	MegaDepth							ScanNet								Planar							IMC PhotoTourism																									
Pipeline	Filtered	Precision	Recall	AUC ^F ₆₅	AUC ₀₁₀	AUC G 20	$\mathrm{AUC}_{\mathbb{Z}}^F$	AUC_{05}^{E}	AUCE 1	AUC ^E	AUC_{Z}^{E}	Filtere	d Precisio	n Recall	AUC ^F ₀₅	AUC ^F	AUC_{020}^F	AUC_{\angle}^F	AUC_{05}^E	AUC ^E	AUC_{02}^E	0 AUCZ	Filtere	ed Precisi	sion Recall	AUC ²	$_{5}$ AUC $_{010}^{H}$	AUC_{015}^{H}	AUC_{\square}^H	Filtered	Precision	Recall	AUC ^F ₆₅	AUC_{010}^F	$\mathrm{AUC}^F_{0:20}$	AUC_{\angle}^F	AUC_{05}^{E}	AUC_{010}^{E}	$\mathrm{AUC}^{\mathrm{E}}_{020}$	$\mathrm{AUC}_{\mathbb{Z}}^{E}$	AUCF 0(5,	$AUC_{0(10)}^F$	$_{1)}AUC_{6(20)}^{F}$	AUC^F_□	$AUC_{0(5,\frac{1}{2})}^{E}$	AUCE (19,	$_{,1)}$ AUC $_{0(20,2)}^{E}$	$_{,2)}$ AUC $_{\square}^{E}$
Key.Net+ARCA +MAGSAC† +MAGSAC↓	56.23 61.91	55.25 92.17 92.95	74.07 64.99	0.00 31.16 32.73	0.11 44.71 46.01	0.73 57.66 59.03	0.28 44.51 45.92	42.88 43.86 43.23	59.51 60.96 60.95	73.52 74.95 75.20	58.64 59.92 59.79	0.00 70.66 74.80	35.32 60.62 60.51	99.14 49.87 42.62	0.04 6.64 6.79	0.21 15.30 15.31	0.99 26.76 26.67	0.41 16.24 16.26	10.80 11.34 11.27	22.44 23.72 23.34	36.13 37.73 36.96	23.12 24.26 23.86	0.00 69.38 78.55	61.39 84.63 85.17	97.68 43.67 30.71	0.95 44.30 43.42	2.25 57.76 56.22		26.29 52.58 48.30	0.00.00	49.95 88.39 88.99	98.98 72.45 63.53	0.02 26.36 27.35	0.23 38.67 39.89		0.56 38.89 40.04	45.66 46.60 45.91	62.62 63.08 62.22	75.56 76.06 75.25	61.28 61.91 61.13	0.05 10.74 11.18	0.25 18.31 19.12	1.21 28.31 29.31	0.50 19.12 19.87	18.70 19.05 19.07	31.72 32.26 31.76	46.83 47.33 46.47	32.42 32.88 32.43
+ACNe +MAGSAC _† +MAGSAC _↓	44.49 58.65 63.78	88.17 94.88 95.58	63.78	8.62 30.43 30.17	21:30 46.57 46.24	41.20 61.87 61.54	23.71 46.29 45.98	40.36 42.14 41.35	58.93 60.52 60.17	74.72 75.64 75.38	58.00 59.43 58.97	57:15 74:24 77:67	64.54	71.79 46.79 40.44	2.02 6.48 6.37	7.79 15.98 15.65	20.16 29.50 29.15	9.99 17.32 17.06	10.62 10.22 10.79	23.07 22.97 23.47	38.42 37.94 38.72	24.04 23.71 24.33	39.88 73.41 81.25		76.36 38.13 26.91	24.14 38.58 38.11	52.75		44.39	52.28 63.20 67.49	87.51 93.91 94.41	85.05 69.45 61.66	6.64 28.19 28.92	18.32 43.55 44.28		20.94 43.70 44.37		63.55 63.38 63.54	76.53 76.53 76.74	62.10 61.93 62.11	2.53 10.72 11.09	6.48 19.35 19.87	13.77 30.83 31.25	7.59 20.30 20.74	17.55 17.34 17.42	30.72 30.40 30.78	46.48 46.29 46.58	31.58 31.34 31.59
