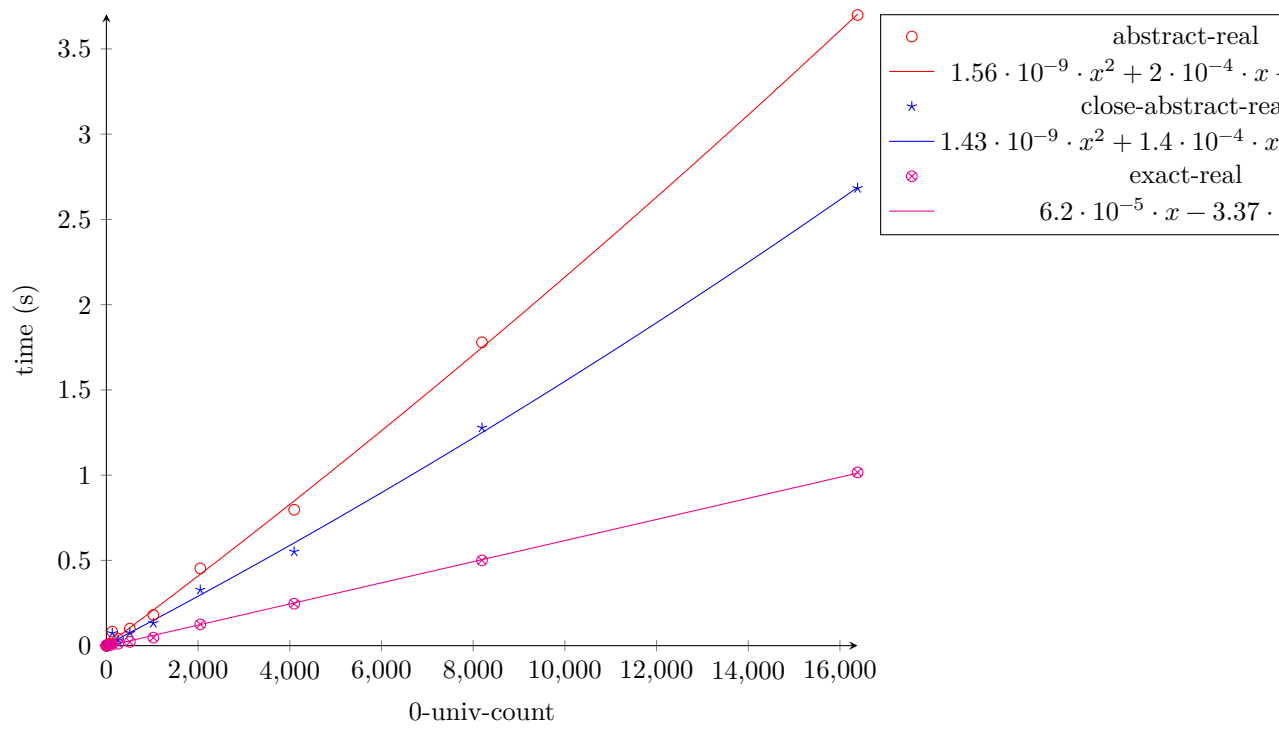Figure 1: timing-pattern

1

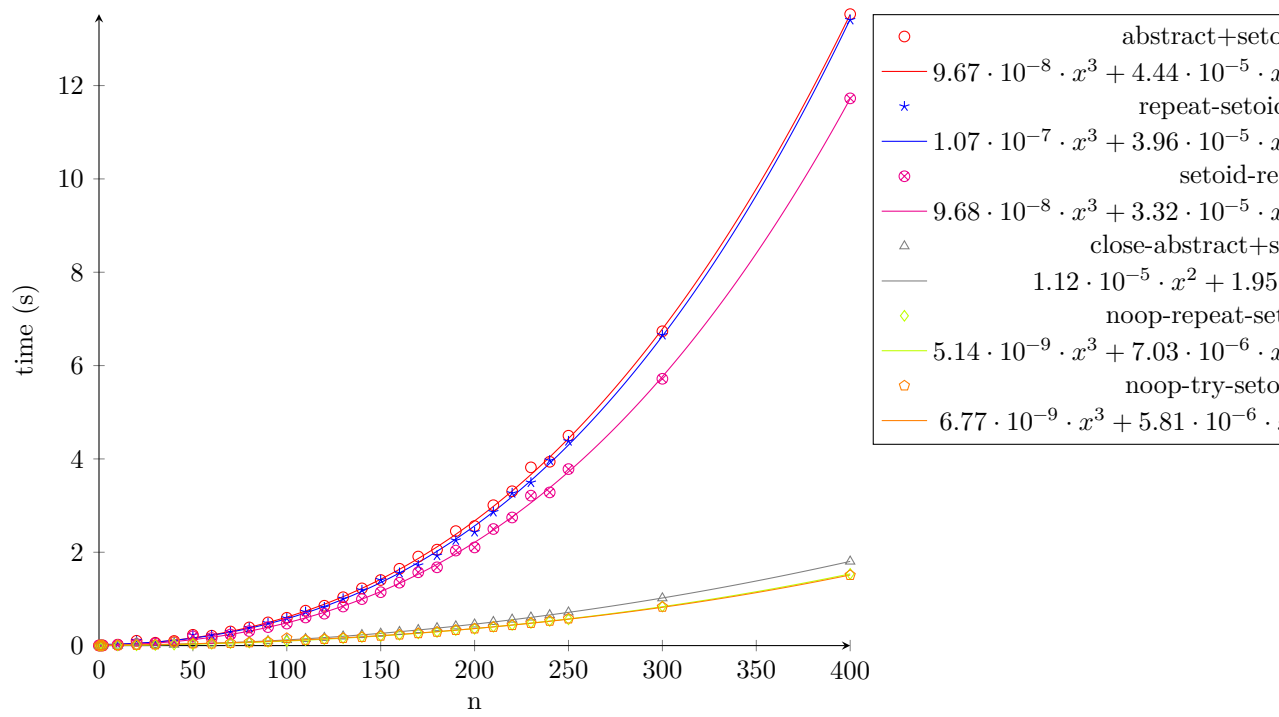Figure 2: timing-n-polymorphic-universes param-1-n   0

