Appendix B. Choice of (ρ, λ, ρ) based on a case study

Our previous papers [29, 30] showed the sensitivity of tentative adversarial images to the choice of the degrading and enlarging functions. In the present appendix B, we, therefore, want to find out which degrading and enlarging functions ρ and λ, and which combination (ρ, λ, ρ), used in Scheme 11, provide the best outcome in terms of image quality and of adversity. For this purpose, we perform a case study.

Based on the results of [29, 30], the study is limited to the consideration of the "Lanczos" (L) and "Nearest" (N) functions, either for the degrading function ρ or for the enlarging function λ. This leads to 8 combinations for (ρ, λ, ρ), namely (with obvious notations) L-L-L, L-L-N, L-N-L, N-L-L, L-N-N, N-L-N, N-N-L and N-N-N.

For each such combination (ρ, λ, ρ), the study is performed on the 100 clean images $\mathcal{A}_q^p$ represented in Figure A1, with the EA-based targeted attack against the CNN $\mathcal{C} = \mathcal{C}_9 =$ VGG-16, according to the pairs (c_a, c_t) specified in Table 2.

However, although the images $\mathcal{A}_q^p$ are picked from the ImageNet validation set in the categories c_{a_q}, VGG-16 does not systematically classify all of them in the "correct" category c_{a_q} in the process of Steps 1 and 2 of Scheme 11. Indeed, Tables A2 and A3 in Appendix A show that VGG-16 classifies "correctly" only 93 clean images $\mathcal{A}_q^p$, and classifies "wrongly" 7 when the degrading function used in Step 1 is $\rho =$ L or is $\rho =$ N. Let us observe that although the number of "correctly" classified and of "wrongly" classified images are the same independently on the ρ function used, the actual such images $\mathcal{A}_q^p$ are not necessarily the same. In any case, the "wrongly" classified clean images are from now on disregarded (a symbol "XXX" represents this fact in the tables), since they introduce a native bias. The rest of the experiments are therefore performed on the set $\mathcal{S}_{clean}^{\text{VGG-16}}(\rho) = 93$ of "correctly" classified clean images.

With this setting, the targeted attack aims at creating 0.55-strong adversarial images in the $\mathcal{R}$ domain (hence meaning that it aims at creating images for which $\tilde{\tau}_t \geq 0.55$).

As explained in Section 4.4, the attack succeeds when a 0.55-strong adversarial image in the $\mathcal{R}$ domain is obtained within $10,000$ generations. In the present case study, we also keep track of the unsuccessful such attacks. More precisely, for the $\mathcal{S}_{clean}^{\text{VGG-16}}(\rho) = 93$ images considered, we also report the cases where either the best tentative adversarial image in the $\mathcal{R}$ domain, obtained after $10,000$ generations, is classified in c_t but with a label value < 0.55, or is classified in a category $c \neq c_a, c_t$, or is classified back to $c = c_a$.

Note *en passant* that, although unsuccessful for the 0.55-target scenario, the attack in the $\mathcal{R}$ domain is successful at creating good enough adversarial images in the first case considered in the previous paragraph, respectively for the untarget scenario in the second case.

To summarize, we denote by $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}}$ the quadruplet composed (from left to right) of the number of 0.55-strong adversarial images, the number of good enough adversarial images, the number of tentative adversarial images classified in a category $c \neq c_a, c_t$, and the number of those classified back to c_a. Clearly, since all possibilities are considered, the sum of these quantities is equal to the number of clean images

considered, namely $\#\mathcal{S}_{clean}^{\text{VGG-16}}(\rho) = 93$ (independently on whether $\rho = \text{L}$ or $\rho = \text{N}$). In the present study, we report the c_t-label values $\tilde{\tau}_t$ only for the images contributing to γ_{st} and to γ_{ge}.

In the present study, Scheme 11 continues with Steps 4 to 8 only for the adversarial images that correspond to the first or the second component of the quadruplet in $\mathcal{R}$, namely those obtained in Step 3 that are classified in c_t. Note that we compute the average of the $\tilde{\tau}_c = \tilde{\tau}_t$ for these images (a symbol "XXX" represents in the tables the disregarded images).

At the end of Step 8, we report the following indicators. From left to right, the triplet $(\Gamma, \Theta, \Phi)_{\mathcal{H}}$ counts the number of HR tentative adversarial images classified in c_t (hence adversarial for the target scenario), classified in $c \neq c_a, c_t$ (hence adversarial for the untarget scenario), classified back in c_a (not adversarial at all). For the images that contribute either to Γ or to Θ, we report their c_t-label values τ_t, the value of the loss function, and the values of the two L_2 distances (written as $L_{2,\mathcal{R}}$ and $L_{2,\mathcal{H}}$ to simplify the notations) as specified in Section 3.2.

Remarks: Firstly, one has $\Gamma + \Theta + \Phi = \gamma_{st} + \gamma_{ge} \leq \#\mathcal{S}_{clean}^{\text{VGG-16}}(\rho) = 93$. Secondly, let us recall that the value of the loss function $\mathcal{L}$ is systematically computed on the c_t-label values for the specific target category c_t. This holds in particular for the images that contribute to Θ, namely those where ultimately (at the end of Step 8) the dominant category is not c_t.

The outcomes of these experiments are given in Table B1 for the L-L-L combination, in Table B2 for the L-L-N combination, in Table B3 for the L-N-L combination, in Table B4 for the N-L-L combination, in Table B5 for the L-N-N combination, in Table B6 for the N-L-N combination, in Table B7 for the N-N-L combination, and in Table B8 for the N-N-N combination.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5502	c_t	0.5137	0.962	0.960	0.999	0.035	0.032	0.023	1.391	1.14E-04	8.31E-06	7.92E-06	53	54	161	0.037
	2	c_t	0.5505	c_t	0.5223	0.943	0.931	0.999	0.022	0.019	0.026	0.731	7.17E-05	1.32E-05	2.55E-05	33	33	158	0.028
	3	c_t	0.5509	c_t	0.5289	0.958	0.954	0.999	0.029	0.027	0.002	13.500	9.67E-05	7.41E-05	9.25E-06	44	39	18	0.022
	4	c_t	0.5505	c_t	0.4912	0.971	0.967	0.999	0.042	0.039	0.010	3.900	1.38E-04	6.72E-05	2.38E-05	64	60	71	0.059
	5	c_t	0.5514	c_t	0.5224	0.959	0.953	1.000	0.029	0.027	0.017	1.588	9.69E-05	4.58E-05	3.14E-05	44	43	95	0.029
	6	c_t	**0.2947 ge**	c_t	0.2734	0.974	0.970	0.913	0.046	0.042	0.011	3.818	1.48E-04	7.32E-05	3.29E-05	68	70	85	0.021
	7	c_t	0.5503	c_t	0.5091	0.967	0.961	0.999	0.039	0.036	0.028	1.286	1.29E-04	6.13E-05	6.77E-05	61	58	128	0.041
	8	c_t	0.5507	c_t	0.4339	0.957	0.942	0.999	0.035	0.033	0.038	0.868	1.18E-04	5.16E-05	8.35E-05	54	55	192	0.117
	9	c_t	0.5505	c_t	0.4925	0.964	0.958	0.999	0.034	0.031	0.029	1.069	1.12E-04	4.61E-05	6.02E-05	50	51	149	0.058
	10	c_t	0.5500	c_t	0.5357	0.958	0.953	0.999	0.030	0.027	0.025	1.080	9.73E-05	7.03E-06	8.39E-06	49	50	192	0.014
2	1	c_t	0.5523	c_t	0.5209	0.932	0.923	0.999	0.018	0.016	0.021	0.762	5.89E-05	2.80E-05	5.40E-05	27	27	122	0.031
	2	c_t	0.5512	c_t	0.5281	0.928	0.921	0.999	0.017	0.015	0.018	0.833	5.61E-05	2.39E-05	3.53E-05	32	32	133	0.023
	3	c_t	0.5507	c_t	0.5434	0.938	0.932	1.000	0.020	0.018	0.020	0.900	6.51E-05	3.09E-05	4.25E-05	30	31	124	0.007
	4	c_t	0.5508	c_t	0.4929	0.946	0.940	0.999	0.023	0.021	0.009	2.333	7.48E-05	3.56E-05	2.51E-05	34	36	88	0.058
	5	c_t	0.5511	c_t	0.5362	0.958	0.952	0.999	0.029	0.026	0.021	1.238	9.55E-05	3.92E-05	4.73E-05	47	47	119	0.015
	6	c_t	0.5515	c_t	0.5260	0.951	0.944	1.000	0.026	0.023	0.026	0.885	8.52E-05	3.49E-05	6.05E-05	42	40	162	0.026
	7	c_t	0.5505	c_t	0.5014	0.943	0.941	0.996	0.023	0.021	0.005	4.200	7.62E-05	3.65E-05	1.56E-05	33	34	86	0.049
	8	c_t	0.5513	c_t	0.5051	0.948	0.943	0.999	0.024	0.022	0.007	3.143	7.85E-05	3.73E-05	1.91E-05	37	34	69	0.046
	9	c_t	0.5510	c_t	0.4714	0.943	0.938	0.999	0.022	0.020	0.008	2.500	7.20E-05	3.09E-05	1.97E-05	33	36	73	0.080
	10	c_t	0.5507	c_t	0.4992	0.940	0.931	1.000	0.021	0.019	0.020	0.950	6.97E-05	3.51E-05	5.18E-05	31	32	127	0.052
3	1	c_t	0.5508	c_t	0.5164	0.960	0.954	0.999	0.033	0.030	0.015	2.000	1.08E-04	4.79E-05	3.17E-05	52	48	87	0.034
	2	c_t	0.5503	c_t	0.5068	0.955	0.949	0.999	0.028	0.025	0.004	6.250	9.16E-05	7.87E-05	3.44E-05	45	43	78	0.044
	3	c_t	0.5501	c_t	0.5214	0.962	0.957	0.999	0.032	0.029	0.013	2.231	1.04E-04	7.41E-06	5.39E-06	47	49	172	0.029
	4	c_t	0.5511	c_t	0.5220	0.940	0.929	1.000	0.023	0.021	0.014	1.500	7.75E-05	3.87E-05	4.52E-05	36	35	132	0.029
	5	c_t	0.5504	c_t	0.4479	0.960	0.954	0.999	0.036	0.033	0.007	4.714	1.21E-04	8.18E-05	2.32E-05	59	60	61	0.103
	6	c_t	0.5518	c_t	0.5082	0.952	0.945	0.999	0.026	0.024	0.010	2.400	8.71E-05	5.76E-05	4.53E-05	39	41	66	0.044
	7	c_t	0.5511	c_t	0.5060	0.938	0.939	0.996	0.022	0.021	0.008	2.625	7.54E-05	3.51E-05	2.67E-05	37	38	108	0.045
	8	c_t	0.5502	c_t	0.5008	0.953	0.945	1.000	0.027	0.025	0.018	1.389	9.10E-05	4.46E-05	4.92E-05	44	41	131	0.049
	9	c_t	0.5515	c_t	0.4953	0.963	0.958	1.000	0.033	0.030	0.023	1.304	1.09E-04	5.16E-05	5.98E-05	48	53	164	0.056
	10	c_t	0.5501	c_t	0.4851	0.972	0.964	1.000	0.047	0.043	0.014	3.071	1.55E-04	9.67E-05	3.93E-05	77	73	115	0.065
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5502	c_t	0.5204	0.952	0.961	0.949	0.034	0.033	0.006	5.163	1.13E-04	6.45E-05	2.00E-05	54	55	47	0.0298
	3	c_t	0.5506	c_t	0.5332	0.944	0.939	0.997	0.023	0.022	0.015	1.467	7.78E-05	3.87E-05	5.41E-05	34	36	109	0.017
	4	c_t	0.5501	c_t	0.5391	0.935	0.947	0.903	0.026	0.026	0.005	5.200	9.10E-05	6.61E-05	2.54E-05	44	42	33	0.011
	5	c_t	0.5512	c_t	0.5266	0.967	0.961	0.999	0.036	0.033	0.006	5.500	1.18E-04	5.08E-05	1.84E-05	53	56	80	0.025
	6	c_t	0.5531	c_t	0.4371	0.966	0.957	1.000	0.039	0.035	0.114	0.307	1.27E-04	6.04E-05	2.02E-04	59	58	197	0.116
	7	c_t	0.5507	c_t	0.5136	0.956	0.953	0.999	0.031	0.029	0.010	2.900	1.05E-04	5.40E-05	2.91E-05	44	44	58	0.037
	8	c_t	0.5503	c_t	0.5316	0.952	0.942	0.999	0.025	0.022	0.032	0.688	8.17E-05	4.02E-05	8.58E-05	38	37	175	0.019
	9	c_t	0.5513	c_t	0.5307	0.946	0.947	0.966	0.027	0.026	0.010	2.600	9.02E-05	4.58E-05	3.81E-05	41	40	88	0.021
	10	c_t	0.5501	c_t	0.5270	0.952	0.956	0.977	0.034	0.032	0.008	4.000	1.12E-04	4.28E-05	2.24E-05	51	54	124	0.023
5	1	c_t	0.5502	c_t	0.5228	0.962	0.957	1.000	0.033	0.030	0.023	1.316	1.06E-04	3.79E-05	4.23E-05	48	45	152	0.027
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5503	c_t	0.5144	0.961	0.956	0.995	0.033	0.031	0.028	1.107	1.09E-04	5.55E-05	6.28E-05	48	53	128	0.036
	4	c_t	0.5525	c_t	0.4846	0.963	0.957	1.000	0.032	0.029	0.019	1.526	1.06E-04	5.32E-05	4.19E-05	48	46	82	0.068
	5	c_t	0.5516	c_t	0.5278	0.957	0.947	1.000	0.028	0.026	0.043	0.605	9.30E-05	3.11E-05	6.70E-05	40	41	193	0.024
	6	c_t	0.5506	c_t	0.4893	0.969	0.964	1.000	0.039	0.035	0.034	1.029	1.27E-04	6.34E-05	7.54E-05	58	57	104	0.061
	7	c_t	0.5513	c_t	0.5374	0.949	0.943	1.000	0.024	0.022	0.017	1.294	8.03E-05	3.07E-05	2.68E-05	37	39	77	0.014
	8	c_t	0.5503	c_t	0.5277	0.971	0.966	1.000	0.041	0.037	0.025	1.480	1.34E-04	6.36E-05	5.12E-05	59	57	90	0.023
	9	c_t	0.5501	c_t	0.5012	0.970	0.966	1.000	0.041	0.037	0.043	0.860	1.34E-04	6.69E-05	9.12E-05	61	61	132	0.049
	10	c_t	0.5541	c_t	0.5152	0.955	0.950	1.000	0.028	0.025	0.024	1.042	9.18E-05	3.64E-05	4.34E-05	43	43	182	0.039

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5527	c_t	0.5248	0.946	0.936	1.000	0.023	0.020	0.048	0.417	7.46E-05	3.75E-05	9.85E-05	36	34	119	0.028
	2	c_t	0.5501	c_t	0.4822	0.969	0.966	1.000	0.041	0.037	0.026	1.423	1.33E-04	5.25E-05	4.52E-05	58	55	122	0.068
	3	c_t	0.5508	c_t	0.5064	0.963	0.957	1.000	0.033	0.030	0.042	0.714	1.09E-04	5.13E-05	8.29E-05	55	53	144	0.044
	4	c_t	0.5505	c_t	0.4509	0.953	0.946	1.000	0.028	0.025	0.026	0.962	9.15E-05	4.32E-05	5.38E-05	40	40	118	0.100
	5	c_t	0.5502	c_t	0.5305	0.946	0.938	1.000	0.023	0.021	0.018	1.167	7.53E-05	3.09E-05	5.08E-05	34	35	185	0.020
	6	c_t	0.5507	c_t	0.4811	0.954	0.950	1.000	0.027	0.025	0.021	1.190	8.91E-05	3.73E-05	4.07E-05	40	41	92	0.070
	7	c_t	0.5504	c_t	0.5150	0.963	0.959	0.999	0.034	0.031	0.030	1.033	1.10E-04	1.74E-05	2.27E-05	57	58	149	0.035
	8	c_t	0.5505	c_t	0.4977	0.963	0.948	0.999	0.035	0.032	0.028	1.143	1.15E-04	5.77E-05	8.20E-05	55	53	181	0.053
	9	c_t	0.5503	c_t	0.5255	0.943	0.934	0.999	0.022	0.020	0.044	0.455	7.16E-05	8.28E-06	2.26E-05	35	35	159	0.025
	10	c_t	0.5509	c_t	0.4664	0.966	0.959	0.997	0.038	0.035	0.052	0.673	1.25E-04	5.91E-05	1.12E-04	55	56	168	0.085
7	1	c_t	0.5503	c_t	0.4698	0.959	0.943	1.000	0.031	0.028	0.063	0.444	1.03E-04	4.80E-05	1.22E-04	49	49	184	0.081
	2	c_t	0.5506	c_t	0.5010	0.965	0.960	0.999	0.036	0.032	0.029	1.103	1.17E-04	1.72E-05	2.28E-05	56	58	191	0.050
	3	c_t	0.5510	c_t	0.5160	0.959	0.955	1.000	0.031	0.028	0.027	1.037	1.00E-04	5.04E-05	6.45E-05	48	46	143	0.035
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5515	c_t	0.5164	0.959	0.953	0.999	0.029	0.027	0.021	1.286	9.57E-05	3.74E-05	3.94E-05	47	48	129	0.035
	6	c_t	0.5513	c_t	0.4902	0.966	0.959	1.000	0.036	0.033	0.033	1.000	1.20E-04	5.66E-05	6.77E-05	59	60	145	0.061
	7	c_t	0.5502	c_t	0.5088	0.955	0.951	0.994	0.028	0.026	0.022	1.182	9.29E-05	4.00E-05	3.95E-05	42	44	105	0.041
	8	c_t	0.5504	c_t	0.5256	0.967	0.963	0.999	0.037	0.034	0.023	1.478	1.21E-04	5.52E-05	4.24E-05	54	58	79	0.025
	9	c_t	0.5504	c_t	0.5159	0.965	0.960	0.999	0.037	0.034	0.050	0.680	1.21E-04	5.26E-05	9.01E-05	54	55	150	0.035
	10	c_t	0.5505	c_t	0.5193	0.956	0.950	1.000	0.028	0.025	0.020	1.250	9.09E-05	4.54E-05	4.69E-05	42	41	144	0.031
8	1	c_t	0.5502	c_t	0.5296	0.955	0.950	0.999	0.028	0.025	0.017	1.471	9.17E-05	4.61E-05	4.74E-05	50	48	110	0.021
	2	c_t	0.5541	c_t	0.5073	0.956	0.951	0.999	0.028	0.026	0.018	1.444	9.27E-05	3.54E-05	3.65E-05	41	43	140	0.047
	3	c_t	0.5506	c_t	0.5236	0.962	0.956	0.999	0.033	0.030	0.027	1.111	1.09E-04	4.74E-05	6.02E-05	72	74	146	0.027
	4	c_t	0.5503	c_t	0.5262	0.941	0.934	0.999	0.021	0.019	0.006	3.167	6.84E-05	4.53E-05	2.57E-05	29	27	62	0.024
	5	c_t	0.5512	c_t	0.5021	0.961	0.957	0.999	0.032	0.029	0.016	1.813	1.06E-04	5.35E-05	4.17E-05	58	52	91	0.049
	6	c_t	0.5509	c_t	0.5294	0.944	0.944	0.991	0.026	0.025	0.012	2.083	8.76E-05	4.51E-05	3.71E-05	44	42	175	0.022
	7	c_t	0.5511	c_t	0.5082	0.962	0.952	0.999	0.033	0.030	0.056	0.536	1.10E-04	5.16E-05	0.000110594	56	58	152	0.043
	8	c_t	0.5518	c_t	0.5078	0.955	0.947	1.000	0.027	0.025	0.037	0.676	8.86E-05	4.21E-05	7.08E-05	39	38	134	0.044
	9	c_t	0.5511	c_t	0.4477	0.961	0.956	1.000	0.032	0.030	0.016	1.875	1.07E-04	6.97E-05	5.23E-05	52	48	66	0.103
	10	c_t	0.5537	c_t	0.5067	0.957	0.953	0.999	0.030	0.027	0.048	0.563	9.72E-05	4.63E-05	9.59E-05	50	49	158	0.047
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5508	c_t	0.5192	0.946	0.938	0.999	0.022	0.020	0.025	0.800	7.36E-05	3.49E-05	5.40E-05	32	32	122	0.032
	3	c_t	0.5512	c_t	0.5407	0.957	0.952	1.000	0.028	0.026	0.011	2.364	9.32E-05	3.53E-05	2.12E-05	42	43	84	0.011
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5518	c_t	0.5101	0.910	0.888	1.000	0.014	0.012	0.026	0.462	4.65E-05	2.66E-05	7.70E-05	21	24	117	0.042
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	c_t	0.5510	c_t	0.5171	0.952	0.942	0.999	0.025	0.023	0.055	0.418	8.35E-05	1.93E-05	5.22E-05	41	41	175	0.034
	8	c_t	0.5521	c_t	0.5343	0.924	0.911	1.000	0.016	0.014	0.056	0.250	5.34E-05	2.53E-05	0.000118622	23	22	171	0.018
	9	c_t	0.5512	c_t	0.5172	0.947	0.941	0.999	0.024	0.022	0.018	1.222	7.88E-05	3.74E-05	4.71E-05	39	39	165	0.034
	10	c_t	0.5505	c_t	0.4898	0.951	0.947	1.000	0.027	0.025	0.008	3.125	9.05E-05	4.27E-05	2.17E-05	43	41	133	0.061
10	1	c_t	0.5506	c_t	0.5126	0.954	0.950	0.999	0.027	0.025	0.010	2.500	8.95E-05	4.25E-05	2.37E-05	46	44	96	0.038
	2	c_t	0.5500	c_t	0.4583	0.962	0.953	0.998	0.035	0.032	0.065	0.492	1.16E-04	5.48E-05	0.000132496	52	58	200	0.092
	3	c_t	0.5509	c_t	0.4893	0.953	0.951	0.987	0.028	0.026	0.031	0.839	9.41E-05	4.50E-05	7.48E-05	43	40	154	0.062
	4	c_t	0.5531	c_t	0.5066	0.955	0.951	1.000	0.028	0.026	0.030	0.867	9.29E-05	4.67E-05	6.67E-05	45	41	122	0.047
	5	c_t	0.5503	c_t	0.4895	0.960	0.950	0.989	0.033	0.030	0.062	0.484	1.10E-04	5.21E-05	0.000119982	49	49	163	0.061
	6	c_t	0.5500	c_t	0.5223	0.964	0.960	1.000	0.035	0.032	0.009	3.556	1.14E-04	6.72E-05	2.67E-05	51	51	73	0.028
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5503	c_t	0.4978	0.968	0.964	1.000	0.039	0.035	0.042	0.833	1.27E-04	5.53E-05	7.44E-05	66	59	110	0.053
	9	c_t	0.5501	c_t	0.4943	0.960	0.956	0.980	0.034	0.032	0.050	0.640	1.13E-04	5.41E-05	9.87E-05	57	52	143	0.056
	10	c_t	0.5503	c_t	0.4507	0.967	0.960	0.999	0.040	0.036	0.048	0.750	1.30E-04	6.52E-05	0.000102036	67	62	150	0.100

