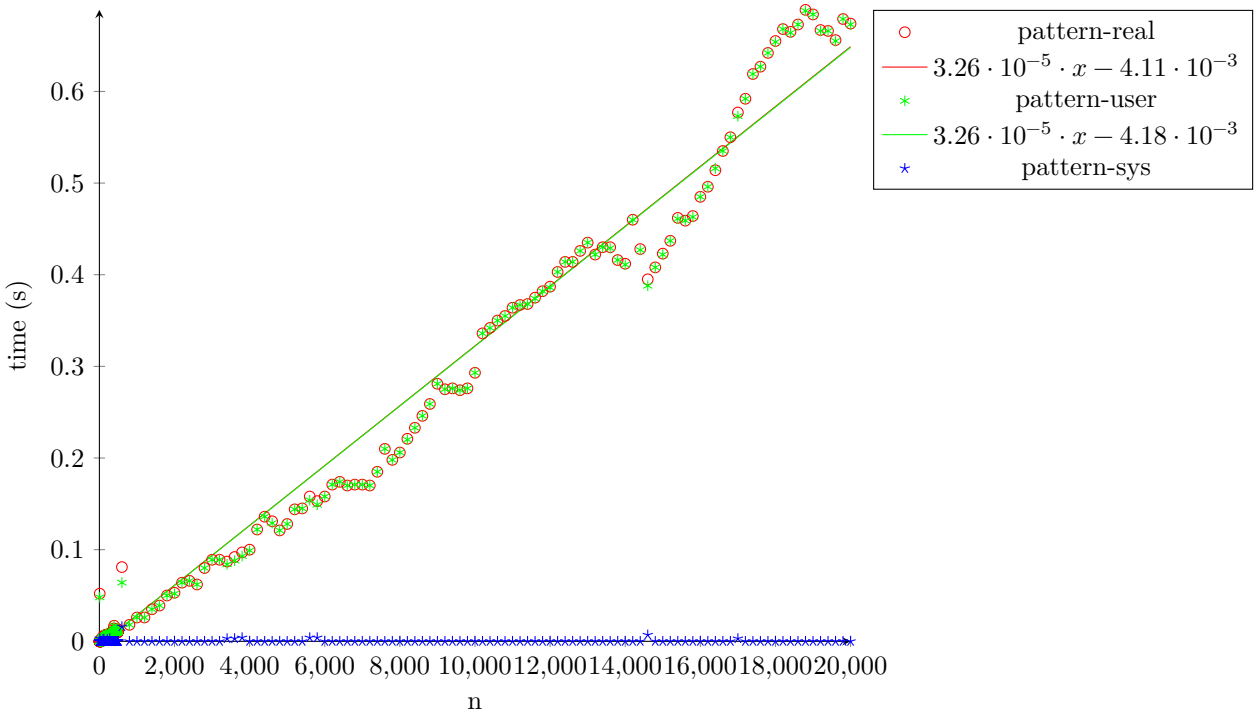


Figure 1: timing-pattern

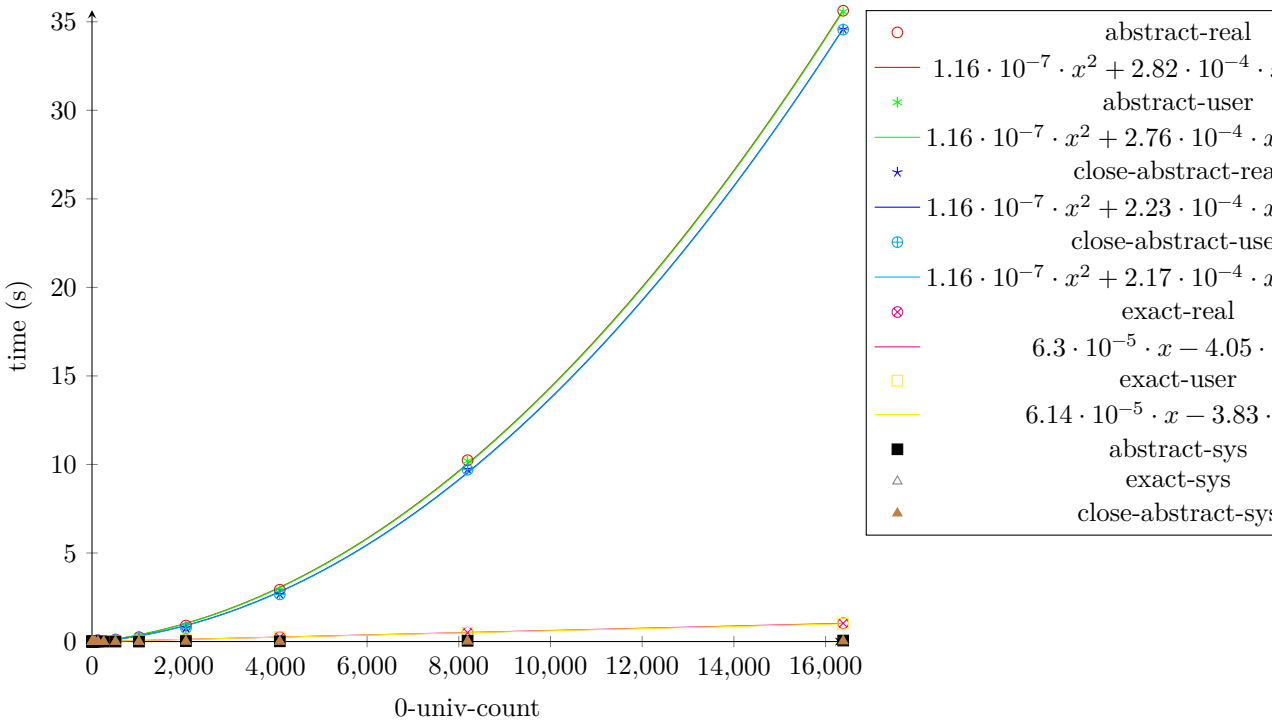