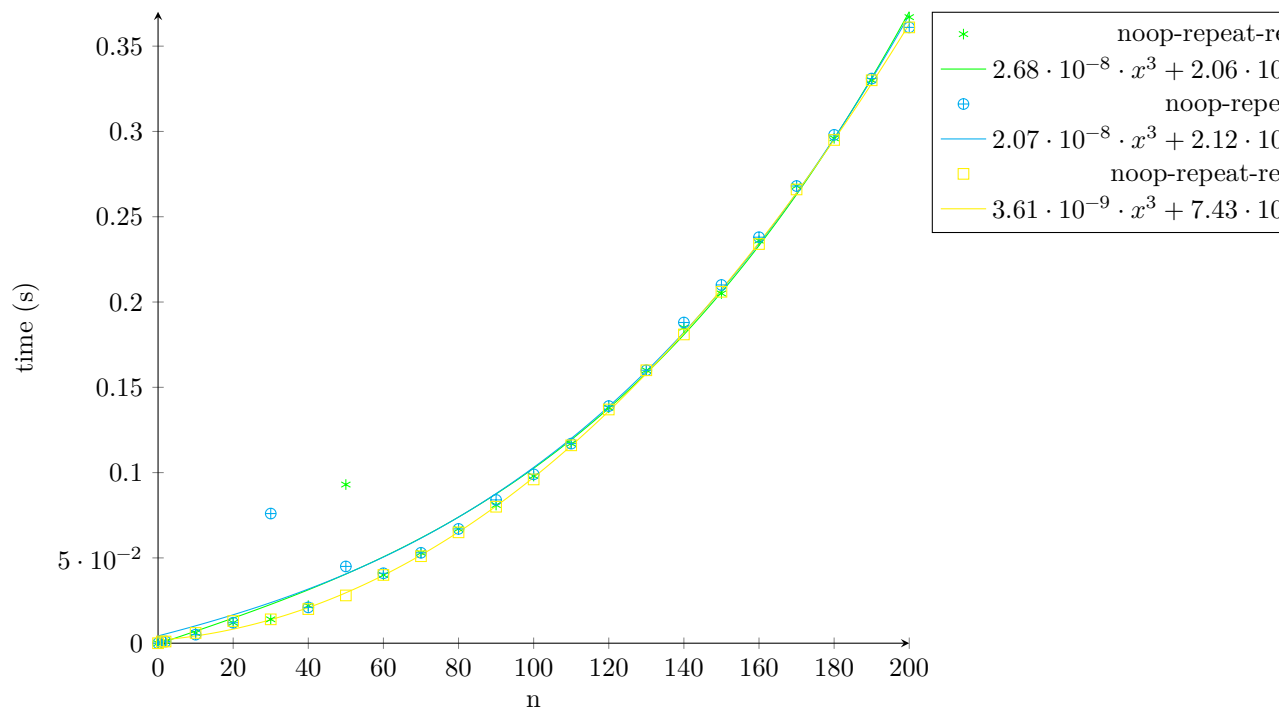Figure 3: timing-repeat-setoid-rewrite-under-binders

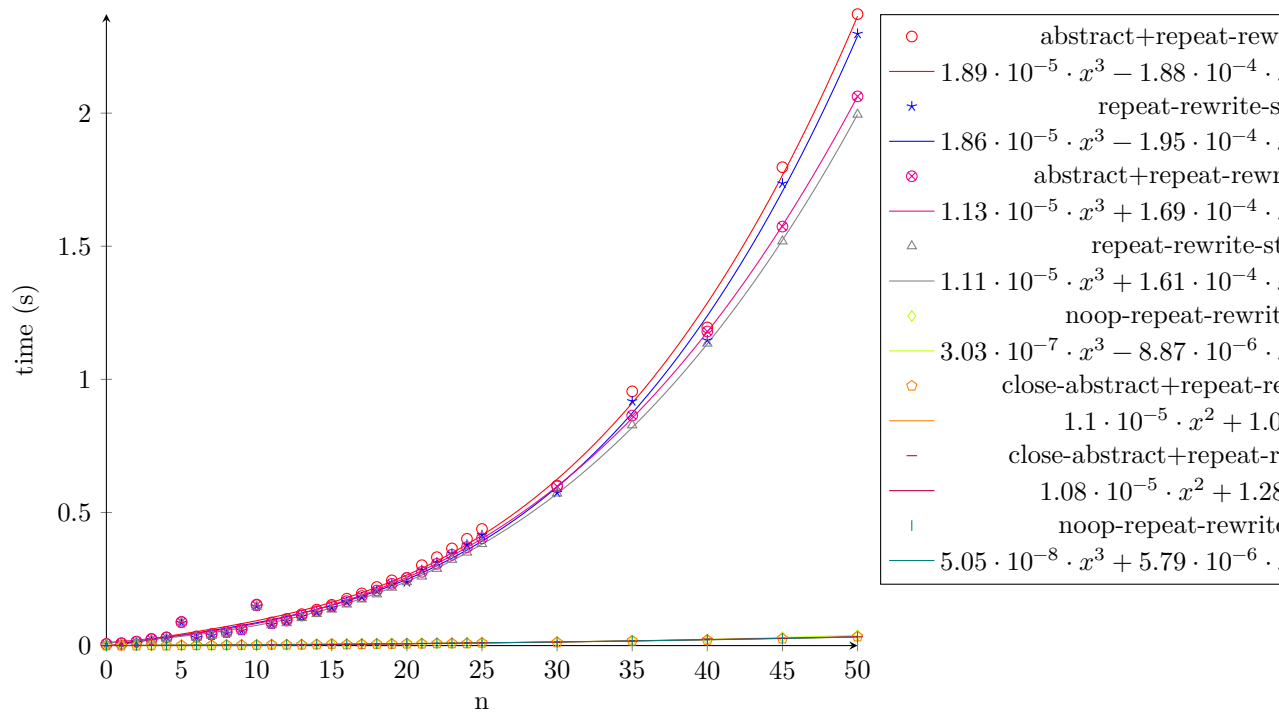Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

4

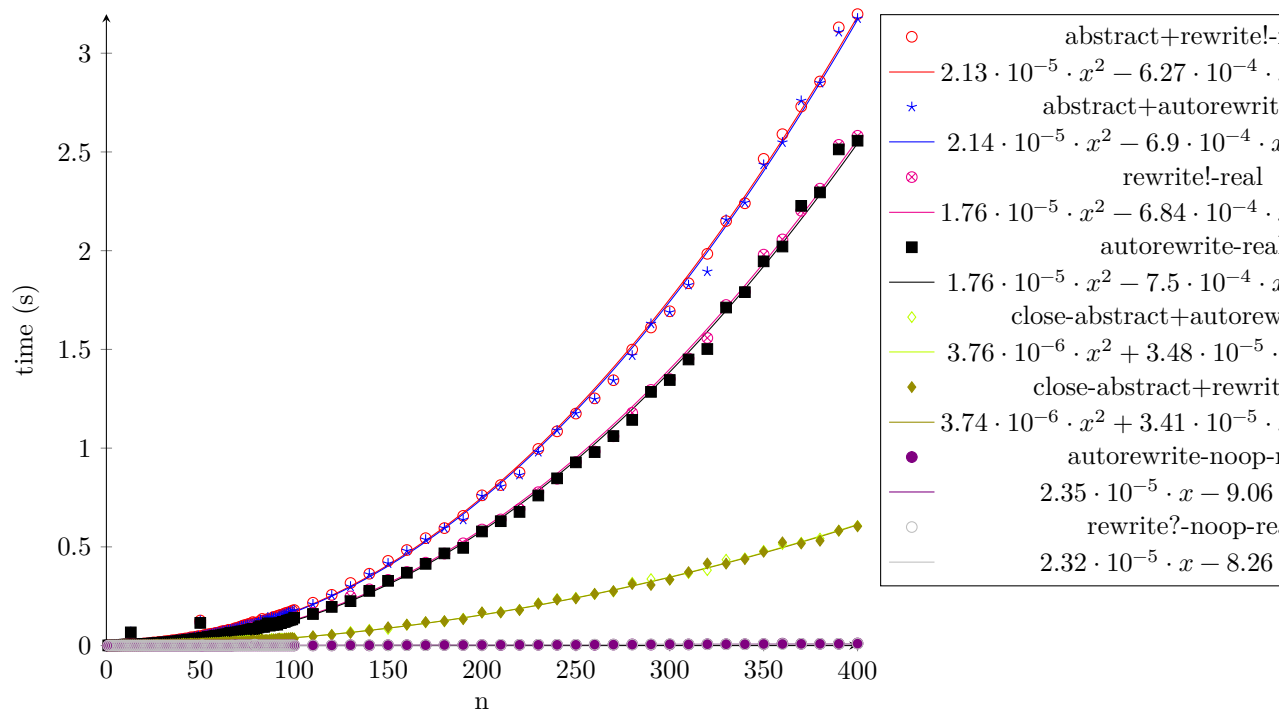Figure 5: timing-rewrite-strat-under-binders

