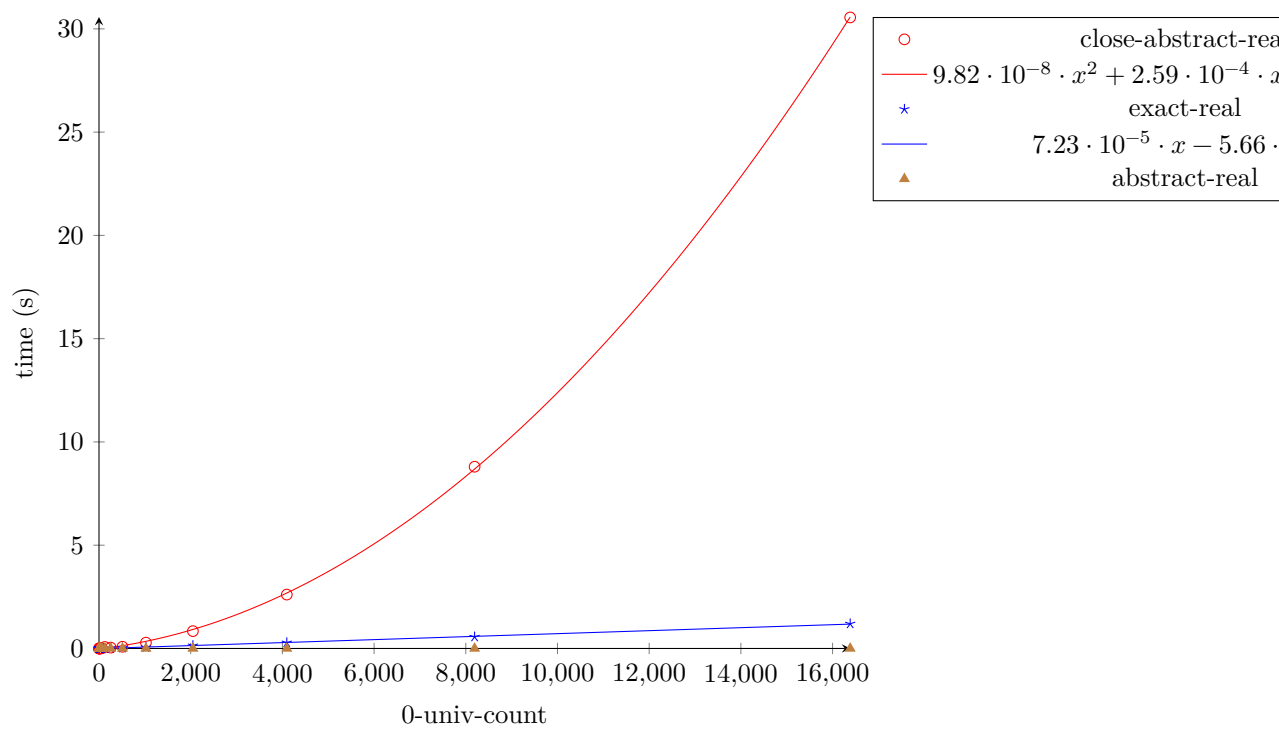Figure 1: timing-pattern

1

Figure 2: timing-n-polymorphic-universes param-1-n 0
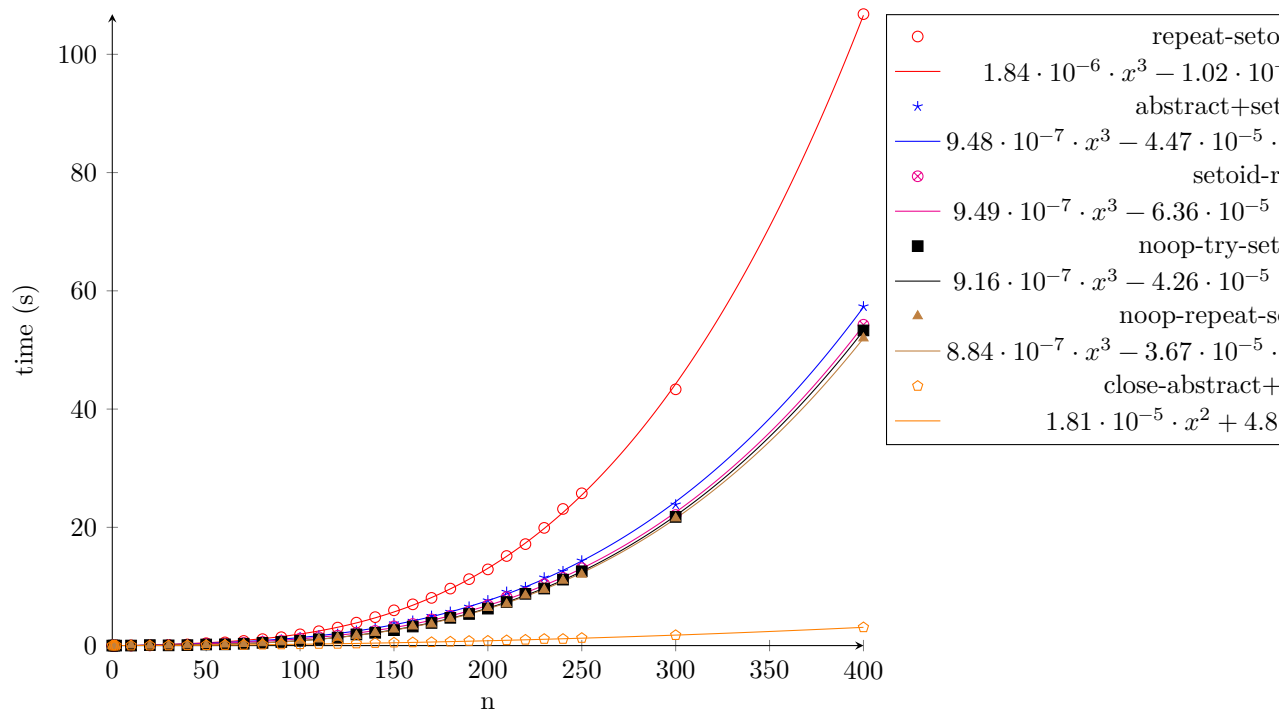
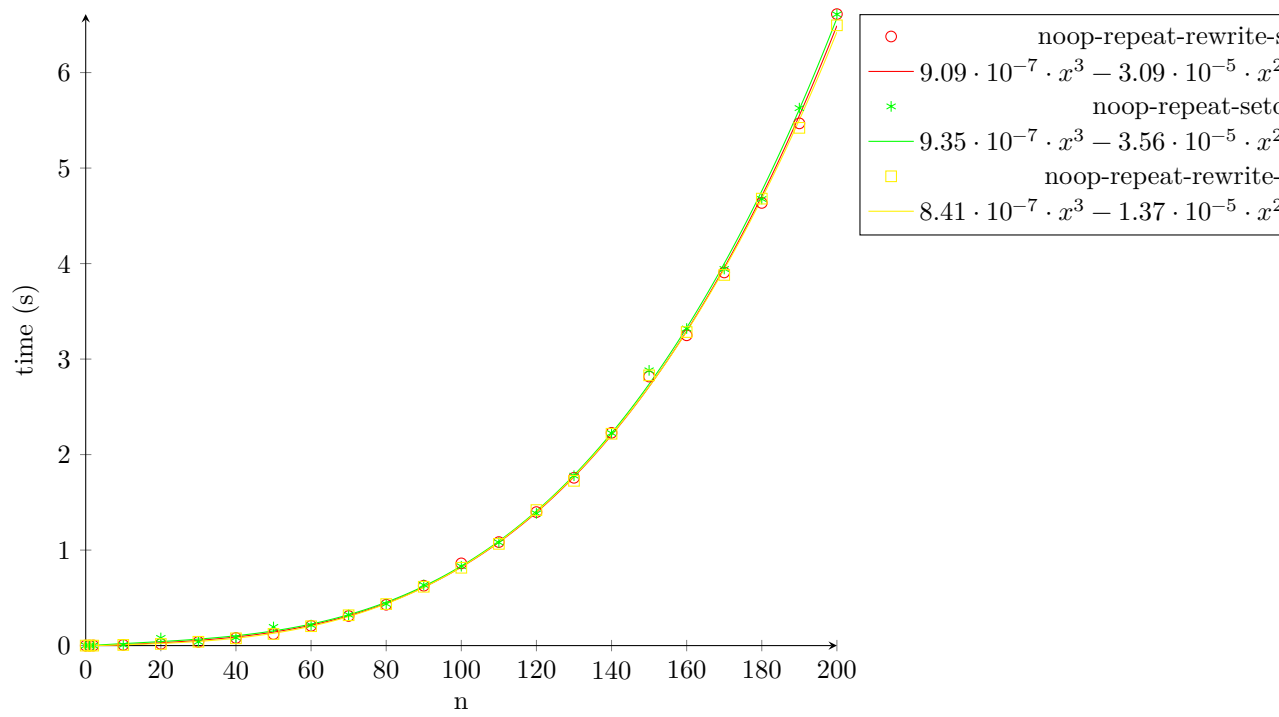Figure 3: timing-repeat-setoid-rewrite-under-binders