Figure 2: timing-n-polymorphic-universes param-1-n 0

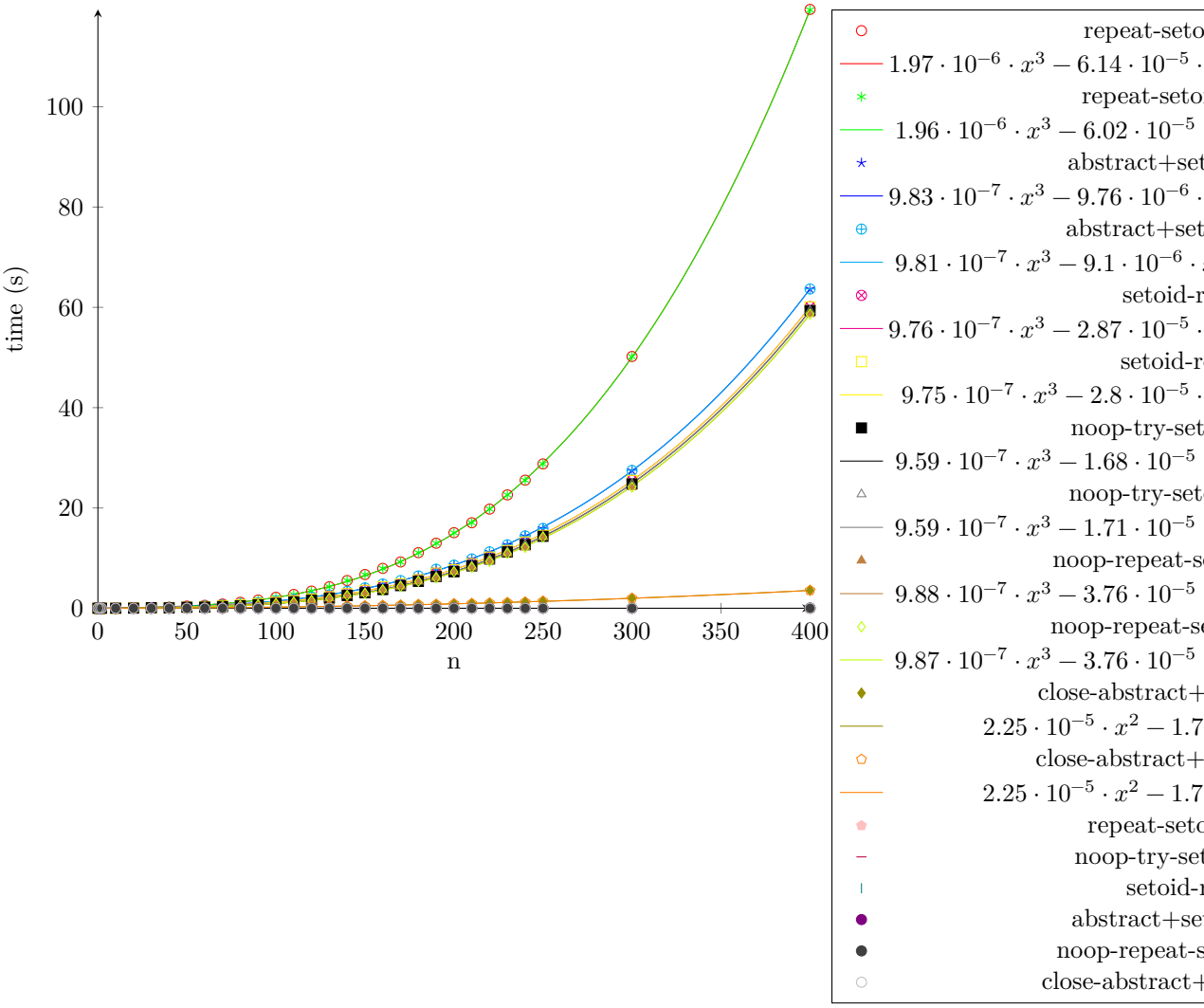


Figure 3: timing-repeat-setoid-rewrite-under-binders

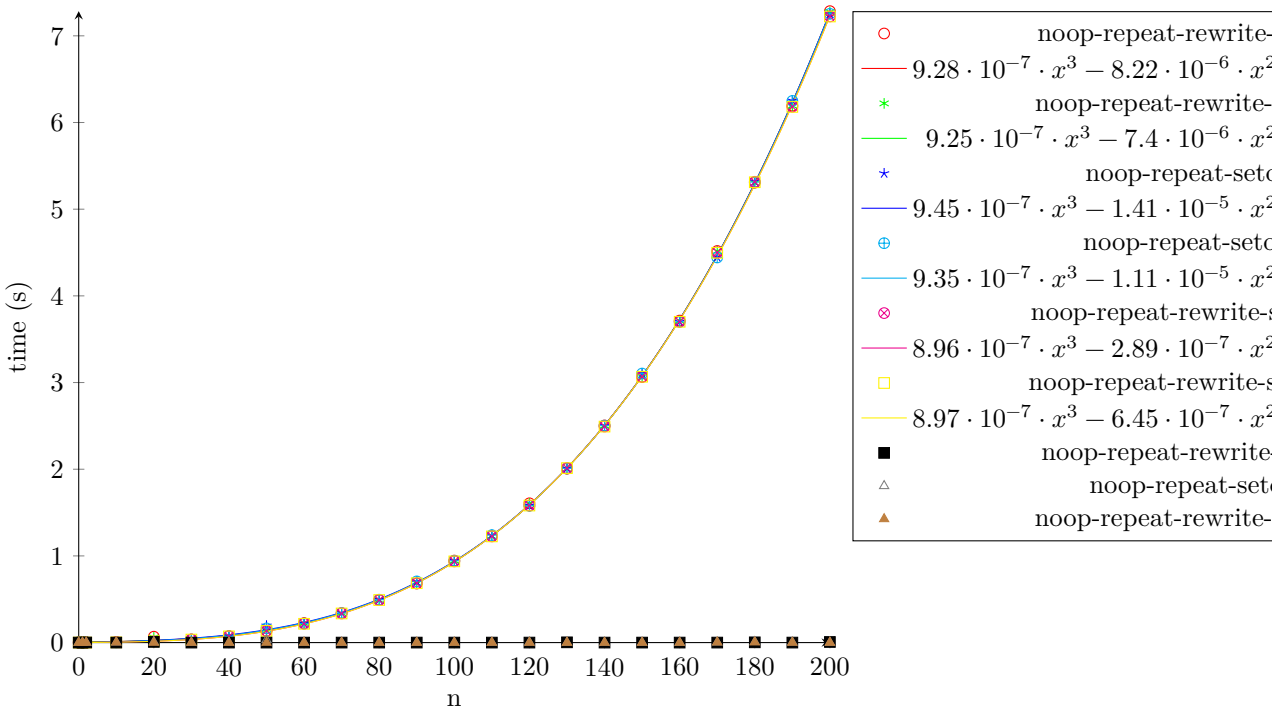


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

