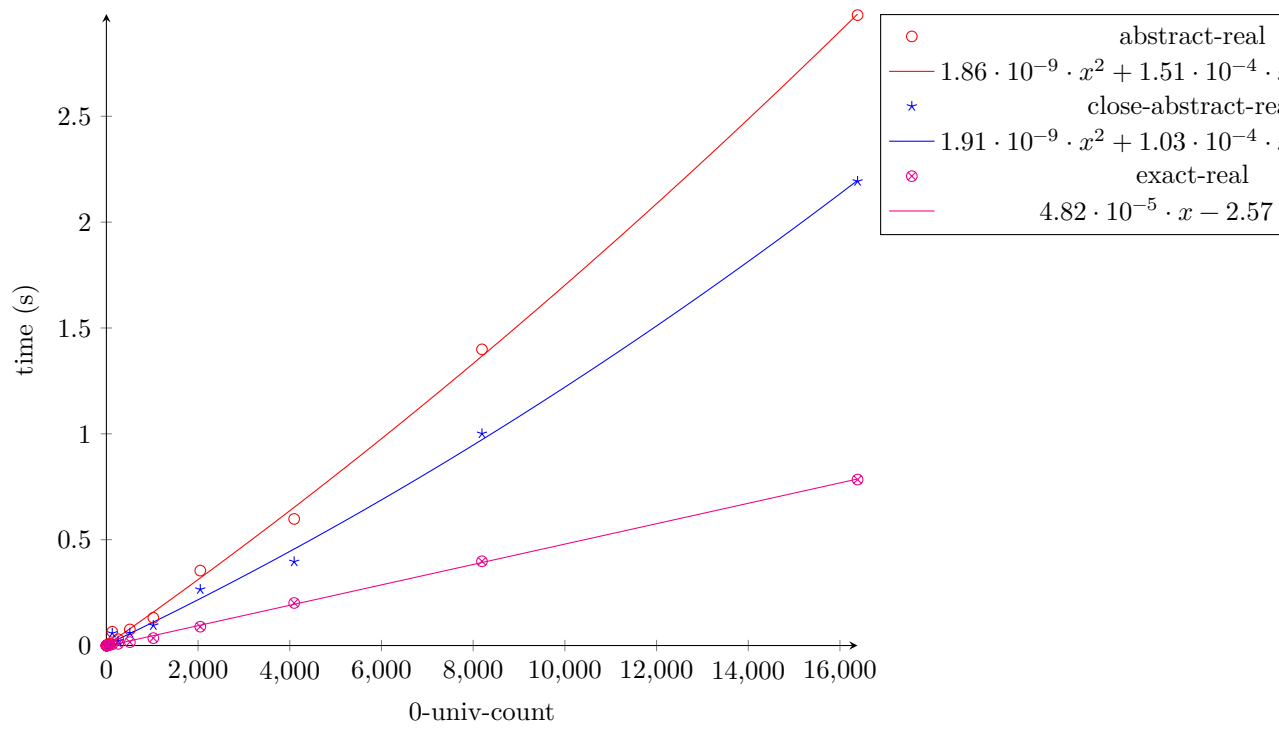Figure 1: timing-pattern

1

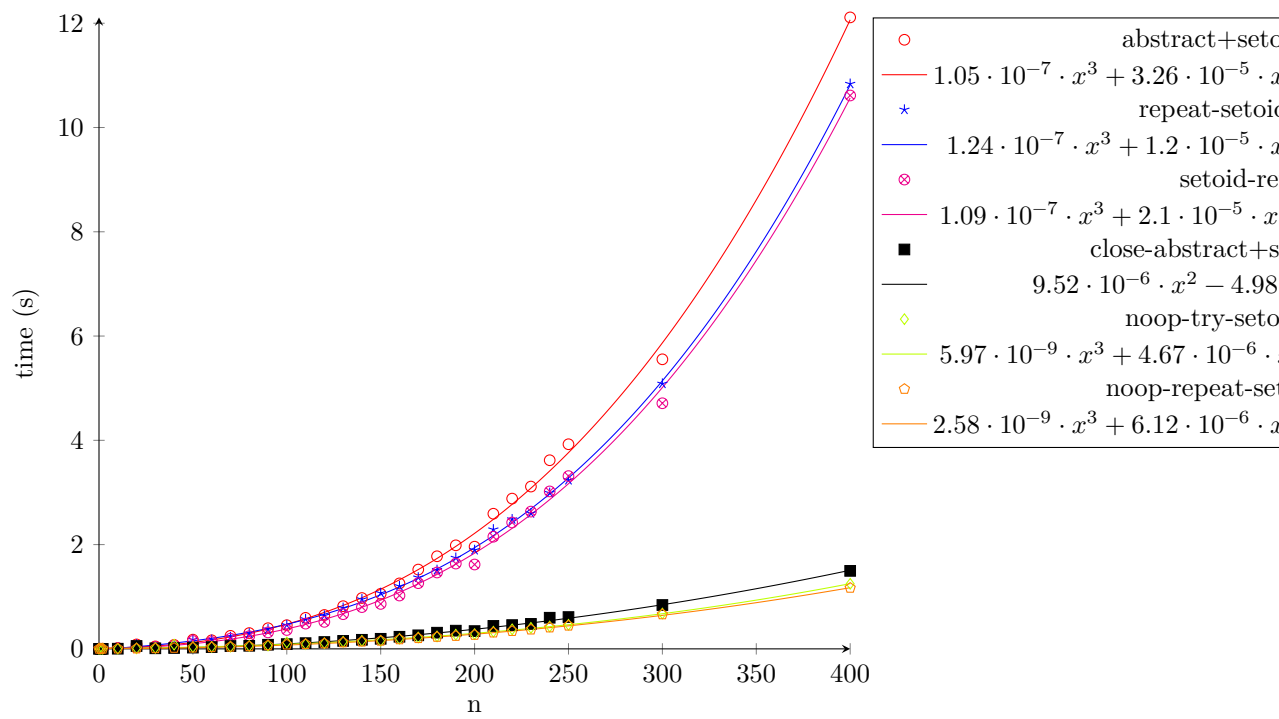Figure 2: timing-n-polymorphic-universes param-1-n 0

