Pineline	Filtered	Time (s)	Precision	Recall	AUC_{α}^{F}	AUC ^F	AUC.	AUC ^F	AUC_{-}^{E}	$AUC_{\alpha_{1\alpha}}^{E}$	AUC_{nm}^{E}	AUCE	Filtered	Time (s)	Precision	Recall	AUC_{i}^{F} .	AUC_{010}^F	anNet AUCF	AUC*	AUC_{os}^{E}	AUC_{010}^{E}	AUCE	AUCE
SIFT+NNR	0.00	0.499	53.92	99.99	0.11	0.19	0.75	0.35	46.30	63.50	76.97	62.26	0.00	0.158	24.83	99.19	0.00	0.10	0.48	0.19	8.83	19.70	32.52	20.35
+MAGSAC↑ +MAGSAC↓ +ACNe	50.73 54.16 47.62	0.529 0.534 0.516	93.13 93.72 92.54	85.12 79.31 90.85	33.02 35.07	45.96 48.12 28.08	57.85 60.06 47.64	45.61 47.75 29.48	45.23 46.29 46.58	64.51 64.74 65.19	78.42 77.96	62.72 63.00 63.59	78.54 81.20 67.86	0.248 0.257 0.167	55.20 55.13 55.02	46.06 40.06	5.93 6.31 3.15	14.28 14.33	24.77 24.88 24.98	14.99 15.17	10.77 10.91	22.27 22.33 26.10	35.12 34.66 40.82	22.72 22.63 28.47
$^{+{\rm MAGSAC}_\uparrow}_{+{\rm MAGSAC}_\downarrow}$	53.26 56.21	0.519 0.520	96.38 96.80	83.41 78.33	39.43 39.86	55.32 55.72	69.98 70.42	54.91 55.34	47.27 43.82	65.28 63.61	79.02 78.16	63.86 61.87	80.20 82.44	0.189 0.195	60.44 60.41	47.25 41.59	7.96 8.27	18.00 18.92	31.28 32.35	19.08 19.84	12.65 12.29	25.65 24.96	39.95 39.50	26.08 25.58
+AdaLAM $+MAGSAC_{\uparrow}$ $+MAGSAC_{\downarrow}$	82.56 83.62 84.22	0.503 0.505 0.505	93.44 92.29 92.53	27.42 26.13 25.25	7.64 33.41 33.39	14.75 47.09 46.84	27.12 60.63 60.62	16.50 47.05 46.95	37.77 36.06 35.33	54.58 53.19 52.27	68.59 66.99 66.81	53.65 52.08 51.47	92.54 94.09 94.54	0.160 0.162 0.162	53.27 46.65 46.67	15.01 12.11 11.21	1.02 4.69 5.10	2.77 10.27 10.95	6.11 17.84 18.37	3.30 10.93 11.47	6.40 5.40 6.58	13.73 12.31 13.67	22.79 21.38 22.63	14.31 13.03 14.29
+CC +MAGSAC +MAGSAC \downarrow	45.92 53.76 56.71	2.546 2.552 2.552	92.27 96.23 96.66	89.48 80.73 75.81	13.99 37.74 38.54	24.45 52.70 53.14	37.80 66.78 67.33	25.42 52.41 53.00	44.34 44.24 43.35	62.09 62.36 61.61	75.45 76.12 75.62	60.63 60.91 60.19	40.75 81.65 83.72	0.642 0.690 0.692	51.34 58.58 58.57	80.93 40.46 35.76	1.83 5.25 5.39	4.66 11.67 11.74	9.77 20.40 20.68	5.42 12.44 12.61	8.70 8.74 8.73	18.89 18.59 18.86	30.77 30.82 31.05	19.45 19.38 19.54