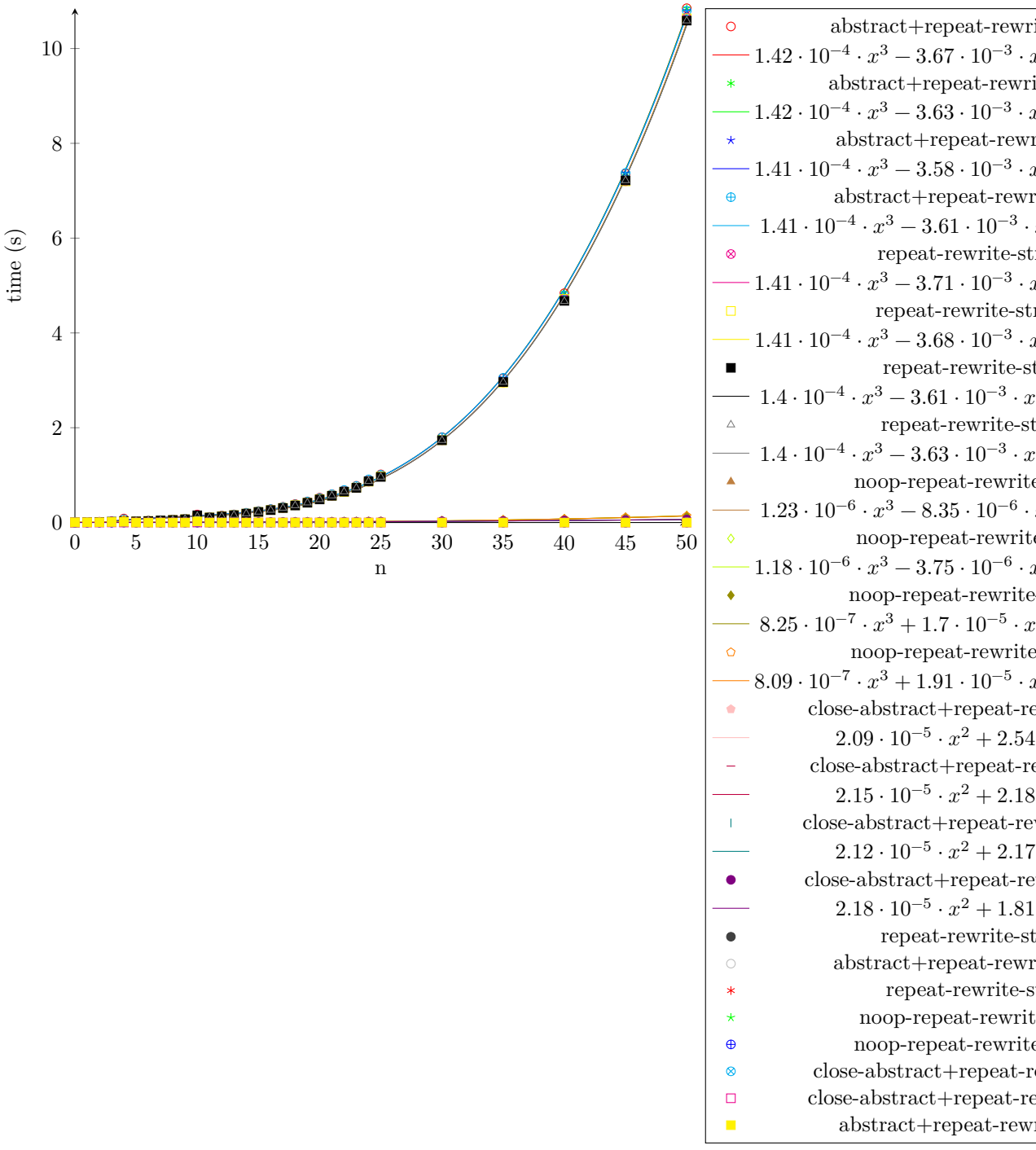


Figure 5: timing-rewrite-strat-under-binders

