Figure 1: timing-pattern

Figure 2: timing-n-polymorphic-universes param-1-n 0
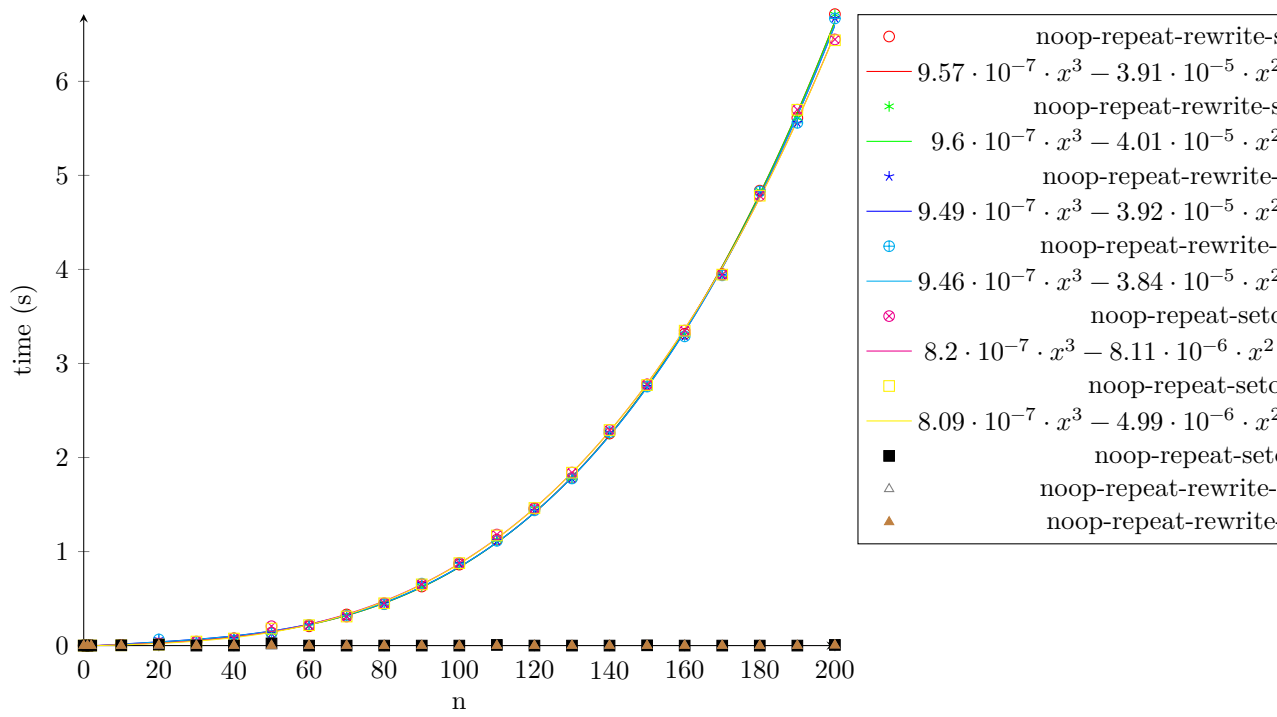
The chart contains the following legend entries (partially cut off):

- repeat-seto...
- $1.95 \cdot 10^{-6} \cdot x^3 - 1.23 \cdot 10^{...}$
- repeat-seto...
- $1.95 \cdot 10^{-6} \cdot x^3 - 1.23 \cdot 10^{...}$
- noop-try-set...
- $6.93 \cdot 10^{-7} \cdot x^3 + 2 \cdot 10^{...}$
- noop-try-set...
- $6.91 \cdot 10^{-7} \cdot x^3 + 2.01 \cdot 10^{...}$
- abstract+set...
- $1 \cdot 10^{-6} \cdot x^3 - 6.28 \cdot 10^{-5}$
- abstract+set...
- $1.01 \cdot 10^{-6} \cdot x^3 - 6.31 \cdot 10^{...}$
- setoid-r...
- $1 \cdot 10^{-6} \cdot x^3 - 8.12 \cdot 10^{-5}$
- setoid-r...
- $1 \cdot 10^{-6} \cdot x^3 - 8.13 \cdot 10^{-5}$
- noop-repeat-s...
- $9.83 \cdot 10^{-7} \cdot x^3 - 6.35 \cdot 10^{-5} \cdot$
- noop-repeat-s...
- $9.83 \cdot 10^{-7} \cdot x^3 - 6.37 \cdot 10^{-5} \cdot$
- close-abstract+...
- $1.9 \cdot 10^{-5} \cdot x^2 + 5.01 \cdot$
- close-abstract+...
- $1.9 \cdot 10^{-5} \cdot x^2 + 5 \cdot$
- noop-try-set...
- repeat-seto...
- setoid-r...
- abstract+set...
- noop-repeat-s...
- close-abstract+...