3

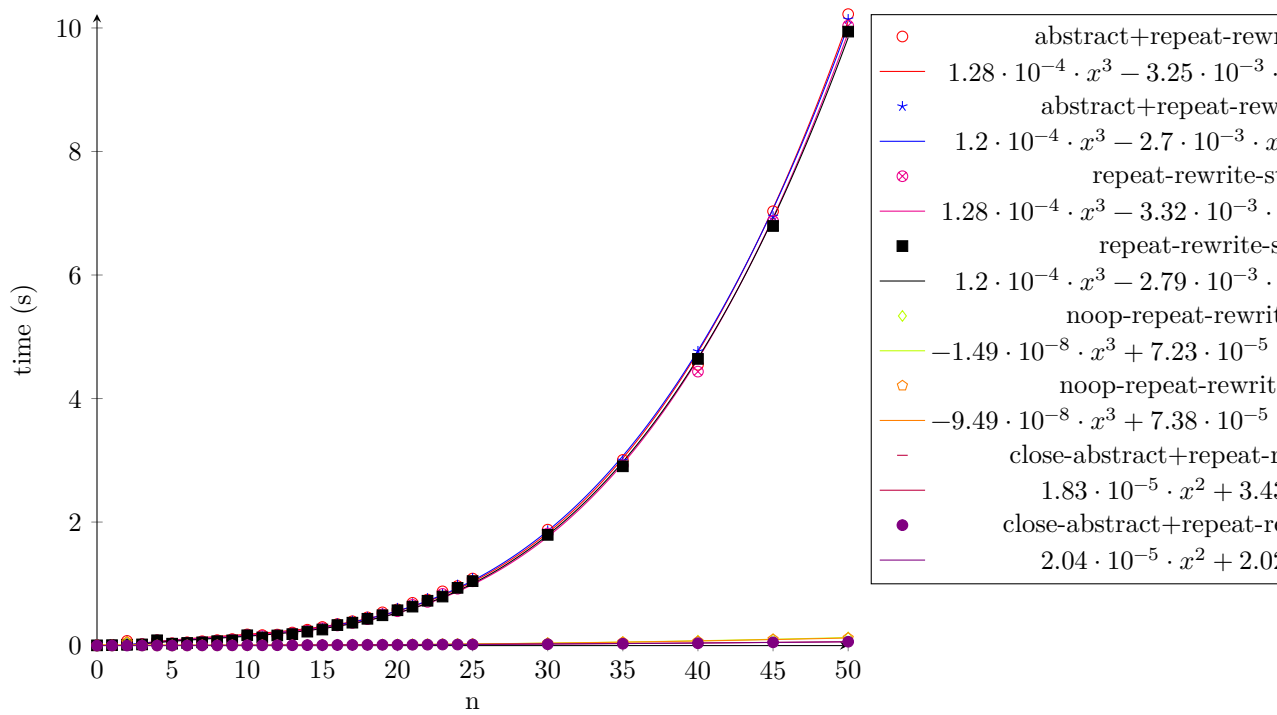Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