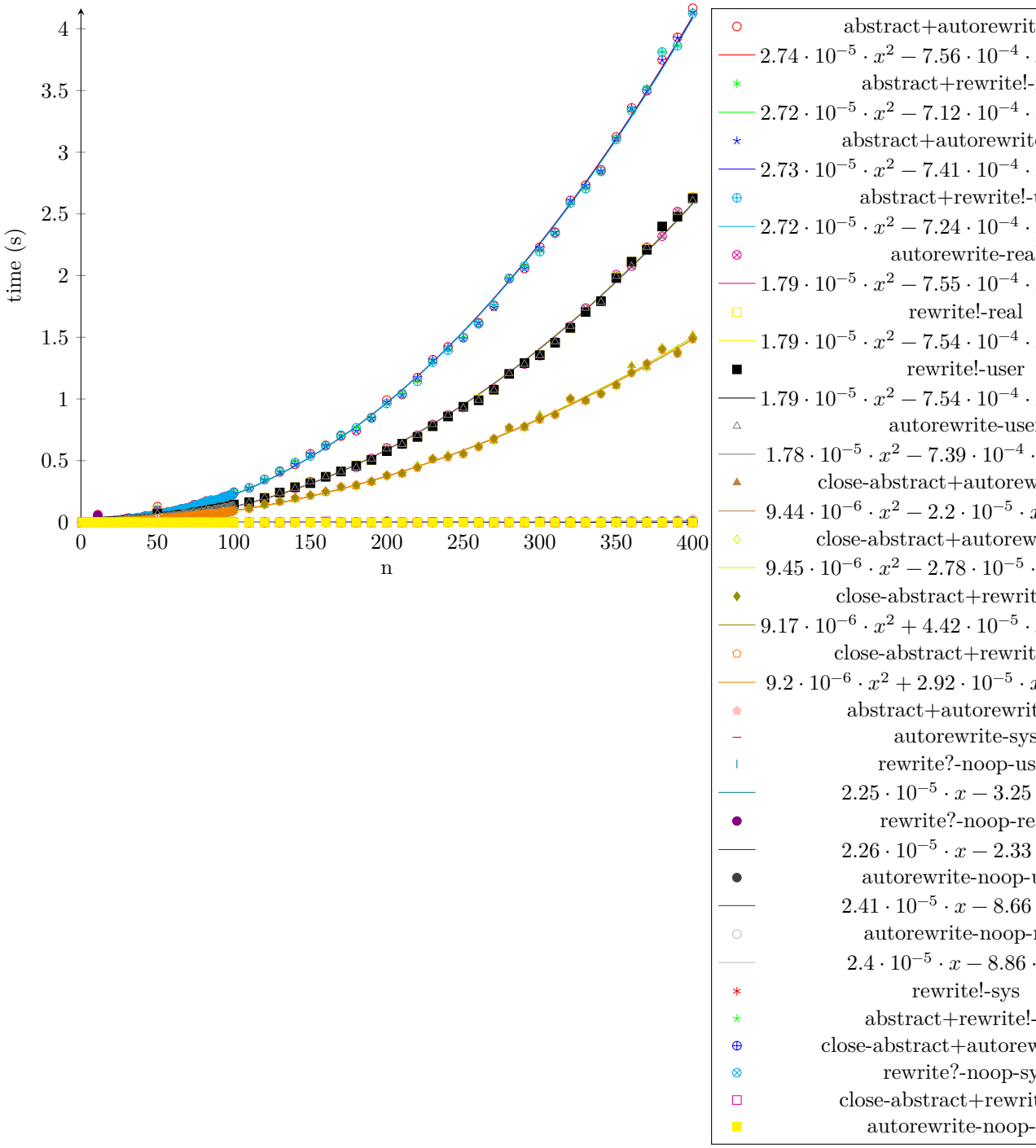


Figure 6: timing-rewrite-repeated-app-autorewrite

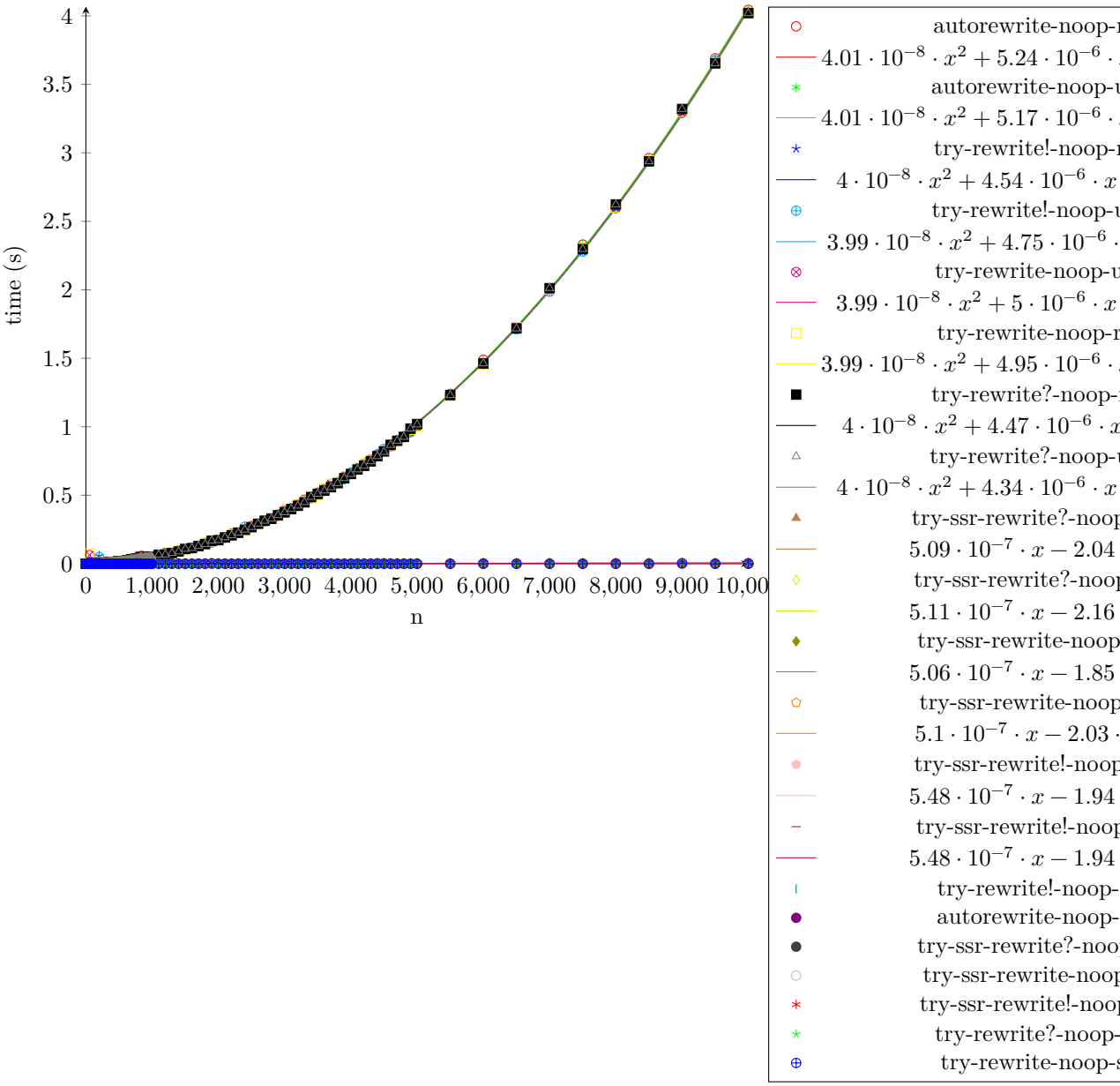