Axes: x-axis labeled n (0 to 400), y-axis labeled time (s) (0 to 100).

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

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

4

time (s)

10

8

6

4

2

0

0   5   10   15   20   25   30   35   40   45   50

n

	abstract+repeat-rewr
	$1.3 \cdot 10^{-4} \cdot x^3 - 3.08 \cdot 10^{-3} \cdot x$
	abstract+repeat-rewr
	$1.3 \cdot 10^{-4} \cdot x^3 - 3.09 \cdot 10^{-3} \cdot$
	abstract+repeat-rewr
	$1.23 \cdot 10^{-4} \cdot x^3 - 2.64 \cdot 10^{-3} \cdot$
	abstract+repeat-rewr
	$1.23 \cdot 10^{-4} \cdot x^3 - 2.62 \cdot 10^{-3} \cdot$
	repeat-rewrite-st
	$1.29 \cdot 10^{-4} \cdot x^3 - 3.12 \cdot 10^{-3} \cdot$
	repeat-rewrite-st
	$1.29 \cdot 10^{-4} \cdot x^3 - 3.1 \cdot 10^{-3} \cdot x$
	repeat-rewrite-st
	$1.22 \cdot 10^{-4} \cdot x^3 - 2.66 \cdot 10^{-3} \cdot$
	repeat-rewrite-st
	$1.22 \cdot 10^{-4} \cdot x^3 - 2.64 \cdot 10^{-3} \cdot$
	noop-repeat-rewrite
	$9.95 \cdot 10^{-7} \cdot x^3 + 9.28 \cdot 10^{-7} \cdot$
	noop-repeat-rewrite
	$9.8 \cdot 10^{-7} \cdot x^3 + 2.29 \cdot 10^{-6} \cdot$
	noop-repeat-rewrite
	$7.42 \cdot 10^{-7} \cdot x^3 + 1.3 \cdot 10^{-5} \cdot x$
	noop-repeat-rewrite
	$7.58 \cdot 10^{-7} \cdot x^3 + 1.18 \cdot 10^{-5} \cdot$
	close-abstract+repeat-re
	$2.23 \cdot 10^{-5} \cdot x^2 + 2.1$
	close-abstract+repeat-re
	$2.25 \cdot 10^{-5} \cdot x^2 + 1.92$
	close-abstract+repeat-re
	$1.95 \cdot 10^{-5} \cdot x^2 + 3.27$
	close-abstract+repeat-re
	$1.99 \cdot 10^{-5} \cdot x^2 + 3.01$
	abstract+repeat-rewr
	repeat-rewrite-st
	repeat-rewrite-s
	noop-repeat-rewrit
	noop-repeat-rewrite
	close-abstract+repeat-re
	close-abstract+repeat-re
	abstract+repeat-rewr

