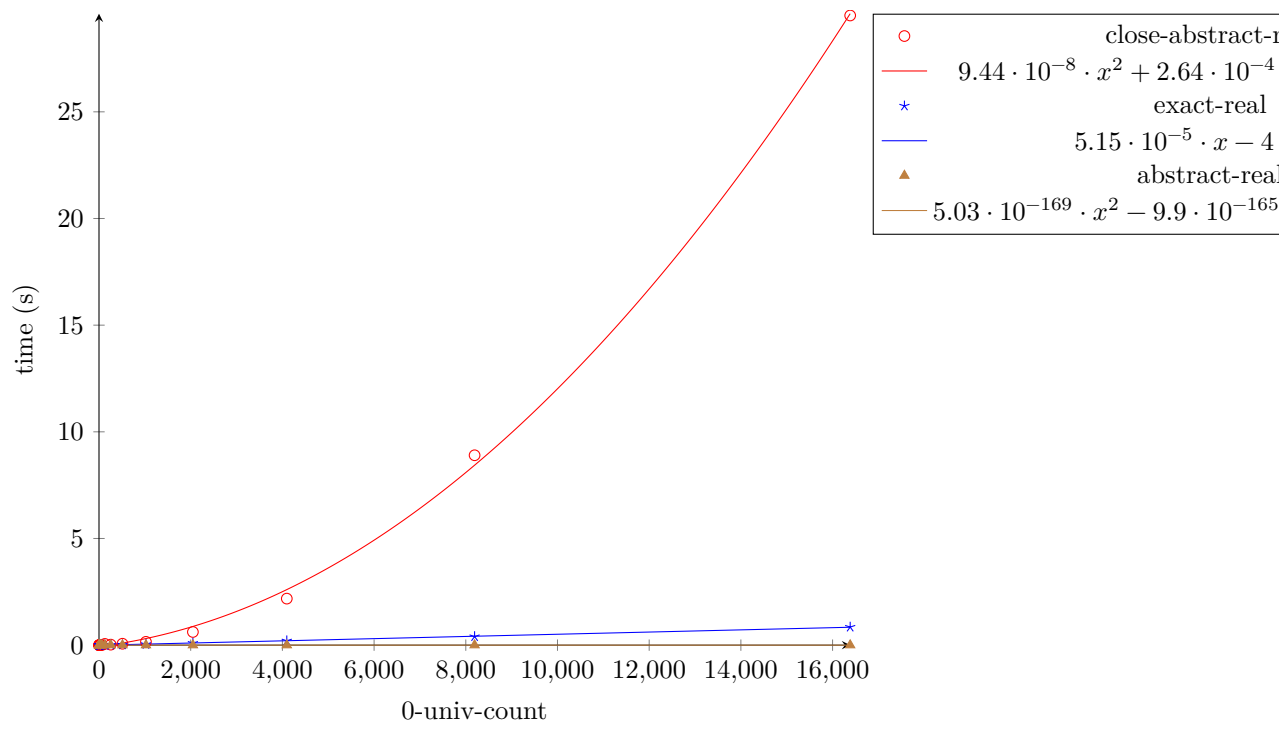Figure 1: timing-pattern

1

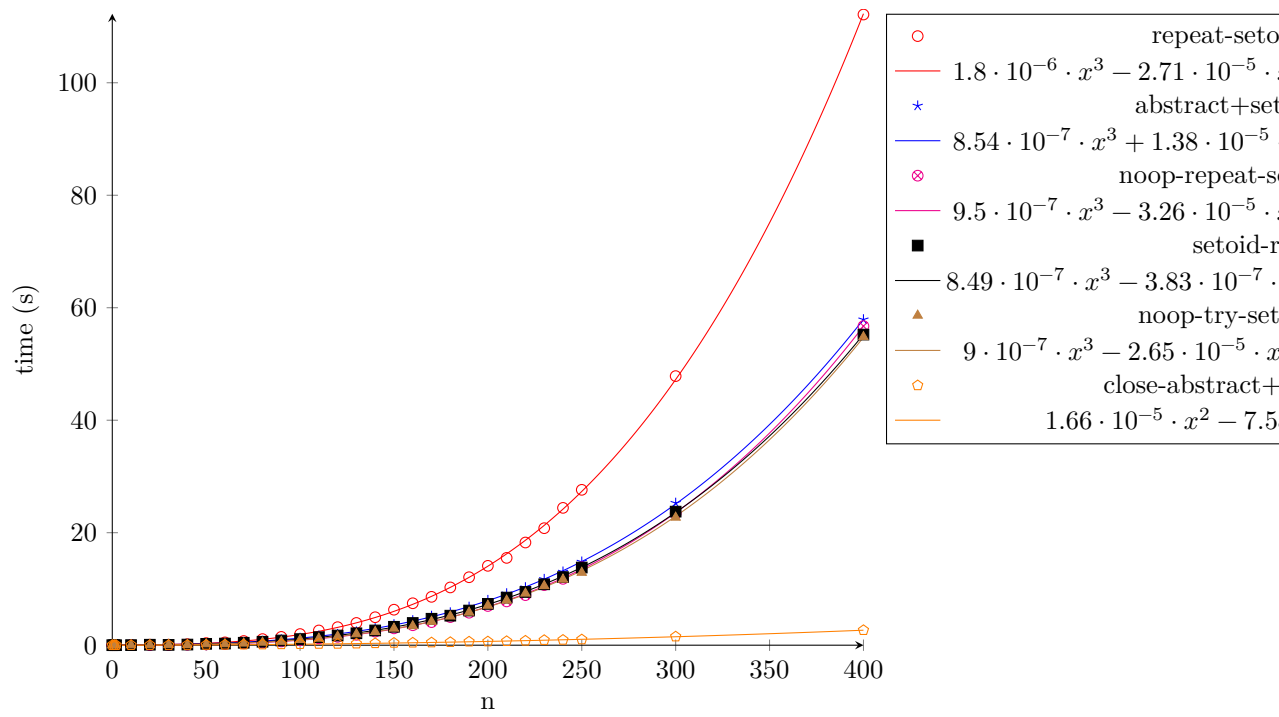Figure 2: timing-n-polymorphic-universes param-1-n 0

