

## Resultados BRKGA-MP para o problema P4 sem busca local

Tabela 1: Resultados associados as instâncias (P4) sem busca local

Instâncias	$s_B^*$	$t_{x_B^*}$	$s^*$	$gap_{s_B^*} \%$
nlkp.c_10_0	377.521	88.36	377.3323	0.05
nlkp.c_10_1	259.340	97.81	259.3415	0.00
nlkp.c_10_2	246.440	111.86	239.2120	3.02
nlkp.c_10_3	139.328	105.02	134.4287	3.64
nlkp.c_10_4	322.068	104.88	302.9225	6.32
nlkp.c_10_5	311.663	120.00	289.2950	7.73
nlkp.c_10_6	215.019	16.33	200.5727	7.20
nlkp.c_10_7	358.070	117.25	329.1188	8.80
nlkp.c_10_8	392.429	115.87	392.4323	0.00
nlkp.c_10_9	296.244	24.32	296.2470	0.00
nlkp.c_10_10	366.841	85.10	366.9886	-0.04
nlkp.c_10_11	434.220	111.73	434.2953	-0.02
nlkp.c_10_12	176.203	100.62	176.2044	0.00
nlkp.c_10_13	460.143	91.56	449.5763	2.35
nlkp.c_10_14	256.467	110.19	256.4648	0.00
nlkp.c_10_15	366.534	76.25	331.5117	10.56
nlkp.c_10_16	287.537	73.31	287.4145	0.04
nlkp.c_10_17	298.243	78.29	296.1806	0.70
nlkp.c_10_18	366.445	108.50	357.3346	2.55
nlkp.c_10_19	248.500	109.39	248.5125	-0.01
nlkp.c_20_0	633.708	103.67	632.4956	0.19
nlkp.c_20_1	543.807	104.80	538.0591	1.07
nlkp.c_20_2	644.768	86.46	644.8236	-0.01
nlkp.c_20_3	582.569	102.44	573.4990	1.58
nlkp.c_20_4	648.282	88.89	648.2178	0.01
nlkp.c_20_5	786.449	111.60	751.2147	4.69
nlkp.c_20_6	502.518	115.12	503.2081	-0.14
nlkp.c_20_7	634.488	119.34	633.2274	0.20
nlkp.c_20_8	586.591	114.14	585.9163	0.12
nlkp.c_20_9	664.693	118.47	656.4157	1.26
nlkp.c_20_10	598.928	86.49	598.9417	0.00
nlkp.c_20_11	564.197	113.59	564.0309	0.03
nlkp.c_20_12	545.901	44.25	545.9530	-0.01
nlkp.c_20_13	442.157	119.67	441.9942	0.04
nlkp.c_20_14	520.980	107.09	510.4722	2.06
nlkp.c_20_15	531.921	118.61	532.1918	-0.05
nlkp.c_20_16	792.906	113.27	786.5707	0.81
nlkp.c_20_17	617.907	112.02	611.5531	1.04
nlkp.c_20_18	629.828	113.57	629.0685	0.12
nlkp.c_20_19	648.599	110.47	627.6682	3.33
nlkp.c_50_0	1506.660	119.81	1503.5669	0.21
nlkp.c_50_1	1452.720	113.84	1452.5048	0.01

