Weighted by Observations - Optimal, Noisy

					No weight (original)						No weight-U (original)						No weight-U-Max (original)						Weighted						Weighted-U					
#	$\|\mathcal{G}\|$	% Obs	$\|O\|$	$\|G^*\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$
BLOCKS (156)	20.3	10	1.25	8.0	4.125	0.43	0.27	0.3	86.1	8.08	4.02	0.43	0.27	0.3	86.1	8.11	3.865	0.43	0.27	0.3	86.1	8.11	15.292	0.05	0.21	0.74	22.2	2.06	9.904	0.34	0.59	0.07	97.2	17.72
		30	3.08	3.97	4.118	0.42	0.24	0.35	75.0	3.64	4.091	0.41	0.37	0.22	88.9	7.67	3.86	0.41	0.37	0.22	88.9	7.67	12.849	0.19	0.22	0.59	50.0	1.61	8.552	0.2	0.78	0.03	100.0	17.28
		50	4.42	2.5	4.191	0.48	0.29	0.23	72.2	3.14	4.15	0.35	0.53	0.11	91.7	8.69	3.885	0.35	0.54	0.11	91.7	9.08	10.915	0.26	0.27	0.46	50.0	1.67	8.386	0.15	0.82	0.02	100.0	16.33
		70	6.67	1.94	4.177	0.75	0.16	0.09	91.7	2.19	4.33	0.51	0.43	0.06	94.4	5.36	3.854	0.46	0.48	0.06	94.4	6.72	10.56	0.42	0.21	0.37	72.2	1.36	6.738	0.18	0.81	0.01	100.0	13.72
		100	8.83	1.83	3.978	0.69	0.15	0.16	83.3	1.75	4.458	0.65	0.31	0.04	100.0	4.25	3.868	0.63	0.33	0.04	100.0	4.58	10.544	0.64	0.07	0.29	91.7	1.08	6.723	0.18	0.78	0.03	100.0	11.67
IPC-GRID (208)	7.5	10	1.63	2.71	1.636	0.82	0.09	0.09	91.7	2.75	1.669	0.8	0.11	0.09	91.7	2.94	1.72	0.8	0.11	0.09	91.7	2.94	8.158	0.29	0.2	0.52	33.3	1.15	7.053	0.38	0.53	0.09	87.5	5.31
		30	4.0	1.21	1.636	0.84	0.09	0.07	91.7	1.25	1.691	0.83	0.12	0.05	93.8	1.35	1.746	0.83	0.12	0.05	93.8	1.35	7.223	0.6	0.17	0.23	66.7	1.08	6.632	0.3	0.69	0.01	97.9	5.13
		50	6.19	1.13	1.645	0.88	0.09	0.03	97.9	1.4	1.685	0.88	0.1	0.02	97.9	1.44	1.761	0.88	0.1	0.02	97.9	1.44	7.103	0.73	0.14	0.14	83.3	1.13	6.373	0.35	0.65	0.0	100.0	4.6
		70	8.69	1.04	1.649	0.94	0.05	0.01	97.9	1.17	1.694	0.92	0.07	0.01	97.9	1.21	1.846	0.92	0.07	0.01	97.9	1.21	7.098	0.93	0.03	0.04	95.8	1.02	6.378	0.43	0.57	0.0	100.0	3.77
		100	11.88	1.0	1.656	0.97	0.03	0.0	100.0	1.06	1.714	0.97	0.03	0.0	100.0	1.06	1.873	0.97	0.03	0.0	100.0	1.06	7.113	1.0	0.0	0.0	100.0	1.0	6.411	0.55	0.45	0.0	100.0	2.38
LOGISTICS (156)	10.0	10	2.0	2.83	1.899	0.75	0.21	0.04	94.4	4.06	1.902	0.71	0.25	0.04	94.4	4.47	1.899	0.71	0.25	0.04	94.4	4.47	9.321	0.38	0.24	0.37	52.8	2.36	7.903	0.28	0.72	0.0	100.0	10.0