Figure 3: timing-repeat-setoid-rewrite-under-binders
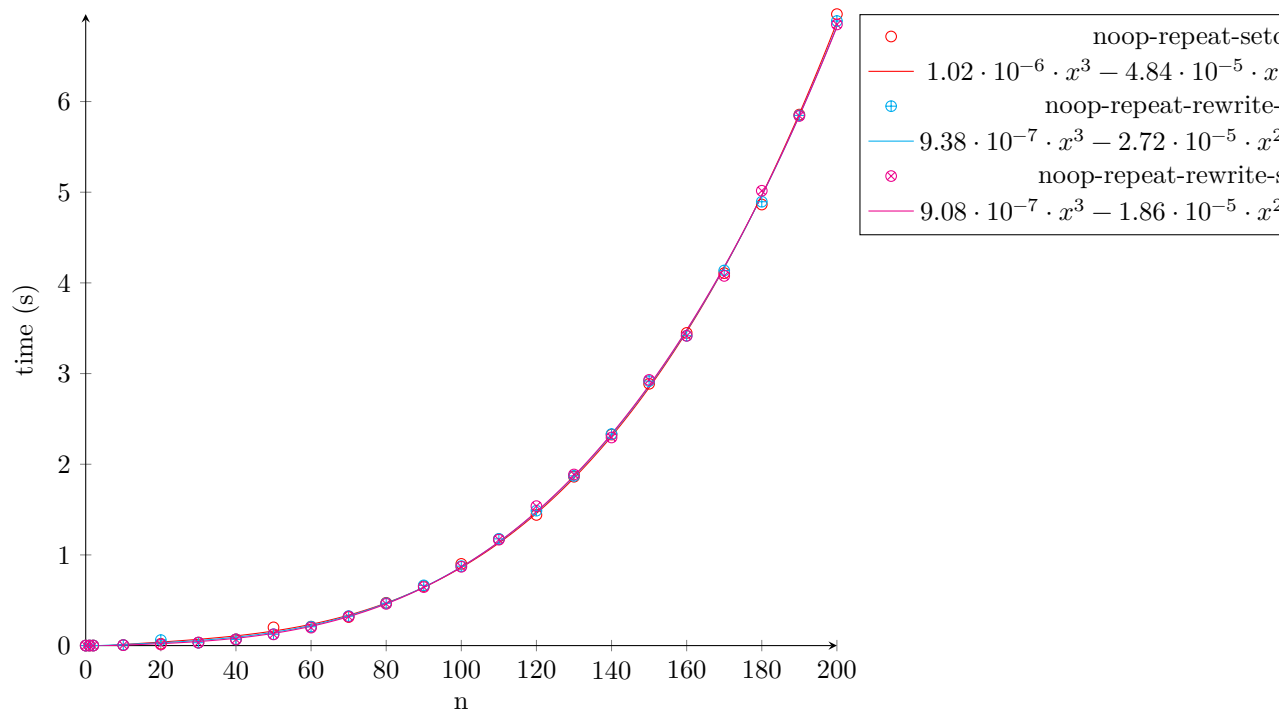
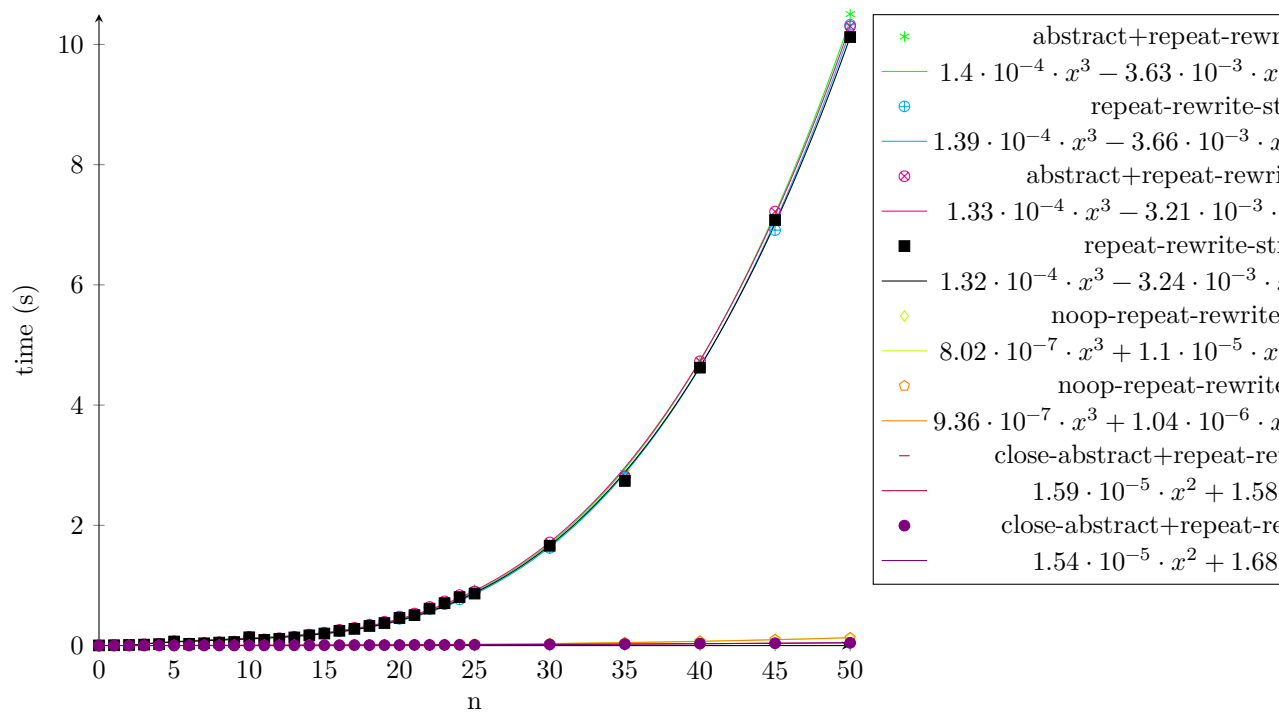Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