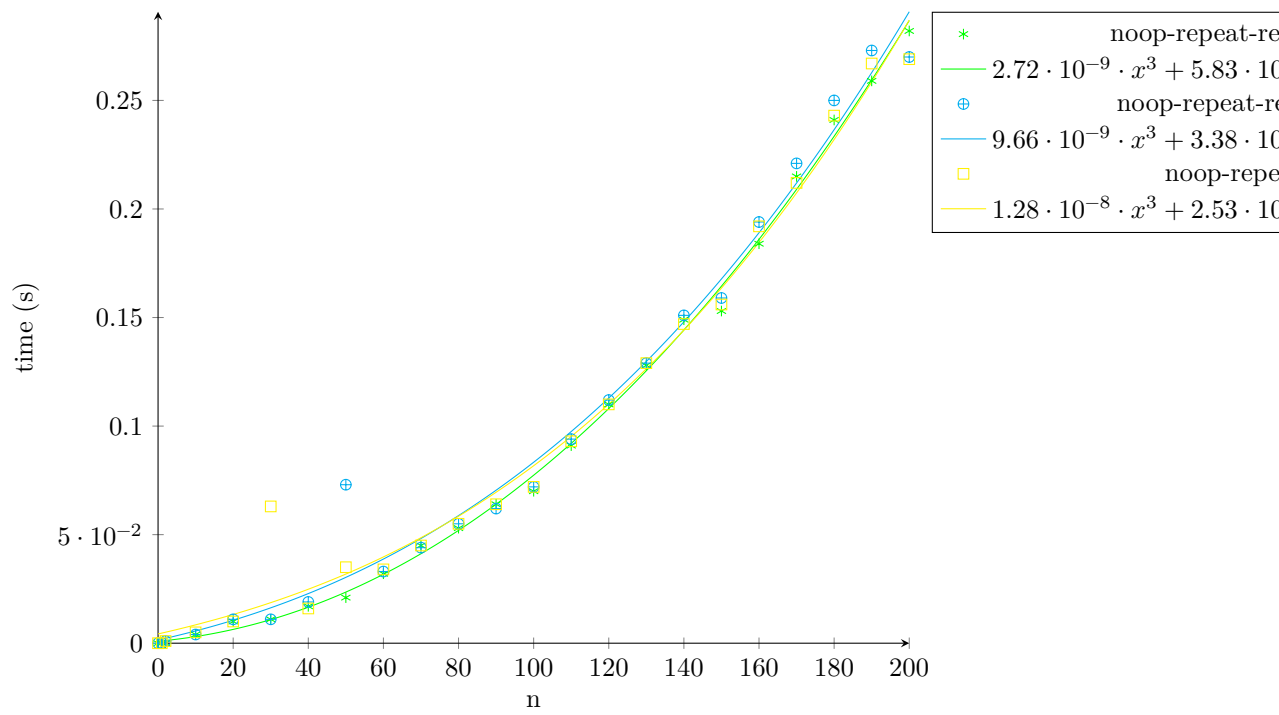Figure 3: timing-repeat-setoid-rewrite-under-binders

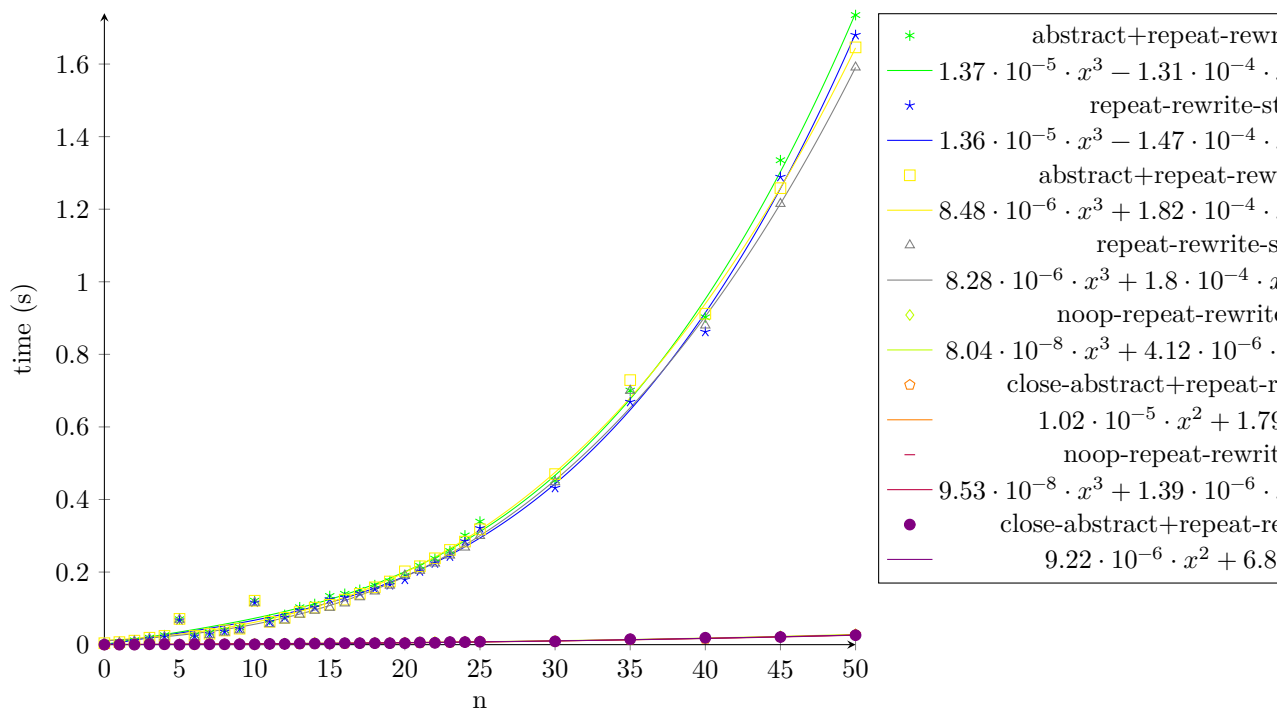Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