+AdsLAM $+MAGSAC_{\uparrow}$ $+MAGSAC_{\downarrow}$	94.88 95.20	73.42 73.66	8.72 7.72 7.22	10.49 13.53 13.34	17.51 21.74 21.89	26.64 31.16 31.60	18.21 22.14 22.28	17.37 16.20 16.19	28.75 27.42 28.24	41.08 39.16 40.26	29.07 27.60 28.23	96.85 97.72 97.89	43.96 27.00 26.96	4.36 3.22 2.97	0.48 0.97 0.88	1.57 2.36 2.39	3.64 4.91 5.07	1.89 2.74 2.78	1.34 1.30 1.19	3.42 3.45 3.16	6.91 6.59 6.49	3.89 3.78 3.61	97.24 92.10 94.11	69.75 67.11 67.55		25.11 28.72 27.95	36.91 40.59 40.06	47.52	30.08 31.63 30.48	97.26 97.58 97.71	77.95 50.08 50.15	4.21 3.65 3.47	4.93 5.77 5.74	9.60 9.65	13.94 14.84 15.02	9.16 10.07 10.14	9.62 9.71	16.70 16.16 16.28	24.62 23.63 23.72	17.12 16.47 16.57	2.51 3.01 3.02	4.65 5.44 5.48	8.00 8.83 8.88	5.06 5.76 5.79	4.72 4.43 4.59	8.66 8.30 8.46	13.98 13.60 13.76	9.12 8.78 8.94
+CC +MAGSAC _† +MAGSAC _↓	43.30 59.28 64.27	95.09 95.75	88.13 69.70 61.71	11.50 31.74 31.42	21.36 46.30 45.98	35.48 60.39 60.42	22.78 46.14 45.94	40.40 39.37 40.28	58.24 57.69 58.31	72.72 73.04 73.49	57.12 56.70 57.36	44.18 76.00 79.11	58.68 65.09 65.11	74.80 42.71 37.20	1.60 4.39 4.40	4.71 10.73 11.01	11.09 20.06 20.52	5.80 11.73 11.98	7.92 7.45 7.56	17.28 17.56 17.75	29.67 30.01 30.19	18.29 18.34 18.50	18.88 69.24 78.60	75.06 84.47 85.03	96.56 43.38 30.41	37.88 43.41 43.48	51.71 87.64 57.00	59.03 64.18 63.63	52.12 48.65	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a	n/a n/a n/a
+CLNet $+MAGSAC_{\uparrow}$ $+MAGSAC_{\downarrow}$	61.14 66.01	87.22 94.55 95.26	84.85 66.88 59.00	1.64 21.38 21.69	4.47 34.44 35.25	13.39 49.38 50.33	6.50 35.07 35.76	35.36 36.03 35.45	54.49 54.96 54.64	71.23 71.26 71.06	53.69 54.08 53.71	70.26 79.49 82.09	62.57 65.69 65.51	52.58 37.92 33.11	0.50 2.05 2.00	1.91 6.53 6.37	6.20 14.79 14.38	2.87 7.79 7.58	6.39 6.49 6.73	16.33 16.00 16.03	29.00 28.70 28.05	17.24 17.06 16.94	31.70 69.95 78.99	76.53 84.08 84.89	86.03 42.18 29.78	28.22 43.11 43.01	41.82 56.52 56.05	48.50 62.29 61.99	51.14 51.02 47.71	54.46 65.27 69.33	88.22 94.04 94.51	81.60 65.61 58.20	4.23 22.16 22.54	9.42 35.31 35.60	18.91 50.71 50.78	10.85 36.06 36.31	41.23 41.78 41.57	59.06 59.57 59.26	73.19 73.63 73.34	57.83 58.33 58.06	1.04 8.36 8.47	2.59 15.50 15.69	6.04 25.17 25.33	3.22 16.35 16.50	15.03 15.24 15.04	27.23 27.49 27.26	42.40 42.72 42.48	28.22 28.48 28.26