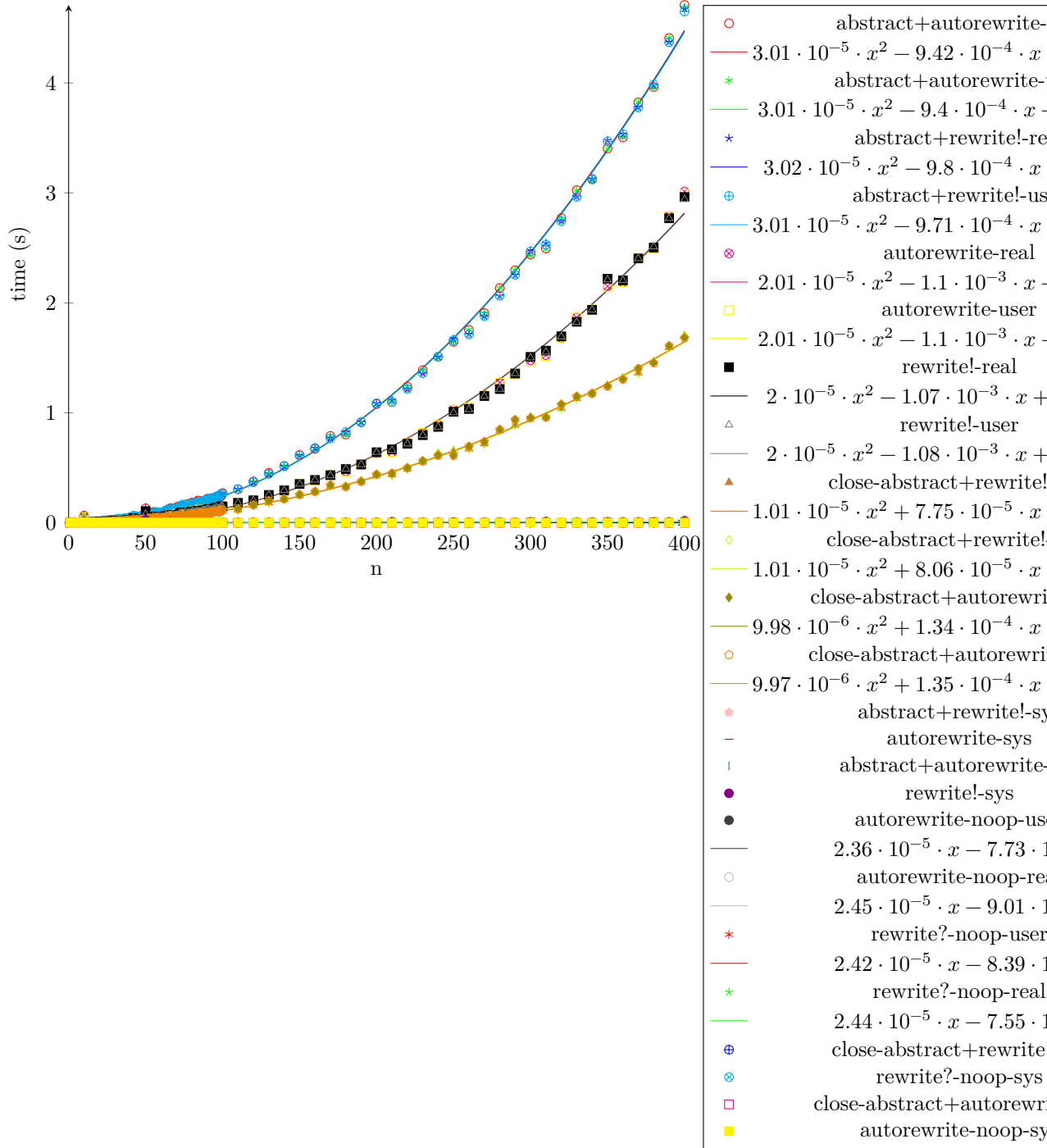Figure 5: timing-rewrite-strat-under-binders