4

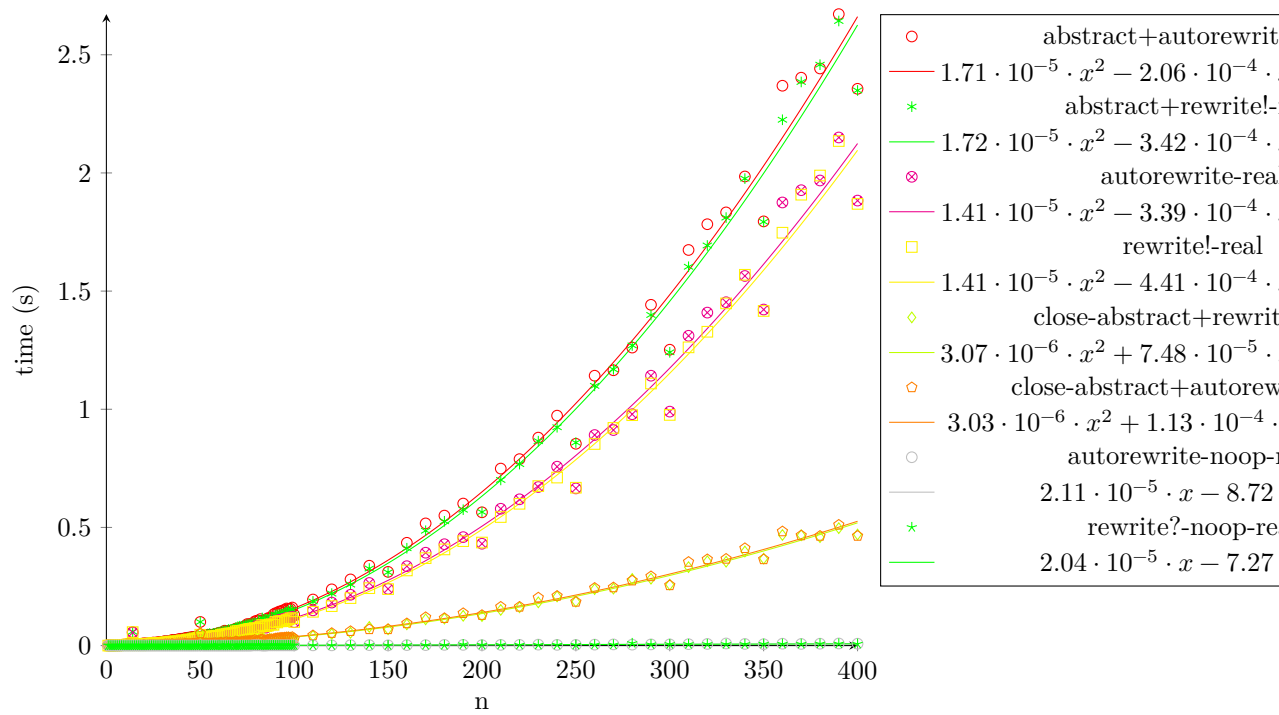Figure 5: timing-rewrite-strat-under-binders
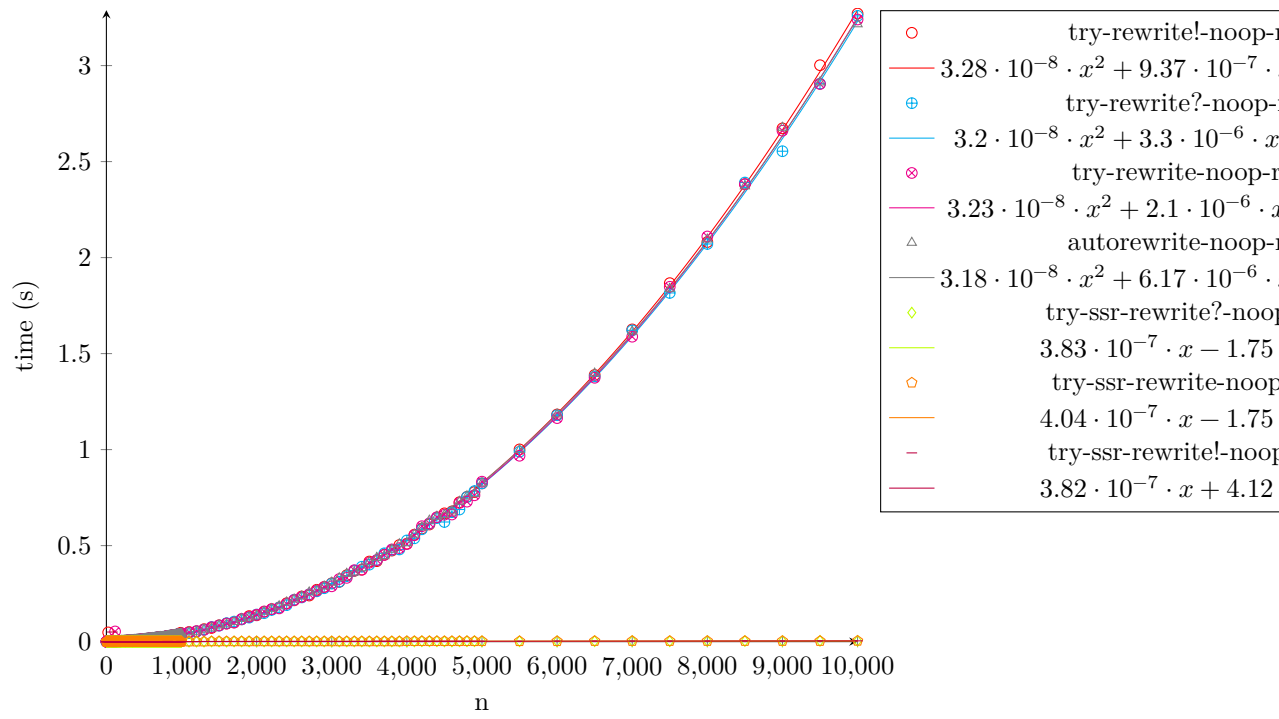
Figure 6: timing-rewrite-repeated-app-autorewrite

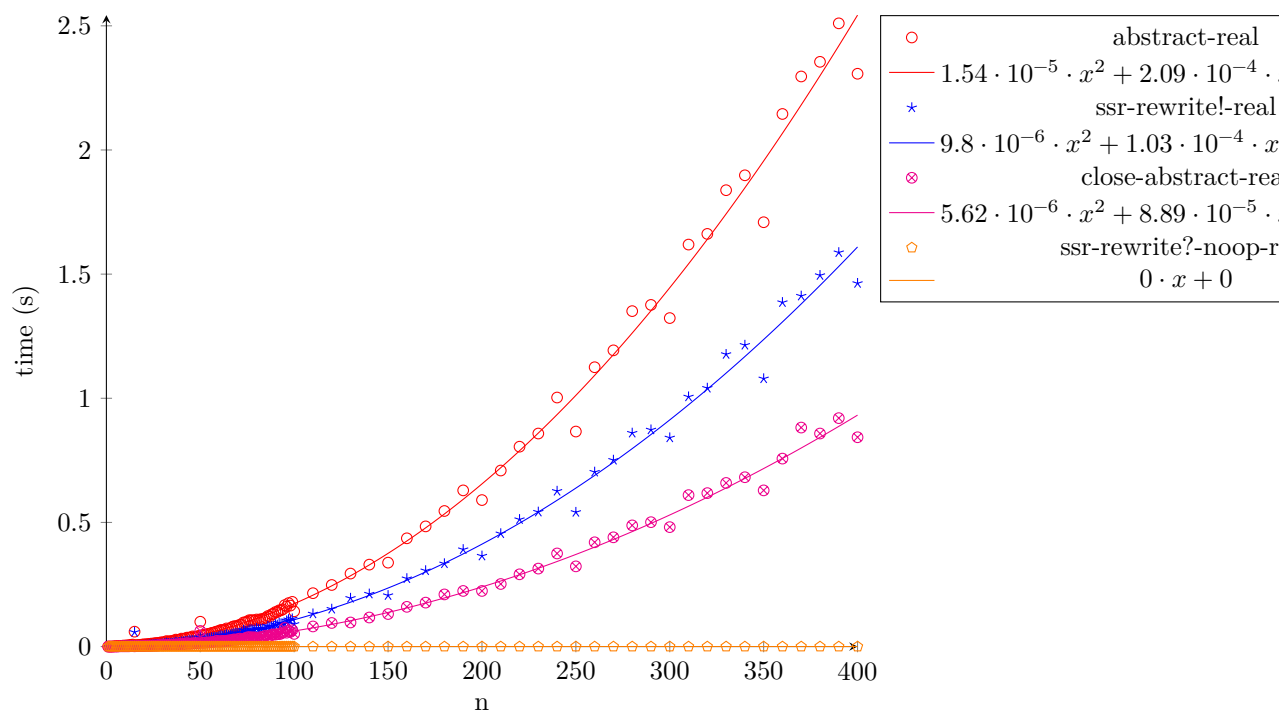Figure 7: timing-rewrite-repeated-app-autorewrite-noop