		30	5.75	1.19	1.903	0.8	0.2	0.01	97.2	1.78	1.897	0.67	0.33	0.0	100.0	2.67	1.898	0.67	0.33	0.0	100.0	2.67	9.36	0.63	0.25	0.12	75.0	1.5	7.816	0.12	0.88	0.0	100.0	9.89
		50	9.42	1.06	1.904	0.88	0.11	0.01	97.2	1.31	1.9	0.79	0.2	0.01	97.2	1.61	1.904	0.79	0.2	0.01	97.2	1.61	8.848	0.76	0.17	0.07	86.1	1.36	7.814	0.11	0.89	0.0	100.0	9.64
		70	13.25	1.03	1.904	0.96	0.04	0.0	100.0	1.11	1.901	0.89	0.11	0.0	100.0	1.39	1.906	0.89	0.11	0.0	100.0	1.39	8.079	0.96	0.03	0.01	97.2	1.06	7.821	0.14	0.86	0.0	100.0	9.11
		100	18.17	1.0	1.911	1.0	0.0	0.0	100.0	1.0	1.903	0.96	0.04	0.0	100.0	1.08	1.903	0.96	0.04	0.0	100.0	1.08	7.809	0.96	0.04	0.0	100.0	1.08	7.931	0.2	0.8	0.0	100.0	7.83
MICONIC (156)	6.0	10	2.0	2.53	1.196	0.77	0.15	0.08	91.7	2.81	1.198	0.77	0.15	0.08	91.7	2.81	1.196	0.77	0.15	0.08	91.7	2.81	5.965	0.47	0.2	0.33	69.4	2.08	5.991	0.42	0.58	0.0	100.0	6.0
		30	5.42	1.22	1.195	0.74	0.19	0.07	88.9	1.58	1.198	0.67	0.33	0.0	100.0	2.58	1.197	0.67	0.33	0.0	100.0	2.58	5.976	0.66	0.23	0.1	83.3	1.58	5.97	0.2	0.8	0.0	100.0	6.0
		50	8.42	1.06	1.196	0.88	0.1	0.03	94.4	1.19	1.198	0.59	0.41	0.0	100.0	2.39	1.197	0.59	0.41	0.0	100.0	2.42	5.979	0.85	0.13	0.02	97.2	1.33	5.964	0.18	0.82	0.0	100.0	6.0
		70	11.92	1.0	1.195	0.88	0.09	0.03	94.4	1.14	1.197	0.61	0.37	0.01	97.2	2.11	1.198	0.61	0.37	0.01	97.2	2.11	5.963	0.87	0.12	0.01	97.2	1.22	6.037	0.17	0.83	0.0	100.0	6.0
		100	16.33	1.0	1.199	0.88	0.13	0.0	100.0	1.25	1.199	0.75	0.25	0.0	100.0	2.08	1.196	0.75	0.25	0.0	100.0	2.08	5.987	1.0	0.0	0.0	100.0	1.0	5.985	0.17	0.83	0.0	100.0	5.92
ROVERS (156)	6.0	10	1.67	2.28	1.276	0.63	0.24	0.13	83.3	2.97	1.275	0.63	0.24	0.13	83.3	2.97	1.274	0.63	0.24	0.13	83.3	2.97	6.495	0.39	0.26	0.34	61.1	1.97	6.511	0.38	0.62	0.0	100.0	6.0
		30	3.67	1.31	1.275	0.71	0.21	0.08	80.6	1.69	1.276	0.7	0.23	0.07	83.3	1.81	1.28	0.7	0.23	0.07	83.3	1.81	6.475	0.58	0.29	0.13	77.8	1.78	6.476	0.22	0.78	0.0	100.0	6.0
		50	5.75	1.19	1.276	0.73	0.14	0.13	77.8	1.28	1.275	0.72	0.2	0.08	86.1	1.67	1.276	0.72	0.2	0.08	86.1	1.67	6.456	0.8	0.1	0.11	86.1	1.19	6.463	0.21	0.79	0.0	100.0	5.86