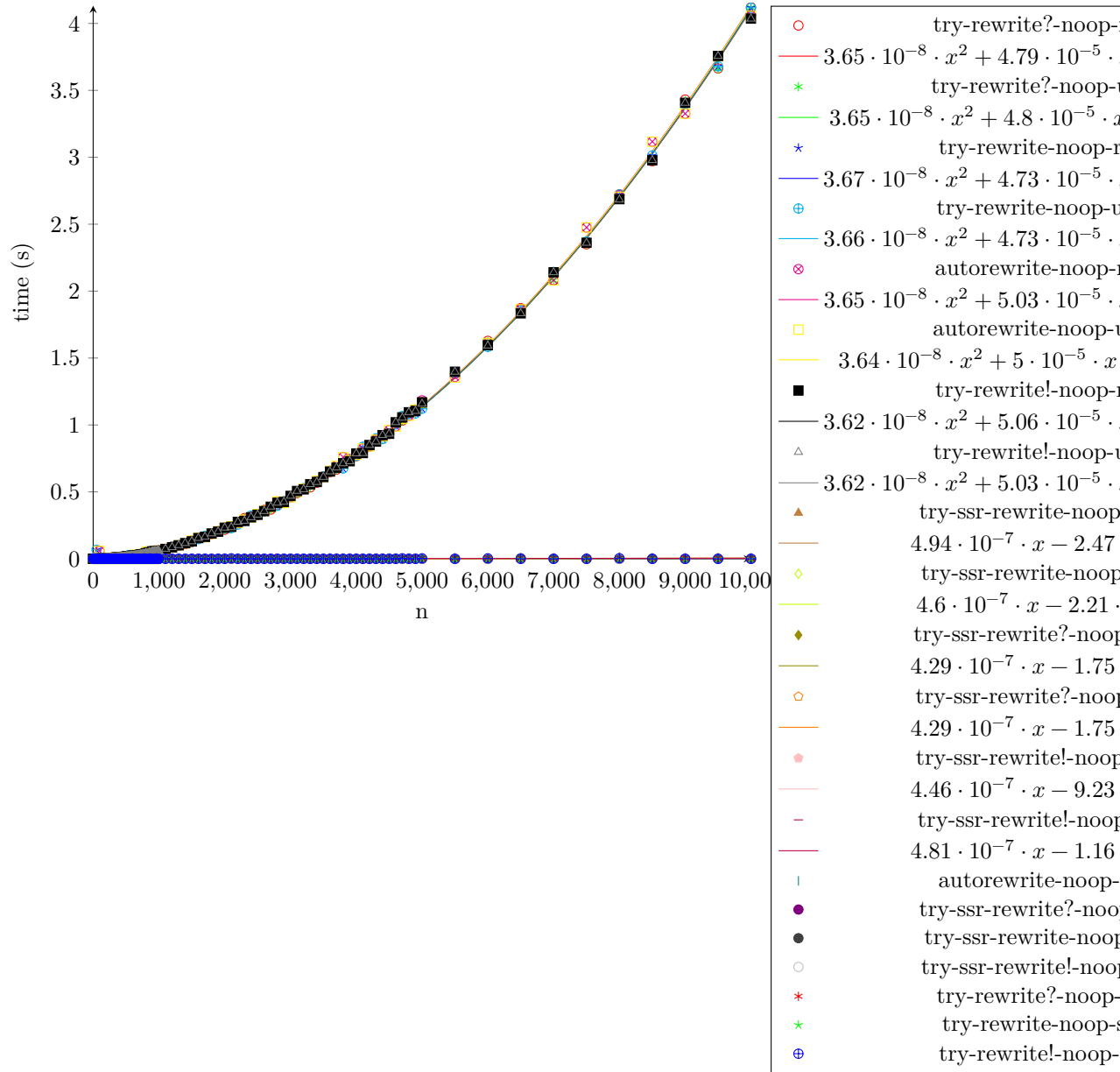Figure 6: timing-rewrite-repeated-app-autorewrite

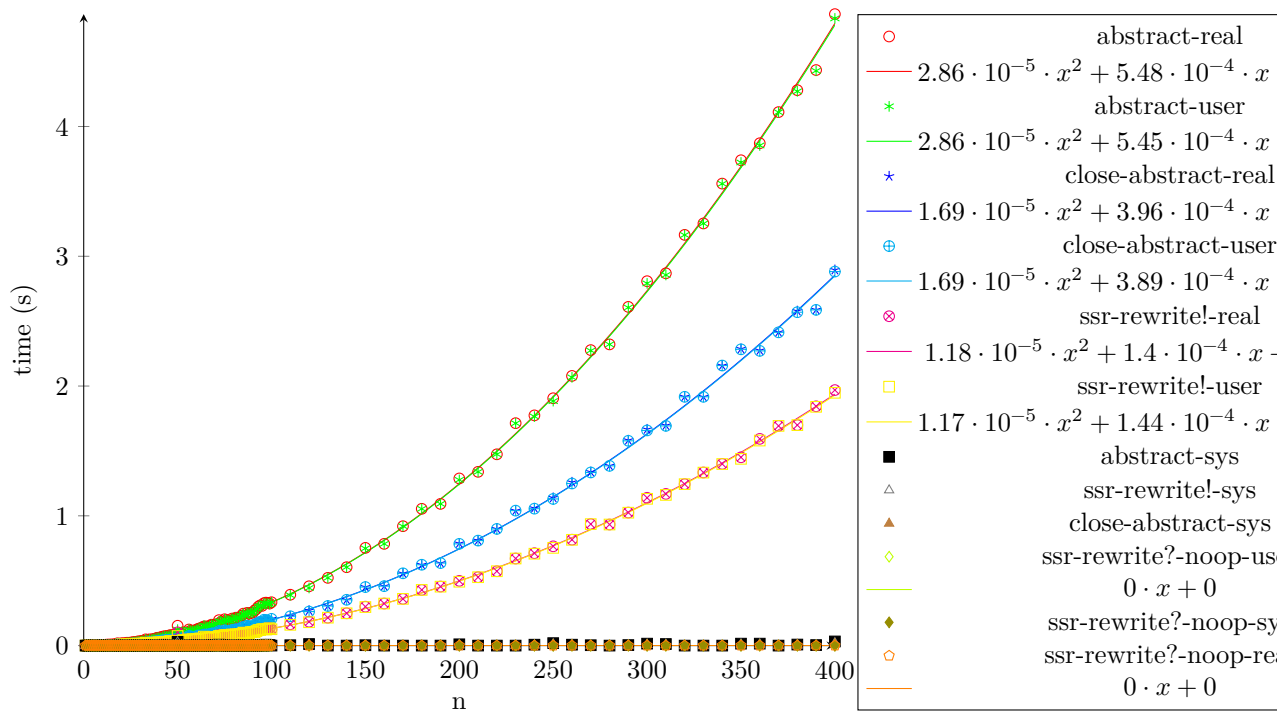Figure 7: timing-rewrite-repeated-app-autorewrite-noop

