Figure 1: timing-pattern

1

abstract-real

$1.61 \cdot 10^{-9} \cdot x^2 + 1.85 \cdot 10^{-4} \cdot$

abstract-user

$1.57 \cdot 10^{-9} \cdot x^2 + 1.83 \cdot 10^{-4} \cdot$

close-abstract-rea

$1.62 \cdot 10^{-9} \cdot x^2 + 1.18 \cdot 10^{-4} \cdot$

close-abstract-use

$1.5 \cdot 10^{-9} \cdot x^2 + 1.17 \cdot 10^{-4} \cdot x$

exact-real

$6.69 \cdot 10^{-5} \cdot x - 3.3 \cdot$

exact-user

$6.6 \cdot 10^{-5} \cdot x - 4.19 \cdot$

abstract-sys

close-abstract-sy

exact-sys

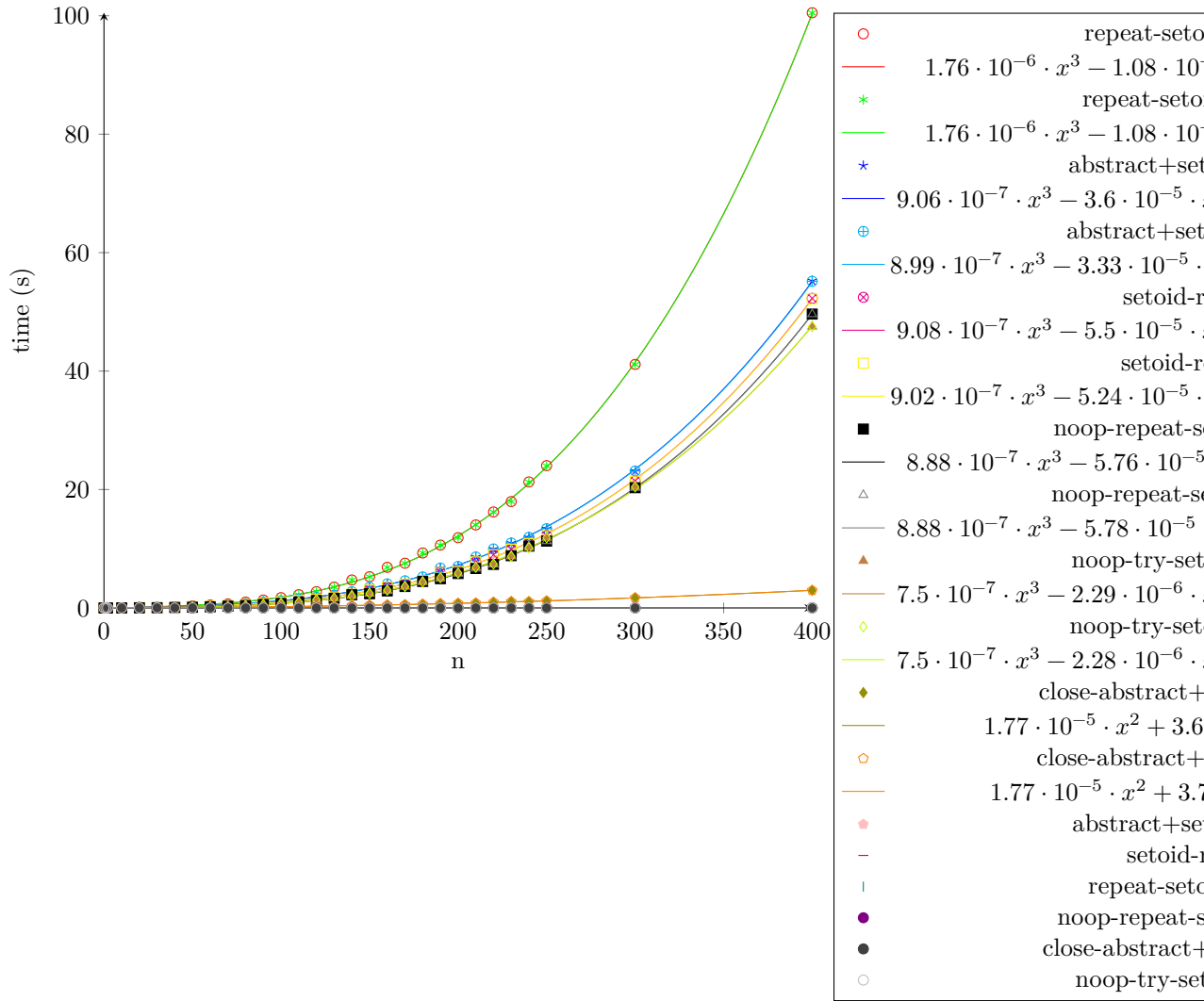Figure 2: timing-n-polymorphic-universes param-1-n   0

