

Supplementary Materials:
**Authorize-on-Demand: Dynamic Authorization with Domain-Aware Intellectual
Property Protection for VLMs**

Table 1: The accuracy (%) of target-specified NTL on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of NTL.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 ⇒ 77.6	87.5 ⇒ 10.0	88.8 ⇒ 17.5	56.34	74.40	1.80
Dslr	83.8 ⇒ 10.0	95.7 ⇒ 94.4	98.8 ⇒ 8.8	76.09	81.90	1.30
Webcam	80.0 ⇒ 3.8	92.5 ⇒ 91.3	94.4 ⇒ 91.3	32.50	38.70	3.10
Mean	/			54.98	65.00	2.07

Table 2: The accuracy (%) of target-specified CUTI-Domain on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUTI-Domain.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 ⇒ 78.8	87.5 ⇒ 6.3	88.8 ⇒ 11.3	62.06	79.35	0.60
Dslr	83.8 ⇒ 5.0	95.7 ⇒ 95.0	98.8 ⇒ 7.5	80.13	85.05	0.70
Webcam	80.0 ⇒ 1.3	92.5 ⇒ 2.5	94.4 ⇒ 91.9	75.24	84.38	2.50
Mean	/			72.48	82.93	1.27

Table 3: The accuracy (%) of target-specified CUPI-Domain on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUPI-Domain.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 ⇒ 78.9	87.5 ⇒ 5.2	88.8 ⇒ 10.7	62.88	80.20	0.50
Dslr	83.8 ⇒ 4.3	95.7 ⇒ 95.0	98.8 ⇒ 6.9	80.75	85.70	0.70
Webcam	80.0 ⇒ 0.9	92.5 ⇒ 2.5	94.4 ⇒ 92.9	77.15	84.55	1.50
Mean	/			73.60	83.48	0.90

Table 4: The accuracy (%) of target-specified HNTL on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of HNTL.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 \Rightarrow 74.2	87.5 \Rightarrow 12.5	88.8 \Rightarrow 3.1	55.76	80.35	5.20
Dslr	83.8 \Rightarrow 3.1	95.7 \Rightarrow 94.6	98.8 \Rightarrow 2.1	82.87	88.70	1.10
Webcam	80.0 \Rightarrow 6.3	92.5 \Rightarrow 3.1	94.4 \Rightarrow 90.6	70.44	81.55	3.80
Mean	/			69.69	83.53	3.37

Table 5: The accuracy (%) of target-specified SOPHON on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of SOPHON.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 \Rightarrow 75.0	87.5 \Rightarrow 2.5	88.8 \Rightarrow 5.0	60.00	84.40	4.40
Dslr	83.8 \Rightarrow 3.8	95.7 \Rightarrow 94.4	98.8 \Rightarrow 5.0	80.81	86.90	1.30
Webcam	80.0 \Rightarrow 2.5	92.5 \Rightarrow 2.5	94.4 \Rightarrow 93.4	77.20	83.75	1.05
Mean	/			72.67	85.02	2.25

Table 6: The accuracy (%) of target-specified IP-CLIP on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of IP-CLIP.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 \Rightarrow 79.4	87.5 \Rightarrow 7.5	88.8 \Rightarrow 8.8	63.52	80.00	0.00
Dslr	83.8 \Rightarrow 3.8	95.7 \Rightarrow 95.7	98.8 \Rightarrow 6.3	82.54	86.25	0.00
Webcam	80.0 \Rightarrow 3.8	92.5 \Rightarrow 2.5	94.4 \Rightarrow 94.4	78.45	83.10	0.00
Mean	/			74.84	83.12	0.00

Table 7: The accuracy (%) of target-specified AoD-IP on Office-31. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of AoD-IP.