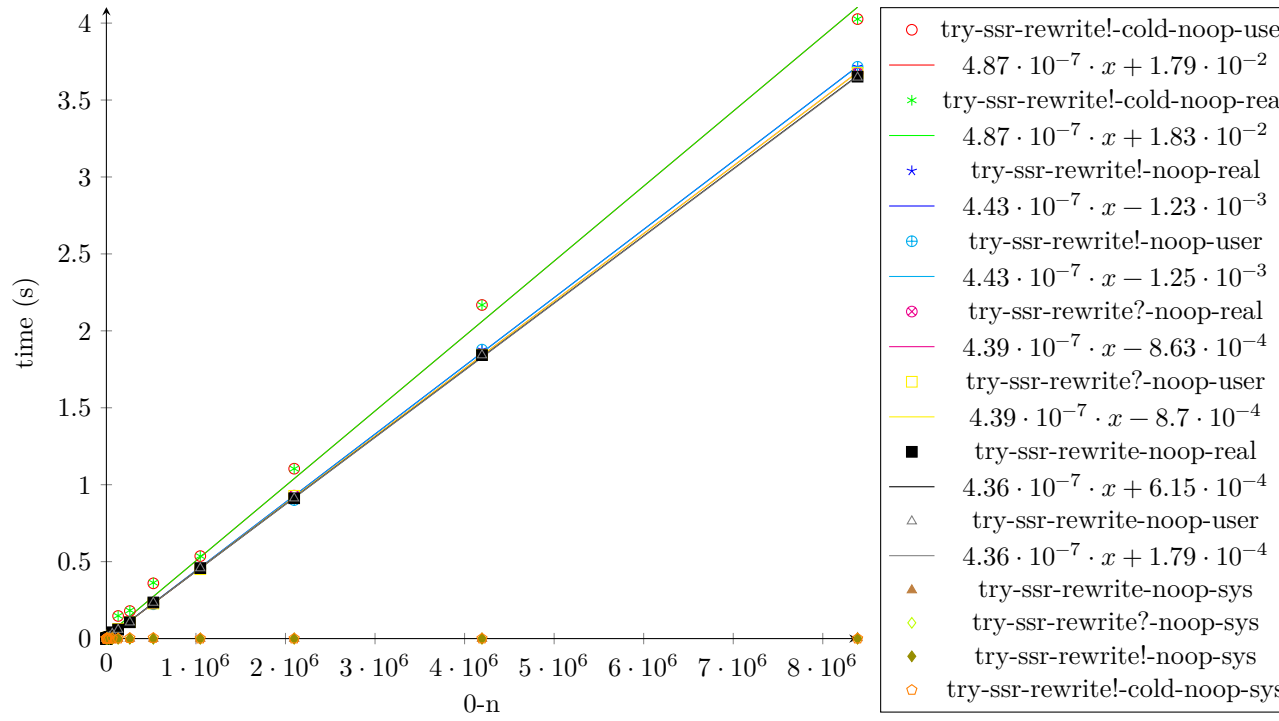Figure 8: timing-rewrite-repeated-app-ssrrewrite