2

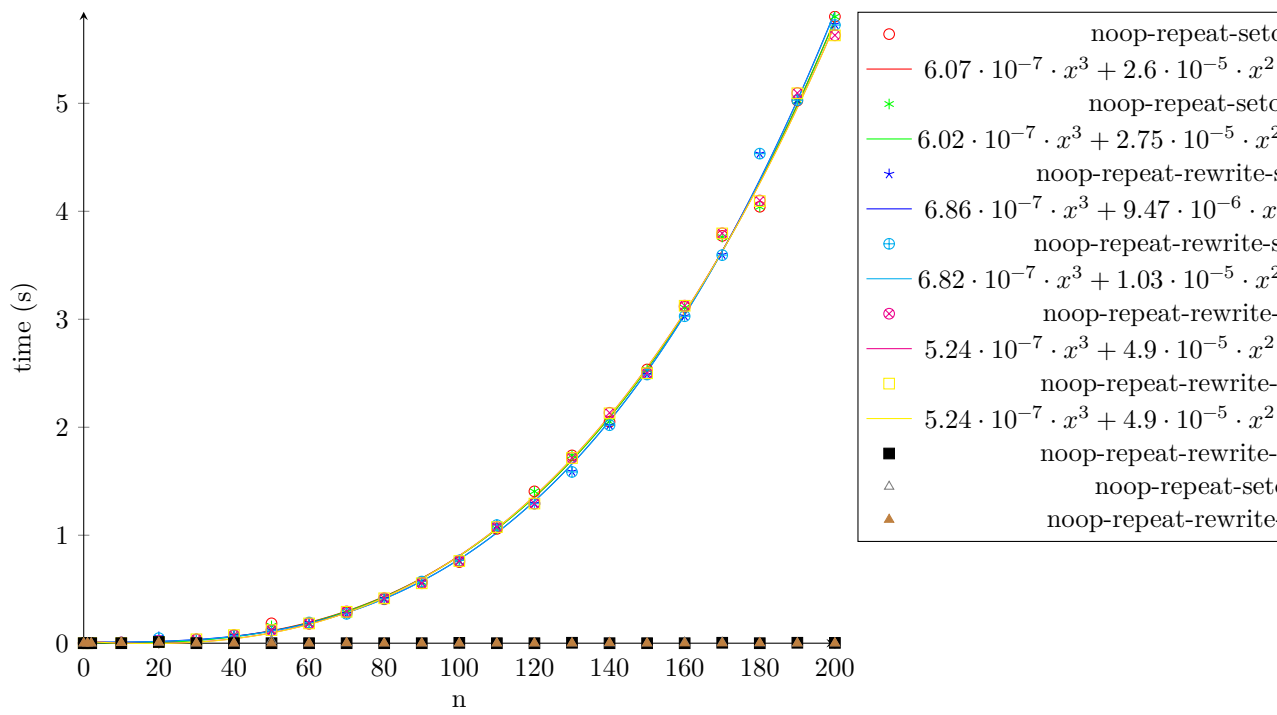Figure 3: timing-repeat-setoid-rewrite-under-binders