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

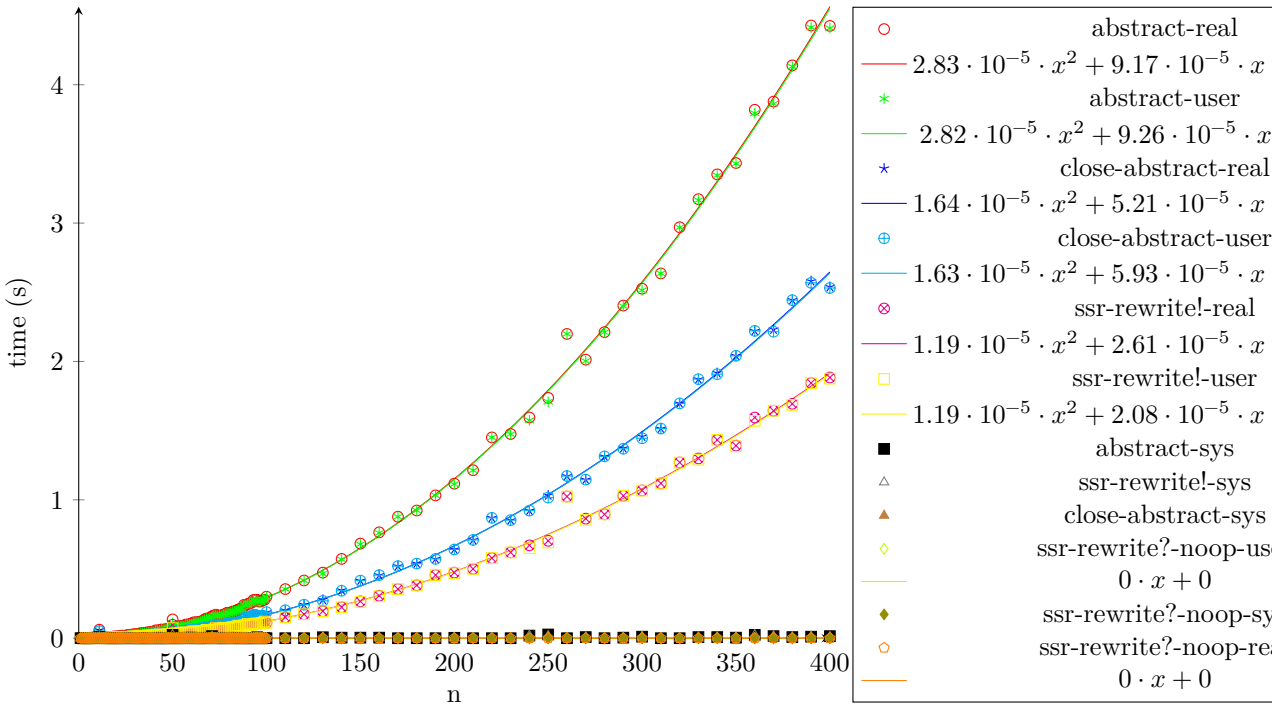