Authorized/Unauthorized	Amazon	Dslr	Webcam	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Amazon	79.4 ⇒ 79.4	87.5 ⇒ 0.0	88.8 ⇒ 0.0	69.98	88.15	0.00
Dslr	83.8 ⇒ 0.6	95.7 ⇒ 95.7	98.8 ⇒ 1.3	86.43	90.36	0.00
Webcam	80.0 ⇒ 0.0	92.5 ⇒ 0.0	94.4 ⇒ 94.4	81.40	86.25	0.00
Mean	/			79.27	88.25	0.00

Table 8: The accuracy (%) of target-specified NTL on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of NTL.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Art	85.5 ⇒ 85.4	68.0 ⇒ 23.8	89.8 ⇒ 86.5	88.5 ⇒ 88.5	13.44	15.83	0.10
Clipart	81.0 ⇒ 18.3	75.0 ⇒ 74.7	90.8 ⇒ 15.0	89.5 ⇒ 31.0	48.83	65.67	0.30
Product	78.8 ⇒ 11.0	73.3 ⇒ 13.8	92.8 ⇒ 92.8	87.5 ⇒ 85.8	39.90	43.00	0.00
Real-World	83.0 ⇒ 80.8	71.3 ⇒ 7.8	90.8 ⇒ 52.5	90.0 ⇒ 88.1	28.87	34.67	1.90
Mean	/				32.76	39.79	0.57

Table 9: The accuracy (%) of target-specified CUTI-Domain on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUTI-Domain.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Art	85.5 ⇒ 82.5	68.0 ⇒ 16.8	89.8 ⇒ 21.3	88.5 ⇒ 48.0	41.58	53.40	3.00
Clipart	81.0 ⇒ 15.8	75.0 ⇒ 75.0	90.8 ⇒ 9.0	89.5 ⇒ 19.3	53.37	72.40	0.63
Product	78.8 ⇒ 16.3	73.3 ⇒ 10.8	92.8 ⇒ 92.4	87.5 ⇒ 27.0	56.82	61.83	0.37
Real-World	83.0 ⇒ 30.3	71.3 ⇒ 10.0	90.8 ⇒ 32.8	90.0 ⇒ 88.5	49.41	57.33	1.50
Mean	/				50.29	61.24	1.38

Table 10: The accuracy (%) of target-specified CUPI-Domain on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUPI-Domain.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	W_{u-a} \uparrow	$Drop_u$ \uparrow	$Drop_a$ \downarrow
Art	85.5 \Rightarrow 83.4	68.0 \Rightarrow 13.0	89.8 \Rightarrow 21.0	88.5 \Rightarrow 47.3	44.12	55.00	2.10
Clipart	81.0 \Rightarrow 15.0	75.0 \Rightarrow 74.9	90.8 \Rightarrow 10.0	89.5 \Rightarrow 16.1	54.90	73.40	0.10
Product	78.8 \Rightarrow 15.9	73.3 \Rightarrow 9.8	92.8 \Rightarrow 92.5	87.5 \Rightarrow 25.1	57.94	62.93	0.30
Real-World	83.0 \Rightarrow 25.4	71.3 \Rightarrow 10.0	90.8 \Rightarrow 26.7	90.0 \Rightarrow 89.5	54.15	61.00	0.50
Mean	/				52.78	63.08	0.75

Table 11: The accuracy (%) of target-specified HNTL on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of HNTL.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	W_{u-a} \uparrow	$Drop_u$ \uparrow	$Drop_a$ \downarrow
Art	85.5 \Rightarrow 70.1	68.0 \Rightarrow 4.1	89.8 \Rightarrow 7.0	88.5 \Rightarrow 22.9	38.81	70.77	15.40
Clipart	81.0 \Rightarrow 5.5	75.0 \Rightarrow 46.2	90.8 \Rightarrow 5.2	89.5 \Rightarrow 9.1	23.85	80.50	28.83
Product	78.8 \Rightarrow 4.7	73.3 \Rightarrow 5.7	92.8 \Rightarrow 70.7	87.5 \Rightarrow 27.3	31.96	67.30	22.10
Real-World	83.0 \Rightarrow 35.9	71.3 \Rightarrow 6.2	90.8 \Rightarrow 26.6	90.0 \Rightarrow 78.8	37.51	58.80	11.20
Mean	/				33.03	69.34	19.38

Table 12: The accuracy (%) of target-specified SOPHON on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of SOPHON.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	W_{u-a} \uparrow	$Drop_u$ \uparrow	$Drop_a$ \downarrow
Art	85.5 \Rightarrow 73.1	68.0 \Rightarrow 21.5	89.8 \Rightarrow 45.8	88.5 \Rightarrow 64.0	18.99	38.33	12.37
Clipart	81.0 \Rightarrow 13.5	75.0 \Rightarrow 74.5	90.8 \Rightarrow 21.2	89.5 \Rightarrow 22.0	50.44	68.20	0.50
Product	78.8 \Rightarrow 29.2	73.3 \Rightarrow 18.2	92.8 \Rightarrow 89.0	87.5 \Rightarrow 58.5	36.28	44.57	3.80
Real-World	83.0 \Rightarrow 51.5	71.3 \Rightarrow 24.0	90.8 \Rightarrow 61.3	90.0 \Rightarrow 80.5	21.38	36.10	9.53
Mean	/				31.77	46.80	6.55

Table 13: The accuracy (%) of target-specified IP-CLIP on Office-Home-65. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of IP-CLIP.