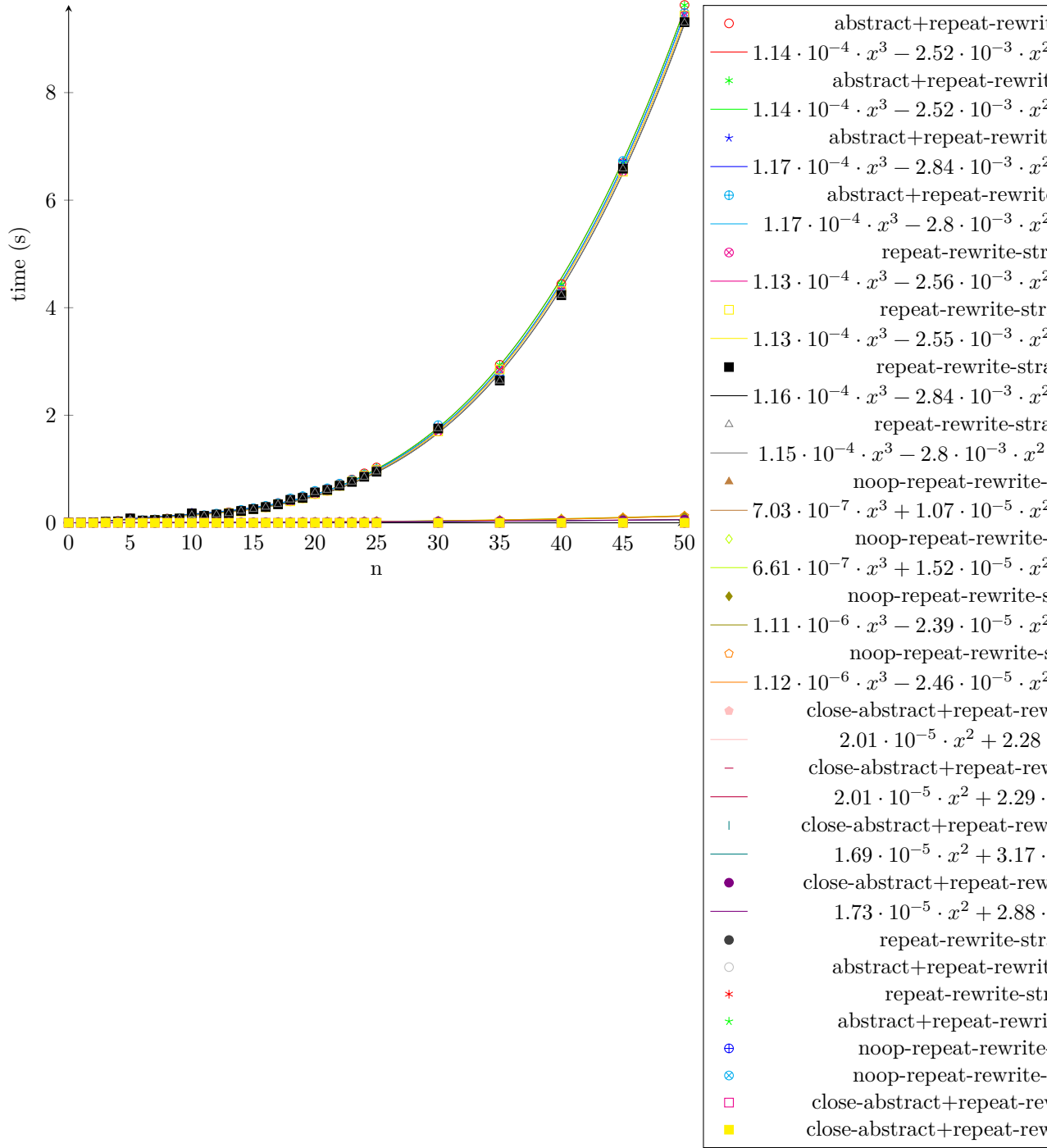Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

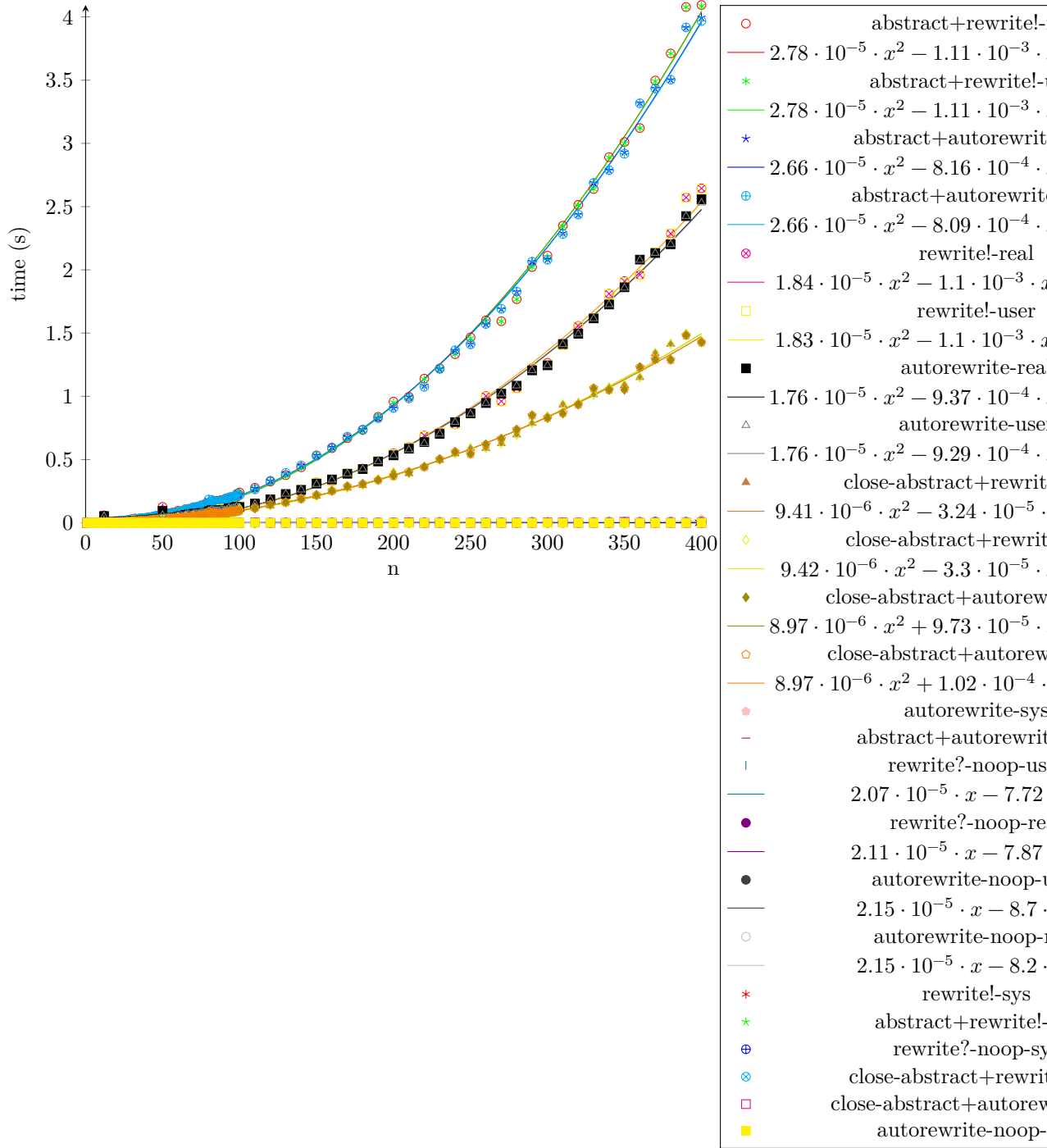Figure 5: timing-rewrite-strat-under-binders

