A Appendix

A.1 Datasets

Table 4: Statistics of GRB datasets after new splitting scheme and feature normalization.

Dataset	Splitting	Avg. Deg.	Avg.Deg. (E / M / H / F)	Feature range	Feature range (Arctan norm.)
grb-cora	**Train / Val**	3.84	1.53/2.96/5.23/3.24	[-2.30, 2.40]	[-0.94, 0.94]
grb-citeseer	0.6 / 0.1	2.61	1.01/1.74/3.82/2.19	[-4.55, 1.67]	[-0.96, 0.89]
grb-flickr	**Test: E / M / H / F**	10.08	5.00/6.02/11.03/7.35	[-0.90, 269.96]	[-0.47, 1.00]
grb-reddit	0.1 / 0.1 / 0.1 / 0.3	99.65	29.23/68.36/150.99/82.86	[-28.19, 120.96]	[-0.98, 0.99]
grb-aminer		8.73	1.99/5.12/13.25/6.79	[-1.74, 1.62]	[-0.93, 0.93]

GRB includes five datasets of different scales, the details of them are as following:

- *grb-cora*: Small-scale citation networks. Each node represents a research paper, and each edge represents a citation relationship between two papers. Instead of using the popular version of Cora used in Planetoid [41], we use a refined version [38], which removes duplicated nodes and generates indirect pre-trained word embeddings as node features to solve the problem of information leakage in the original version. As a result, the features become 302-dimension continuous features rather than 1433-dimension binary features in the original version. The task is to classify papers into 7 categories.
- *grb-citeseer*: Small-scale citation networks. Similar to *grb-cora*, we use a refined version [38] of CiteSeer, which eliminates identical papers and generates text embeddings by pre-trained BERT [42] model. The resulting features are 768-dimension continuous features rather than 3703-dimension binary features in the original version. The task is to classify papers into 6 categories.
- *grb-flickr*: Medium-scale social networks. We adopt the Flickr dataset from [39], which contains descriptions and common properties of online images. The dataset is processed with a new splitting scheme and feature normalization mentioned in 4. The task is to classify images into 7 categories.
- *grn-reddit*: We adopt the Reddit dataset from [39], which contains the communities of online posts based on user comments. The task is to classify communities into 41 categories.
- *grb-aminer*: Large-scale citation networks. The papers are collected from the academic searching engine Aminer [43], and the dataset was used in KDD-CUP 2020 Graph Adversarial Attack & Defense competition. The task is to classify papers into 18 categories.

All five datasets are processed by the new splitting scheme and feature normalization mentioned in 4. The datasets are saved in the format of numpy [44] zipped format (with `.npz` extension), and each has four files: `adj.npz`, `features.npz`, `index.npz` and `labels.npz`. The data can be loaded by using the *Dataset* module in GRB, the example is in `https://github.com/THUDM/grb`. All data are maintained and can be found in `https://cogdl.ai/grb/datasets`, where we will continuously update to ensure the accessibility for a long term. We use MIT license for data and codes.

A.2 Related works

In other domains like image classification, there are already standards [27] or benchmarks [45] [46] for evaluating adversarial robustness. Besides, there exists a toolkit like DeepRobust [47] that implements adversarial attacks and defenses for both image classification and graph ML tasks. There are currently several benchmarks in graph ML. Open Graph Benchmark (OGB) [23] develops a diverse set of scalable and realistic datasets, which facilitates the evaluation of graph ML models. Dwivedi et al. [24] proposes a reproducible GNN benchmarking framework to facilitate researchers to add new models conveniently for arbitrary datasets. These benchmarks mainly focus on the performance but not the robustness of GNNs. so far, there is no benchmark on evaluating the *adversarial robustness* of GNNs, i.e. the robustness in the presence of adversarial attacks. Nevertheless, it is an important but challenging task, which requires avoiding pitfalls in previous works and proposing a better solution.

A.3 Methodology

A.3.1 GNN models

GCN [1] introduces a layer-wise propagation rule for graph-structured data which is motivated from a first-order approximation of spectral graph convolutions. GAT [3] leverages masked self-attention layers where nodes can attend over their neighborhoods' features with different weights. GIN [4] is a theoretically guaranteed framework for analyzing the expressive power of GNNs to capture different graph structures. APPNP [35] utilizes an improved propagation scheme based on personalized PageRank to construct a simple model with fast approximation. TAGCN [15] provides a systematic way to design a set of fixed-size learnable filters to perform convolutions on graphs. GraphSAGE [2] is a general inductive framework that leverages node features to generate node embeddings for previously unseen data. SGCN [36] removes nonlinearities and collapses weight matrices between consecutive layers, resulting in a linear model.

A.3.2 Adversarial attacks

RND [9] is a random attack strategy that only modifies the structure of the graph. In the proposed injection scenario, the features are randomly generated from the Gaussian distribution. FGSM [8] linearizes the cost function around the current value of parameters, obtaining an optimal max-norm constrained perturbation, which is called the "fast gradient sign method" of generating adversarial examples. We use an iterative version of FGSM to conduct a graph injection attack. PGD [29] is a universal "first-order adversary", i.e., the strongest attack utilizing the local first-order information about the network. The feature initialization is different from FGSM. SPEIT [26] is the first place solution in KDD-CUP 2020 Graph Adversarial Attack & Defense competition. It consists of adversarial adjacent matrix generation and enhanced feature gradient attacks, which are designed as a universal black-box graph injection attack. TDGIA [17] is an effective graph injection attack that tackles the topological defectiveness of graphs. By sequentially injecting malicious nodes around nodes that are topologically vulnerable, TDGIA can significantly influence the accuracy of GNNs.

Since the proposed scenario in GRB is a *black-box* one, all the above attacks are first applied to a surrogate model (trained by the attackers themselves), and then transfer to the target model. As demonstrated in [17], the choice of surrogate model will influence the transferability of attacks. When using raw GCN as the surrogate model, attacks can generally achieve better performance. Thus in GRB experiments, we use GCN as the surrogate model for all attacks. Nevertheless, we encourage future researchers to further investigate the effect of transferability by testing other methods.

A.3.3 Adversarial defenses

GNN-SVD [21] utilizes a low-rank approximation of the graph, that uses only the top singular components for its reconstruction. GNN-Guard [22] introduces the neighbor importance estimation and the layer-wise graph memory for defenses. RobustGCN (R-GCN) [48] is a GCN variant that is specially designed against adversarial attacks on graphs. It adapts the random perturbation of features from VAE [49] and encodes both the mean and variance of the node representation thus makes the GNNs more robust. However, we found that methods like GNN-SVD and GNNGuard are not scalable to large-scale graphs due to the calculation of large dense matrices. To have stronger baseline defenses, we propose two methods that are scalable and can generally improve the performance of GNNs.

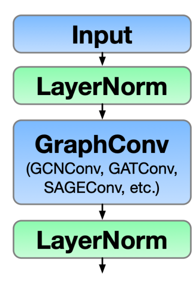

Figure 10: The proposed layer normalization in GRB. It is applied on the input and after every graph convolutional layer except the last one.

The proposed layer normalization (LN). LN [37] computes the mean and variance used for normalization from all of the summed inputs to the neurons in a layer on a single training case. It is originally used to stabilize the hidden state dynamics in recurrent networks. We found that it can also help to improve the adversarial robustness of GNNs. Unlike the original version that is only used after hidden layers, we use LN first on the input features, and then after every graph convolutional layer except the last one. The process of the proposed LN is illustrated in Figure 10. The experiment results in Section 4 show that the proposed LN can generally improve the adversarial robustness of different types of GNNs.

The proposed adversarial training (AT) in GRB scenario. The AT [29] is originally designed for defending adversarial attacks in image classification. The idea is to generate adversarial examples during training to change the classification distribution of models, which makes it difficult to perturb the results. Previous works [30] show that AT is also helpful for GNNs, but it only considers the problem of graph modification attack, where the original graph can be modified. In our case, the defense is against graph injection attack, thus we propose a variant of AT that conduct graph injection attack during training. The procedure of the proposed AT is as following: (1) Initialization: the training graph is first used to train GNNs for a few iterations as a warm-up. (2) FGSM attack: we conduct FGSM attack for a few steps on the current model to inject malicious nodes to attack training nodes. (3) Update gradients: we then train on the injected graph and minimize the classification loss of training nodes (excluding the injected nodes). (4) Repetition: we repeat this AT process until the training loss converges. Finally, we are able to construct more robust GNNs. Interestingly, we found that AT with FGSM can also defend against other attacks, which shows great generality. Besides, the proposed AT can be easily adapt to any kind of GNNs and scalable to large graphs.

Table 5: Hyper-parameters for adversarial training for five datasets.

Dataset	Attack	Step size	# Steps/Iter	# Injection	# Edges	Feature range
grb-cora	FGSM	0.01	10	20	20	[-0.94, 0.94]
grb-citeseer	FGSM	0.01	10	30	20	[-0.96, 0.89]
grb-flickr	FGSM	0.01	10	200	100	[-0.47, 0.99]
grb-reddit	FGSM	0.01	10	500	200	[-0.98, 0.99]
grb-aminer	FGSM	0.01	10	500	100	[-0.93, 0.93]

A.4 Reproducibility

Reproducibility is one of the main features of GRB. For reproducing results on leaderboards, all necessary components are available, including model weights, attack parameters, generated adversarial results, etc. Besides, GRB provides scripts that allow users to reproduce results by a single command line. All codes are available in `https://github.com/THUDM/grb`, where the implementation details and examples can be found. GRB also provides full documentation for each module and function. All experiments can be reproduced in a single NVIDIA V100 GPU (with 32 GB memory).

A.4.1 Hyper-parameter settings

Hyper-parameters of GNNs and defenses. The hyper-parameters of raw GNNs and defenses are shown in Table 6, 7, 8, 9, 10, where GCNGuard stands for GCN+GNNGuard, GATGuard for GAT+GNNGuard, GCN-SVD for GCN+GNN-SVD, and LN for the proposed layer normalization. For the proposed adversarial training (AT), the hyper-parameters are shown in Table 5. Under the proposed AT, GNNs are trained while being continuously attacked by FGSM attack for a few steps per training iterations. Note that in each iteration, the attack is independent of previous iterations, only based on the weights of the model in the current iteration. The other hyper-parameters are exactly the same as training GNNs.

Hyper-parameters for adversarial attacks. The hyper-parameters of attacks are shown in Table 11. To minimally ensure *unnoticeability* of attacks, GRB has constraints on the number of injected nodes and the range of their features. Nevertheless, more definitions of *unnoticeabilty* can be developed by attackers and defenders when using GRB. Since the proposed scenario in GRB is a *black-box* one, all the above attacks are first applied to a surrogate model (trained by the attackers themselves), and then transfer to the target model. As demonstrated in [17], the choice of surrogate model will influence the transferability of attacks. When using raw GCN as the surrogate model, attacks can generally achieve better performance. Thus in GRB experiments, we use GCN as the surrogate model for all attacks.

A.5 Detailed experiment results

We conduct extensive experiments on all datasets and build a leaderboard for each dataset. Here we show the results of Top-5 attacks vs. Top-10 defenses, full leaderboards can be found in

Table 6: Hyper-parameters of GNN models for *grb-cora* dataset.

Model	#Params	Hidden sizes	LR	Dropout	Optimizer	Others
GCN	28167	64, 64, 64	0.01	0.5	Adam	
GCN+LN	29027	64, 64, 64	0.01	0.5	Adam	
SAGE	160320	64, 64, 64	0.01	0.5	Adam	full-batch
SAGE+LN	161180	64, 64, 64	0.01	0.5	Adam	full-batch
SGCN	28771	64, 64, 64	0.01	0.5	Adam	k=4
SGCN+LN	29027	64, 64, 64	0.01	0.5	Adam	k=4
R-GCN	56334	64, 64, 64	0.01	0.5	Adam	
TAGCN	84103	64, 64, 64	0.01	0.5	Adam	k=2
TAGCN+LN	84963	64, 64, 64	0.01	0.5	Adam	k=2
GAT	217940	64, 64, 64	0.01	0.5	Adam	num_heads=4
GAT+LN	219568	64, 64, 64	0.01	0.5	Adam	num_heads=4
APPNP	19847	64	0.01	0.5	Adam	alpha=0.01, k=10
APPNP+LN	20579	64	0.01	0.5	Adam	alpha=0.01, k=10
GIN	45194	64, 64, 64	0.01	0.5	Adam	
GIN+LN	46054	64, 64, 64	0.01	0.5	Adam	
GCNGuard	24010	64, 64	0.001	0.1	Adam	
GATGuard	151639	64, 64	0.001	0.1	Adam	num_heads=4
GCN-SVD	24007	64, 64	0.01	0.5	Adam	

Table 7: Hyper-parameters of GNN models for *grb-citeseer* dataset.