Figure 8: timing-rewrite-repeated-app-ssrrewrite
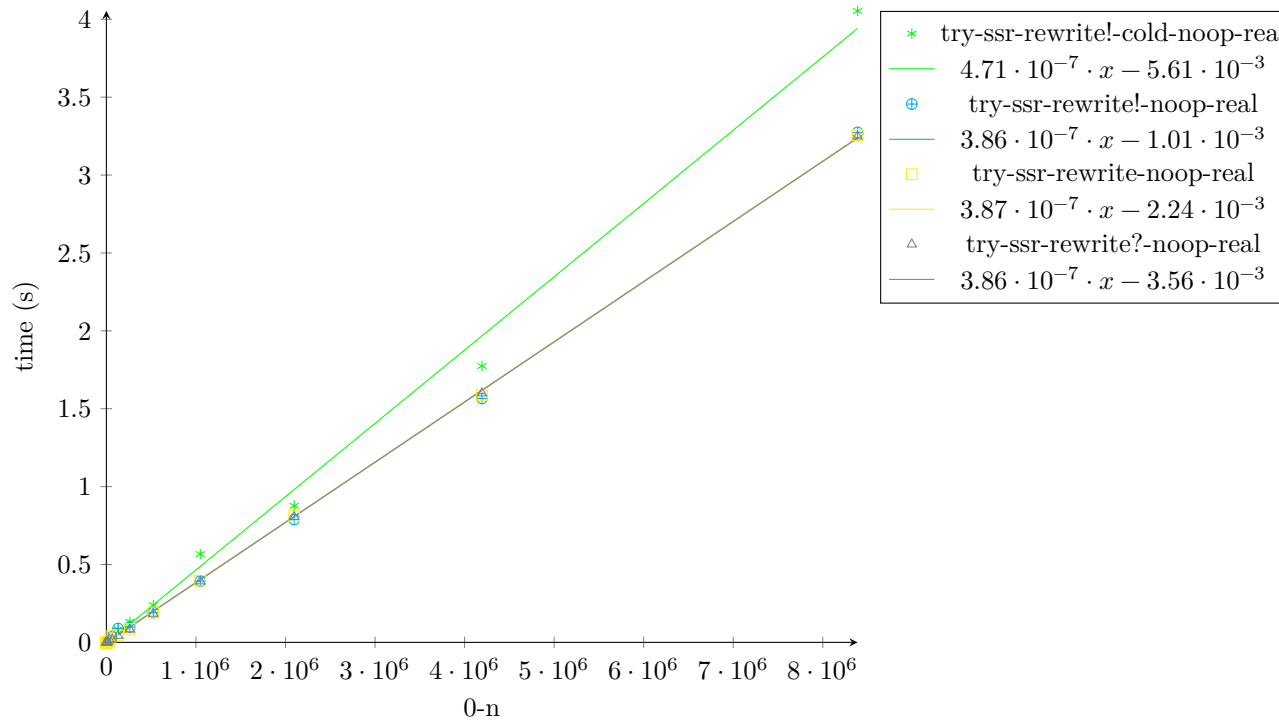
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

The chart legend contains:

- try-ssr-rewrite!-cold-noop-rea
- $4.71 \cdot 10^{-7} \cdot x - 5.61 \cdot 10^{-3}$
- try-ssr-rewrite!-noop-real
- $3.86 \cdot 10^{-7} \cdot x - 1.01 \cdot 10^{-3}$
- try-ssr-rewrite-noop-real
- $3.87 \cdot 10^{-7} \cdot x - 2.24 \cdot 10^{-3}$
- try-ssr-rewrite?-noop-real
- $3.86 \cdot 10^{-7} \cdot x - 3.56 \cdot 10^{-3}$
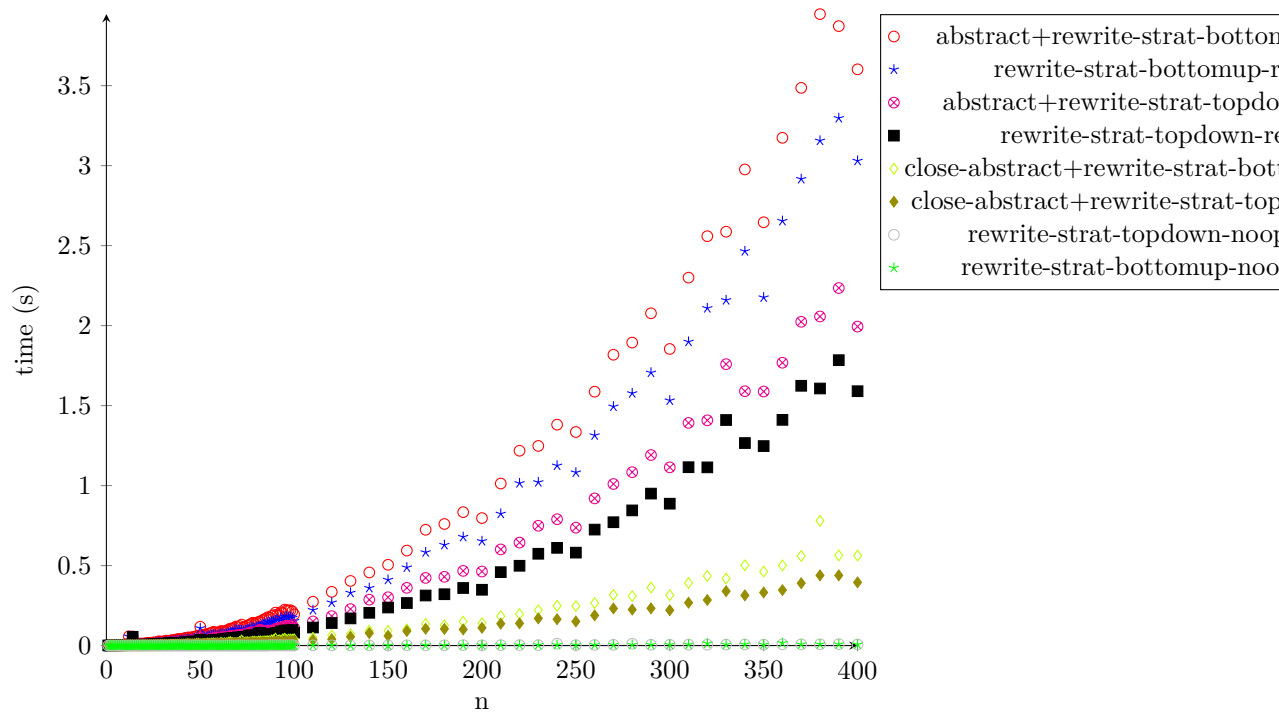
Figure 10: timing-rewrite-repeated-app-rewrite-strat
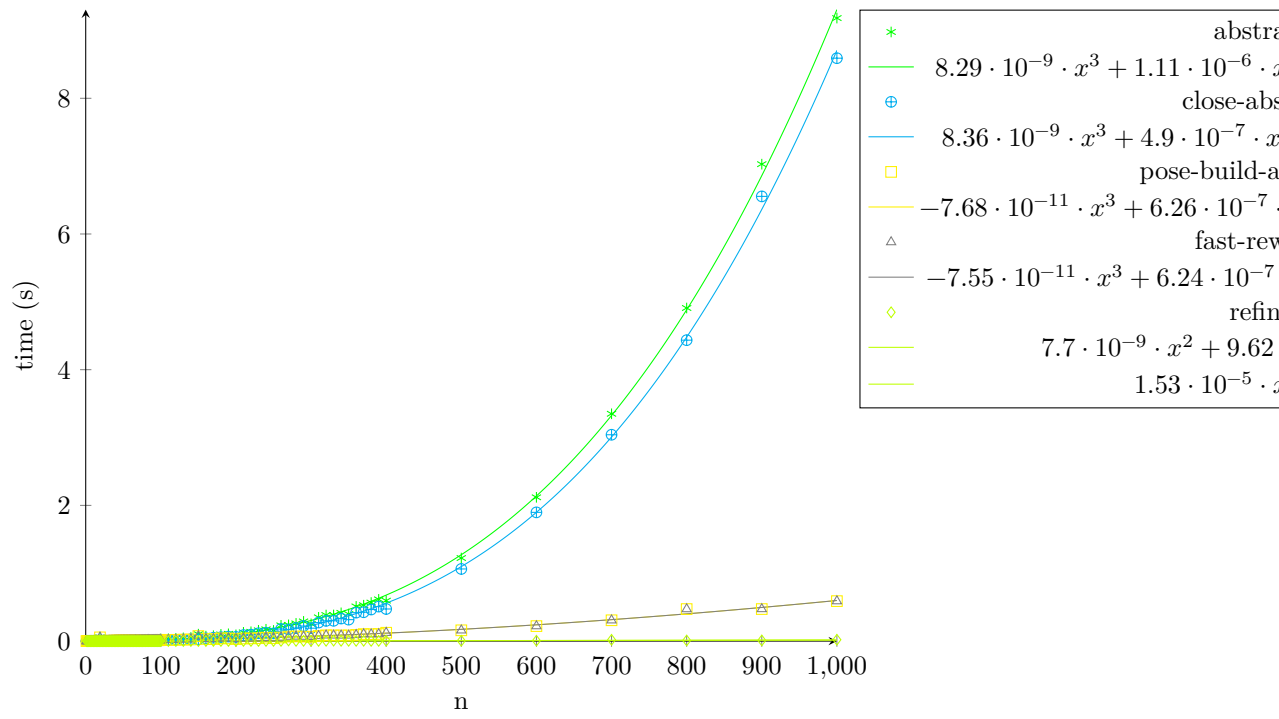
Figure 11: timing-rewrite-repeated-app-fast-rewrite

