



Figure R1: Ablation of stochasticity strength and BERT planner in RNA generation. Sweeping η from 0 to 2 with a step size of 0.25 over 10 runs per setting, showing the standard error. The use of a Planner significantly boosts performance, with $\eta = 1.25$ yielding robust improvements for the P2+BERT Planner.

Table R1: Ablation of sampling strategies on code generation (HumanEval pass@1) and story infilling (ROUGE scores). We sweep η from 0 to 2 with step size of 0.1 and report the optimal result of $\eta = 0.7$ on humaneval and $\eta = 0.1$ on story infilling.

| Method | pass@1 \uparrow | ROUGE-1 \uparrow | ROUGE-2 \uparrow | ROUGE-L \uparrow |
|------------------------------------|-------------------|--------------------|--------------------|--------------------|
| RDM sampling ($\eta = 1$) | 0.132 | 20.31 | 2.83 | 18.16 |
| P2 ($\eta = 0.7/0.1$) | 0.180 | 25.27 | 7.36 | 23.25 |
| Greedy ancestral ($\eta = 0.0$) | 0.161 | 24.68 | 7.12 | 22.85 |
| Vanilla ancestral ($\eta = 0.0$) | 0.121 | 17.18 | 2.72 | 15.57 |
| DFM ($\eta = 0.7/0.1$) | 0.116 | 16.62 | 2.42 | 15.23 |

Table R2: Overhead comparison of different planner sizes with a 150M denoiser. Benchmarked on NVIDIA A100 80GB GPUs.

| Planner | Elapsed Time (s) \downarrow | Token/sec \uparrow |
|------------|-------------------------------|----------------------|
| No Planner | 33.71 | 673.16 |
| ESM2-8M | 39.25 | 509.55 |
| ESM2-35M | 45.30 | 441.46 |
| ESM2-150M | 50.21 | 398.36 |
| ESM2-650M | 119.45 | 167.44 |
| ESM2-3B | 508.10 | 39.36 |