

Table 1: Independent set density of the MIS problem on $\text{RRG}(N, d)$. All the results are averaged based on 5 RRGs with different random seeds.

Problem	ρ (CRA)	ρ (PI)	Time (CRA)	Time (PI)
RRG(1,000, 10)	0.267	0.218	108 (s)	98 (s)
RRG(1,000, 20)	0.185	0.109	103 (s)	92 (s)
RRG(1,000, 30)	0.143	0.001	102 (s)	88 (s)
RRG(1,000, 40)	0.118	0.000	101 (s)	82 (s)
RRG(1,000, 50)	0.100	0.000	102 (s)	82 (s)
RRG(1,000, 60)	0.088	0.000	101 (s)	91 (s)
RRG(1,000, 70)	0.077	0.000	101 (s)	86 (s)
RRG(1,000, 80)	0.070	0.000	102 (s)	93 (s)
RRG(5,000, 10)	0.266	0.222	436 (s)	287 (s)
RRG(5,000, 20)	0.185	0.144	413 (s)	280 (s)
RRG(5,000, 30)	0.145	0.001	419 (s)	283 (s)
RRG(5,000, 40)	0.120	0.005	429 (s)	293 (s)
RRG(5,000, 50)	0.103	0.004	418 (s)	324 (s)
RRG(5,000, 60)	0.090	0.000	321 (s)	302 (s)
RRG(5,000, 70)	0.080	0.000	321 (s)	325 (s)
RRG(5,000, 80)	0.073	0.000	330 (s)	305 (s)

Table 2: Independent set density of the MIS problem on Erdős–Rényi graph, denoted as $\text{ERG}(N, p)$, where p is the probability. All the results are averaged based on 5 ERGs with different random seeds.

Problem	ρ (CRA)	ρ (PI)	Time (CRA)	Time (PI)
ERG(1,000, 0.05)	0.111	0.001	103 (s)	98 (s)
ERG(1,000, 0.10)	0.064	0.001	100 (s)	98 (s)
ERG(1,000, 0.15)	0.045	0.000	100 (s)	92 (s)
ERG(1,000, 0.20)	0.034	0.000	99 (s)	88 (s)
ERG(1,000, 0.25)	0.027	0.000	98 (s)	82 (s)
ERG(1,000, 0.30)	0.023	0.000	98 (s)	82 (s)
ERG(1,000, 0.35)	0.019	0.000	99 (s)	91 (s)
ERG(1,000, 0.40)	0.017	0.000	97 (s)	86 (s)
ERG(5,000, 0.05)	0.266	0.222	436 (s)	287 (s)
ERG(5,000, 0.10)	0.185	0.144	413 (s)	280 (s)
ERG(5,000, 0.15)	0.145	0.001	419 (s)	283 (s)
ERG(5,000, 0.20)	0.120	0.005	429 (s)	293 (s)
ERG(5,000, 0.25)	0.103	0.004	418 (s)	324 (s)
ERG(5,000, 0.30)	0.090	0.000	321 (s)	302 (s)
ERG(5,000, 0.35)	0.080	0.000	321 (s)	325 (s)
ERG(5,000, 0.40)	0.073	0.000	330 (s)	305 (s)