Authorized/Unauthorized	Art	Clipart	Product	Real-World	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Art	85.5 \Rightarrow 85.2	68.0 \Rightarrow 12.8	89.8 \Rightarrow 15.0	88.5 \Rightarrow 34.5	52.00	61.33	0.30
Clipart	81.0 \Rightarrow 11.8	75.0 \Rightarrow 74.9	90.8 \Rightarrow 5.3	89.5 \Rightarrow 17.8	56.45	75.47	0.10
Product	78.8 \Rightarrow 14.0	73.3 \Rightarrow 8.5	92.8 \Rightarrow 92.5	87.5 \Rightarrow 25.8	58.71	63.77	0.30
Real-World	83.0 \Rightarrow 30.3	71.3 \Rightarrow 7.5	90.8 \Rightarrow 29.3	90.0 \Rightarrow 89.9	53.25	59.33	0.10
Mean	/				55.10	64.98	0.20

Table 14: The accuracy (%) of target-specified NTL on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of NTL.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 \Rightarrow 84.5	79.8 \Rightarrow 33.3	89.8 \Rightarrow 34.0	78.7 \Rightarrow 42.1	38.62	46.30	0.60
Painting	83.8 \Rightarrow 11.9	81.4 \Rightarrow 79.8	89.1 \Rightarrow 60.5	78.4 \Rightarrow 17.5	41.66	53.80	1.60
Real	84.6 \Rightarrow 26.4	80.5 \Rightarrow 30.8	90.6 \Rightarrow 89.8	80.0 \Rightarrow 10.8	52.29	59.03	0.80
Sketch	84.3 \Rightarrow 83.0	79.1 \Rightarrow 32.7	90.3 \Rightarrow 9.7	80.7 \Rightarrow 80.1	33.78	42.77	0.60
Mean	/				41.59	50.48	1.00

Table 15: The accuracy (%) of target-specified CUTI-Domain on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of ' \Rightarrow ' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUTI-Domain.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 \Rightarrow 84.9	79.8 \Rightarrow 22.7	89.8 \Rightarrow 23.7	78.7 \Rightarrow 23.7	50.26	59.40	0.20
Painting	83.8 \Rightarrow 17.9	81.4 \Rightarrow 76.1	89.1 \Rightarrow 15.6	78.4 \Rightarrow 17.1	46.88	66.90	5.30
Real	84.6 \Rightarrow 24.9	80.5 \Rightarrow 23.8	90.6 \Rightarrow 89.5	80.0 \Rightarrow 9.5	54.77	62.30	1.10
Sketch	84.3 \Rightarrow 24.0	79.1 \Rightarrow 25.2	90.3 \Rightarrow 10.8	80.7 \Rightarrow 80.0	51.09	64.57	0.70
Mean	/				50.75	63.29	2.20

Table 16: The accuracy (%) of target-specified CUPI-Domain on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of CUPI-Domain..

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 ⇒ 84.9	79.8 ⇒ 20.8	89.8 ⇒ 21.4	78.7 ⇒ 19.9	52.52	62.07	0.20
Painting	83.8 ⇒ 16.7	81.4 ⇒ 78.3	89.1 ⇒ 13.7	78.4 ⇒ 16.9	50.82	68.00	3.10
Real	84.6 ⇒ 25.1	80.5 ⇒ 20.7	90.6 ⇒ 89.7	80.0 ⇒ 8.9	56.12	63.47	0.90
Sketch	84.3 ⇒ 22.4	79.1 ⇒ 23.7	90.3 ⇒ 9.4	80.7 ⇒ 80.3	52.73	66.07	0.40
Mean	/				53.05	64.90	1.40