4

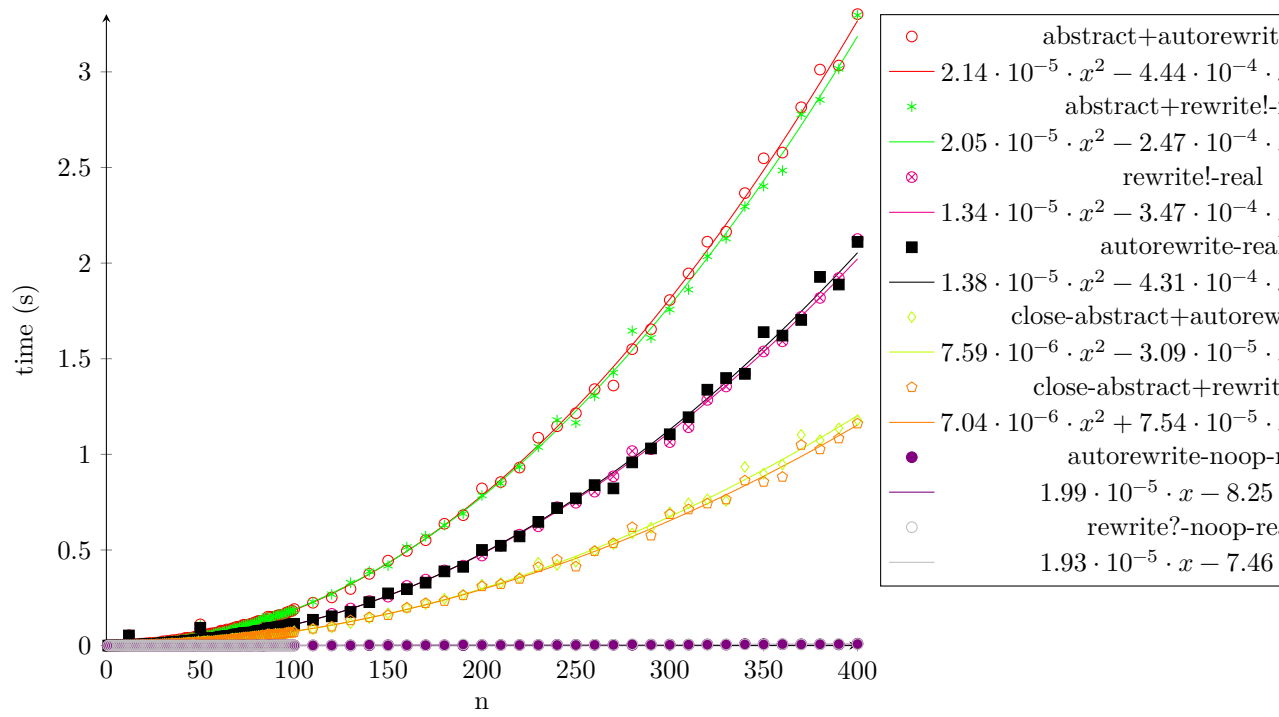Figure 5: timing-rewrite-strat-under-binders