Figure 8: timing-rewrite-repeated-app-ssrrewrite

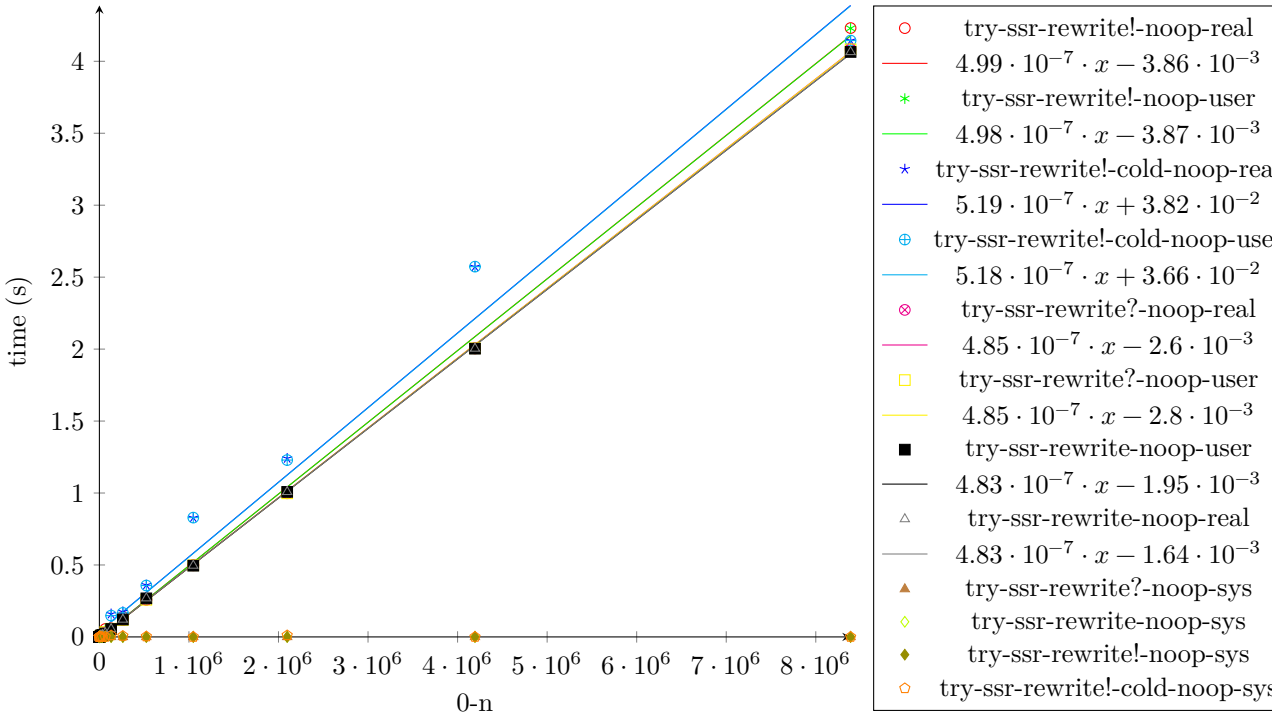


Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

