Figure 1: timing-pattern

Figure 2: timing-n-polymorphic-universes param-1-n 0
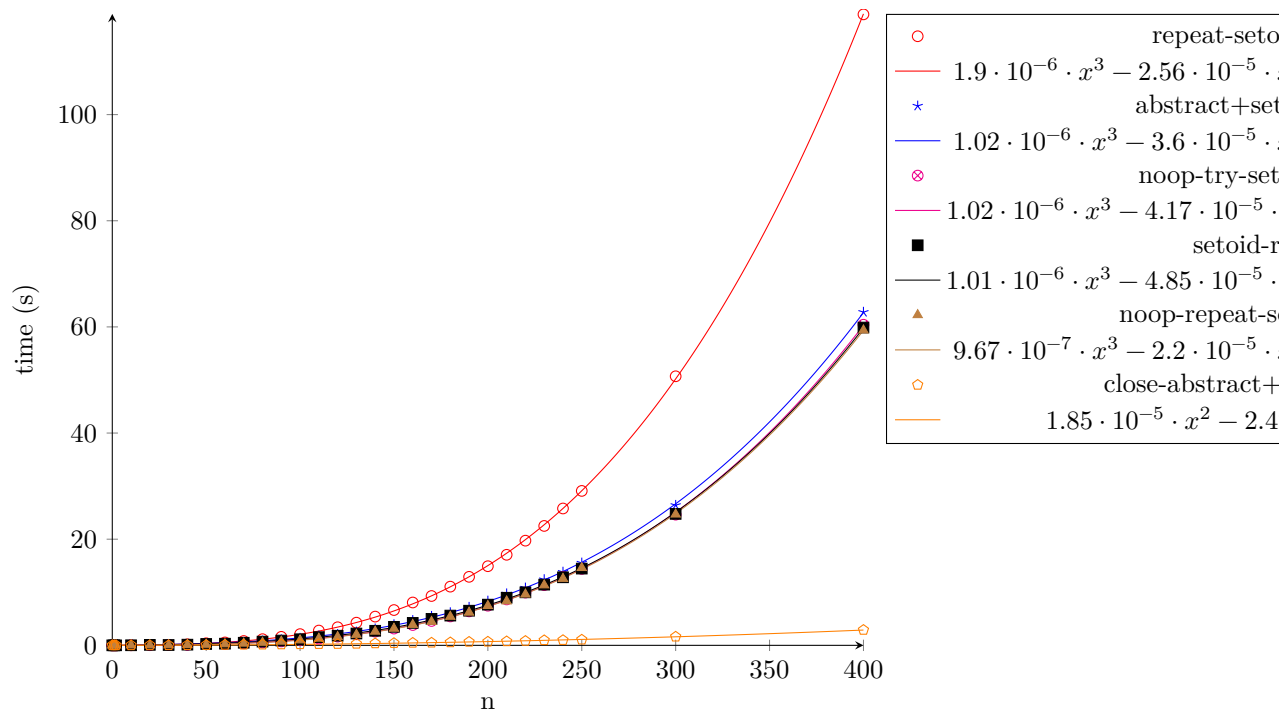
time (s)