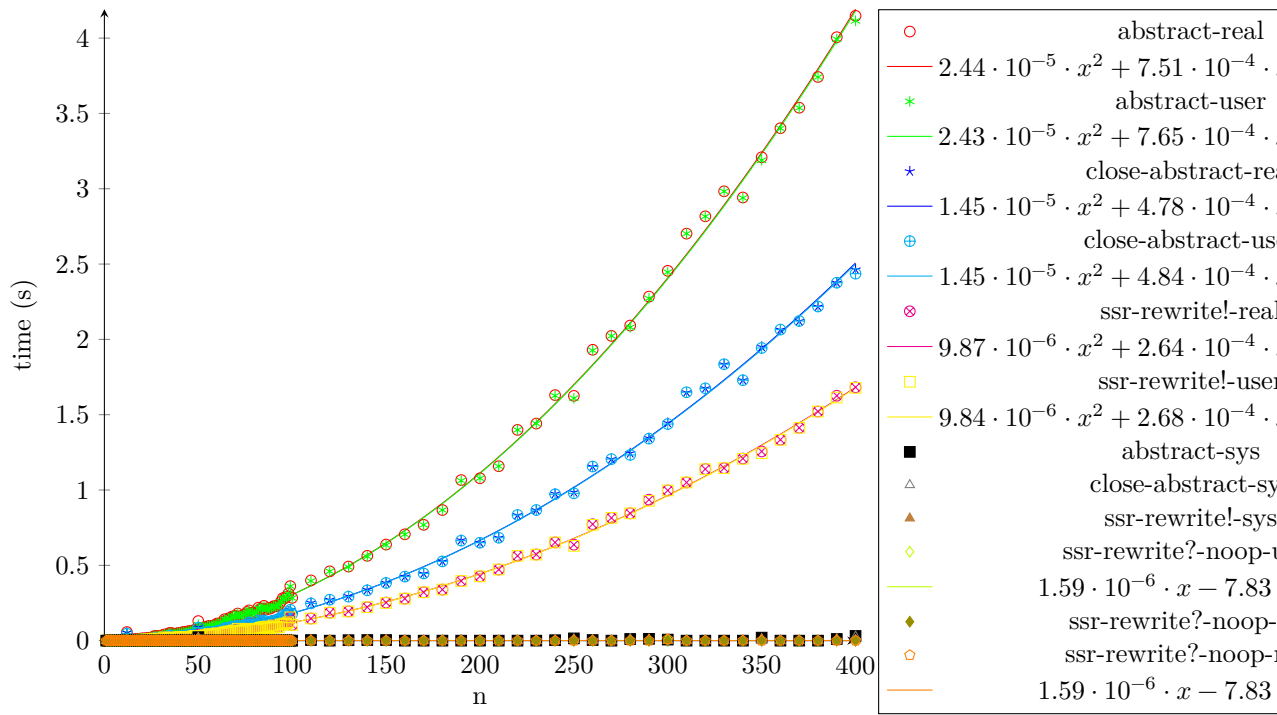Figure 6: timing-rewrite-repeated-app-autorewrite

6

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

The legend entries (partially cut off at the right edge) read:

- autorewrite-noop-r
- $3.31 \cdot 10^{-8} \cdot x^2 + 4.31 \cdot 10^{-5} \cdot x$
- autorewrite-noop-u
- $3.31 \cdot 10^{-8} \cdot x^2 + 4.29 \cdot 10^{-5} \cdot x$
- try-rewrite!-noop-r
- $3.22 \cdot 10^{-8} \cdot x^2 + 4.7 \cdot 10^{-5} \cdot x$
- try-rewrite!-noop-u
- $3.22 \cdot 10^{-8} \cdot x^2 + 4.7 \cdot 10^{-5} \cdot x$
- try-rewrite?-noop-r
- $3.16 \cdot 10^{-8} \cdot x^2 + 4.8 \cdot 10^{-5} \cdot x$
- try-rewrite?-noop-u
- $3.16 \cdot 10^{-8} \cdot x^2 + 4.78 \cdot 10^{-5} \cdot x$
- try-rewrite-noop-r
- $3.22 \cdot 10^{-8} \cdot x^2 + 4.53 \cdot 10^{-5} \cdot x$
- try-rewrite-noop-u
- $3.22 \cdot 10^{-8} \cdot x^2 + 4.54 \cdot 10^{-5} \cdot x$
- try-ssr-rewrite!-noop
- $4.48 \cdot 10^{-7} \cdot x - 1.17$
- try-ssr-rewrite!-noop
- $4.52 \cdot 10^{-7} \cdot x - 1.35$
- try-rewrite?-noop-
- try-rewrite!-noop-
- try-ssr-rewrite?-noop
- $3.79 \cdot 10^{-7} \cdot x - 1.68$
- try-ssr-rewrite?-noop
- $3.82 \cdot 10^{-7} \cdot x - 1.81$
- try-ssr-rewrite-noop
- $3.37 \cdot 10^{-7} \cdot x - 1.4 \cdot$
- try-ssr-rewrite-noop
- $3.39 \cdot 10^{-7} \cdot x - 1.38$
- try-ssr-rewrite?-noo
- try-ssr-rewrite-noop
- try-ssr-rewrite!-noop
- try-rewrite-noop-s
- autorewrite-noop-

7

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

8

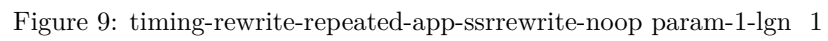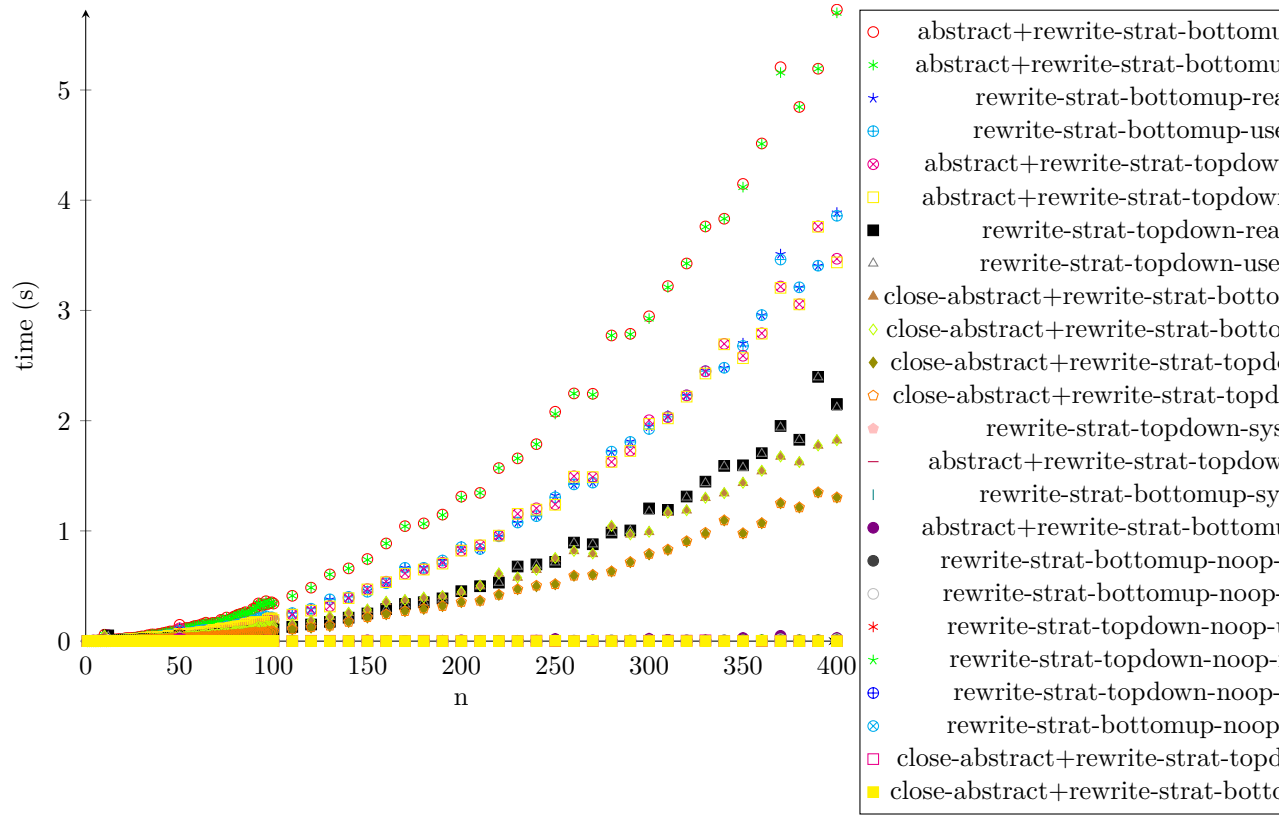Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