Table 17: The accuracy (%) of target-specified HNTL on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of HNTL.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 ⇒ 59.6	79.8 ⇒ 7.2	89.8 ⇒ 11.2	78.7 ⇒ 5.3	29.42	74.87	25.50
Painting	83.8 ⇒ 6.1	81.4 ⇒ 63.3	89.1 ⇒ 18.3	78.4 ⇒ 3.6	35.66	74.43	18.10
Real	84.6 ⇒ 12.8	80.5 ⇒ 19.9	90.6 ⇒ 84.1	80.0 ⇒ 6.6	52.23	68.60	6.50
Sketch	84.3 ⇒ 4.9	79.1 ⇒ 3.6	90.3 ⇒ 6.3	80.7 ⇒ 42.0	17.19	79.63	38.70
Mean	/				33.62	74.38	16.70

Table 18: The accuracy (%) of target-specified SOPHON on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of SOPHON.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 ⇒ 78.9	79.8 ⇒ 25.2	89.8 ⇒ 40.0	78.7 ⇒ 25.7	36.55	52.47	6.17
Painting	83.8 ⇒ 33.7	81.4 ⇒ 70.2	89.1 ⇒ 65.6	78.4 ⇒ 22.9	22.38	43.03	11.17
Real	84.6 ⇒ 36.7	80.5 ⇒ 42.7	90.6 ⇒ 81.4	80.0 ⇒ 18.7	32.40	49.00	9.20
Sketch	84.3 ⇒ 35.4	79.1 ⇒ 30.6	90.3 ⇒ 39.4	80.7 ⇒ 72.2	29.55	49.43	8.50
Mean	/				30.22	48.48	8.84

Table 19: The accuracy (%) of target-specified IP-CLIP on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of IP-CLIP.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 ⇒ 84.8	79.8 ⇒ 18.1	89.8 ⇒ 24.8	78.7 ⇒ 22.4	51.47	61.00	0.30
Painting	83.8 ⇒ 9.2	81.4 ⇒ 80.9	89.1 ⇒ 26.5	78.4 ⇒ 14.4	53.85	67.07	0.50
Real	84.6 ⇒ 21.9	80.5 ⇒ 21.4	90.6 ⇒ 90.4	80.0 ⇒ 6.0	58.82	65.27	0.20
Sketch	84.3 ⇒ 23.2	79.1 ⇒ 15.6	90.3 ⇒ 9.2	80.7 ⇒ 80.2	54.59	68.57	0.50
Mean	/				54.68	65.48	0.33

Table 20: The accuracy (%) of target-specified AoD-IP on Mini-DomainNet. The vertical/horizontal axis denotes the authorized/unauthorized domain. In each task, the left of '⇒' shows the test accuracy of SL-CLIP on the unauthorized domain, while the right side presents the accuracy of AoD-IP.

Authorized/Unauthorized	Clipart	Painting	Real	Sketch	$W_{u-a} \uparrow$	$Drop_u \uparrow$	$Drop_a \downarrow$
Clipart	85.1 ⇒ 85.1	79.8 ⇒ 12.3	89.8 ⇒ 16.3	78.7 ⇒ 17.0	57.47	67.58	0.02
Painting	83.8 ⇒ 10.4	81.4 ⇒ 81.0	89.1 ⇒ 17.0	78.4 ⇒ 9.1	57.60	71.59	0.44
Real	84.6 ⇒ 14.6	80.5 ⇒ 14.1	90.6 ⇒ 90.4	80.0 ⇒ 10.7	61.76	68.58	0.23
Sketch	84.3 ⇒ 15.9	79.1 ⇒ 11.2	90.3 ⇒ 12.3	80.7 ⇒ 80.3	57.12	71.46	0.36
Mean	/				58.49	69.80	0.26

Table 21: The detailed results of authorization application AoD-IP on Office-31.