+ConvMatch +MAGSAC† +MAGSAC↓	68.56 72.51	86.27 91.76 92.39	74.90 59.30 52.28	22.87	22:25 35:79 36:00	35.94 49.97 50.06	23.32 36.07 36.31	34.81 35.24 35.66	52.73 53.48 53.63	67.85 68.78 68.68	51.80 52.50 52.66	65.30 77.95 80.77	63.01 66.65 66.58	65.15 42.85 37.29	1.84 4.65 5.03	6.49 12.61 12.60	15.91 24.68 24.34	8.08 13.98 13.99	9.77 9.55	20.75 21.99 21.48	34.85 36.31 35.89	21.42 22.69 22.31	76.05 89.65 92.46	69.98 71.94 72.21		17.87 20.11 19.44	30.02 33.95 33.90	36.50 41.10 41.18	30.45 28.34 26.94	59.83 69.55 73.15	87.73 93.46 93.95	77.27 61.43 54.37	12.93 25.57 25.93	24.68 39.83 40.14	40.62 54.95 55.28	26.08 40.12 40.45	42.33 42.61 42.91	59.58 59.99 60.22	73.26 73.75 73.76	58.39 58.78 58.97	3.64 8.63 8.72	8-29 16-43 16-58	16.30 27.13 27.41	9.41 17.40 17.57	14.39 14.44 14.67	27.02 27.02 27.42	42.90 43.04 43.33	28.10 28.17 28.47
+DeMatch +MAGSAC† +MAGSAC↓	64.47 68.90	87.83 94.67 95.29	55.81	21.56	19.34 34.72 35.12	32.64 49.46 49.69	20.59 35.25 35.64	34.20 34.55 35.30	53.24 53.75 54.36	69.86 70.61 70.76	52.43 52.97 53.47	65.89 78.37 81.18	65.71		1.37 4.10 4.22	4.99 10.58 10.72	13.01 21.80 21.73	12.22	7.82 8.39 8.01	18.89 19.80 19.14	32.90 33.78 33.19	19.87 20.66 20.11	61.52 82.03 86.97	76.10 83.60 83.94	52.04 26.97 19.24	24.73 32.00 31.25	38.97 48.71 48.78	46.92 56.89 57.03	40.66 41.14 39.07	58.34 68.48 72.20	87.40 93.66 94.16	77.96 61.97 54.87		22.43 38.84 38.93	54.28		42.06	59.86	74.00 73.89 73.96	58.83 58.66 58.63	3.37 8.70 8.78	7.81 16.44 16.71	15.55 27.14 27.36	8.91 17.43 17.62	14.87 14.93 14.84	27.67 27.76 27.41		28.65 28.71 28.45
+FC-GNN +MAGSAC _† +MAGSAC _↓	54.82		84.27 80.97 78.76		24.83 89.82 60.66	40.23 78.04 78.36	26.41 50.30 60.06	47.31 46.52 47.06	64.37 63.96 63.97	77.49 77.35 77.16	63.06 62.61 62.73	72.49 75.83 77.10	67.84 69.67 69.71	49.91 45.03 42.76	3.67 8.05 8.86	9.09 17.36 17.93	17.87 29.32 30.10	10.21 18.25 18.80	12.12 11.92 11.70	25.21 24.42 24.90	39.24 38.96 39.15	25.52 25.10 25.25	36.22 52.89 61.49	81.78 84.58 85.02	85.89 65.55 53.93	37.34 40.89 40.73	50.20 54.65 54.47	56.91 61.89 61.65	57.59 55.75 52.69	56.45 59.11 60.24	92.47 95.43 95.65	79.84 76.76 74.71	12.10 37.30 37.99	20.06 51.60 52.12	64.83	21.11 51.24 51.06		67.30 67.11	78.99	06.27 05.84 65.67	5.77 17.26 17.54	27.49 27.91	30.14 39.61	10.60 27.98 28.35	21.55 21.26 21.14	35.83 35.36 35.10	51.20 50.95	35.89 35.94 35.73
