0.2074	0.0986	0.1035
pen_digits	LogisticRegression	0.1329	0.096	0.1164
pen_digits	DecisionTree	0.0731	0.096	0.2533
protein_homo	LogisticRegression	0.015	0.0089	0.0807
protein_homo	DecisionTree	0.0252	0.0089	0.0899
satimage	LogisticRegression	0.352	0.0973	0.0365
satimage	DecisionTree	0.4079	0.0973	0.0583

Table 62: sqrt ZeroOneLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0752	0.0597	0.1062
coil_2000	DecisionTree	0.0808	0.0597	0.1045
fact_balanced	RandomForest	0.3365	0.5	0.403
fact_imbalanced	RandomForest	0.0144	0.01	0.093
letter_img	LogisticRegression	0.0199	0.0367	0.4256
letter_img	DecisionTree	0.016	0.0367	0.46
optical_digits	LogisticRegression	0.0445	0.0986	0.399
optical_digits	DecisionTree	0.0502	0.0986	0.2897
pen_digits	LogisticRegression	0.0408	0.096	0.4112
pen_digits	DecisionTree	0.0244	0.096	0.6247
protein_homo	LogisticRegression	0.0064	0.0089	0.3427
protein_homo	DecisionTree	0.0068	0.0089	0.2799
satimage	LogisticRegression	0.1241	0.0973	0.1147
satimage	DecisionTree	0.08	0.0973	0.1732

Table 63: sqrt ZeroOneLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0722	0.0597	0.1087
coil_2000	DecisionTree	0.0778	0.0597	0.1069
fact_balanced	RandomForest	0.3359	0.5	0.4075
fact_imbalanced	RandomForest	0.0135	0.01	0.0943
letter_img	LogisticRegression	0.0179	0.0367	0.4629
letter_img	DecisionTree	0.0139	0.0367	0.5041
optical_digits	LogisticRegression	0.0406	0.0986	0.437
optical_digits	DecisionTree	0.0463	0.0986	0.3094
pen_digits	LogisticRegression	0.038	0.096	0.4398
pen_digits	DecisionTree	0.0216	0.096	0.6951
protein_homo	LogisticRegression	0.0056	0.0089	0.3602
protein_homo	DecisionTree	0.006	0.0089	0.2915
satimage	LogisticRegression	0.1205	0.0973	0.1176
satimage	DecisionTree	0.0763	0.0973	0.1796

Table 64: sqrt ZeroOneLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.0707	0.0597	0.1099
coil_2000	DecisionTree	0.0763	0.0597	0.1082
fact_balanced	RandomForest	0.3356	0.5	0.4098
fact_imbalanced	RandomForest	0.0131	0.01	0.095
letter_img	LogisticRegression	0.0168	0.0367	0.4847
letter_img	DecisionTree	0.0128	0.0367	0.5302
optical_digits	LogisticRegression	0.0385	0.0986	0.4595
optical_digits	DecisionTree	0.0443	0.0986	0.3205
pen_digits	LogisticRegression	0.0365	0.096	0.4561
pen_digits	DecisionTree	0.0201	0.096	0.738
protein_homo	LogisticRegression	0.0052	0.0089	0.3699
protein_homo	DecisionTree	0.0056	0.0089	0.2978
satimage	LogisticRegression	0.1186	0.0973	0.1192
satimage	DecisionTree	0.0744	0.0973	0.183

Table 65: sqrt HingeLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.0681
coil_2000	DecisionTree	0.1457	0.0597	0.0553
fact_balanced	RandomForest	0.8014	0.5	4.4379
fact_imbalanced	RandomForest	0.0317	0.01	0.0522
letter_img	LogisticRegression	0.0381	0.0367	0.2134
letter_img	DecisionTree	0.0212	0.0367	0.2971
optical_digits	LogisticRegression	0.0824	0.0986	0.2273
optical_digits	DecisionTree	0.0801	0.0986	0.1733
pen_digits	LogisticRegression	0.0916	0.096	0.2118
pen_digits	DecisionTree	0.0342	0.096	0.4237
protein_homo	LogisticRegression	0.0117	0.0089	0.1947
protein_homo	DecisionTree	0.0096	0.0089	0.1559
satimage	LogisticRegression	0.2584	0.0973	0.0799
satimage	DecisionTree	0.141	0.0973	0.0953