Model	#Params	Hidden sizes	LR	Dropout	Optimizer	Others
GCN	57926	64, 64, 64	0.01	0.5	Adam	
GCN+LN	59718	64, 64, 64	0.01	0.5	Adam	
SAGE	718924	64, 64, 64	0.01	0.5	Adam	full batch
SAGE+LN	720716	64, 64, 64	0.01	0.5	Adam	full batch
SGCN	59462	64, 64, 64	0.01	0.5	Adam	k=4
SGCN+LN	59718	64, 64, 64	0.01	0.5	Adam	k=4
R-GCN	115852	64, 64, 64	0.01	0.5	Adam	
TAGCN	173382	64, 64, 64	0.01	0.5	Adam	k=2
TAGCN+LN	175174	64, 64, 64	0.01	0.5	Adam	k=2
GAT	336200	64, 64, 64	0.01	0.5	Adam	num_heads=4
GAT+LN	338760	64, 64, 64	0.01	0.5	Adam	num_heads=4
APPNP	49606	64	0.01	0.5	Adam	alpha=0.01, k=10
APPNP+LN	51270	64	0.01	0.5	Adam	alpha=0.01, k=10
GIN	74953	64, 64, 64	0.01	0.5	Adam	
GIN+LN	76745	64, 64, 64	0.01	0.5	Adam	
GCNGuard	53769	64, 64	0.001	0.1	Adam	
GATGuard	269899	64, 64	0.001	0.1	Adam	num_heads=4
GCN-SVD	53766	64, 64	0.01	0.5	Adam	

Table 8: Hyper-parameters of GNN models for *grb-flickr* dataset.

Model	#Params	Hidden sizes	LR	Dropout	Optimizer	Others
GCN	169863	256, 128, 64	0.01	0.5	Adam	
GCN+LN	171631	256, 128, 64	0.01	0.5	Adam	
SAGE	496146	128, 128, 128	0.01	0.5	Adam	full batch
SAGE+LN	497658	128, 128, 128	0.01	0.5	Adam	full batch
R-GCN	196110	128, 128, 128	0.01	0.5	Adam	
TAGCN	293383	128, 128, 128	0.01	0.5	Adam	k=2
TAGCN+LN	294895	128, 128, 128	0.01	0.5	Adam	k=2
GAT	799316	128, 128, 128	0.01	0.5	Adam	num_heads=4
GAT+LN	802364	128, 128, 128	0.01	0.5	Adam	num_heads=4
APPNP	65031	128	0.01	0.5	Adam	alpha=0.01, k=10
APPNP+LN	66287	128	0.01	0.5	Adam	alpha=0.01, k=10
GIN	164874	128, 128, 128	0.01	0.5	Adam	
GIN+LN	166386	128, 128, 128	0.01	0.5	Adam	
GCNGuard	81546	128, 128	0.001	0.1	Adam	

Table 9: Hyper-parameters of GNN models for *grb-reddit* dataset.

Model	#Params	Hidden sizes	LR	Dropout	Optimizer	Others
GCN	115497	128, 128, 128	0.01	0.5	Adam	
GCN+LN	117213	128, 128, 128	0.01	0.5	Adam	
SAGE	643536	128, 128, 128	0.01	0.5	Adam	full batch
SAGE+LN	645252	128, 128, 128	0.01	0.5	Adam	full batch
SGCN	116701	128, 128, 128	0.01	0.5	Adam	k=4
SGCN+LN	117213	128, 128, 128	0.01	0.5	Adam	k=4
R-GCN	230994	128, 128, 128	0.01	0.5	Adam	
TAGCN	345641	128, 128, 128	0.01	0.5	Adam	k=2
TAGCN+LN	347357	128, 128, 128	0.01	0.5	Adam	k=2
GAT	104950	64, 64	0.01	0.5	Adam	num_heads=2
GAT+LN	106410	64, 64	0.01	0.5	Adam	num_heads=2
APPNP	82473	128	0.01	0.5	Adam	alpha=0.01, k=10
APPNP+LN	83933	128	0.01	0.5	Adam	alpha=0.01, k=10
GIN	182316	128, 128, 128	0.01	0.5	Adam	
GIN+LN	184032	128, 128, 128	0.01	0.5	Adam	

Table 10: Hyper-parameters of GNN models for *grb-aminer* dataset.

Model	#Params	Hidden sizes	LR	Dropout	Optimizer	Others
GCN	48274	128, 128, 128	0.01	0.5	Adam	
GCN+LN	48986	128, 128, 128	0.01	0.5	Adam	
SAGE	156184	128, 128, 128	0.01	0.5	Adam	full batch
SAGE+LN	156896	128, 128, 128	0.01	0.5	Adam	full batch
SGCN	48474	128, 128, 128	0.01	0.5	Adam	k=4
SGCN+LN	48986	128, 128, 128	0.01	0.5	Adam	k=4
R-GCN	96548	128, 128, 128	0.01	0.5	Adam	
TAGCN	144018	128, 128, 128	0.01	0.5	Adam	k=2
TAGCN+LN	144730	128, 128, 128	0.01	0.5	Adam	k=2
GAT	177624	64, 64, 64	0.01	0.5	Adam	num_heads=2
GAT+LN	178848	64, 64, 64	0.01	0.5	Adam	num_heads=2
APPNP	15250	128	0.01	0.5	Adam	alpha=0.01, k=10
APPNP+LN	15706	128	0.01	0.5	Adam	alpha=0.01, k=10
GIN	115093	128, 128, 128	0.01	0.5	Adam	
GIN+LN	115805	128, 128, 128	0.01	0.5	Adam	

Table 11: Hyper-parameters for adversarial attacks for five datasets.

Dataset	Attack	ϵ	# Iter	# Injection (E/M/H/F)	# Edges	Feature Range	Others
	RND	-	1				Random features
	PGD	0.01	1000				-
grb-cora	FGSM	0.01	1000	20/20/20/60	20	[-0.94, 0.94]	-
	SPEIT	0.01	1000				-
	TDGIA	0.01	1000				Sequential
	RND	-	1				Random features
	PGD	0.01	1000				-
grb-citeseer	FGSM	0.01	1000	30/30/30/90	20	[-0.96, 0.89]	-
	SPEIT	0.01	1000				-
	TDGIA	0.01	1000				Sequential
	RND	-	1				Random features
	PGD	0.01	2000				-
grb-flickr	FGSM	0.01	2000	200/200/200/600	100	[-0.47, 0.99]	-
	SPEIT	0.01	2000				-
	TDGIA	0.01	2000				Sequential
	RND	-	1				Random features
	PGD	0.01	2000				-
grb-reddit	FGSM	0.01	2000	500/500/500/1500	200	[-0.98, 0.99]	-
	SPEIT	0.01	2000				-
	TDGIA	0.01	2000				Sequential
	RND	-	1				Random features
	PGD	0.01	5000				-
grb-aminer	FGSM	0.01	5000	500/500/500/1500	100	[-0.93, 0.93]	-
	SPEIT	0.01	5000				-
	TDGIA	0.01	5000				Sequential

https://cogdl.ai/grb/leaderboard. It can be seen that different methods vary performance in different datasets. And it is also hard for attacks to be generally effective, especially in the presence of the proposed strong defense baselines. We hope GRB leaderboards can provide insights for future research in this field. Both attacks and defenses are ranked by the weighted accuracy, where red and blue indicated the best results in each difficulty.

Table 12: GRB leaderboard (Top 5 Attacks vs. Top 10 Defenses) for *grb-cora* dataset.