100

80

60

40

20

0   50   100   150   200   250   300   350   400

n

repeat-seto

$1.9 \cdot 10^{-6} \cdot x^3 - 2.56 \cdot 10^{-5} \cdot$

abstract+set

$1.02 \cdot 10^{-6} \cdot x^3 - 3.6 \cdot 10^{-5} \cdot$

noop-try-set

$1.02 \cdot 10^{-6} \cdot x^3 - 4.17 \cdot 10^{-5} \cdot$

setoid-r

$1.01 \cdot 10^{-6} \cdot x^3 - 4.85 \cdot 10^{-5} \cdot$

noop-repeat-s

$9.67 \cdot 10^{-7} \cdot x^3 - 2.2 \cdot 10^{-5} \cdot$

close-abstract+

$1.85 \cdot 10^{-5} \cdot x^2 - 2.4$

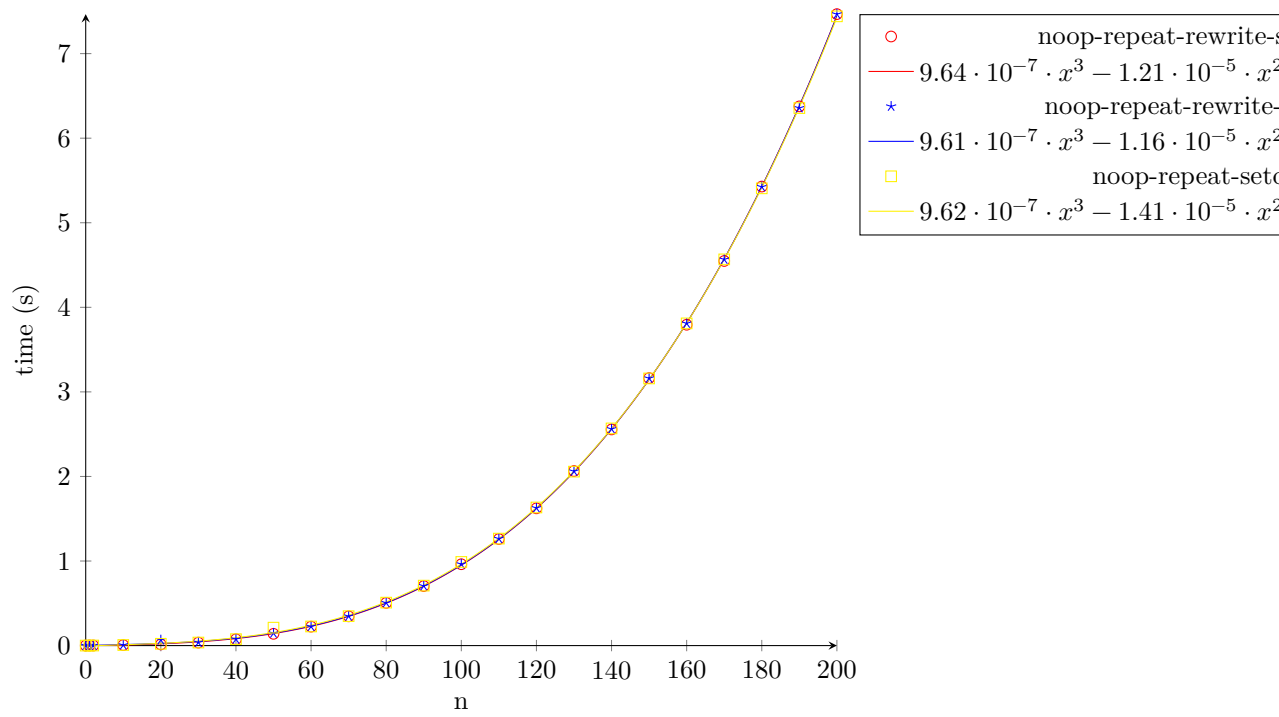Figure 3: timing-repeat-setoid-rewrite-under-binders