+CLNet +MAGSAC \uparrow +MAGSAC \downarrow	48.44 55.27 58.21	0.553 0.556 0.556	91.36 96.13 96.62	88.00 79.18 74.21	3.09 27.94 28.64	6.91 42.25 43.05	16.55 58.04 59.18	8.85 42.74 43.62	40.97 38.46 39.87	60.35 58.02 59.55	75.36 73.88 75.00	58.89 56.79 58.14	77.43 83.73 85.55	0.180 0.182 0.182	57.74 60.98 60.69	52.39 39.26 34.66	0.47 4.32 4.35	2.16 10.17 10.07	6.81 19.92 19.56	3.14 11.47 11.33	9.04 8.43 9.07	19.84 19.07 19.44	32.09 31.89 31.53	20.32 19.80 20.02
+ConvMatch +MAGSAC \uparrow +MAGSAC \downarrow	56.91 62.34 64.73	0.624 0.628 0.628	90.02 93.59 93.97	79.68 71.70 67.25	16.08 32.80 33.49	28.10 47.32 47.40	43.04 61.06 61.27	29.07 47.06 47.39	41.14 42.08 41.63	59.35 59.64 59.77	73.49 73.54 73.91	58.00 58.42 58.44	69.76 81.19 83.33	0.280 0.298 0.303	56.68 61.67 61.60	69.88 46.43 41.06	2.07 7.64 7.78	6.48 17.39 17.46	16.45 29.31 29.39	8.34 18.11 18.21	12.01 11.50 11.07	24.63 24.33 23.95	38.01 38.16 37.89	24.88 24.66 24.31
+DeMatch +MAGSAC↑ +MAGSAC↓	52.50 58.50 61.09	0.701 0.704 0.705	91.49 96.01 96.46	83.88 75.48 70.94	14.78 30.26 31.19	25.25 44.01 45.29	38.92 59.49 60.36	26.32 44.59 45.61	40.93 41.19 41.18	60.73 59.97 60.88	76.16 74.99 75.85	59.27 58.71 59.30	70.29 81.68 83.77	0.362 0.382 0.386	55.68 60.69 60.63	67.41 44.51 39.21	1.78 6.16 6.34	5.04 14.71 15.14	13.31 25.57 26.25	6.71 15.48 15.91	10.04 10.72 9.90	22.49 23.18 21.84	36.63 36.49 35.45	23.05 23.47 22.40
+FC-GNN +MAGSAC↑ +MAGSAC↓	50.09 51.75 52.51	0.540 0.542 0.542	95.31 97.09 97.20	85.43 83.75 82.43	15.72 47.85 47.12	24.91 61.26 61.38	38.87 73.34 73.28	26.50 60.65 60.59	48.23 47.50 47.16	65.95 65.45 65.20	78.80 78.49 78.43	64.33 63.81 63.60	79.85 81.73 82.55	0.175 0.177 0.176	63.72 64.92 64.99	47.64 43.67 41.70	4.19 9.65 9.60	10.42 19.75 19.54	19.18 31.44 31.12	11.26 20.28 20.08	12.01 12.24 12.04	24.37 24.66 25.31	38.30 38.38 38.86	24.89 25.09 25.40
+GMS +MAGSAC↑ +MAGSAC↓	57.35 62.35 64.63	0.607 0.609 0.610	86.98 88.86 89.16	65.58 59.80 56.37	5.10 36.56 37.20	10.75 48.66 49.16	22.47 60.14 60.09	12.77 48.45 48.82	37.04 35.61 37.35	53.51 52.32 53.89	66.38 65.44 66.66	52.31 51.12 52.63	87.17 89.96 90.91	0.258 0.259 0.260	51.99 47.93 47.92	25.55 20.55 18.62	0.99 3.16 2.95	3.30 7.98 7.57	7.36 13.90 13.58	3.88 8.34 8.04	4.41 4.29 4.23	10.83 10.54 10.41	18.97 18.83 18.94	11.40 11.22 11.19