		70	8.17	1.0	1.277	0.8	0.13	0.07	86.1	1.14	1.276	0.77	0.22	0.01	97.2	1.5	1.277	0.77	0.22	0.01	97.2	1.5	6.408	0.84	0.12	0.04	91.7	1.17	5.955	0.21	0.79	0.0	100.0	5.19
		100	10.83	1.0	1.277	0.96	0.04	0.0	100.0	1.08	1.28	0.9	0.1	0.0	100.0	1.25	1.276	0.9	0.1	0.0	100.0	1.25	6.45	1.0	0.0	0.0	100.0	1.0	5.995	0.24	0.76	0.0	100.0	4.58
SATELLITE (93)	6.0	10	1.42	3.53	1.09	0.81	0.14	0.05	94.4	3.89	1.09	0.81	0.14	0.05	94.4	3.89	1.091	0.81	0.14	0.05	94.4	3.89	-	-	-	-	-	-	-	-				
		30	3.42	2.39	1.092	0.78	0.12	0.1	83.3	2.44	1.091	0.76	0.16	0.09	83.3	2.72	1.089	0.75	0.16	0.09	83.3	2.78	-	-	-	-	-	-	-	-				
		50	5.75	1.58	1.094	0.71	0.2	0.09	83.3	2.0	1.091	0.63	0.32	0.05	91.7	3.03	1.09	0.63	0.32	0.05	91.7	3.03	-	-	-	-	-	-	-	-				
		70	8.08	1.31	1.094	0.76	0.18	0.06	91.7	1.64	1.092	0.59	0.35	0.06	91.7	2.61	1.094	0.59	0.36	0.06	91.7	2.69	-	-	-	-	-	-	-	-				
		100	10.75	1.25	1.095	0.79	0.14	0.07	91.7	1.42	1.087	0.69	0.24	0.07	91.7	1.83	1.086	0.69	0.24	0.07	91.7	1.83	-	-	-	-	-	-	-	-				
SOKOBAN (156)	8.7	10	2.33	2.11	3.24	0.35	0.38	0.27	52.8	2.78	3.242	0.33	0.47	0.2	69.4	4.03	3.241	0.33	0.47	0.2	69.4	4.03	13.81	0.26	0.32	0.42	38.9	1.67	9.126	0.26	0.74	0.01	100.0	8.25
		30	6.5	1.25	3.189	0.61	0.23	0.16	75.0	1.53	3.188	0.47	0.48	0.05	91.7	3.25	3.195	0.47	0.48	0.05	91.7	3.25	12.549	0.71	0.12	0.17	80.6	1.11	7.937	0.16	0.84	0.0	100.0	8.11
		50	10.33	1.22	3.184	0.61	0.3	0.09	88.9	2.72	3.181	0.42	0.55	0.03	94.4	4.97	3.186	0.42	0.55	0.03	94.4	5.03	12.091	0.86	0.03	0.12	94.4	1.03	7.843	0.16	0.83	0.01	100.0	7.81
		70	14.67	1.03	3.167	0.65	0.31	0.04	94.4	3.44	3.165	0.5	0.5	0.0	100.0	4.56	3.165	0.5	0.5	0.0	100.0	4.58	11.125	0.99	0.0	0.01	100.0	1.0	7.83	0.19	0.81	0.0	100.0	6.97
		100	20.17	1.0	3.174	0.77	0.19	0.04	91.7	2.5	3.176	0.64	0.36	0.0	100.0	3.75	3.175	0.64	0.36	0.0	100.0	3.75	9.407	0.92	0.04	0.04	91.7	1.0	7.833	0.38	0.62	0.0	100.0	5.33
Average					2.06	0.75	0.16	0.08	89.17	2.18	2.079	0.68	0.27	0.06	93.75	3.12	2.045	0.68	0.27	0.06	93.75	3.18	7.469	0.57	0.12	0.17	67.02	1.16	6.124	0.21	0.64	0.01	85.22	6.81

Table 1: Results for weighted observation sequences, with optimal observations. Each observation ω_i receives weight i.