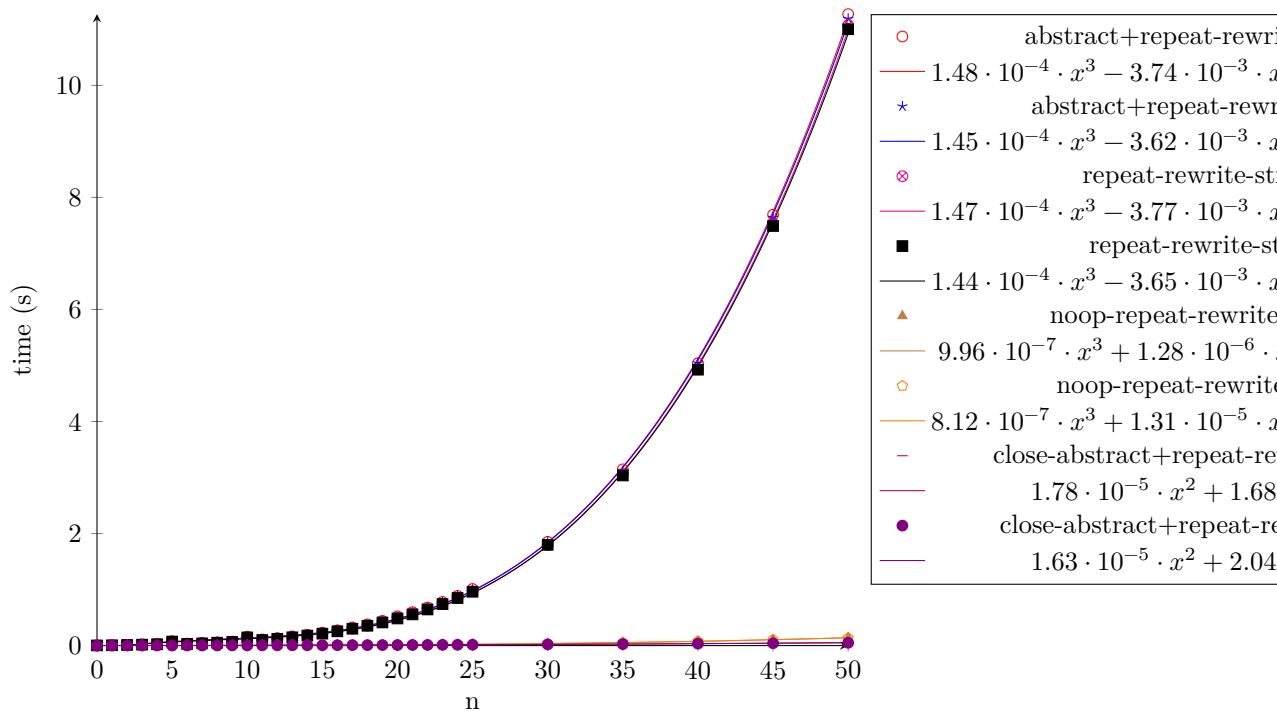Figure 4: timing-repeat-setoid-rewrite-under-binders-noop
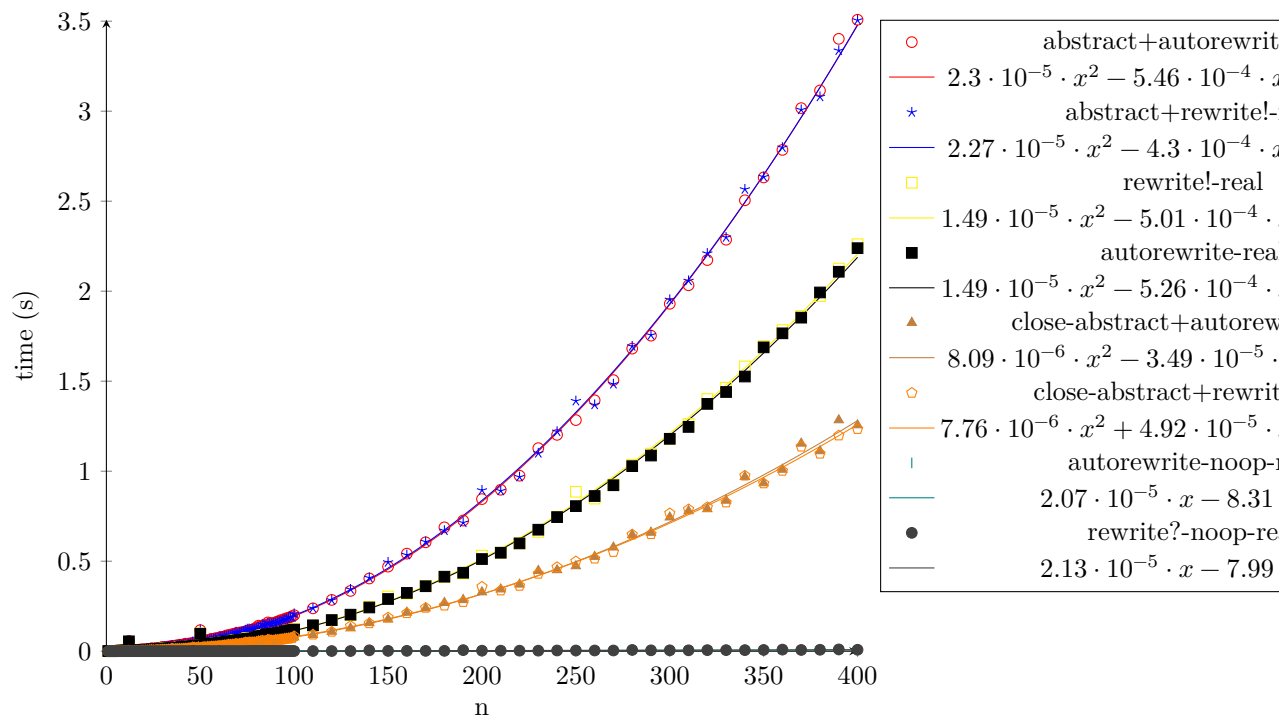
4