+MS ² DG-Net +MAGSAC↑ +MAGSAC⊥	65.89 72.85 74.45	0.570 0.573 0.574	81.13 91.36 91.80	57.55 51.69 48.72	0.08 29.38 29.92	0.47 43.00 43.16	2.32 56.55 56.64	0.96 42.98 43.24	36.29 34.93 35.12	53.60 51.88 52.73	67.96 66.45 67.78	52.62 51.08 51.88	68.23 85.37 86.90	0.221 0.258 0.266	43.13 56.58 56.47	57.12 35.26 31.24	0.00 5.24 5.47	0.17 11.75 11.61	0.83 20.69 20.13	0.33 12.56 12.40	8.65 8.82 8.34	18.88 19.00 18.03	30.45 31.25 29.66	19.33 19.69 18.68
+NCC +MAGSAC↑ +MAGSAC↓	0.00 51.39 54.41	0.955 0.987 0.991	53.09 92.48 93.13	97.88 82.89 77.91	0.11 30.83 31.92	0.19 42.77 44.06	0.74 54.19 55.41	0.35 42.60 43.80	44.66 44.69 43.18	61.89 63.21 62.07	75.50 77.48 76.78	60.68 61.79 60.68	0.00 78.72 81.20	0.434 0.525 0.533	24.54 54.97 55.11	100.29 46.19 40.69	0.00 5.77 5.87	0.10 13.07 13.29	0.47 23.07 23.54	0.19 13.97 14.24	10.18 10.64 10.38	21.17 22.42 21.91	32.98 35.60 34.47	21.44 22.88 22.25
+NCMNet +MAGSAC† +MAGSACı	48.02 55.02 57.95	0.660 0.663 0.663	91.08 95.86 96.28	88.31 79.26 74.26	4.03 30.59 30.86	8.75 44.43 44.88	18.93 58.42 59.48	10.57 44.48 45.07	41.33 39.97 40.25	61.17 59.57 59.47	76.33 75.11 74.90	59.61 58.22 58.21	76.49 82.91 84.77	0.311 0.313 0.314	57.99 61.02 60.88	54.06 40.65 36.13	1.42 4.29 4.78	3.98 11.15 11.15	10.40 20.90 21.21	5.27 12.11 12.38	9.91 9.43 8.85	21.05 20.77 19.43	33.56 33.69 32.38	21.51 21.30 20.22
+OANet +MAGSAC† +MAGSAC	66.72 69.12 70.83	0.554 0.556 0.557	94.73 96.60 97.01	63.21 59.31 56.17	15.00 25.78 26.09	26.42 40.23 40.89	40.02 56.30 57.32	27.15 40.77 41.43	37.07 35.40 36.76	56.26 55.52 57.02	72.20 72.35 73.20	55.18 54.42 55.66	80.63 85.12 86.61	0.208 0.210 0.211	60.42 62.45 62.49	50.20 38.62 34.55	3.33 5.86 6.10	9.56 14.72 14.34	20.06 26.58 26.21	10.98 15.72 15.55	10.49 11.16 10.33	22.24 23.95 21.99	35.72 37.11 35.34	22.82 24.07 22.55
+MOP _{0.5K} +MiHo +MAGSAC _↑ +MAGSAC ₁	40.99 51.61 54.72	1.324 1.327 1.328	86.84 95.60 96.05	94.39 84.33 79.18	1.60 42.56 44.04	4.22 55.94 57.81	10.55 68.78 70.44	5.46 55.76 57.43	50.22 49.58 48.15	67.35 66.13 65.78	79.88 78.28 78.36	65.81 64.66 64.09	62.61 80.23 82.56	0.841 0.853 0.862	46.07 59.20 59.21	70.76 46.63 40.95	0.15 8.51 8.81	0.67 17.34 18.09	3.04 28.11 28.79	1.29 17.99 18.56	11.77 11.77 12.18	24.67 23.85 24.35	38.26 37.07 37.42	24.90 24.23 24.65