X_a	$A_a^{ip} \rightarrow A_u^{ip}$	X_{e1}	$A_{e1}^{ip} \rightarrow A_u^{ip}$	X_{e2}	$A_{e2}^{ip} \rightarrow A_u^{ip}$	$R_a / R_e / R_u$
Amazon†	68.1 → 4.3 / 5.1 / 4.2	Dslr†	97.7 → 20.6 / 1.2 / 0.3	Webcam†	94.7 → 28.6 / 3.2 / 9.8	91.5 / 94.8 / 89.4
Dslr†	97.8 → 22.5 / 1.3 / 0.2	Amazon†	67.8 → 3.1 / 2.5 / 1.6	Webcam†	91.9 → 25.4 / 0.8 / 2.4	100.0 / 98.5 / 92.3
Webcam†	92.0 → 25.8 / 1.2 / 2.4	Amazon†	68.5 → 0.8 / 1.3 / 0.6	Dslr†	97.2 → 22.1 / 1.0 / 1.3	96.0 / 96.4 / 93.0

Table 22: The detailed results of authorization application AoD-IP on Mini-DomainNet.

X_a	$A_a^{ip} \rightarrow A_u^{ip}$	X_{e1}	$A_{e1}^{ip} \rightarrow A_u^{ip}$	X_{e2}	$A_{e2}^{ip} \rightarrow A_u^{ip}$	X_{e3}	$A_{e3}^{ip} \rightarrow A_u^{ip}$	$R_a / R_e / R_u$
Cl†	77.5 → 4.4 / 4.4 / 2.9 / 16.8	Pa†	72.4 → 4.0 / 2.4 / 3.8 / 12.4	Re†	83.4 → 1.9 / 1.7 / 1.6 / 11.6	Sk†	76.1 → 0.8 / 1.0 / 1.6 / 4.0	100.0 / 99.9 / 92.5
Pa†	70.0 → 6.7 / 7.9 / 4.5 / 13.0	Cl†	77.9 → 2.9 / 1.6 / 2.9 / 20.0	Re†	83.8 → 5.7 / 4.6 / 4.6 / 13.5	Sk†	77.9 → 2.1 / 1.4 / 1.7 / 9.0	100.0 / 100.0 / 91.9
Re†	83.2 → 5.4 / 2.4 / 1.9 / 13.0	Cl†	77.3 → 1.6 / 1.0 / 1.4 / 4.4	Pa†	72.8 → 5.1 / 2.7 / 3.8 / 13.3	Sk†	76.0 → 1.3 / 0.5 / 1.0 / 2.2	100.0 / 99.5 / 93.8
Sk†	75.1 → 3.5 / 1.3 / 3.8 / 5.9	Cl†	78.9 → 2.4 / 1.4 / 3.8 / 7.5	Pa†	71.9 → 2.5 / 1.1 / 3.7 / 8.4	Re†	84.2 → 1.6 / 0.5 / 0.8 / 3.8	99.9 / 99.8 / 95.3

Table 23: The results of authorization application NTL on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	$D_{u-a} \uparrow$	$A_u \downarrow$	$A_a \uparrow$
Amazon†	57.5	13.8	41.0	15.67	37.43	62.50
Dslr†	78.7	18.5	54.3	39.25	50.50	92.80
Webcam†	31.8	17.3	14.8	54.59	21.30	85.30
Mean	/			36.50	36.41	80.20

Table 24: The results of authorization application CUTI-Domain on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	36.0	7.5	19.0	29.26	20.83	65.50
Dslr \dagger	74.0	6.3	29.3	54.47	36.53	94.30
Webcam \dagger	57.0	12.5	22.3	40.56	30.60	80.80
Mean	/			41.43	29.32	80.20

Table 25: The results of authorization application CUPI-Domain on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	25.1	7.2	18.5	31.51	16.92	65.23
Dslr \dagger	70.1	6.2	23.6	58.62	33.30	95.00
Webcam \dagger	45.9	12.3	18.8	49.70	25.68	84.50
Mean	/			46.61	25.30	81.58

Table 26: The results of authorization application HNTL on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	6.30	7.80	3.10	5.55	5.73	26.60
Dslr \dagger	46.90	6.30	10.90	73.19	21.37	96.90
Webcam \dagger	34.40	15.60	6.30	78.36	18.77	98.40
Mean	/			52.37	15.29	73.97

Table 27: The results of authorization application SOPHON on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	11.20	7.50	10.00	39.11	9.57	67.50
Dslr \dagger	7.50	10.00	12.50	85.31	10.00	97.50
Webcam \dagger	12.50	11.20	13.50	74.09	12.40	92.50
Mean	/			66.17	10.66	85.83

Table 28: The results of authorization application IP-CLIP on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	4.5	3.3	2.8	37.46	3.53	63.00
Dslr \dagger	27.3	1.5	0.5	82.42	9.77	95.80
Webcam \dagger	31.0	4.3	11.3	56.45	15.53	83.30
Mean	/			58.78	9.61	80.70

Table 29: The results of authorization application AoD-IP on Office-31.