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

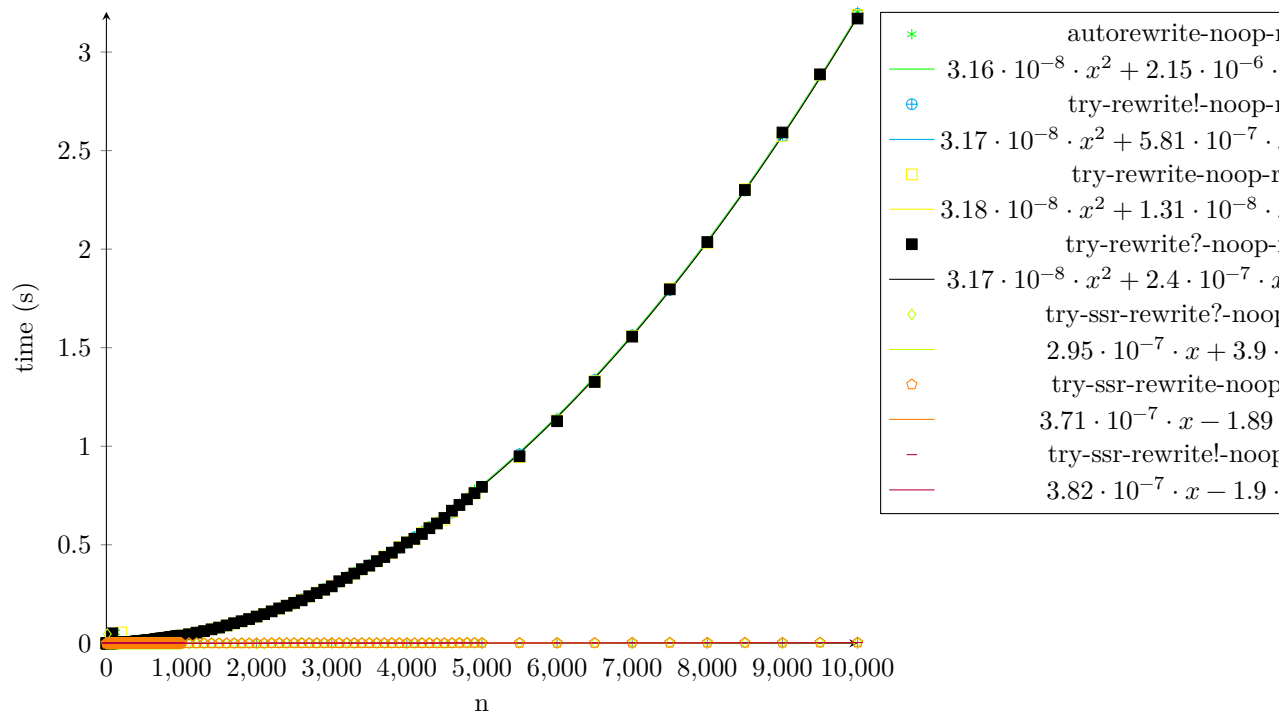Figure 6: timing-rewrite-repeated-app-autorewrite

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

The legend shows:

- autorewrite-noop-r
- $3.16 \cdot 10^{-8} \cdot x^2 + 2.15 \cdot 10^{-6} \cdot$
- try-rewrite!-noop-r
- $3.17 \cdot 10^{-8} \cdot x^2 + 5.81 \cdot 10^{-7} \cdot$
- try-rewrite-noop-r
- $3.18 \cdot 10^{-8} \cdot x^2 + 1.31 \cdot 10^{-8} \cdot$
- try-rewrite?-noop-
- $3.17 \cdot 10^{-8} \cdot x^2 + 2.4 \cdot 10^{-7} \cdot x$
- try-ssr-rewrite?-noop
- $2.95 \cdot 10^{-7} \cdot x + 3.9 \cdot$
- try-ssr-rewrite-noop
- $3.71 \cdot 10^{-7} \cdot x - 1.89$
- try-ssr-rewrite!-noop
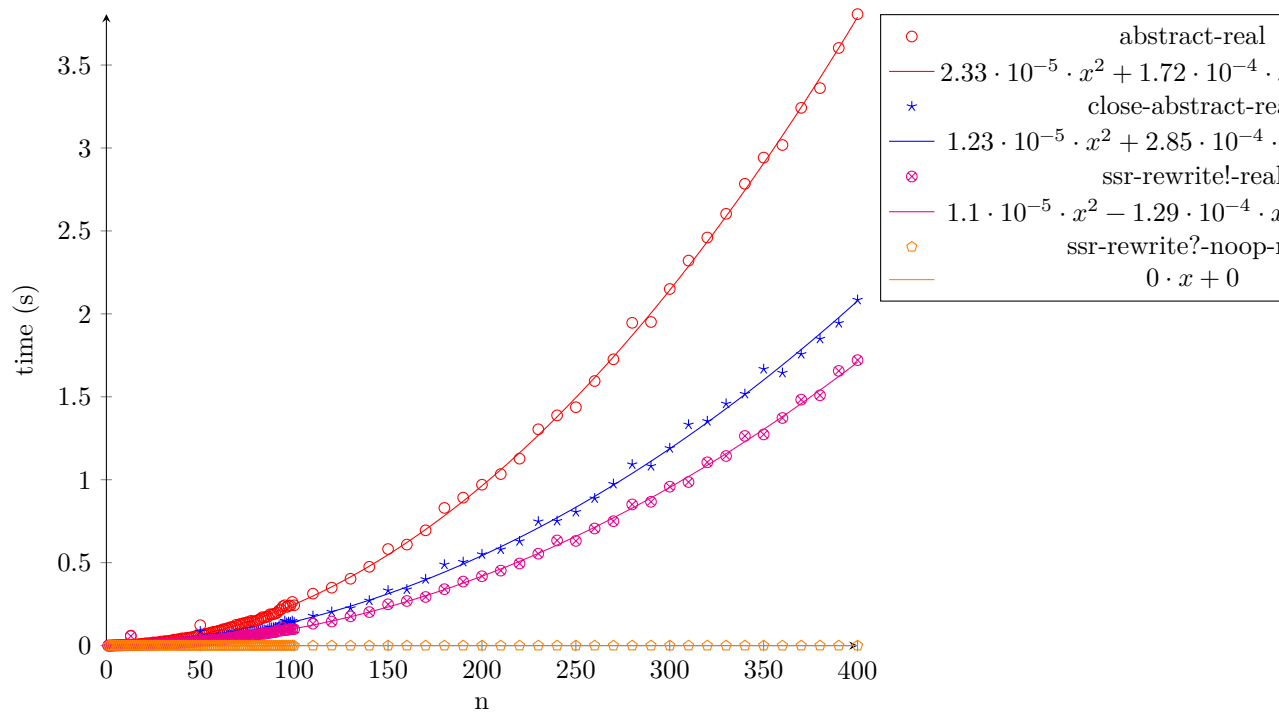- $3.82 \cdot 10^{-7} \cdot x - 1.9 \cdot$