Weighted by Observations - Suboptimal, Noisy

					No weight (original)						No weight-U (original)						No weight-U-Max (original)						Weighted						Weighted-U					
#	$\|\mathcal{G}\|$	% Obs	$\|O\|$	$\|G^*\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$	Time	AR	FPR	FNR	Acc	$\|S\|$
BLOCKS (156)	20.3	10	1.42	7.61	4.853	0.4	0.29	0.31	77.8	8.11	4.847	0.4	0.32	0.28	80.6	8.83	4.857	0.4	0.32	0.28	80.6	8.83	15.414	0.07	0.2	0.72	22.2	2.22	9.905	0.33	0.59	0.08	91.7	17.03
		30	3.83	3.58	4.854	0.38	0.27	0.35	63.9	3.17	4.856	0.34	0.47	0.19	91.7	9.31	4.855	0.34	0.47	0.19	91.7	9.31	12.916	0.17	0.34	0.49	55.6	2.28	8.555	0.18	0.81	0.02	100.0	18.97
		50	5.92	3.19	4.857	0.49	0.23	0.28	80.6	3.22	4.864	0.3	0.6	0.1	100.0	9.33	4.858	0.27	0.63	0.1	100.0	9.89	10.948	0.29	0.24	0.47	63.9	1.64	8.443	0.15	0.83	0.02	100.0	18.61
		70	8.5	2.53	4.853	0.51	0.19	0.29	69.4	2.11	4.858	0.35	0.59	0.07	100.0	9.11	4.864	0.33	0.6	0.07	100.0	9.75	10.435	0.34	0.26	0.39	72.2	1.75	6.743	0.13	0.85	0.02	100.0	18.03
		100	11.83	2.25	4.87	0.66	0.17	0.17	91.7	2.08	4.814	0.58	0.29	0.13	100.0	3.67	4.876	0.53	0.34	0.13	100.0	4.42	10.364	0.48	0.15	0.37	91.7	1.33	6.71	0.28	0.69	0.03	100.0	11.83
IPC-GRID (208)	7.5	10	2.06	1.58	1.994	0.64	0.25	0.12	87.5	2.29	1.998	0.6	0.31	0.09	91.7	3.02	1.996	0.6	0.31	0.09	91.7	3.02	8.183	0.32	0.29	0.39	43.8	1.21	7.08	0.26	0.67	0.07	87.5	5.25
		30	5.56	1.4	2.0	0.81	0.12	0.07	100.0	1.4	1.998	0.73	0.23	0.05	100.0	2.04	1.996	0.72	0.23	0.05	100.0	2.15	7.227	0.56	0.17	0.27	66.7	1.02	6.599	0.24	0.7	0.06	95.8	5.08
		50	8.88	1.35	2.002	0.79	0.1	0.11	91.7	1.17	2.001	0.75	0.21	0.03	100.0	1.73	2.002	0.75	0.21	0.03	100.0	1.73	7.086	0.71	0.12	0.17	83.3	1.08	6.405	0.29	0.67	0.04	100.0	4.9
		70	12.56	1.31	2.003	0.87	0.05	0.08	100.0	1.1	2.003	0.75	0.19	0.06	100.0	1.44	2.003	0.75	0.19	0.06	100.0	1.44	7.108	0.87	0.03	0.1	95.8	1.04	6.41	0.34	0.61	0.05	100.0	4.31
		100	17.25	1.5	2.01	0.88	0.06	0.06	100.0	1.13	2.006	0.74	0.2	0.06	100.0	1.5	2.009	0.74	0.2	0.06	100.0	1.5	7.112	0.85	0.06	0.09	93.8	1.06	6.391	0.4	0.54	0.06	100.0	3.25
LOGISTICS (156)	10.0	10	2.67	2.0	2.231	0.79	0.2	0.01	100.0	3.33	2.232	0.75	0.24	0.01	100.0	3.72	2.23	0.75	0.24	0.01	100.0	3.72	9.363	0.44	0.2	0.35	50.0	1.67	7.787	0.2	0.8	0.0	100.0	10.0