Authorized/Test	Amazon	Dslr	Webcam	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Amazon \dagger	2.7	3.0	2.1	44.64	2.61	68.13
Dslr \dagger	21.7	1.2	0.6	87.55	7.83	97.57
Webcam \dagger	26.6	1.7	4.9	75.96	11.07	92.87
Mean	/			69.39	7.17	86.19

Table 30: The results of authorization application NTL on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art \dagger	21.0	14.3	17.0	29.5	49.47	20.45	81.30
Clipart \dagger	21.0	13.0	45.0	31.8	9.74	27.70	48.00
Product \dagger	21.3	27.8	36.8	24.0	44.44	27.48	81.80
Real-World \dagger	10.3	22.5	27.5	16.5	51.50	19.20	82.00
Mean	/				38.79	23.71	73.28

Table 31: The results of authorization application CUTI-Domain on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art \dagger	4.5	5.0	21.0	11.0	54.95	10.38	79.50
Clipart \dagger	11.0	16.0	36.5	20.0	16.86	20.88	52.80
Product \dagger	18.0	33.5	61.0	29.0	39.53	35.38	83.00
Real-World \dagger	7.5	3.5	10.8	9.5	62.87	7.83	83.30
Mean	/				43.55	18.61	74.65

Table 32: The results of authorization application CUPI-Domain on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art \dagger	4.1	5.2	15.1	9.2	56.53	8.39	79.50
Clipart \dagger	8.3	13.4	25.5	18.5	23.03	16.43	56.90
Product \dagger	15.1	21.7	56.8	27.7	44.41	30.31	83.50
Real-World \dagger	5.3	3.5	8.6	8.8	66.03	6.55	84.60
Mean	/				47.50	15.42	76.13

Table 33: The results of authorization application HNTL on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art \dagger	2.1	4.1	2.1	1.6	45.23	2.48	68.50
Clipart \dagger	1.6	3.1	2.1	1.3	17.62	2.03	43.00
Product \dagger	2.1	4.4	3.4	3.4	28.10	3.33	54.70
Real-World \dagger	2.6	3.6	2.1	3.1	71.00	2.85	85.70
Mean	/				40.49	2.67	62.98

Table 34: The results of authorization application SOPHON on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art \dagger	3.8	4.8	7.2	9.2	50.14	6.25	74.00
Clipart \dagger	5.5	16.2	13.0	15.2	26.61	12.48	58.20
Product \dagger	2.0	3.8	10.2	4.5	64.64	5.13	83.00
Real-World \dagger	4.8	4.0	13.2	10.0	59.44	8.00	81.20
Mean	/				50.21	7.96	74.10

Table 35: The results of authorization application IP-CLIP on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Art	1.5	3.3	7.8	3.0	60.12	3.88	79.50
Clipart	4.3	5.3	22.5	9.8	26.52	10.48	57.00
Product	5.8	9.3	12.0	6.5	57.74	8.40	80.30
Real-World	2.3	4.0	8.5	6.0	71.17	5.20	87.00
Mean	/				53.89	6.99	75.95

Table 36: The results of authorization application AoD-IP on Office-Home-65.

Authorized/Test	Art	Clipart	Product	Real-World	$D_{u-a} \uparrow$	$A_u \downarrow$	$A_a \uparrow$
Art†	1.6	1.8	8.6	2.9	64.29	3.11	81.75
Clipart†	2.8	4.9	15.7	5.9	28.95	5.28	56.51
Product†	1.7	2.6	8.3	2.4	67.55	3.73	84.08
Real-World†	1.7	2.6	6.0	2.3	73.77	3.14	87.48
Mean	/				58.64	3.82	77.45

Table 37: The results of authorization application NTL on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	$D_{u-a} \uparrow$	$A_u \downarrow$	$A_a \uparrow$
Clipart†	13.5	8.7	12.1	35.9	38.45	17.54	71.40
Painting†	26.2	15.1	14.3	41.1	32.78	24.18	70.60
Real†	41.1	21.8	24.6	64.1	35.66	37.90	81.60
Sketch†	16.5	7.8	11.3	30.6	38.66	16.55	71.00
Mean	/				36.39	24.04	73.65