Figure 6: timing-rewrite-repeated-app-autorewrite

time (s)

n

abstract+rewrite!-
$2.13 \cdot 10^{-5} \cdot x^2 - 6.27 \cdot 10^{-4} \cdot$
abstract+autorewrit
$2.14 \cdot 10^{-5} \cdot x^2 - 6.9 \cdot 10^{-4} \cdot$
rewrite!-real
$1.76 \cdot 10^{-5} \cdot x^2 - 6.84 \cdot 10^{-4} \cdot$
autorewrite-rea
$1.76 \cdot 10^{-5} \cdot x^2 - 7.5 \cdot 10^{-4} \cdot$
close-abstract+autorew
$3.76 \cdot 10^{-6} \cdot x^2 + 3.48 \cdot 10^{-5} \cdot$
close-abstract+rewrit
$3.74 \cdot 10^{-6} \cdot x^2 + 3.41 \cdot 10^{-5} \cdot$
autorewrite-noop-
$2.35 \cdot 10^{-5} \cdot x - 9.06$
rewrite?-noop-re
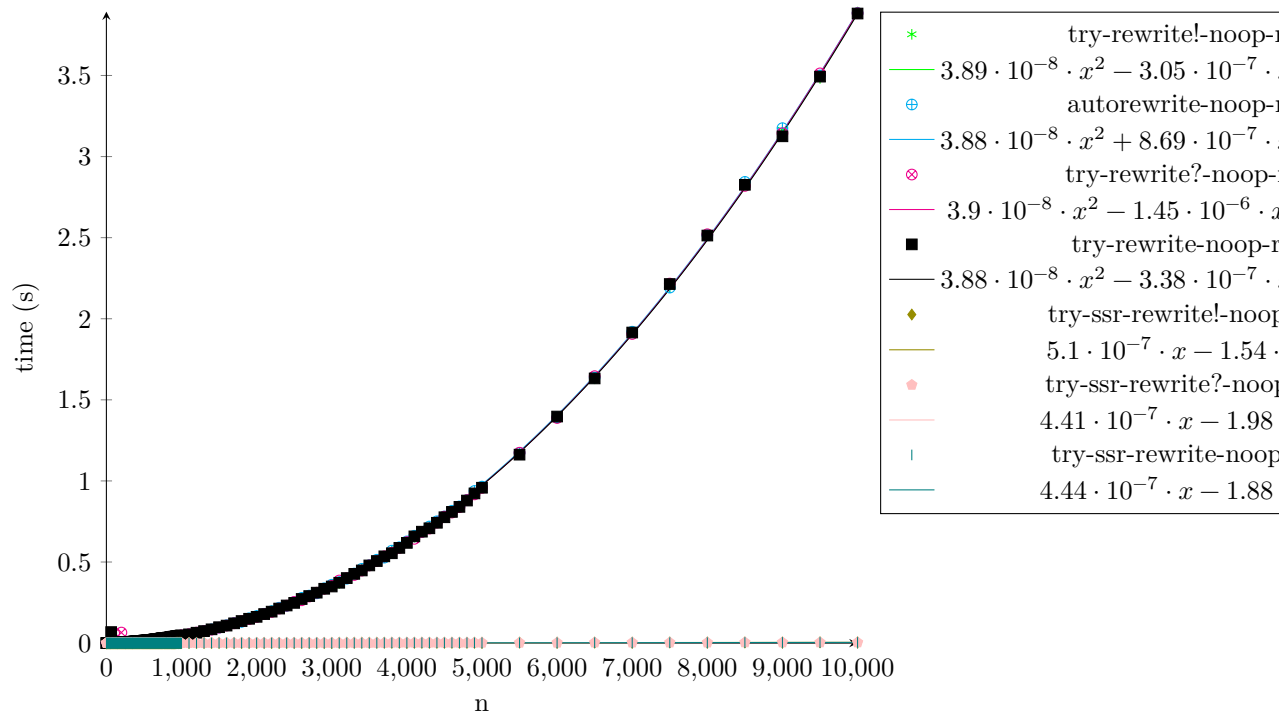$2.32 \cdot 10^{-5} \cdot x - 8.26$

6

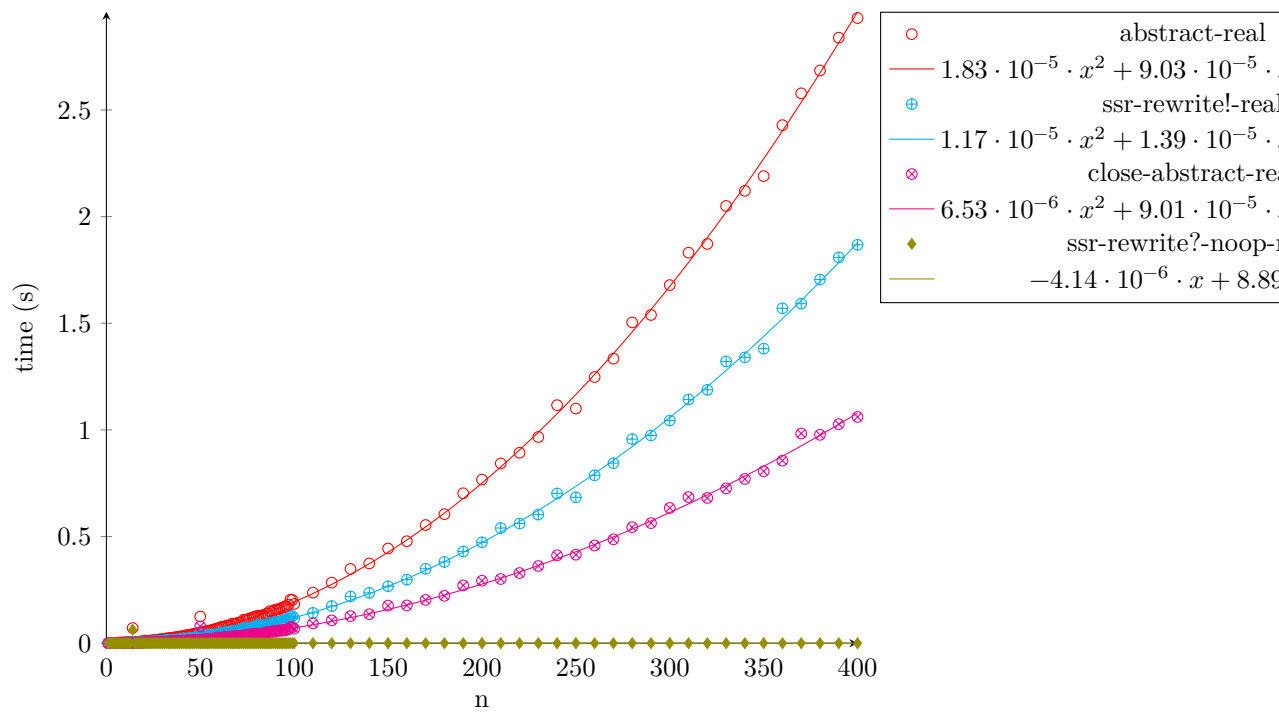Figure 7: timing-rewrite-repeated-app-autorewrite-noop