4

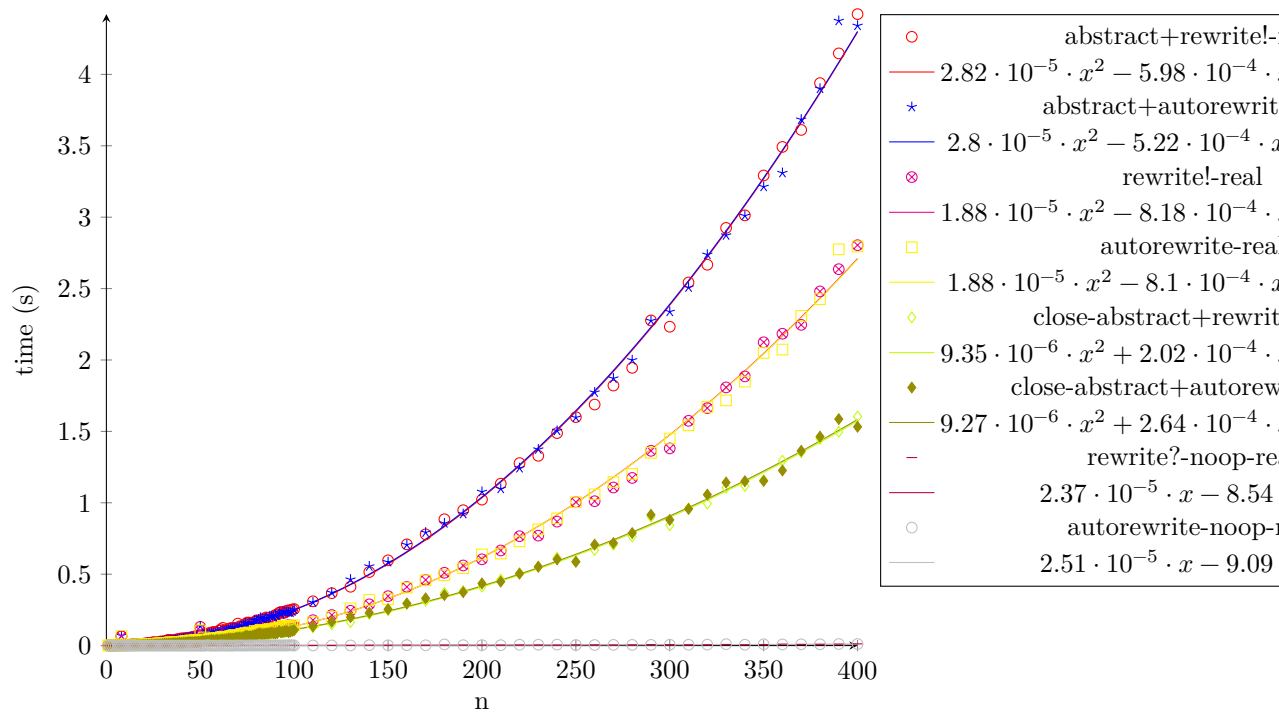Figure 5: timing-rewrite-strat-under-binders
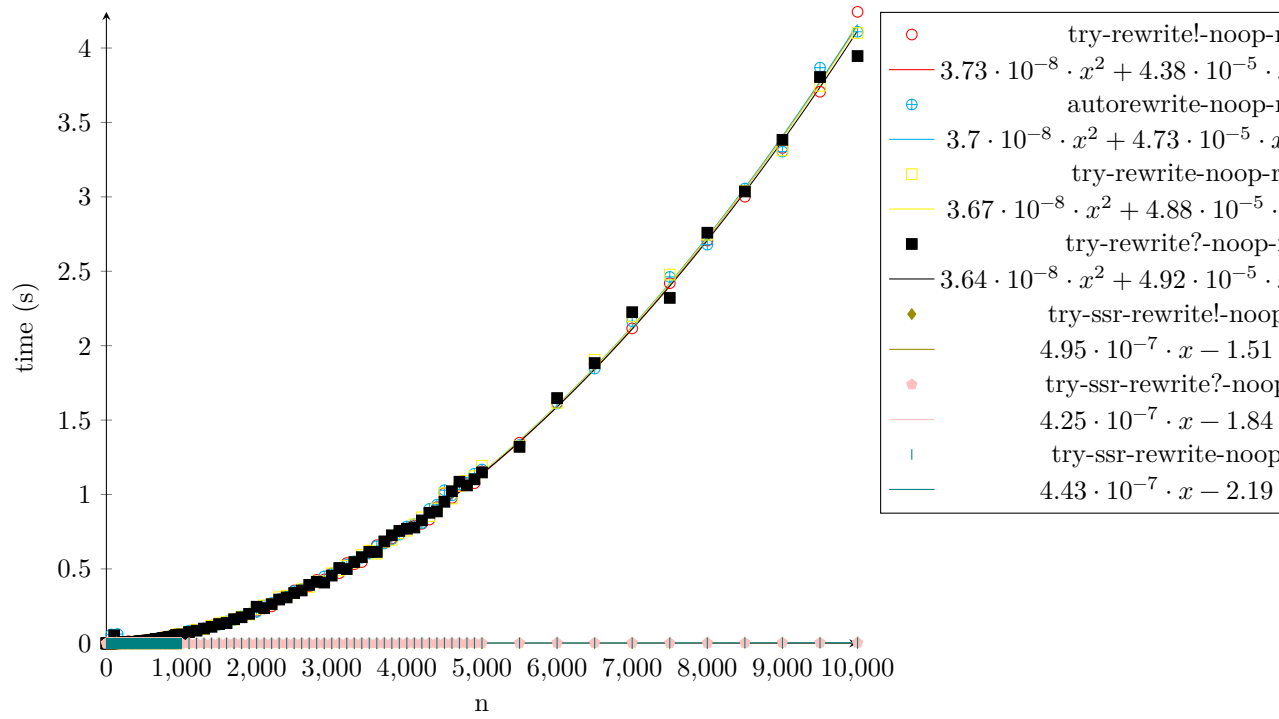
Figure 6: timing-rewrite-repeated-app-autorewrite

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

Legend:

try-rewrite!-noop-r
$3.73 \cdot 10^{-8} \cdot x^2 + 4.38 \cdot 10^{-5} \cdot x$

autorewrite-noop-
$3.7 \cdot 10^{-8} \cdot x^2 + 4.73 \cdot 10^{-5} \cdot x$

try-rewrite-noop-
$3.67 \cdot 10^{-8} \cdot x^2 + 4.88 \cdot 10^{-5} \cdot x$

try-rewrite?-noop-
$3.64 \cdot 10^{-8} \cdot x^2 + 4.92 \cdot 10^{-5} \cdot x$

try-ssr-rewrite!-noop
$4.95 \cdot 10^{-7} \cdot x - 1.51$

try-ssr-rewrite?-noop
$4.25 \cdot 10^{-7} \cdot x - 1.84$

try-ssr-rewrite-noop
$4.43 \cdot 10^{-7} \cdot x - 2.19$

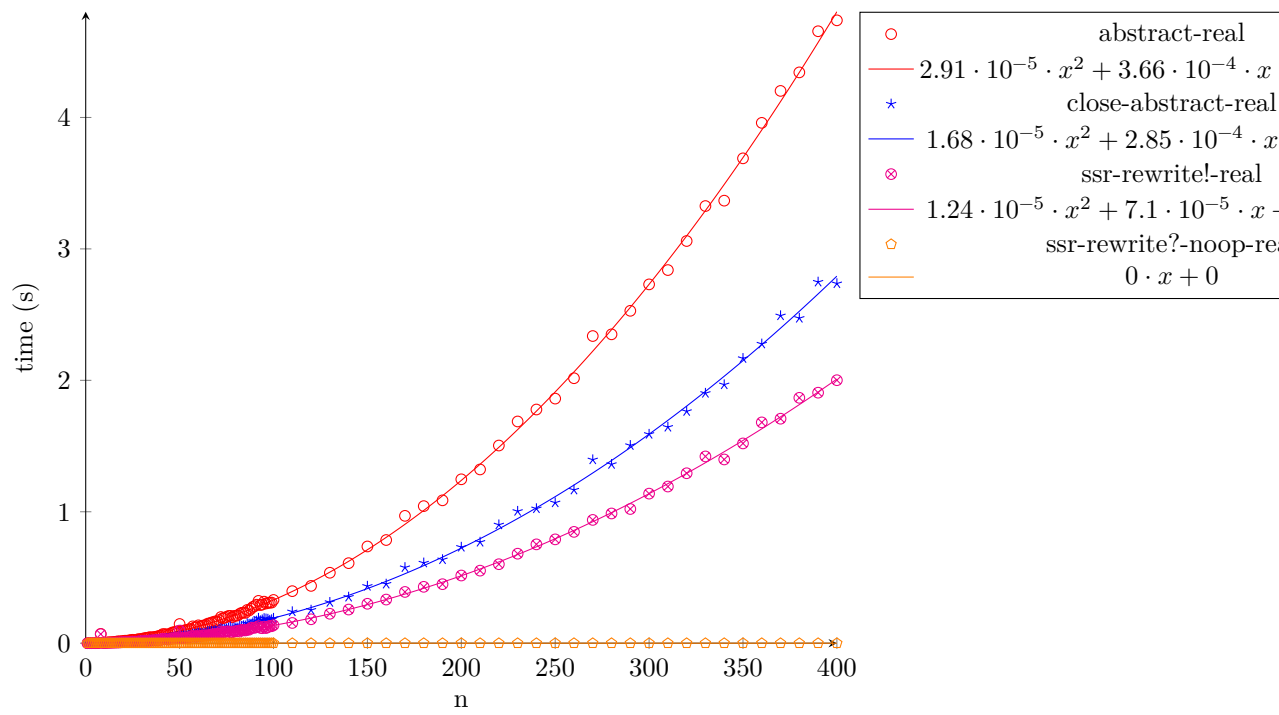Axis labels: time (s) (vertical), n (horizontal)

Figure 8: timing-rewrite-repeated-app-ssrrewrite

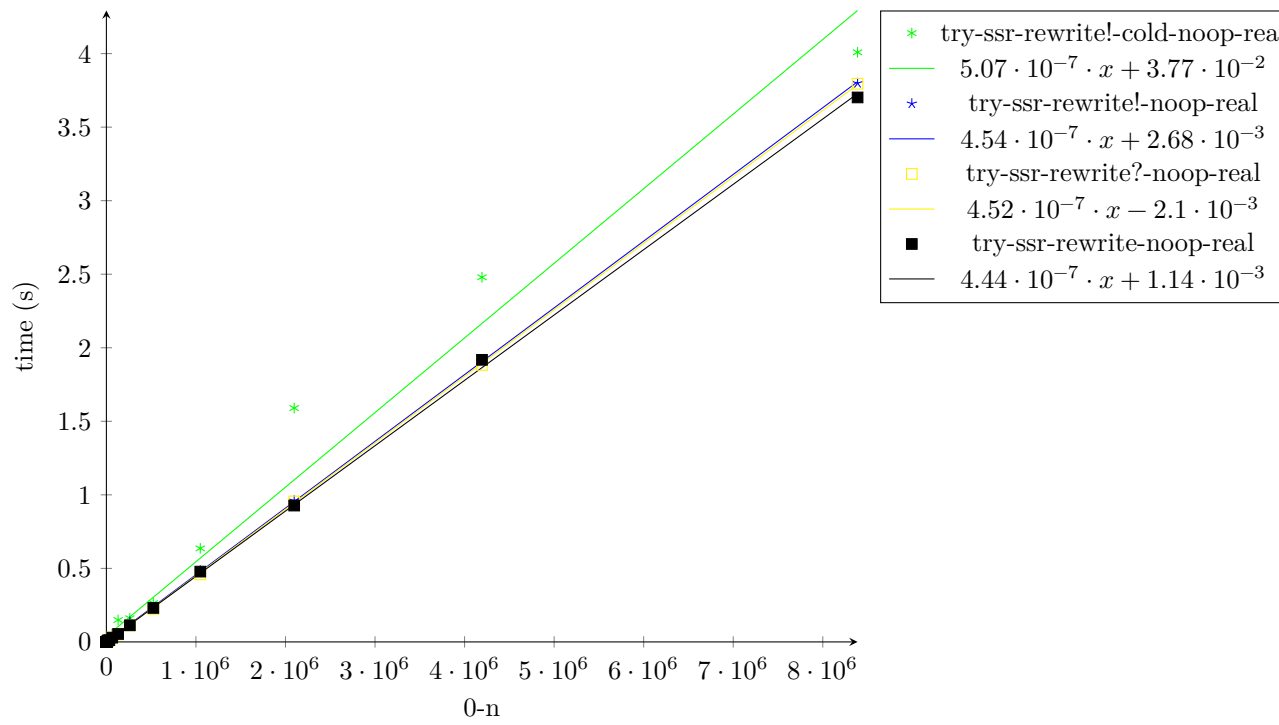Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

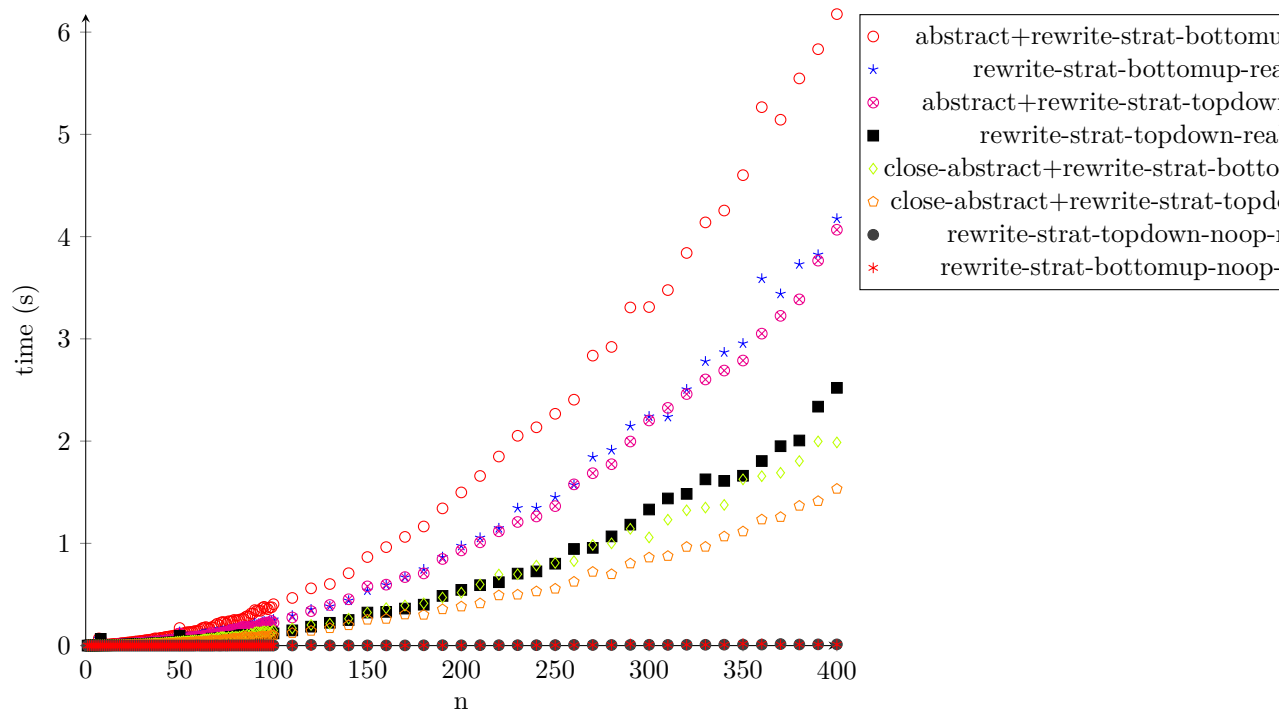Figure 10: timing-rewrite-repeated-app-rewrite-strat