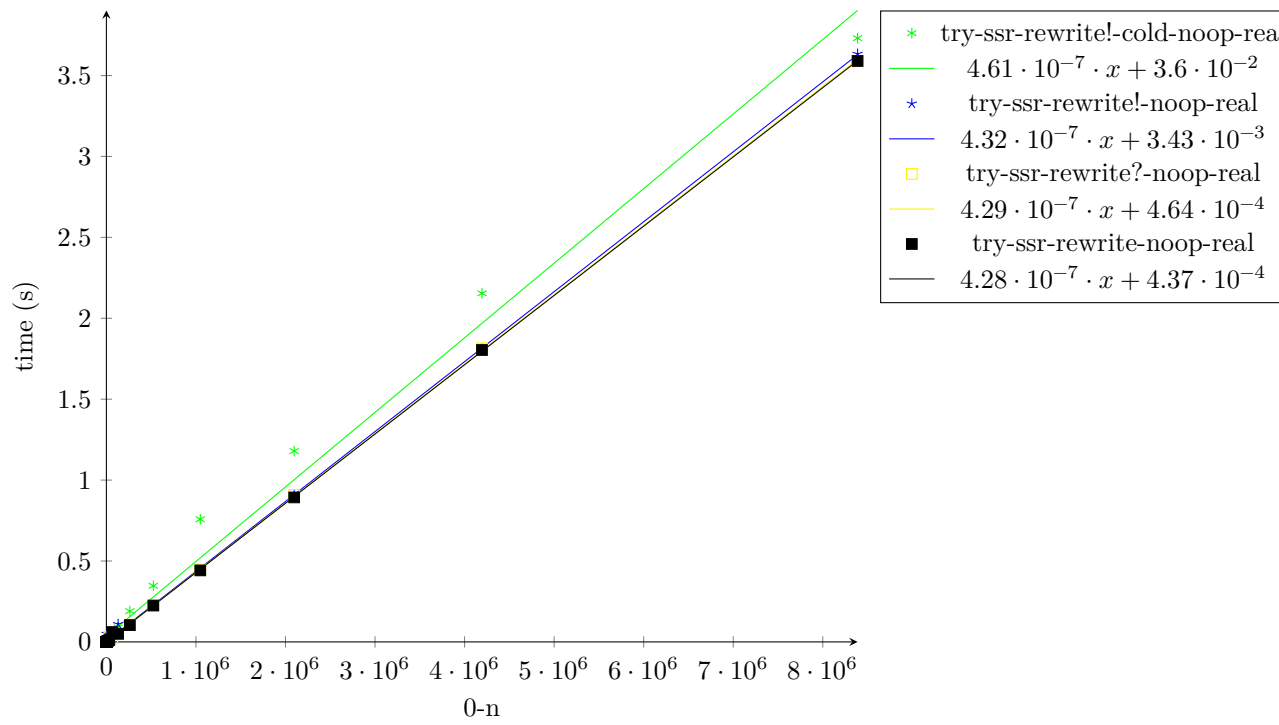Figure 8: timing-rewrite-repeated-app-ssrrewrite