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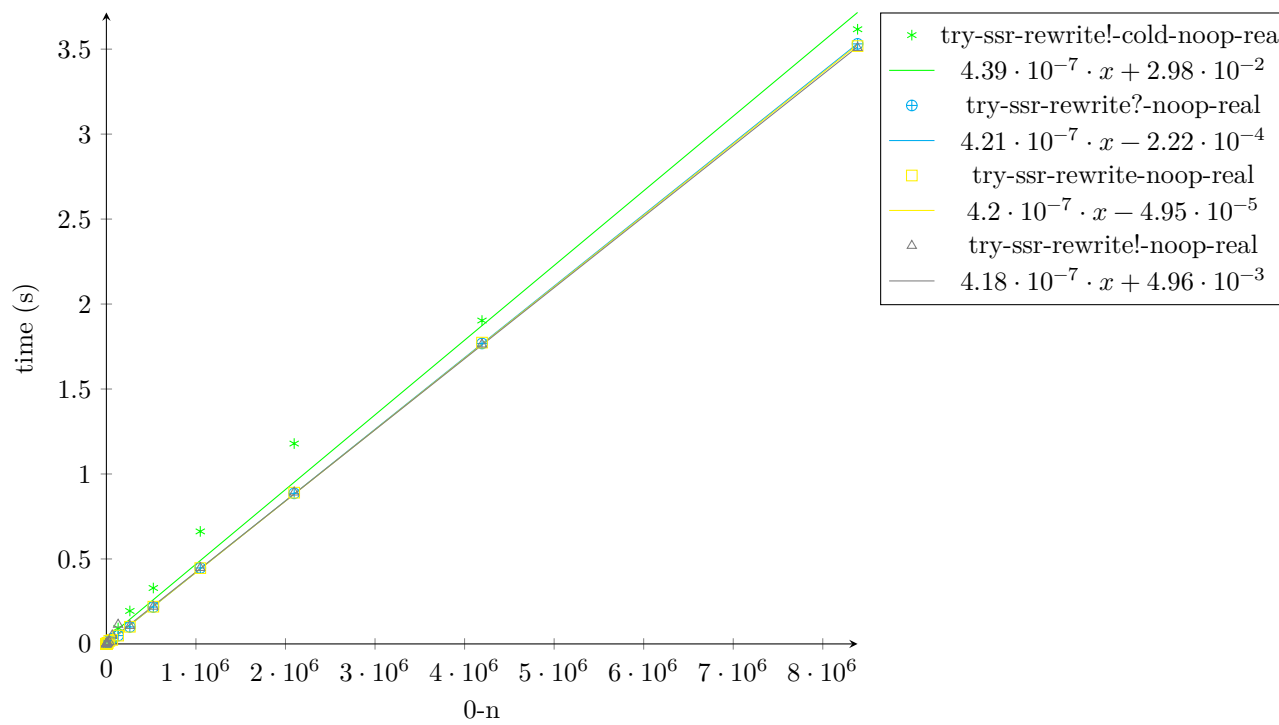
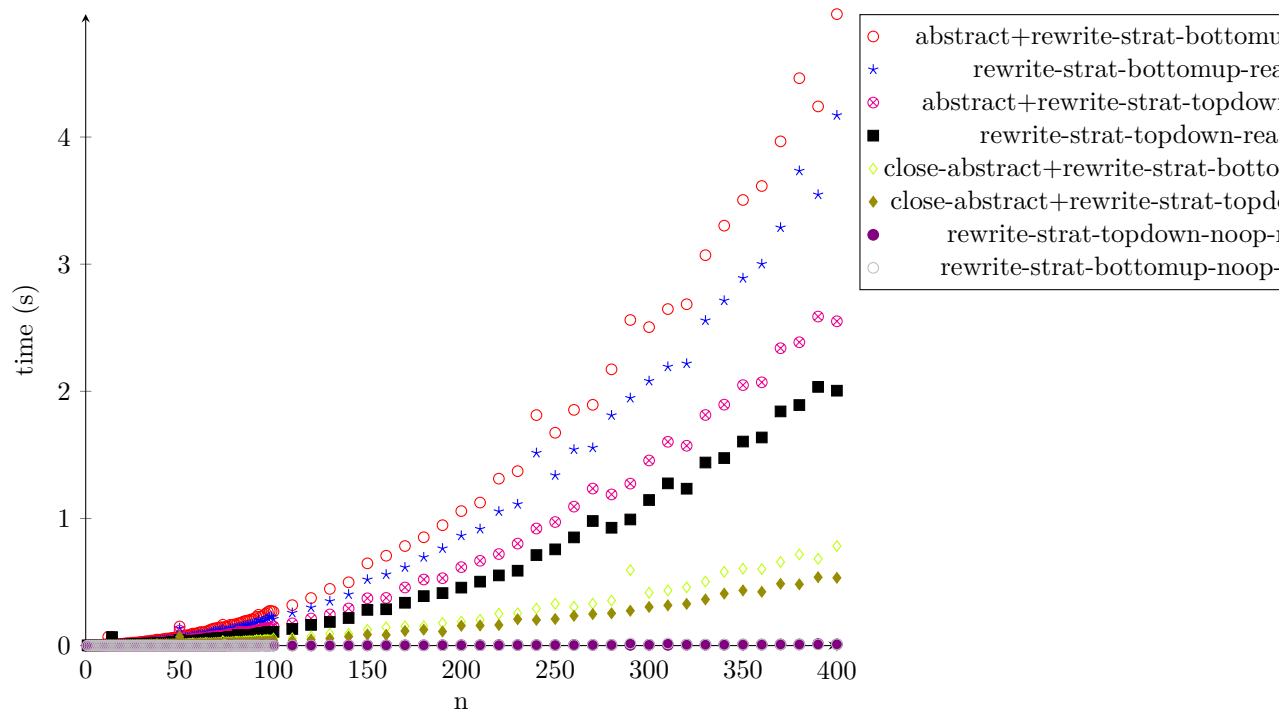Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