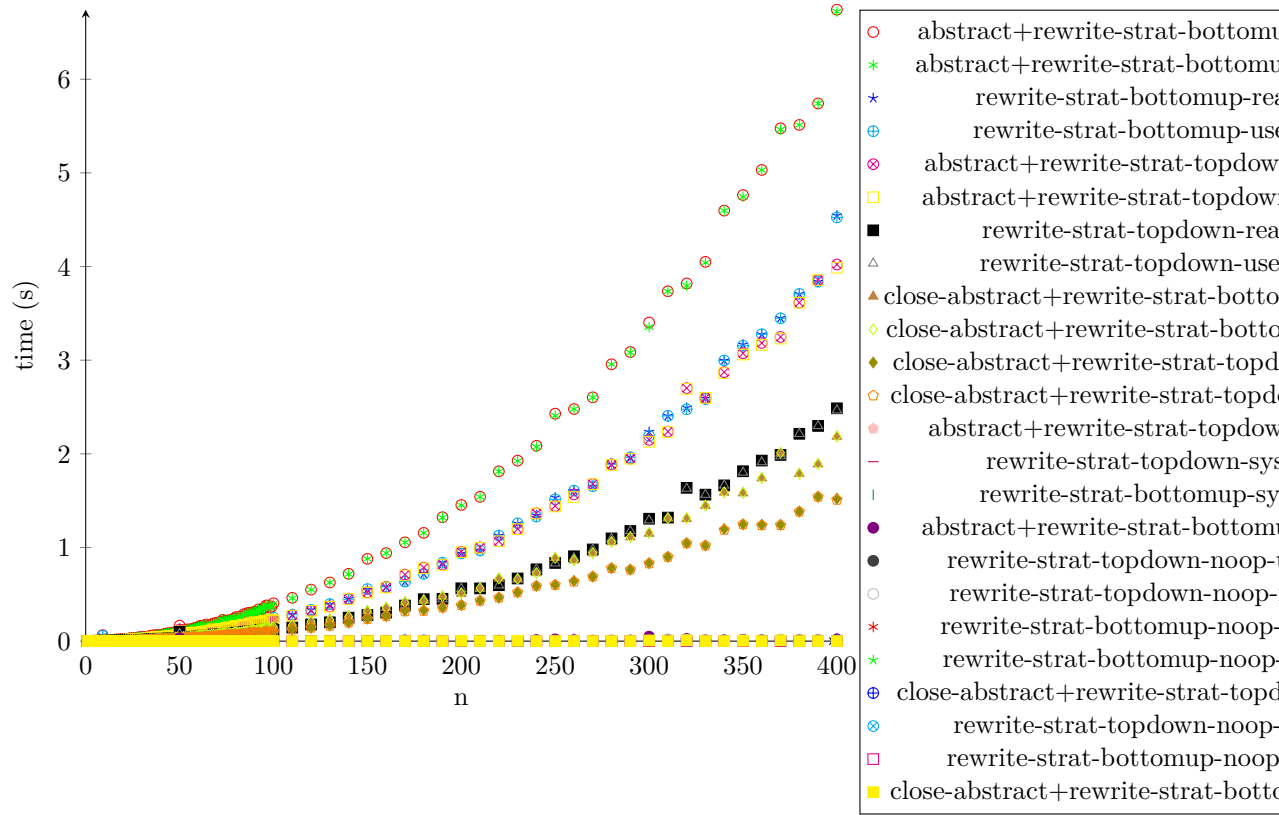Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