+GMS +MAGSAC† +MAGSAC↓	65.89	81.82 86.38 86.94	67.79 53.61 47.51	8.34 31.42 31.31	15.81 44.19 43.87	27.97 56.25 55.99	17.38 43.95 43.72	35.72 36.95 37.85	51.47 52.12 53.13	64.65 64.73 65.44	50.61 51.27 52.14	78.99 85.31 87.09	55.69	33.96 24.85 21.95	1.39 3.20 3.22	4.18 8.03 7.92	9.24 15.13 14.74	4.94 8.78 8.62	5.40 5.14 5.20	12.01 12.53 12.19	21.93 21.96 21.34	13.12 13.21 12.91	50.28 76.67 83.45	72.06 76.05 76.57		33.04 37.87 37.82	46.20 49.18 49.11	52.22 54.50 54.53	47.11 42.74 40.66	64.39 72.42 75.52	84.36 86.59 86.98	57.23 46.86 41.87	5.43 21.75 21.78	11.18 32.52 32.68	44.14	12.32 32.80 32.96	33.11 33.73 33.56			47.16 47.48 47.38	9.24 9.36	4.75 15.85 16.08	9.20 24.50 24.67	5.39 16.53 16.70	13.39 13.38 13.34	23.39 23.60 23.36		24.11 24.42 24.16
+MS ² DG-Net +MAGSAC _† +MAGSAC _↓		92.06	54.24 43.00 38.10	0.00 22.64 22.55	0.12 36.06 36.59	0.63 51.09 51.91	0.25 36.60 37.02	30.49 30.13 30.74	47.29 46.88 48.00	62.76 63.08 63.66	46.85 46.70 47.47	64.34 81.94 84.09	52.34 64.02 63.83	55.52 34.44 30.25	0.00 3.02 3.31	0.08 8.09 8.73	0.64 16.79 17.24	9.30 9.76	6.56 6.29 6.72	15.37 15.20 15.72	27.44 27.10 27.63	16.46 16.20 16.69	72.55 88.95 91.89	70.11 83.71 84.14	36.57 18.20 13.58	0.00 25.45 24.01	0.00 43.55 44.00	52.39 52.81	9.14 34.90 33.60	65.93 76.63 79.27	76.79 88.14 88.61	58.20 46.25 41.18	0.04 19.52 19.83	0.23 31.17 31.56	1.61 44.42 44.91	0.63 31.70 32.10	33.17 32.82 32.81	49.87 49.30 49.17	64.12 63.70 63.52	49.05 48.61 48.50	0.02 6.48 6.58	0.13 12.86 12.92	0.86 21.75 22.00	0.34 13.70 13.83	11.03 11.14 11.23	21.44 21.28 21.35	35.41 35.02 34.88	22.63 22.48 22.49
+NCMNet +MAGSAC† +MAGSAC↓	60.83 65.73	87.41 94.64 95.34	85.76 67.61 59.69	2.12 22.05 21.63	5.11 35.06 35.12	14.01 50.41 50.59	7.08 35.84 35.78	35.81 35.22 36.74	55.26 54.28 55.35	71.41 70.94 71.37	54.16 53.48 54.48	69.70 78.97 81.56	61.60 64.38 64.37	52.19 37.65 33.04	0.99 2.82 3.09	3.15 7.77 7.89	8.35 16.48 16.37	4.17 9.02 9.12	7.30 6.66 6.77	16.54 16.61 16.42	29.33 28.99 28.76	17.72 17.42 17.32	31.96 69.96 79.05	76.36 84.05 84.62	85.87 42.36 29.90	29.62 43.31 42.98	42.18 56.47 56.45	48.66 62.72 62.79	51.58 51.22 48.03	53.75 64.75 68.88	88.72 94.31 94.81	83.73 67.13 59.50	5.70 22.87 23.15	11.61 35.99 36.36	21.98 51.09 51.35	13.10 36.65 36.96	42.39 42.22 42.21	60.06 59.92 59.81	73.95 73.92 73.85	58.80 58.68 58.62	1.35 8.24 8.47	3.32 15.26 15.64	7.26 25.10 25.34	3.98 16.20 16.48	15.39 15.11 15.57	27.89 27.40 27.67	43.17 42.61 42.62	28.82 28.37 28.62