Attack \ Defenses		1 R-GCN$_{+AT}$	2 GAT$_{+AT}$	3 SGCN$_{+LN}$	4 R-GCN	5 TAGCN$_{+LN}$	6 GIN$_{+LN}$	7 APPNP$_{+LN}$	8 GIN$_{+AT}$	9 GATGuard	10 GCN$_{+LN}$	Avg. Accuracy	Avg. 3-Max Accuracy	Weighted Accuracy
1 SPEIT	E	$79.97_{\pm1.56}$	$80.97_{\pm1.23}$	$66.16_{\pm1.96}$	$74.62_{\pm2.80}$	$63.28_{\pm1.76}$	$55.60_{\pm2.13}$	$71.57_{\pm0.86}$	$54.48_{\pm1.76}$	$64.93_{\pm0.00}$	$48.06_{\pm2.38}$	$52.01_{\pm0.09}$	$53.48_{\pm0.25}$	$53.44_{\pm0.17}$
	M	$84.11_{\pm0.38}$	$84.55_{\pm0.44}$	$80.60_{\pm1.18}$	$81.16_{\pm1.39}$	$74.59_{\pm1.86}$	$64.10_{\pm1.05}$	$75.67_{\pm1.12}$	$63.36_{\pm1.39}$	$63.06_{\pm0.00}$	$69.18_{\pm2.24}$	$47.31_{\pm0.09}$	$50.35_{\pm1.25}$	$50.89_{\pm0.24}$
	H	$88.51_{\pm0.80}$	$89.78_{\pm1.00}$	$89.74_{\pm0.71}$	$88.47_{\pm0.54}$	$89.85_{\pm0.55}$	$80.37_{\pm1.10}$	$80.64_{\pm1.14}$	$63.51_{\pm3.22}$	$69.03_{\pm0.00}$	$88.55_{\pm1.32}$	$42.72_{\pm0.07}$	$47.34_{\pm2.27}$	$48.44_{\pm0.12}$
	F	$85.21_{\pm0.41}$	$85.35_{\pm0.19}$	$75.65_{\pm0.87}$	$79.85_{\pm0.48}$	$71.73_{\pm1.14}$	$64.75_{\pm0.62}$	$73.11_{\pm0.76}$	$63.05_{\pm1.37}$	$65.67_{\pm0.00}$	$59.45_{\pm0.64}$	$45.86_{\pm0.05}$	$48.56_{\pm0.98}$	$48.95_{\pm0.12}$
2 TDGIA	E	$81.68_{\pm1.81}$	$80.52_{\pm0.72}$	$72.05_{\pm3.19}$	$68.13_{\pm3.50}$	$73.36_{\pm3.86}$	$68.77_{\pm2.56}$	$64.18_{\pm1.71}$	$63.02_{\pm3.37}$	$64.93_{\pm0.00}$	$65.93_{\pm4.07}$	$50.12_{\pm0.14}$	$53.22_{\pm1.01}$	$53.30_{\pm0.12}$
	M	$83.96_{\pm0.53}$	$84.25_{\pm0.40}$	$81.49_{\pm0.71}$	$77.57_{\pm1.86}$	$82.17_{\pm3.29}$	$73.58_{\pm2.81}$	$74.44_{\pm1.52}$	$70.19_{\pm1.84}$	$63.06_{\pm0.00}$	$76.34_{\pm2.16}$	$47.21_{\pm0.06}$	$51.58_{\pm0.22}$	$51.06_{\pm0.10}$
	H	$88.21_{\pm0.18}$	$90.30_{\pm0.00}$	$88.92_{\pm0.80}$	$86.83_{\pm0.85}$	$87.39_{\pm1.81}$	$84.52_{\pm1.28}$	$78.58_{\pm1.30}$	$80.63_{\pm3.06}$	$69.03_{\pm0.00}$	$86.64_{\pm1.63}$	$45.17_{\pm0.07}$	$48.53_{\pm1.14}$	$48.68_{\pm0.06}$
	F	$84.43_{\pm0.27}$	$84.55_{\pm0.50}$	$77.39_{\pm1.05}$	$74.58_{\pm1.76}$	$79.67_{\pm1.53}$	$76.14_{\pm1.80}$	$68.16_{\pm2.10}$	$70.51_{\pm1.58}$	$65.67_{\pm0.00}$	$72.58_{\pm2.71}$	$46.24_{\pm0.04}$	$49.75_{\pm0.84}$	$49.73_{\pm0.09}$
3 PGD	E	$83.02_{\pm1.26}$	$80.60_{\pm1.04}$	$73.88_{\pm2.41}$	$67.80_{\pm2.24}$	$74.78_{\pm2.36}$	$70.07_{\pm1.79}$	$66.19_{\pm1.50}$	$62.65_{\pm1.33}$	$64.93_{\pm0.00}$	$68.58_{\pm3.00}$	$50.11_{\pm0.11}$	$53.19_{\pm0.98}$	$53.29_{\pm0.14}$
	M	$83.84_{\pm1.15}$	$84.81_{\pm0.67}$	$82.20_{\pm1.18}$	$78.51_{\pm1.57}$	$83.36_{\pm1.39}$	$77.35_{\pm1.02}$	$73.21_{\pm1.83}$	$69.25_{\pm2.18}$	$63.06_{\pm0.00}$	$77.80_{\pm1.26}$	$47.24_{\pm0.08}$	$51.64_{\pm0.20}$	$51.11_{\pm0.09}$
	H	$88.88_{\pm0.50}$	$90.48_{\pm0.67}$	$89.96_{\pm0.75}$	$85.86_{\pm0.83}$	$89.48_{\pm1.07}$	$85.97_{\pm0.82}$	$78.47_{\pm1.29}$	$80.82_{\pm0.89}$	$69.03_{\pm0.00}$	$88.32_{\pm0.56}$	$45.18_{\pm0.05}$	$48.50_{\pm1.14}$	$48.68_{\pm0.06}$
	F	$85.60_{\pm0.38}$	$85.43_{\pm0.34}$	$81.90_{\pm0.90}$	$76.77_{\pm0.74}$	$83.22_{\pm0.60}$	$78.58_{\pm0.51}$	$66.49_{\pm0.68}$	$71.30_{\pm0.94}$	$65.67_{\pm0.00}$	$78.21_{\pm0.68}$	$46.26_{\pm0.04}$	$49.81_{\pm0.89}$	$49.83_{\pm0.08}$
4 FGSM	E	$82.35_{\pm0.95}$	$80.19_{\pm0.97}$	$73.95_{\pm2.46}$	$67.01_{\pm1.40}$	$74.03_{\pm1.72}$	$70.48_{\pm1.60}$	$64.67_{\pm1.71}$	$62.46_{\pm2.30}$	$64.93_{\pm0.00}$	$68.39_{\pm1.27}$	$52.72_{\pm0.03}$	$54.71_{\pm0.33}$	$54.71_{\pm0.07}$
	M	$84.25_{\pm1.24}$	$85.11_{\pm0.64}$	$82.46_{\pm0.93}$	$77.87_{\pm1.43}$	$84.29_{\pm1.02}$	$78.77_{\pm1.09}$	$73.10_{\pm1.13}$	$69.74_{\pm1.60}$	$63.06_{\pm0.00}$	$78.47_{\pm1.30}$	$48.71_{\pm0.16}$	$51.81_{\pm0.67}$	$51.93_{\pm0.09}$
	H	$89.22_{\pm0.59}$	$90.59_{\pm0.40}$	$90.30_{\pm0.50}$	$86.23_{\pm1.16}$	$89.55_{\pm0.67}$	$86.08_{\pm0.78}$	$78.80_{\pm1.45}$	$80.93_{\pm0.91}$	$69.03_{\pm0.00}$	$87.13_{\pm0.96}$	$43.58_{\pm0.08}$	$48.20_{\pm1.74}$	$48.84_{\pm0.08}$
	F	$85.01_{\pm0.41}$	$85.33_{\pm0.72}$	$81.53_{\pm1.27}$	$76.62_{\pm0.90}$	$83.00_{\pm0.61}$	$78.26_{\pm0.88}$	$67.09_{\pm1.18}$	$71.64_{\pm0.78}$	$65.67_{\pm0.00}$	$77.60_{\pm1.14}$	$48.26_{\pm0.03}$	$51.45_{\pm0.77}$	$51.61_{\pm0.06}$
5 RND	E	$82.28_{\pm0.93}$	$80.26_{\pm1.24}$	$76.57_{\pm2.44}$	$73.54_{\pm1.44}$	$78.36_{\pm1.74}$	$68.81_{\pm0.82}$	$67.95_{\pm1.68}$	$67.69_{\pm1.05}$	$64.93_{\pm0.00}$	$74.29_{\pm1.86}$	$52.31_{\pm0.06}$	$53.65_{\pm0.24}$	$53.65_{\pm0.14}$
	M	$84.18_{\pm1.00}$	$84.44_{\pm0.88}$	$82.05_{\pm0.72}$	$79.33_{\pm1.24}$	$84.11_{\pm0.34}$	$76.68_{\pm1.05}$	$73.88_{\pm1.64}$	$72.72_{\pm1.68}$	$63.06_{\pm0.00}$	$80.11_{\pm1.08}$	$48.89_{\pm0.05}$	$51.70_{\pm0.32}$	$51.57_{\pm0.11}$
	H	$88.99_{\pm0.51}$	$90.71_{\pm0.31}$	$90.19_{\pm0.41}$	$87.20_{\pm0.75}$	$90.04_{\pm0.24}$	$84.52_{\pm0.73}$	$80.03_{\pm1.11}$	$82.87_{\pm0.83}$	$69.03_{\pm0.00}$	$89.29_{\pm0.75}$	$44.74_{\pm0.07}$	$49.19_{\pm0.26}$	$48.77_{\pm0.18}$
	F	$85.36_{\pm0.41}$	$84.95_{\pm0.58}$	$82.85_{\pm1.29}$	$79.53_{\pm0.74}$	$84.22_{\pm0.58}$	$76.75_{\pm0.89}$	$68.93_{\pm0.92}$	$74.11_{\pm0.71}$	$65.67_{\pm0.00}$	$81.34_{\pm0.60}$	$48.32_{\pm0.04}$	$50.98_{\pm0.17}$	$50.74_{\pm0.07}$
6 W/O Attack	E	$84.70_{\pm0.00}$	$81.34_{\pm0.00}$	$81.72_{\pm0.00}$	$82.09_{\pm0.00}$	$79.10_{\pm0.00}$	$70.15_{\pm0.00}$	$77.99_{\pm0.00}$	$68.28_{\pm0.00}$	$64.93_{\pm0.00}$	$79.10_{\pm0.00}$	$52.04_{\pm0.01}$	$53.70_{\pm0.88}$	$54.15_{\pm0.08}$
	M	$83.96_{\pm0.00}$	$84.33_{\pm0.00}$	$82.84_{\pm0.00}$	$83.21_{\pm0.00}$	$85.45_{\pm0.00}$	$76.87_{\pm0.00}$	$82.46_{\pm0.00}$	$73.51_{\pm0.00}$	$63.06_{\pm0.00}$	$81.72_{\pm0.00}$	$49.67_{\pm0.01}$	$52.67_{\pm0.50}$	$52.65_{\pm0.09}$
	H	$89.55_{\pm0.00}$	$91.04_{\pm0.00}$	$91.04_{\pm0.00}$	$89.18_{\pm0.00}$	$90.67_{\pm0.00}$	$84.70_{\pm0.00}$	$88.06_{\pm0.00}$	$82.84_{\pm0.00}$	$69.03_{\pm0.00}$	$89.93_{\pm0.00}$	$45.94_{\pm0.01}$	$50.01_{\pm0.56}$	$49.99_{\pm0.00}$
	F	$86.07_{\pm0.00}$	$85.57_{\pm0.00}$	$85.20_{\pm0.00}$	$84.83_{\pm0.00}$	$85.07_{\pm0.00}$	$77.24_{\pm0.00}$	$82.84_{\pm0.00}$	$74.88_{\pm0.00}$	$65.67_{\pm0.00}$	$83.58_{\pm0.00}$	$49.21_{\pm0.01}$	$51.82_{\pm0.33}$	$51.77_{\pm0.04}$
Avg. Accuracy	E	$82.33_{\pm0.40}$	$80.65_{\pm0.54}$	$74.05_{\pm1.05}$	$72.20_{\pm1.01}$	$73.82_{\pm0.78}$	$67.31_{\pm0.56}$	$68.76_{\pm0.54}$	$63.10_{\pm0.38}$	$64.93_{\pm0.00}$	$67.39_{\pm0.84}$	-	-	-
	M	$84.05_{\pm0.34}$	$84.58_{\pm0.21}$	$81.94_{\pm0.30}$	$79.61_{\pm0.60}$	$82.33_{\pm0.49}$	$74.56_{\pm0.45}$	$75.46_{\pm0.50}$	$69.80_{\pm0.92}$	$63.06_{\pm0.00}$	$77.27_{\pm0.49}$	-	-	-
	H	$88.89_{\pm0.21}$	$90.49_{\pm0.18}$	$90.02_{\pm0.27}$	$87.29_{\pm0.33}$	$89.50_{\pm0.41}$	$84.36_{\pm0.36}$	$80.77_{\pm0.23}$	$78.60_{\pm0.96}$	$69.03_{\pm0.00}$	$88.31_{\pm0.38}$	-	-	-
	F	$85.28_{\pm0.15}$	$85.20_{\pm0.21}$	$80.75_{\pm0.41}$	$78.69_{\pm0.27}$	$81.15_{\pm0.42}$	$75.29_{\pm0.49}$	$71.10_{\pm0.40}$	$70.91_{\pm0.43}$	$65.67_{\pm0.00}$	$75.46_{\pm0.49}$	-	-	-
Avg. 3-Min Accuracy	E	$80.93_{\pm0.61}$	$79.91_{\pm0.61}$	$70.14_{\pm1.74}$	$67.61_{\pm1.32}$	$69.58_{\pm1.09}$	$63.92_{\pm0.83}$	$64.89_{\pm0.88}$	$59.17_{\pm0.66}$	$64.93_{\pm0.00}$	$60.34_{\pm1.48}$	-	-	-
	M	$83.46_{\pm0.31}$	$84.14_{\pm0.22}$	$81.07_{\pm0.36}$	$77.74_{\pm0.93}$	$79.90_{\pm0.82}$	$71.29_{\pm1.07}$	$73.07_{\pm0.83}$	$67.10_{\pm1.28}$	$63.06_{\pm0.00}$	$74.28_{\pm0.90}$	-	-	-
	H	$88.36_{\pm0.28}$	$90.06_{\pm0.34}$	$89.39_{\pm0.37}$	$86.17_{\pm0.53}$	$88.58_{\pm0.80}$	$82.97_{\pm0.42}$	$78.41_{\pm0.38}$	$74.66_{\pm1.77}$	$69.03_{\pm0.00}$	$87.16_{\pm0.61}$	-	-	-
	F	$84.79_{\pm0.23}$	$84.77_{\pm0.34}$	$78.01_{\pm0.50}$	$75.99_{\pm0.42}$	$78.07_{\pm0.78}$	$72.46_{\pm0.81}$	$67.10_{\pm0.76}$	$68.12_{\pm0.65}$	$65.67_{\pm0.00}$	$69.83_{\pm0.88}$	-	-	-
Weighted Accuracy	E	$80.19_{\pm0.86}$	$79.62_{\pm0.61}$	$68.40_{\pm1.64}$	$66.85_{\pm1.66}$	$66.67_{\pm1.12}$	$59.85_{\pm1.37}$	$64.50_{\pm0.99}$	$57.05_{\pm1.00}$	$64.93_{\pm0.00}$	$54.51_{\pm1.73}$	-	-	-
	M	$83.27_{\pm0.41}$	$84.00_{\pm0.30}$	$80.70_{\pm0.44}$	$77.37_{\pm1.24}$	$77.02_{\pm1.13}$	$67.76_{\pm0.85}$	$72.63_{\pm1.04}$	$65.40_{\pm1.27}$	$63.06_{\pm0.00}$	$71.83_{\pm1.38}$	-	-	-
	H	$88.22_{\pm0.31}$	$89.80_{\pm0.60}$	$89.15_{\pm0.49}$	$85.91_{\pm0.56}$	$88.05_{\pm1.28}$	$81.70_{\pm0.69}$	$78.00_{\pm0.67}$	$69.13_{\pm2.45}$	$69.03_{\pm0.00}$	$86.71_{\pm0.94}$	-	-	-
	F	$84.65_{\pm0.23}$	$84.62_{\pm0.33}$	$76.86_{\pm0.58}$	$75.45_{\pm0.96}$	$74.96_{\pm0.91}$	$68.64_{\pm0.68}$	$66.79_{\pm0.98}$	$65.73_{\pm0.89}$	$65.67_{\pm0.00}$	$64.82_{\pm0.60}$	-	-	-

Table 13: GRB leaderboard (Top 5 Attacks vs. Top 10 Defenses) for *grb-citeseer* dataset.