Table 38: The results of authorization application CUTI-Domain on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	$D_{u-a} \uparrow$	$A_u \downarrow$	$A_a \uparrow$
Clipart†	57.9	24.3	31.1	63.0	22.77	44.08	74.60
Painting†	46.5	13.8	21.6	57.0	24.48	34.73	69.80
Real†	42.4	17.9	21.9	57.1	33.56	34.83	77.90
Sketch†	6.0	4.8	6.4	20.6	48.18	9.45	74.30
Mean	/				32.25	30.77	74.15

Table 39: The results of authorization application CUPI-Domain on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	$D_{u-a} \uparrow$	$A_u \downarrow$	$A_a \uparrow$
Clipart†	30.5	18.9	26.7	40.7	34.35	29.21	75.00
Painting†	30.7	12.1	16.7	18.2	35.64	19.43	70.20
Real†	29.4	15.1	18.3	37.5	44.35	25.08	80.30
Sketch†	6.5	4.2	5.8	15.6	50.24	8.02	75.00
Mean	/				41.14	20.43	75.13

Table 40: The results of authorization application HNTL on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Clipart \dagger	1.8	0.3	1.6	0.8	2.60	1.11	16.70
Painting \dagger	0.3	0.3	0.5	0.3	0.47	0.35	7.00
Real \dagger	1.0	0.5	1.0	1.3	2.05	0.95	14.80
Sketch \dagger	0.5	0.8	1.3	1.3	0.42	0.98	7.00
Mean	/				1.39	0.85	11.38

Table 41: The results of authorization application SOPHON on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Clipart \dagger	24.1	5.1	8.4	15.9	50.55	13.38	78.10
Painting \dagger	16.0	10.6	11.4	14.6	41.59	13.15	71.40
Real \dagger	11.7	6.3	9.4	4.4	60.10	7.95	81.60
Sketch \dagger	10.0	5.9	7.0	3.7	45.15	6.65	70.60
Mean	/				49.35	10.28	75.43

Table 42: The results of authorization application IP-CLIP on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Clipart \dagger	4.6	5.1	4.8	14.9	50.88	7.35	75.10
Painting \dagger	7.5	4.6	8.4	23.2	40.33	10.93	69.20
Real \dagger	17.3	8.4	9.8	38.1	54.06	18.40	83.30
Sketch \dagger	4.6	3.8	5.7	18.7	48.27	8.20	73.70
Mean	/				48.39	11.22	75.33

Table 43: The results of authorization application AoD-IP on Mini-DomainNet.

Authorized/Test	Clipart	Painting	Real	Sketch	D_{u-a} \uparrow	A_u \downarrow	A_a \uparrow
Clipart \dagger	2.8	2.1	2.8	12.2	56.82	4.96	77.90
Painting \dagger	4.6	3.5	4.0	11.8	47.24	5.96	71.78
Real \dagger	3.7	2.3	2.2	10.5	66.07	4.66	83.65
Sketch \dagger	1.9	1.1	2.0	5.3	56.22	2.57	76.28
Mean	/				56.59	4.54	77.40

Table 44: Ablation study of target-specified AoD-IP 'Cl \rightarrow Pa'.

λ_1	0.01	0.05	0.1	0.2	0.5	1
$X_a \rightarrow X_u$	84.1 \rightarrow 12.8	83.9 \rightarrow 13.0	84.0 \rightarrow 11.9	82.8 \rightarrow 12.5	83.2 \rightarrow 11.8	93.6 \rightarrow 12.1

Table 45: A detailed description of the augmentation method applied in the target-free scenario.

Augmentation	Augmentation
AutoContrast	Applies automatic contrast adjustment to an image.
Brightness	Adjusts the brightness of an image.
Color	Adjusts the color saturation of an image.
Contrast	Adjusts the contrast of an image.
Equalize	Equalizes the histogram of an image.
Identity	Returns the image without any changes.
Posterize	Reduces the color depth of an image.
Rotate	Rotates an image by a random degree.
Sharpness	Adjusts the sharpness of an image.
ShearX	Shears an image along the X-axis.
ShearY	Shears an image along the Y-axis.
Solarize	Inverts all pixel values above a threshold
TranslateX	Translates an image horizontally.
TranslateY	Translates an image vertically