+MOP _{0.5K} +MiHo+NCC +MAGSAC† +MAGSACi	40.99 51.03 53.07	1.666 1.669 1.669	85.87 95.40 95.77	93.44 84.84 81.34	1.43 41.19 41.65	4.02 54.90 55.53	10.09 67.33 68.05	5.18 54.48 55.08	47.26 47.80 47.21	64.20 65.12 65.09	77.69 78.30 78.20	63.05 63.74 63.50	62.61 79.50 81.41	1.022 1.034 1.042	45.76 59.10 58.98	71.09 48.24 43.43	0.22 8.45 8.05	0.69 17.91 17.36	3.14 28.64 28.59	1.35 18.34 18.00	11.66 11.85 11.28	24.26 23.86 23.63	37.42 37.48 37.49	24.36 24.39 24.11
+MOP _{1.0K} +MiHo +MAGSAC _↑ +MAGSAC _↓	40.16 51.49 54.65	1.883 1.886 1.887	95.77 95.62 96.14	95.16 84.83 79.59	1.60 42.84 44.10	4.10 56.67 57.99	9.86 68.94 70.50	5.19 56.15 57.53	48.18 48.97 48.12	66.10 66.18 65.81	78.90 78.79 78.70	64.40 64.64 64.21	61.10 79.98 82.35	1.344 1.358 1.368	45.38 59.21 59.21	72.75 47.36 41.59	0.12 7.88 8.51	0.50 16.74 17.57	2.57 27.75 28.83	1.06 17.45 18.30	11.83 12.20 11.88	25.18 23.51 23.16	38.91 36.50 36.50	25.31 24.07 23.85
+MOP _{1.0K} +MiHo+NCC +MAGSAC _↑ +MAGSAC _↓	40.16 50.83 52.90	2.229 2.233 2.233	96.14 85.09 95.62 95.97	94.29 85.64 82.06	1.47 41.38 43.48	3.89 54.93 56.85	9.35 67.84 69.22	4.91 54.72 56.52	48.62 47.31 46.85	65.81 66.73 64.74 64.72	78.70 79.53 78.47 77.86	64.21 64.96 63.50 63.14	61.10 79.26 81.13	1.527 1.543 1.551	59.21 45.13 59.22 59.47	73.14 48.92 44.49	0.20 7.97 8.36	0.59 17.75 17.85	28.83 2.57 29.08 29.17	18.30 1.12 18.27 18.46	12.07 11.90 12.26	25.03 24.04 24.45	38.51 37.38 37.66	25.21 24.44 24.79
+MOP _{1.5K} +MiHo +MAGSAC _↑ +MAGSAC ₁	39.76 51.47 54.62	2.421 2.424 2.425	85.77 95.75 96.25	95.68 85.12 79.91	1.53 40.99 43.02	3.60 55.15 56.66	9.41 68.18 69.72	4.84 54.77 56.47	50.24 49.63 48.65	67.62 67.24 66.10	80.22 79.94 79.03	66.03 65.60 64.59	60.17 79.86 82.20	1.866 1.883 1.893	45.06 59.66 59.75	73.89 47.81 42.19	0.10 8.81 9.15	0.55 18.87 19.21	2.96 30.22 30.33	1.20 19.30 19.56	12.82 12.89 12.67	25.31 25.99 25.75	38.91 39.04 38.75	25.68 25.97 25.72
+MOP _{1.5K} +MiHo+NCC +MAGSAC _↑ +MAGSAC _↓	39.76 50.80 52.84	2.425 2.768 2.772 2.772	96.25 84.94 95.65 96.07	94.84 85.93 82.40	1.42 39.75 40.92	3.28 53.09 54.37	8.85 65.72 67.05	4.52 52.85 54.11	47.85 48.09 47.24	65.88 66.29 65.24	79.52 79.37	64.42 64.58 63.66	60.17 79.11 81.00	2.053 2.071 2.080	44.79 59.23 59.32	74.20 49.10 44.47	0.12 8.03 8.43	0.48 17.95	2.84 29.48 29.44	1.14 18.49	12.09 11.76	24.25 24.58 24.56	37.58 37.85 37.84	24.64 24.73 24.67