Attack \ Defenses		1 GAT$_{+AT}$	2 R-GCN$_{+AT}$	3 SAGE$_{AT}$	4 GATGuard	5 GCNGuard	6 SGCN$_{+LN}$	7 R-GCN	8 GIN$_{+LN}$	9 TAGCN$_{+LN}$	10 GIN$_{+AT}$	Avg. Accuracy	Avg. 3-Max Accuracy	Weighted Accuracy
1 SPEIT	E	$70.88_{\pm0.83}$	$67.49_{\pm1.01}$	$68.68_{\pm1.64}$	$65.52_{\pm0.00}$	$56.43_{\pm0.00}$	$49.78_{\pm2.57}$	$52.29_{\pm2.76}$	$48.53_{\pm1.60}$	$44.89_{\pm4.98}$	$47.30_{\pm8.94}$	$52.01_{\pm0.09}$	$53.48_{\pm0.25}$	$53.44_{\pm0.17}$
	M	$72.16_{\pm0.44}$	$71.00_{\pm1.12}$	$70.81_{\pm1.79}$	$63.64_{\pm0.00}$	$62.70_{\pm0.00}$	$55.05_{\pm1.74}$	$61.63_{\pm3.24}$	$49.78_{\pm2.12}$	$52.66_{\pm4.65}$	$47.34_{\pm9.06}$	$47.31_{\pm0.09}$	$50.35_{\pm1.25}$	$50.89_{\pm0.24}$
	H	$78.18_{\pm0.49}$	$79.69_{\pm0.37}$	$77.46_{\pm0.67}$	$72.10_{\pm0.00}$	$74.64_{\pm0.09}$	$66.87_{\pm1.73}$	$77.08_{\pm1.91}$	$56.86_{\pm1.31}$	$69.03_{\pm4.80}$	$51.10_{\pm6.38}$	$42.72_{\pm0.07}$	$47.34_{\pm2.27}$	$48.44_{\pm0.12}$
	F	$73.85_{\pm0.22}$	$71.30_{\pm0.64}$	$71.62_{\pm1.39}$	$67.08_{\pm0.00}$	$64.54_{\pm0.13}$	$53.64_{\pm1.43}$	$59.32_{\pm3.65}$	$52.82_{\pm0.93}$	$51.09_{\pm6.38}$	$44.71_{\pm9.62}$	$45.86_{\pm0.05}$	$48.56_{\pm0.98}$	$48.95_{\pm0.12}$
2 TDGIA	E	$71.00_{\pm0.67}$	$66.68_{\pm1.30}$	$68.18_{\pm1.33}$	$65.52_{\pm0.00}$	$56.43_{\pm0.00}$	$57.15_{\pm1.87}$	$48.81_{\pm3.56}$	$53.92_{\pm2.98}$	$47.27_{\pm2.58}$	$51.95_{\pm10.85}$	$50.12_{\pm0.14}$	$53.22_{\pm1.01}$	$53.30_{\pm0.12}$
	M	$72.54_{\pm0.47}$	$71.76_{\pm1.21}$	$71.13_{\pm1.10}$	$63.64_{\pm0.00}$	$62.70_{\pm0.00}$	$60.91_{\pm0.95}$	$60.97_{\pm2.82}$	$49.22_{\pm3.91}$	$49.09_{\pm6.61}$	$51.69_{\pm7.68}$	$47.21_{\pm0.06}$	$51.58_{\pm0.22}$	$51.06_{\pm0.10}$
	H	$78.28_{\pm0.37}$	$79.72_{\pm0.49}$	$77.27_{\pm0.87}$	$72.10_{\pm0.00}$	$74.61_{\pm0.00}$	$70.50_{\pm1.89}$	$73.92_{\pm1.91}$	$57.80_{\pm4.13}$	$65.61_{\pm3.54}$	$66.08_{\pm6.43}$	$45.17_{\pm0.07}$	$48.53_{\pm1.14}$	$48.68_{\pm0.06}$
	F	$73.89_{\pm0.40}$	$71.75_{\pm0.78}$	$72.25_{\pm0.62}$	$67.08_{\pm0.00}$	$64.58_{\pm0.00}$	$59.76_{\pm2.10}$	$56.69_{\pm1.77}$	$52.16_{\pm2.47}$	$46.87_{\pm4.99}$	$59.01_{\pm5.47}$	$46.24_{\pm0.04}$	$49.75_{\pm0.84}$	$49.73_{\pm0.09}$
3 FGSM	E	$71.44_{\pm1.03}$	$69.00_{\pm0.75}$	$69.28_{\pm0.73}$	$65.52_{\pm0.00}$	$56.46_{\pm0.17}$	$52.38_{\pm1.56}$	$49.87_{\pm2.20}$	$52.38_{\pm2.41}$	$50.88_{\pm4.01}$	$56.61_{\pm2.45}$	$50.11_{\pm0.11}$	$53.19_{\pm0.98}$	$53.29_{\pm0.14}$
	M	$72.47_{\pm0.48}$	$73.23_{\pm0.51}$	$71.25_{\pm0.67}$	$63.64_{\pm0.00}$	$62.67_{\pm0.10}$	$60.22_{\pm1.19}$	$58.53_{\pm1.76}$	$57.43_{\pm1.53}$	$61.76_{\pm2.49}$	$61.85_{\pm1.49}$	$47.24_{\pm0.08}$	$51.64_{\pm0.20}$	$51.11_{\pm0.09}$
	H	$78.40_{\pm0.38}$	$79.94_{\pm0.31}$	$77.24_{\pm0.96}$	$72.10_{\pm0.00}$	$74.36_{\pm0.75}$	$71.03_{\pm1.09}$	$71.94_{\pm1.26}$	$70.72_{\pm1.29}$	$77.90_{\pm1.40}$	$71.66_{\pm2.18}$	$45.18_{\pm0.05}$	$48.50_{\pm1.14}$	$48.68_{\pm0.06}$
	F	$73.86_{\pm0.28}$	$73.63_{\pm0.50}$	$72.40_{\pm0.60}$	$67.08_{\pm0.00}$	$64.56_{\pm0.04}$	$58.05_{\pm0.88}$	$55.07_{\pm1.43}$	$61.36_{\pm1.03}$	$63.39_{\pm1.21}$	$62.54_{\pm0.81}$	$46.26_{\pm0.04}$	$49.81_{\pm0.89}$	$49.83_{\pm0.08}$
4 PGD	E	$71.22_{\pm0.75}$	$69.19_{\pm0.66}$	$69.06_{\pm0.79}$	$65.52_{\pm0.00}$	$56.40_{\pm0.10}$	$53.39_{\pm1.94}$	$47.77_{\pm1.29}$	$54.70_{\pm1.99}$	$51.16_{\pm2.93}$	$58.02_{\pm2.31}$	$52.72_{\pm0.03}$	$54.71_{\pm0.33}$	$54.71_{\pm0.07}$
	M	$72.60_{\pm0.67}$	$72.91_{\pm0.61}$	$70.91_{\pm0.64}$	$63.64_{\pm0.00}$	$62.70_{\pm0.00}$	$60.34_{\pm1.00}$	$57.77_{\pm1.58}$	$58.78_{\pm1.70}$	$62.10_{\pm1.96}$	$60.75_{\pm3.33}$	$48.71_{\pm0.16}$	$51.81_{\pm0.67}$	$51.93_{\pm0.09}$
	H	$78.18_{\pm0.40}$	$79.94_{\pm0.34}$	$77.53_{\pm0.93}$	$72.10_{\pm0.00}$	$74.61_{\pm0.00}$	$70.69_{\pm1.56}$	$71.79_{\pm1.67}$	$71.57_{\pm1.84}$	$78.21_{\pm0.97}$	$71.41_{\pm1.80}$	$43.58_{\pm0.08}$	$48.20_{\pm1.74}$	$48.84_{\pm0.08}$
	F	$73.84_{\pm0.26}$	$73.58_{\pm0.36}$	$72.38_{\pm0.54}$	$67.08_{\pm0.00}$	$64.46_{\pm0.16}$	$58.31_{\pm0.62}$	$54.90_{\pm1.58}$	$61.60_{\pm0.95}$	$64.25_{\pm1.48}$	$63.21_{\pm1.19}$	$48.26_{\pm0.03}$	$51.45_{\pm0.77}$	$51.61_{\pm0.06}$
5 RND	E	$71.07_{\pm0.47}$	$67.56_{\pm1.04}$	$68.34_{\pm0.54}$	$65.52_{\pm0.00}$	$56.34_{\pm0.28}$	$54.64_{\pm2.04}$	$51.94_{\pm1.64}$	$60.88_{\pm1.22}$	$69.06_{\pm1.48}$	$60.66_{\pm1.42}$	$52.31_{\pm0.06}$	$53.65_{\pm0.24}$	$53.65_{\pm0.14}$
	M	$72.48_{\pm0.34}$	$71.82_{\pm0.41}$	$71.13_{\pm0.57}$	$63.64_{\pm0.00}$	$62.73_{\pm0.09}$	$57.21_{\pm1.82}$	$61.38_{\pm1.08}$	$63.10_{\pm1.93}$	$70.53_{\pm1.23}$	$62.79_{\pm1.02}$	$48.89_{\pm0.05}$	$51.70_{\pm0.32}$	$51.57_{\pm0.11}$
	H	$78.37_{\pm0.44}$	$79.84_{\pm0.42}$	$77.93_{\pm0.72}$	$72.10_{\pm0.00}$	$74.58_{\pm0.22}$	$68.18_{\pm1.85}$	$75.24_{\pm1.81}$	$72.41_{\pm1.34}$	$78.37_{\pm0.87}$	$72.41_{\pm0.40}$	$44.74_{\pm0.07}$	$49.19_{\pm0.26}$	$48.77_{\pm0.18}$
	F	$74.00_{\pm0.45}$	$72.95_{\pm0.68}$	$72.70_{\pm0.47}$	$67.08_{\pm0.00}$	$64.55_{\pm0.16}$	$55.79_{\pm0.95}$	$60.43_{\pm0.71}$	$65.66_{\pm0.43}$	$73.06_{\pm0.58}$	$65.24_{\pm0.51}$	$48.32_{\pm0.04}$	$50.98_{\pm0.17}$	$50.74_{\pm0.07}$
6 W/O Attack	E	$70.22_{\pm0.00}$	$71.16_{\pm0.00}$	$70.22_{\pm0.00}$	$65.52_{\pm0.00}$	$56.43_{\pm0.00}$	$71.16_{\pm0.00}$	$68.75_{\pm0.15}$	$63.95_{\pm0.00}$	$69.59_{\pm0.00}$	$64.26_{\pm0.00}$	$52.04_{\pm0.01}$	$53.70_{\pm0.88}$	$54.15_{\pm0.08}$
	M	$73.04_{\pm0.00}$	$73.04_{\pm0.00}$	$71.79_{\pm0.00}$	$63.64_{\pm0.00}$	$62.70_{\pm0.00}$	$75.55_{\pm0.00}$	$70.16_{\pm0.19}$	$64.58_{\pm0.00}$	$73.67_{\pm0.00}$	$65.20_{\pm0.00}$	$49.67_{\pm0.01}$	$52.67_{\pm0.50}$	$52.65_{\pm0.09}$
	H	$78.37_{\pm0.00}$	$80.88_{\pm0.00}$	$78.06_{\pm0.00}$	$72.10_{\pm0.00}$	$74.61_{\pm0.00}$	$79.62_{\pm0.00}$	$80.41_{\pm0.16}$	$69.59_{\pm0.00}$	$77.43_{\pm0.00}$	$73.98_{\pm0.00}$	$45.94_{\pm0.01}$	$50.01_{\pm0.56}$	$49.99_{\pm0.00}$
	F	$73.88_{\pm0.00}$	$75.03_{\pm0.00}$	$73.35_{\pm0.00}$	$67.08_{\pm0.00}$	$64.58_{\pm0.00}$	$75.44_{\pm0.00}$	$73.16_{\pm0.09}$	$66.04_{\pm0.00}$	$73.56_{\pm0.00}$	$67.82_{\pm0.00}$	$49.21_{\pm0.01}$	$51.82_{\pm0.33}$	$51.77_{\pm0.04}$
Avg. Accuracy	E	$70.97_{\pm0.26}$	$68.51_{\pm0.41}$	$68.96_{\pm0.47}$	$65.52_{\pm0.00}$	$56.41_{\pm0.06}$	$56.42_{\pm0.53}$	$53.24_{\pm0.73}$	$55.73_{\pm0.42}$	$55.48_{\pm1.32}$	$56.47_{\pm2.73}$	-	-	-
	M	$72.55_{\pm0.21}$	$72.29_{\pm0.26}$	$71.17_{\pm0.34}$	$63.64_{\pm0.00}$	$62.70_{\pm0.02}$	$61.55_{\pm0.65}$	$61.74_{\pm0.93}$	$57.15_{\pm1.00}$	$61.64_{\pm1.06}$	$58.27_{\pm1.47}$	-	-	-
	H	$78.30_{\pm0.17}$	$80.00_{\pm0.13}$	$77.58_{\pm0.29}$	$72.10_{\pm0.00}$	$74.57_{\pm0.13}$	$71.15_{\pm0.50}$	$75.06_{\pm0.71}$	$66.49_{\pm0.67}$	$74.42_{\pm1.31}$	$67.78_{\pm1.47}$	-	-	-
	F	$73.89_{\pm0.11}$	$73.04_{\pm0.17}$	$72.45_{\pm0.17}$	$67.08_{\pm0.00}$	$64.54_{\pm0.04}$	$60.16_{\pm0.55}$	$59.93_{\pm0.57}$	$59.94_{\pm0.63}$	$62.04_{\pm1.70}$	$60.42_{\pm1.30}$	-	-	-
Avg. 3-Min Accuracy	E	$70.37_{\pm0.29}$	$67.19_{\pm0.80}$	$68.08_{\pm0.64}$	$65.52_{\pm0.00}$	$56.38_{\pm0.10}$	$51.58_{\pm0.94}$	$48.25_{\pm0.95}$	$51.09_{\pm0.74}$	$47.07_{\pm1.85}$	$51.32_{\pm4.97}$	-	-	-
	M	$72.17_{\pm0.26}$	$71.44_{\pm0.37}$	$70.50_{\pm0.56}$	$63.64_{\pm0.00}$	$62.69_{\pm0.03}$	$57.22_{\pm1.16}$	$58.43_{\pm1.16}$	$51.98_{\pm1.52}$	$54.06_{\pm2.00}$	$52.96_{\pm3.03}$	-	-	-
	H	$78.05_{\pm0.20}$	$79.59_{\pm0.21}$	$77.00_{\pm0.40}$	$72.10_{\pm0.00}$	$74.51_{\pm0.25}$	$68.16_{\pm0.90}$	$72.31_{\pm0.96}$	$61.27_{\pm1.55}$	$70.49_{\pm2.41}$	$62.42_{\pm2.81}$	-	-	-
	F	$73.68_{\pm0.12}$	$71.94_{\pm0.36}$	$71.86_{\pm0.30}$	$67.08_{\pm0.00}$	$64.49_{\pm0.08}$	$55.61_{\pm0.58}$	$55.19_{\pm0.62}$	$55.26_{\pm1.07}$	$53.69_{\pm3.32}$	$55.31_{\pm2.84}$	-	-	-
Weighted Accuracy	E	$70.26_{\pm0.29}$	$66.91_{\pm0.80}$	$67.73_{\pm0.82}$	$65.52_{\pm0.00}$	$56.33_{\pm0.19}$	$50.83_{\pm1.23}$	$47.83_{\pm1.09}$	$49.98_{\pm0.93}$	$46.26_{\pm2.89}$	$47.56_{\pm6.43}$	-	-	-
	M	$72.04_{\pm0.27}$	$71.03_{\pm0.58}$	$70.09_{\pm0.74}$	$63.64_{\pm0.00}$	$62.68_{\pm0.06}$	$56.51_{\pm1.39}$	$57.80_{\pm1.03}$	$50.29_{\pm2.25}$	$51.08_{\pm3.58}$	$48.58_{\pm5.29}$	-	-	-
	H	$77.94_{\pm0.22}$	$79.53_{\pm0.22}$	$76.79_{\pm0.41}$	$72.10_{\pm0.00}$	$74.40_{\pm0.51}$	$67.47_{\pm1.09}$	$71.97_{\pm1.10}$	$58.78_{\pm1.41}$	$67.53_{\pm2.85}$	$56.76_{\pm4.16}$	-	-	-
	F	$73.64_{\pm0.15}$	$71.59_{\pm0.34}$	$71.48_{\pm0.66}$	$67.08_{\pm0.00}$	$64.44_{\pm0.12}$	$55.05_{\pm1.00}$	$54.95_{\pm0.76}$	$53.66_{\pm1.23}$	$49.94_{\pm3.72}$	$49.84_{\pm6.03}$	-	-	-

