# Melhor Resultado Global das Heurísticas Gulosas - Grafos Bipartite ($a \leq 100, b \leq 100$)

Experimentos de Coloração Harmônica

November 11, 2025

Table 1: Resumo: Melhor Coloração Harmônica ($\min \chi_h$) Encontrada entre as 3 Heurísticas.

| Instância | N | M | $\chi_h$ (Melhor) | Tempo (s) | Heurística |
|---|---|---|---|---|---|
| a100_b100_p1%_v1 | 200 | 92 | 55 | 0.0144 | min_deg |
| a100_b100_p1%_v2 | 200 | 103 | 50 | 0.0021 | min_deg |
| a100_b100_p1%_v3 | 200 | 100 | 52 | 0.0023 | min_deg |
| a100_b100_p1%_v4 | 200 | 78 | 45 | 0.0019 | min_deg |
| a100_b100_p1%_v5 | 200 | 95 | 49 | 0.0018 | min_deg |
| a100_b100_p3%_v1 | 200 | 306 | 66 | 0.0085 | max_deg |
| a100_b100_p3%_v2 | 200 | 317 | 57 | 0.0046 | max_deg |
| a100_b100_p3%_v3 | 200 | 331 | 68 | 0.0054 | max_deg |
| a100_b100_p3%_v4 | 200 | 289 | 52 | 0.0039 | max_deg |
| a100_b100_p3%_v5 | 200 | 294 | 57 | 0.0040 | max_deg |
| a100_b100_p5%_v1 | 200 | 497 | 48 | 0.0062 | max_deg |
| a100_b100_p5%_v2 | 200 | 488 | 51 | 0.0055 | max_deg |
| a100_b100_p5%_v3 | 200 | 529 | 57 | 0.0066 | max_deg |
| a100_b100_p5%_v4 | 200 | 483 | 57 | 0.0055 | max_deg |
| a100_b100_p5%_v5 | 200 | 479 | 48 | 0.0055 | max_deg |
| a100_b100_p10%_v1 | 200 | 971 | 68 | 0.0122 | max_deg |
| a100_b100_p10%_v2 | 200 | 922 | 61 | 0.0113 | max_deg |
| a100_b100_p10%_v3 | 200 | 1030 | 67 | 0.0237 | max_deg |
| a100_b100_p10%_v4 | 200 | 992 | 67 | 0.0238 | max_deg |
| a100_b100_p10%_v5 | 200 | 1020 | 70 | 0.0188 | max_deg |
| a100_b100_p20%_v1 | 200 | 1973 | 106 | 0.0346 | max_deg |
| a100_b100_p20%_v2 | 200 | 2003 | 106 | 0.0366 | max_deg |
| a100_b100_p20%_v3 | 200 | 2018 | 114 | 0.0327 | max_deg |
| a100_b100_p20%_v4 | 200 | 1982 | 106 | 0.0322 | max_deg |
| a100_b100_p20%_v5 | 200 | 1952 | 109 | 0.0361 | max_deg |
| a100_b100_p30%_v1 | 200 | 2897 | 146 | 0.1177 | sat_deg |
| a100_b100_p30%_v2 | 200 | 3016 | 150 | 0.0814 | min_deg |
| a100_b100_p30%_v3 | 200 | 3048 | 150 | 0.1233 | sat_deg |
| a100_b100_p30%_v4 | 200 | 3080 | 151 | 0.0889 | min_deg |
| a100_b100_p30%_v5 | 200 | 3024 | 148 | 0.0874 | min_deg |
| a100_b100_p40%_v1 | 200 | 3953 | 166 | 0.1681 | min_deg |
| a100_b100_p40%_v2 | 200 | 4048 | 167 | 0.1660 | min_deg |
| a100_b100_p40%_v3 | 200 | 4017 | 166 | 0.1525 | min_deg |

*Continua na próxima página*

**Table 1 – continuação da página anterior**

| Instância | N | M | $\chi_h$ (Melhor) | Tempo (s) | Heurística |
|---|---|---|---|---|---|
| a100_b100_p40%_v4 | 200 | 3932 | 166 | 0.1968 | min_deg |
| a100_b100_p40%_v5 | 200 | 4015 | 166 | 0.1660 | min_deg |
| a100_b100_p50%_v1 | 200 | 5022 | 176 | 0.2525 | min_deg |
| a100_b100_p50%_v2 | 200 | 5019 | 176 | 0.2556 | min_deg |
| a100_b100_p50%_v3 | 200 | 5002 | 178 | 0.2671 | min_deg |
| a100_b100_p50%_v4 | 200 | 4993 | 177 | 0.2288 | min_deg |
| a100_b100_p50%_v5 | 200 | 5020 | 176 | 0.3005 | min_deg |
| a100_b100_p60%_v1 | 200 | 6000 | 183 | 0.3659 | min_deg |
| a100_b100_p60%_v2 | 200 | 5978 | 185 | 0.4196 | min_deg |
| a100_b100_p60%_v3 | 200 | 5912 | 184 | 0.3758 | min_deg |
| a100_b100_p60%_v4 | 200 | 6013 | 183 | 0.4391 | min_deg |
| a100_b100_p60%_v5 | 200 | 6048 | 184 | 0.3599 | min_deg |
| a100_b100_p70%_v1 | 200 | 7039 | 188 | 0.3794 | min_deg |
| a100_b100_p70%_v2 | 200 | 7044 | 190 | 0.3429 | min_deg |
| a100_b100_p70%_v3 | 200 | 6983 | 189 | 0.3473 | min_deg |
| a100_b100_p70%_v4 | 200 | 7053 | 189 | 0.3221 | min_deg |
| a100_b100_p70%_v5 | 200 | 7036 | 188 | 0.3505 | min_deg |
| a100_b100_p80%_v1 | 200 | 8007 | 191 | 0.2836 | min_deg |
| a100_b100_p80%_v2 | 200 | 7988 | 192 | 0.3327 | min_deg |
| a100_b100_p80%_v3 | 200 | 8012 | 192 | 0.2825 | min_deg |
| a100_b100_p80%_v4 | 200 | 7973 | 192 | 0.2902 | min_deg |
| a100_b100_p80%_v5 | 200 | 7992 | 192 | 0.2997 | min_deg |
| a100_b100_p90%_v1 | 200 | 9021 | 195 | 0.2289 | min_deg |
| a100_b100_p90%_v2 | 200 | 8994 | 195 | 0.2539 | min_deg |
| a100_b100_p90%_v3 | 200 | 9045 | 194 | 0.2188 | min_deg |
| a100_b100_p90%_v4 | 200 | 8972 | 196 | 0.2354 | max_deg |
| a100_b100_p90%_v5 | 200 | 9008 | 195 | 0.2414 | min_deg |