Table B1.: Combination (ρ, λ, ρ) = L-L-L. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 0, 0)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (93, 0, 0)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5502	c_a	0.9114	0.962	0.960	0.901	0.035	0.032	0.029	1.127	1.14E-04	8.31E-06	1.09E-05	53	54	219	0.546
	2	c_t	0.5505	$c \neq c_a, c_t$	0.4463	0.943	0.932	0.888	0.022	0.020	0.032	0.623	7.17E-05	1.32E-05	3.27E-05	33	33	210	0.521
	3	c_t	0.5509	c_a	0.3397	0.958	0.955	0.791	0.030	0.027	0.012	2.366	9.67E-05	7.41E-05	4.65E-05	44	39	138	0.493
	4	c_t	0.5505	c_a	0.4436	0.971	0.967	0.825	0.043	0.039	0.024	1.601	1.38E-04	6.72E-05	6.05E-05	64	60	142	0.349
	5	c_t	0.5514	c_a	0.2459	0.959	0.953	0.928	0.030	0.027	0.023	1.193	9.69E-05	4.58E-05	4.84E-05	44	43	187	0.485
	6	c_t	**0.2947 ge**	c_a	0.8708	0.974	0.970	0.493	0.046	0.042	0.021	2.017	1.48E-04	7.32E-05	7.52E-05	68	70	193	0.276
	7	c_t	0.5503	c_a	0.8634	0.967	0.961	0.834	0.040	0.036	0.038	0.949	1.29E-04	6.13E-05	1.05E-04	61	58	231	0.544
	8	c_t	0.5507	c_a	0.9291	0.957	0.943	0.777	0.036	0.033	0.045	0.735	1.18E-04	5.16E-05	1.09E-04	54	55	227	0.545
	9	c_t	0.5505	c_a	0.9997	0.964	0.958	0.938	0.035	0.032	0.036	0.871	1.12E-04	4.61E-05	8.24E-05	50	51	238	0.551
	10	c_t	0.5500	c_a	0.8055	0.958	0.954	0.924	0.030	0.028	0.034	0.817	9.73E-05	7.03E-06	1.30E-05	49	50	193	0.517
2	1	c_t	0.5523	$c \neq c_a, c_t$	0.519	0.932	0.923	0.892	0.018	0.017	0.033	0.507	5.89E-05	2.80E-05	7.76E-05	27	27	201	0.462
	2	c_t	0.5512	c_a	0.8416	0.928	0.922	0.916	0.017	0.016	0.024	0.660	5.61E-05	2.39E-05	4.56E-05	32	32	172	0.551
	3	c_t	0.5507	c_a	0.2944	0.938	0.933	0.948	0.020	0.018	0.035	0.529	6.51E-05	3.09E-05	6.93E-05	30	31	159	0.495
	4	c_t	0.5508	c_a	0.7299	0.946	0.941	0.857	0.023	0.021	0.016	1.287	7.48E-05	3.56E-05	3.92E-05	34	36	157	0.515
	5	c_t	0.5511	c_a	0.3377	0.958	0.952	0.660	0.029	0.027	0.026	1.034	9.55E-05	3.92E-05	5.91E-05	47	47	240	0.551
	6	c_t	0.5515	c_a	0.9487	0.951	0.944	0.913	0.026	0.024	0.033	0.722	8.52E-05	3.49E-05	7.35E-05	42	40	223	0.546
	7	c_t	0.5505	$c \neq c_a, c_t$	0.2223	0.943	0.941	0.747	0.023	0.022	0.012	1.818	7.62E-05	3.65E-05	3.22E-05	33	34	156	0.401
	8	c_t	0.5513	c_a	0.3163	0.948	0.944	0.790	0.024	0.022	0.013	1.728	7.85E-05	3.73E-05	3.57E-05	37	34	139	0.426
	9	c_t	0.5510	c_t	0.2102	0.943	0.938	0.826	0.022	0.020	0.017	1.232	7.20E-05	3.09E-05	3.70E-05	33	36	184	0.341
	10	c_t	0.5507	c_a	0.512	0.940	0.932	0.893	0.021	0.020	0.030	0.645	6.97E-05	3.51E-05	8.10E-05	31	32	204	0.504
3	1	c_t	0.5508	c_a	0.763	0.960	0.954	0.849	0.033	0.031	0.027	1.121	1.08E-04	4.79E-05	6.66E-05	52	48	179	0.527
	2	c_t	0.5503	c_a	0.6146	0.955	0.950	0.724	0.028	0.026	0.020	1.287	9.16E-05	7.87E-05	1.38E-04	45	43	255	0.442
	3	c_t	0.5501	c_a	0.5516	0.962	0.957	0.879	0.032	0.029	0.018	1.601	1.04E-04	7.41E-06	7.83E-06	47	49	183	0.429
	4	c_t	0.5511	c_a	0.9763	0.940	0.930	0.846	0.024	0.021	0.025	0.862	7.75E-05	3.87E-05	8.11E-05	36	35	215	0.547
	5	c_t	0.5504	c_a	0.5728	0.960	0.955	0.797	0.037	0.034	0.028	1.193	1.21E-04	8.18E-05	9.87E-05	59	60	128	0.492
	6	c_t	0.5518	c_t	0.1072	0.952	0.946	0.751	0.027	0.025	0.029	0.850	8.71E-05	5.76E-05	1.41E-04	39	41	217	0.445
	7	c_t	0.5511	$c \neq c_a, c_t$	0.2851	0.938	0.939	0.675	0.023	0.022	0.012	1.825	7.54E-05	3.51E-05	4.01E-05	37	38	165	0.363
	8	c_t	0.5502	c_a	0.8574	0.953	0.945	0.862	0.028	0.025	0.026	0.981	9.10E-05	4.46E-05	8.31E-05	44	41	226	0.529
	9	c_t	0.5515	$c \neq c_a, c_t$	0.4796	0.963	0.958	0.923	0.034	0.031	0.034	0.914	1.09E-04	5.16E-05	8.69E-05	48	53	238	0.552
	10	c_t	0.5501	c_a	0.399	0.972	0.964	0.907	0.048	0.043	0.033	1.327	1.55E-04	9.67E-05	1.02E-04	77	73	186	0.489
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5502	c_t	0.264	0.952	0.961	0.560	0.034	0.033	0.017	1.994	1.13E-04	6.43E-05	5.59E-05	54	55	169	0.286
	3	c_t	0.5506	c_a	0.3889	0.944	0.940	0.505	0.024	0.022	0.022	0.986	7.78E-05	3.87E-05	7.90E-05	34	36	176	0.429
	4	c_t	0.5501	c_a	0.7241	0.935	0.947	0.350	0.027	0.027	0.017	1.555	9.10E-05	6.61E-05	8.40E-05	44	42	130	0.539
	5	c_t	0.5512	c_t	0.24	0.967	0.961	0.497	0.037	0.033	0.009	3.870	1.18E-04	5.08E-05	3.23E-05	53	56	207	0.311
	6	c_t	0.5531	c_a	0.938	0.966	0.958	0.975	0.039	0.035	0.130	0.273	1.27E-04	6.04E-05	2.30E-04	59	58	255	0.553
	7	c_t	0.5507	c_t	0.2196	0.956	0.954	0.783	0.032	0.030	0.023	1.265	1.05E-04	5.40E-05	6.71E-05	44	44	159	0.331
	8	c_t	0.5503	c_a	0.2057	0.952	0.943	0.778	0.025	0.023	0.040	0.576	8.17E-05	4.02E-05	1.08E-04	38	37	242	0.505
	9	c_t	0.5513	$c \neq c_a, c_t$	0.2157	0.946	0.947	0.430	0.027	0.026	0.016	1.647	9.02E-05	4.58E-05	5.88E-05	41	40	149	0.415
	10	c_t	0.5501	c_a	0.4648	0.952	0.956	0.427	0.034	0.033	0.013	2.537	1.12E-04	4.28E-05	3.25E-05	51	54	160	0.466
5	1	c_t	0.5502	c_a	0.5687	0.962	0.957	0.872	0.033	0.030	0.029	1.038	1.06E-04	3.79E-05	5.32E-05	48	45	181	0.550
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5503	c_a	0.2667	0.961	0.957	0.902	0.034	0.031	0.038	0.814	1.09E-04	5.55E-05	8.43E-05	48	53	195	0.550
	4	c_t	0.5525	$c \neq c_a, c_t$	0.1831	0.963	0.958	0.936	0.033	0.030	0.031	0.959	1.06E-04	5.32E-05	6.84E-05	48	46	197	0.553
	5	c_t	0.5516	$c \neq c_a, c_t$	0.5702	0.957	0.948	0.909	0.029	0.026	0.050	0.519	9.30E-05	3.11E-05	7.75E-05	40	41	218	0.552
	6	c_t	0.5506	c_a	0.2189	0.969	0.965	0.936	0.039	0.036	0.041	0.866	1.27E-04	6.34E-05	9.13E-05	58	57	146	0.551
	7	c_t	0.5513	$c \neq c_a, c_t$	0.1297	0.949	0.943	0.928	0.025	0.023	0.026	0.857	8.03E-05	3.07E-05	4.27E-05	37	39	113	0.496
	8	c_t	0.5503	c_a	0.8241	0.971	0.967	0.941	0.042	0.038	0.034	1.131	1.34E-04	6.36E-05	6.63E-05	59	57	118	0.550
	9	c_t	0.5501	$c \neq c_a, c_t$	0.2487	0.970	0.966	0.962	0.041	0.038	0.064	0.590	1.34E-04	6.69E-05	1.33E-04	61	61	205	0.550
	10	c_t	0.5541	c_a	0.4705	0.955	0.950	0.930	0.028	0.026	0.030	0.878	9.18E-05	3.64E-05	5.33E-05	43	43	212	0.554

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5527	c_a	0.3244	0.946	0.937	0.949	0.023	0.021	0.063	0.331	7.46E-05	3.75E-05	1.34E-04	36	34	228	0.553
	2	c_t	0.5501	c_a	0.4691	0.969	0.967	0.937	0.041	0.038	0.036	1.042	1.33E-04	5.25E-05	6.31E-05	58	55	162	0.550
	3	c_t	0.5508	c_a	0.5853	0.963	0.957	0.952	0.034	0.031	0.052	0.593	1.09E-04	5.13E-05	1.07E-04	55	53	236	0.551
	4	c_t	0.5505	c_a	0.2755	0.953	0.946	0.913	0.028	0.026	0.035	0.734	9.15E-05	4.32E-05	7.94E-05	40	40	200	0.551
	5	c_t	0.5502	c_t	0.1033	0.946	0.938	0.888	0.023	0.021	0.027	0.785	7.53E-05	3.09E-05	7.51E-05	34	35	244	0.447
	6	c_t	0.5507	c_a	0.493	0.954	0.950	0.873	0.028	0.025	0.029	0.872	8.91E-05	3.73E-05	6.16E-05	40	41	161	0.551
	7	c_t	0.5504	$c \neq c_a, c_t$	0.3622	0.963	0.959	0.929	0.034	0.031	0.040	0.780	1.10E-04	1.74E-05	2.92E-05	57	58	220	0.550
	8	c_t	0.5505	c_a	0.2631	0.963	0.949	0.898	0.035	0.032	0.043	0.740	1.15E-04	5.77E-05	1.23E-04	55	53	255	0.551
	9	c_t	0.5503	$c \neq c_a, c_t$	0.0737	0.943	0.934	0.943	0.022	0.020	0.049	0.412	7.16E-05	8.28E-06	2.52E-05	35	35	205	0.550
	10	c_t	0.5509	c_a	0.5704	0.966	0.959	0.907	0.038	0.035	0.067	0.523	1.25E-04	5.91E-05	1.48E-04	55	56	221	0.551
7	1	c_t	0.5503	c_a	0.5644	0.959	0.943	0.969	0.032	0.028	0.073	0.385	1.03E-04	4.80E-05	1.46E-04	49	49	228	0.550
	2	c_t	0.5506	c_a	0.3718	0.965	0.961	0.930	0.036	0.033	0.039	0.847	1.17E-04	1.72E-05	2.85E-05	56	58	222	0.551
	3	c_t	0.5508	c_a	0.6149	0.959	0.955	0.948	0.031	0.028	0.045	0.631	1.00E-04	5.04E-05	1.09E-04	48	46	237	0.551
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5515	c_a	0.9771	0.959	0.953	0.917	0.030	0.027	0.027	0.986	9.57E-05	3.74E-05	5.46E-05	47	48	209	0.552
	6	c_t	0.5513	c_a	0.9988	0.966	0.959	0.951	0.037	0.034	0.045	0.743	1.20E-04	5.66E-05	9.50E-05	59	60	212	0.551
	7	c_t	0.5502	c_a	0.2821	0.955	0.952	0.894	0.029	0.026	0.027	0.979	9.29E-05	4.00E-05	5.06E-05	42	44	190	0.550
	8	c_t	0.5504	c_t	0.0946	0.967	0.964	0.950	0.037	0.034	0.040	0.850	1.21E-04	5.52E-05	8.20E-05	54	58	199	0.456
	9	c_t	0.5504	c_a	0.9927	0.965	0.960	0.952	0.037	0.034	0.056	0.608	1.21E-04	5.26E-05	1.02E-04	54	55	190	0.550
	10	c_t	0.5505	c_a	0.8089	0.956	0.950	0.927	0.028	0.026	0.028	0.909	9.09E-05	4.54E-05	6.73E-05	42	41	174	0.551
8	1	c_t	0.5502	c_t	0.1666	0.955	0.951	0.908	0.028	0.026	0.031	0.847	9.17E-05	4.61E-05	7.51E-05	50	48	178	0.384
	2	c_t	0.5541	$c \neq c_a, c_t$	0.089	0.956	0.952	0.909	0.029	0.026	0.023	1.122	9.27E-05	3.54E-05	5.20E-05	41	43	239	0.554
	3	c_t	0.5506	$c \neq c_a, c_t$	0.1605	0.962	0.957	0.922	0.034	0.031	0.038	0.813	1.09E-04	4.74E-05	8.39E-05	72	74	197	0.551
	4	c_t	0.5503	$c \neq c_a, c_t$	0.3271	0.941	0.935	0.767	0.021	0.019	0.017	1.155	6.84E-05	4.53E-05	6.48E-05	29	27	122	0.485
	5	c_t	0.5512	$c \neq c_a, c_t$	0.3044	0.961	0.957	0.884	0.033	0.030	0.029	1.017	1.06E-04	5.35E-05	7.37E-05	58	52	163	0.551
	6	c_t	0.5509	$c \neq c_a, c_t$	0.124	0.944	0.945	0.698	0.027	0.025	0.022	1.174	8.76E-05	4.51E-05	6.14E-05	44	42	215	0.451
	7	c_t	0.5511	$c \neq c_a, c_t$	0.1285	0.962	0.953	0.966	0.034	0.031	0.065	0.468	1.10E-04	5.16E-05	1.30E-04	56	58	222	0.551
	8	c_t	0.5518	c_a	0.7054	0.955	0.947	0.962	0.027	0.025	0.051	0.491	8.86E-05	4.21E-05	1.01E-04	39	38	224	0.552
	9	c_t	0.5511	c_a	0.3904	0.961	0.956	0.865	0.033	0.030	0.037	0.822	1.07E-04	6.97E-05	1.19E-04	52	48	200	0.551
	10	c_t	0.5537	$c \neq c_a, c_t$	0.7374	0.957	0.953	0.905	0.030	0.028	0.057	0.484	9.72E-05	4.63E-05	1.15E-04	50	49	187	0.554
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5508	$c \neq c_a, c_t$	0.3995	0.946	0.939	0.919	0.023	0.021	0.032	0.641	7.36E-05	3.49E-05	7.51E-05	32	32	197	0.503
	3	c_t	0.5512	c_a	0.3451	0.957	0.953	0.866	0.029	0.026	0.019	1.400	9.32E-05	3.53E-05	3.63E-05	42	43	120	0.354
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5518	c_t	0.1439	0.910	0.889	0.892	0.014	0.013	0.042	0.308	4.65E-05	2.66E-05	1.32E-04	21	24	235	0.408
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	c_t	0.551	$c \neq c_a, c_t$	0.2011	0.952	0.943	0.973	0.026	0.023	0.069	0.341	8.35E-05	1.93E-05	6.63E-05	41	41	201	0.551
	8	c_t	0.5521	c_a	0.9589	0.924	0.912	0.969	0.016	0.015	0.064	0.236	5.34E-05	2.53E-05	1.45E-04	23	22	247	0.552
	9	c_t	0.5512	c_a	0.3155	0.947	0.941	0.880	0.024	0.022	0.024	0.938	7.88E-05	3.74E-05	6.76E-05	39	39	237	0.474
	10	c_t	0.5505	c_t	0.2941	0.951	0.947	0.783	0.027	0.025	0.013	1.899	9.05E-05	4.27E-05	3.55E-05	43	41	161	0.256
10	1	c_t	0.5506	$c \neq c_a, c_t$	0.1846	0.954	0.951	0.820	0.028	0.025	0.017	1.536	8.95E-05	4.25E-05	3.92E-05	46	44	145	0.390
	2	c_t	0.5500	c_a	0.7668	0.962	0.954	0.902	0.036	0.033	0.079	0.413	1.16E-04	5.48E-05	1.63E-04	52	58	247	0.550
	3	c_t	0.5509	c_a	0.1959	0.954	0.951	0.775	0.029	0.027	0.038	0.710	9.41E-05	4.50E-05	9.26E-05	43	40	234	0.551
	4	c_t	0.5531	c_a	0.1083	0.956	0.951	0.942	0.029	0.026	0.043	0.614	9.29E-05	4.67E-05	1.04E-04	45	41	234	0.553
	5	c_t	0.5503	c_a	0.4218	0.960	0.951	0.895	0.034	0.031	0.074	0.421	1.10E-04	5.21E-05	1.48E-04	49	49	245	0.550
	6	c_t	0.5500	$c \neq c_a, c_t$	0.3696	0.964	0.961	0.899	0.035	0.032	0.025	1.308	1.14E-04	6.72E-05	7.67E-05	51	51	160	0.485
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5503	c_a	0.226	0.969	0.964	0.964	0.039	0.036	0.056	0.645	1.27E-04	5.53E-05	1.02E-04	66	59	216	0.550
	9	c_t	0.5501	$c \neq c_a, c_t$	0.2937	0.960	0.957	0.867	0.035	0.032	0.059	0.544	1.13E-04	5.41E-05	1.18E-04	57	52	172	0.550
	10	c_t	0.5503	$c \neq c_a, c_t$	0.3131	0.968	0.960	0.960	0.040	0.036	0.063	0.577	1.30E-04	6.52E-05	1.37E-04	67	62	241	0.550