Table 14: GRB leaderboard (Top 5 Attacks vs. Top 10 Defenses) for *grb-flickr* dataset.

Attack \ Defenses			1 R-GCN+AT	2 GAT+LN	3 SAGE+LN	4 GINLN	5 GCN+AT	6 SAGE+AT	7 GAT	8 GIN+AT	9 SAGE	10 APPNP+LN	Avg. Accuracy	Avg. 3-Max Accuracy	Weighted Accuracy
1	SPEIT	E	53.41_$_{\pm0.12}$	53.36_$_{\pm0.22}$	51.43_$_{\pm0.15}$	50.96_$_{\pm0.29}$	52.89_$_{\pm0.22}$	52.87_$_{\pm0.13}$	53.62_$_{\pm0.36}$	50.15_$_{\pm0.14}$	51.65_$_{\pm0.45}$	49.78_$_{\pm0.03}$	52.01_$_{\pm0.09}$	53.48_$_{\pm0.25}$	53.44_$_{\pm0.17}$
		M	49.79_$_{\pm0.26}$	49.21_$_{\pm0.26}$	47.83_$_{\pm0.09}$	46.19_$_{\pm0.14}$	48.05_$_{\pm0.24}$	48.91_$_{\pm0.12}$	52.04_$_{\pm0.33}$	43.62_$_{\pm0.10}$	44.54_$_{\pm0.12}$	42.94_$_{\pm0.03}$	47.31_$_{\pm0.09}$	50.35_$_{\pm1.25}$	50.89_$_{\pm0.24}$
		H	44.72_$_{\pm0.15}$	46.78_$_{\pm0.54}$	43.41_$_{\pm0.12}$	44.79_$_{\pm0.09}$	44.83_$_{\pm0.14}$	43.51_$_{\pm0.15}$	50.32_$_{\pm0.20}$	37.33_$_{\pm0.12}$	37.17_$_{\pm0.17}$	34.33_$_{\pm0.02}$	42.72_$_{\pm0.07}$	47.34_$_{\pm2.27}$	48.44_$_{\pm0.12}$
		F	47.14_$_{\pm0.13}$	46.39_$_{\pm0.13}$	47.62_$_{\pm0.04}$	46.18_$_{\pm0.09}$	43.52_$_{\pm0.07}$	48.17_$_{\pm0.14}$	49.91_$_{\pm0.17}$	43.73_$_{\pm0.05}$	43.66_$_{\pm0.07}$	42.30_$_{\pm0.01}$	45.86_$_{\pm0.05}$	48.56_$_{\pm0.98}$	48.95_$_{\pm0.12}$
2	FGSM	E	53.99_$_{\pm0.13}$	51.87_$_{\pm0.49}$	50.89_$_{\pm0.15}$	48.24_$_{\pm0.15}$	53.79_$_{\pm0.17}$	44.06_$_{\pm0.23}$	48.23_$_{\pm0.56}$	50.08_$_{\pm0.16}$	49.99_$_{\pm0.33}$	50.07_$_{\pm0.05}$	50.12_$_{\pm0.14}$	53.22_$_{\pm1.01}$	53.30_$_{\pm0.12}$
		M	51.79_$_{\pm0.13}$	51.42_$_{\pm0.20}$	47.89_$_{\pm0.13}$	46.43_$_{\pm0.14}$	51.54_$_{\pm0.13}$	44.24_$_{\pm0.17}$	46.17_$_{\pm0.41}$	44.81_$_{\pm0.14}$	44.24_$_{\pm0.22}$	43.59_$_{\pm0.06}$	47.21_$_{\pm0.06}$	51.58_$_{\pm0.22}$	51.06_$_{\pm0.10}$
		H	46.87_$_{\pm0.17}$	49.32_$_{\pm0.09}$	43.69_$_{\pm0.11}$	46.76_$_{\pm0.16}$	49.35_$_{\pm0.08}$	46.46_$_{\pm0.22}$	45.24_$_{\pm0.29}$	42.58_$_{\pm0.30}$	45.90_$_{\pm0.16}$	35.56_$_{\pm0.08}$	45.17_$_{\pm0.07}$	48.53_$_{\pm1.14}$	48.68_$_{\pm0.06}$
		F	50.20_$_{\pm0.08}$	50.47_$_{\pm0.15}$	47.58_$_{\pm0.08}$	46.94_$_{\pm0.07}$	48.58_$_{\pm0.09}$	43.10_$_{\pm0.14}$	42.78_$_{\pm0.27}$	45.28_$_{\pm0.10}$	43.33_$_{\pm0.19}$	44.16_$_{\pm0.09}$	46.24_$_{\pm0.04}$	49.75_$_{\pm0.84}$	49.73_$_{\pm0.09}$
3	PGD	E	54.02_$_{\pm0.18}$	51.88_$_{\pm0.40}$	50.77_$_{\pm0.19}$	48.36_$_{\pm0.19}$	53.68_$_{\pm0.18}$	43.95_$_{\pm0.24}$	48.33_$_{\pm0.71}$	50.04_$_{\pm0.15}$	49.95_$_{\pm0.42}$	50.05_$_{\pm0.07}$	50.11_$_{\pm0.11}$	53.19_$_{\pm0.98}$	53.29_$_{\pm0.14}$
		M	51.74_$_{\pm0.22}$	51.65_$_{\pm0.21}$	47.77_$_{\pm0.16}$	46.69_$_{\pm0.23}$	51.53_$_{\pm0.10}$	44.26_$_{\pm0.17}$	45.91_$_{\pm0.40}$	44.95_$_{\pm0.27}$	44.38_$_{\pm0.43}$	43.56_$_{\pm0.10}$	47.24_$_{\pm0.08}$	51.64_$_{\pm0.20}$	51.11_$_{\pm0.09}$
		H	46.81_$_{\pm0.13}$	49.28_$_{\pm0.13}$	43.75_$_{\pm0.17}$	46.75_$_{\pm0.22}$	49.32_$_{\pm0.14}$	46.45_$_{\pm0.18}$	45.24_$_{\pm0.26}$	42.47_$_{\pm0.27}$	46.17_$_{\pm0.19}$	35.55_$_{\pm0.08}$	45.18_$_{\pm0.05}$	48.50_$_{\pm1.14}$	48.68_$_{\pm0.06}$
		F	50.22_$_{\pm0.11}$	50.62_$_{\pm0.12}$	47.56_$_{\pm0.07}$	46.94_$_{\pm0.10}$	48.58_$_{\pm0.09}$	43.09_$_{\pm0.15}$	42.90_$_{\pm0.24}$	45.24_$_{\pm0.10}$	43.32_$_{\pm0.14}$	44.14_$_{\pm0.07}$	46.26_$_{\pm0.04}$	49.81_$_{\pm0.89}$	49.83_$_{\pm0.08}$
4	TDGIA	E	55.13_$_{\pm0.08}$	54.17_$_{\pm0.17}$	51.83_$_{\pm0.08}$	52.29_$_{\pm0.06}$	54.35_$_{\pm0.07}$	53.61_$_{\pm0.05}$	54.66_$_{\pm0.12}$	49.95_$_{\pm0.02}$	51.50_$_{\pm0.12}$	49.72_$_{\pm0.01}$	52.72_$_{\pm0.03}$	54.71_$_{\pm0.33}$	54.71_$_{\pm0.07}$
		M	51.45_$_{\pm0.12}$	51.30_$_{\pm0.44}$	46.86_$_{\pm0.08}$	48.54_$_{\pm0.17}$	50.86_$_{\pm0.31}$	50.03_$_{\pm0.16}$	52.67_$_{\pm0.24}$	43.20_$_{\pm0.07}$	49.31_$_{\pm1.04}$	42.88_$_{\pm0.00}$	48.71_$_{\pm0.16}$	51.81_$_{\pm0.67}$	51.93_$_{\pm0.09}$
		H	45.26_$_{\pm0.10}$	48.19_$_{\pm0.17}$	42.04_$_{\pm0.09}$	46.09_$_{\pm0.07}$	44.97_$_{\pm0.30}$	43.16_$_{\pm0.09}$	50.33_$_{\pm0.13}$	37.33_$_{\pm0.05}$	44.04_$_{\pm0.08}$	34.41_$_{\pm0.01}$	43.58_$_{\pm0.08}$	48.20_$_{\pm1.74}$	48.84_$_{\pm0.08}$
		F	48.97_$_{\pm0.05}$	51.25_$_{\pm0.07}$	47.13_$_{\pm0.07}$	49.05_$_{\pm0.05}$	47.54_$_{\pm0.06}$	49.52_$_{\pm0.05}$	52.46_$_{\pm0.09}$	43.77_$_{\pm0.01}$	50.63_$_{\pm0.08}$	42.30_$_{\pm0.00}$	48.26_$_{\pm0.03}$	51.45_$_{\pm0.77}$	51.61_$_{\pm0.06}$
5	RND	E	53.90_$_{\pm0.20}$	53.31_$_{\pm0.18}$	51.73_$_{\pm0.14}$	51.16_$_{\pm0.15}$	53.62_$_{\pm0.10}$	53.19_$_{\pm0.12}$	52.77_$_{\pm0.22}$	50.36_$_{\pm0.08}$	53.25_$_{\pm0.23}$	49.83_$_{\pm0.03}$	52.31_$_{\pm0.06}$	53.65_$_{\pm0.24}$	53.65_$_{\pm0.14}$
