

Table 1: Average speedup on small-sized  $\mathbb{X}$  instances.

Instance	FILO2 <sup>x</sup>										FILO2 <sup>x</sup> (long)									
	2	3	4	5	6	7	8	9	10	2	3	4	5	6	7	8	9	10	2	3
X-n101-k25	1.75	2.71	3.32	4.30	5.02	5.45	6.46	6.75	7.06	1.86	2.73	3.55	4.35	5.06	5.67	6.38	6.96	7.31		
X-n106-k14	1.73	2.59	3.32	3.93	4.62	4.99	5.88	6.37	7.15	1.71	2.54	3.12	3.82	4.36	5.14	5.46	5.98	6.61		
X-n110-k13	1.74	2.51	3.21	3.96	4.46	4.88	5.51	6.16	6.34	1.72	2.47	3.15	3.79	4.33	4.82	5.32	5.78	6.11		
X-n115-k10	1.73	2.47	3.18	3.83	4.48	4.96	5.40	5.99	6.11	1.72	2.46	3.14	3.77	4.28	4.76	5.22	5.66	5.97		
X-n120-k6	1.73	2.45	3.12	3.75	4.25	4.68	5.24	5.57	5.85	1.71	2.45	3.09	3.69	4.20	4.63	5.11	5.50	5.83		
X-n125-k30	1.73	2.57	3.13	3.59	4.25	5.39	6.55	6.74	7.03	1.83	2.74	3.67	4.29	5.05	5.11	6.49	6.90	7.70		
X-n129-k18	1.83	2.65	3.24	4.31	4.94	6.06	6.83	7.21	7.30	1.81	2.61	3.36	4.03	4.79	5.42	6.18	6.63	6.78		
X-n134-k13	1.73	2.50	3.21	3.88	4.46	5.08	5.48	6.25	6.31	1.74	2.46	3.09	3.85	4.38	4.71	5.41	5.86	6.06		
X-n139-k10	1.73	2.48	3.14	3.78	4.28	4.83	5.28	5.82	5.99	1.72	2.44	3.08	3.71	4.25	4.68	5.17	5.63	5.99		
X-n143-k7	1.82	2.63	3.35	3.78	4.34	4.93	5.34	5.82	5.77	1.77	2.72	3.08	3.62	4.08	4.52	5.18	5.53	5.90		
X-n148-k46	1.72	2.57	3.07	4.19	4.85	4.89	5.88	6.08	6.91	1.89	2.73	3.59	4.43	5.04	5.77	6.46	6.88	7.57		
X-n153-k22	1.93	2.33	2.86	3.34	4.23	4.49	4.63	4.81	5.24	1.68	2.30	2.76	3.36	3.96	4.25	4.34	4.76	5.41		
X-n157-k13	1.55	2.21	2.79	3.11	3.50	3.93	4.27	4.45	4.68	1.63	2.30	2.82	3.27	3.70	4.00	4.40	4.61	4.90		
X-n162-k11	1.59	2.23	3.11	3.26	3.60	4.17	4.20	4.59	4.71	1.66	2.29	2.74	3.36	3.75	3.87	4.19	4.68	4.81		
X-n167-k10	1.67	2.54	3.35	4.03	4.71	4.86	5.65	6.12	6.99	1.74	2.52	3.40	3.99	4.54	5.13	5.49	5.92	6.22		
X-n172-k51	1.92	2.75	3.68	4.41	4.75	5.37	5.75	6.52	7.30	1.86	2.68	3.34	4.24	4.93	5.54	6.11	6.56	7.09		
X-n176-k26	1.59	2.33	2.78	3.94	4.10	4.39	5.10	5.21	5.43	1.66	2.45	3.11	3.50	3.94	4.94	4.76	5.13	5.49		
X-n181-k23	1.57	2.30	2.83	3.40	3.77	4.32	4.71	5.00	5.36	1.65	2.33	2.85	3.47	3.90	4.37	4.67	5.14	5.45		
X-n186-k15	1.89	2.50	3.23	4.14	4.53	5.13	5.65	6.15	6.82	1.75	2.39	3.09	3.81	4.28	4.62	5.07	5.46	5.71		
X-n190-k8	1.69	2.09	2.72	3.63	3.77	4.51	4.91	5.18	5.71	1.73	2.43	2.96	3.72	4.00	4.63	4.91	5.31	5.69		