Table B2.: Combination (ρ, λ, ρ) = L-L-N. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 25, 58)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (10, 25, 58)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{R}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5502	c_t	0.4225	0.962	0.961	0.901	0.035	0.035	0.029	1.218	1.14E-04	9.01E-06	1.09E-05	53	53	219	0.128
	2	c_t	0.5505	c_t	0.4325	0.943	0.937	0.888	0.022	0.022	0.032	0.680	7.17E-05	1.44E-05	3.27E-05	33	33	210	0.118
	3	c_t	0.5509	c_a	0.3201	0.958	0.958	0.791	0.030	0.030	0.012	2.577	9.67E-05	8.06E-05	4.65E-05	44	44	138	0.462
	4	c_t	0.5505	c_a	0.4918	0.971	0.969	0.825	0.043	0.043	0.024	1.740	1.38E-04	7.30E-05	6.05E-05	64	64	142	0.446
	5	c_t	0.5514	c_t	0.2473	0.959	0.957	0.928	0.030	0.030	0.023	1.299	9.69E-05	4.99E-05	4.84E-05	44	44	187	0.304
	6	c_t	**0.2947 ge**	c_a	0.821	0.974	0.974	0.493	0.046	0.046	0.021	2.215	1.48E-04	7.98E-05	7.52E-05	68	68	193	0.272
	7	c_t	0.5503	c_a	0.335	0.967	0.962	0.834	0.040	0.039	0.038	1.023	1.29E-04	6.63E-05	1.05E-04	61	61	231	0.327
	8	c_t	0.5507	c_t	0.2787	0.957	0.938	0.777	0.036	0.035	0.045	0.771	1.18E-04	5.51E-05	1.09E-04	54	54	227	0.272
	9	c_t	0.5505	c_a	0.7593	0.964	0.961	0.938	0.035	0.034	0.036	0.947	1.12E-04	5.01E-05	8.24E-05	50	50	238	0.447
	10	c_t	0.5500	c_t	0.4368	0.958	0.956	0.924	0.030	0.030	0.034	0.890	9.73E-05	7.66E-06	1.30E-05	49	49	193	0.113
2	1	c_t	0.5523	c_t	0.2766	0.932	0.930	0.892	0.018	0.018	0.033	0.550	5.89E-05	3.04E-05	7.76E-05	27	27	201	0.276
	2	c_t	0.5512	c_t	0.2923	0.928	0.928	0.916	0.017	0.017	0.024	0.717	5.61E-05	2.59E-05	4.56E-05	32	32	172	0.259
	3	c_t	0.5507	c_t	0.3764	0.938	0.938	0.948	0.020	0.020	0.035	0.576	6.51E-05	3.36E-05	6.93E-05	30	30	159	0.174
	4	c_t	0.5508	c_a	0.2826	0.946	0.946	0.857	0.023	0.023	0.016	1.400	7.48E-05	3.87E-05	3.92E-05	34	34	157	0.393
	5	c_t	0.5511	c_t	0.2145	0.958	0.956	0.660	0.029	0.029	0.026	1.129	9.55E-05	4.26E-05	5.91E-05	47	47	240	0.337
	6	c_t	0.5515	c_t	0.3449	0.951	0.948	0.913	0.026	0.026	0.033	0.788	8.52E-05	3.80E-05	7.35E-05	42	42	223	0.207
	7	c_t	0.5505	c_t	0.2185	0.943	0.942	0.747	0.023	0.023	0.012	1.955	7.62E-05	3.94E-05	3.22E-05	33	33	156	0.332
	8	c_t	0.5513	c_t	0.2607	0.948	0.948	0.790	0.024	0.024	0.013	1.885	7.85E-05	4.07E-05	3.57E-05	37	37	139	0.291
	9	c_t	0.5510	c_t	0.1962	0.943	0.942	0.826	0.022	0.022	0.017	1.337	7.20E-05	3.36E-05	3.70E-05	33	33	184	0.355
	10	c_t	0.5507	c_a	0.7599	0.940	0.935	0.893	0.021	0.021	0.030	0.700	6.97E-05	3.82E-05	8.10E-05	31	31	204	0.459
3	1	c_t	0.5508	c_a	0.2937	0.960	0.954	0.849	0.033	0.033	0.027	1.205	1.08E-04	5.17E-05	6.66E-05	52	52	179	0.373
	2	c_t	0.5503	c_a	0.8143	0.955	0.951	0.724	0.028	0.028	0.020	1.392	9.16E-05	8.54E-05	1.38E-04	45	45	255	0.515
	3	c_t	0.5501	c_t	0.4498	0.962	0.961	0.879	0.032	0.032	0.018	1.750	1.04E-04	8.09E-06	7.83E-06	47	47	183	0.100
	4	c_t	0.5511	c_a	0.7447	0.940	0.931	0.846	0.024	0.023	0.025	0.938	7.75E-05	4.23E-05	8.11E-05	36	36	215	0.456
	5	c_t	0.5504	c_a	0.8624	0.960	0.953	0.797	0.037	0.036	0.028	1.278	1.21E-04	8.84E-05	9.87E-05	59	59	128	0.542
	6	c_t	0.5518	c_a	0.2267	0.952	0.948	0.751	0.027	0.027	0.029	0.924	8.71E-05	6.28E-05	1.41E-04	39	39	217	0.454
	7	c_t	0.5511	c_t	0.2715	0.938	0.935	0.675	0.023	0.023	0.012	1.924	7.54E-05	3.75E-05	4.01E-05	37	37	165	0.280
	8	c_t	0.5502	c_a	0.4706	0.953	0.949	0.862	0.028	0.027	0.026	1.072	9.10E-05	4.89E-05	8.31E-05	44	44	226	0.352
	9	c_t	0.5515	c_a	0.1816	0.963	0.962	0.923	0.034	0.034	0.034	0.999	1.09E-04	5.64E-05	8.69E-05	48	48	238	0.411
	10	c_t	0.5501	c_a	0.5267	0.972	0.965	0.907	0.048	0.047	0.033	1.431	1.55E-04	1.05E-04	1.02E-04	77	77	186	0.502
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5502	c_t	0.2428	0.952	0.951	0.560	0.034	0.034	0.017	2.042	1.13E-04	6.75E-05	5.59E-05	54	54	169	0.307
	3	c_t	0.5506	c_t	0.323	0.944	0.941	0.505	0.024	0.024	0.022	1.060	7.78E-05	4.18E-05	7.90E-05	34	34	176	0.228
	4	c_t	0.5501	c_a	0.3089	0.935	0.932	0.350	0.027	0.026	0.017	1.538	9.10E-05	6.83E-05	8.40E-05	44	44	130	0.418
	5	c_t	0.5512	c_t	0.1865	0.967	0.965	0.497	0.037	0.036	0.009	4.228	1.18E-04	5.54E-05	3.23E-05	53	53	207	0.365
	6	c_t	0.5531	$c \neq c_a, c_t$	0.1288	0.966	0.959	0.975	0.039	0.038	0.130	0.297	1.27E-04	6.56E-05	2.30E-04	59	59	255	0.480
	7	c_t	0.5507	c_t	0.1812	0.956	0.952	0.783	0.032	0.032	0.023	1.357	1.05E-04	5.84E-05	6.71E-05	44	44	159	0.369
	8	c_t	0.5503	c_t	0.2103	0.952	0.948	0.778	0.025	0.025	0.040	0.626	8.17E-05	4.35E-05	1.08E-04	38	38	242	0.340
	9	c_t	0.5513	c_t	0.2608	0.946	0.944	0.430	0.027	0.027	0.016	1.720	9.02E-05	4.85E-05	5.88E-05	41	41	149	0.290
	10	c_t	0.5501	c_t	0.2789	0.952	0.950	0.427	0.034	0.034	0.013	2.622	1.12E-04	4.52E-05	3.25E-05	51	51	160	0.271
5	1	c_t	0.5502	c_t	0.3211	0.962	0.961	0.872	0.033	0.033	0.029	1.131	1.06E-04	4.13E-05	5.32E-05	48	48	181	0.229
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5503	$c \neq c_a, c_t$	0.1371	0.961	0.958	0.902	0.034	0.033	0.038	0.874	1.09E-04	5.99E-05	8.43E-05	48	48	195	0.439
	4	c_t	0.5525	$c \neq c_a, c_t$	0.1321	0.963	0.963	0.936	0.033	0.033	0.031	1.049	1.06E-04	5.81E-05	6.84E-05	48	48	197	0.503
	5	c_t	0.5516	c_t	0.3543	0.957	0.952	0.909	0.029	0.028	0.050	0.566	9.30E-05	3.39E-05	7.75E-05	40	40	218	0.197
	6	c_t	0.5506	c_t	0.1466	0.969	0.969	0.936	0.039	0.039	0.041	0.946	1.27E-04	6.91E-05	9.13E-05	58	58	146	0.404
	7	c_t	0.5513	c_t	0.2902	0.949	0.947	0.928	0.025	0.025	0.026	0.934	8.03E-05	3.35E-05	4.27E-05	37	37	113	0.261
	8	c_t	0.5503	c_a	0.2659	0.971	0.971	0.941	0.042	0.042	0.034	1.236	1.34E-04	6.94E-05	6.63E-05	59	59	118	0.434
	9	c_t	0.5501	c_t	0.1394	0.970	0.969	0.962	0.041	0.041	0.064	0.644	1.34E-04	7.29E-05	1.33E-04	61	61	205	0.411
	10	c_t	0.5541	c_t	0.2567	0.955	0.954	0.930	0.028	0.028	0.030	0.959	9.18E-05	3.96E-05	5.33E-05	43	43	212	0.297

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5527	c_t	0.2162	0.946	0.941	0.949	0.023	0.023	0.063	0.361	7.46E-05	4.08E-05	1.34E-04	36	36	228	0.337
	2	c_t	0.5501	c_t	0.1970	0.969	0.969	0.937	0.041	0.041	0.036	1.137	1.33E-04	5.73E-05	6.31E-05	58	58	162	0.353
	3	c_t	0.5508	c_t	0.1875	0.963	0.961	0.952	0.034	0.033	0.052	0.647	1.09E-04	5.59E-05	1.07E-04	55	55	236	0.363
	4	c_t	0.5505	c_t	0.1735	0.953	0.950	0.913	0.028	0.028	0.035	0.800	9.15E-05	4.72E-05	7.94E-05	40	40	200	0.377
	5	c_t	0.5502	c_t	0.3772	0.946	0.943	0.888	0.023	0.023	0.027	0.854	7.53E-05	3.36E-05	7.51E-05	34	34	244	0.173
	6	c_t	0.5507	$c \neq c_a, c_t$	0.102	0.954	0.953	0.873	0.028	0.027	0.029	0.951	8.91E-05	4.06E-05	6.16E-05	40	40	161	0.551
	7	c_t	0.5504	c_t	0.3671	0.963	0.963	0.929	0.034	0.034	0.040	0.848	1.10E-04	1.89E-05	2.92E-05	57	57	220	0.183
	8	c_t	0.5505	c_a	0.1464	0.963	0.951	0.898	0.035	0.035	0.043	0.802	1.15E-04	6.27E-05	1.23E-04	55	55	255	0.551
	9	c_t	0.5503	c_t	0.4011	0.943	0.938	0.943	0.022	0.022	0.049	0.448	7.16E-05	8.99E-06	2.52E-05	35	35	205	0.149
	10	c_t	0.5509	c_a	0.1437	0.966	0.962	0.907	0.038	0.038	0.067	0.565	1.25E-04	6.40E-05	1.48E-04	55	55	221	0.551
7	1	c_t	0.5503	c_t	0.0895	0.959	0.945	0.969	0.032	0.031	0.073	0.418	1.03E-04	5.22E-05	1.46E-04	49	49	228	0.461
	2	c_t	0.5506	c_t	0.3482	0.965	0.964	0.930	0.036	0.036	0.039	0.923	1.17E-04	1.88E-05	2.85E-05	56	56	222	0.202
	3	c_t	0.5508	c_t	0.0967	0.959	0.957	0.948	0.031	0.031	0.045	0.687	1.00E-04	5.49E-05	1.09E-04	48	48	237	0.454
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5515	c_t	0.1644	0.959	0.958	0.917	0.030	0.030	0.027	1.076	9.57E-05	4.07E-05	5.46E-05	47	47	209	0.387
	6	c_t	0.5513	c_a	0.2765	0.966	0.962	0.951	0.037	0.037	0.045	0.810	1.20E-04	6.17E-05	9.50E-05	59	59	212	0.469
	7	c_t	0.5502	c_t	0.1809	0.955	0.954	0.894	0.029	0.029	0.027	1.060	9.29E-05	4.34E-05	5.06E-05	42	42	190	0.369
	8	c_t	0.5504	c_t	0.2361	0.967	0.967	0.950	0.037	0.037	0.040	0.930	1.21E-04	6.02E-05	8.20E-05	54	54	199	0.314
	9	c_t	0.5504	c_t	0.2025	0.965	0.961	0.952	0.037	0.037	0.056	0.657	1.21E-04	5.70E-05	1.02E-04	54	54	190	0.348
	10	c_t	0.5505	c_a	0.3881	0.956	0.955	0.927	0.028	0.028	0.028	0.990	9.09E-05	4.94E-05	6.73E-05	42	42	174	0.426
8	1	c_t	0.5502	c_t	0.3017	0.955	0.954	0.908	0.028	0.028	0.031	0.923	9.17E-05	5.03E-05	7.51E-05	50	50	178	0.248
	2	c_t	0.5541	c_t	0.2231	0.956	0.955	0.909	0.029	0.029	0.023	1.223	9.27E-05	3.86E-05	5.20E-05	41	41	239	0.331
	3	c_t	0.5506	c_t	0.2882	0.962	0.959	0.922	0.034	0.033	0.038	0.883	1.09E-04	5.15E-05	8.39E-05	72	72	197	0.262
	4	c_t	0.5503	$c \neq c_a, c_t$	0.2012	0.941	0.940	0.767	0.021	0.021	0.017	1.260	6.84E-05	4.93E-05	6.48E-05	29	29	122	0.461
	5	c_t	0.5512	c_t	0.1306	0.961	0.960	0.884	0.033	0.032	0.029	1.100	1.06E-04	5.78E-05	7.37E-05	58	58	163	0.421
	6	c_t	0.5509	c_t	0.2527	0.944	0.939	0.698	0.027	0.026	0.022	1.227	8.76E-05	4.79E-05	6.14E-05	44	44	215	0.298
	7	c_t	0.5511	c_t	0.1413	0.962	0.956	0.966	0.034	0.033	0.065	0.510	1.10E-04	5.62E-05	1.30E-04	56	56	222	0.410
	8	c_t	0.5518	c_t	0.2215	0.955	0.952	0.962	0.027	0.027	0.051	0.534	8.86E-05	4.57E-05	1.01E-04	39	39	224	0.330
	9	c_t	0.5511	c_a	0.1062	0.961	0.958	0.865	0.033	0.033	0.037	0.890	1.07E-04	7.56E-05	1.19E-04	52	52	200	0.551
	10	c_t	0.5537	c_t	0.2214	0.957	0.956	0.905	0.030	0.030	0.057	0.525	9.72E-05	5.02E-05	1.15E-04	50	50	187	0.332
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5508	$c \neq c_a, c_t$	0.3609	0.946	0.943	0.919	0.023	0.023	0.032	0.698	7.36E-05	3.80E-05	7.51E-05	32	32	197	0.344
	3	c_t	0.5512	c_t	0.3062	0.957	0.956	0.866	0.029	0.029	0.019	1.528	9.32E-05	3.84E-05	3.63E-05	42	42	120	0.245
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5518	c_t	0.324	0.910	0.893	0.892	0.014	0.014	0.042	0.334	4.65E-05	2.88E-05	1.32E-04	21	21	235	0.228
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	c_t	0.5510	c_t	0.374	0.952	0.947	0.973	0.026	0.026	0.069	0.371	8.35E-05	2.10E-05	6.63E-05	41	41	201	0.177
	8	c_t	0.5521	c_t	0.3988	0.924	0.918	0.969	0.016	0.016	0.064	0.256	5.34E-05	2.74E-05	1.45E-04	23	23	247	0.153
	9	c_t	0.5512	c_a	0.2818	0.947	0.943	0.880	0.024	0.024	0.024	1.016	7.88E-05	4.06E-05	6.76E-05	39	39	237	0.345
	10	c_t	0.5505	c_t	0.2145	0.951	0.950	0.783	0.027	0.027	0.013	2.073	9.05E-05	4.68E-05	3.55E-05	43	43	161	0.336
	1	c_t	0.5506	$c \neq c_a, c_t$	0.1335	0.954	0.954	0.820	0.028	0.028	0.017	1.672	8.95E-05	4.63E-05	3.92E-05	46	46	145	0.467
10	2	c_t	0.5500	$c \neq c_a, c_t$	0.1663	0.962	0.954	0.902	0.036	0.035	0.079	0.445	1.16E-04	5.93E-05	1.63E-04	52	52	247	0.464
	3	c_t	0.5509	c_t	0.0809	0.954	0.953	0.775	0.029	0.029	0.038	0.763	9.41E-05	4.86E-05	9.26E-05	43	43	234	0.470
	4	c_t	0.5531	$c \neq c_a, c_t$	0.1470	0.956	0.954	0.942	0.029	0.029	0.043	0.670	9.29E-05	5.09E-05	1.04E-04	45	45	234	0.410
	5	c_t	0.5503	c_t	0.2011	0.960	0.952	0.895	0.034	0.033	0.074	0.451	1.10E-04	5.61E-05	1.48E-04	49	49	245	0.349
	6	c_t	0.5500	$c \neq c_a, c_t$	0.3277	0.964	0.964	0.899	0.035	0.035	0.025	1.424	1.14E-04	7.31E-05	7.67E-05	51	51	160	0.469
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5503	c_t	0.2144	0.969	0.968	0.964	0.039	0.039	0.056	0.703	1.27E-04	6.03E-05	1.02E-04	66	66	216	0.336
	9	c_t	0.5501	c_t	0.1937	0.960	0.957	0.867	0.035	0.035	0.059	0.582	1.13E-04	5.82E-05	1.18E-04	57	57	172	0.356
	10	c_t	0.5503	$c \neq c_a, c_t$	0.1405	0.968	0.962	0.960	0.040	0.040	0.063	0.628	1.30E-04	7.10E-05	1.37E-04	67	67	241	0.466