+MOP _{2.0K} +MiHo +MAGSAC _↑ +MAGSAC ₁	39.47 51.37 54.55	3.028 3.032 3.032	96.07 85.41 95.75	95.84 85.33	1.30 42.38	2.81 55.75	7.95 68.31	4.02 55.48	47.24 50.38 49.33	65.24 67.36 67.18	79.87 80.00	63.66 65.87 65.50	59.64 79.81 82.19	2.663 2.682 2.693	59.32 44.60 59.57	74.31 47.99 42.21	8.43 0.07 8.20	0.46 17.72	29.44 2.56 28.01	18.54 1.03 17.98	11.60 11.83 12.39 12.19	24.56 24.90 24.95	38.74 38.55 37.08	25.16 25.30 24.86
	39.47 50.72	3.429 3.433 3.433	96.24 84.57 95.64	94.97 86.06	43.11 1.15 40.76	2.55 54.01	7.35 66.70	3.69 53.82	48.94 47.56	65.99 67.06 65.56	79.05 80.60 79.02	65.53 64.05	59.64 79.00	2.693 2.926 2.945 2.955	59.62 44.45 59.25	74.87 49.46	0.07 8.02	0.43 17.42	29.35 2.55 28.31	1.02 17.92	13.08 12.47	24.42 25.33 25.08	37.98 39.05 38.32	25.82 25.29
+MOP _{0.5K} +MAGSAC† +MAGSACı	52.78 44.87 52.43 55.50	1.132 1.135 1.135	96.02 89.73 94.47	90.19 81.52 76.53	42.72 4.16 41.95 43.21	9.43 55.78 56.33	19.06 68.36 68.76	55.41 10.88 55.36 56.10	48.33 45.11 46.79 46.23	66.16 62.78 64.67 63.67	79.47 75.65 77.24 76.87	64.65 61.18 62.90 62.26	72.05 82.05 84.15	0.563 0.565 0.567	51.19 57.09 57.31	44.63 58.43 41.38 36.57	8.20 0.65 7.75 8.11	2.21 16.08 16.73	28.79 6.24 25.84 27.10	3.04 16.56 17.31	11.47 10.56 10.54 10.79	23.80 22.59 21.37 22.43	37.40 35.30 34.11 35.01	24.23 22.82 22.01 22.75
+MAGSAC _↓ +MOP _{0.5K} +NCC +MAGSAC _↑ +MAGSAC _↓	44.87 51.85	1.464 1.467	94.91 88.78 94.36	89.44 82.28	3.17 40.00	7.96 54.42	68.76 17.47 67.46	9.53 53.96	43.50 45.99	61.60 63.45	75.08 76.18	60.06 61.87	72.05 81.27	0.712 0.715	50.76 57.14	58.26 43.09	0.63 7.30	1.84 16.61	5.49 26.31	2.65 16.74	11.62 10.63	23.04 22.16	35.38 34.98	23.35 22.59
$+MAGSAC_{\downarrow}$ $+MOP_{1.0K}$ $+MAGSAC_{\uparrow}$ $+MAGSAC_{\downarrow}$	53.76 44.22 52.13	1.467 1.426 1.429	94.65 89.71 94.90	79.05 91.54 82.60	41.35 4.06 43.05	55.25 8.48 56.46	68.18 17.76 69.14	54.93 10.10 56.21	45.14 48.15 47.61	62.62 65.30 65.02	75.72 77.60 77.82	61.16 63.68 63.48	82.85 71.35 81.80	0.717 0.810 0.813	57.17 51.58 57.92	39.29 60.29 42.56	7.95 0.72 8.27	1.89 17.02	26.78 5.80 27.41	2.80 17.57	11.22 10.85 11.53	22.61 22.27 23.34	34.30 35.02 36.11	22.71 22.71 23.66