X-n195-k51	1.63	2.32	3.12	3.92	4.61	4.87	5.52	6.05	6.28	1.93	2.77	3.59	4.48	5.01	5.48	5.86	6.28	7.20		
X-n200-k36	1.69	2.44	3.21	3.77	4.20	4.48	5.69	5.52	6.58	1.92	2.66	3.71	4.26	5.25	5.54	5.77	6.70	7.26		
X-n204-k19	1.63	2.23	3.02	3.55	3.98	4.38	4.42	4.96	5.31	1.72	2.42	3.07	3.68	4.19	4.56	5.11	5.42	5.70		
X-n209-k16	1.75	2.30	2.99	3.60	4.10	4.13	5.05	5.56	5.81	1.70	2.58	3.25	3.70	4.25	4.97	5.32	5.78	5.83		
X-n214-k11	1.75	2.40	3.22	3.79	4.07	4.48	4.88	5.54	5.67	1.81	2.45	3.12	3.94	4.23	4.75	5.28	5.65	5.99		
X-n219-k73	1.77	2.62	3.38	4.12	4.79	5.74	6.06	6.59	7.29	1.79	2.64	3.46	4.15	4.84	5.64	6.17	6.75	7.42		
X-n223-k34	1.69	2.53	3.29	3.89	4.57	4.84	5.68	6.10	6.96	1.69	2.52	3.17	3.84	4.38	4.85	5.41	6.00	6.24		
X-n228-k23	1.71	2.37	3.04	3.52	4.19	4.41	4.83	5.34	5.39	1.73	2.36	3.17	3.73	4.28	4.43	5.12	5.21	5.76		
X-n233-k16	1.54	2.18	2.99	3.57	4.13	4.22	5.25	5.16	5.51	1.81	2.49	3.37	3.95	4.53	4.89	5.56	5.68	6.44		
X-n237-k14	1.61	2.32	2.95	3.57	4.29	4.63	5.07	5.60	5.53	1.68	2.31	2.96	3.61	4.17	4.41	5.02	5.30	5.38		
X-n242-k48	2.01	2.76	3.68	4.57	5.00	5.66	6.60	7.36	7.19	1.82	2.53	3.17	4.13	4.81	5.10	5.67	6.63	6.91		
X-n247-k50	1.69	2.46	3.08	3.72	4.25	4.67	5.29	5.53	5.69	1.78	2.46	3.29	3.92	4.35	5.21	5.36	5.61	6.36		
Mean	1.71	2.44	3.14	3.79	4.32	4.80	5.34	5.75	6.09	1.75	2.50	3.18	3.83	4.37	4.85	5.33	5.75	6.15		

Table 2: Average speedup on medium-sized  $\mathbb{X}$  instances.

Instance	FILO2 <sup>x</sup>										FILO2 <sup>x</sup> (long)									
	2	3	4	5	6	7	8	9	10	2	3	4	5	6	7	8	9	10		
X-n251-k28	1.75	2.64	3.19	3.84	4.59	5.20	5.29	6.06	6.30	1.67	2.24	3.21	3.91	4.11	4.60	5.46	5.93	5.98		
X-n256-k16	1.60	2.32	2.79	3.40	3.84	4.11	4.53	4.97	5.11	1.61	2.18	2.79	3.31	3.72	4.04	4.35	4.72	4.99		
X-n261-k13	1.57	2.36	2.99	3.50	4.25	4.35	4.98	5.17	5.59	1.91	2.54	3.15	3.68	4.18	4.44	5.18	5.56	5.81		
X-n266-k58	1.76	2.77	3.32	4.04	4.43	5.54	5.85	5.90	6.83	1.75	2.26	3.07	3.72	4.46	4.94	5.23	5.79	6.57		
X-n270-k35	1.71	2.39	2.88	3.63	4.22	4.51	5.24	5.35	5.83	1.77	2.59	3.24	4.02	4.52	5.25	5.48	5.99	6.29		
X-n275-k28	1.66	2.48	3.09	3.63	4.20	4.75	5.32	5.66	6.00	1.71	2.53	3.13	3.86	4.28	4.81	5.19	5.75	6.08		
X-n280-k17	1.64	2.26	2.74	3.16	3.70	3.95	4.53	4.87	4.74	1.55	2.19	2.52	3.15	3.69	4.01	4.40	4.61	4.95		