Table B3.: Combination (ρ, λ, ρ) = L-N-L. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 11, 23)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (59, 11, 23)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5504	c_a	0.616	0.965	0.962	1.000	0.037	0.034	0.029	1.175	1.19E-04	8.70E-06	1.03E-05	53	53	217	0.529
	2	c_t	0.5519	$c \neq c_a, c_t$	0.3144	0.948	0.940	1.000	0.025	0.023	0.032	0.700	8.07E-05	1.49E-05	3.29E-05	41	42	227	0.409
	3	c_t	0.5511	c_t	0.3165	0.957	0.954	1.000	0.030	0.027	0.006	4.619	9.56E-05	7.32E-05	2.26E-05	41	41	56	0.235
	4	c_t	0.5501	c_a	0.2669	0.970	0.968	0.999	0.043	0.040	0.014	2.734	1.40E-04	6.79E-05	3.58E-05	64	68	127	0.385
	5	c_t	0.5501	c_a	0.4416	0.958	0.953	1.000	0.030	0.027	0.022	1.247	9.70E-05	4.58E-05	4.31E-05	45	45	140	0.466
	6	c_t	**0.3507 ge**	c_a	0.8674	0.974	0.971	0.912	0.048	0.043	0.015	2.972	1.53E-04	7.55E-05	4.90E-05	66	67	160	0.326
	7	c_t	0.5503	c_a	0.3487	0.968	0.964	1.000	0.043	0.039	0.034	1.149	1.38E-04	6.58E-05	9.18E-05	74	67	259	0.477
	8	c_t	0.5506	c_a	0.4767	0.957	0.948	1.000	0.036	0.034	0.050	0.678	1.19E-04	5.22E-05	1.20E-04	53	54	263	0.551
	9	c_t	0.5505	c_a	0.9943	0.965	0.960	1.000	0.037	0.033	0.035	0.942	1.18E-04	4.86E-05	7.98E-05	53	53	242	0.550
	10	c_t	0.5504	$c \neq c_a, c_t$	0.389	0.959	0.953	1.000	0.030	0.027	0.031	0.870	9.70E-05	7.00E-06	1.07E-05	48	49	198	0.460
2	1	c_t	0.5504	$c \neq c_a, c_t$	0.8499	0.928	0.922	1.000	0.017	0.016	0.027	0.592	5.67E-05	2.70E-05	7.22E-05	26	30	208	0.538
	2	c_t	0.5519	c_a	0.6437	0.929	0.921	1.000	0.017	0.016	0.023	0.672	5.53E-05	2.36E-05	4.68E-05	25	25	215	0.536
	3	c_t	0.5502	c_t	0.2026	0.940	0.935	1.000	0.021	0.019	0.026	0.727	6.80E-05	3.23E-05	5.75E-05	30	31	153	0.348
	4	c_t	0.5524	c_a	0.6941	0.945	0.939	1.000	0.022	0.021	0.012	1.673	7.25E-05	3.44E-05	3.36E-05	32	30	125	0.540
	5	c_t	0.5508	$c \neq c_a, c_t$	0.2646	0.958	0.952	1.000	0.029	0.027	0.026	1.026	9.55E-05	3.92E-05	6.20E-05	43	46	207	0.551
	6	c_t	0.5511	c_a	0.2045	0.952	0.946	1.000	0.027	0.024	0.033	0.733	8.67E-05	3.56E-05	7.98E-05	39	41	256	0.388
	7	c_t	0.5516	c_t	0.3282	0.946	0.943	0.997	0.024	0.022	0.008	2.941	7.85E-05	3.76E-05	2.23E-05	34	36	98	0.223
	8	c_t	0.5505	c_t	0.3085	0.951	0.946	1.000	0.025	0.023	0.009	2.550	8.17E-05	3.88E-05	2.63E-05	39	37	114	0.242
	9	c_t	0.5504	c_t	0.1607	0.943	0.938	1.000	0.022	0.021	0.011	1.842	7.26E-05	3.11E-05	2.69E-05	33	32	107	0.390
3	10	c_t	0.5511	c_a	0.9978	0.939	0.932	1.000	0.021	0.019	0.026	0.759	6.92E-05	3.48E-05	7.04E-05	33	31	180	0.551
	1	c_t	0.5507	c_a	0.3739	0.961	0.957	1.000	0.034	0.031	0.019	1.621	1.11E-04	4.92E-05	4.43E-05	56	54	135	0.446
	2	c_t	0.5504	c_t	0.3129	0.954	0.951	0.999	0.029	0.026	0.011	2.350	9.26E-05	7.96E-05	7.61E-05	47	40	166	0.237
	3	c_t	0.5500	c_a	0.3851	0.962	0.957	1.000	0.032	0.029	0.017	1.748	1.04E-04	7.40E-06	6.85E-06	47	54	227	0.335
	4	c_t	0.5503	c_a	0.9141	0.943	0.934	1.000	0.025	0.022	0.019	1.163	8.09E-05	4.04E-05	6.27E-05	37	37	260	0.520
	5	c_t	0.5502	c_a	0.4545	0.961	0.956	0.999	0.037	0.034	0.015	2.221	1.21E-04	8.22E-05	5.07E-05	62	58	86	0.334
	6	c_t	0.5509	c_a	0.2594	0.950	0.945	1.000	0.026	0.024	0.018	1.350	8.44E-05	5.59E-05	7.80E-05	42	36	137	0.390
	7	c_t	0.5518	c_a	0.8386	0.937	0.938	0.997	0.022	0.021	0.010	2.081	7.37E-05	3.43E-05	3.61E-05	32	33	192	0.543
	8	c_t	0.5503	c_a	0.9523	0.952	0.946	1.000	0.027	0.025	0.022	1.107	9.00E-05	4.41E-05	6.76E-05	40	38	196	0.543
	9	c_t	0.5500	$c \neq c_a, c_t$	0.4469	0.964	0.959	1.000	0.034	0.031	0.029	1.071	1.11E-04	5.27E-05	7.97E-05	50	51	289	0.535
	10	c_t	0.5505	c_a	0.3734	0.971	0.965	1.000	0.047	0.043	0.021	2.066	1.52E-04	9.48E-05	6.20E-05	70	66	180	0.481
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5503	c_t	0.4211	0.951	0.960	0.952	0.032	0.032	0.010	3.326	1.08E-04	6.14E-05	3.12E-05	53	57	89	0.129
	3	c_t	0.5501	c_t	0.2317	0.944	0.940	0.997	0.023	0.022	0.019	1.171	7.67E-05	3.82E-05	7.20E-05	35	36	182	0.318
	4	c_t	0.5501	c_a	0.667	0.939	0.951	0.902	0.028	0.028	0.009	3.024	9.56E-05	6.95E-05	4.60E-05	49	45	73	0.486
	5	c_t	0.5507	c_t	0.2449	0.963	0.959	1.000	0.034	0.031	0.007	4.309	1.11E-04	4.77E-05	2.48E-05	50	52	144	0.306
	6	c_t	0.5503	c_a	0.9539	0.970	0.964	1.000	0.044	0.040	0.137	0.296	1.44E-04	6.89E-05	2.65E-04	71	69	298	0.550
	7	c_t	0.5513	c_a	0.1381	0.957	0.955	0.999	0.032	0.030	0.015	2.016	1.05E-04	5.40E-05	4.22E-05	51	50	96	0.422
	8	c_t	0.5504	c_a	0.2582	0.947	0.940	1.000	0.024	0.022	0.038	0.571	7.70E-05	3.79E-05	1.14E-04	40	38	288	0.470
	9	c_t	0.5512	c_a	0.5328	0.943	0.945	0.966	0.026	0.025	0.013	1.974	8.53E-05	4.33E-05	5.04E-05	42	40	141	0.475
	10	c_t	0.5500	c_a	0.1564	0.952	0.955	0.978	0.033	0.032	0.011	2.937	1.09E-04	4.17E-05	2.97E-05	52	50	174	0.450
5	1	c_t	0.551	c_a	0.5605	0.960	0.956	1.000	0.031	0.029	0.028	1.032	1.01E-04	3.63E-05	5.54E-05	46	46	199	0.551
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5506	c_a	0.9245	0.958	0.956	0.996	0.032	0.030	0.034	0.866	1.04E-04	5.31E-05	8.37E-05	51	48	186	0.551
	4	c_t	0.5510	c_a	0.1801	0.959	0.955	1.000	0.030	0.028	0.025	1.121	9.83E-05	4.94E-05	5.66E-05	49	48	144	0.524
	5	c_t	0.5503	$c \neq c_a, c_t$	0.4233	0.956	0.949	1.000	0.029	0.026	0.054	0.488	9.33E-05	3.12E-05	8.85E-05	42	42	258	0.550
	6	c_t	0.5505	c_a	0.7689	0.969	0.965	1.000	0.039	0.036	0.041	0.867	1.26E-04	6.32E-05	1.00E-04	58	54	172	0.551
	7	c_t	0.5501	$c \neq c_a, c_t$	0.0537	0.949	0.944	1.000	0.025	0.023	0.022	1.050	8.13E-05	3.10E-05	3.56E-05	38	39	107	0.516
	8	c_t	0.5501	c_a	0.5562	0.970	0.966	1.000	0.041	0.037	0.031	1.186	1.32E-04	6.26E-05	6.83E-05	58	60	153	0.550
	9	c_t	0.5500	c_a	0.0835	0.970	0.967	1.000	0.042	0.038	0.053	0.710	1.34E-04	6.74E-05	1.23E-04	59	57	239	0.550
	10	c_t	0.5518	c_a	0.8159	0.952	0.947	1.000	0.026	0.024	0.031	0.771	8.50E-05	3.37E-05	5.78E-05	40	41	231	0.552

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5532	c_a	0.3832	0.944	0.935	1.000	0.022	0.020	0.059	0.342	7.12E-05	3.59E-05	1.31E-04	35	34	198	0.553
	2	c_t	0.5500	c_a	0.2086	0.971	0.968	1.000	0.043	0.039	0.032	1.240	1.38E-04	5.45E-05	5.97E-05	62	65	161	0.550
	3	c_t	0.5501	c_a	0.2026	0.965	0.962	1.000	0.037	0.034	0.051	0.662	1.21E-04	5.71E-05	1.10E-04	56	56	228	0.550
	4	c_t	0.5508	c_a	0.3603	0.953	0.947	1.000	0.027	0.025	0.031	0.799	8.93E-05	4.22E-05	7.21E-05	40	41	194	0.551
	5	c_t	0.5509	c_t	0.2139	0.947	0.941	1.000	0.024	0.022	0.022	0.982	7.81E-05	3.21E-05	6.65E-05	36	37	300	0.337
	6	c_t	0.5510	c_a	0.3909	0.956	0.952	1.000	0.029	0.026	0.026	1.013	9.27E-05	3.88E-05	5.52E-05	46	44	139	0.551
	7	c_t	0.5502	$c \neq c_a, c_t$	0.2458	0.964	0.960	1.000	0.034	0.032	0.038	0.833	1.11E-04	1.75E-05	2.95E-05	51	53	196	0.550
	8	c_t	0.5508	c_a	0.6274	0.960	0.951	1.000	0.034	0.031	0.036	0.885	1.13E-04	5.64E-05	1.12E-04	54	51	320	0.551
	9	c_t	0.5501	$c \neq c_a, c_t$	0.1237	0.939	0.932	1.000	0.021	0.019	0.057	0.339	6.85E-05	7.93E-06	2.98E-05	32	33	214	0.550
	10	c_t	0.5505	c_a	0.6966	0.964	0.959	0.997	0.037	0.034	0.062	0.549	1.21E-04	5.73E-05	1.49E-04	57	54	284	0.551
7	1	c_t	0.5501	c_a	0.7844	0.957	0.947	1.000	0.032	0.029	0.076	0.376	1.03E-04	4.84E-05	1.62E-04	48	47	275	0.550
	2	c_t	0.5519	c_a	0.7073	0.965	0.960	1.000	0.036	0.032	0.037	0.887	1.15E-04	1.70E-05	2.92E-05	56	57	236	0.552
	3	c_t	0.5503	c_a	0.611	0.961	0.956	1.000	0.032	0.029	0.034	0.844	1.03E-04	5.18E-05	8.90E-05	47	49	238	0.550
	4	c_t	0.5504	c_t	0.1027	0.949	0.942	1.000	0.024	0.022	0.024	0.919	7.89E-05	4.47E-05	8.05E-05	35	37	270	0.448
	5	c_t	0.5511	c_a	0.2798	0.962	0.958	1.000	0.033	0.030	0.025	1.209	1.06E-04	4.12E-05	5.22E-05	48	49	167	0.551
	6	c_t	0.5519	c_a	0.9747	0.962	0.956	1.000	0.033	0.030	0.041	0.736	1.07E-04	5.07E-05	9.03E-05	52	47	238	0.552
	7	c_t	0.5501	$c \neq c_a, c_t$	0.0952	0.956	0.953	0.995	0.030	0.027	0.028	0.984	9.59E-05	4.13E-05	5.24E-05	48	48	212	0.550
	8	c_t	0.5507	c_t	0.0977	0.964	0.961	1.000	0.036	0.033	0.029	1.121	1.15E-04	5.25E-05	5.68E-05	54	52	105	0.453
	9	c_t	0.5501	c_a	0.9592	0.968	0.964	1.000	0.040	0.037	0.062	0.602	1.31E-04	5.70E-05	1.19E-04	60	63	237	0.550
	10	c_t	0.5504	c_a	0.9786	0.952	0.948	1.000	0.027	0.025	0.025	0.993	8.66E-05	4.33E-05	6.33E-05	40	39	210	0.550
8	1	c_t	0.5501	c_t	0.1076	0.953	0.949	1.000	0.027	0.025	0.023	1.077	8.70E-05	4.38E-05	6.49E-05	37	37	173	0.442
	2	c_t	0.5515	$c \neq c_a, c_t$	0.1275	0.957	0.953	1.000	0.029	0.027	0.022	1.224	9.43E-05	3.60E-05	4.98E-05	39	41	241	0.552
	3	c_t	0.5517	c_a	0.108	0.961	0.958	1.000	0.034	0.031	0.034	0.923	1.10E-04	4.80E-05	7.89E-05	51	54	234	0.481
	4	c_t	0.5501	c_t	0.1814	0.946	0.940	1.000	0.023	0.021	0.010	2.009	7.46E-05	4.94E-05	4.16E-05	33	32	103	0.369
	5	c_t	0.5510	c_t	0.1393	0.961	0.958	1.000	0.033	0.031	0.022	1.424	1.08E-04	5.47E-05	5.77E-05	59	58	148	0.412
	6	c_t	0.5505	$c \neq c_a, c_t$	0.114	0.943	0.944	0.992	0.026	0.025	0.016	1.488	8.48E-05	4.38E-05	5.09E-05	39	39	222	0.551
	7	c_t	0.5505	c_a	0.7127	0.961	0.954	1.000	0.033	0.030	0.068	0.445	1.08E-04	5.10E-05	1.47E-04	58	59	257	0.551
	8	c_t	0.5533	$c \neq c_a, c_t$	0.1481	0.955	0.951	1.000	0.028	0.026	0.046	0.568	9.25E-05	4.40E-05	9.44E-05	45	45	191	0.490
	9	c_t	0.5520	c_a	0.1177	0.962	0.959	1.000	0.035	0.032	0.024	1.350	1.12E-04	7.31E-05	8.04E-05	54	53	131	0.531
	10	c_t	0.5520	c_a	0.5762	0.952	0.948	1.000	0.027	0.024	0.058	0.420	8.60E-05	4.10E-05	1.27E-04	43	38	227	0.552
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5507	$c \neq c_a, c_t$	0.1465	0.943	0.937	1.000	0.022	0.020	0.031	0.653	7.08E-05	3.36E-05	7.31E-05	35	33	183	0.551
	3	c_t	0.5500	c_a	0.4201	0.955	0.952	1.000	0.028	0.026	0.014	1.871	9.13E-05	3.46E-05	2.81E-05	44	41	160	0.360
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5508	c_a	0.802	0.942	0.933	1.000	0.022	0.020	0.064	0.307	7.00E-05	3.31E-05	1.55E-04	34	32	302	0.481
	9	c_t	0.5509	c_a	0.725	0.944	0.939	1.000	0.023	0.021	0.022	0.958	7.49E-05	3.56E-05	6.29E-05	34	36	277	0.551
	10	c_t	0.5512	$c \neq c_a, c_t$	0.1736	0.947	0.944	1.000	0.026	0.023	0.011	2.093	8.44E-05	3.98E-05	2.98E-05	43	44	218	0.474
10	1	c_t	0.5512	$c \neq c_a, c_t$	0.2176	0.954	0.950	1.000	0.027	0.025	0.013	1.915	8.76E-05	4.17E-05	3.18E-05	41	42	120	0.459
	2	c_t	0.5509	c_a	0.4947	0.960	0.954	0.999	0.034	0.031	0.079	0.397	1.12E-04	5.29E-05	1.75E-04	57	65	305	0.551
	3	c_t	0.5503	c_t	0.1602	0.955	0.954	0.987	0.031	0.029	0.039	0.739	9.99E-05	4.78E-05	1.00E-04	45	46	255	0.390
	4	c_t	0.5500	$c \neq c_a, c_t$	0.2394	0.956	0.951	1.000	0.028	0.026	0.037	0.696	9.10E-05	4.58E-05	9.02E-05	42	41	212	0.550
	5	c_t	0.5510	c_a	0.3088	0.963	0.956	0.989	0.038	0.035	0.075	0.463	1.22E-04	5.81E-05	1.60E-04	54	60	252	0.551
	6	c_t	0.5506	$c \neq c_a, c_t$	0.4585	0.965	0.962	1.000	0.035	0.032	0.014	2.313	1.14E-04	6.76E-05	4.41E-05	52	50	127	0.403
	7	c_t	0.5515	$c \neq c_a, c_t$	0.1027	0.957	0.949	1.000	0.030	0.028	0.055	0.501	9.88E-05	4.67E-05	1.31E-04	45	49	227	0.489
	8	c_t	0.5509	$c \neq c_a, c_t$	0.4068	0.970	0.967	1.000	0.042	0.038	0.051	0.751	1.35E-04	5.88E-05	9.62E-05	65	63	184	0.507
	9	c_t	0.5504	c_a	0.0739	0.959	0.958	0.980	0.035	0.033	0.061	0.538	1.15E-04	5.50E-05	1.31E-04	56	59	221	0.550
	10	c_t	0.5502	$c \neq c_a, c_t$	0.3258	0.968	0.961	1.000	0.041	0.038	0.059	0.637	1.34E-04	6.72E-05	1.36E-04	58	59	243	0.550