5

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

Legend entries:

- abstract+autorewri...
  $2.14 \cdot 10^{-5} \cdot x^2 - 4.44 \cdot 10^{-4} \cdot$
- abstract+rewrite!-...
  $2.05 \cdot 10^{-5} \cdot x^2 - 2.47 \cdot 10^{-4} \cdot$
- rewrite!-real
  $1.34 \cdot 10^{-5} \cdot x^2 - 3.47 \cdot 10^{-4} \cdot$
- autorewrite-real
  $1.38 \cdot 10^{-5} \cdot x^2 - 4.31 \cdot 10^{-4} \cdot$
- close-abstract+autorew...
  $7.59 \cdot 10^{-6} \cdot x^2 - 3.09 \cdot 10^{-5} \cdot$
- close-abstract+rewrit...
  $7.04 \cdot 10^{-6} \cdot x^2 + 7.54 \cdot 10^{-5} \cdot$
- autorewrite-noop-...
  $1.99 \cdot 10^{-5} \cdot x - 8.25$
- rewrite?-noop-re...
  $1.93 \cdot 10^{-5} \cdot x - 7.46$

6

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

The figure legend contains:

- try-rewrite!-noop-r
- $2.96 \cdot 10^{-8} \cdot x^2 + 4.77 \cdot 10^{-7} \cdot x$
- autorewrite-noop-r
- $2.93 \cdot 10^{-8} \cdot x^2 + 3.46 \cdot 10^{-6} \cdot x$
- try-rewrite-noop-r
- $2.9 \cdot 10^{-8} \cdot x^2 + 4.11 \cdot 10^{-6} \cdot x$
- try-rewrite?-noop-
- $2.93 \cdot 10^{-8} \cdot x^2 + 2.64 \cdot 10^{-6} \cdot x$
- try-ssr-rewrite?-noop
- $2.89 \cdot 10^{-7} \cdot x + 2.92$
- try-ssr-rewrite-noop
- $3.47 \cdot 10^{-7} \cdot x - 1.73$
- try-ssr-rewrite!-noop
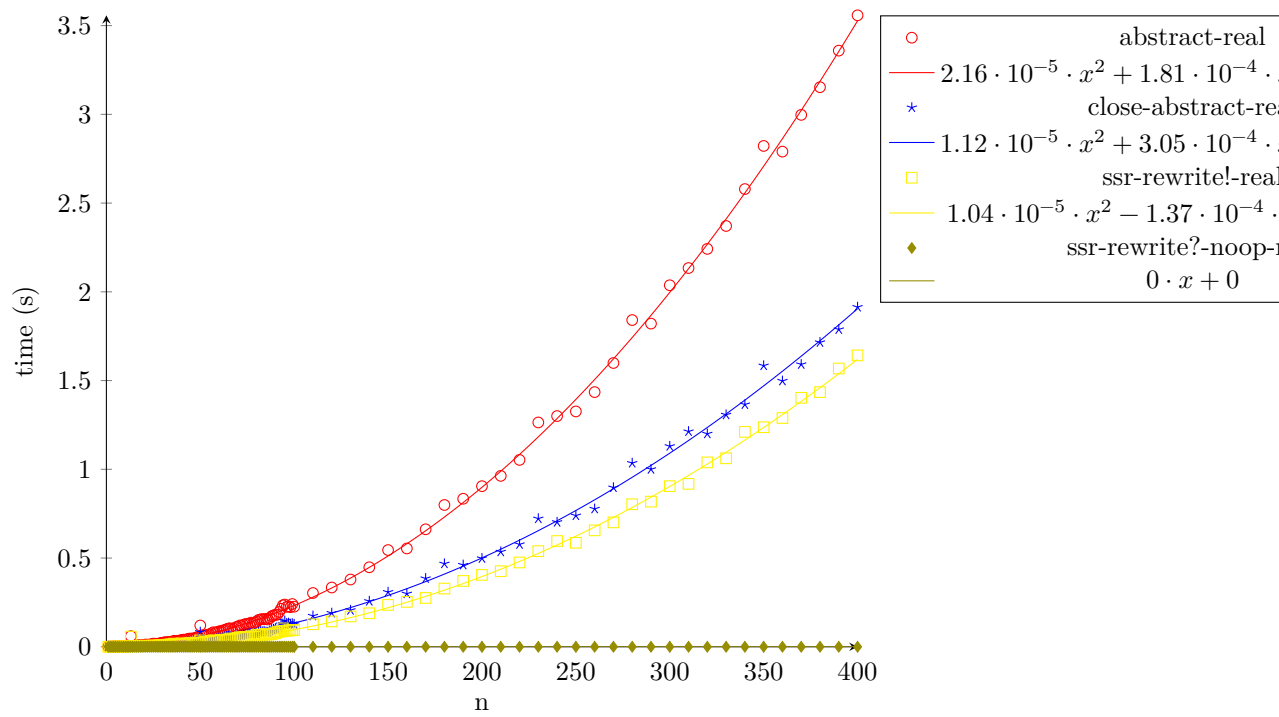- $3.53 \cdot 10^{-7} \cdot x - 1.79$