X-n284-k15	1.67	2.47	3.48	3.86	4.74	5.23	5.96	6.14	6.40	1.70	2.47	3.24	3.79	4.42	4.74	5.29	5.70	5.89		
X-n289-k60	1.91	2.84	3.50	4.30	4.62	5.42	5.84	6.38	7.38	1.83	2.67	3.71	4.51	5.28	6.27	6.37	8.08			
X-n294-k50	1.89	2.66	3.41	4.02	4.59	5.00	5.42	5.84	6.34	1.72	2.50	3.14	3.99	4.75	5.10	5.48	5.90	6.38		
X-n298-k31	1.71	2.59	3.22	3.98	4.42	5.03	5.54	6.00	6.08	1.84	2.53	3.30	3.87	4.49	4.85	5.48	5.88	6.36		
X-n303-k21	1.67	2.41	2.92	3.59	3.96	4.28	4.62	4.92	5.19	1.73	2.48	3.02	3.58	4.02	4.29	4.67	4.92	5.07		
X-n308-k13	1.53	2.22	2.44	2.90	3.32	3.70	3.77	4.27	4.12	1.60	2.16	2.68	3.18	3.44	3.84	4.13	4.48	4.52		
X-n313-k71	1.67	2.50	3.13	3.75	4.59	4.79	5.62	6.12	6.19	1.88	2.47	3.37	4.12	4.75	5.44	6.23	5.88	6.52		
X-n317-k53	1.66	2.33	2.88	3.53	3.93	4.44	4.85	5.17	5.50	1.64	2.34	2.97	3.50	4.02	4.43	4.88	5.24	5.59		
X-n322-k28	1.78	2.53	3.30	4.06	4.38	4.92	5.69	5.82	6.17	1.83	2.39	3.24	3.85	4.41	4.88	5.13	5.82	5.70		
X-n327-k20	1.75	2.33	3.17	3.74	4.10	4.54	5.00	5.62	5.72	1.71	2.48	3.18	3.85	4.05	4.44	5.02	5.53	5.69		
X-n331-k15	1.70	2.43	2.95	3.51	4.15	4.59	5.08	5.19	5.65	1.70	2.38	3.06	3.57	3.96	4.31	4.92	5.15	5.64		
X-n336-k84	1.91	2.55	3.26	4.16	4.67	5.13	6.14	6.29	6.86	1.84	2.58	3.53	4.01	4.67	5.27	6.28	6.21	7.22		
X-n344-k43	1.65	2.33	3.04	3.46	3.93	4.24	4.83	5.21	5.37	1.77	2.49	3.09	3.75	4.43	4.93	4.95	5.38	6.06		
X-n351-k40	1.67	2.28	2.91	3.29	4.17	4.39	4.59	5.15	5.26	1.74	2.54	3.16	3.91	4.17	4.55	5.28	5.49	5.78		
X-n359-k29	1.73	2.41	3.25	3.86	4.21	4.79	5.15	5.91	6.11	1.74	2.49	3.12	3.82	4.30	4.84	5.10	5.70	6.18		
X-n367-k17	1.75	2.40	3.06	3.49	4.04	4.38	4.93	5.11	5.02	1.68	2.30	2.95	3.49	3.92	4.36	4.79	5.04	5.37		
X-n376-k94	1.70	2.37	3.02	3.83	4.18	4.83	5.40	5.78	6.16	1.79	2.60	3.30	3.91	4.54	5.18	5.64	6.16	6.59		
X-n384-k52	1.64	2.48	3.10	3.79	4.31	4.96	5.41	6.06	6.49	1.74	2.57	3.36	4.10	4.70	5.07	5.70	6.54	6.50		
X-n393-k38	1.74	2.51	2.98	3.70	4.25	4.82	5.19	5.51	5.74	1.71	2.49	3.08	3.81	4.33	4.82	5.44	5.67	6.01		
X-n401-k29	1.58	2.39	2.96	3.57	4.20	4.60	5.07	5.61	5.78	1.71	2.46	3.07	3.81	4.20	4.50	5.06	5.51	5.98		
X-n411-k19	1.50	1.99	2.50	2.97	3.22	3.43	3.72	4.03	4.16	1.48	2.14	2.60	2.94	3.24	3.55	3.81	3.97	4.19		