nlkp.c_50_2	1635.210	107.85	1637.6462	-0.15
nlkp.c_50_3	1793.060	111.46	1793.1656	-0.01
nlkp.c_50_4	1450.070	117.32	1444.4227	0.39
nlkp.c_50_5	1309.270	116.19	1309.2653	0.00
nlkp.c_50_6	1792.520	82.55	1789.8856	0.15
nlkp.c_50_7	1451.960	117.79	1452.3508	-0.03
nlkp.c_50_8	1878.820	119.70	1872.0537	0.36
nlkp.c_50_9	1410.620	119.73	1411.3191	-0.05
nlkp.c_50_10	1778.490	91.52	1771.6388	0.39
nlkp.c_50_11	1619.590	107.81	1617.2590	0.14
nlkp.c_50_12	1328.500	112.77	1329.5155	-0.08
nlkp.c_50_13	1733.950	89.35	1733.7333	0.01
nlkp.c_50_14	1507.930	119.14	1513.1239	-0.34
nlkp.c_50_15	1826.570	119.72	1824.0915	0.14
nlkp.c_50_16	1720.600	111.41	1718.0575	0.15
nlkp.c_50_17	1860.850	119.00	1860.9327	0.00
nlkp.c_50_18	1611.300	110.53	1602.5287	0.55
nlkp.c_50_19	1549.280	84.60	1542.7714	0.42
nlkp.c_100_0	2941.930	114.82	2947.3399	-0.18
nlkp.c_100_1	3596.530	116.82	3604.4671	-0.22
nlkp.c_100_2	2822.630	117.93	2824.8494	-0.08
nlkp.c_100_3	3309.020	117.62	3313.1398	-0.12
nlkp.c_100_4	3452.070	117.72	3456.8360	-0.14
nlkp.c_100_5	3029.560	119.09	3032.3964	-0.09
nlkp.c_100_6	2799.020	119.56	2804.0675	-0.18
nlkp.c_100_7	3221.540	117.08	3225.5375	-0.12
nlkp.c_100_8	3606.550	117.25	3611.5407	-0.14
nlkp.c_100_9	2924.550	116.12	2928.6582	-0.14
nlkp.c_100_10	3227.360	113.38	3231.8593	-0.14
nlkp.c_100_11	3442.950	116.90	3446.9792	-0.12
nlkp.c_100_12	3446.630	115.31	3452.7032	-0.18
nlkp.c_100_13	3598.860	112.90	3602.1086	-0.09
nlkp.c_100_14	3155.980	106.33	3160.3436	-0.14
nlkp.c_100_15	3295.290	117.80	3301.3761	-0.18
nlkp.c_100_16	3296.560	102.79	3299.8494	-0.10
nlkp.c_100_17	3243.810	117.39	3251.2488	-0.23
nlkp.c_100_18	3293.120	119.97	3296.3030	-0.10
nlkp.c_100_19	3459.230	118.02	3460.4434	-0.04
nlkp.c_200_0	6342.790	117.68	6360.6250	-0.28
nlkp.c_200_1	5838.890	119.74	5858.3095	-0.33
nlkp.c_200_2	6847.840	119.83	6867.6431	-0.29
nlkp.c_200_3	5944.290	119.42	5960.3300	-0.27
nlkp.c_200_4	6923.730	99.02	6940.1386	-0.24
nlkp.c_200_5	6957.210	118.77	6974.7649	-0.25
nlkp.c_200_6	7107.290	112.03	7134.6813	-0.38
nlkp.c_200_7	6548.060	119.80	6567.5628	-0.30
nlkp.c_200_8	6437.250	110.74	6461.5704	-0.38