The legend contains the following entries:

abstr...
$8.29 \cdot 10^{-9} \cdot x^3 + 1.11 \cdot 10^{-6} \cdot x$

close-abs...
$8.36 \cdot 10^{-9} \cdot x^3 + 4.9 \cdot 10^{-7} \cdot x$

pose-build-a...
$-7.68 \cdot 10^{-11} \cdot x^3 + 6.26 \cdot 10^{-7} \cdot$

fast-rew...
$-7.55 \cdot 10^{-11} \cdot x^3 + 6.24 \cdot 10^{-7}$

refin...
$7.7 \cdot 10^{-9} \cdot x^2 + 9.62 \cdot$
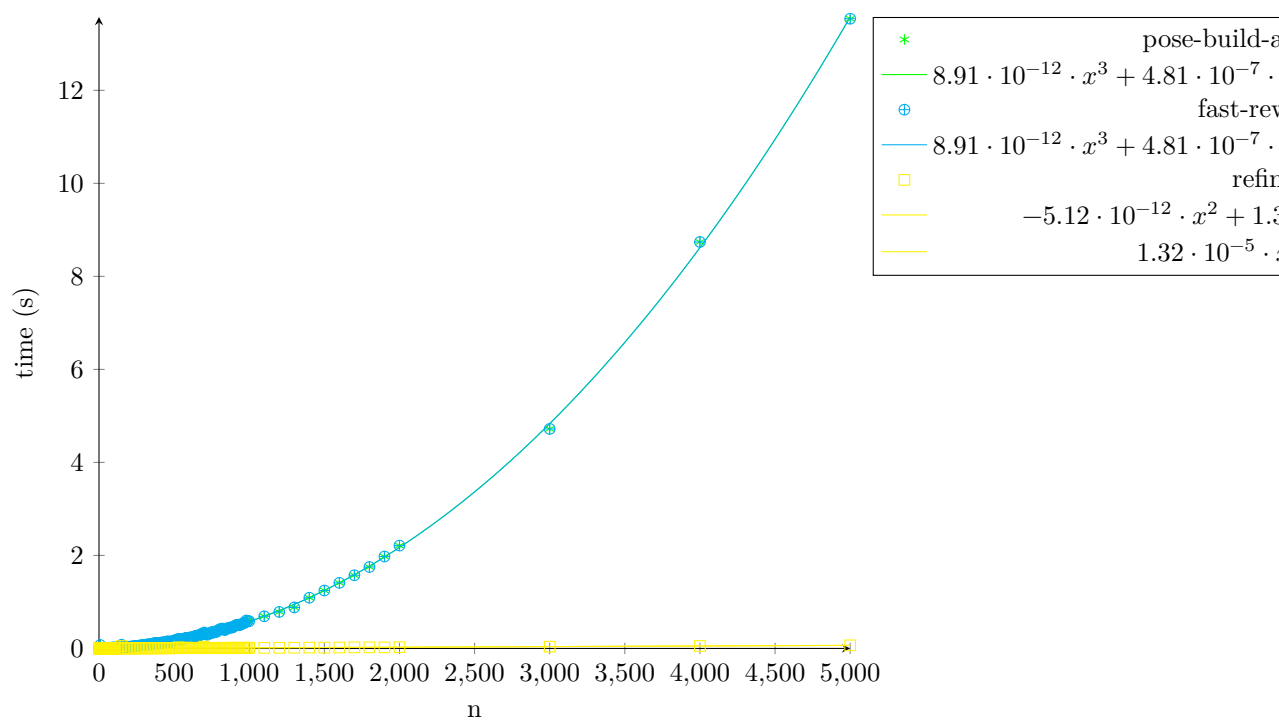
$1.53 \cdot 10^{-5} \cdot x$

Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract
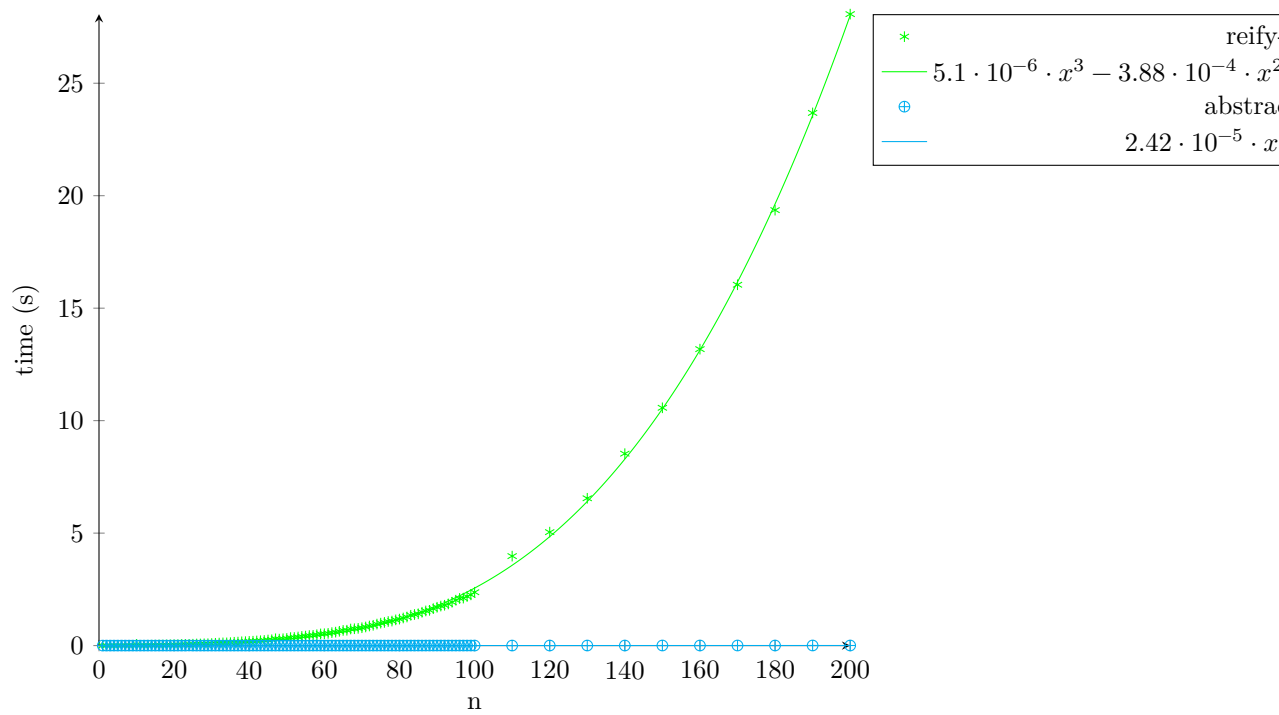
Figure 13: timing-typeclass-reification-let-in-HOAS