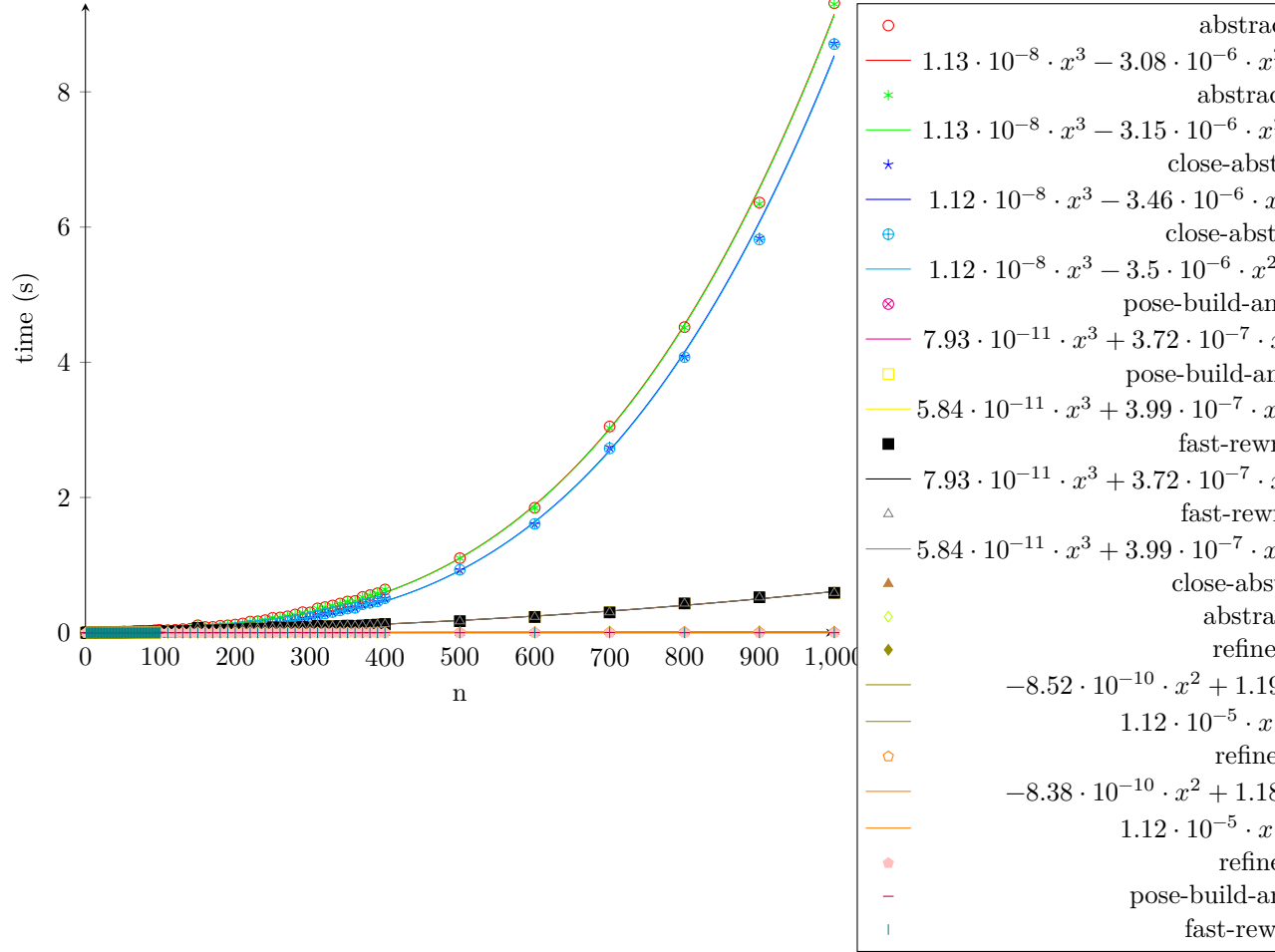Figure 10: timing-rewrite-repeated-app-rewrite-strat