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

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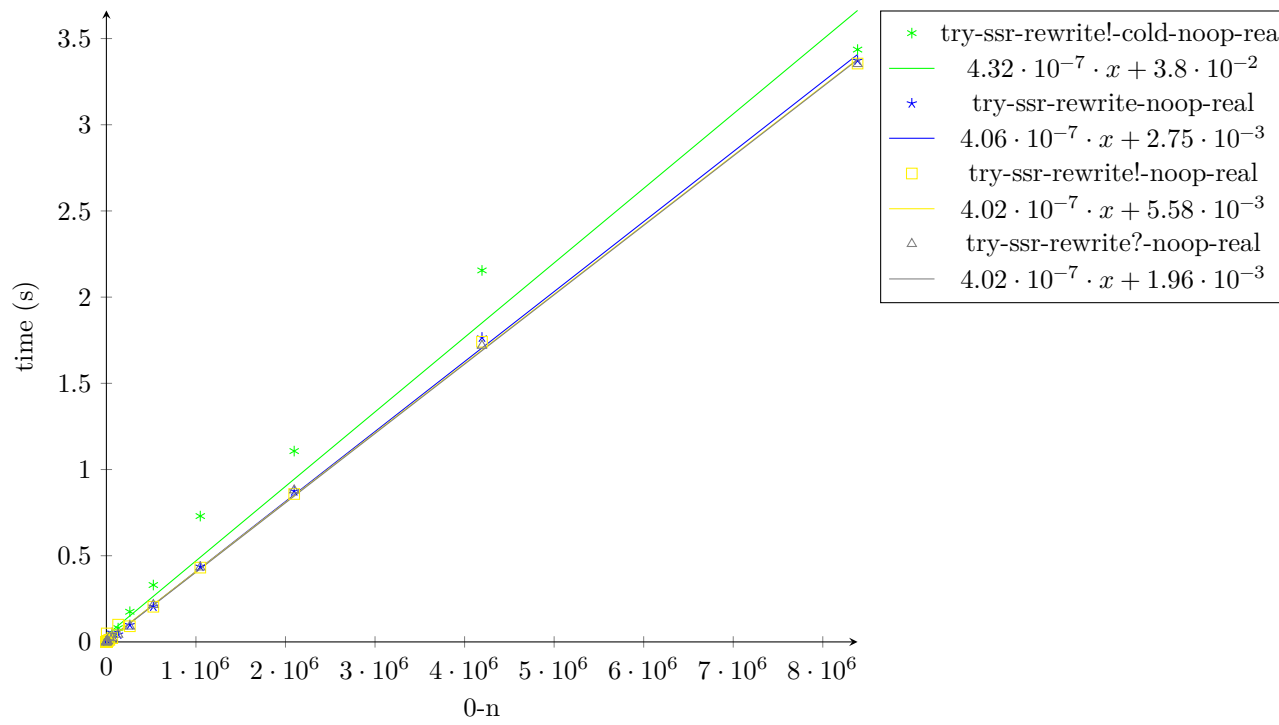
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn   1