		M	51.22_$_{\pm0.15}$	52.01_$_{\pm0.15}$	47.82_$_{\pm0.12}$	48.21_$_{\pm0.15}$	51.78_$_{\pm0.14}$	49.84_$_{\pm0.19}$	51.06_$_{\pm0.30}$	44.11_$_{\pm0.03}$	49.85_$_{\pm0.18}$	43.04_$_{\pm0.06}$	48.89_$_{\pm0.05}$	51.70_$_{\pm0.32}$	51.57_$_{\pm0.11}$
		H	46.38_$_{\pm0.15}$	49.33_$_{\pm0.18}$	42.90_$_{\pm0.13}$	46.79_$_{\pm0.14}$	48.95_$_{\pm0.12}$	45.03_$_{\pm0.15}$	49.29_$_{\pm0.25}$	39.10_$_{\pm0.09}$	45.13_$_{\pm0.28}$	34.50_$_{\pm0.03}$	44.74_$_{\pm0.07}$	49.19_$_{\pm0.26}$	48.77_$_{\pm0.18}$
		F	49.32_$_{\pm0.10}$	51.09_$_{\pm0.08}$	47.47_$_{\pm0.07}$	48.58_$_{\pm0.06}$	51.00_$_{\pm0.09}$	49.18_$_{\pm0.07}$	50.84_$_{\pm0.20}$	44.36_$_{\pm0.03}$	49.00_$_{\pm0.08}$	42.31_$_{\pm0.01}$	48.32_$_{\pm0.04}$	50.98_$_{\pm0.17}$	50.74_$_{\pm0.07}$
6	W/O Attack	E	54.94_$_{\pm0.12}$	52.58_$_{\pm0.00}$	51.68_$_{\pm0.00}$	50.48_$_{\pm0.00}$	52.97_$_{\pm0.00}$	53.18_$_{\pm0.00}$	49.50_$_{\pm0.00}$	50.72_$_{\pm0.00}$	52.77_$_{\pm0.00}$	51.55_$_{\pm0.00}$	52.04_$_{\pm0.01}$	53.70_$_{\pm0.88}$	54.15_$_{\pm0.08}$
		M	53.23_$_{\pm0.13}$	52.75_$_{\pm0.00}$	47.83_$_{\pm0.00}$	48.03_$_{\pm0.00}$	52.03_$_{\pm0.00}$	51.27_$_{\pm0.00}$	50.06_$_{\pm0.00}$	44.87_$_{\pm0.00}$	51.63_$_{\pm0.00}$	45.01_$_{\pm0.00}$	49.67_$_{\pm0.01}$	52.67_$_{\pm0.50}$	52.65_$_{\pm0.09}$
		H	48.70_$_{\pm0.08}$	49.65_$_{\pm0.00}$	42.90_$_{\pm0.00}$	46.43_$_{\pm0.00}$	49.59_$_{\pm0.00}$	47.10_$_{\pm0.00}$	50.80_$_{\pm0.00}$	40.10_$_{\pm0.00}$	47.96_$_{\pm0.00}$	36.12_$_{\pm0.00}$	45.94_$_{\pm0.01}$	50.01_$_{\pm0.56}$	49.99_$_{\pm0.00}$
		F	52.28_$_{\pm0.06}$	51.66_$_{\pm0.00}$	47.47_$_{\pm0.00}$	48.31_$_{\pm0.00}$	51.53_$_{\pm0.00}$	50.52_$_{\pm0.00}$	50.12_$_{\pm0.00}$	45.23_$_{\pm0.00}$	50.79_$_{\pm0.00}$	44.23_$_{\pm0.00}$	49.21_$_{\pm0.01}$	51.82_$_{\pm0.33}$	51.77_$_{\pm0.04}$
Avg. Accuracy		E	54.23_$_{\pm0.07}$	52.86_$_{\pm0.16}$	51.38_$_{\pm0.05}$	50.25_$_{\pm0.09}$	53.55_$_{\pm0.07}$	50.14_$_{\pm0.07}$	51.19_$_{\pm0.15}$	50.22_$_{\pm0.04}$	51.52_$_{\pm0.12}$	50.17_$_{\pm0.02}$	-	-	-
		M	51.54_$_{\pm0.07}$	51.39_$_{\pm0.10}$	47.67_$_{\pm0.05}$	47.35_$_{\pm0.06}$	50.96_$_{\pm0.04}$	48.09_$_{\pm0.07}$	49.65_$_{\pm0.09}$	44.26_$_{\pm0.06}$	47.32_$_{\pm0.19}$	43.50_$_{\pm0.02}$	-	-	-
		H	46.46_$_{\pm0.05}$	48.76_$_{\pm0.11}$	43.12_$_{\pm0.05}$	46.27_$_{\pm0.04}$	47.84_$_{\pm0.08}$	45.29_$_{\pm0.04}$	48.54_$_{\pm0.08}$	39.82_$_{\pm0.06}$	44.40_$_{\pm0.10}$	35.08_$_{\pm0.02}$	-	-	-
		F	49.69_$_{\pm0.04}$	50.25_$_{\pm0.03}$	47.47_$_{\pm0.03}$	47.67_$_{\pm0.03}$	48.46_$_{\pm0.02}$	47.26_$_{\pm0.04}$	48.17_$_{\pm0.09}$	44.60_$_{\pm0.03}$	46.79_$_{\pm0.06}$	43.24_$_{\pm0.01}$	-	-	-
Avg. 3-Min Accuracy		E	53.74_$_{\pm0.09}$	52.11_$_{\pm0.26}$	51.03_$_{\pm0.10}$	49.03_$_{\pm0.07}$	53.14_$_{\pm0.09}$	46.96_$_{\pm0.14}$	48.69_$_{\pm0.25}$	50.00_$_{\pm0.07}$	50.46_$_{\pm0.22}$	49.78_$_{\pm0.02}$	-	-	-
		M	50.81_$_{\pm0.10}$	50.62_$_{\pm0.17}$	47.44_$_{\pm0.07}$	46.44_$_{\pm0.11}$	50.13_$_{\pm0.09}$	45.81_$_{\pm0.09}$	47.38_$_{\pm0.19}$	43.65_$_{\pm0.04}$	44.38_$_{\pm0.21}$	42.95_$_{\pm0.02}$	-	-	-
		H	45.45_$_{\pm0.07}$	48.05_$_{\pm0.21}$	42.62_$_{\pm0.05}$	45.77_$_{\pm0.04}$	46.25_$_{\pm0.15}$	43.90_$_{\pm0.08}$	46.59_$_{\pm0.17}$	37.92_$_{\pm0.04}$	42.11_$_{\pm0.15}$	34.41_$_{\pm0.01}$	-	-	-
		F	48.48_$_{\pm0.06}$	49.16_$_{\pm0.04}$	47.35_$_{\pm0.04}$	46.69_$_{\pm0.04}$	46.52_$_{\pm0.04}$	44.79_$_{\pm0.07}$	45.19_$_{\pm0.14}$	43.95_$_{\pm0.02}$	43.44_$_{\pm0.10}$	42.30_$_{\pm0.00}$	-	-	-
Weighted Accuracy		E	53.62_$_{\pm0.08}$	51.97_$_{\pm0.33}$	50.92_$_{\pm0.12}$	48.67_$_{\pm0.09}$	53.02_$_{\pm0.12}$	45.43_$_{\pm0.18}$	48.62_$_{\pm0.42}$	49.97_$_{\pm0.06}$	50.22_$_{\pm0.26}$	49.80_$_{\pm0.01}$	-	-	-
		M	50.35_$_{\pm0.18}$	49.95_$_{\pm0.18}$	47.16_$_{\pm0.07}$	46.44_$_{\pm0.10}$	49.10_$_{\pm0.14}$	45.06_$_{\pm0.09}$	46.70_$_{\pm0.28}$	43.48_$_{\pm0.04}$	44.73_$_{\pm0.21}$	42.99_$_{\pm0.01}$	-	-	-
		H	45.15_$_{\pm0.10}$	47.43_$_{\pm0.37}$	42.37_$_{\pm0.06}$	45.30_$_{\pm0.07}$	45.55_$_{\pm0.13}$	43.66_$_{\pm0.07}$	45.92_$_{\pm0.18}$	37.78_$_{\pm0.04}$	39.72_$_{\pm0.13}$	34.47_$_{\pm0.01}$	-	-	-
		F	47.91_$_{\pm0.09}$	47.81_$_{\pm0.08}$	47.25_$_{\pm0.05}$	46.57_$_{\pm0.06}$	45.13_$_{\pm0.05}$	43.99_$_{\pm0.09}$	43.98_$_{\pm0.18}$	43.91_$_{\pm0.03}$	43.88_$_{\pm0.10}$	42.46_$_{\pm0.01}$	-	-	-

Table 15: GRB leaderboard (Top 5 Attacks vs. Top 10 Defenses) for *grb-reddit* dataset.