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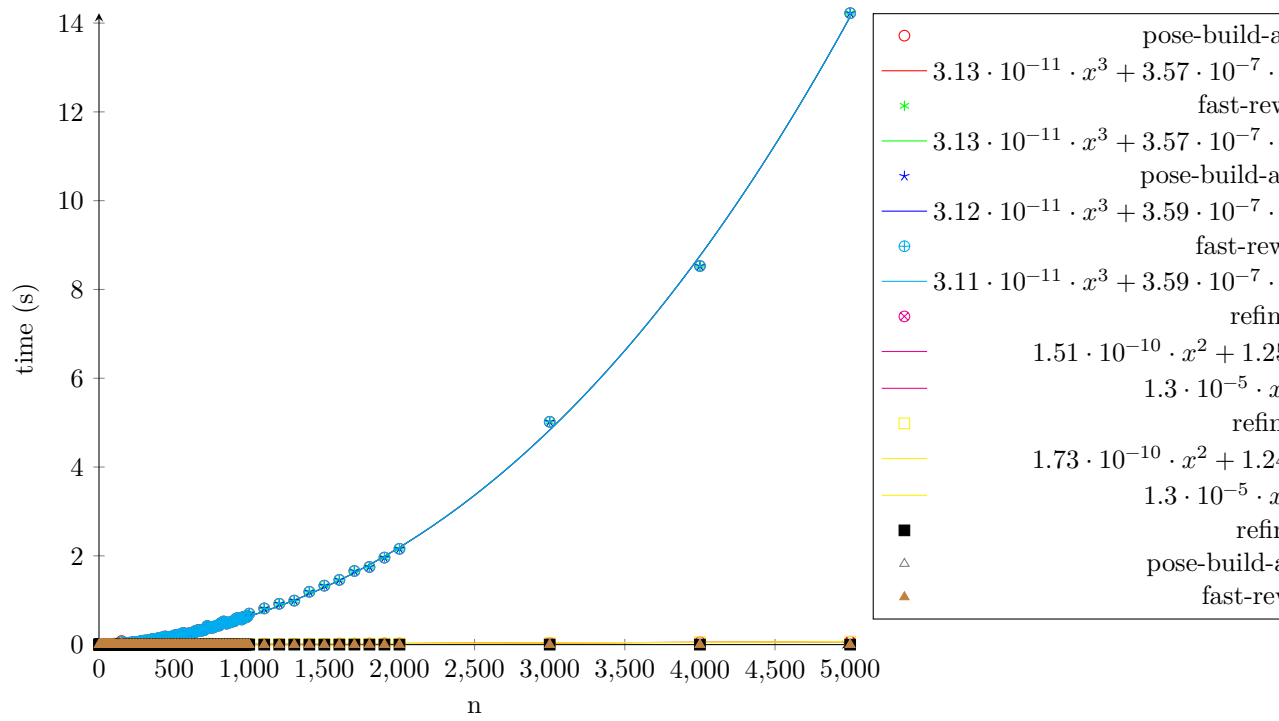
11