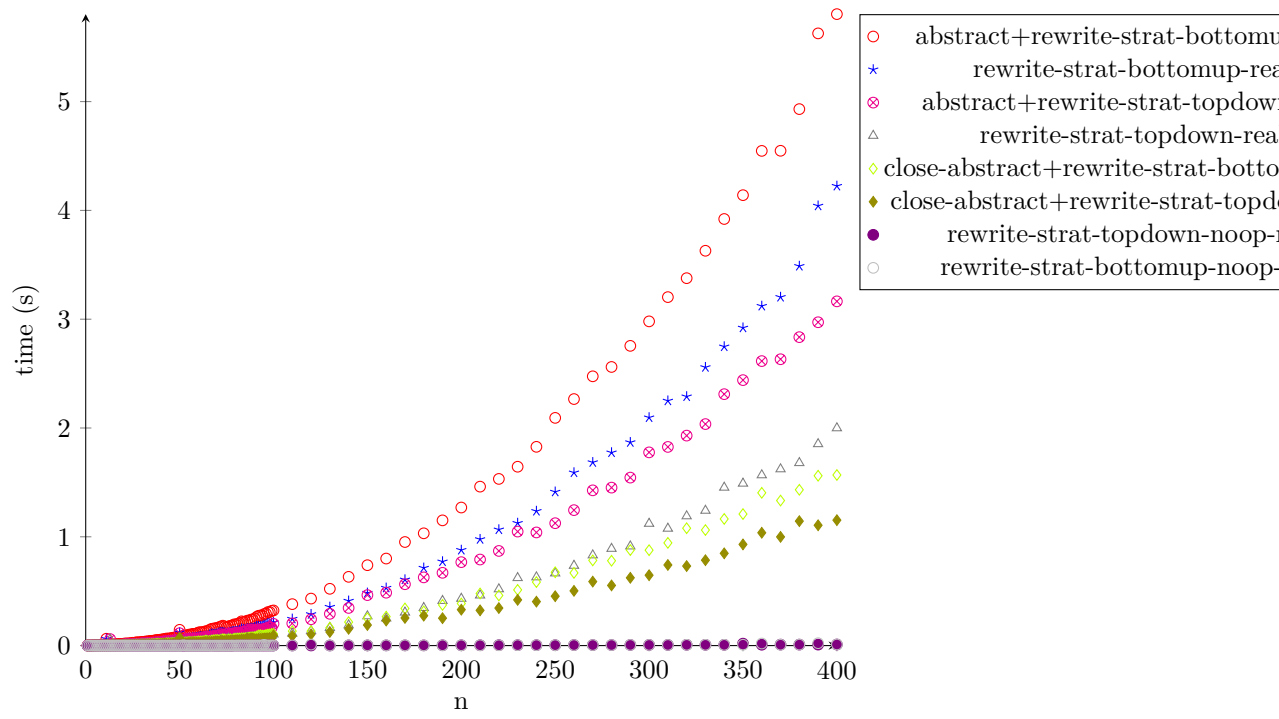Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn   1
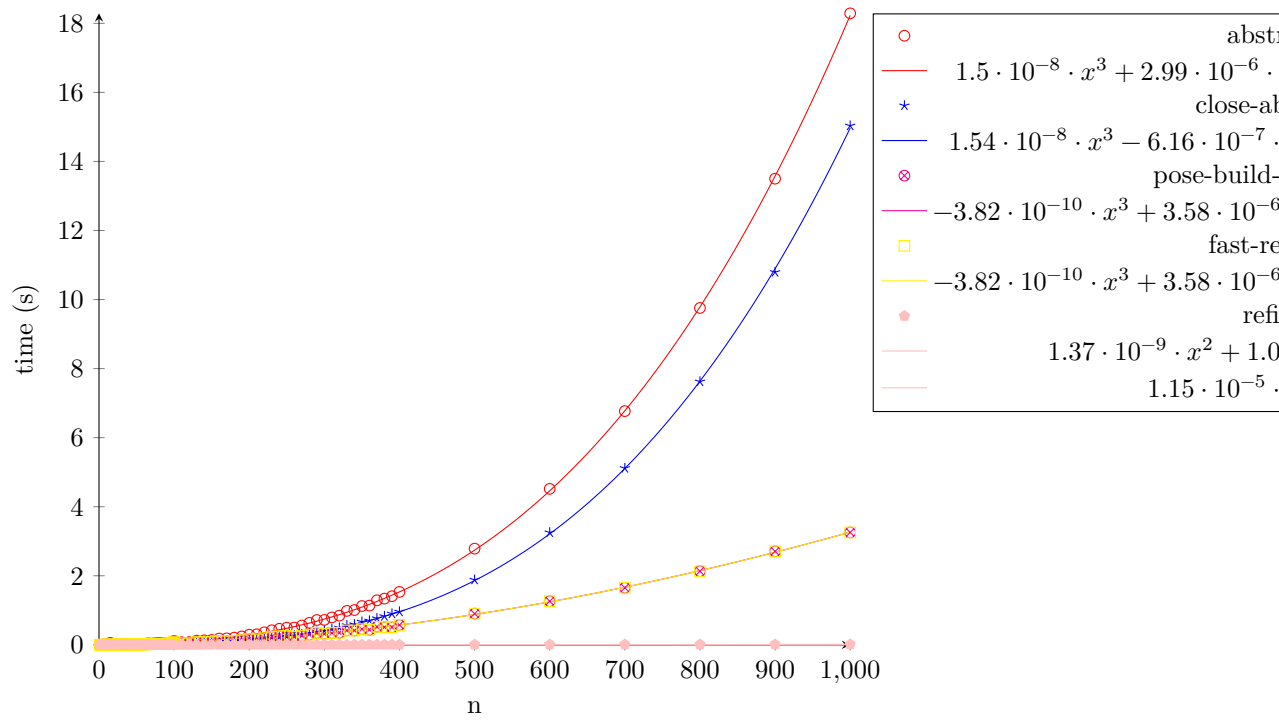
Figure 10: timing-rewrite-repeated-app-rewrite-strat