Attack \ Defenses			1 gin_ln	2 tagcn_ln	3 tagcn_at	4 gat_ln	5 robustgcn_at	6 tagcn	7 gcn_ln	8 graphsage_at	9 graphsage	10 sgcn_ln	Avg. Accuracy	Avg. 3-Max Accuracy	Weighted Accuracy
1	TDGIA	E	89.57_$_{\pm0.05}$	90.59_$_{\pm0.02}$	70.17_$_{\pm0.28}$	84.18_$_{\pm0.03}$	88.38_$_{\pm0.02}$	78.83_$_{\pm0.18}$	80.79_$_{\pm0.17}$	86.29_$_{\pm0.03}$	71.00_$_{\pm0.11}$	76.36_$_{\pm0.03}$	81.62_$_{\pm0.08}$	89.52_$_{\pm0.90}$	89.17_$_{\pm0.03}$
		M	98.29_$_{\pm0.01}$	97.79_$_{\pm0.00}$	98.02_$_{\pm0.01}$	96.20_$_{\pm0.01}$	95.50_$_{\pm0.01}$	96.62_$_{\pm0.01}$	97.66_$_{\pm0.00}$	94.07_$_{\pm0.01}$	95.66_$_{\pm0.02}$	92.27_$_{\pm0.01}$	96.21_$_{\pm0.00}$	98.03_$_{\pm0.21}$	97.97_$_{\pm0.01}$
		H	99.54_$_{\pm0.00}$	99.16_$_{\pm0.00}$	98.54_$_{\pm0.01}$	98.17_$_{\pm0.01}$	95.68_$_{\pm0.02}$	97.77_$_{\pm0.01}$	99.14_$_{\pm0.01}$	90.60_$_{\pm0.01}$	98.43_$_{\pm0.02}$	93.33_$_{\pm0.01}$	97.04_$_{\pm0.01}$	99.28_$_{\pm0.18}$	99.18_$_{\pm0.00}$
		F	95.92_$_{\pm0.01}$	95.89_$_{\pm0.01}$	93.12_$_{\pm0.01}$	93.73_$_{\pm0.01}$	93.08_$_{\pm0.01}$	91.77_$_{\pm0.01}$	91.09_$_{\pm0.02}$	90.16_$_{\pm0.01}$	85.98_$_{\pm0.03}$	86.61_$_{\pm0.01}$	91.74_$_{\pm0.00}$	95.18_$_{\pm1.03}$	95.24_$_{\pm0.01}$
2	SPEIT	E	91.92_$_{\pm0.04}$	91.58_$_{\pm0.03}$	91.73_$_{\pm0.05}$	87.18_$_{\pm0.08}$	88.81_$_{\pm0.02}$	88.41_$_{\pm0.05}$	89.81_$_{\pm0.05}$	86.65_$_{\pm0.03}$	83.10_$_{\pm0.07}$	76.55_$_{\pm0.10}$	87.57_$_{\pm0.02}$	91.74_$_{\pm0.14}$	91.35_$_{\pm0.03}$
		M	98.27_$_{\pm0.01}$	97.84_$_{\pm0.01}$	97.98_$_{\pm0.02}$	96.19_$_{\pm0.02}$	95.28_$_{\pm0.01}$	96.60_$_{\pm0.02}$	97.77_$_{\pm0.01}$	94.03_$_{\pm0.02}$	96.74_$_{\pm0.02}$	92.26_$_{\pm0.03}$	96.30_$_{\pm0.00}$	98.03_$_{\pm0.18}$	97.97_$_{\pm0.01}$
		H	99.54_$_{\pm0.01}$	99.20_$_{\pm0.01}$	98.81_$_{\pm0.01}$	98.17_$_{\pm0.01}$	96.04_$_{\pm0.01}$	97.97_$_{\pm0.01}$	99.22_$_{\pm0.01}$	90.69_$_{\pm0.03}$	98.22_$_{\pm0.03}$	93.43_$_{\pm0.02}$	97.13_$_{\pm0.00}$	99.32_$_{\pm0.16}$	99.21_$_{\pm0.01}$
		F	96.31_$_{\pm0.02}$	96.31_$_{\pm0.02}$	95.77_$_{\pm0.02}$	93.76_$_{\pm0.02}$	93.59_$_{\pm0.01}$	93.76_$_{\pm0.03}$	95.57_$_{\pm0.01}$	90.21_$_{\pm0.02}$	92.96_$_{\pm0.04}$	87.02_$_{\pm0.03}$	93.53_$_{\pm0.01}$	96.13_$_{\pm0.26}$	95.96_$_{\pm0.01}$
3	FGSM	E	91.77_$_{\pm0.06}$	91.53_$_{\pm0.05}$	92.60_$_{\pm0.04}$	87.38_$_{\pm0.05}$	89.06_$_{\pm0.01}$	90.52_$_{\pm0.05}$	89.70_$_{\pm0.03}$	86.78_$_{\pm0.03}$	88.24_$_{\pm0.06}$	78.51_$_{\pm0.12}$	88.61_$_{\pm0.02}$	91.97_$_{\pm0.46}$	91.92_$_{\pm0.03}$
		M	98.26_$_{\pm0.01}$	97.74_$_{\pm0.01}$	98.13_$_{\pm0.01}$	96.18_$_{\pm0.01}$	95.47_$_{\pm0.01}$	96.94_$_{\pm0.03}$	97.68_$_{\pm0.01}$	94.01_$_{\pm0.02}$	96.52_$_{\pm0.04}$	92.65_$_{\pm0.01}$	96.36_$_{\pm0.01}$	98.04_$_{\pm0.22}$	97.99_$_{\pm0.01}$
		H	99.55_$_{\pm0.01}$	99.02_$_{\pm0.01}$	99.16_$_{\pm0.01}$	98.17_$_{\pm0.02}$	95.94_$_{\pm0.01}$	98.32_$_{\pm0.01}$	99.08_$_{\pm0.01}$	91.01_$_{\pm0.02}$	98.48_$_{\pm0.02}$	93.65_$_{\pm0.02}$	97.24_$_{\pm0.00}$	99.27_$_{\pm0.21}$	99.23_$_{\pm0.01}$
		F	96.48_$_{\pm0.01}$	95.90_$_{\pm0.01}$	96.74_$_{\pm0.01}$	93.91_$_{\pm0.01}$	93.57_$_{\pm0.01}$	95.24_$_{\pm0.02}$	95.22_$_{\pm0.01}$	90.54_$_{\pm0.02}$	93.78_$_{\pm0.03}$	89.01_$_{\pm0.03}$	94.04_$_{\pm0.01}$	96.37_$_{\pm0.35}$	96.32_$_{\pm0.01}$
4	RND	E	92.04_$_{\pm0.04}$	91.75_$_{\pm0.04}$	92.60_$_{\pm0.03}$	87.09_$_{\pm0.04}$	88.87_$_{\pm0.03}$	89.55_$_{\pm0.05}$	90.00_$_{\pm0.04}$	86.71_$_{\pm0.03}$	88.12_$_{\pm0.09}$	77.27_$_{\pm0.10}$	88.40_$_{\pm0.02}$	92.13_$_{\pm0.36}$	91.94_$_{\pm0.02}$
		M	98.28_$_{\pm0.02}$	97.82_$_{\pm0.01}$	98.13_$_{\pm0.01}$	96.17_$_{\pm0.02}$	95.42_$_{\pm0.02}$	96.84_$_{\pm0.03}$	97.75_$_{\pm0.01}$	94.07_$_{\pm0.02}$	97.14_$_{\pm0.02}$	92.43_$_{\pm0.03}$	96.40_$_{\pm0.01}$	98.08_$_{\pm0.19}$	98.02_$_{\pm0.01}$
		H	99.54_$_{\pm0.01}$	99.13_$_{\pm0.01}$	99.00_$_{\pm0.01}$	98.17_$_{\pm0.01}$	96.21_$_{\pm0.02}$	98.15_$_{\pm0.01}$	99.12_$_{\pm0.00}$	90.89_$_{\pm0.03}$	98.34_$_{\pm0.03}$	93.50_$_{\pm0.01}$	97.21_$_{\pm0.01}$	99.27_$_{\pm0.19}$	99.21_$_{\pm0.00}$
		F	96.60_$_{\pm0.01}$	96.30_$_{\pm0.02}$	96.54_$_{\pm0.01}$	93.84_$_{\pm0.02}$	93.23_$_{\pm0.02}$	94.88_$_{\pm0.03}$	95.63_$_{\pm0.01}$	90.37_$_{\pm0.03}$	94.59_$_{\pm0.02}$	87.72_$_{\pm0.03}$	93.97_$_{\pm0.01}$	96.48_$_{\pm0.13}$	96.27_$_{\pm0.01}$
5	PGD	E	91.74_$_{\pm0.06}$	91.56_$_{\pm0.04}$	92.63_$_{\pm0.04}$	87.39_$_{\pm0.04}$	89.06_$_{\pm0.02}$	90.58_$_{\pm0.06}$	89.72_$_{\pm0.04}$	86.77_$_{\pm0.03}$	88.25_$_{\pm0.10}$	78.53_$_{\pm0.07}$	88.62_$_{\pm0.02}$	91.98_$_{\pm0.47}$	91.94_$_{\pm0.03}$
		M	98.26_$_{\pm0.01}$	97.74_$_{\pm0.01}$	98.12_$_{\pm0.02}$	96.19_$_{\pm0.01}$	95.46_$_{\pm0.02}$	96.94_$_{\pm0.01}$	97.68_$_{\pm0.01}$	94.01_$_{\pm0.03}$	96.52_$_{\pm0.05}$	92.65_$_{\pm0.04}$	96.36_$_{\pm0.01}$	98.04_$_{\pm0.22}$	97.98_$_{\pm0.01}$
		H	99.55_$_{\pm0.01}$	99.02_$_{\pm0.01}$	99.16_$_{\pm0.01}$	98.18_$_{\pm0.01}$	95.94_$_{\pm0.01}$	98.32_$_{\pm0.01}$	99.08_$_{\pm0.01}$	91.00_$_{\pm0.03}$	98.47_$_{\pm0.03}$	93.66_$_{\pm0.02}$	97.24_$_{\pm0.00}$	99.26_$_{\pm0.21}$	99.23_$_{\pm0.00}$
		F	96.48_$_{\pm0.02}$	95.91_$_{\pm0.01}$	96.74_$_{\pm0.01}$	93.91_$_{\pm0.02}$	93.56_$_{\pm0.01}$	95.24_$_{\pm0.03}$	95.23_$_{\pm0.02}$	90.54_$_{\pm0.02}$	93.75_$_{\pm0.02}$	88.99_$_{\pm0.03}$	94.03_$_{\pm0.01}$	96.38_$_{\pm0.35}$	96.32_$_{\pm0.01}$
6	W/O Attack	E	92.19_$_{\pm0.00}$	92.11_$_{\pm0.00}$	93.05_$_{\pm0.00}$	87.97_$_{\pm0.00}$	89.14_$_{\pm0.00}$	90.99_$_{\pm0.00}$	90.17_$_{\pm0.00}$	86.86_$_{\pm0.00}$	89.96_$_{\pm0.00}$	83.12_$_{\pm0.00}$	89.56_$_{\pm0.00}$	92.45_$_{\pm0.43}$	92.41_$_{\pm0.00}$
		M	98.30_$_{\pm0.00}$	97.82_$_{\pm0.00}$	98.23_$_{\pm0.00}$	96.27_$_{\pm0.00}$	95.75_$_{\pm0.00}$	97.07_$_{\pm0.00}$	97.74_$_{\pm0.00}$	93.86_$_{\pm0.00}$	97.21_$_{\pm0.00}$	93.48_$_{\pm0.00}$	96.57_$_{\pm0.00}$	98.12_$_{\pm0.21}$	98.06_$_{\pm0.00}$
		H	99.55_$_{\pm0.00}$	99.16_$_{\pm0.00}$	99.03_$_{\pm0.00}$	98.20_$_{\pm0.00}$	96.46_$_{\pm0.00}$	98.12_$_{\pm0.00}$	99.12_$_{\pm0.00}$	90.72_$_{\pm0.00}$	98.30_$_{\pm0.00}$	93.84_$_{\pm0.00}$	97.25_$_{\pm0.00}$	99.28_$_{\pm0.19}$	99.23_$_{\pm0.00}$
		F	96.68_$_{\pm0.00}$	96.37_$_{\pm0.00}$	96.77_$_{\pm0.00}$	94.15_$_{\pm0.00}$	93.78_$_{\pm0.00}$	95.39_$_{\pm0.00}$	95.68_$_{\pm0.00}$	90.48_$_{\pm0.00}$	95.16_$_{\pm0.00}$	90.15_$_{\pm0.00}$	94.46_$_{\pm0.00}$	96.61_$_{\pm0.17}$	96.46_$_{\pm0.00}$
Avg. Accuracy		E	91.53_$_{\pm0.01}$	91.52_$_{\pm0.02}$	88.80_$_{\pm0.05}$	86.87_$_{\pm0.02}$	88.89_$_{\pm0.01}$	88.15_$_{\pm0.03}$	88.37_$_{\pm0.04}$	86.68_$_{\pm0.01}$	84.78_$_{\pm0.03}$	78.39_$_{\pm0.03}$	-	-	-
		M	98.28_$_{\pm0.00}$	97.79_$_{\pm0.01}$	98.10_$_{\pm0.01}$	96.20_$_{\pm0.01}$	95.48_$_{\pm0.01}$	96.84_$_{\pm0.01}$	97.71_$_{\pm0.00}$	94.01_$_{\pm0.01}$	96.63_$_{\pm0.01}$	92.62_$_{\pm0.01}$	-	-	-
		H	99.54_$_{\pm0.00}$	99.12_$_{\pm0.00}$	98.95_$_{\pm0.00}$	98.17_$_{\pm0.01}$	96.05_$_{\pm0.01}$	98.11_$_{\pm0.01}$	99.13_$_{\pm0.00}$	90.82_$_{\pm0.01}$	98.37_$_{\pm0.01}$	93.57_$_{\pm0.01}$	-	-	-
		F	96.41_$_{\pm0.01}$	96.11_$_{\pm0.01}$	95.95_$_{\pm0.01}$	93.88_$_{\pm0.01}$	93.47_$_{\pm0.01}$	94.38_$_{\pm0.01}$	94.74_$_{\pm0.01}$	90.38_$_{\pm0.01}$	92.70_$_{\pm0.01}$	88.25_$_{\pm0.01}$	-	-	-
Avg. 3-Min Accuracy		E	91.03_$_{\pm0.02}$	91.22_$_{\pm0.02}$	84.82_$_{\pm0.10}$	86.15_$_{\pm0.03}$	88.69_$_{\pm0.01}$	85.59_$_{\pm0.07}$	86.73_$_{\pm0.07}$	86.55_$_{\pm0.01}$	80.73_$_{\pm0.05}$	76.72_$_{\pm0.05}$	-	-	-
		M	98.26_$_{\pm0.01}$	97.75_$_{\pm0.01}$	98.04_$_{\pm0.01}$	96.17_$_{\pm0.01}$	95.38_$_{\pm0.01}$	96.69_$_{\pm0.01}$	97.67_$_{\pm0.00}$	93.96_$_{\pm0.01}$	96.23_$_{\pm0.03}$	92.32_$_{\pm0.02}$	-	-	-
		H	99.54_$_{\pm0.00}$	99.06_$_{\pm0.00}$	98.78_$_{\pm0.01}$	98.16_$_{\pm0.01}$	95.86_$_{\pm0.01}$	97.95_$_{\pm0.01}$	99.09_$_{\pm0.00}$	90.67_$_{\pm0.01}$	98.28_$_{\pm0.01}$	93.42_$_{\pm0.01}$	-	-	-
		F	96.24_$_{\pm0.01}$	95.90_$_{\pm0.01}$	95.14_$_{\pm0.01}$	93.78_$_{\pm0.01}$	93.29_$_{\pm0.01}$	93.47_$_{\pm0.01}$	93.85_$_{\pm0.01}$	90.24_$_{\pm0.02}$	90.89_$_{\pm0.02}$	87.12_$_{\pm0.01}$	-	-	-
Weighted Accuracy		E	90.31_$_{\pm0.03}$	90.92_$_{\pm0.02}$	77.42_$_{\pm0.19}$	85.18_$_{\pm0.02}$	88.55_$_{\pm0.02}$	82.26_$_{\pm0.13}$	83.75_$_{\pm0.12}$	86.43_$_{\pm0.02}$	75.84_$_{\pm0.07}$	76.73_$_{\pm0.03}$	-	-	-
		M	98.26_$_{\pm0.01}$	97.75_$_{\pm0.01}$	98.01_$_{\pm0.01}$	96.17_$_{\pm0.01}$	95.34_$_{\pm0.01}$	96.65_$_{\pm0.01}$	97.67_$_{\pm0.00}$	93.91_$_{\pm0.00}$	95.98_$_{\pm0.02}$	92.32_$_{\pm0.02}$	-	-	-
		H	99.53_$_{\pm0.00}$	99.04_$_{\pm0.00}$	98.67_$_{\pm0.01}$	98.16_$_{\pm0.01}$	95.79_$_{\pm0.01}$	97.87_$_{\pm0.01}$	99.09_$_{\pm0.00}$	90.66_$_{\pm0.01}$	98.26_$_{\pm0.02}$	93.39_$_{\pm0.00}$	-	-	-
		F	96.09_$_{\pm0.01}$	95.93_$_{\pm0.01}$	94.14_$_{\pm0.01}$	93.76_$_{\pm0.01}$	93.19_$_{\pm0.00}$	92.64_$_{\pm0.01}$	92.49_$_{\pm0.01}$	90.22_$_{\pm0.01}$	88.46_$_{\pm0.03}$	86.99_$_{\pm0.01}$	-	-	-