Table 66: sqrt HingeLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0693
coil_2000	DecisionTree	0.1427	0.0597	0.0559
fact_balanced	RandomForest	0.8008	0.5	5.0567
fact_imbalanced	RandomForest	0.0308	0.01	0.0526
letter_img	LogisticRegression	0.036	0.0367	0.2224
letter_img	DecisionTree	0.0192	0.0367	0.315
optical_digits	LogisticRegression	0.0785	0.0986	0.239
optical_digits	DecisionTree	0.0762	0.0986	0.1801
pen_digits	LogisticRegression	0.0888	0.096	0.221
pen_digits	DecisionTree	0.0314	0.096	0.4557
protein_homo	LogisticRegression	0.0109	0.0089	0.2002
protein_homo	DecisionTree	0.0088	0.0089	0.1595
satimage	LogisticRegression	0.2547	0.0973	0.0816
satimage	DecisionTree	0.1374	0.0973	0.0972

Table 67: sqrt HingeLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.0699
coil_2000	DecisionTree	0.1412	0.0597	0.0563
fact_balanced	RandomForest	0.8005	0.5	16.583
fact_imbalanced	RandomForest	0.0304	0.01	0.0528
letter_img	LogisticRegression	0.035	0.0367	0.2273
letter_img	DecisionTree	0.0181	0.0367	0.325
optical_digits	LogisticRegression	0.0765	0.0986	0.2457
optical_digits	DecisionTree	0.0742	0.0986	0.1839
pen_digits	LogisticRegression	0.0873	0.096	0.226
pen_digits	DecisionTree	0.03	0.096	0.4742
protein_homo	LogisticRegression	0.0106	0.0089	0.2031
protein_homo	DecisionTree	0.0084	0.0089	0.1613
satimage	LogisticRegression	0.2529	0.0973	0.0825
satimage	DecisionTree	0.1355	0.0973	0.0981

Table 68: sqrt L1DistLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1776	0.0597	0.0681
coil_2000	DecisionTree	0.1457	0.0597	0.0553
fact_balanced	RandomForest	0.8014	0.5	4.4379
fact_imbalanced	RandomForest	0.0317	0.01	0.0522
letter_img	LogisticRegression	0.0381	0.0367	0.2134
letter_img	DecisionTree	0.0212	0.0367	0.2971
optical_digits	LogisticRegression	0.0824	0.0986	0.2273
optical_digits	DecisionTree	0.0801	0.0986	0.1733
pen_digits	LogisticRegression	0.0916	0.096	0.2118
pen_digits	DecisionTree	0.0342	0.096	0.4237
protein_homo	LogisticRegression	0.0117	0.0089	0.1947
protein_homo	DecisionTree	0.0096	0.0089	0.1559
satimage	LogisticRegression	0.2584	0.0973	0.0799
satimage	DecisionTree	0.141	0.0973	0.0953

Table 69: sqrt L1DistLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1746	0.0597	0.0693
coil_2000	DecisionTree	0.1427	0.0597	0.0559
fact_balanced	RandomForest	0.8008	0.5	5.0567
fact_imbalanced	RandomForest	0.0308	0.01	0.0526
letter_img	LogisticRegression	0.036	0.0367	0.2224
letter_img	DecisionTree	0.0192	0.0367	0.315
optical_digits	LogisticRegression	0.0785	0.0986	0.239
optical_digits	DecisionTree	0.0762	0.0986	0.1801
pen_digits	LogisticRegression	0.0888	0.096	0.221
pen_digits	DecisionTree	0.0314	0.096	0.4557
protein_homo	LogisticRegression	0.0109	0.0089	0.2002
protein_homo	DecisionTree	0.0088	0.0089	0.1595
satimage	LogisticRegression	0.2547	0.0973	0.0816
satimage	DecisionTree	0.1374	0.0973	0.0972