Table B4.: Combination (ρ, λ, ρ) = N-L-L. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 21, 56)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (16, 21, 56)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5502	c_a	0.9144	0.962	0.961	0.901	0.035	0.035	0.029	1.218	1.14E-04	9.01E-06	1.09E-05	53	53	219	0.546
	2	c_t	0.5505	$c \neq c_a, c_t$	0.4347	0.943	0.937	0.888	0.022	0.022	0.032	0.680	7.17E-05	1.44E-05	3.27E-05	33	33	210	0.519
	3	c_t	0.5509	c_a	0.7448	0.958	0.958	0.791	0.030	0.030	0.012	2.577	9.67E-05	8.06E-05	4.65E-05	44	44	138	0.551
	4	c_t	0.5505	c_a	0.9092	0.971	0.969	0.825	0.043	0.043	0.024	1.740	1.38E-04	7.30E-05	6.05E-05	64	64	142	0.551
	5	c_t	0.5514	c_a	0.4875	0.959	0.957	0.928	0.030	0.030	0.023	1.299	9.69E-05	4.99E-05	4.84E-05	44	44	187	0.527
	6	c_t	**0.2947 ge**	c_a	0.9977	0.974	0.974	0.493	0.046	0.046	0.021	2.215	1.48E-04	7.98E-05	7.52E-05	68	68	193	0.295
	7	c_t	0.5503	c_a	0.9215	0.967	0.962	0.834	0.040	0.039	0.038	1.023	1.29E-04	6.63E-05	1.05E-04	61	61	231	0.549
	8	c_t	0.5507	c_a	0.9334	0.957	0.938	0.777	0.036	0.035	0.045	0.771	1.18E-04	5.51E-05	1.09E-04	54	54	227	0.545
	9	c_t	0.5505	c_a	0.9995	0.964	0.961	0.938	0.035	0.034	0.036	0.947	1.12E-04	5.01E-05	8.24E-05	50	50	238	0.550
	10	c_t	0.5500	c_a	0.8054	0.958	0.956	0.924	0.030	0.030	0.034	0.890	9.73E-05	7.66E-06	1.30E-05	49	49	193	0.517
2	1	c_t	0.5523	$c \neq c_a, c_t$	0.4651	0.932	0.930	0.892	0.018	0.018	0.033	0.550	5.89E-05	3.04E-05	7.76E-05	27	27	201	0.552
	2	c_t	0.5512	c_a	0.8367	0.928	0.928	0.916	0.017	0.017	0.024	0.717	5.61E-05	2.59E-05	4.56E-05	32	32	172	0.551
	3	c_t	0.5507	c_a	0.3793	0.938	0.938	0.948	0.020	0.020	0.035	0.576	6.51E-05	3.36E-05	6.93E-05	30	30	159	0.551
	4	c_t	0.5508	c_a	0.762	0.946	0.946	0.857	0.023	0.023	0.016	1.400	7.48E-05	3.87E-05	3.92E-05	34	34	157	0.526
	5	c_t	0.5511	c_a	0.3514	0.958	0.956	0.660	0.029	0.029	0.026	1.129	9.55E-05	4.26E-05	5.91E-05	47	47	240	0.551
	6	c_t	0.5515	c_a	0.9272	0.951	0.948	0.913	0.026	0.026	0.033	0.788	8.52E-05	3.80E-05	7.35E-05	42	42	223	0.542
	7	c_t	0.5505	$c \neq c_a, c_t$	0.2301	0.943	0.942	0.747	0.023	0.023	0.012	1.955	7.62E-05	3.94E-05	3.22E-05	33	33	156	0.449
	8	c_t	0.5513	c_a	0.3276	0.948	0.948	0.790	0.024	0.024	0.013	1.885	7.85E-05	4.07E-05	3.57E-05	37	37	139	0.446
	9	c_t	0.5510	c_t	0.249	0.943	0.942	0.826	0.022	0.022	0.017	1.337	7.20E-05	3.36E-05	3.70E-05	33	33	184	0.302
	10	c_t	0.5507	c_a	0.8532	0.940	0.935	0.893	0.021	0.021	0.030	0.700	6.97E-05	3.82E-05	8.10E-05	31	31	204	0.542
3	1	c_t	0.5508	c_a	0.8559	0.960	0.954	0.849	0.033	0.033	0.027	1.205	1.08E-04	5.17E-05	6.66E-05	52	52	179	0.543
	2	c_t	0.5503	c_a	0.9836	0.955	0.951	0.724	0.028	0.028	0.020	1.392	9.16E-05	8.54E-05	1.38E-04	45	45	255	0.550
	3	c_t	0.5501	c_a	0.5412	0.962	0.961	0.879	0.032	0.032	0.018	1.750	1.04E-04	8.09E-06	7.83E-06	47	47	183	0.428
	4	c_t	0.5511	c_a	0.9992	0.940	0.931	0.846	0.024	0.023	0.025	0.938	7.75E-05	4.23E-05	8.11E-05	36	36	215	0.551
	5	c_t	0.5504	c_a	0.9669	0.960	0.953	0.797	0.037	0.036	0.028	1.278	1.21E-04	8.84E-05	9.87E-05	59	59	128	0.550
	6	c_t	0.5518	c_a	0.1776	0.952	0.948	0.751	0.027	0.027	0.029	0.924	8.71E-05	6.28E-05	1.41E-04	39	39	217	0.552
	7	c_t	0.5511	c_a	0.3701	0.938	0.935	0.675	0.023	0.023	0.012	1.924	7.54E-05	3.75E-05	4.01E-05	37	37	165	0.484
	8	c_t	0.5502	c_a	0.9689	0.953	0.949	0.862	0.028	0.027	0.026	1.072	9.10E-05	4.89E-05	8.31E-05	44	44	226	0.547
	9	c_t	0.5515	c_a	0.5288	0.963	0.962	0.923	0.034	0.034	0.034	0.999	1.09E-04	5.64E-05	8.69E-05	48	48	238	0.552
	10	c_t	0.5501	c_a	0.9244	0.972	0.965	0.907	0.048	0.047	0.033	1.431	1.55E-04	1.05E-04	1.02E-04	77	77	186	0.550
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5502	c_a	0.1122	0.952	0.951	0.560	0.034	0.034	0.017	2.042	1.13E-04	6.75E-05	5.59E-05	54	54	169	0.523
	3	c_t	0.5506	c_a	0.774	0.944	0.941	0.505	0.024	0.024	0.022	1.060	7.78E-05	4.18E-05	7.90E-05	34	34	176	0.551
	4	c_t	0.5501	c_a	0.9895	0.935	0.932	0.350	0.027	0.026	0.017	1.538	9.10E-05	6.83E-05	8.40E-05	44	44	130	0.550
	5	c_t	0.5512	c_t	0.1498	0.967	0.965	0.497	0.037	0.036	0.009	4.228	1.18E-04	5.54E-05	3.23E-05	53	53	207	0.401
	6	c_t	0.5531	c_a	0.949	0.966	0.959	0.975	0.039	0.038	0.130	0.297	1.27E-04	6.56E-05	2.30E-04	59	59	255	0.553
	7	c_t	0.5507	c_a	0.4775	0.956	0.952	0.783	0.032	0.032	0.023	1.357	1.05E-04	5.84E-05	6.71E-05	44	44	159	0.551
	8	c_t	0.5503	c_a	0.5207	0.952	0.948	0.778	0.025	0.025	0.040	0.626	8.17E-05	4.35E-05	1.08E-04	38	38	242	0.550
	9	c_t	0.5513	$c \neq c_a, c_t$	0.2242	0.946	0.944	0.430	0.027	0.027	0.016	1.720	9.02E-05	4.85E-05	5.88E-05	41	41	149	0.551
	10	c_t	0.5501	c_a	0.3023	0.952	0.950	0.427	0.034	0.034	0.013	2.622	1.12E-04	4.52E-05	3.25E-05	51	51	160	0.384
5	1	c_t	0.5502	c_a	0.5789	0.962	0.961	0.872	0.033	0.033	0.029	1.131	1.06E-04	4.13E-05	5.32E-05	48	48	181	0.550
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5503	c_a	0.452	0.961	0.958	0.902	0.034	0.033	0.038	0.874	1.09E-04	5.99E-05	8.43E-05	48	48	195	0.550
	4	c_t	0.5525	c_a	0.3127	0.963	0.963	0.936	0.033	0.033	0.031	1.049	1.06E-04	5.81E-05	6.84E-05	48	48	197	0.553
	5	c_t	0.5516	$c \neq c_a, c_t$	0.5806	0.957	0.952	0.909	0.029	0.028	0.050	0.566	9.30E-05	3.39E-05	7.75E-05	40	40	218	0.552
	6	c_t	0.5506	$c \neq c_a, c_t$	0.2655	0.969	0.969	0.936	0.039	0.039	0.041	0.946	1.27E-04	6.91E-05	9.13E-05	58	58	146	0.551
	7	c_t	0.5513	$c \neq c_a, c_t$	0.1417	0.949	0.947	0.928	0.025	0.025	0.026	0.934	8.03E-05	3.35E-05	4.27E-05	37	37	113	0.484
	8	c_t	0.5503	c_a	0.9007	0.971	0.971	0.941	0.042	0.042	0.034	1.236	1.34E-04	6.94E-05	6.63E-05	59	59	118	0.550
	9	c_t	0.5501	$c \neq c_a, c_t$	0.3178	0.970	0.969	0.962	0.041	0.041	0.064	0.644	1.34E-04	7.29E-05	1.33E-04	61	61	205	0.550
	10	c_t	0.5541	c_a	0.5077	0.955	0.954	0.930	0.028	0.028	0.030	0.959	9.18E-05	3.96E-05	5.33E-05	43	43	212	0.554

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5527	c_a	0.5426	0.946	0.941	0.949	0.023	0.023	0.063	0.361	7.46E-05	4.08E-05	1.34E-04	36	36	228	0.553
	2	c_t	0.5501	c_a	0.4744	0.969	0.969	0.937	0.041	0.041	0.036	1.137	1.33E-04	5.73E-05	6.31E-05	58	58	162	0.550
	3	c_t	0.5508	c_a	0.6324	0.963	0.961	0.952	0.034	0.033	0.052	0.647	1.09E-04	5.59E-05	1.07E-04	55	55	236	0.551
	4	c_t	0.5505	c_a	0.3366	0.953	0.950	0.913	0.028	0.028	0.035	0.800	9.15E-05	4.72E-05	7.94E-05	40	40	200	0.551
	5	c_t	0.5502	c_t	0.1002	0.946	0.943	0.888	0.023	0.023	0.027	0.854	7.53E-05	3.36E-05	7.51E-05	34	34	244	0.450
	6	c_t	0.5507	c_a	0.6549	0.954	0.953	0.873	0.028	0.027	0.029	0.951	8.91E-05	4.06E-05	6.16E-05	40	40	161	0.551
	7	c_t	0.5504	$c \neq c_a, c_t$	0.3764	0.963	0.963	0.929	0.034	0.034	0.040	0.848	1.10E-04	1.89E-05	2.92E-05	57	57	220	0.550
	8	c_t	0.5505	c_a	0.2895	0.963	0.951	0.898	0.035	0.035	0.043	0.802	1.15E-04	6.27E-05	1.23E-04	55	55	255	0.551
	9	c_t	0.5503	$c \neq c_a, c_t$	0.0764	0.943	0.938	0.943	0.022	0.022	0.049	0.448	7.16E-05	8.99E-06	2.52E-05	35	35	205	0.550
	10	c_t	0.5509	c_a	0.6553	0.966	0.962	0.907	0.038	0.038	0.067	0.565	1.25E-04	6.40E-05	1.48E-04	55	55	221	0.551
7	1	c_t	0.5503	c_a	0.485	0.959	0.945	0.969	0.032	0.031	0.073	0.418	1.03E-04	5.22E-05	1.46E-04	49	49	228	0.550
	2	c_t	0.5506	c_a	0.357	0.965	0.964	0.930	0.036	0.036	0.039	0.923	1.17E-04	1.88E-05	2.85E-05	56	56	222	0.551
	3	c_t	0.5508	c_a	0.8267	0.959	0.957	0.948	0.031	0.031	0.045	0.687	1.00E-04	5.49E-05	1.09E-04	48	48	237	0.551
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5515	c_a	0.9772	0.959	0.958	0.917	0.030	0.030	0.027	1.076	9.57E-05	4.07E-05	5.46E-05	47	47	209	0.552
	6	c_t	0.5513	c_a	0.9994	0.966	0.962	0.951	0.037	0.037	0.045	0.810	1.20E-04	6.17E-05	9.50E-05	59	59	212	0.551
	7	c_t	0.5502	c_a	0.2751	0.955	0.954	0.894	0.029	0.029	0.027	1.060	9.29E-05	4.34E-05	5.06E-05	42	42	190	0.550
	8	c_t	0.5504	c_t	0.0787	0.967	0.967	0.950	0.037	0.037	0.040	0.930	1.21E-04	6.02E-05	8.20E-05	54	54	199	0.472
	9	c_t	0.5504	c_a	0.9895	0.965	0.961	0.952	0.037	0.037	0.056	0.657	1.21E-04	5.70E-05	1.02E-04	54	54	190	0.550
	10	c_t	0.5505	c_a	0.9559	0.956	0.955	0.927	0.028	0.028	0.028	0.990	9.09E-05	4.94E-05	6.73E-05	42	42	174	0.551
8	1	c_t	0.5502	$c \neq c_a, c_t$	0.1873	0.955	0.954	0.908	0.028	0.028	0.031	0.923	9.17E-05	5.03E-05	7.51E-05	50	50	178	0.550
	2	c_t	0.5541	$c \neq c_a, c_t$	0.0884	0.956	0.955	0.909	0.029	0.029	0.023	1.223	9.27E-05	3.86E-05	5.20E-05	41	41	239	0.554
	3	c_t	0.5506	$c \neq c_a, c_t$	0.1676	0.962	0.959	0.922	0.034	0.033	0.038	0.883	1.09E-04	5.15E-05	8.39E-05	72	72	197	0.551
	4	c_t	0.5503	$c \neq c_a, c_t$	0.5114	0.941	0.940	0.767	0.021	0.021	0.017	1.260	6.84E-05	4.93E-05	6.48E-05	29	29	122	0.550
	5	c_t	0.5512	$c \neq c_a, c_t$	0.2998	0.961	0.960	0.884	0.033	0.032	0.029	1.100	1.06E-04	5.78E-05	7.37E-05	58	58	163	0.551
	6	c_t	0.5509	$c \neq c_a, c_t$	0.1801	0.944	0.939	0.698	0.027	0.026	0.022	1.227	8.76E-05	4.79E-05	6.14E-05	44	44	215	0.506
	7	c_t	0.5511	c_a	0.1881	0.962	0.956	0.966	0.034	0.033	0.065	0.510	1.10E-04	5.62E-05	1.30E-04	56	56	222	0.551
	8	c_t	0.5518	c_a	0.7428	0.955	0.952	0.962	0.027	0.027	0.051	0.534	8.86E-05	4.57E-05	1.01E-04	39	39	224	0.552
	9	c_t	0.5511	c_a	0.975	0.961	0.958	0.865	0.033	0.033	0.037	0.890	1.07E-04	7.56E-05	1.19E-04	52	52	200	0.551
	10	c_t	0.5537	$c \neq c_a, c_t$	0.8214	0.957	0.956	0.905	0.030	0.030	0.057	0.525	9.72E-05	5.02E-05	1.15E-04	50	50	187	0.554
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5508	$c \neq c_a, c_t$	0.4025	0.946	0.943	0.919	0.023	0.023	0.032	0.698	7.36E-05	3.80E-05	7.51E-05	32	32	197	0.551
	3	c_t	0.5512	$c \neq c_a, c_t$	0.3425	0.957	0.956	0.866	0.029	0.029	0.019	1.528	9.32E-05	3.84E-05	3.63E-05	42	42	120	0.297
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	c_t	0.5518	c_t	0.1093	0.910	0.893	0.892	0.014	0.014	0.042	0.334	4.65E-05	2.88E-05	1.32E-04	21	21	235	0.443
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	c_t	0.5510	$c \neq c_a, c_t$	0.1876	0.952	0.947	0.973	0.026	0.026	0.069	0.371	8.35E-05	2.10E-05	6.63E-05	41	41	201	0.551
	8	c_t	0.5521	c_a	0.9567	0.924	0.918	0.969	0.016	0.016	0.064	0.256	5.34E-05	2.74E-05	1.45E-04	23	23	247	0.552
	9	c_t	0.5512	c_a	0.3441	0.947	0.943	0.880	0.024	0.024	0.024	1.016	7.88E-05	4.06E-05	6.76E-05	39	39	237	0.551
	10	c_t	0.5505	c_t	0.1468	0.951	0.950	0.783	0.027	0.027	0.013	2.073	9.05E-05	4.68E-05	3.55E-05	43	43	161	0.404
10	1	c_t	0.5506	$c \neq c_a, c_t$	0.3174	0.954	0.954	0.820	0.028	0.028	0.017	1.672	8.95E-05	4.63E-05	3.92E-05	46	46	145	0.517
	2	c_t	0.55	c_a	0.8046	0.962	0.954	0.902	0.036	0.035	0.079	0.445	1.16E-04	5.93E-05	1.63E-04	52	52	247	0.550
	3	c_t	0.5509	c_a	0.4941	0.954	0.953	0.775	0.029	0.029	0.038	0.763	9.41E-05	4.86E-05	9.26E-05	43	43	234	0.551
	4	c_t	0.5531	c_a	0.1768	0.956	0.954	0.942	0.029	0.029	0.043	0.670	9.29E-05	5.09E-05	1.04E-04	45	45	234	0.553
	5	c_t	0.5503	c_a	0.4116	0.960	0.952	0.895	0.034	0.033	0.074	0.451	1.10E-04	5.61E-05	1.48E-04	49	49	245	0.550
	6	c_t	0.5500	c_a	0.5706	0.964	0.964	0.899	0.035	0.035	0.025	1.424	1.14E-04	7.31E-05	7.67E-05	51	51	160	0.550
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5503	c_a	0.2259	0.969	0.968	0.964	0.039	0.039	0.056	0.703	1.27E-04	6.03E-05	1.02E-04	66	66	216	0.550
	9	c_t	0.5501	$c \neq c_a, c_t$	0.3543	0.960	0.957	0.867	0.035	0.035	0.059	0.582	1.13E-04	5.82E-05	1.18E-04	57	57	172	0.550
	10	c_t	0.5503	$c \neq c_a, c_t$	0.3946	0.968	0.962	0.960	0.040	0.040	0.063	0.628	1.30E-04	7.10E-05	1.37E-04	67	67	241	0.550