The figure legend contains:
- abstract+rewrite-strat-bottomu
- rewrite-strat-bottomup-rea
- abstract+rewrite-strat-topdow
- rewrite-strat-topdown-rea
- close-abstract+rewrite-strat-botto
- close-abstract+rewrite-strat-topd
- rewrite-strat-topdown-noop-
- rewrite-strat-bottomup-noop-

Axis labels: time (s) on the vertical axis, n on the horizontal axis.
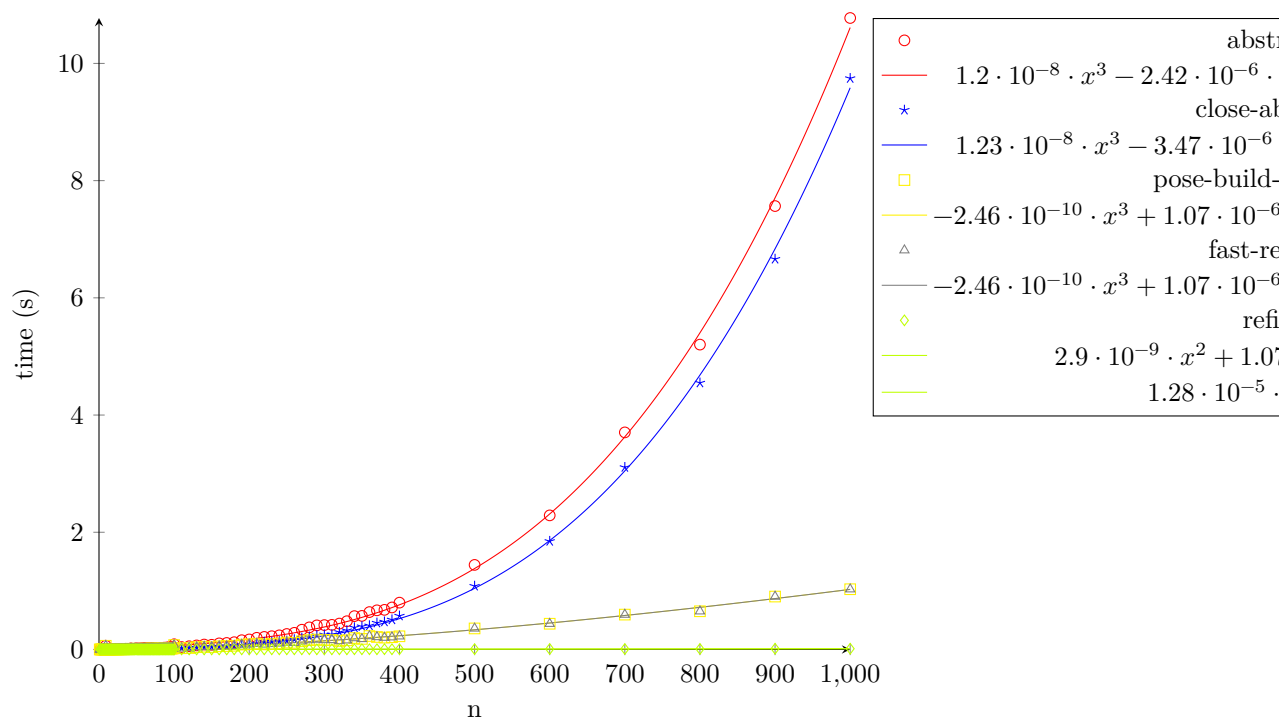
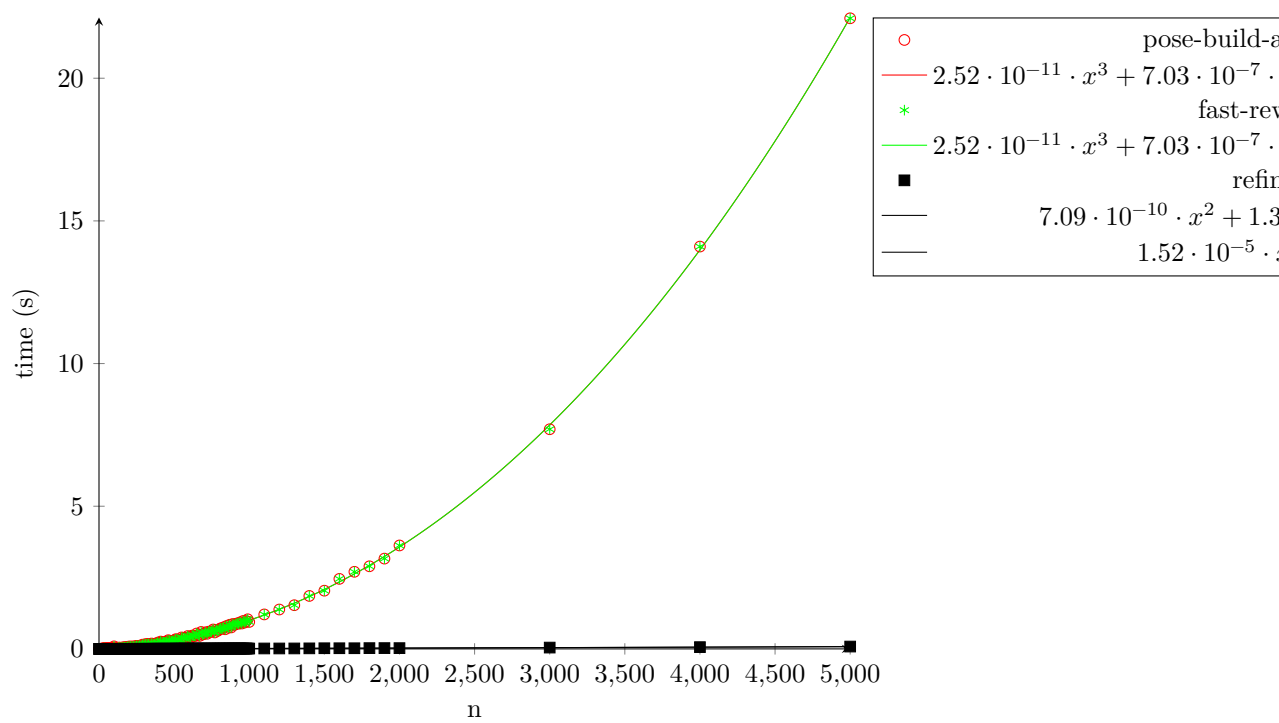Figure 11: timing-rewrite-repeated-app-fast-rewrite