+OANet +MAGSAC† +MAGSAC↓	68.16 74.91 77.96	94.58 95.18	56.89 47.17 41.75	6.92 16.44 16.54	16.05 29.12 29.10	29.29 45.18 45.19	17.42 30.25 30.28	31.55 31.15 30.08	50.09 49.81 49.48	67.06 67.11 66.48	49.57 49.36 48.68	81.07 86.20 87.64	59.83 61.84 61.71	35.22 26.14 23.32	1.53 2.66 2.95	5.36 7.62 7.82	12.83 16.60 16.96	6.58 8.96 9.24	5.17 6.05 5.72	13.09 14.67 14.36	25.28 26.06 26.02	14.51 15.59 15.37	81.87 90.61 98.05	75.55 83.61 83.96	28.75 15.81 11.62	11.50 22.97 23.03	20.23 38.35 38.18		21.35 31.11 29.90	72.65 77.50 79.98	90.84 94.11 94.55	55.55 46.80 41.79	10.32 18.15 18.43	19.84 31.05 31.28	32.79 45.95 46.27	20.98 31.72 31.99	35.31 35.19 35.43	53.37 53.32 53.35	68.83 68.73 68.73	52.50 52.41 52.50	2.42 5.54 5.58	6.06 11.46 11.63	12.57 20.52 20.84	7.01 12.50 12.68	11.13 10.86 11.08	21.91 21.84 21.94	36.70 36.80 36.75	23.25 23.17 23.26
+MOP +MAGSAC† +MAGSAC↓	57.18 62.56	93.60 94.27	93.61 72.89 64.33	3.12 37.06 37.53	7.31 51.23 52.07	16.46 64.60 65.39	8.96 50.96 51.66	44.94 44.58 44.39	62.08 62.30 61.60	75.46 75.78 75.20	60.83 60.89 60.40	54.02 74.24 77.90	56.65 64.17 64.28	74.07 46.86 40.36	7.52 7.37	2.80 16.13 15.94	8.53 27.38 27.62	4.01 17.01 16.98	11.61 11.73 12.02	24.05 23.78 24.36	37.72 37.75 38.10	24.46 24.42 24.83	26.64 69.50 78.72	75.28 84.36 84.71	91.72 43.06 30.16	36.71 43.68 43.14	50.38 87.47 57.22	57.54 63.80 63.77	59.09 52.00 48.57	46.48 61.42 66.08	84.12 92.39 92.94	89.41 70.71 62.58	3.70 30.65 31.31	8.60 43.87 44.70	17.47 57.33 58.06	9.92 43.95 44.69	46.71 46.72 46.52	63.00 62.92 62.77	75.32 75.27 75.19	61.68 61.64 61.50	1.48 13.41 13.44	3.50 22.07 22.38	7.52 32.56 33.10	4.17 22.68 22.97	18.74 18.92 18.65	32.04 32.05 31.83	47.37 47.28 47.07	32.71 32.75 32.52
+MOP+NCC +MAGSAC _↑ +MAGSAC _↓	51.89 54.75	94.45 94.89	95.58 83.19 78.53	2.84 39.24 40.65	6.66 52.89 54.38	15.22 65.44 66.91	8.24 52.52 53.98	48.20 45.81 46.94	63.32 64.47	77.62 76.81 77.45	63.67 61.98 62.95	54.02 70.95 73.64	56.59 64.92 65.06	74.81 53.70 48.80	0.82 8.09 8.44	2.71 18.04 18.41	8.26 29.90 30.40	3.93 18.68 19.08	13.47 13.68 13.00	26.77 26.94 26.04	41.34 40.86 40.28	27.20 27.16 26.44	26.64 48.10 56.51	78.54 84.24 84.74	74.70 63.01	36.82 41.97 41.58	50.46 56.68 57.06	57.84 63.58 64.15	61.16 59.23 56.45	46.48 58.21 60.63	83.71 93.07 93.47	89.89 77.51 73.23	3.09 32.59 33.68	7.61 45.61 46.72	16.23 58.38 59.35	8.98 45.53 45.59	51.38 50.14 49.96	67.04 66.05 65.79	78.40 77.79 77.43	65.60 64.66 64.39	1.24 14.58 15.23	3.21 23.49 24.18	6.94 33.88 34.82	3.80 23.98 24.74	21.50 20.90 20.60	35.67 34.64 34.38	51.31 50.18 50.12	35.24 35.03