X-n420-k130	1.84	2.58	3.57	3.98	4.53	5.22	5.77	6.55	6.93	1.98	2.82	3.86	4.37	5.40	5.74	6.51	7.31	7.74		
X-n429-k61	1.69	2.43	3.35	3.82	4.28	4.68	5.43	5.90	6.24	1.70	2.53	3.29	3.88	4.50	4.85	5.42	6.08	6.34		
X-n439-k37	1.71	2.34	3.03	3.76	4.22	4.70	5.10	5.44	5.77	1.69	2.35	2.91	3.54	4.00	4.53	4.98	5.20	5.44		
X-n449-k29	1.77	2.47	3.11	3.87	4.39	4.85	5.37	5.70	5.88	1.84	2.50	3.29	4.06	4.55	5.23	5.67	6.02	6.50		
X-n459-k26	1.71	2.39	2.98	3.50	3.97	4.45	4.86	5.25	5.60	1.74	2.50	3.11	3.69	4.05	4.64	5.03	5.31	5.64		
X-n469-k138	1.98	2.88	3.74	4.38	5.70	6.14	6.84	7.64	7.64	1.84	2.50	3.46	4.34	4.39	5.30	6.10	6.70	7.33		
X-n480-k70	1.71	2.45	3.23	3.91	4.47	5.06	5.56	6.05	6.49	1.66	2.44	3.28	3.88	4.45	5.10	5.61	6.17	6.37		
X-n491-k59	1.73	2.46	3.16	3.68	4.32	4.61	5.04	5.38	5.55	1.74	2.51	3.19	3.84	4.54	4.93	5.30	5.71	6.18		
Mean	1.70	2.44	3.07	3.68	4.21	4.67	5.15	5.54	5.82	1.73	2.44	3.13	3.76	4.25	4.73	5.19	5.58	5.95		

Table 3: Average speedup on large-sized  $\mathbb{X}$  instances.

Instance	FILO2 <sup>x</sup>										FILO2 <sup>x</sup> (long)									
	2	3	4	5	6	7	8	9	10		2	3	4	5	6	7	8	9	10	
X-n502-k39	1.63	2.24	2.81	3.37	3.69	4.02	4.41	4.65	4.93	1.59	2.26	2.78	3.23	3.67	4.02	4.38	4.66	4.86	4.84	
X-n513-k21	1.57	2.29	2.78	3.23	3.64	4.03	4.49	4.62	4.95	1.61	2.26	2.69	3.32	3.67	3.89	4.35	4.77	4.95		
X-n524-k153	1.72	2.51	3.14	3.76	4.26	4.82	5.23	5.55	6.03	1.75	2.48	3.14	3.86	4.30	4.87	5.31	5.70	6.11		
X-n536-k96	1.76	2.53	3.23	3.92	4.26	4.80	5.37	5.86	6.03	1.79	2.56	3.28	3.95	4.73	5.31	5.71	6.47	6.80		
X-n548-k50	1.76	2.52	3.23	3.91	4.55	5.10	5.68	6.02	6.36	1.72	2.46	3.20	3.73	4.37	4.86	5.22	5.73	6.03		
X-n561-k42	1.69	2.50	2.94	3.68	4.28	4.64	5.07	5.40	5.58	1.67	2.43	3.01	3.71	4.13	4.55	5.02	5.14	5.53		
X-n573-k30	1.63	2.35	2.84	3.47	3.81	4.47	5.01	5.09	5.36	1.67	2.35	2.92	3.48	3.71	4.34	4.71	4.94	4.85		
X-n586-k159	1.76	2.54	3.16	4.22	4.75	5.18	5.52	6.17	6.79	1.74	2.75	3.46	4.40	5.05	5.80	6.32	6.88	7.40		
X-n599-k92	1.84	2.59	3.30	4.17	4.88	5.36	5.89	6.54	6.60	1.76	2.60	3.23	4.07	4.61	5.06	5.78	6.01	6.50		
X-n613-k62	1.75	2.51	3.26	3.78	4.37	4.79	5.29	5.56	5.84	1.71	2.42	3.15	3.84	4.34	4.88	5.25	5.57	5.92		
X-n627-k43	1.70	2.44	3.09	3.71	4.26	4.61	5.15	5.58	5.63	1.71	2.34	3.04	3.57	4.05	4.66	5.07	5.40	5.61		