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

The legend entries (partially cut off) are:
- 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-...
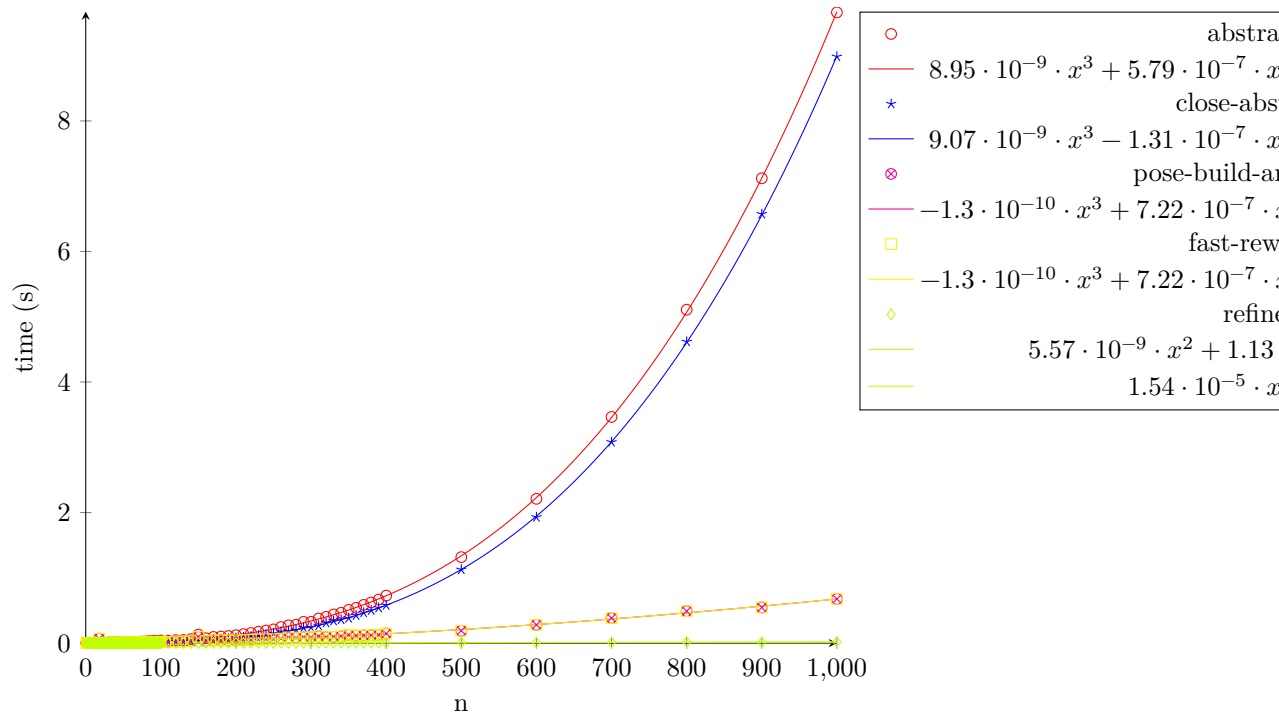- rewrite-strat-bottomup-noop-...

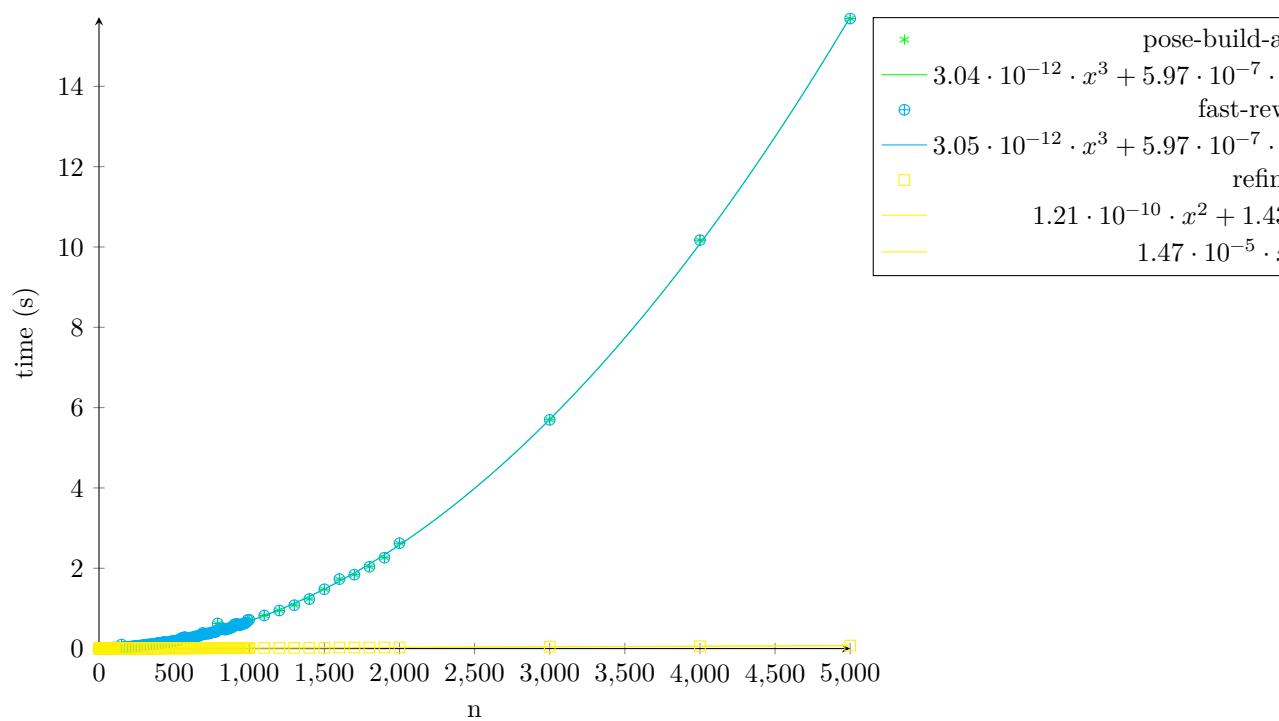Figure 11: timing-rewrite-repeated-app-fast-rewrite

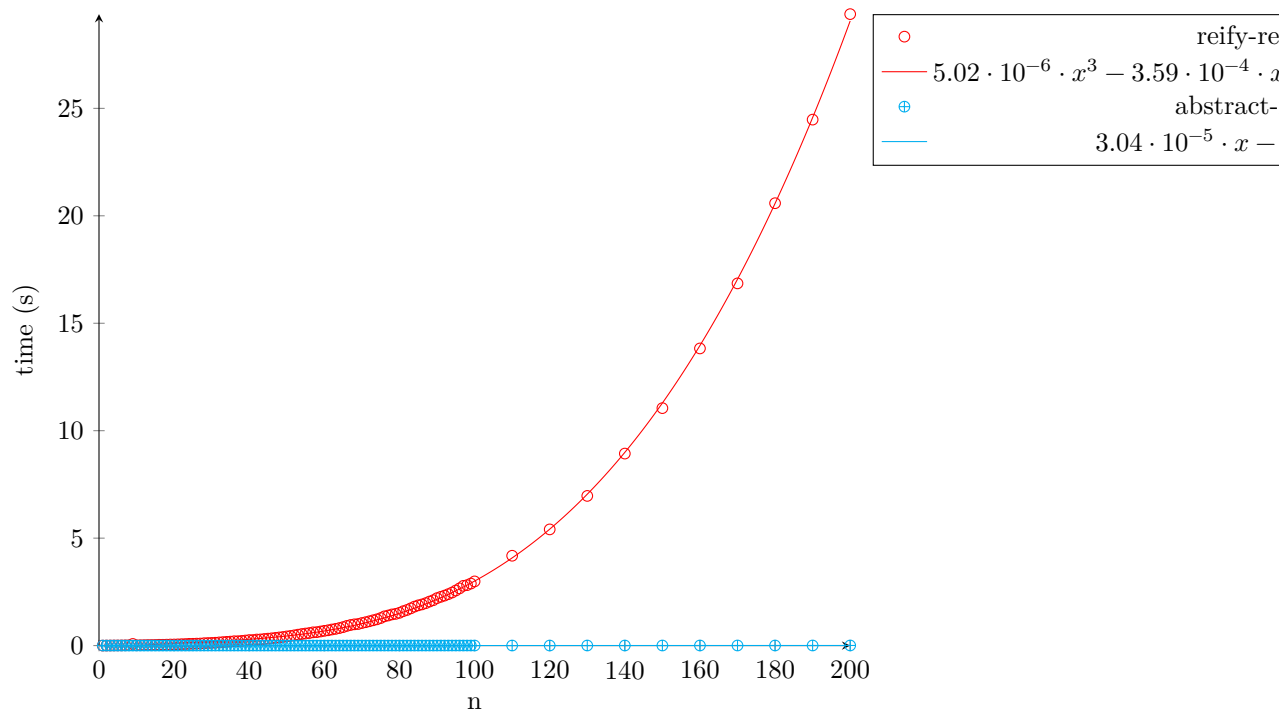Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