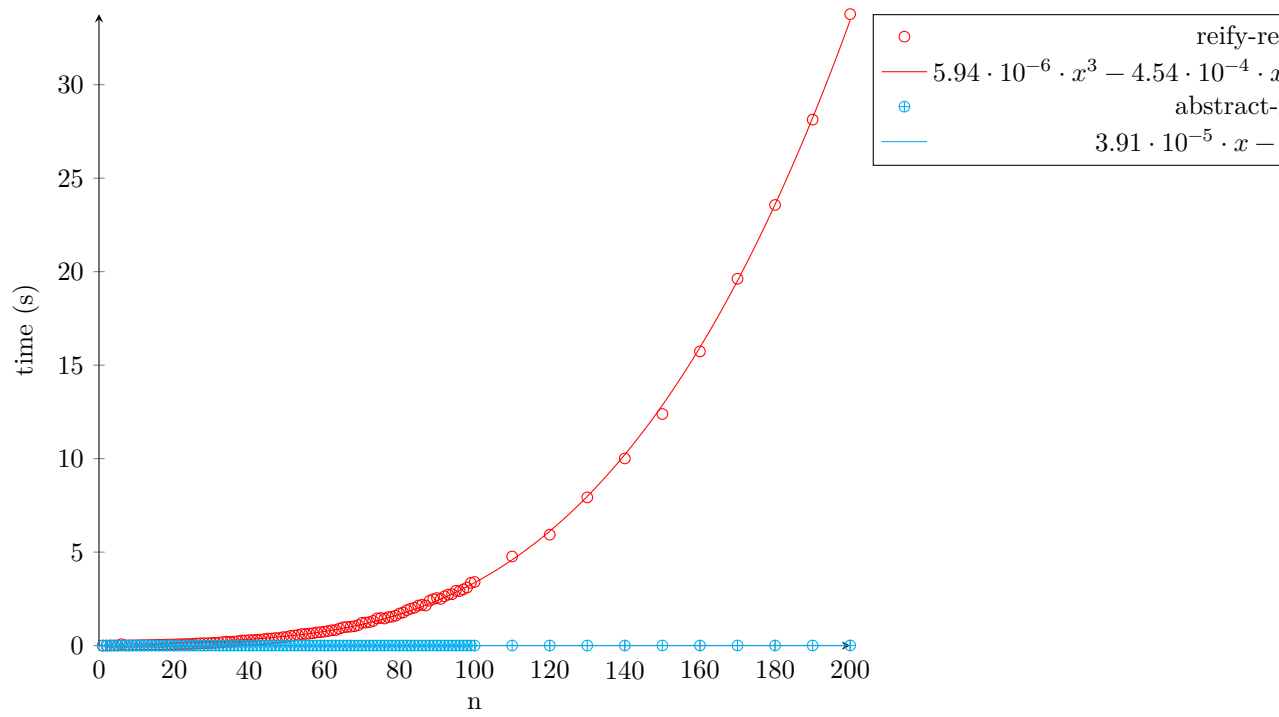Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

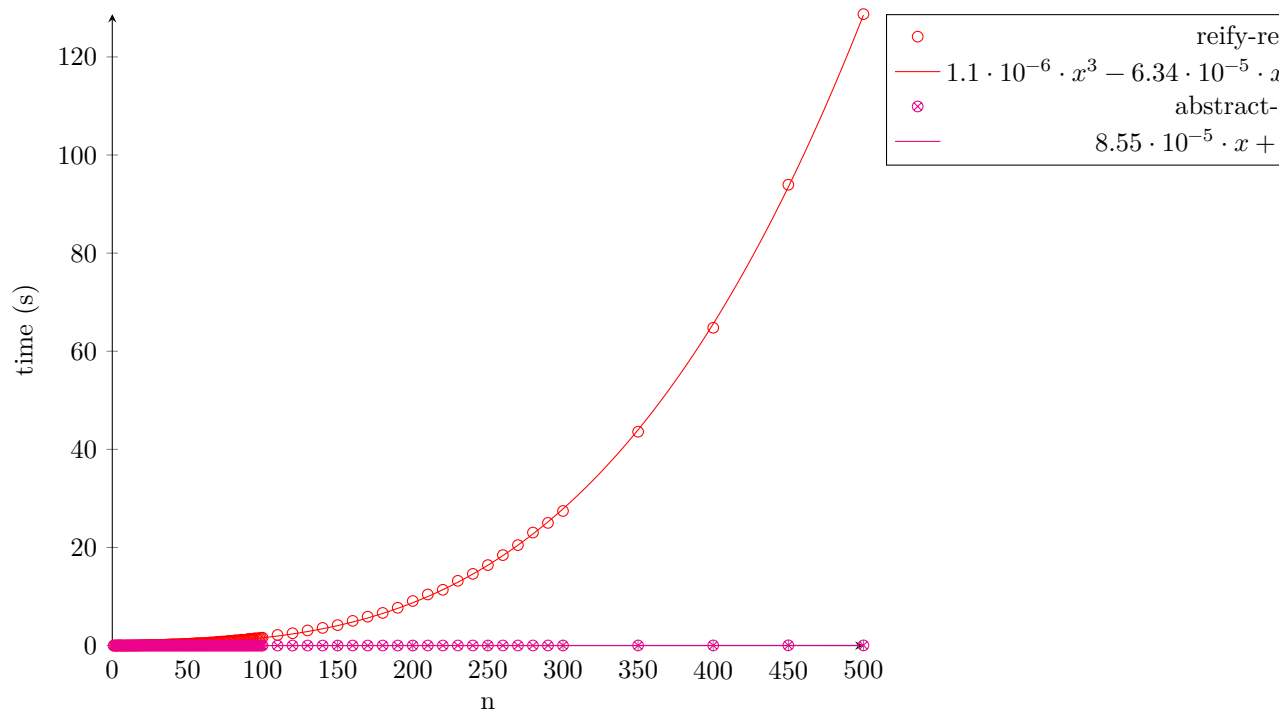Figure 13: timing-typeclass-reification-let-in-HOAS