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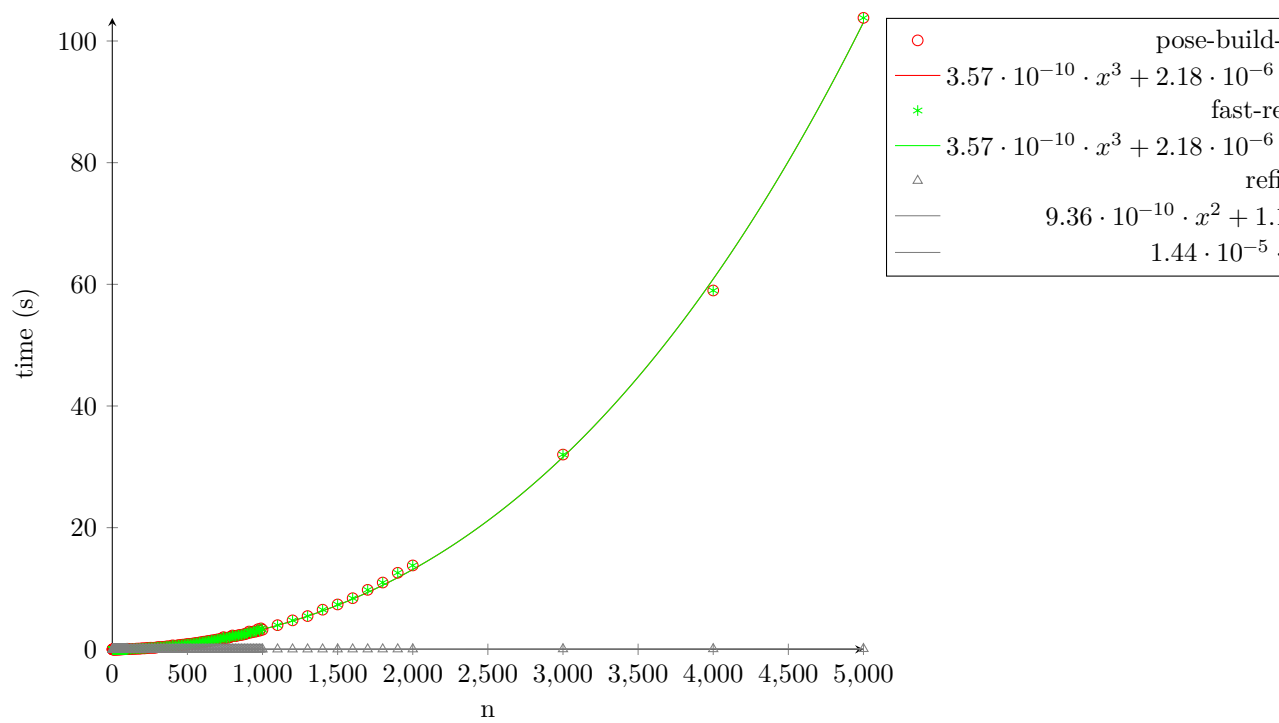Figure 11: timing-rewrite-repeated-app-fast-rewrite