Table 70: sqrt L1DistLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1731	0.0597	0.0699
coil_2000	DecisionTree	0.1412	0.0597	0.0563
fact_balanced	RandomForest	0.8005	0.5	24.7693
fact_imbalanced	RandomForest	0.0304	0.01	0.0528
letter_img	LogisticRegression	0.035	0.0367	0.2273
letter_img	DecisionTree	0.0181	0.0367	0.325
optical_digits	LogisticRegression	0.0765	0.0986	0.2457
optical_digits	DecisionTree	0.0742	0.0986	0.1839
pen_digits	LogisticRegression	0.0873	0.096	0.226
pen_digits	DecisionTree	0.03	0.096	0.4742
protein_homo	LogisticRegression	0.0106	0.0089	0.2031
protein_homo	DecisionTree	0.0084	0.0089	0.1613
satimage	LogisticRegression	0.2529	0.0973	0.0825
satimage	DecisionTree	0.1355	0.0973	0.0981

Table 71: sqrt L2DistLoss with $\delta = 0.01, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1897	0.0597	0.0447
coil_2000	DecisionTree	0.2742	0.0597	0.0288
fact_balanced	RandomForest	0.8018	0.5	0.7699
fact_imbalanced	RandomForest	0.0402	0.01	0.0287
letter_img	LogisticRegression	0.0378	0.0367	0.2053
letter_img	DecisionTree	0.0317	0.0367	0.1741
optical_digits	LogisticRegression	0.0932	0.0986	0.1885
optical_digits	DecisionTree	0.1401	0.0986	0.0961
pen_digits	LogisticRegression	0.0937	0.096	0.1856
pen_digits	DecisionTree	0.054	0.096	0.259
protein_homo	LogisticRegression	0.0119	0.0089	0.1316
protein_homo	DecisionTree	0.0152	0.0089	0.0827
satimage	LogisticRegression	0.2749	0.0973	0.0595
satimage	DecisionTree	0.2632	0.0973	0.0508

Table 72: sqrt L2DistLoss with $\delta = 0.05, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1868	0.0597	0.0452
coil_2000	DecisionTree	0.2712	0.0597	0.029
fact_balanced	RandomForest	0.8012	0.5	0.7865
fact_imbalanced	RandomForest	0.0393	0.01	0.0289
letter_img	LogisticRegression	0.0358	0.0367	0.2136
letter_img	DecisionTree	0.0297	0.0367	0.1801
optical_digits	LogisticRegression	0.0893	0.0986	0.1966
optical_digits	DecisionTree	0.1361	0.0986	0.0982
pen_digits	LogisticRegression	0.0909	0.096	0.1926
pen_digits	DecisionTree	0.0512	0.096	0.2709
protein_homo	LogisticRegression	0.0112	0.0089	0.1341
protein_homo	DecisionTree	0.0144	0.0089	0.0837
satimage	LogisticRegression	0.2712	0.0973	0.0604
satimage	DecisionTree	0.2595	0.0973	0.0515

Table 73: sqrt L2DistLoss with $\delta = 0.1, \epsilon = 0.1$

data	classifier	$L_{\mathcal{S}}(h)$	$p_{\mathcal{S}}$	Δp^*
coil_2000	LogisticRegression	0.1852	0.0597	0.0455
coil_2000	DecisionTree	0.2697	0.0597	0.0291
fact_balanced	RandomForest	0.8009	0.5	0.7951
fact_imbalanced	RandomForest	0.0389	0.01	0.0289
letter_img	LogisticRegression	0.0347	0.0367	0.2182
letter_img	DecisionTree	0.0286	0.0367	0.1834
optical_digits	LogisticRegression	0.0873	0.0986	0.2009
optical_digits	DecisionTree	0.1341	0.0986	0.0993
pen_digits	LogisticRegression	0.0895	0.096	0.1964
pen_digits	DecisionTree	0.0498	0.096	0.2774
protein_homo	LogisticRegression	0.0108	0.0089	0.1354
protein_homo	DecisionTree	0.014	0.0089	0.0842
satimage	LogisticRegression	0.2693	0.0973	0.0609
satimage	DecisionTree	0.2576	0.0973	0.0518