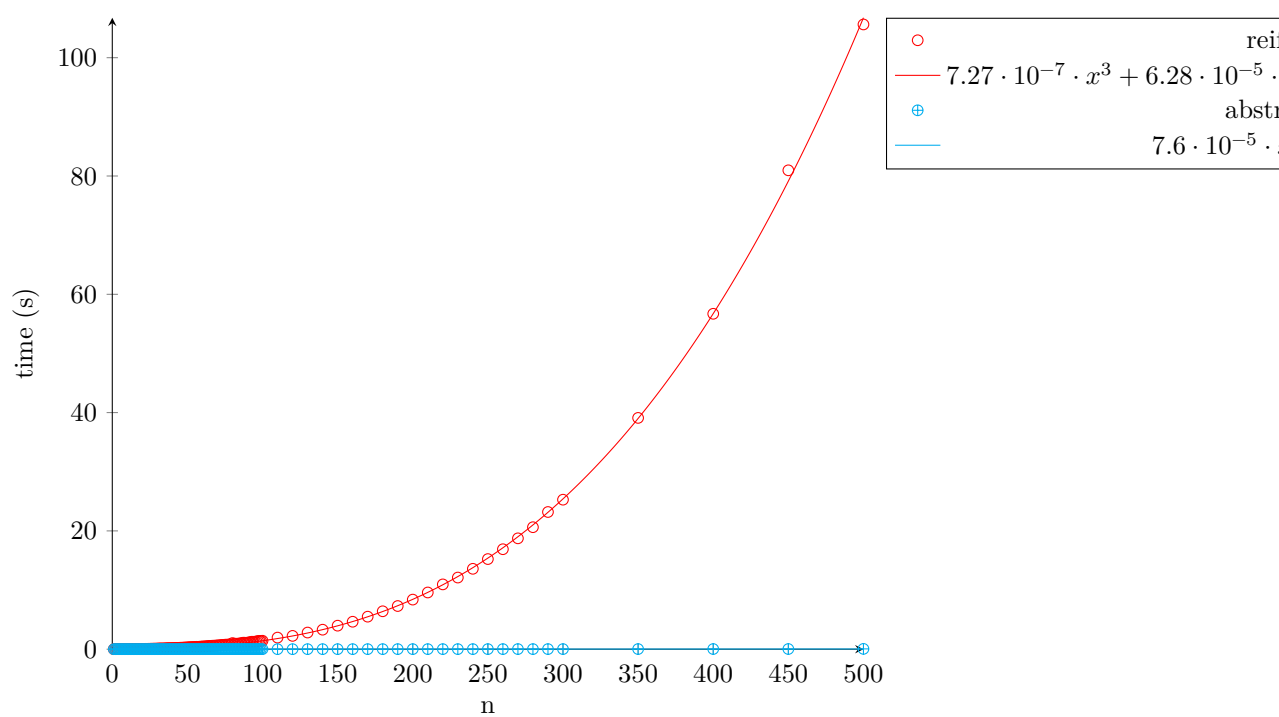Figure 13: timing-typeclass-reification-let-in-HOAS

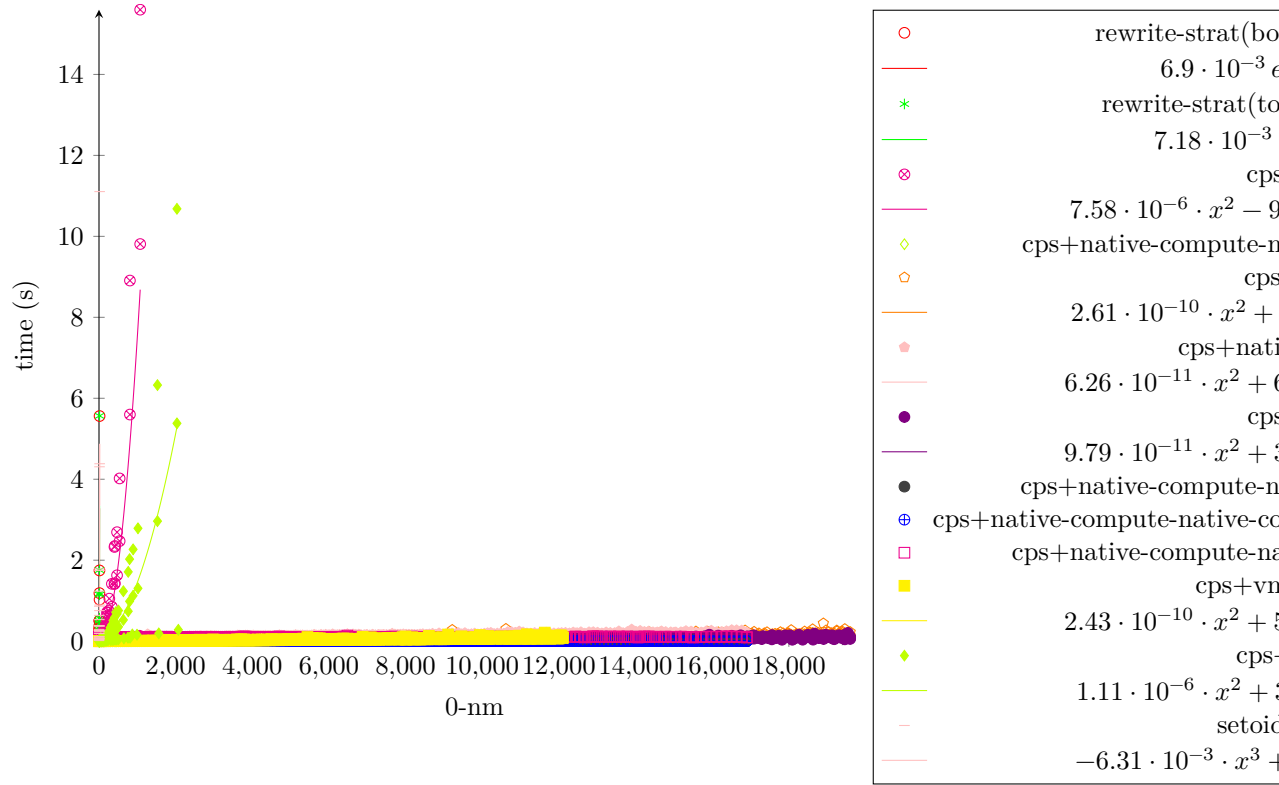Figure 14: timing-typeclass-reification-let-in-PHOAS