+MOP _{1.0K} +NCC +MAGSAC↑	55.26 44.22 51.51	1.430 1.761 1.764	95.30 88.78 94.85	77.47 90.75 83.39	3.35 40.18	7.28 54.38	69.30 16.21 67.41	8.95 53.99	45.99 44.93 47.33	64.04 63.10 64.97	77.37 76.51 77.42	62.47 61.52 63.24	83.90 71.35 80.97	0.815 0.963 0.966	58.03 51.13 57.81	37.59 60.09 44.22	8.97 0.76 8.07	17.83 1.81 16.92	28.21 5.68 26.61	2.75 17.20	11.28 11.81 11.80	23.18 23.55 23.77	36.08 35.86 36.51	23.52 23.74 24.03
$+MAGSAC_{\downarrow}$ $+MOP_{1.5K}$ $+MAGSAC_{\uparrow}$	53.47 43.99 51.99	1.765 1.701 1.704	95.14 89.85 95.08	80.06 92.21 83.20	40.42 4.32 43.38	54.84 8.91 56.80	68.08 18.00 69.59	54.44 10.41 56.59	45.32 46.85 48.00	63.15 64.12 65.25	76.81 77.12 78.08	61.76 62.70 63.78	82.60 71.14 81.66	0.968 1.035 1.038	57.91 52.13 58.30	40.35 61.15 43.05	8.36 0.75 8.30	2.63 17.63	27.14 6.79 28.01	3.39 17.98	11.81 11.53 11.24	23.56 23.57 23.38	36.15 36.51 36.20	23.84 23.87 23.61
+MAGSAC $_{\downarrow}$ +MOP _{1.5K} +NCC +MAGSAC $_{\uparrow}$	55.09 43.99 51.33	1.705 2.037 2.040	95.53 89.00 95.07	78.10 91.47 84.06	43.53 4.12 41.05	56.99 8.15 55.41	70.38 16.68 68.53	9.65 55.00	47.33 45.83 46.32	64.58 63.99 64.24	77.59 77.25 77.27	63.17 62.36 62.61	83.80 71.14 80.83	1.040 1.189 1.191	58.38 51.71 58.39	38.00 60.94 44.96	8.46 0.64 8.17	2.31 17.33	28.67 6.67 28.13	3.20 17.88	11.47 11.13 12.69	23.08 23.35 24.75	35.89 35.85 37.55	23.48 23.44 25.00
$+MAGSAC_{\downarrow}$ $+MOP_{2.0K}$ $+MAGSAC_{\uparrow}$	53.34 43.80 51.91	2.041 2.015 2.018	95.38 89.72 95.12	92.58 83.51	42.24 3.97 43.61	56.36 8.56 56.56	69.23 18.00 69.40	55.94 10.18 56.52	46.68 45.72 48.32	64.92 63.98 66.30	78.01 77.30 78.80	63.20 62.33 64.47	82.52 70.90 81.58	1.193 1.303 1.306	58.58 52.18 58.64	40.93 61.58 43.36	8.29 0.61 8.36	2.10 17.47	28.11 6.34 27.44	18.00 3.02 17.76	11.85 10.77 11.46	24.04 23.27 23.89	36.58 36.92 36.49	24.16 23.66 23.95
+MAGSAC↓ +MOP _{2.0K} +NCC +MAGSAC₄	55.00 43.80	2.019	95.56 88.83	78.42 91.80	3.39	58.26	70.78 16.62	9.20	47.87 47.12	65.35	78.15 78.30	63.79 63.51 63.54	83.78 70.90	1.308	58.68 51.81	38.05 61.44	8.45 0.56	17.71	28.09	18.09 3.09	11.19	23.23	36.05 36.78	23.49 24.14
+MAGSAC _↓	51.28 53.27	2.406 2.406	95.35 95.35	84.28 80.84	41.66 41.58	55.61 55.76	68.54	55.12 55.29	47.31 45.31	65.16 64.01	78.16 77.83	63.54 62.39	80.73 82.43	1.520 1.521	58.74 58.79	45.34 41.20	9.33	17.91 18.62	28.63 29.11	18.33 19.02	12.36 11.94	24.37 24.34	37.01 37.33	24.58 24.53