

	V	SDP LB	ICH	Frieze & Jerrum	α for Frieze & Jerrum with convex combination								
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
$k=2$	30	912	912	912	912	912	912	921	927	941	925	912	912
	40	1690.463	1691	1728	1728	1742	1773	1691	1691	1716	1719	1691	1691
	50	2716.069	2729	2858	2848	2767	2823	2857	2815	2787	2810	2802	2855
	60	3985.364	4001	4151	4054	4151	4128	4106	4172	4196	4112	4095	4159
	70	5384.104	5401	5608	5667	5625	5452	5581	5654	5520	5501	5584	5557
	80	7032.764	7098	7389	7389	7382	7211	7321	7363	7381	7281	7341	7230
	90	9190.776	9292	9830.2	9551	9572	9595	9480	9599	9508	9450	9592	9568
	100	11382.92	11496	11747	11784	11747	11881	11854	11878	11871	11878	11936	11860
$k=3$	30	493.7	557	589	614	588	611	623	598	605	580	592	558
	40	925.5	992	1088	1117	1135	1108	1094	1130	1077	1101	1096	1089
	50	1497.1	1656	1694	1752	1735	1725	1704	1766	1761	1757	1706	1737
	60	2351.9	2548	2724	2749	2809	2739	2774	2716	2722	2649	2692	2705
	70	3223.4	3477	3679	3815	3708	3774	3706	3789	3676	3685	3615	3664
	80	4293.5	4508	4848	4892	4888	4790	4809	4909	4857	4877	4892	4815
	90	5420.1	5774	6132	6249	6134	6084	6054	6263	6117	6151	6139	6098
	100	6634.2	6973	7491	7566	7661	7529	7534	7602	7561	7549	7496	7433

Table 1: Computational Results for random instances with $k = 2$ and 3. Numbers in bold indicate that the heuristic solution is the optimal solution.

	V	SDP LB	ICH	Frieze & Jerrum	α for Frieze & Jerrum with convex combination									
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	
$k = 2$	3×3	-795504	-795504	-795504	-795504	-795504	-795504	-795504	-795504	-795504	-795504	-795504	-795504	
	4×4	-592434	-592202	-592202	-592202	-592202	-592202	-592202	-592202	-592202	-592202	-592202	-536551	
	5×5	-1543707	-1543707	-1451470	-1543707	-1182988	-1543707	-1543707	-1461391	-1543707	-1278662	-1543707	-1543707	
	6×6	-2846691	-2846691	-2846691	-2846691	-2554116	-2846691	-2846691	-2680268	-2846691	-2846691	-2718202	-2846691	
	7×7	-3020297	-3020297	-2818053	-2787849	-2787849	-2818053	-3020297	-3020297	-3020297	-3020297	-2807370	-3020297	
	8×8	-4489989	-4489989	-4489989	-4396002	-4489989	-4252115	-4489989	-4271661	-3702040	-4489989	-4489989	-4005560	
	9×9	-6230102	-6230102	-5522456	-6230102	-5950570	-5858896	-5522456	-5644327	-5953242	-5213005	-6230102	-6153144	
	10×10	-7872968	-7872968	-7872968	-7872968	-7760364	-7872968	-6869239	-7872968	-6480148	-7042388	-7872968	-7540716	
	$k = 3$	4×4	-954108	-954077	-954077	-819312	-831392	-741231	-798278	-761526	-580161	-741298	-751103	-852946
		5×5	-1484348	-1367840	-1185097	-1484348	-1166946	-1103329	-1124676	-1188754	-836275	-1319361	-1175218	-966957
6×6		-2758520	-2758520	-2147425	-2115524	-1732624	-1802507	-1625819	-2758520	-1414849	-1872757	-1595561	-2690359	
7×7		-3282586	-3282586	-2115560	-2115560	-2115560	-2889403	-1587528	-1902404	-1841520	-2171880	-2016232	-2756529	
8×8		-4063059	-4063059	-2705506	-2469005	-2090016	-2128793	-2219785	-2419073	-2523733	-3154943	-2896465	-2502696	
9×9		-5236178	-4758332	-2247374	-2225260	-2324296	-1970217	-2127385	-2235664	-2026423	-2085498	-2307414	-3155256	
10×10		-7230203	-6570984	-3150645	-3251798	-3442696	-2750327	-3124199	-3122204	-3638336	-3395681	-2941674	-3579241	

Table 2: Computational results for spinglass2g with $k = 2$ and 3. Numbers in bold indicate that the heuristic solution is the optimal solution.

	V	SDP LB	ICH	Frieze & Jerrum	α for Frieze & Jerrum with convex combination								
					0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
$k = 2$	3×3	0	0	0	0	0	0	0	0	0	0	0	0
	4×4	0	0	0	0	0	0	0	0	0	0	3	0
	5×5	0	0	0	2	0	2	0	0	0	6	6	0
	6×6	0	0	0	0	0	0	0	3	0	2	0	2
	7×7	0	0	4	4	4	3	3	0	0	0	0	3
	8×8	0	0	0	0	4	20	0	4	0	0	13	0
	9×9	0	0	0	3	0	10	2	0	8	0	0	12
	10×10	0	0	0	0	0	0	10	0	3	7	0	4
$k = 3$	3×3	0	0	1	2	0	1	0	0	1	0	1	0
	4×4	0	0	2	3	3	1	3	2	1	4	2	3
	5×5	0	0	4	7	7	4	4	1	5	6	4	4
	6×6	0	0	7	12	8	12	8	12	7	8	7	9
	7×7	0	0	14	15	16	18	14	13	17	13	13	13
	8×8	0	0	17	16	20	20	24	20	17	19	17	20
	9×9	0	0	22	32	29	23	24	25	25	24	26	21
	10×10	0	0	36	39	34	33	39	37	35	39	35	33

Table 3: Computational Results for grid_2D with $k = 2$ and 3. Numbers in bold indicate that the heuristic solution is the optimal solution.