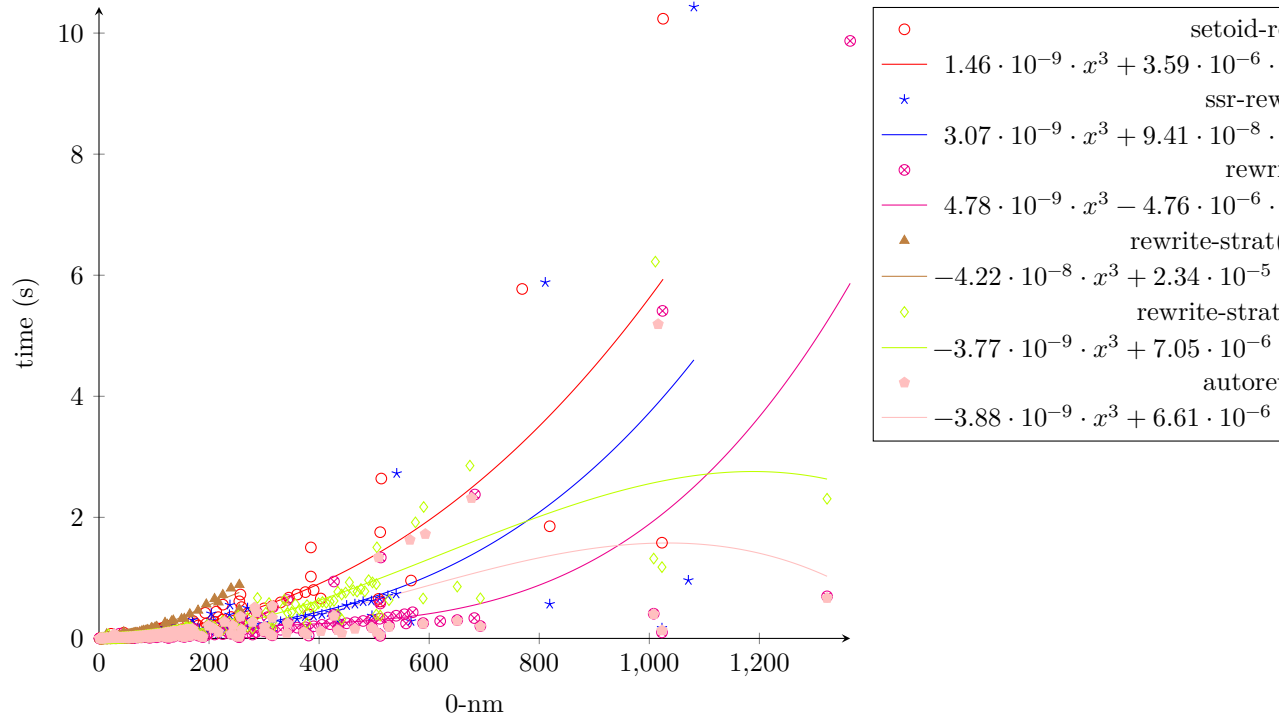Figure 15: timing-rewrite-lift-lets-map param-1-n 1, param-2-m 1

15

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
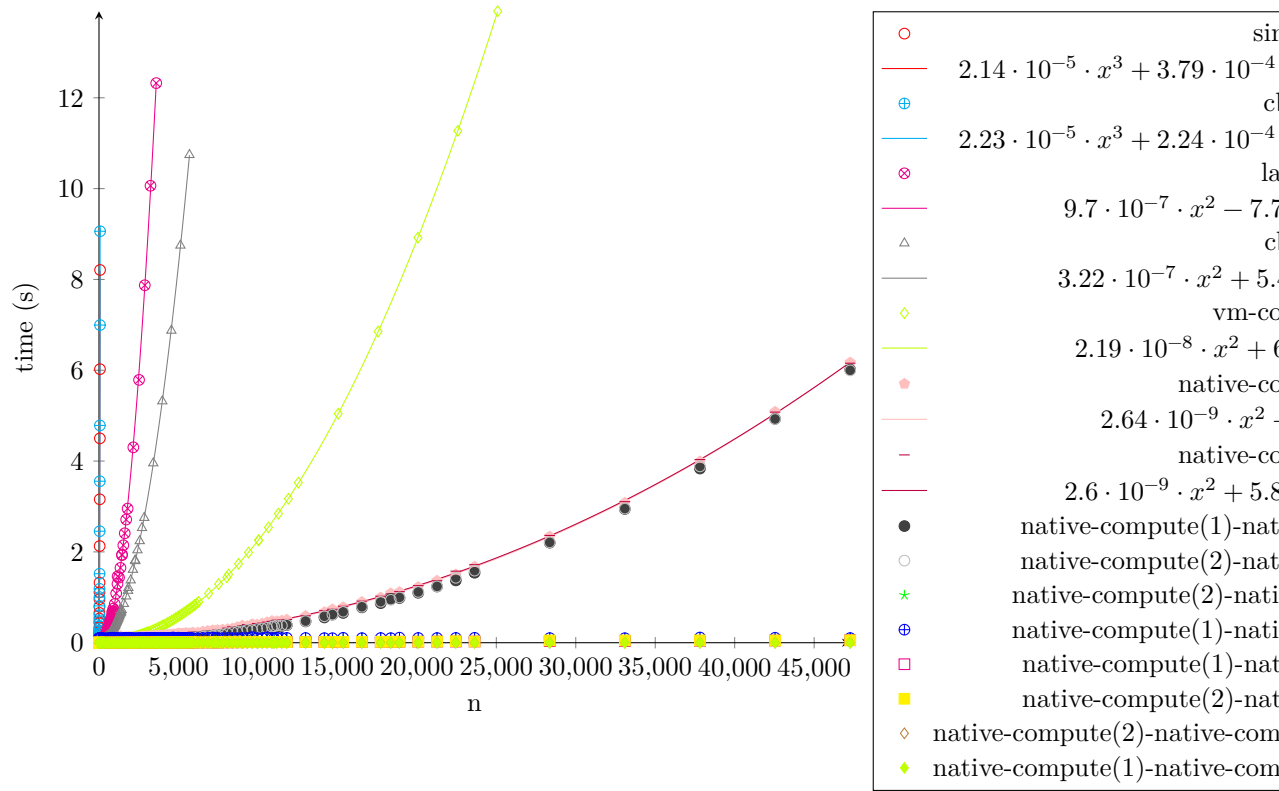
16

Figure 17: timing-sieve-of-eratosthenes

17

time (s)