Table 16: GRB leaderboard (Top 5 Attacks vs. Top 10 Defenses) for *grb-aminer* dataset.

Attack \ Defenses			1 GAT+AT	2 R-GCN+AT	3 SGCN+LN	4 R-GCN	5 GCN+LN	6 GATLN	7 GIN+LN	8 TAGCN+LN	9 TAGCN+AT	10 GAT	Avg. Accuracy	Avg. 3-Max Accuracy	Weighted Accuracy
1	TDGIA	E	59.54_±0.05	56.83_±0.06	56.73_±0.06	56.12_±0.07	53.51_±0.21	43.93_±0.41	51.10_±0.12	54.63_±0.20	49.59_±0.50	42.40_±0.52	52.44_±0.17	57.70_±1.31	58.08_±0.04
		M	68.39_±0.02	65.61_±0.02	66.11_±0.02	65.23_±0.03	66.78_±0.05	61.84_±1.20	64.49_±0.10	64.62_±0.02	67.27_±0.04	62.47_±1.01	65.28_±0.23	67.48_±0.68	67.69_±0.02
		H	75.83_±0.02	72.35_±0.02	72.10_±0.00	71.94_±0.02	73.39_±0.02	75.22_±0.04	72.92_±0.02	68.94_±0.03	73.98_±0.01	75.03_±0.03	73.17_±0.01	75.36_±0.34	75.33_±0.01
		F	67.69_±0.03	63.62_±0.32	62.20_±0.15	61.99_±0.22	60.38_±1.46	59.69_±1.57	59.59_±0.42	59.06_±1.75	57.24_±5.04	56.63_±6.75	60.81_±1.71	64.52_±2.32	65.74_±0.21
2	SPEIT	E	59.54_±0.07	56.80_±0.05	56.94_±0.10	55.64_±0.10	56.15_±0.06	56.13_±0.07	54.24_±0.09	56.61_±0.06	56.59_±0.08	57.36_±0.09	56.60_±0.04	57.95_±1.14	58.62_±0.05
		M	68.37_±0.03	65.46_±0.03	66.20_±0.02	65.25_±0.05	66.75_±0.03	67.49_±0.06	65.05_±0.06	64.47_±0.04	66.95_±0.05	66.81_±0.04	66.28_±0.02	67.60_±0.59	67.86_±0.03
		H	75.94_±0.04	72.27_±0.03	72.36_±0.03	71.86_±0.03	73.41_±0.01	75.34_±0.03	72.87_±0.03	68.88_±0.05	73.98_±0.02	73.83_±0.04	73.07_±0.01	75.08_±0.82	75.33_±0.02
		F	68.04_±0.03	64.05_±0.04	64.84_±0.04	64.06_±0.04	65.51_±0.02	64.02_±0.04	63.11_±0.02	62.59_±0.04	63.77_±0.06	63.58_±0.06	64.36_±0.02	66.13_±1.38	66.89_±0.02
3	RND	E	59.56_±0.06	57.53_±0.06	57.41_±0.06	56.38_±0.11	57.76_±0.05	58.83_±0.10	54.41_±0.13	58.07_±0.12	58.14_±0.04	57.46_±0.10	57.55_±0.03	58.85_±0.57	59.09_±0.05
		M	68.22_±0.04	65.86_±0.03	66.29_±0.03	65.34_±0.06	67.03_±0.03	68.62_±0.05	65.54_±0.06	64.98_±0.08	67.34_±0.04	67.71_±0.06	66.69_±0.02	68.18_±0.38	68.24_±0.03
		H	75.75_±0.02	72.66_±0.02	72.42_±0.03	72.00_±0.03	73.52_±0.02	75.63_±0.03	73.36_±0.03	69.30_±0.06	74.04_±0.02	75.36_±0.03	73.40_±0.01	75.58_±0.17	75.39_±0.01
		F	67.72_±0.04	64.98_±0.02	65.31_±0.04	64.45_±0.04	66.17_±0.02	67.54_±0.04	64.36_±0.06	64.33_±0.03	66.42_±0.03	66.23_±0.04	65.75_±0.02	67.23_±0.58	67.34_±0.03
4	PGD	E	59.70_±0.06	57.71_±0.05	57.73_±0.09	57.19_±0.07	57.60_±0.08	57.05_±0.17	54.69_±0.09	58.18_±0.07	58.27_±0.09	58.46_±0.11	57.66_±0.05	58.81_±0.64	59.14_±0.05
		M	68.40_±0.05	66.12_±0.02	66.39_±0.04	65.67_±0.04	67.04_±0.03	68.24_±0.04	65.64_±0.08	65.17_±0.05	67.32_±0.03	67.85_±0.05	66.78_±0.02	68.16_±0.23	68.12_±0.03
		H	75.83_±0.03	72.91_±0.02	72.47_±0.04	72.18_±0.05	73.52_±0.02	75.55_±0.05	73.58_±0.04	69.64_±0.05	73.89_±0.02	74.34_±0.04	73.39_±0.01	75.24_±0.65	75.36_±0.02
		F	68.01_±0.02	65.41_±0.01	65.54_±0.03	65.05_±0.03	66.22_±0.02	66.49_±0.04	64.63_±0.04	64.82_±0.04	66.32_±0.02	66.14_±0.04	65.86_±0.01	66.94_±0.76	67.37_±0.02
5	FGSM	E	59.71_±0.05	57.69_±0.08	57.62_±0.06	57.16_±0.08	57.60_±0.06	56.97_±0.09	54.67_±0.08	58.20_±0.10	58.23_±0.06	58.46_±0.07	57.63_±0.05	58.81_±0.65	59.15_±0.04
		M	68.37_±0.02	66.10_±0.03	66.38_±0.04	65.70_±0.05	67.03_±0.04	68.27_±0.04	65.61_±0.08	65.16_±0.05	67.30_±0.02	67.84_±0.07	66.78_±0.02	68.16_±0.23	68.11_±0.02
		H	75.82_±0.02	72.92_±0.04	72.48_±0.03	72.18_±0.05	73.52_±0.02	75.55_±0.05	73.60_±0.04	69.64_±0.04	73.90_±0.01	74.34_±0.04	73.39_±0.01	75.23_±0.65	75.35_±0.02
		F	68.00_±0.02	65.41_±0.02	65.54_±0.04	65.05_±0.04	66.22_±0.02	66.50_±0.06	64.65_±0.04	64.82_±0.03	66.34_±0.03	66.15_±0.06	65.87_±0.01	66.95_±0.75	67.37_±0.01
6	W/O Attack	E	59.67_±0.00	58.08_±0.00	60.22_±0.00	58.53_±0.00	58.14_±0.00	60.78_±0.00	56.83_±0.00	59.47_±0.00	59.62_±0.00	59.88_±0.00	59.12_±0.00	60.29_±0.37	60.42_±0.00
		M	68.28_±0.00	66.14_±0.00	67.11_±0.00	66.35_±0.00	67.00_±0.00	68.98_±0.00	66.26_±0.00	65.41_±0.00	67.53_±0.00	68.41_±0.00	67.15_±0.00	68.56_±0.30	68.59_±0.00
		H	75.85_±0.00	73.05_±0.00	72.69_±0.00	72.66_±0.00	73.46_±0.00	75.64_±0.00	73.69_±0.00	69.84_±0.00	74.10_±0.00	75.76_±0.00	73.67_±0.00	75.75_±0.09	75.52_±0.00
		F	67.93_±0.00	65.76_±0.00	66.68_±0.00	65.85_±0.00	66.20_±0.00	68.47_±0.00	65.59_±0.00	64.91_±0.00	67.08_±0.00	68.02_±0.00	66.65_±0.00	68.14_±0.24	68.11_±0.00
	Avg. Accuracy	E	59.62_±0.02	57.44_±0.03	57.77_±0.03	56.84_±0.04	56.79_±0.04	55.62_±0.06	54.33_±0.04	57.53_±0.05	56.74_±0.09	55.67_±0.10	-	-	-
		M	68.34_±0.01	65.88_±0.01	66.41_±0.01	65.59_±0.02	66.94_±0.02	67.24_±0.19	65.43_±0.03	64.97_±0.02	67.28_±0.01	66.85_±0.18	-	-	-
		H	75.84_±0.01	72.69_±0.01	72.42_±0.01	72.14_±0.02	73.47_±0.01	75.49_±0.01	73.33_±0.02	69.38_±0.02	73.98_±0.00	74.78_±0.02	-	-	-
		F	67.90_±0.01	64.87_±0.05	65.02_±0.03	64.41_±0.04	65.12_±0.25	65.45_±0.26	63.65_±0.07	63.42_±0.29	64.53_±0.84	64.46_±1.13	-	-	-
	Avg. 3-Min Accuracy	E	59.55_±0.03	57.05_±0.04	57.02_±0.03	56.05_±0.07	55.73_±0.07	52.33_±0.12	53.25_±0.07	56.43_±0.07	54.77_±0.16	52.41_±0.17	-	-	-
		M	68.28_±0.01	65.64_±0.02	66.20_±0.01	65.28_±0.03	66.84_±0.02	65.85_±0.40	65.02_±0.04	64.69_±0.03	67.17_±0.02	65.66_±0.34	-	-	-
		H	75.80_±0.02	72.42_±0.02	72.29_±0.01	71.93_±0.02	73.42_±0.01	75.36_±0.02	73.05_±0.02	69.04_±0.03	73.92_±0.01	74.17_±0.03	-	-	-
		F	67.78_±0.02	64.22_±0.11	64.12_±0.06	63.50_±0.08	64.02_±0.49	63.39_±0.53	62.35_±0.14	61.99_±0.58	62.44_±1.69	62.11_±2.26	-	-	-
	Weighted Accuracy	E	59.53_±0.04	56.93_±0.04	56.94_±0.04	55.93_±0.08	54.63_±0.14	48.21_±0.27	52.23_±0.08	55.55_±0.14	52.18_±0.33	47.45_±0.35	-	-	-
		M	68.25_±0.02	65.57_±0.02	66.17_±0.02	65.28_±0.02	66.79_±0.02	63.85_±0.80	64.77_±0.07	64.60_±0.03	67.06_±0.03	64.07_±0.68	-	-	-
		H	75.78_±0.02	72.37_±0.02	72.20_±0.01	71.92_±0.03	73.41_±0.01	75.30_±0.02	72.98_±0.02	68.99_±0.04	73.91_±0.01	74.08_±0.03	-	-	-
		F	67.73_±0.03	63.96_±0.21	63.19_±0.10	62.80_±0.15	62.18_±0.98	61.58_±1.05	61.00_±0.28	60.54_±1.18	59.82_±3.38	59.37_±4.53	-	-	-