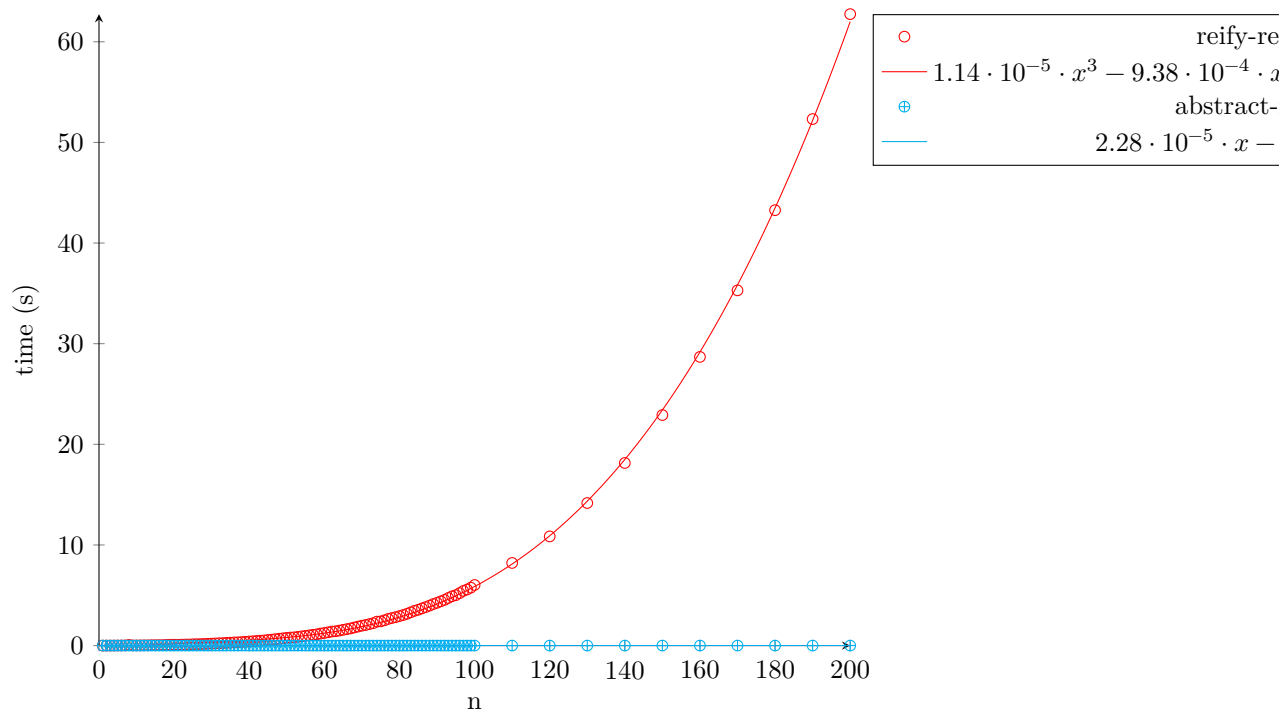Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract
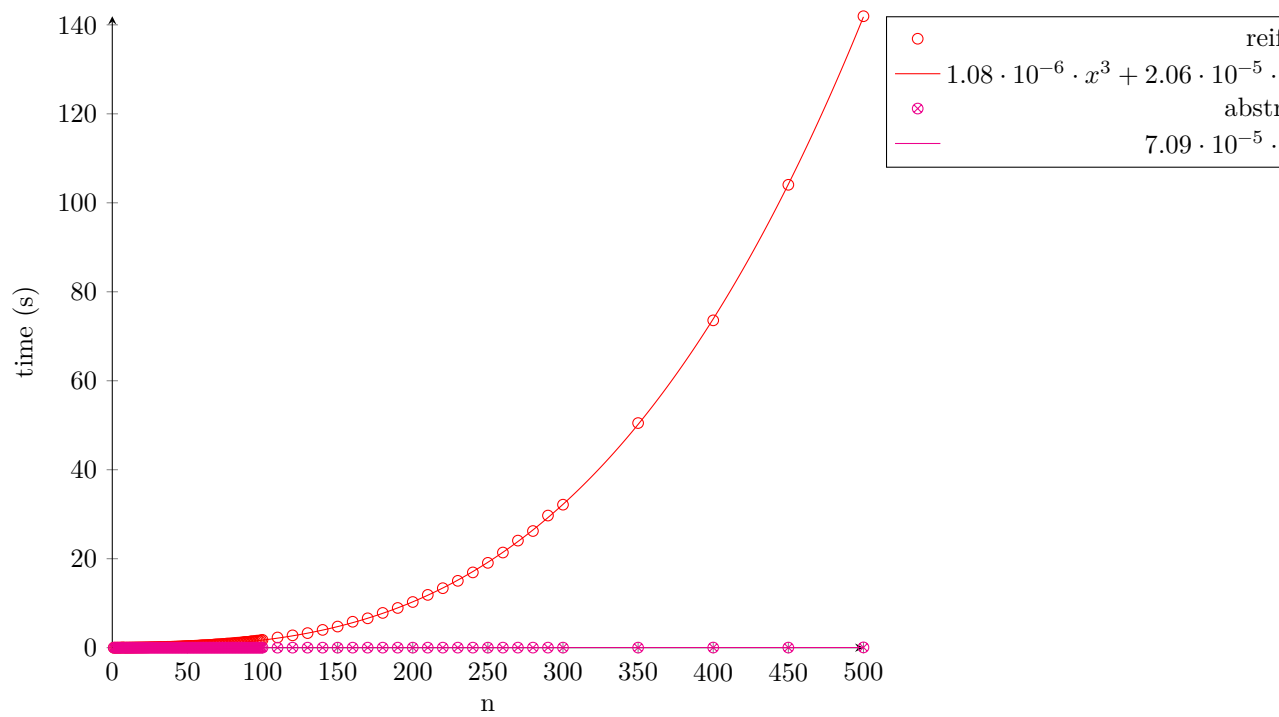
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Figure 13: timing-typeclass-reification-let-in-HOAS

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