Table B5.: Combination (ρ, λ, ρ) = L-N-N. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 23, 64)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (6, 23, 64)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5504	c_t	0.5426	0.965	0.962	1.000	0.037	0.034	0.029	1.175	1.19E-04	8.70E-06	1.03E-05	53	53	217	0.008
	2	c_t	0.5519	c_t	0.5341	0.948	0.940	1.000	0.025	0.023	0.032	0.700	8.07E-05	1.49E-05	3.29E-05	41	42	227	0.018
	3	c_t	0.5511	c_t	0.1558	0.957	0.954	1.000	0.030	0.027	0.006	4.619	9.56E-05	7.32E-05	2.26E-05	41	41	56	0.395
	4	c_t	0.5501	c_t	0.273	0.970	0.968	0.999	0.043	0.040	0.014	2.734	1.40E-04	6.79E-05	3.58E-05	64	68	127	0.277
	5	c_t	0.5501	c_t	0.4012	0.958	0.953	1.000	0.030	0.027	0.022	1.247	9.70E-05	4.58E-05	4.31E-05	45	45	140	0.149
	6	c_t	**0.3507 ge**	c_a	0.306	0.974	0.971	0.912	0.048	0.043	0.015	2.972	1.53E-04	7.55E-05	4.90E-05	66	67	160	0.192
	7	c_t	0.5503	c_t	0.4377	0.968	0.964	1.000	0.043	0.039	0.034	1.149	1.38E-04	6.58E-05	9.18E-05	74	67	259	0.113
	8	c_t	0.5506	c_t	0.398	0.957	0.948	1.000	0.036	0.034	0.050	0.678	1.19E-04	5.22E-05	1.20E-04	53	54	263	0.153
	9	c_t	0.5505	c_t	0.4591	0.965	0.960	1.000	0.037	0.033	0.035	0.942	1.18E-04	4.86E-05	7.98E-05	53	53	242	0.091
	10	c_t	0.5504	c_t	0.5502	0.959	0.953	1.000	0.030	0.027	0.031	0.870	9.70E-05	7.00E-06	1.07E-05	48	49	198	0.000
2	1	c_t	0.5504	c_t	0.4961	0.928	0.922	1.000	0.017	0.016	0.027	0.592	5.67E-05	2.70E-05	7.22E-05	26	30	208	0.054
	2	c_t	0.5519	c_t	0.4773	0.929	0.921	1.000	0.017	0.016	0.023	0.672	5.53E-05	2.36E-05	4.68E-05	25	25	215	0.075
	3	c_t	0.5502	c_t	0.4867	0.940	0.935	1.000	0.021	0.019	0.026	0.727	6.80E-05	3.23E-05	5.75E-05	30	31	153	0.064
	4	c_t	0.5524	c_t	0.3933	0.945	0.939	1.000	0.022	0.021	0.012	1.673	7.25E-05	3.44E-05	3.36E-05	32	30	125	0.159
	5	c_t	0.5508	c_t	0.407	0.958	0.952	1.000	0.029	0.027	0.026	1.026	9.55E-05	3.92E-05	6.20E-05	43	46	207	0.144
	6	c_t	0.5511	c_t	0.4754	0.952	0.946	1.000	0.027	0.024	0.033	0.733	8.67E-05	3.56E-05	7.98E-05	39	41	256	0.076
	7	c_t	0.5516	c_t	0.3993	0.946	0.943	0.997	0.024	0.022	0.008	2.941	7.85E-05	3.76E-05	2.23E-05	34	36	98	0.152
	8	c_t	0.5505	c_t	0.4494	0.951	0.946	1.000	0.025	0.023	0.009	2.550	8.17E-05	3.88E-05	2.63E-05	39	37	114	0.101
	9	c_t	0.5504	c_t	0.4868	0.943	0.938	1.000	0.022	0.021	0.011	1.842	7.26E-05	3.11E-05	2.69E-05	33	32	107	0.064
	10	c_t	0.5511	c_t	0.4595	0.939	0.932	1.000	0.021	0.019	0.026	0.759	6.92E-05	3.48E-05	7.04E-05	33	31	180	0.092
3	1	c_t	0.5507	c_t	0.4363	0.961	0.957	1.000	0.034	0.031	0.019	1.621	1.11E-04	4.92E-05	4.43E-05	56	54	135	0.114
	2	c_t	0.5504	c_a	0.3227	0.954	0.951	0.999	0.029	0.026	0.011	2.350	9.26E-05	7.96E-05	7.61E-05	47	40	166	0.280
	3	c_t	0.5500	c_t	0.543	0.962	0.957	1.000	0.032	0.029	0.017	1.748	1.04E-04	7.40E-06	6.85E-06	47	54	227	0.007
	4	c_t	0.5503	c_a	0.5484	0.943	0.934	1.000	0.025	0.022	0.019	1.163	8.09E-05	4.04E-05	6.27E-05	37	37	260	0.344
	5	c_t	0.5502	c_a	0.3046	0.961	0.956	0.999	0.037	0.034	0.015	2.221	1.21E-04	8.22E-05	5.07E-05	62	58	86	0.373
	6	c_t	0.5509	c_t	0.2442	0.950	0.945	1.000	0.026	0.024	0.018	1.350	8.44E-05	5.59E-05	7.80E-05	42	36	137	0.307
	7	c_t	0.5518	c_t	0.4378	0.937	0.938	0.997	0.022	0.021	0.010	2.081	7.37E-05	3.43E-05	3.61E-05	32	33	192	0.114
	8	c_t	0.5503	c_t	0.3679	0.952	0.946	1.000	0.027	0.025	0.022	1.107	9.00E-05	4.41E-05	6.76E-05	40	38	196	0.182
	9	c_t	0.5500	c_t	0.4231	0.964	0.959	1.000	0.034	0.031	0.029	1.071	1.11E-04	5.27E-05	7.97E-05	50	51	289	0.127
	10	c_t	0.5505	c_t	0.2699	0.971	0.965	1.000	0.047	0.043	0.021	2.066	1.52E-04	9.48E-05	6.20E-05	70	66	180	0.281
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5503	c_t	0.3197	0.951	0.960	0.952	0.032	0.032	0.010	3.326	1.08E-04	6.14E-05	3.12E-05	53	57	89	0.231
	3	c_t	0.5501	c_t	0.427	0.944	0.940	0.997	0.023	0.022	0.019	1.171	7.67E-05	3.82E-05	7.20E-05	35	36	182	0.123
	4	c_t	0.5501	c_t	0.1936	0.939	0.951	0.902	0.028	0.028	0.009	3.024	9.56E-05	6.95E-05	4.60E-05	49	45	73	0.357
	5	c_t	0.5507	c_t	0.401	0.963	0.959	1.000	0.034	0.031	0.007	4.309	1.11E-04	4.77E-05	2.48E-05	50	52	144	0.150
	6	c_t	0.5503	c_t	0.4518	0.970	0.964	1.000	0.044	0.040	0.137	0.296	1.44E-04	6.89E-05	2.65E-04	71	69	298	0.098
	7	c_t	0.5513	c_t	0.4601	0.957	0.955	0.999	0.032	0.030	0.015	2.016	1.05E-04	5.40E-05	4.22E-05	51	50	96	0.091
	8	c_t	0.5504	c_t	0.3751	0.947	0.940	1.000	0.024	0.022	0.038	0.571	7.70E-05	3.79E-05	1.14E-04	40	38	288	0.175
	9	c_t	0.5512	c_t	0.3204	0.943	0.945	0.966	0.026	0.025	0.013	1.974	8.53E-05	4.33E-05	5.04E-05	42	40	141	0.231
	10	c_t	0.5500	c_t	0.4939	0.952	0.955	0.978	0.033	0.032	0.011	2.937	1.09E-04	4.17E-05	2.97E-05	52	50	174	0.056
5	1	c_t	0.551	c_t	0.4661	0.960	0.956	1.000	0.031	0.029	0.028	1.032	1.01E-04	3.63E-05	5.54E-05	46	46	199	0.085
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5506	c_t	0.4257	0.958	0.956	0.996	0.032	0.030	0.034	0.866	1.04E-04	5.31E-05	8.37E-05	51	48	186	0.125
	4	c_t	0.5510	c_t	0.3254	0.959	0.955	1.000	0.030	0.028	0.025	1.121	9.83E-05	4.94E-05	5.66E-05	49	48	144	0.226
	5	c_t	0.5503	c_t	0.4866	0.956	0.949	1.000	0.029	0.026	0.054	0.488	9.33E-05	3.12E-05	8.85E-05	42	42	258	0.064
	6	c_t	0.5505	c_t	0.3936	0.969	0.965	1.000	0.039	0.036	0.041	0.867	1.26E-04	6.32E-05	1.00E-04	58	54	172	0.157
	7	c_t	0.5501	c_t	0.4877	0.949	0.944	1.000	0.025	0.023	0.022	1.050	8.13E-05	3.10E-05	3.56E-05	38	39	107	0.062
	8	c_t	0.5501	c_t	0.3773	0.970	0.966	1.000	0.041	0.037	0.031	1.186	1.32E-04	6.26E-05	6.83E-05	58	60	153	0.173
	9	c_t	0.5500	c_t	0.4334	0.970	0.967	1.000	0.042	0.038	0.053	0.710	1.34E-04	6.74E-05	1.23E-04	59	57	239	0.117
	10	c_t	0.5518	c_t	0.461	0.952	0.947	1.000	0.026	0.024	0.031	0.771	8.50E-05	3.37E-05	5.78E-05	40	41	231	0.091

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5532	c_t	0.4042	0.944	0.935	1.000	0.022	0.020	0.059	0.342	7.12E-05	3.59E-05	1.31E-04	35	34	198	0.149
	2	c_t	0.5500	c_t	0.4867	0.971	0.968	1.000	0.043	0.039	0.032	1.240	1.38E-04	5.45E-05	5.97E-05	62	65	161	0.063
	3	c_t	0.5501	c_t	0.4259	0.965	0.962	1.000	0.037	0.034	0.051	0.662	1.21E-04	5.71E-05	1.10E-04	56	56	228	0.124
	4	c_t	0.5508	c_t	0.4067	0.953	0.947	1.000	0.027	0.025	0.031	0.799	8.93E-05	4.22E-05	7.21E-05	40	41	194	0.144
	5	c_t	0.5509	c_t	0.4832	0.947	0.941	1.000	0.024	0.022	0.022	0.982	7.81E-05	3.21E-05	6.65E-05	36	37	300	0.068
	6	c_t	0.5510	c_t	0.4046	0.956	0.952	1.000	0.029	0.026	0.026	1.013	9.27E-05	3.88E-05	5.52E-05	46	44	139	0.146
	7	c_t	0.5502	c_t	0.5412	0.964	0.960	1.000	0.034	0.032	0.038	0.833	1.11E-04	1.75E-05	2.95E-05	51	53	196	0.009
	8	c_t	0.5508	c_t	0.3759	0.960	0.951	1.000	0.034	0.031	0.036	0.885	1.13E-04	5.64E-05	1.12E-04	54	51	320	0.175
	9	c_t	0.5501	c_t	0.5504	0.939	0.932	1.000	0.021	0.019	0.057	0.339	6.85E-05	7.93E-06	2.98E-05	32	33	214	0.000
	10	c_t	0.5505	c_t	0.4484	0.964	0.959	0.997	0.037	0.034	0.062	0.549	1.21E-04	5.73E-05	1.49E-04	57	54	284	0.102
7	1	c_t	0.5501	c_t	0.4305	0.957	0.947	1.000	0.032	0.029	0.076	0.376	1.03E-04	4.84E-05	1.62E-04	48	47	275	0.120
	2	c_t	0.5519	c_t	0.5418	0.965	0.960	1.000	0.036	0.032	0.037	0.887	1.15E-04	1.70E-05	2.92E-05	56	57	236	0.010
	3	c_t	0.5503	c_t	0.3892	0.961	0.956	1.000	0.032	0.029	0.034	0.844	1.03E-04	5.18E-05	8.90E-05	47	49	238	0.161
	4	c_t	0.5504	c_t	0.3653	0.949	0.942	1.000	0.024	0.022	0.024	0.919	7.89E-05	4.47E-05	8.05E-05	35	37	270	0.185
	5	c_t	0.5511	c_t	0.3502	0.962	0.958	1.000	0.033	0.030	0.025	1.209	1.06E-04	4.12E-05	5.22E-05	48	49	167	0.201
	6	c_t	0.5519	c_t	0.3524	0.962	0.956	1.000	0.033	0.030	0.041	0.736	1.07E-04	5.07E-05	9.03E-05	52	47	238	0.200
	7	c_t	0.5501	c_t	0.3548	0.956	0.953	0.995	0.030	0.027	0.028	0.984	9.59E-05	4.13E-05	5.24E-05	48	48	212	0.195
	8	c_t	0.5507	c_t	0.445	0.964	0.961	1.000	0.036	0.033	0.029	1.121	1.15E-04	5.25E-05	5.68E-05	54	52	105	0.106
	9	c_t	0.5501	c_t	0.4401	0.968	0.964	1.000	0.040	0.037	0.062	0.602	1.31E-04	5.70E-05	1.19E-04	60	63	237	0.110
	10	c_t	0.5504	c_t	0.3963	0.952	0.948	1.000	0.027	0.025	0.025	0.993	8.66E-05	4.33E-05	6.33E-05	40	39	210	0.154
8	1	c_t	0.5501	c_t	0.4962	0.953	0.949	1.000	0.027	0.025	0.023	1.077	8.70E-05	4.38E-05	6.49E-05	37	37	173	0.054
	2	c_t	0.5515	c_t	0.4312	0.957	0.953	1.000	0.029	0.027	0.022	1.224	9.43E-05	3.60E-05	4.98E-05	39	41	241	0.120
	3	c_t	0.5517	c_t	0.5074	0.961	0.958	1.000	0.034	0.031	0.034	0.923	1.10E-04	4.80E-05	7.89E-05	51	54	234	0.044
	4	c_t	0.5501	c_t	0.3382	0.946	0.940	1.000	0.023	0.021	0.010	2.009	7.46E-05	4.94E-05	4.16E-05	33	32	103	0.212
	5	c_t	0.5510	c_t	0.3214	0.961	0.958	1.000	0.033	0.031	0.022	1.424	1.08E-04	5.47E-05	5.77E-05	59	58	148	0.230
	6	c_t	0.5505	c_t	0.3895	0.943	0.944	0.992	0.026	0.025	0.016	1.488	8.48E-05	4.38E-05	5.09E-05	39	39	222	0.161
	7	c_t	0.5505	c_t	0.4866	0.961	0.954	1.000	0.033	0.030	0.068	0.445	1.08E-04	5.10E-05	1.47E-04	58	59	257	0.064
	8	c_t	0.5533	c_t	0.4905	0.955	0.951	1.000	0.028	0.026	0.046	0.568	9.25E-05	4.40E-05	9.44E-05	45	45	191	0.063
	9	c_t	0.5520	c_t	0.2184	0.962	0.959	1.000	0.035	0.032	0.024	1.350	1.12E-04	7.31E-05	8.04E-05	54	53	131	0.334
	10	c_t	0.5520	c_t	0.5021	0.952	0.948	1.000	0.027	0.024	0.058	0.420	8.60E-05	4.10E-05	1.27E-04	43	38	227	0.050
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5507	c_t	0.4716	0.943	0.937	1.000	0.022	0.020	0.031	0.653	7.08E-05	3.36E-05	7.31E-05	35	33	183	0.079
	3	c_t	0.5500	c_t	0.4752	0.955	0.952	1.000	0.028	0.026	0.014	1.871	9.13E-05	3.46E-05	2.81E-05	44	41	160	0.075
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5508	c_t	0.4884	0.942	0.933	1.000	0.022	0.020	0.064	0.307	7.00E-05	3.31E-05	1.55E-04	34	32	302	0.062
	9	c_t	0.5509	c_t	0.3998	0.944	0.939	1.000	0.023	0.021	0.022	0.958	7.49E-05	3.56E-05	6.29E-05	34	36	277	0.151
	10	c_t	0.5512	c_t	0.4205	0.947	0.944	1.000	0.026	0.023	0.011	2.093	8.44E-05	3.98E-05	2.98E-05	43	44	218	0.131
10	1	c_t	0.5512	c_t	0.3319	0.954	0.950	1.000	0.027	0.025	0.013	1.915	8.76E-05	4.17E-05	3.18E-05	41	42	120	0.219
	2	c_t	0.5509	c_t	0.4614	0.960	0.954	0.999	0.034	0.031	0.079	0.397	1.12E-04	5.29E-05	1.75E-04	57	65	305	0.090
	3	c_t	0.5503	c_t	0.2933	0.955	0.954	0.987	0.031	0.029	0.039	0.739	9.99E-05	4.78E-05	1.00E-04	45	46	255	0.257
	4	c_t	0.5500	c_t	0.4241	0.956	0.951	1.000	0.028	0.026	0.037	0.696	9.10E-05	4.58E-05	9.02E-05	42	41	212	0.126
	5	c_t	0.5510	c_t	0.4442	0.963	0.956	0.989	0.038	0.035	0.075	0.463	1.22E-04	5.81E-05	1.60E-04	54	60	252	0.107
	6	c_t	0.5506	c_t	0.357	0.965	0.962	1.000	0.035	0.032	0.014	2.313	1.14E-04	6.76E-05	4.41E-05	52	50	127	0.194
	7	c_t	0.5515	c_t	0.4162	0.957	0.949	1.000	0.030	0.028	0.055	0.501	9.88E-05	4.67E-05	1.31E-04	45	49	227	0.135
	8	c_t	0.5509	c_t	0.4562	0.970	0.967	1.000	0.042	0.038	0.051	0.751	1.35E-04	5.88E-05	9.62E-05	65	63	184	0.095
	9	c_t	0.5504	c_t	0.4244	0.959	0.958	0.980	0.035	0.033	0.061	0.538	1.15E-04	5.50E-05	1.31E-04	56	59	221	0.126
	10	c_t	0.5502	c_t	0.344	0.968	0.961	1.000	0.041	0.038	0.059	0.637	1.34E-04	6.72E-05	1.36E-04	58	59	243	0.206

Table B6.: Combination (ρ, λ, ρ) = N-L-N. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 0, 4)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (89, 0, 4)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5504	c_a	0.6887	0.965	0.964	0.901	0.037	0.037	0.031	1.176	1.19E-04	9.44E-06	1.26E-05	53	53	230	0.550
	2	c_t	0.5519	$c \neq c_a, c_t$	0.3168	0.948	0.943	0.859	0.025	0.025	0.034	0.714	8.07E-05	1.62E-05	3.88E-05	41	41	246	0.439
	3	c_t	0.5511	c_a	0.5694	0.957	0.957	0.645	0.030	0.030	0.012	2.460	9.56E-05	7.99E-05	5.25E-05	41	41	135	0.518
	4	c_t	0.5501	c_a	0.5705	0.970	0.969	0.675	0.043	0.043	0.025	1.742	1.40E-04	7.39E-05	6.85E-05	64	64	194	0.527
	5	c_t	0.5501	c_a	0.701	0.958	0.957	0.737	0.030	0.030	0.025	1.196	9.70E-05	5.00E-05	5.70E-05	45	45	217	0.531
	6	c_t	**0.3507 ge**	c_a	0.9933	0.974	0.974	0.376	0.048	0.048	0.019	2.441	1.53E-04	8.23E-05	8.22E-05	66	66	195	0.351
	7	c_t	0.5503	c_a	0.4633	0.968	0.965	0.664	0.043	0.042	0.038	1.108	1.38E-04	7.12E-05	1.23E-04	74	74	255	0.523
	8	c_t	0.5506	c_a	0.5062	0.957	0.946	0.576	0.036	0.035	0.045	0.793	1.19E-04	5.58E-05	1.36E-04	53	53	255	0.551
	9	c_t	0.5505	c_a	0.9991	0.965	0.963	0.761	0.037	0.036	0.037	0.992	1.18E-04	5.28E-05	9.61E-05	53	53	255	0.550
	10	c_t	0.5504	$c \neq c_a, c_t$	0.4151	0.959	0.957	0.928	0.030	0.030	0.036	0.825	9.70E-05	7.63E-06	1.47E-05	48	48	223	0.489
2	1	c_t	0.5504	$c \neq c_a, c_t$	0.8666	0.928	0.927	0.712	0.017	0.017	0.034	0.516	5.67E-05	2.93E-05	9.12E-05	26	26	236	0.550
	2	c_t	0.5519	c_a	0.7673	0.929	0.929	0.737	0.017	0.017	0.026	0.664	5.53E-05	2.56E-05	5.48E-05	25	25	243	0.552
	3	c_t	0.5502	$c \neq c_a, c_t$	0.139	0.940	0.940	0.746	0.021	0.021	0.035	0.593	6.80E-05	3.51E-05	7.93E-05	30	30	176	0.414
	4	c_t	0.5524	c_a	0.8271	0.945	0.945	0.696	0.022	0.022	0.017	1.330	7.25E-05	3.75E-05	4.55E-05	32	32	177	0.552
	5	c_t	0.5508	c_a	0.2806	0.958	0.957	0.552	0.029	0.029	0.028	1.046	9.55E-05	4.27E-05	7.21E-05	43	43	244	0.551
	6	c_t	0.5511	c_a	0.3694	0.952	0.949	0.747	0.027	0.027	0.036	0.745	8.67E-05	3.87E-05	9.05E-05	39	39	255	0.458
	7	c_t	0.5516	c_a	0.2765	0.946	0.945	0.619	0.024	0.024	0.012	2.050	7.85E-05	4.06E-05	3.50E-05	34	34	185	0.441
	8	c_t	0.5505	c_a	0.1529	0.951	0.951	0.648	0.025	0.025	0.013	1.968	8.17E-05	4.23E-05	3.99E-05	39	39	177	0.424
	9	c_t	0.5504	$c \neq c_a, c_t$	0.1515	0.943	0.942	0.674	0.022	0.022	0.016	1.390	7.26E-05	3.38E-05	4.02E-05	33	33	184	0.492
	10	c_t	0.5511	c_a	0.9992	0.939	0.935	0.714	0.021	0.021	0.032	0.665	6.92E-05	3.79E-05	9.54E-05	33	33	235	0.551
3	1	c_t	0.5507	c_a	0.7145	0.961	0.957	0.684	0.034	0.034	0.028	1.223	1.11E-04	5.32E-05	7.42E-05	56	56	209	0.535
	2	c_t	0.5504	c_a	0.9216	0.954	0.951	0.585	0.029	0.028	0.021	1.322	9.26E-05	8.63E-05	1.61E-04	47	47	255	0.543
	3	c_t	0.5500	c_a	0.4874	0.962	0.961	0.893	0.032	0.032	0.020	1.560	1.04E-04	8.07E-06	9.05E-06	47	47	232	0.392
	4	c_t	0.5503	c_a	0.9828	0.943	0.936	0.683	0.025	0.024	0.025	0.966	8.09E-05	4.42E-05	9.10E-05	37	37	254	0.547
	5	c_t	0.5502	c_a	0.9276	0.961	0.954	0.616	0.037	0.036	0.029	1.269	1.21E-04	8.90E-05	1.10E-04	62	62	178	0.545
	6	c_t	0.5509	c_a	0.6108	0.950	0.947	0.577	0.026	0.026	0.029	0.883	8.44E-05	6.08E-05	1.67E-04	42	42	245	0.551
	7	c_t	0.5518	c_a	0.921	0.937	0.935	0.553	0.022	0.022	0.012	1.913	7.37E-05	3.67E-05	4.59E-05	32	32	194	0.549
	8	c_t	0.5503	c_a	0.9859	0.952	0.949	0.700	0.027	0.027	0.026	1.038	9.00E-05	4.83E-05	9.49E-05	40	40	255	0.549
	9	c_t	0.5500	c_a	0.4988	0.964	0.963	0.732	0.034	0.034	0.035	0.991	1.11E-04	5.74E-05	1.03E-04	50	50	255	0.550
	10	c_t	0.5505	c_a	0.8508	0.971	0.965	0.691	0.047	0.046	0.033	1.399	1.52E-04	1.03E-04	1.13E-04	70	70	220	0.551
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5503	c_t	0.1618	0.951	0.950	0.418	0.032	0.032	0.016	2.032	1.08E-04	6.44E-05	6.00E-05	53	53	190	0.389
	3	c_t	0.5501	c_a	0.2935	0.944	0.942	0.406	0.023	0.023	0.023	1.008	7.67E-05	4.12E-05	9.56E-05	35	35	204	0.457
	4	c_t	0.5501	c_a	0.9624	0.939	0.937	0.258	0.028	0.028	0.017	1.618	9.56E-05	7.18E-05	9.35E-05	49	49	145	0.550
	5	c_t	0.5507	c_a	0.1927	0.963	0.962	0.432	0.034	0.034	0.009	3.806	1.11E-04	5.20E-05	3.74E-05	50	50	216	0.512
	6	c_t	0.5503	c_a	0.9777	0.970	0.965	0.758	0.044	0.044	0.146	0.301	1.44E-04	7.48E-05	2.94E-04	71	71	255	0.550
	7	c_t	0.5513	c_a	0.5677	0.957	0.954	0.612	0.032	0.032	0.022	1.476	1.05E-04	5.84E-05	7.06E-05	51	51	160	0.535
	8	c_t	0.5504	c_a	0.4599	0.947	0.944	0.635	0.024	0.024	0.043	0.552	7.70E-05	4.12E-05	1.34E-04	40	40	255	0.538
	9	c_t	0.5512	c_a	0.8991	0.943	0.942	0.347	0.026	0.026	0.017	1.549	8.53E-05	4.59E-05	7.09E-05	42	42	173	0.551
	10	c_t	0.55	c_a	0.4666	0.952	0.950	0.355	0.033	0.033	0.013	2.473	1.09E-04	4.39E-05	3.83E-05	52	52	224	0.550
5	1	c_t	0.551	c_a	0.7041	0.960	0.959	0.755	0.031	0.031	0.031	0.992	1.01E-04	3.96E-05	6.51E-05	46	46	236	0.551
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	3	c_t	0.5506	c_a	0.9752	0.958	0.955	0.708	0.032	0.032	0.041	0.776	1.04E-04	5.71E-05	1.04E-04	51	51	255	0.551
	4	c_t	0.551	c_a	0.3894	0.959	0.958	0.740	0.030	0.030	0.032	0.932	9.83E-05	5.39E-05	7.92E-05	49	49	253	0.551
	5	c_t	0.5503	c_a	0.4587	0.956	0.953	0.795	0.029	0.029	0.058	0.490	9.33E-05	3.40E-05	9.96E-05	42	42	253	0.550
	6	c_t	0.5505	c_a	0.9062	0.969	0.968	0.671	0.039	0.039	0.043	0.911	1.26E-04	6.89E-05	1.13E-04	58	58	185	0.551
	7	c_t	0.5501	$c \neq c_a, c_t$	0.0851	0.949	0.948	0.778	0.025	0.025	0.028	0.903	8.13E-05	3.39E-05	4.89E-05	38	38	127	0.550
	8	c_t	0.5501	c_a	0.7727	0.970	0.970	0.742	0.041	0.041	0.036	1.119	1.32E-04	6.83E-05	8.20E-05	58	58	175	0.550
	9	c_t	0.5500	c_a	0.1352	0.970	0.969	0.753	0.042	0.041	0.067	0.615	1.34E-04	7.34E-05	1.59E-04	59	59	231	0.550
	10	c_t	0.5518	c_a	0.8296	0.952	0.951	0.782	0.026	0.026	0.034	0.777	8.50E-05	3.67E-05	6.67E-05	40	40	237	0.552