Figure 14: timing-typeclass-reification-let-in-PHOAS
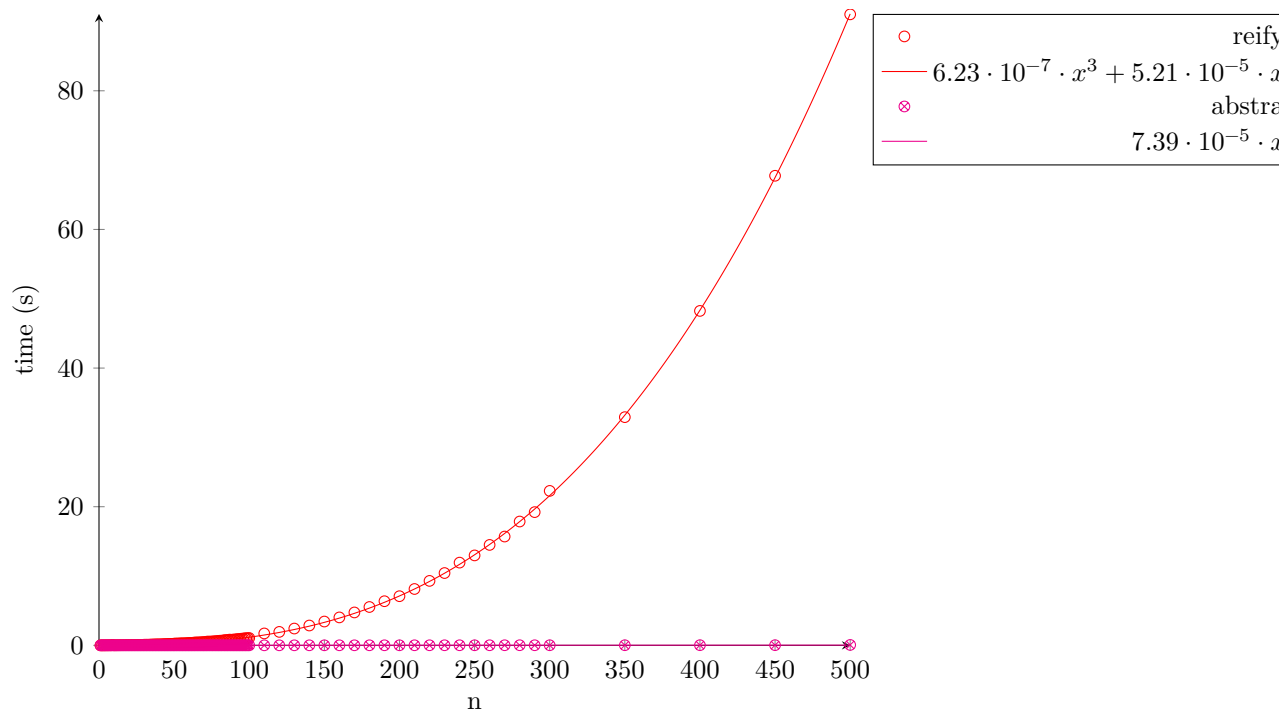
time (s)

14

12

10

8

6

4

2

0-nm

0 2,000 4,000 6,000 8,000 10,000 12,000 14,000 16,000 18,000

Legend:

○ rewrite-strat(bo

— $4.48 \cdot 10^{-3}$

★ rewrite-strat(to

— $4.63 \cdot 10^{-3}$

⊗ cps

— $7.8 \cdot 10^{-6} \cdot x^2 - 3$

◆ cps+vn

— $1.57 \cdot 10^{-10} \cdot x^2 + 4$

⬠ cps+native-compute-n

| cps

— $2.28 \cdot 10^{-10} \cdot x^2 + 5$

● cps+nati

— $1.71 \cdot 10^{-12} \cdot x^2 + 6$

○ cps

— $1.36 \cdot 10^{-10} \cdot x^2 + 3$

✳ cps+native-compute-n

□ cps+native-compute-native-co

△ cps+native-compute-na

⬠ cps-

— $1.39 \cdot 10^{-6} \cdot x^2 - 1$

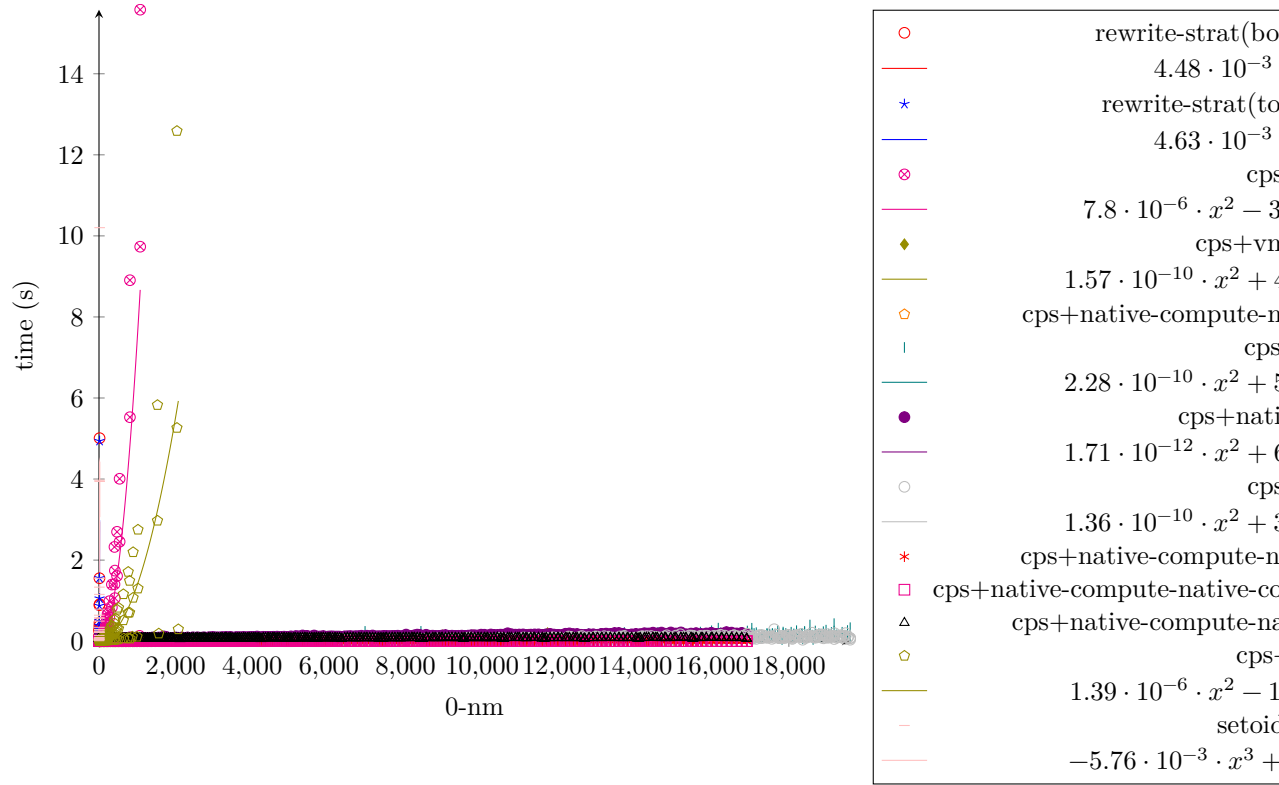— setoid

— $-5.76 \cdot 10^{-3} \cdot x^3 +$

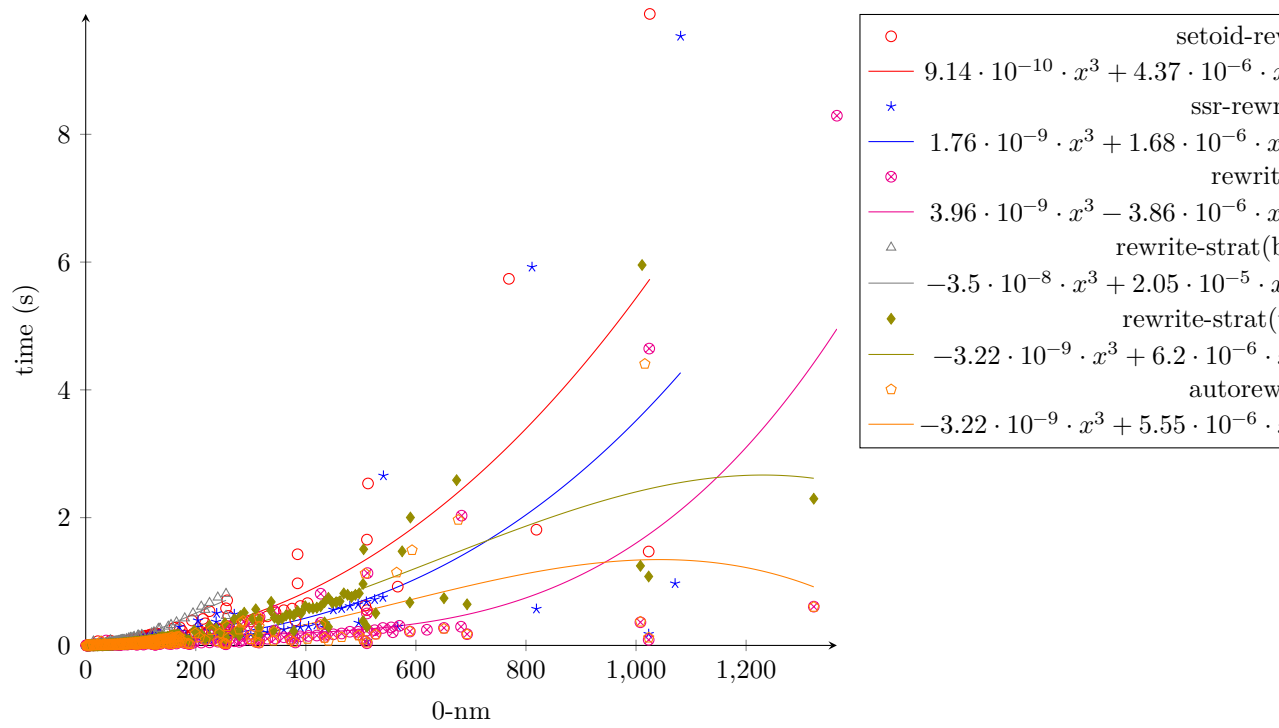Figure 15: timing-rewrite-lift-lets-map param-1-n 1, param-2-m 1