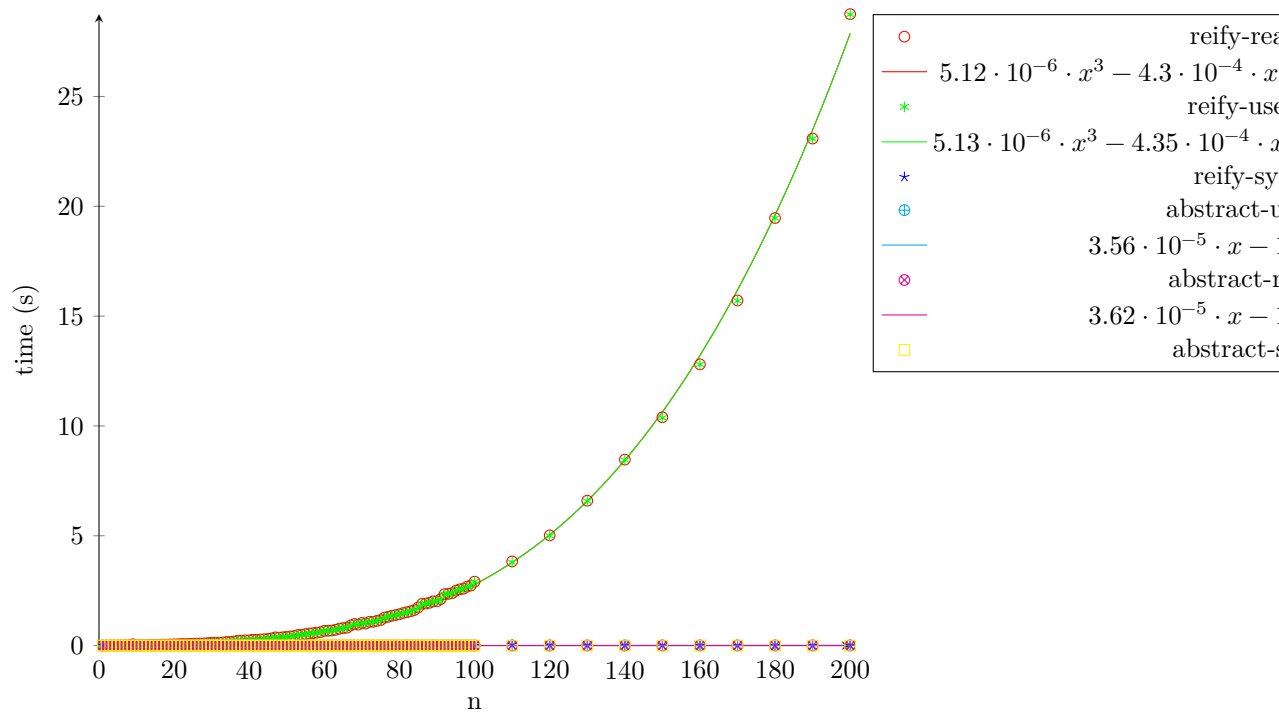Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract
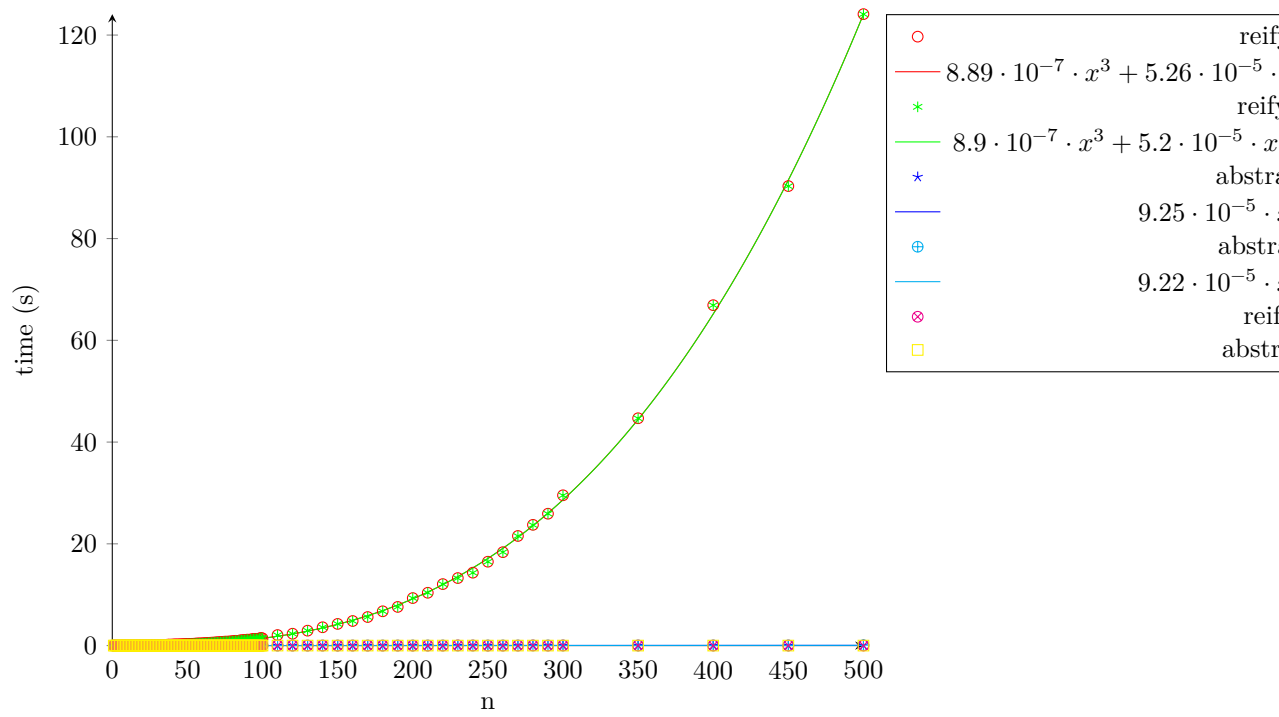
Figure 13: timing-typeclass-reification-let-in-HOAS

13

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