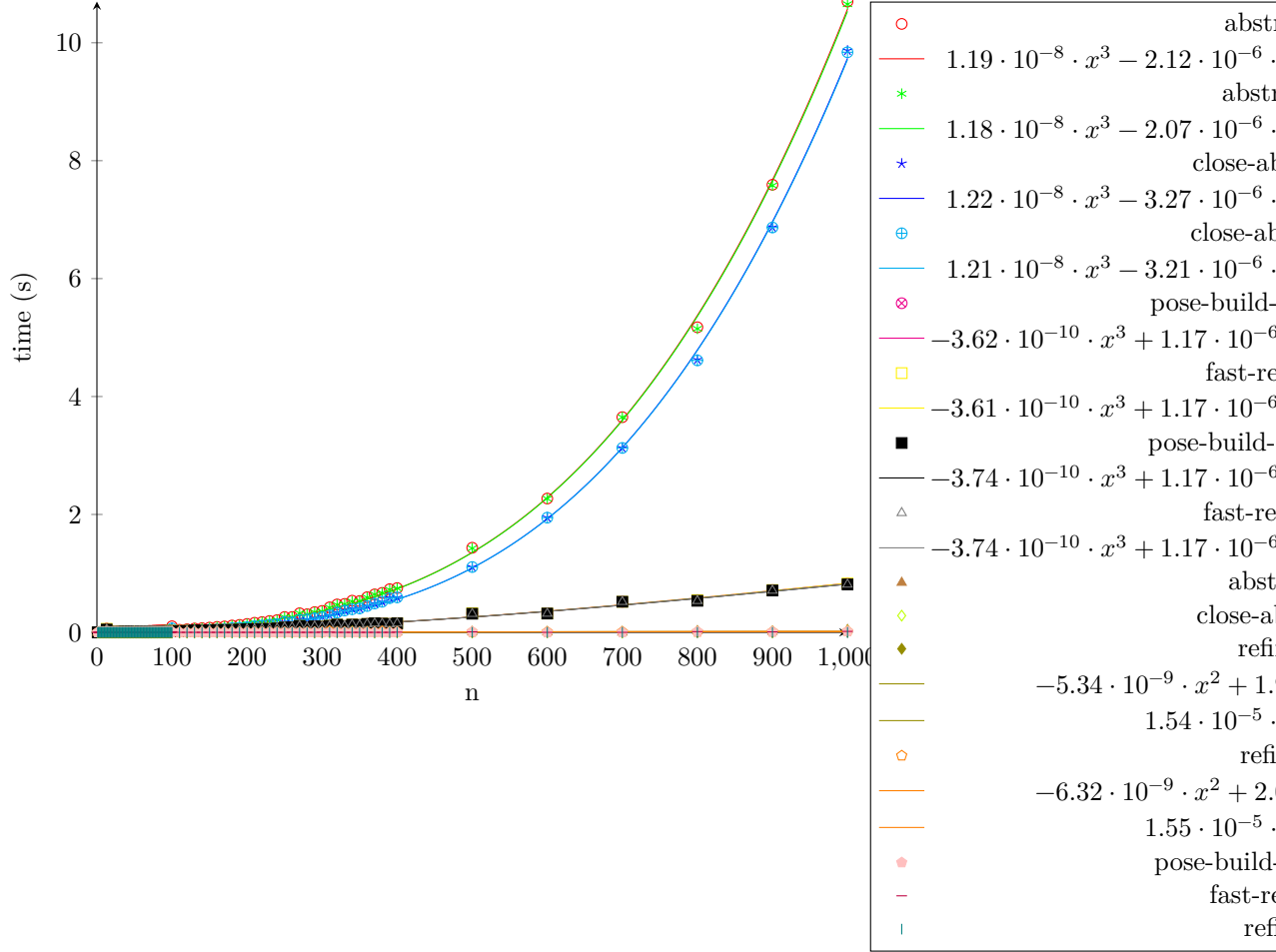Figure 10: timing-rewrite-repeated-app-rewrite-strat
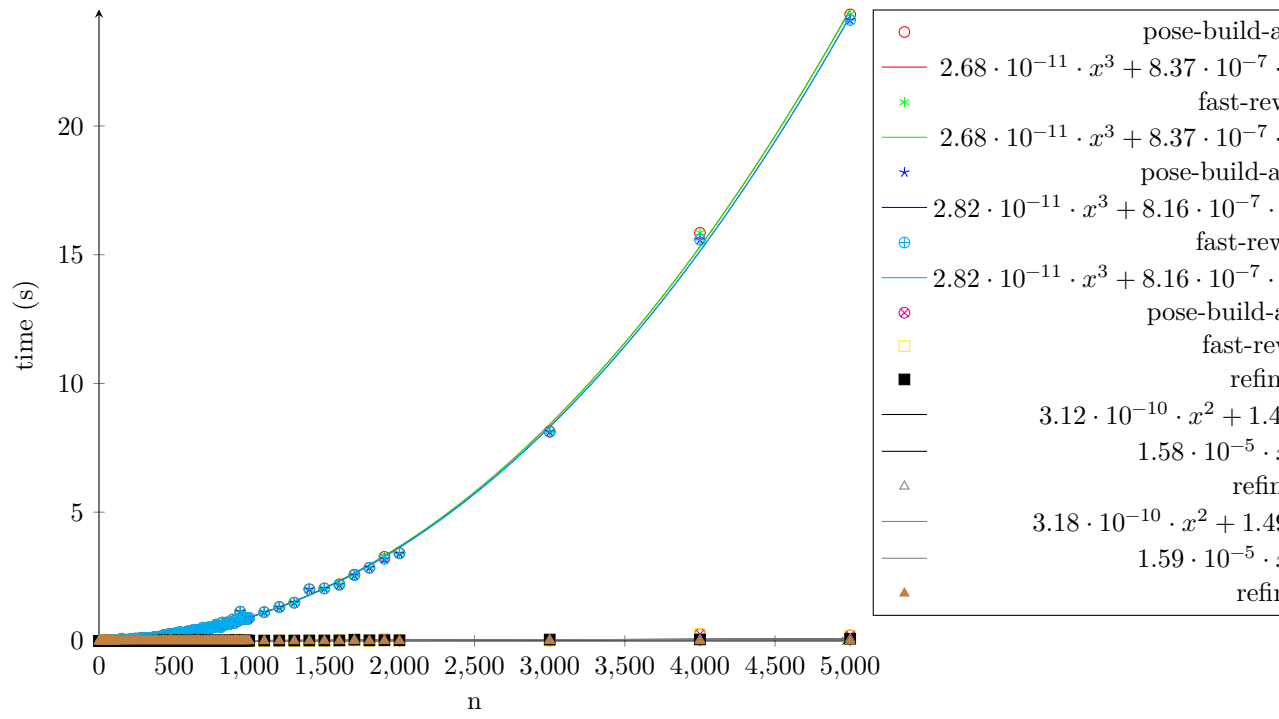
Figure 11: timing-rewrite-repeated-app-fast-rewrite