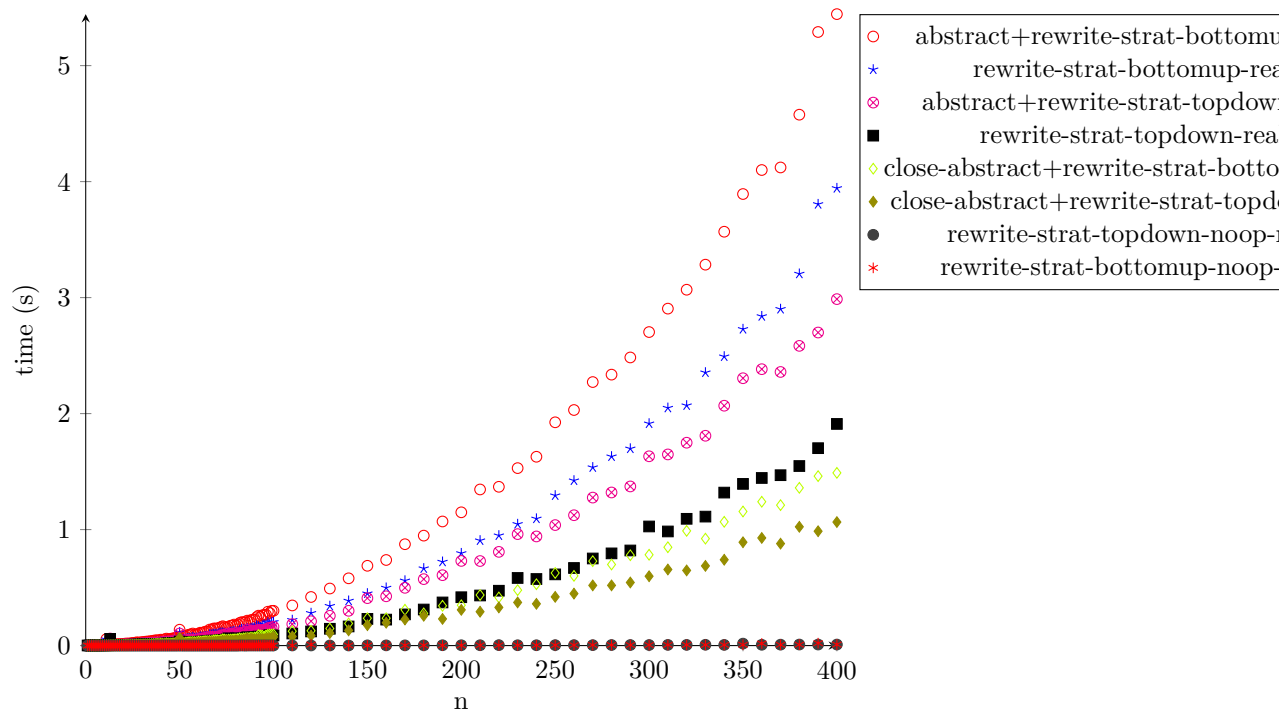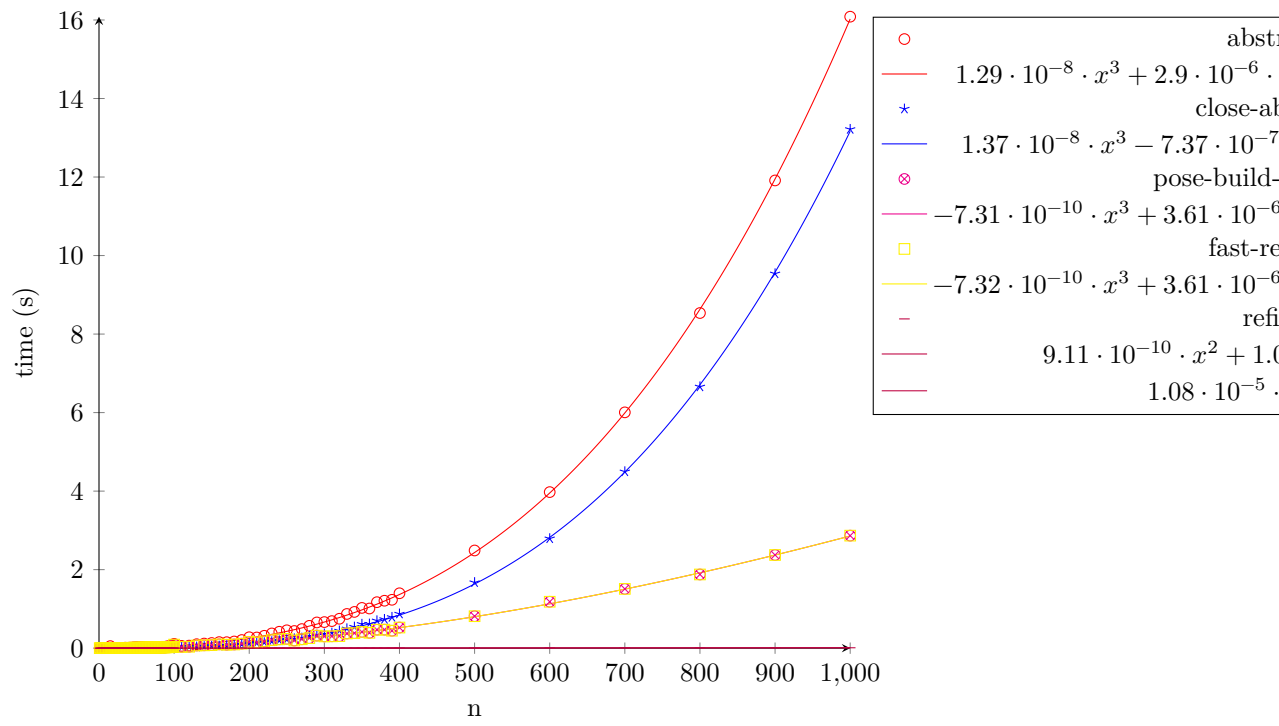Figure 10: timing-rewrite-repeated-app-rewrite-strat

The legend of the figure reads (partially cut off):
- 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-...