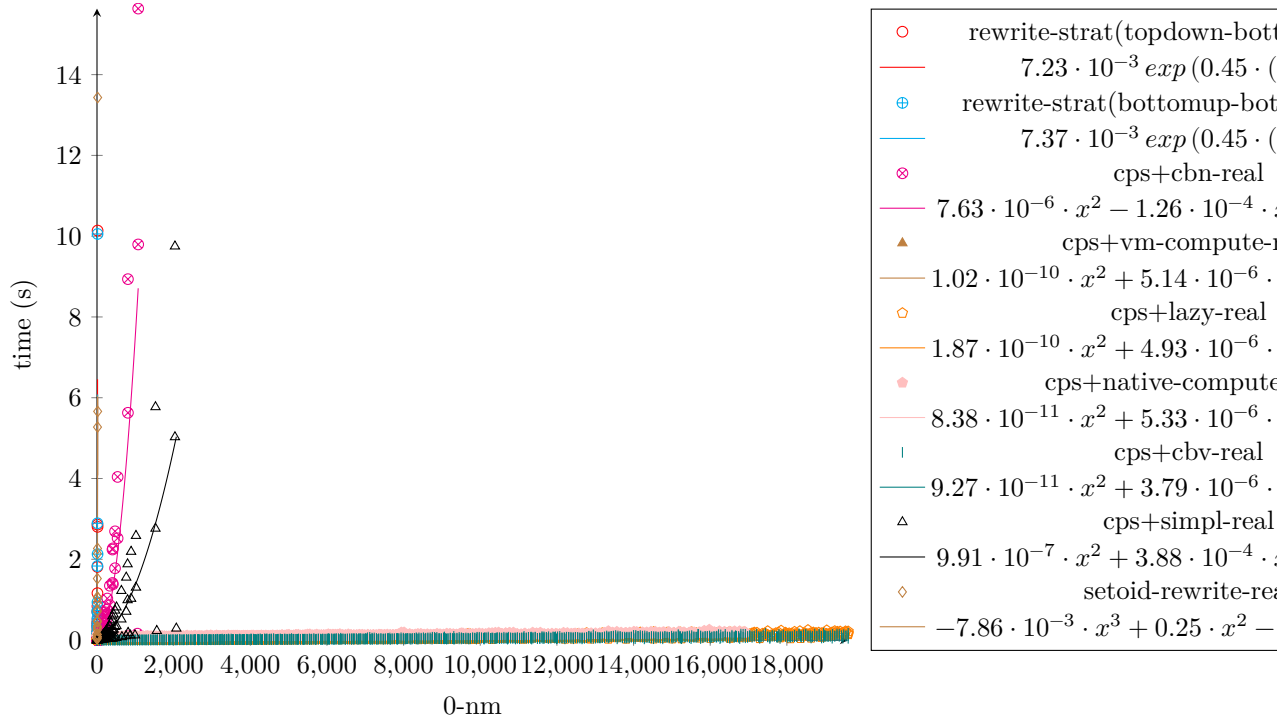Figure 14: timing-typeclass-reification-let-in-PHOAS

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

Legend:

- rewrite-strat(topdown-bott...
  $7.23 \cdot 10^{-3} \, exp \, (0.45 \cdot ($
- rewrite-strat(bottomup-bot...
  $7.37 \cdot 10^{-3} \, exp \, (0.45 \cdot ($
- cps+cbn-real
  $7.63 \cdot 10^{-6} \cdot x^2 - 1.26 \cdot 10^{-4} \cdot$
- cps+vm-compute-r...
  $1.02 \cdot 10^{-10} \cdot x^2 + 5.14 \cdot 10^{-6} \cdot$
- cps+lazy-real
  $1.87 \cdot 10^{-10} \cdot x^2 + 4.93 \cdot 10^{-6} \cdot$
- cps+native-compute...
  $8.38 \cdot 10^{-11} \cdot x^2 + 5.33 \cdot 10^{-6} \cdot$
- cps+cbv-real
  $9.27 \cdot 10^{-11} \cdot x^2 + 3.79 \cdot 10^{-6} \cdot$
- cps+simpl-real
  $9.91 \cdot 10^{-7} \cdot x^2 + 3.88 \cdot 10^{-4} \cdot$
- setoid-rewrite-re...
  $-7.86 \cdot 10^{-3} \cdot x^3 + 0.25 \cdot x^2 -$
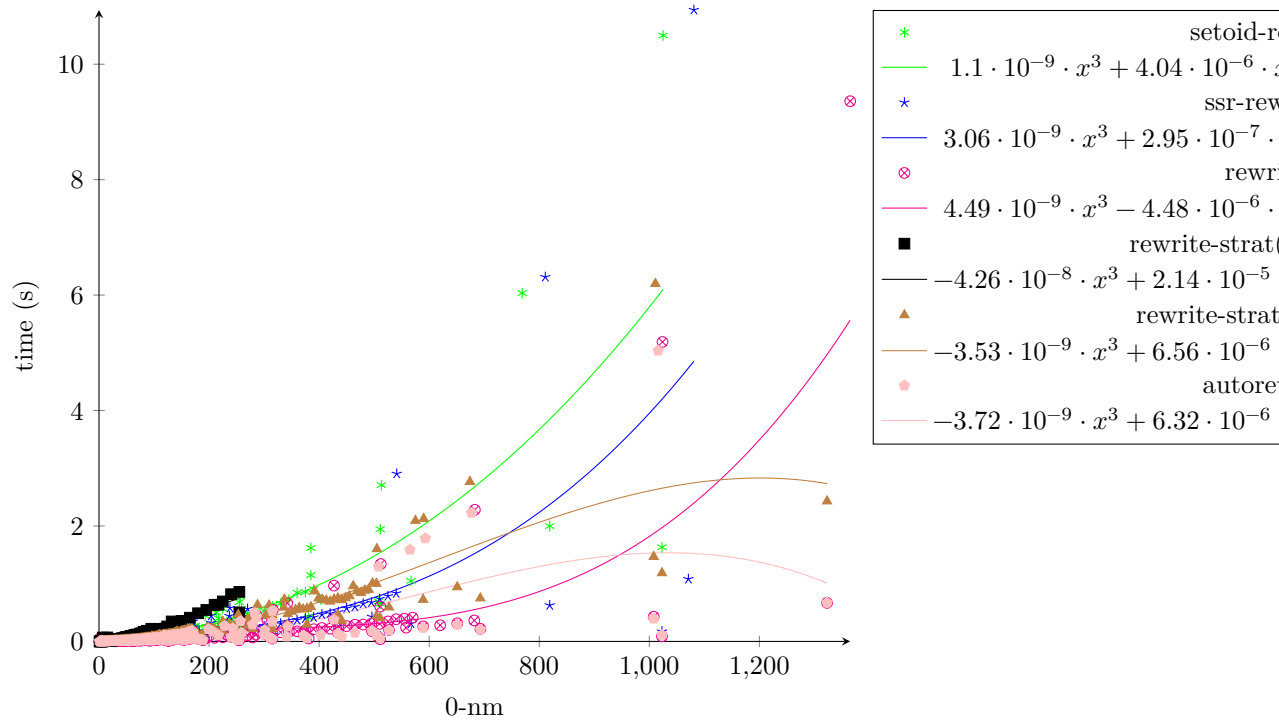
Axis labels: time (s), 0-nm