nlkp.c_200_9	6891.870	119.39	6913.1263	-0.31
nlkp.c_200_10	7130.340	119.35	7153.6815	-0.33
nlkp.c_200_11	6058.220	112.12	6077.8993	-0.32
nlkp.c_200_12	6758.000	118.34	6778.4189	-0.30
nlkp.c_200_13	6312.990	117.69	6329.5332	-0.26
nlkp.c_200_14	6813.230	118.36	6831.2717	-0.26
nlkp.c_200_15	6160.720	118.59	6178.4175	-0.29
nlkp.c_200_16	6403.450	119.99	6423.3178	-0.31
nlkp.c_200_17	7062.470	112.28	7080.5477	-0.26
nlkp.c_200_18	6458.240	119.83	6478.4059	-0.31
nlkp.c_200_19	6352.650	117.90	6375.3821	-0.36
nlkp.c_500_0	15681.800	119.96	15791.6838	-0.70
nlkp.c_500_1	16301.200	120.00	16400.7376	-0.61
nlkp.c_500_2	17757.000	99.45	17865.0765	-0.60
nlkp.c_500_3	16311.700	103.14	16449.0232	-0.83
nlkp.c_500_4	16472.000	118.46	16589.3985	-0.71
nlkp.c_500_5	16581.700	113.64	16667.2024	-0.51
nlkp.c_500_6	15984.800	114.34	16098.4080	-0.71
nlkp.c_500_7	15871.300	117.48	15986.0028	-0.72
nlkp.c_500_8	16319.700	116.45	16440.4620	-0.73
nlkp.c_500_9	17265.800	118.45	17386.1944	-0.69
nlkp.c_500_10	16250.200	119.90	16366.4899	-0.71
nlkp.c_500_11	16405.400	118.61	16501.2081	-0.58
nlkp.c_500_12	15809.100	113.17	15920.9125	-0.70
nlkp.c_500_13	16395.500	108.05	16501.8601	-0.64
nlkp.c_500_14	16294.400	114.13	16385.1143	-0.55
nlkp.c_500_15	16579.400	118.95	16722.9846	-0.86
nlkp.c_500_16	16730.700	116.15	16834.2697	-0.62
nlkp.c_500_17	15364.400	119.87	15446.5307	-0.53
nlkp.c_500_18	16551.200	119.60	16685.4413	-0.80
nlkp.c_500_19	15728.700	116.11	15839.2645	-0.70
nlkp.c_1000_0	31464.100	119.95	31877.8881	-1.30
nlkp.c_1000_1	34299.600	119.90	34801.5834	-1.44
nlkp.c_1000_2	32806.000	119.81	33291.1650	-1.46
nlkp.c_1000_3	32189.600	119.96	32747.3024	-1.70
nlkp.c_1000_4	32595.100	119.30	32993.0916	-1.21
nlkp.c_1000_5	33047.800	119.85	33494.5480	-1.33
nlkp.c_1000_6	32127.700	119.91	32583.1888	-1.40
nlkp.c_1000_7	32022.900	119.95	32458.0139	-1.34
nlkp.c_1000_8	31822.100	119.53	32322.6692	-1.55
nlkp.c_1000_9	31953.700	120.06	32391.7358	-1.35
nlkp.c_1000_10	32467.900	120.05	32989.3301	-1.58
nlkp.c_1000_11	34157.300	119.97	34620.4441	-1.34
nlkp.c_1000_12	32457.900	119.70	32868.9635	-1.25
nlkp.c_1000_13	32736.300	119.78	33174.2039	-1.32
nlkp.c_1000_14	33347.800	120.03	33878.8813	-1.57
nlkp.c_1000_15	32670.200	120.05	33190.8719	-1.57

nlkp.c_1000_16	32144.000	119.69	32626.3509	-1.48
nlkp.c_1000_17	32751.700	119.97	33201.1055	-1.35
nlkp.c_1000_18	32289.400	119.25	32696.6449	-1.25
nlkp.c_1000_19	32654.000	119.96	33108.6620	-1.37
nlkp.c_2500_0	78423.500	120.06	83052.3877	-5.57
nlkp.c_2500_1	77874.100	119.45	82346.1586	-5.43
nlkp.c_2500_2	77468.600	117.75	81881.2797	-5.39
nlkp.c_2500_3	78732.100	120.14	83277.0061	-5.46
nlkp.c_2500_4	79688.100	119.04	84164.8853	-5.32
nlkp.c_2500_5	77126.400	118.73	81553.7451	-5.43
nlkp.c_2500_6	77521.900	119.86	82275.1019	-5.78
nlkp.c_2500_7	78371.300	120.00	82528.3973	-5.04
nlkp.c_2500_8	75433.700	119.63	79905.8567	-5.60
nlkp.c_2500_9	77627.800	117.68	82238.4941	-5.61
nlkp.c_2500_10	77410.000	114.73	81889.9302	-5.47
nlkp.c_2500_11	77257.800	118.41	81740.4731	-5.48
nlkp.c_2500_12	74483.200	120.00	79078.9891	-5.81
nlkp.c_2500_13	76992.800	118.56	81458.2320	-5.48
nlkp.c_2500_14	76024.500	119.49	80494.1842	-5.55
nlkp.c_2500_15	79402.500	117.08	83680.8576	-5.11
nlkp.c_2500_16	78059.000	118.44	82296.2359	-5.15
nlkp.c_2500_17	78108.300	119.90	82809.5988	-5.68
nlkp.c_2500_18	78516.700	119.52	83192.2872	-5.62
nlkp.c_2500_19	77941.500	120.13	82099.8675	-5.07