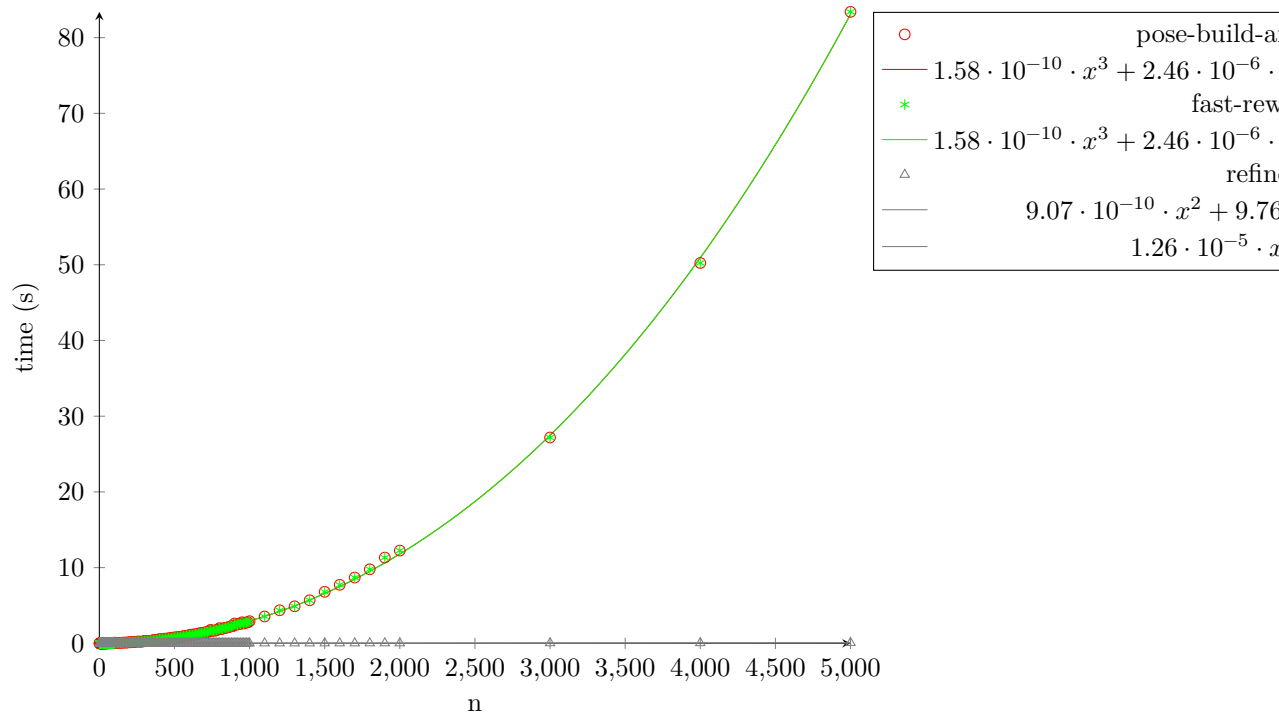Figure 11: timing-rewrite-repeated-app-fast-rewrite