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
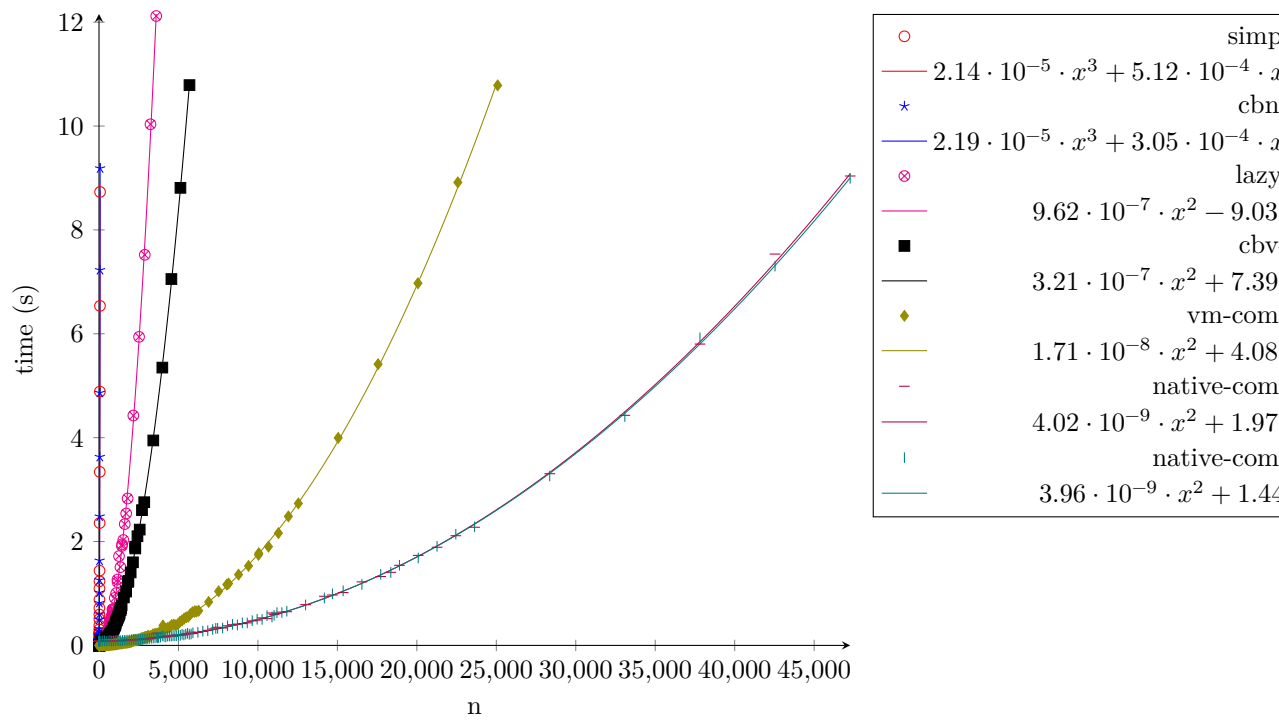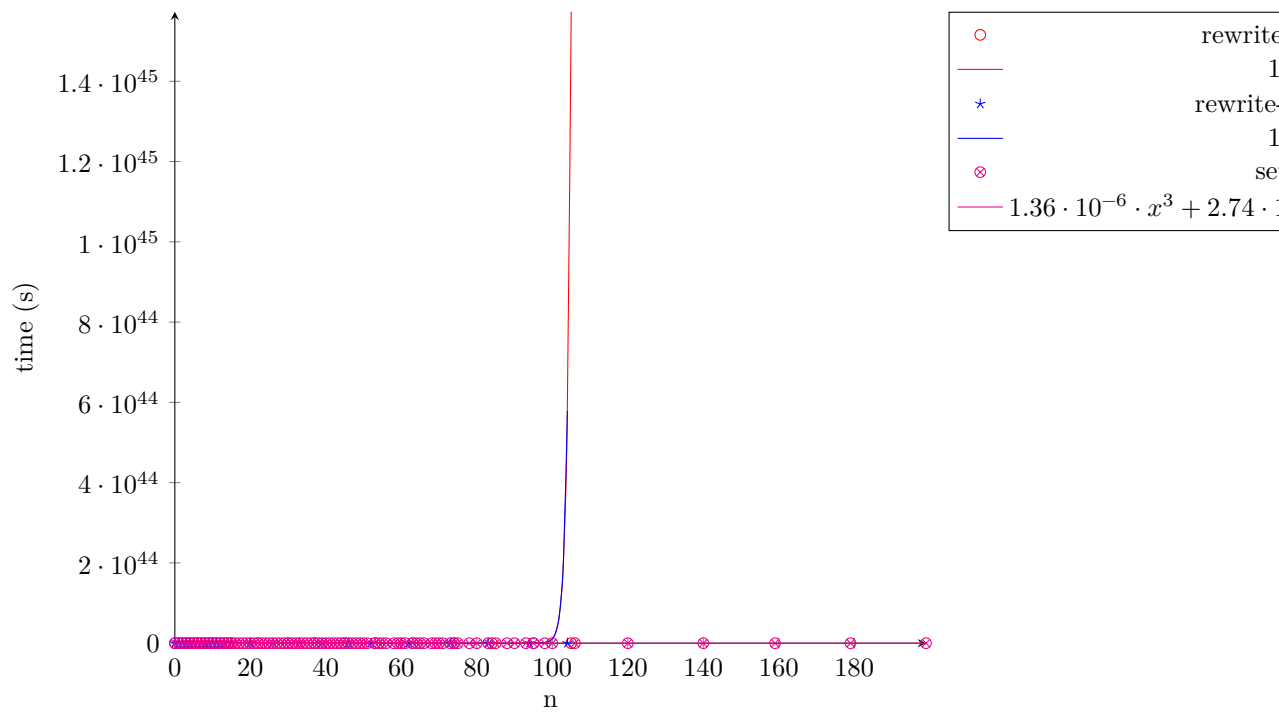
Figure 17: timing-sieve-of-eratosthenes

Figure 18: timing-rewrite-under-lets-plus-0