		30	7.5	1.14	2.237	0.83	0.17	0.0	100.0	1.56	2.234	0.67	0.33	0.0	100.0	3.11	2.237	0.67	0.33	0.0	100.0	3.11	9.335	0.67	0.21	0.12	75.0	1.47	7.894	0.11	0.89	0.0	100.0	10.0
		50	11.92	1.06	2.235	0.79	0.18	0.03	94.4	1.47	2.234	0.68	0.32	0.0	100.0	2.44	2.236	0.68	0.32	0.0	100.0	2.44	8.995	0.87	0.09	0.04	91.7	1.17	7.836	0.11	0.89	0.0	100.0	9.78
		70	16.67	1.03	2.242	0.94	0.06	0.0	100.0	1.17	2.234	0.82	0.18	0.0	100.0	1.56	2.24	0.82	0.18	0.0	100.0	1.56	8.08	0.91	0.05	0.04	91.7	1.06	7.846	0.13	0.87	0.0	100.0	9.19
		100	23.17	1.0	2.245	1.0	0.0	0.0	100.0	1.0	2.235	0.9	0.1	0.0	100.0	1.25	2.235	0.9	0.1	0.0	100.0	1.25	7.795	0.96	0.04	0.0	100.0	1.08	7.779	0.18	0.82	0.0	100.0	8.75
MICONIC (156)	6.0	10	3.0	1.83	1.42	0.69	0.28	0.03	91.7	2.83	1.419	0.65	0.33	0.02	94.4	3.28	1.417	0.65	0.33	0.02	94.4	3.28	5.987	0.61	0.13	0.25	66.7	1.5	6.01	0.31	0.69	0.0	100.0	6.0
		30	7.67	1.25	1.422	0.69	0.22	0.09	88.9	1.58	1.42	0.43	0.55	0.01	100.0	3.78	1.42	0.43	0.55	0.01	100.0	3.78	5.979	0.66	0.19	0.15	77.8	1.31	6.006	0.21	0.79	0.0	100.0	6.0
		50	12.25	1.03	1.422	0.79	0.13	0.07	86.1	1.17	1.421	0.5	0.5	0.0	100.0	3.14	1.422	0.5	0.5	0.0	100.0	3.14	6.012	0.83	0.11	0.06	88.9	1.14	6.031	0.17	0.83	0.0	100.0	6.0
		70	17.33	1.0	1.422	0.81	0.13	0.06	88.9	1.19	1.422	0.37	0.63	0.0	100.0	3.5	1.421	0.37	0.63	0.0	100.0	3.5	5.987	0.9	0.09	0.01	97.2	1.17	5.994	0.17	0.83	0.0	100.0	6.0
		100	24.0	1.0	1.427	0.92	0.04	0.04	91.7	1.0	1.419	0.57	0.43	0.0	100.0	2.83	1.423	0.57	0.43	0.0	100.0	2.83	6.038	0.96	0.04	0.0	100.0	1.08	5.871	0.17	0.83	0.0	100.0	6.0
ROVERS (156)	6.0	10	1.83	2.39	1.537	0.73	0.18	0.09	80.6	3.0	1.537	0.74	0.18	0.08	83.3	3.03	1.539	0.74	0.18	0.08	83.3	3.03	6.443	0.45	0.2	0.35	75.0	1.92	6.47	0.4	0.6	0.0	100.0	6.0
		30	4.5	1.39	1.539	0.82	0.09	0.08	83.3	1.39	1.538	0.66	0.27	0.07	86.1	2.28	1.543	0.66	0.27	0.07	86.1	2.28	6.474	0.61	0.19	0.2	77.8	1.36	6.457	0.23	0.77	0.0	100.0	5.94
		50	7.17	1.11	1.536	0.72	0.18	0.11	77.8	1.28	1.533	0.61	0.33	0.06	86.1	2.06	1.538	0.61	0.33	0.06	86.1	2.06	6.503	0.71	0.19	0.11	83.3	1.31	6.505	0.19	0.81	0.0	100.0	5.86