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5532	c_a	0.5155	0.944	0.941	0.743	0.022	0.022	0.069	0.319	7.12E-05	3.90E-05	1.64E-04	35	35	254	0.553
	2	c_t	0.55	c_a	0.2994	0.971	0.971	0.762	0.043	0.043	0.036	1.181	1.38E-04	5.94E-05	7.20E-05	62	62	213	0.550
	3	c_t	0.5501	c_a	0.3357	0.965	0.964	0.746	0.037	0.037	0.055	0.671	1.21E-04	6.22E-05	1.31E-04	56	56	255	0.550
	4	c_t	0.5508	c_a	0.4556	0.953	0.950	0.718	0.027	0.027	0.036	0.754	8.93E-05	4.61E-05	9.46E-05	40	40	219	0.551
	5	c_t	0.5509	$c \neq c_a, c_t$	0.2022	0.947	0.945	0.739	0.024	0.024	0.027	0.892	7.81E-05	3.50E-05	8.86E-05	36	36	255	0.551
	6	c_t	0.5510	c_a	0.4884	0.956	0.955	0.728	0.029	0.029	0.031	0.938	9.27E-05	4.23E-05	7.23E-05	46	46	204	0.551
	7	c_t	0.5502	$c \neq c_a, c_t$	0.3266	0.964	0.963	0.901	0.034	0.034	0.045	0.768	1.11E-04	1.90E-05	3.53E-05	51	51	237	0.550
	8	c_t	0.5508	c_a	0.727	0.960	0.951	0.709	0.034	0.034	0.045	0.754	1.13E-04	6.13E-05	1.47E-04	54	54	255	0.551
	9	c_t	0.5501	c_a	0.1327	0.939	0.936	0.929	0.021	0.021	0.060	0.348	6.85E-05	8.61E-06	3.27E-05	32	32	235	0.550
	10	c_t	0.5505	c_a	0.7708	0.964	0.961	0.711	0.037	0.037	0.069	0.532	1.21E-04	6.20E-05	1.80E-04	57	57	255	0.551
7	1	c_t	0.5501	c_a	0.891	0.957	0.948	0.755	0.032	0.031	0.081	0.381	1.03E-04	5.25E-05	1.84E-04	48	48	255	0.550
	2	c_t	0.5519	c_a	0.7635	0.965	0.964	0.910	0.036	0.035	0.043	0.816	1.15E-04	1.85E-05	3.43E-05	56	56	245	0.552
	3	c_t	0.5503	c_a	0.8846	0.961	0.960	0.746	0.032	0.032	0.046	0.688	1.03E-04	5.64E-05	1.29E-04	47	47	255	0.550
	4	c_t	0.5504	$c \neq c_a, c_t$	0.0571	0.949	0.948	0.691	0.024	0.024	0.033	0.731	7.89E-05	4.88E-05	1.11E-04	35	35	255	0.550
	5	c_t	0.5511	c_a	0.3862	0.962	0.962	0.748	0.033	0.033	0.028	1.161	1.06E-04	4.49E-05	6.55E-05	48	48	255	0.551
	6	c_t	0.5519	c_a	0.9881	0.962	0.959	0.747	0.033	0.033	0.048	0.690	1.07E-04	5.53E-05	1.13E-04	52	52	255	0.552
	7	c_t	0.5501	$c \neq c_a, c_t$	0.1151	0.956	0.955	0.712	0.030	0.029	0.029	1.006	9.59E-05	4.48E-05	6.12E-05	48	48	255	0.550
	8	c_t	0.5507	$c \neq c_a, c_t$	0.0809	0.964	0.964	0.731	0.036	0.036	0.038	0.930	1.15E-04	5.73E-05	8.71E-05	54	54	181	0.526
	9	c_t	0.5501	c_a	0.9831	0.968	0.966	0.745	0.040	0.040	0.062	0.646	1.31E-04	6.18E-05	1.28E-04	60	60	246	0.550
	10	c_t	0.5504	c_a	0.9954	0.952	0.952	0.733	0.027	0.027	0.030	0.900	8.66E-05	4.71E-05	8.07E-05	40	40	199	0.550
8	1	c_t	0.5501	$c \neq c_a, c_t$	0.1989	0.953	0.953	0.725	0.027	0.027	0.031	0.864	8.70E-05	4.77E-05	8.70E-05	37	37	197	0.550
	2	c_t	0.5515	c_a	0.1491	0.957	0.956	0.765	0.029	0.029	0.025	1.178	9.43E-05	3.92E-05	6.20E-05	39	39	255	0.552
	3	c_t	0.5517	c_a	0.3067	0.961	0.959	0.727	0.034	0.034	0.038	0.891	1.10E-04	5.21E-05	9.69E-05	51	51	255	0.552
	4	c_t	0.5501	$c \neq c_a, c_t$	0.2328	0.946	0.946	0.615	0.023	0.023	0.017	1.356	7.46E-05	5.38E-05	7.34E-05	33	33	133	0.550
	5	c_t	0.5510	$c \neq c_a, c_t$	0.067	0.961	0.960	0.708	0.033	0.033	0.030	1.098	1.08E-04	5.92E-05	8.46E-05	59	59	207	0.526
	6	c_t	0.5505	c_a	0.1924	0.943	0.939	0.560	0.026	0.026	0.022	1.143	8.48E-05	4.63E-05	7.18E-05	39	39	245	0.551
	7	c_t	0.5505	c_a	0.8727	0.961	0.956	0.754	0.033	0.033	0.072	0.458	1.08E-04	5.55E-05	1.65E-04	58	58	255	0.551
	8	c_t	0.5533	c_a	0.1861	0.955	0.953	0.751	0.028	0.028	0.053	0.534	9.25E-05	4.78E-05	1.19E-04	45	45	253	0.553
	9	c_t	0.5520	c_a	0.6761	0.962	0.960	0.671	0.035	0.034	0.038	0.906	1.12E-04	7.94E-05	1.37E-04	54	54	210	0.552
	10	c_t	0.5520	c_a	0.7294	0.952	0.951	0.709	0.027	0.026	0.062	0.425	8.60E-05	4.44E-05	1.44E-04	43	43	241	0.552
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	2	c_t	0.5507	c_a	0.162	0.943	0.941	0.728	0.022	0.022	0.034	0.645	7.08E-05	3.65E-05	8.94E-05	35	35	216	0.551
	3	c_t	0.5500	c_a	0.7399	0.955	0.955	0.740	0.028	0.028	0.019	1.468	9.13E-05	3.77E-05	4.14E-05	44	44	147	0.499
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	5	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
	8	c_t	0.5508	c_a	0.8219	0.942	0.937	0.756	0.022	0.021	0.067	0.319	7.00E-05	3.61E-05	1.79E-04	34	34	255	0.494
	9	c_t	0.5509	c_a	0.7332	0.944	0.942	0.702	0.023	0.023	0.024	0.945	7.49E-05	3.86E-05	7.95E-05	34	34	255	0.551
	10	c_t	0.5512	$c \neq c_a, c_t$	0.1304	0.947	0.946	0.645	0.026	0.025	0.014	1.885	8.44E-05	4.36E-05	4.08E-05	43	43	235	0.551
10	1	c_t	0.5512	$c \neq c_a, c_t$	0.3562	0.954	0.953	0.661	0.027	0.027	0.017	1.616	8.76E-05	4.53E-05	4.48E-05	41	41	184	0.551
	2	c_t	0.5509	c_a	0.6846	0.960	0.954	0.705	0.034	0.034	0.086	0.395	1.12E-04	5.71E-05	2.03E-04	57	57	255	0.551
	3	c_t	0.5503	c_a	0.0874	0.955	0.955	0.619	0.031	0.031	0.041	0.751	9.99E-05	5.17E-05	1.15E-04	45	45	255	0.550
	4	c_t	0.5500	$c \neq c_a, c_t$	0.2809	0.956	0.954	0.741	0.028	0.028	0.044	0.640	9.10E-05	4.98E-05	1.22E-04	42	42	242	0.550
	5	c_t	0.5510	c_a	0.3481	0.963	0.957	0.696	0.038	0.037	0.081	0.458	1.22E-04	6.26E-05	1.86E-04	54	54	255	0.551
	6	c_t	0.5506	$c \neq c_a, c_t$	0.6706	0.965	0.965	0.695	0.035	0.035	0.024	1.450	1.14E-04	7.37E-05	8.50E-05	52	52	204	0.536
	7	c_t	0.5515	$c \neq c_a, c_t$	0.1164	0.957	0.951	0.728	0.030	0.030	0.064	0.465	9.88E-05	5.07E-05	1.75E-04	45	45	255	0.552
	8	c_t	0.5509	$c \neq c_a, c_t$	0.4144	0.970	0.970	0.753	0.042	0.042	0.056	0.747	1.35E-04	6.41E-05	1.17E-04	65	65	226	0.551
	9	c_t	0.5504	c_a	0.1488	0.959	0.957	0.675	0.035	0.035	0.065	0.539	1.15E-04	5.92E-05	1.47E-04	56	56	249	0.550
	10	c_t	0.5502	$c \neq c_a, c_t$	0.5014	0.968	0.964	0.750	0.041	0.041	0.067	0.605	1.34E-04	7.31E-05	1.66E-04	58	58	255	0.550

Table B7.: Combination (ρ, λ, ρ) = N-N-L. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 22, 71)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (1, 21, 71)$.

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
1	1	c_t	0.5504	c_t	0.5504	0.965	0.964	0.901	0.037	0.037	0.031	1.176	1.19E-04	9.44E-06	1.26E-05	53	53	230	0.000
	2	c_t	0.5519	c_t	0.5519	0.948	0.943	0.859	0.025	0.025	0.034	0.714	8.07E-05	1.62E-05	3.88E-05	41	41	246	0.000
	3	c_t	0.5511	c_a	0.7392	0.957	0.957	0.645	0.030	0.030	0.012	2.460	9.56E-05	7.99E-05	5.25E-05	41	41	135	0.551
	4	c_t	0.5501	c_a	0.7569	0.970	0.969	0.675	0.043	0.043	0.025	1.742	1.40E-04	7.39E-05	6.85E-05	64	64	194	0.538
	5	c_t	0.5501	c_a	0.1774	0.958	0.957	0.737	0.030	0.030	0.025	1.196	9.70E-05	5.00E-05	5.70E-05	45	45	217	0.379
	6	c_t	**0.3507 ge**	c_a	0.955	0.974	0.974	0.376	0.048	0.048	0.019	2.441	1.53E-04	8.23E-05	8.22E-05	66	66	195	0.351
	7	c_t	0.5503	c_a	0.549	0.968	0.965	0.664	0.043	0.042	0.038	1.108	1.38E-04	7.12E-05	1.23E-04	74	74	255	0.405
	8	c_t	0.5506	c_t	0.5506	0.957	0.946	0.576	0.036	0.035	0.045	0.793	1.19E-04	5.58E-05	1.36E-04	53	53	255	0.000
	9	c_t	0.5505	c_t	0.5505	0.965	0.963	0.761	0.037	0.036	0.037	0.992	1.18E-04	5.28E-05	9.61E-05	53	53	255	0.000
	10	c_t	0.5504	c_t	0.5504	0.959	0.957	0.928	0.030	0.030	0.036	0.825	9.70E-05	7.63E-06	1.47E-05	48	48	223	0.000
2	1	c_t	0.5504	c_t	0.3774	0.928	0.927	0.712	0.017	0.017	0.034	0.516	5.67E-05	2.93E-05	9.12E-05	26	26	236	0.173
	2	c_t	0.5519	c_t	0.5519	0.929	0.929	0.737	0.017	0.017	0.026	0.664	5.53E-05	2.56E-05	5.48E-05	25	25	243	0.000
	3	c_t	0.5502	c_t	0.4317	0.940	0.940	0.746	0.021	0.021	0.035	0.593	6.80E-05	3.51E-05	7.93E-05	30	30	176	0.118
	4	c_t	0.5524	c_t	0.2912	0.945	0.945	0.696	0.022	0.022	0.017	1.330	7.25E-05	3.75E-05	4.55E-05	32	32	177	0.261
	5	c_t	0.5508	c_t	0.5508	0.958	0.957	0.552	0.029	0.029	0.028	1.046	9.55E-05	4.27E-05	7.21E-05	43	43	244	0.000
	6	c_t	0.5511	c_t	0.5511	0.952	0.949	0.747	0.027	0.027	0.036	0.745	8.67E-05	3.87E-05	9.05E-05	39	39	255	0.000
	7	c_t	0.5516	c_t	0.3197	0.946	0.945	0.619	0.024	0.024	0.012	2.050	7.85E-05	4.06E-05	3.50E-05	34	34	185	0.232
	8	c_t	0.5505	c_t	0.328	0.951	0.951	0.648	0.025	0.025	0.013	1.968	8.17E-05	4.23E-05	3.99E-05	39	39	177	0.223
	9	c_t	0.5504	c_t	0.5504	0.943	0.942	0.674	0.022	0.022	0.016	1.390	7.26E-05	3.38E-05	4.02E-05	33	33	184	0.000
	10	c_t	0.5511	c_a	0.4823	0.939	0.935	0.714	0.021	0.021	0.032	0.665	6.92E-05	3.79E-05	9.54E-05	33	33	235	0.332
3	1	c_t	0.5507	c_t	0.303	0.961	0.957	0.684	0.034	0.034	0.028	1.223	1.11E-04	5.32E-05	7.42E-05	56	56	209	0.248
	2	c_t	0.5504	c_a	0.9695	0.954	0.951	0.585	0.029	0.028	0.021	1.322	9.26E-05	8.63E-05	1.61E-04	47	47	255	0.550
	3	c_t	0.5500	c_t	0.55	0.962	0.961	0.893	0.032	0.032	0.020	1.560	1.04E-04	8.07E-06	9.05E-06	47	47	232	0.000
	4	c_t	0.5503	c_a	0.9465	0.943	0.936	0.683	0.025	0.024	0.025	0.966	8.09E-05	4.42E-05	9.10E-05	37	37	254	0.542
	5	c_t	0.5502	c_a	0.9194	0.961	0.954	0.616	0.037	0.036	0.029	1.269	1.21E-04	8.90E-05	1.10E-04	62	62	178	0.550
	6	c_t	0.5509	c_a	0.2329	0.950	0.947	0.577	0.026	0.026	0.029	0.883	8.44E-05	6.08E-05	1.67E-04	42	42	245	0.551
	7	c_t	0.5518	c_t	0.2646	0.937	0.935	0.553	0.022	0.022	0.012	1.913	7.37E-05	3.67E-05	4.59E-05	32	32	194	0.287
	8	c_t	0.5503	c_a	0.8519	0.952	0.949	0.700	0.027	0.027	0.026	1.038	9.00E-05	4.83E-05	9.49E-05	40	40	255	0.518
	9	c_t	0.5500	c_t	0.1917	0.964	0.963	0.732	0.034	0.034	0.035	0.991	1.11E-04	5.74E-05	1.03E-04	50	50	255	0.358
	10	c_t	0.5505	c_a	0.7996	0.971	0.965	0.691	0.047	0.046	0.033	1.399	1.52E-04	1.03E-04	1.13E-04	70	70	220	0.551
4	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.000
	2	c_t	0.5563	c_t	0.5563	0.953	0.951	0.890	0.028	0.028	0.047	0.584	8.95E-05	1.80E-05	3.71E-05	42	42	255	0.000
	3	c_t	0.5506	c_a	0.1774	0.958	0.955	0.708	0.032	0.032	0.041	0.776	1.04E-04	5.71E-05	1.04E-04	51	51	255	0.493
	4	c_t	0.5510	$c \neq c_a, c_t$	0.1485	0.959	0.958	0.740	0.030	0.030	0.032	0.932	9.83E-05	5.39E-05	7.92E-05	49	49	253	0.490
	5	c_t	0.5503	c_t	0.5503	0.956	0.953	0.795	0.029	0.029	0.058	0.490	9.33E-05	3.40E-05	9.96E-05	42	42	253	0.000
	6	c_t	0.5505	c_t	0.5505	0.969	0.968	0.671	0.039	0.039	0.043	0.911	1.26E-04	6.89E-05	1.13E-04	58	58	185	0.000
	7	c_t	0.5501	c_t	0.5501	0.949	0.948	0.778	0.025	0.025	0.028	0.903	8.13E-05	3.39E-05	4.89E-05	38	38	127	0.000
	8	c_t	0.5501	c_t	0.1792	0.970	0.970	0.742	0.041	0.041	0.036	1.119	1.32E-04	6.83E-05	8.20E-05	58	58	175	0.371
	9	c_t	0.5500	c_t	0.1991	0.970	0.969	0.753	0.042	0.041	0.067	0.615	1.34E-04	7.34E-05	1.59E-04	59	59	231	0.351
	10	c_t	0.5518	c_t	0.4151	0.952	0.951	0.782	0.026	0.026	0.034	0.777	8.50E-05	3.67E-05	6.67E-05	40	40	237	0.137
5	1	c_t	0.5516	c_t	0.2099	0.939	0.938	0.705	0.021	0.021	0.024	0.871	6.74E-05	3.70E-05	7.48E-05	32	32	238	0.342
	2	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.000
	3	c_t	0.5501	c_a	0.2025	0.944	0.942	0.406	0.023	0.023	0.023	1.008	7.67E-05	4.12E-05	9.56E-05	35	35	204	0.406
	4	c_t	0.5501	c_a	0.9795	0.939	0.937	0.258	0.028	0.028	0.017	1.618	9.56E-05	7.18E-05	9.35E-05	49	49	145	0.550
	5	c_t	0.5507	c_t	0.2642	0.963	0.962	0.432	0.034	0.034	0.009	3.806	1.11E-04	5.20E-05	3.74E-05	50	50	216	0.286
	6	c_t	0.5503	c_t	0.2798	0.970	0.965	0.758	0.044	0.044	0.146	0.301	1.44E-04	7.48E-05	2.94E-04	71	71	255	0.271
	7	c_t	0.5513	$c \neq c_a, c_t$	0.1083	0.957	0.954	0.612	0.032	0.032	0.022	1.476	1.05E-04	5.84E-05	7.06E-05	51	51	160	0.450
	8	c_t	0.5504	c_a	0.1182	0.947	0.944	0.635	0.024	0.024	0.043	0.552	7.70E-05	4.12E-05	1.34E-04	40	40	255	0.490
	9	c_t	0.5512	$c \neq c_a, c_t$	0.2135	0.943	0.942	0.347	0.026	0.026	0.017	1.549	8.53E-05	4.59E-05	7.09E-05	42	42	173	0.551
	10	c_t	0.5500	c_t	0.55	0.952	0.950	0.355	0.033	0.033	0.013	2.473	1.09E-04	4.39E-05	3.83E-05	52	52	224	0.000