X-n641-k35	1.67	2.51	3.13	3.80	4.31	4.64	5.33	5.71	6.15	1.69	2.50	3.16	3.61	4.27	4.80	5.06	5.86	5.86		
X-n655-k131	1.76	2.51	3.17	3.87	4.54	5.17	5.58	6.00	6.50	1.75	2.46	3.18	3.88	4.44	5.05	5.56	6.11	6.34		
X-n670-k130	1.76	2.51	3.28	3.77	4.37	4.93	5.39	5.89	6.20	1.70	2.38	3.17	3.84	4.42	5.11	5.35	6.05	6.13		
X-n685-k75	1.69	2.40	3.01	3.49	4.19	4.54	4.91	5.24	5.56	1.66	2.41	3.03	3.71	4.27	4.78	5.07	5.53	5.77		
X-n701-k44	1.76	2.55	3.19	3.79	4.44	4.99	5.45	5.93	6.18	1.72	2.42	3.11	3.65	4.29	4.85	5.17	5.69	5.93		
X-n716-k35	1.73	2.37	3.03	3.69	4.10	4.54	4.89	5.26	5.54	1.62	2.29	2.86	3.40	3.82	4.29	4.60	4.84	5.16		
X-n733-k159	1.78	2.53	3.31	3.92	4.58	5.02	5.68	6.08	6.54	1.77	2.60	3.17	4.15	4.77	5.23	5.93	6.39	6.71		
X-n749-k98	1.67	2.44	3.20	3.83	4.31	4.92	5.30	5.67	5.79	1.79	2.67	3.35	4.00	4.65	5.18	5.47	6.15	6.40		
X-n766-k71	1.69	2.39	3.02	3.61	4.14	4.69	5.00	5.41	5.71	1.69	2.42	3.10	3.63	4.28	4.77	5.11	5.50	5.64		
X-n783-k48	1.72	2.46	3.25	3.91	4.36	5.03	5.30	5.94	6.21	1.76	2.52	3.16	3.83	4.42	5.00	5.48	5.78	6.09		
X-n801-k40	1.65	2.42	3.07	3.64	4.10	4.71	5.08	5.52	5.88	1.71	2.43	3.07	3.70	4.21	4.66	5.02	5.45	5.78		
X-n819-k171	1.80	2.54	3.38	4.09	4.61	5.45	5.96	6.15	6.89	1.77	2.45	3.26	4.15	4.65	5.33	5.98	6.46	6.53		
X-n837-k142	1.78	2.63	3.50	4.24	4.94	5.69	6.18	6.83	7.17	1.77	2.57	3.53	4.26	4.87	5.38	6.35	6.52	6.83		
X-n856-k95	1.73	2.46	3.14	3.79	4.38	4.96	5.40	6.02	6.12	1.71	2.47	3.10	3.74	4.27	4.85	5.22	5.72	6.01		
X-n876-k59	1.72	2.44	3.13	3.76	4.25	4.79	5.20	5.59	5.93	1.70	2.38	3.03	3.65	4.20	4.64	5.04	5.39	5.65		
X-n895-k37	1.66	2.36	3.00	3.64	4.11	4.59	4.93	5.49	5.78	1.66	2.37	2.98	3.60	4.05	4.59	4.94	5.26	5.60		
X-n916-k207	1.81	2.69	3.50	4.09	5.17	5.84	6.35	6.77	7.17	1.87	2.79	3.55	4.48	5.19	5.96	6.39	7.16	7.76		
X-n936-k151	1.78	2.51	3.19	3.91	4.49	4.94	5.39	5.92	5.99	1.80	2.64	3.31	4.06	4.67	5.33	5.76	6.27	6.55		
X-n957-k87	1.73	2.51	3.18	3.86	4.43	4.99	5.47	6.02	6.46	1.69	2.44	3.10	3.71	4.31	4.81	5.23	5.72	5.98		
X-n979-k58	1.71	2.45	3.04	3.71	4.37	4.67	5.14	5.67	5.90	1.77	2.53	3.27	3.86	4.44	5.05	5.35	5.94	6.38		
X-n1001-k43	1.75	2.45	3.13	3.85	4.27	5.01	5.39	5.78	6.17	1.72	2.42	3.01	3.77	4.24	4.76	5.15	5.62	5.84		
Mean	1.72	2.47	3.13	3.78	4.33	4.84	5.29	5.71	6.02	1.72	2.46	3.13	3.78	4.32	4.85	5.27	5.71	5.98		