+MOP+MiHo +MAGSAC† +MAGSAC↓	33.27 56.65 62.18	79.44 93.92 94.68	96.57 74.36 65.50	0.67 35.54 36.48	2.29 50.21 51.19	7.45 64.17 65.26	3.47 49.97 50.98	45.92 45.16 44.02	63.06 62.67 61.28	76.50 76.08 75.49	61.83 61.31 60.26	40.56 72.00 75.88	50.01 64.04 63.95	85.87 50.51 43.44	7.44 7.38	0.78 16.21 16.41	3.88 28.28 28.54	1.60 17.31 17.45	12.03 12.33 11.88	24.92 24.94 24.95	39.62 39.24 39.07	25.52 25.50 25.30	24.30 69.55 78.65	73.88 85.50 85.01	43.96	27.18 44.07 43.10	38.37 57.41 56.31	63.47 62.45		40.04 60.41 65.28	77.67 91.78 92.35	93.72 72.39 63.89	0.90 31.07 32.03	3.06 44.12 45.15	8.71 57.22 58.19	4.23 44.14 45.12	48.39 47.53 47.40	64.95 63.92 63.83	77.16 76.49 76.37	63.50 62.65 62.53	0.59 13.41 13.76	1.63 22.01 22.66	4.22 32.62 33.51	2.15 22.68 23.31	19.36 19.45 19.41	33.10 32.67 32.65	47.96	33.76 33.36 33.29
+MOP+MiHo+NCC +MAGSAC _↑ +MAGSAC _↓	51.30 54.20	80.15 94.96 95.46	98.83 85.05 80.34	0.74 39.85 41.33	2.37 53.77 55.20			49.28 47.93 47.69	65.82 65.33 65.18	79.35 78.47 78.46	65.05 63.91 63.77	40.56 68.69 71.64	50.18 65.17 65.23	87.84 58.15 52.50	0.07 8.42 8.32	0.55 18.68 18.93	31.09 31.37	19.54		27.80 27.62 27.15		28.19 27.85 27.60	24.30 47.43 55.55	77.76 85.08 85.42	78.33 66.94	27.82 41.97 42.29	38.87 56.99 57.02	63.70 63.65	57.47	40.04 57.08 59.71	77.40 92.61 93.07	94.30 79.57 74.90	0.85 32.06 33.17	2.93 45.07 46.13		4.10 44.99 46.03	52.72 51.24 50.93	67.20 66.83	79.78 78.92 78.62	65.78 65.46	0.54 14.33 14.81	1.57 23.02 23.70	4.11 33.47 34.27	2.07 23.61 24.26	21.80 21.20 21.14	35.34 35.33 35.15	51.17 50.79	35.92 35.90 35.69
+NCC +MAGSAC _↑ +MAGSAC _↓	52.85	54.90 92.79 93.49			0.11 44.41 46.84	0.72 56.42 59.19	0.27 44.20 46.39	46.11 45.02 44.59	63.14 62.50 62.55	76.30 76.23 76.40	61.85 61.25 61.18	0.00 68.79 72.41	35.09 61.24 61.25	54.00 47.54	7.20 7.42	0.19 16.52 17.01	0.98 28.58 28.85		11.06 11.95 12.23	23.39 24.91 25.18	37.59 39.30 39.45	24.01 25.39 25.62	0.00 58.94 68.01	61.91 84.17 84.64	59.09 46.78	0.98 42.51 42.62	2.27 57.24 56.56	64.02		57.39	49.27 88.54 89.17				1.43 49.96 51.40	0.56 37.70 39.11	48.33 47.55 46.85	64.23 63.48 62.86	76.47 76.07 75.58	63.01 62.36 61.76		0.26 17.96 18.99	1.21 27.46 28.62	0.51 18.68 19.63	19.94 19.65 19.52	33.43 32.55 32.34	47.78	34.09 33.33 33.07