Figure 16: timing-rewrite-plus-0-tree param-1-n 0, param-2-m 1, param-3-input-size 5, param-4-output-size 3, param-5-num-rewrites 1
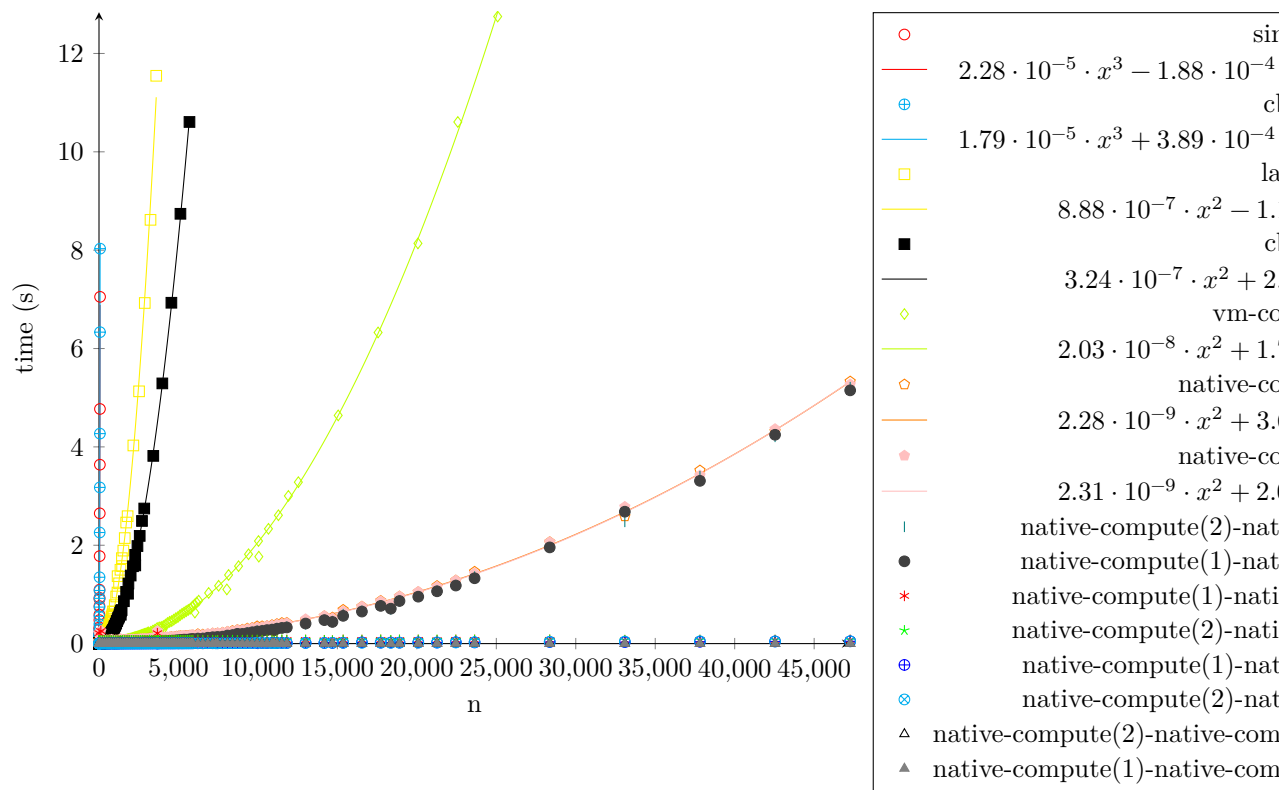
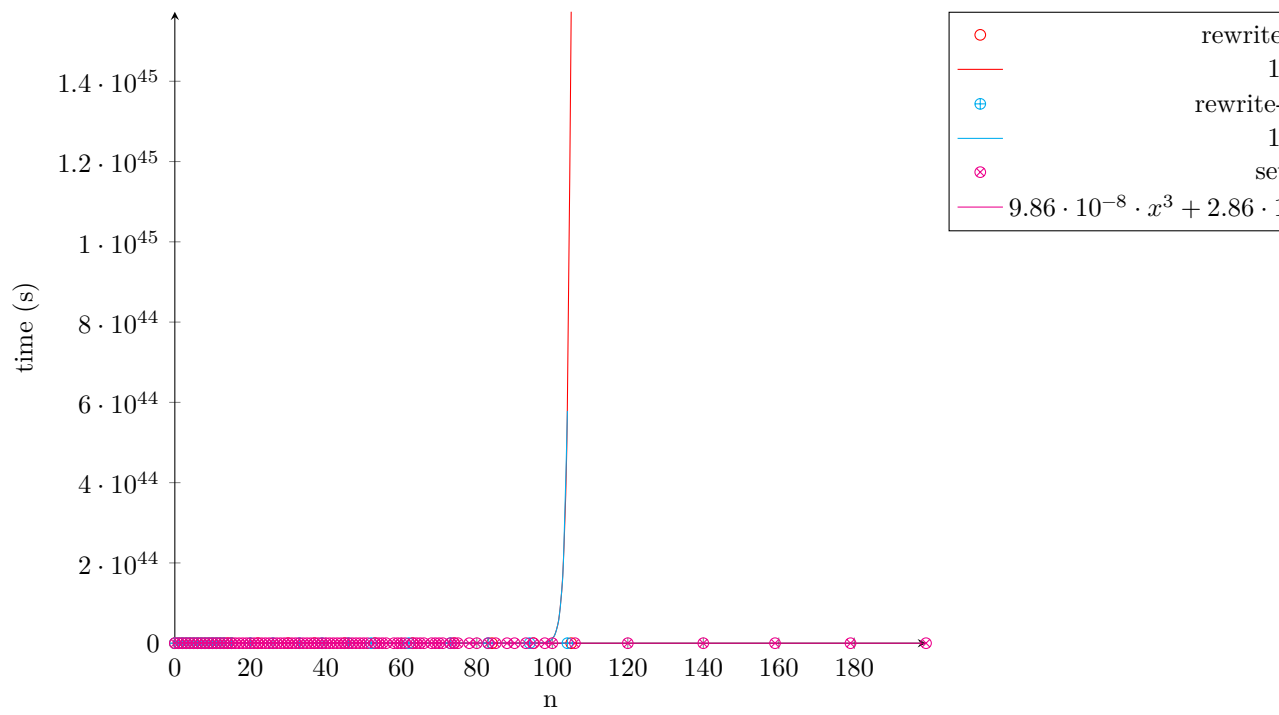Figure 17: timing-sieve-of-eratosthenes
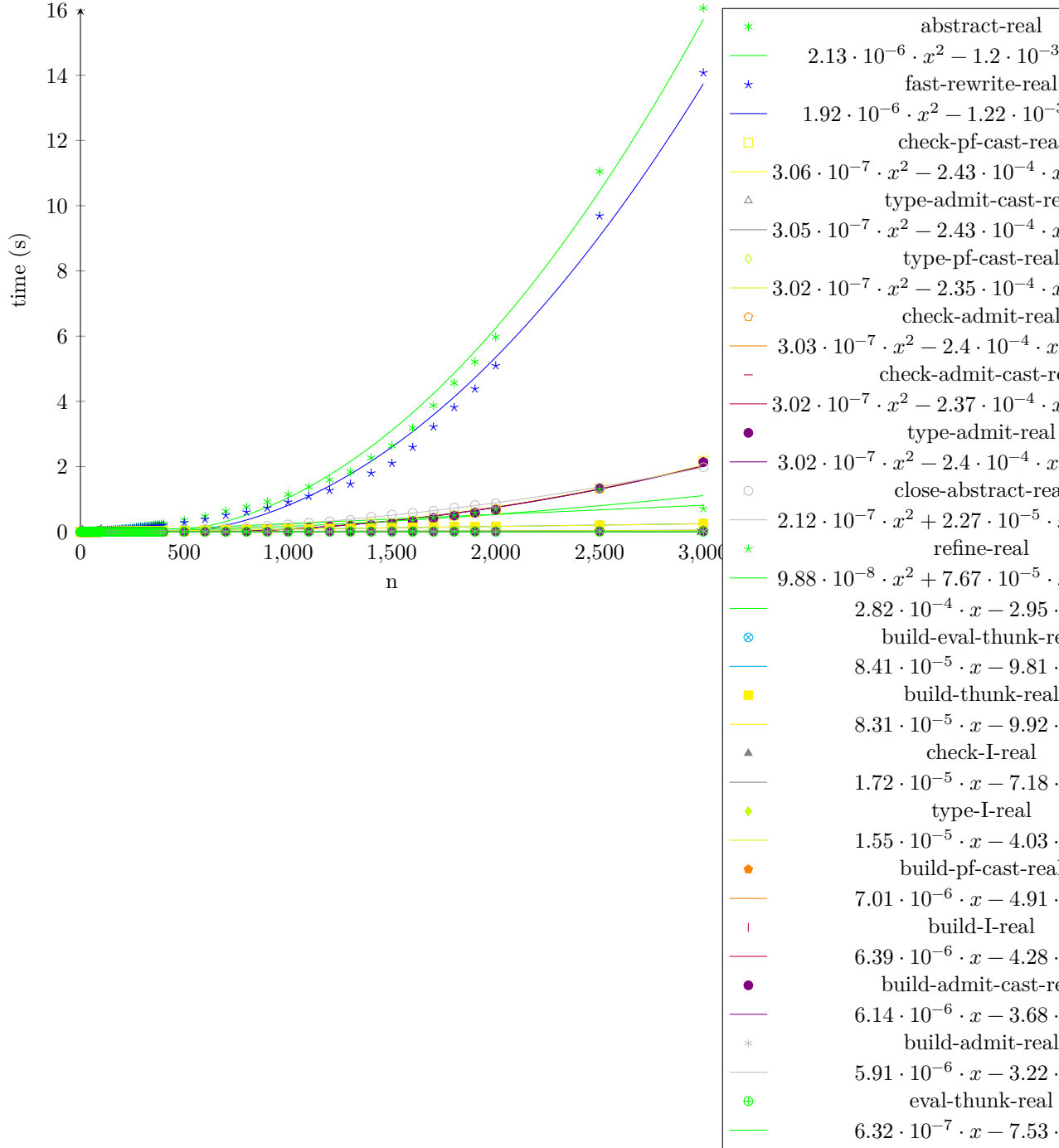
Figure 18: timing-rewrite-under-lets-plus-0

Figure 19: timing-rewrite-repeated-app-fast-rewrite-ltac2