$1.4 \cdot 10^{45}$

$1.2 \cdot 10^{45}$

$1 \cdot 10^{45}$

$8 \cdot 10^{44}$

$6 \cdot 10^{44}$

$4 \cdot 10^{44}$

$2 \cdot 10^{44}$

0

0   20   40   60   80   100   120   140   160   180

n

rewrite

1

rewrite-

1

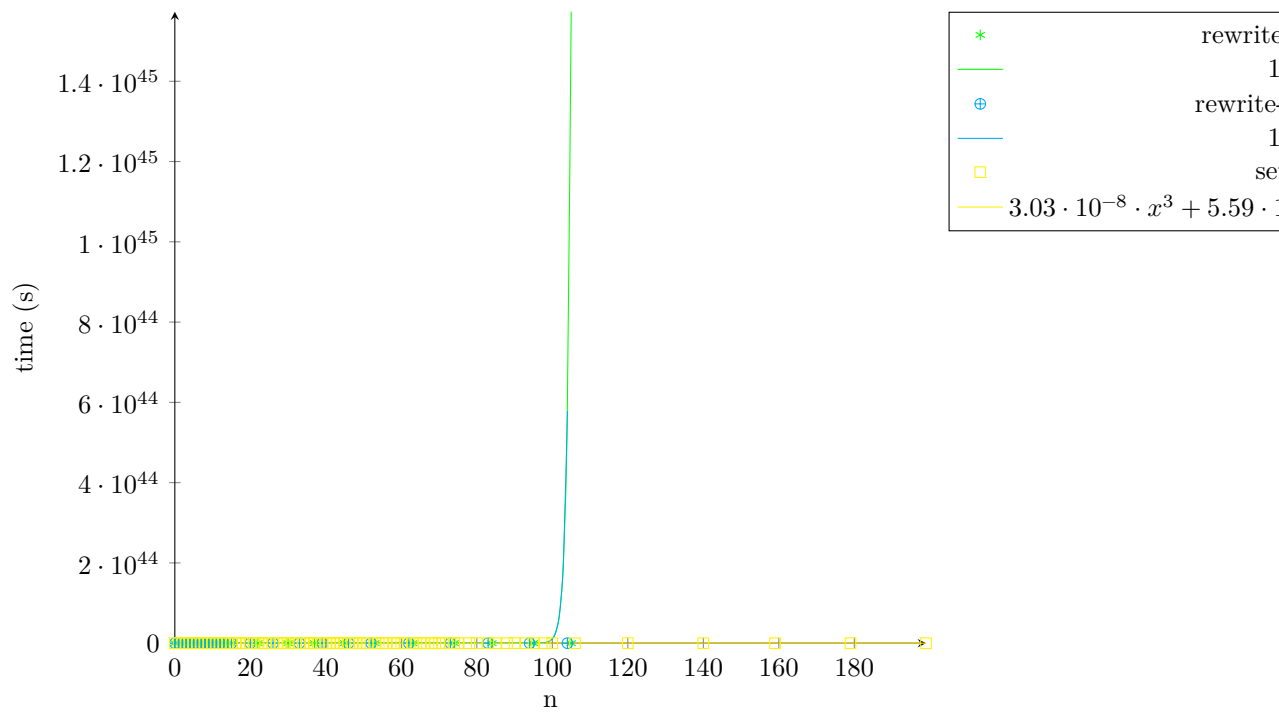se

$3.03 \cdot 10^{-8} \cdot x^3 + 5.59 \cdot 1$
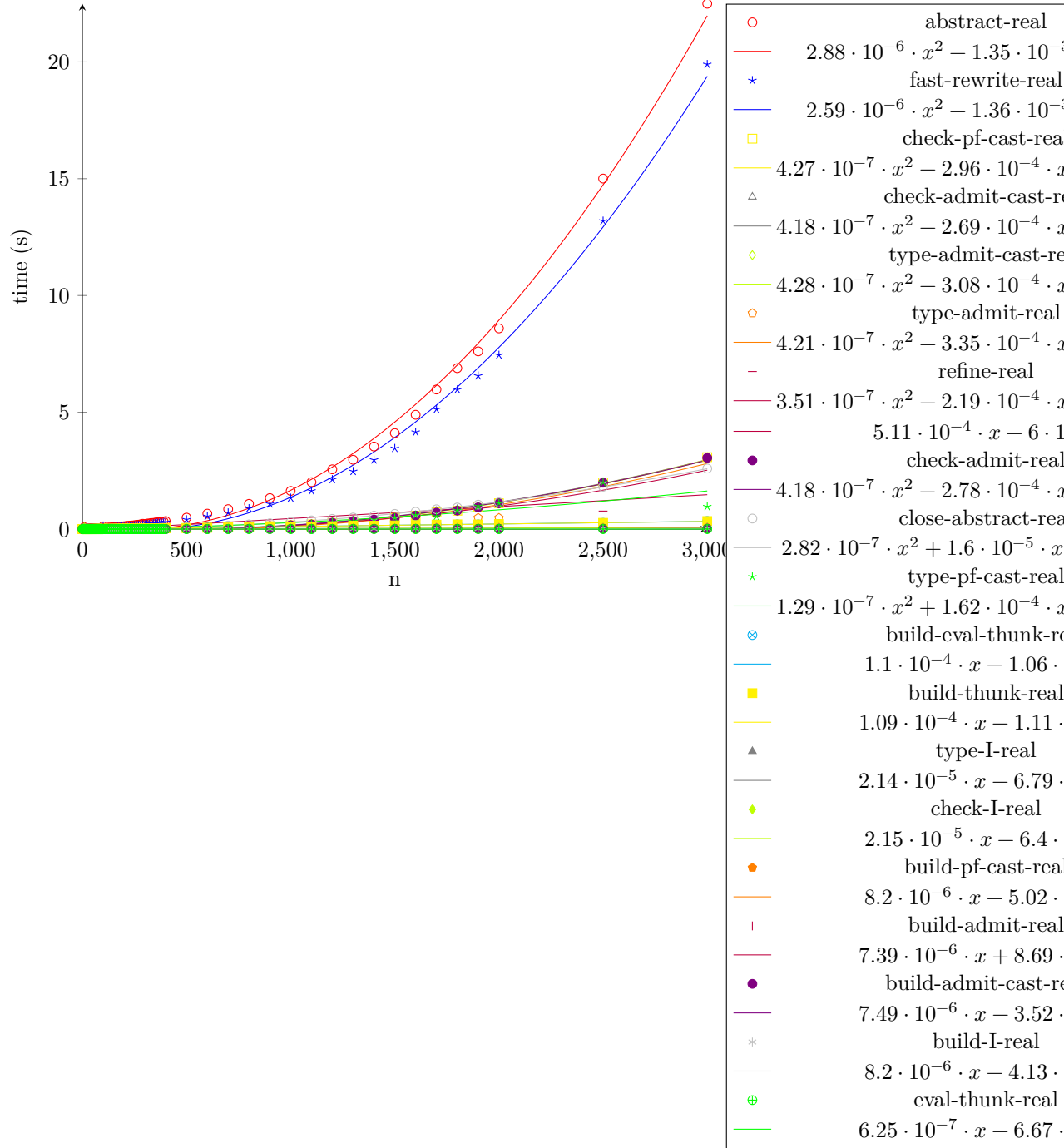
Figure 18: timing-rewrite-under-lets-plus-0

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