11

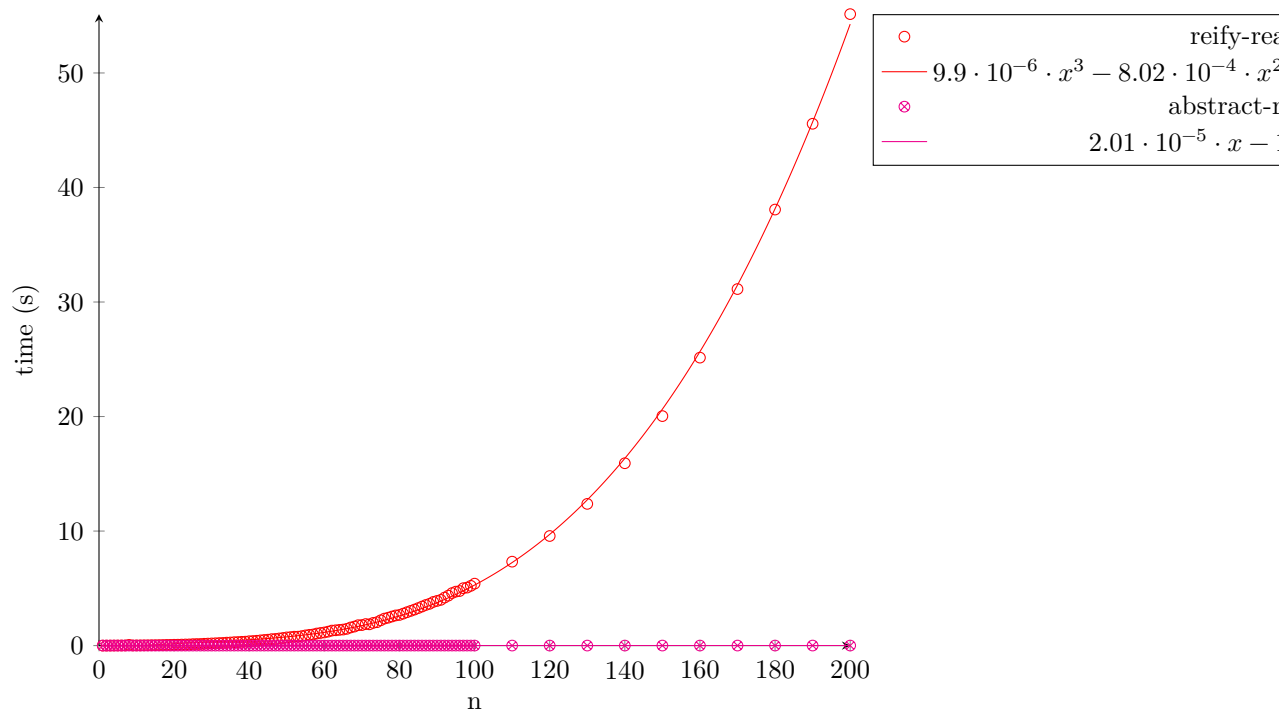Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract
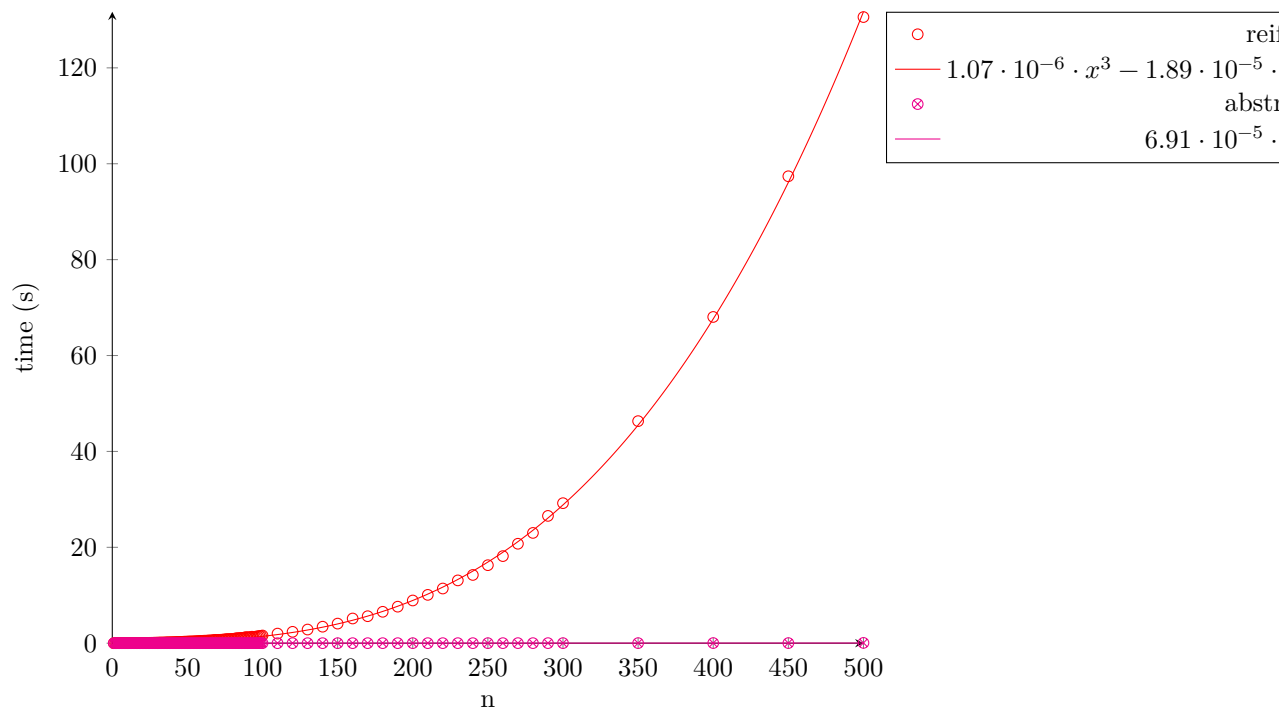
Figure 13: timing-typeclass-reification-let-in-HOAS

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