11

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

time (s)

n

abstract-real
$2.22 \cdot 10^{-6} \cdot x^2 + 1.27 \cdot 10^{-4} \cdot x$

abstract-user
$2.23 \cdot 10^{-6} \cdot x^2 + 1.23 \cdot 10^{-4} \cdot x$

fast-rewrite-real
$1.86 \cdot 10^{-6} \cdot x^2 + 8.95 \cdot 10^{-5} \cdot x$

fast-rewrite-user
$1.86 \cdot 10^{-6} \cdot x^2 + 8.59 \cdot 10^{-5} \cdot x$

close-abstract-user
$3.66 \cdot 10^{-7} \cdot x^2 + 3.47 \cdot 10^{-5} \cdot x$

close-abstract-real
$3.65 \cdot 10^{-7} \cdot x^2 + 3.57 \cdot 10^{-5} \cdot x$

check-pf-cast-real
$2.77 \cdot 10^{-7} \cdot x^2 - 4.27 \cdot 10^{-5} \cdot x$

check-pf-cast-user
$2.76 \cdot 10^{-7} \cdot x^2 - 4.19 \cdot 10^{-5} \cdot x$

type-pf-cast-real
$2.63 \cdot 10^{-7} \cdot x^2 + 4.18 \cdot 10^{-6} \cdot x$

type-pf-cast-user
$2.64 \cdot 10^{-7} \cdot x^2 + 3.87 \cdot 10^{-6} \cdot x$

refine-user
$2.65 \cdot 10^{-7} \cdot x^2 - 2.73 \cdot 10^{-6} \cdot x$
$5.49 \cdot 10^{-4} \cdot x - 5.95 \cdot$

refine-real
$2.65 \cdot 10^{-7} \cdot x^2 - 2.38 \cdot 10^{-6} \cdot x$
$5.49 \cdot 10^{-4} \cdot x - 5.95 \cdot$

check-admit-cast-u...
$2.55 \cdot 10^{-7} \cdot x^2 + 1.35 \cdot 10^{-5} \cdot x$

check-admit-cast-re...
$2.55 \cdot 10^{-7} \cdot x^2 + 1.38 \cdot 10^{-5} \cdot x$

type-admit-cast-re...
$2.58 \cdot 10^{-7} \cdot x^2 - 5.62 \cdot 10^{-6} \cdot x$

type-admit-cast-us...
$2.58 \cdot 10^{-7} \cdot x^2 - 5.6 \cdot 10^{-6} \cdot x$

type-admit-user
$2.79 \cdot 10^{-7} \cdot x^2 - 5.93 \cdot 10^{-5} \cdot x$

type-admit-real
$2.79 \cdot 10^{-7} \cdot x^2 - 5.88 \cdot 10^{-5} \cdot x$

check-admit-user
$2.6 \cdot 10^{-7} \cdot x^2 + 2.8 \cdot 10^{-6} \cdot x$

check-admit-real
$2.6 \cdot 10^{-7} \cdot x^2 + 3.06 \cdot 10^{-6} \cdot x$

build-eval-thunk-us...
$1.12 \cdot 10^{-4} \cdot x - 4.79 \cdot$

build-eval-thunk-re...
$1.13 \cdot 10^{-4} \cdot x - 2.75 \cdot$

build-thunk-user
$1.12 \cdot 10^{-4} \cdot x - 5.7 \cdot$

build-thunk-real
$1.12 \cdot 10^{-4} \cdot x - 3.76 \cdot$

check-L-user