		70	10.0	1.06	1.538	0.81	0.13	0.06	86.1	1.22	1.556	0.64	0.35	0.01	97.2	2.33	1.542	0.64	0.35	0.01	97.2	2.36	6.472	0.87	0.09	0.04	94.4	1.17	5.96	0.2	0.8	0.0	100.0	5.58
		100	13.67	1.0	1.54	0.88	0.08	0.04	91.7	1.08	1.542	0.83	0.17	0.0	100.0	1.58	1.542	0.83	0.17	0.0	100.0	1.58	6.457	1.0	0.0	0.0	100.0	1.0	5.953	0.3	0.7	0.0	100.0	4.42
SATELLITE (93)	6.0	10	2.0	3.25	1.288	0.74	0.19	0.07	88.9	3.86	1.287	0.75	0.19	0.06	88.9	3.89	1.287	0.75	0.19	0.06	88.9	3.89	-	-	-	-	-	-	-	-				
		30	4.33	1.78	1.286	0.61	0.28	0.11	77.8	2.33	1.285	0.6	0.36	0.05	91.7	3.36	1.287	0.6	0.36	0.05	91.7	3.36	-	-	-	-	-	-	-	-				
		50	6.75	1.36	1.287	0.7	0.24	0.06	86.1	1.83	1.286	0.54	0.43	0.03	94.4	3.33	1.284	0.54	0.43	0.03	94.4	3.33	-	-	-	-	-	-	-	-				
		70	9.42	1.33	1.29	0.67	0.28	0.05	91.7	2.08	1.288	0.55	0.44	0.01	100.0	3.53	1.288	0.51	0.48	0.01	100.0	3.78	-	-	-	-	-	-	-	-				
		100	12.75	1.25	1.287	0.92	0.08	0.0	100.0	1.42	1.292	0.73	0.27	0.0	100.0	2.5	1.291	0.71	0.29	0.0	100.0	2.67	-	-	-	-	-	-	-	-				
SOKOBAN (156)	8.7	10	3.33	1.83	3.85	0.41	0.29	0.3	52.8	1.92	3.848	0.35	0.45	0.2	69.4	3.67	3.848	0.35	0.45	0.2	69.4	3.67	13.861	0.4	0.25	0.35	55.6	1.33	9.007	0.23	0.77	0.0	100.0	8.17
		30	8.67	1.28	3.818	0.64	0.21	0.15	80.6	2.14	3.816	0.4	0.59	0.02	97.2	5.19	3.82	0.39	0.59	0.02	97.2	5.22	12.417	0.64	0.19	0.18	83.3	1.31	7.926	0.16	0.84	0.0	100.0	8.14
		50	13.75	1.33	3.817	0.54	0.27	0.19	75.0	2.08	3.818	0.38	0.56	0.06	88.9	4.69	3.816	0.38	0.56	0.06	88.9	4.69	12.257	0.72	0.1	0.17	91.7	1.19	8.004	0.2	0.8	0.0	100.0	7.81
		70	19.33	1.36	3.805	0.5	0.38	0.12	88.9	4.0	3.807	0.27	0.66	0.07	94.4	6.0	3.804	0.27	0.66	0.07	94.4	6.0	11.115	0.68	0.1	0.22	86.1	1.17	8.004	0.19	0.79	0.03	100.0	7.5
		100	27.0	1.33	3.82	0.47	0.45	0.08	91.7	4.67	3.815	0.33	0.63	0.04	91.7	5.67	3.814	0.33	0.63	0.04	91.7	5.67	9.501	0.79	0.03	0.18	91.7	1.0	7.563	0.32	0.68	0.0	100.0	6.67
Average					2.452	0.71	0.19	0.11	87.34	2.18	2.45	0.58	0.37	0.05	95.08	3.76	2.453	0.57	0.37	0.05	95.08	3.83	7.482	0.55	0.12	0.18	67.62	1.14	6.118	0.19	0.65	0.01	85.0	7.17

Table 2: Results for weighted observation sequences, with suboptimal observations. Each observation ω_i receives weight i.