$\mathcal{A}_q^p$		Step 1 - Step 3		Step 4 - Step 8		L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			
q	p	$\tilde{\tau}_c$	Dominant Category	τ_c	Dominant Category	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,clean}$	$\mathcal{L}$
6	1	c_t	0.5532	c_t	0.1346	0.944	0.941	0.743	0.022	0.022	0.069	0.319	7.12E-05	3.90E-05	1.64E-04	35	35	254	0.419
	2	c_t	0.5500	c_t	0.55	0.971	0.971	0.762	0.043	0.043	0.036	1.181	1.38E-04	5.94E-05	7.20E-05	62	62	213	0.000
	3	c_t	0.5501	c_t	0.1629	0.965	0.964	0.746	0.037	0.037	0.055	0.671	1.21E-04	6.22E-05	1.31E-04	56	56	255	0.387
	4	c_t	0.5508	c_t	0.3376	0.953	0.950	0.718	0.027	0.027	0.036	0.754	8.93E-05	4.61E-05	9.46E-05	40	40	219	0.213
	5	c_t	0.5509	c_t	0.4426	0.947	0.945	0.739	0.024	0.024	0.027	0.892	7.81E-05	3.50E-05	8.86E-05	36	36	255	0.108
	6	c_t	0.5510	c_a	0.2329	0.956	0.955	0.728	0.029	0.029	0.031	0.938	9.27E-05	4.23E-05	7.23E-05	46	46	204	0.318
	7	c_t	0.5502	c_t	0.5502	0.964	0.963	0.901	0.034	0.034	0.045	0.768	1.11E-04	1.90E-05	3.53E-05	51	51	237	0.000
	8	c_t	0.5508	c_a	0.2071	0.960	0.951	0.709	0.034	0.034	0.045	0.754	1.13E-04	6.13E-05	1.47E-04	54	54	255	0.344
	9	c_t	0.5501	c_t	0.5501	0.939	0.936	0.929	0.021	0.021	0.060	0.348	6.85E-05	8.61E-06	3.27E-05	32	32	235	0.000
	10	c_t	0.5505	c_t	0.3134	0.964	0.961	0.711	0.037	0.037	0.069	0.532	1.21E-04	6.20E-05	1.80E-04	57	57	255	0.237
7	1	c_t	0.5501	c_t	0.1007	0.957	0.948	0.755	0.032	0.031	0.081	0.381	1.03E-04	5.25E-05	1.84E-04	48	48	255	0.449
	2	c_t	0.5519	c_t	0.5519	0.965	0.964	0.910	0.036	0.035	0.043	0.816	1.15E-04	1.85E-05	3.43E-05	56	56	245	0.000
	3	c_t	0.5503	c_t	0.135	0.961	0.960	0.746	0.032	0.032	0.046	0.688	1.03E-04	5.64E-05	1.29E-04	47	47	255	0.415
	4	c_t	0.5504	$c \neq c_a, c_t$	0.1111	0.949	0.948	0.691	0.024	0.024	0.033	0.731	7.89E-05	4.88E-05	1.11E-04	35	35	255	0.515
	5	c_t	0.5511	c_t	0.5511	0.962	0.962	0.748	0.033	0.033	0.028	1.161	1.06E-04	4.49E-05	6.55E-05	48	48	255	0.000
	6	c_t	0.5519	c_a	0.1413	0.962	0.959	0.747	0.033	0.033	0.048	0.690	1.07E-04	5.53E-05	1.13E-04	52	52	255	0.446
	7	c_t	0.5501	c_t	0.5501	0.956	0.955	0.712	0.030	0.029	0.029	1.006	9.59E-05	4.48E-05	6.12E-05	48	48	255	0.000
	8	c_t	0.5507	c_t	0.426	0.964	0.964	0.731	0.036	0.036	0.038	0.930	1.15E-04	5.73E-05	8.71E-05	54	54	181	0.125
	9	c_t	0.5501	c_t	0.5501	0.968	0.966	0.745	0.040	0.040	0.062	0.646	1.31E-04	6.18E-05	1.28E-04	60	60	246	0.000
	10	c_t	0.5504	c_a	0.172	0.952	0.952	0.733	0.027	0.027	0.030	0.900	8.66E-05	4.71E-05	8.07E-05	40	40	199	0.433
8	1	c_t	0.5501	c_t	0.3563	0.953	0.953	0.725	0.027	0.027	0.031	0.864	8.70E-05	4.77E-05	8.70E-05	37	37	197	0.194
	2	c_t	0.5515	c_t	0.5515	0.957	0.956	0.765	0.029	0.029	0.025	1.178	9.43E-05	3.92E-05	6.20E-05	39	39	255	0.000
	3	c_t	0.5517	c_t	0.5517	0.961	0.959	0.727	0.034	0.034	0.038	0.891	1.10E-04	5.21E-05	9.69E-05	51	51	255	0.000
	4	c_t	0.5501	$c \neq c_a, c_t$	0.2139	0.946	0.946	0.615	0.023	0.023	0.017	1.356	7.46E-05	5.38E-05	7.34E-05	33	33	133	0.550
	5	c_t	0.5510	$c \neq c_a, c_t$	0.1379	0.961	0.960	0.708	0.033	0.033	0.030	1.098	1.08E-04	5.92E-05	8.46E-05	59	59	207	0.499
	6	c_t	0.5505	c_t	0.1958	0.943	0.939	0.560	0.026	0.026	0.022	1.143	8.48E-05	4.63E-05	7.18E-05	39	39	245	0.355
	7	c_t	0.5505	c_t	0.3736	0.961	0.956	0.754	0.033	0.033	0.072	0.458	1.08E-04	5.55E-05	1.65E-04	58	58	255	0.177
	8	c_t	0.5533	c_t	0.3157	0.955	0.953	0.751	0.028	0.028	0.053	0.534	9.25E-05	4.78E-05	1.19E-04	45	45	253	0.238
	9	c_t	0.5520	c_a	0.6561	0.962	0.960	0.671	0.035	0.034	0.038	0.906	1.12E-04	7.94E-05	1.37E-04	54	54	210	0.552
	10	c_t	0.5520	c_t	0.3149	0.952	0.951	0.709	0.027	0.026	0.062	0.425	8.60E-05	4.44E-05	1.44E-04	43	43	241	0.237
9	1	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.291
	2	c_t	0.5507	c_t	0.3347	0.943	0.941	0.728	0.022	0.022	0.034	0.645	7.08E-05	3.65E-05	8.94E-05	35	35	216	0.216
	3	c_t	0.5500	c_t	0.55	0.955	0.955	0.740	0.028	0.028	0.019	1.468	9.13E-05	3.77E-05	4.14E-05	44	44	147	0.000
	4	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.000
	5	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.204
	6	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.346
	7	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	0.000
	8	c_t	0.5508	c_t	0.356	0.942	0.937	0.756	0.022	0.021	0.067	0.319	7.00E-05	3.61E-05	1.79E-04	34	34	255	0.195
	9	c_t	0.5509	c_t	0.201	0.944	0.942	0.702	0.023	0.023	0.024	0.945	7.49E-05	3.86E-05	7.95E-05	34	34	255	0.350
	10	c_t	0.5512	c_t	0.2093	0.947	0.946	0.645	0.026	0.025	0.014	1.885	8.44E-05	4.36E-05	4.08E-05	43	43	235	0.342
10	1	c_t	0.5512	$c \neq c_a, c_t$	0.2334	0.954	0.953	0.661	0.027	0.027	0.017	1.616	8.76E-05	4.53E-05	4.48E-05	41	41	184	0.449
	2	c_t	0.5509	c_t	0.2445	0.960	0.954	0.705	0.034	0.034	0.086	0.395	1.12E-04	5.71E-05	2.03E-04	57	57	255	0.306
	3	c_t	0.5503	$c \neq c_a, c_t$	0.0981	0.955	0.955	0.619	0.031	0.031	0.041	0.751	9.99E-05	5.17E-05	1.15E-04	45	45	255	0.521
	4	c_t	0.5500	c_t	0.1751	0.956	0.954	0.741	0.028	0.028	0.044	0.640	9.10E-05	4.98E-05	1.22E-04	42	42	242	0.375
	5	c_t	0.5510	c_t	0.2748	0.963	0.957	0.696	0.038	0.037	0.081	0.458	1.22E-04	6.26E-05	1.86E-04	54	54	255	0.276
	6	c_t	0.5506	$c \neq c_a, c_t$	0.5675	0.965	0.965	0.695	0.035	0.035	0.024	1.450	1.14E-04	7.37E-05	8.50E-05	52	52	204	0.551
	7	c_t	0.5515	c_t	0.2359	0.957	0.951	0.728	0.030	0.030	0.064	0.465	9.88E-05	5.07E-05	1.75E-04	45	45	255	0.316
	8	c_t	0.5509	c_t	0.5509	0.970	0.970	0.753	0.042	0.042	0.056	0.747	1.35E-04	6.41E-05	1.17E-04	65	65	226	0.000
	9	c_t	0.5504	c_t	0.1906	0.959	0.957	0.675	0.035	0.035	0.065	0.539	1.15E-04	5.92E-05	1.47E-04	56	56	249	0.360
	10	c_t	0.5502	$c \neq c_a, c_t$	0.1397	0.968	0.964	0.750	0.041	0.041	0.067	0.605	1.34E-04	7.31E-05	1.66E-04	58	58	255	0.522

Table B8.: Combination (ρ, λ, ρ) = N-N-N. One has $\#\mathcal{S}_{clean}^{\text{VGG-16}}(L) = 93$, $(\gamma_{st}, \gamma_{ge}, \theta, \phi)_{\mathcal{R}} = (92, 1, 10, 21)$, and $(\Gamma, \Theta, \Phi)_{\mathcal{H}} = (62, 10, 21)$.

ρ, λ, ρ		Step 1-3	Step 4-8	L_0^{norm}			L_1^{norm}				L_2^{norm}			L_∞			$\mathcal{L}$
		$\tilde{\tau}_c$	τ_c	$L_{0,\mathcal{R}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,adv}$	$L_{0,\mathcal{H}}^{norm,clean}$	$L_{1,\mathcal{R}}^{norm,adv}$	$L_{1,\mathcal{H}}^{norm,adv}$	$L_{1,\mathcal{R}}^{norm,clean}$	$\frac{L_{1,\mathcal{H}}^{norm,adv}}{L_{1,\mathcal{H}}^{norm,clean}}$	$L_{2,\mathcal{R}}^{norm,adv}$	$L_{2,\mathcal{H}}^{norm,adv}$	$L_{2,\mathcal{R}}^{norm,clean}$	$L_{\infty,\mathcal{R}}^{norm,adv}$	$L_{\infty,\mathcal{H}}^{norm,adv}$	$L_{\infty,\mathcal{R}}^{norm,clean}$	
LLL	Avg	0.5482	0.5045	0.955	0.949	0.996	0.0300	0.0274	0.0255	1.7798	9.9E-05	4.5E-05	5.3E-05	46.60	46.27	125.10	0.0437
	Min	0.2947	0.2734	0.910	0.888	0.903	0.0140	0.0120	0.0020	0.2500	4.7E-05	7.0E-06	5.4E-06	21	22	18	0.0073
	Max	0.5541	0.5434	0.974	0.970	1.000	0.0470	0.0430	0.1140	13.5000	1.6E-04	9.7E-05	2.0E-04	77	74	200	0.1168
LLN	Avg	0.5482	0.4563	0.955	0.950	0.853	0.0304	0.0279	0.0357	0.9834	9.9E-05	4.5E-05	7.9E-05	46.60	46.27	196.44	0.4995
	Min	0.2947	0.0737	0.910	0.889	0.350	0.0143	0.0129	0.0086	0.2360	4.7E-05	7.0E-06	7.8E-06	21	22	113	0.2564
	Max	0.5541	0.9997	0.974	0.970	0.975	0.0475	0.0435	0.1295	3.8698	1.6E-04	9.7E-05	2.3E-04	77	74	255	0.5541
LNL	Avg	0.5482	0.2906	0.955	0.952	0.853	0.0304	0.0302	0.0357	1.0623	9.9E-05	4.9E-05	7.9E-05	46.60	46.60	196.44	0.3492
	Min	0.2947	0.0809	0.910	0.893	0.350	0.0143	0.0139	0.0086	0.2563	4.7E-05	7.7E-06	7.8E-06	21	21	113	0.1003
	Max	0.5541	0.8624	0.974	0.974	0.975	0.0475	0.0469	0.1295	4.2283	1.6E-04	1.0E-04	2.3E-04	77	77	255	0.5511
NLL	Avg	0.5486	0.4237	0.956	0.951	0.996	0.0307	0.0282	0.0319	1.2599	1.0E-04	4.6E-05	7.3E-05	46.87	46.76	196.06	0.4785
	Min	0.3507	0.0537	0.928	0.921	0.902	0.0171	0.0157	0.0059	0.2958	5.5E-05	7.0E-06	6.9E-06	25	25	56	0.1292
	Max	0.5533	0.9978	0.974	0.971	1.000	0.0476	0.0434	0.1366	4.6191	1.5E-04	9.5E-05	2.7E-04	74	69	320	0.5532
LNN	Avg	0.5482	0.5364	0.955	0.952	0.853	0.0304	0.0302	0.0357	1.0623	9.9E-05	4.9E-05	7.9E-05	46.60	46.60	196.44	0.5269
	Min	0.2947	0.0764	0.910	0.893	0.350	0.0143	0.0139	0.0086	0.2563	4.7E-05	7.7E-06	7.8E-06	21	21	113	0.2947
	Max	0.5541	0.9995	0.974	0.974	0.975	0.0475	0.0469	0.1295	4.2283	1.6E-04	1.0E-04	2.3E-04	77	77	255	0.5541
NLN	Avg	0.5486	0.4169	0.956	0.951	0.996	0.0307	0.0282	0.0319	1.2599	1.0E-04	4.6E-05	7.3E-05	46.87	46.76	196.06	0.1389
	Min	0.3507	0.1558	0.928	0.921	0.902	0.0171	0.0157	0.0059	0.2958	5.5E-05	7.0E-06	6.9E-06	25	25	56	0.0002
	Max	0.5533	0.5504	0.974	0.971	1.000	0.0476	0.0434	0.1366	4.6191	1.5E-04	9.5E-05	2.7E-04	74	69	320	0.3953
NNL	Avg	0.5486	0.5312	0.956	0.953	0.693	0.0307	0.0306	0.0375	1.0344	1.0E-04	5.0E-05	9.5E-05	46.87	46.87	224.84	0.5326
	Min	0.3507	0.0571	0.928	0.927	0.258	0.0171	0.0171	0.0090	0.3009	5.5E-05	7.6E-06	9.0E-06	25	25	127	0.3507
	Max	0.5533	0.9992	0.974	0.974	0.929	0.0476	0.0476	0.1456	3.8063	1.5E-04	1.0E-04	2.9E-04	74	74	255	0.5533
NNN	Avg	0.5487	0.4027	0.955	0.953	0.697	0.0306	0.0304	0.0378	1.0175	9.9E-05	4.9E-05	9.5E-05	46.60	46.60	225.56	0.2624
	Min	0.3507	0.0981	0.928	0.927	0.258	0.0171	0.0171	0.0090	0.3009	5.5E-05	7.6E-06	9.0E-06	25	25	127	0.0000
	Max	0.5563	0.9795	0.974	0.974	0.929	0.0476	0.0476	0.1456	3.8063	1.5E-04	1.0E-04	2.9E-04	74	74	255	0.5520

Table B9.: Summary of Tables B2 to B9, presenting the average, maximum, and minimum dominant category label values before and after the application of the noise blowing-up technique ($\tilde{\tau}_c$, τ), along with L_p norms (where $p = 0, 1, 2, \infty$) and loss $\mathcal{L}$ for each combination of (ρ, λ, ρ). In this summary, the calculations include *good-enough* adversarial images.

ρ, λ, ρ	Number of $\tilde{\mathcal{D}}^{VGG16}_{targeted}(\mathcal{A}_a)$	Number of $\mathcal{D}^{hr,VGG16}_{targeted}(\mathcal{A}^{\text{hr}}_a)$			Average Loss $\mathcal{L}$
		$c = c_t$	$c \neq c_a, c_t$	$c = c_a$	
L-L-L	92	**92**	**0**	**0**	**0.0439**
L-L-N	92	10	25	57	0.5019
L-N-L	92	59	11	22	0.3501
N-L-L	92	16	21	55	0.4802
L-N-N	92	6	23	63	0.5295
N-L-N	92	89	0	3	0.1384
N-N-L	92	1	21	70	0.5345
N-N-N	92	62	10	20	0.2615

Table B10.: The table presents the results of a case study conducted on 92 adversarial images obtained with $\text{EA}^{\text{target},\mathcal{C}}$ for $\mathcal{C}$ = VGG-16 and $\tilde{\tau}_t \geq 0.55$ (with notations consistent with Section 3). The technique involves manipulating the adversarial images by extracting noise and applying different combinations (ρ, λ, ρ) in Steps 1, 5, and 7 (see Subsection 3.1).

Table B10 summarizes the main findings from the comparison study for different interpolation techniques. The table includes information on the interpolation methods utilized, Lanczos (L) and Nearest (N), which are shown in *Column 1.* The remaining columns present the following data: *Column 2:* the number of adversarial images used for testing noise blowing-up technique, *Column 3:* the number of images classified in the target category, *Column 4:* the number of images that remained adversarial in the untargeted category, *Column 5:* the number of images classified in the ancestor category after employing the noise blowing-up technique, and *Column 6:* the resulting average loss in target category dominance.

Table B9 indicates that there are no significant differences observed when using different combinations of (ρ, λ, ρ) in relation to L_p norms (where $p = 0, 1, 2, \infty$). However, Table B10 demonstrates that the combination of L-L-L produces optimal results in terms of both the loss function ($\mathcal{L}$) and the number of adversarial images remaining in the target category (c_t) when utilizing the noise blowing-up technique for generating high-resolution adversarial images. Therefore, in our experiments (see Scheme 11), we employ the **L-L-L** combination for (ρ, λ, ρ).