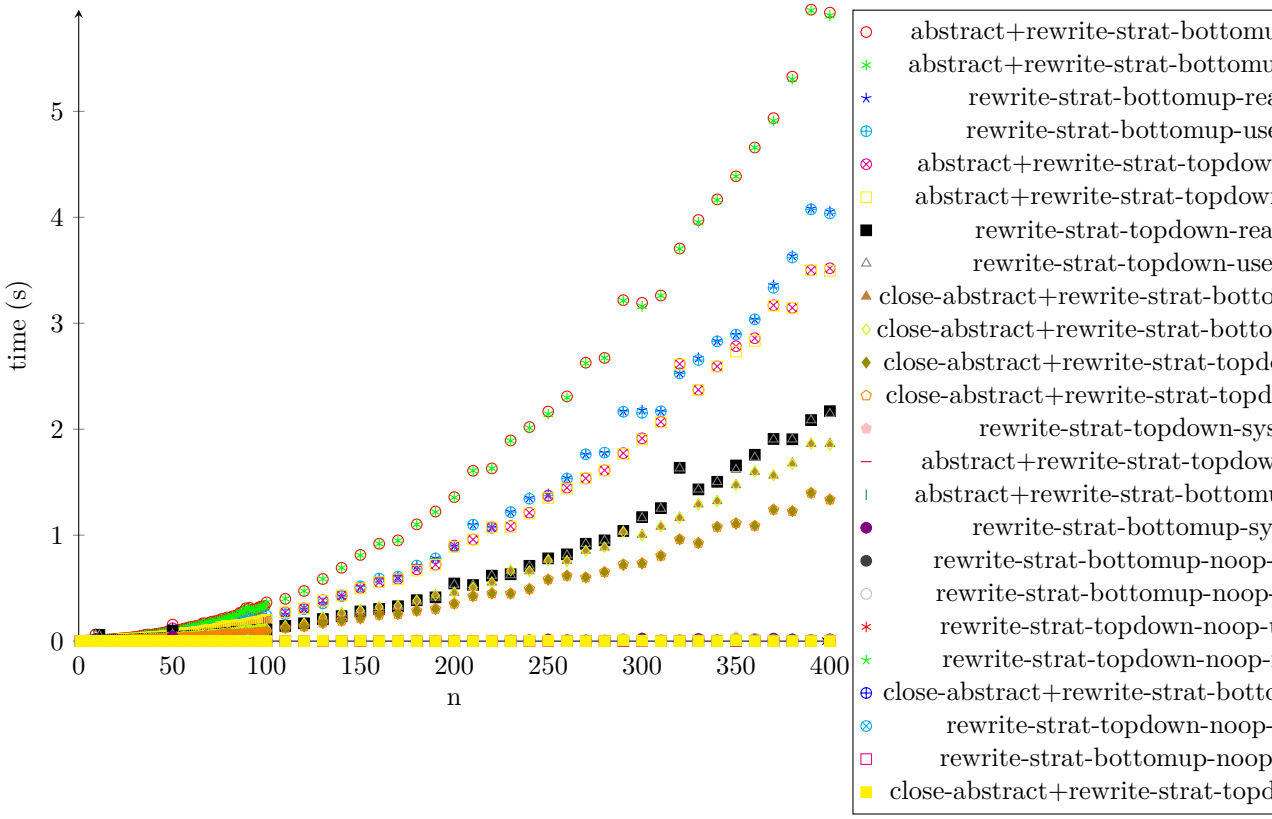


Figure 10: timing-rewrite-repeated-app-rewrite-strat

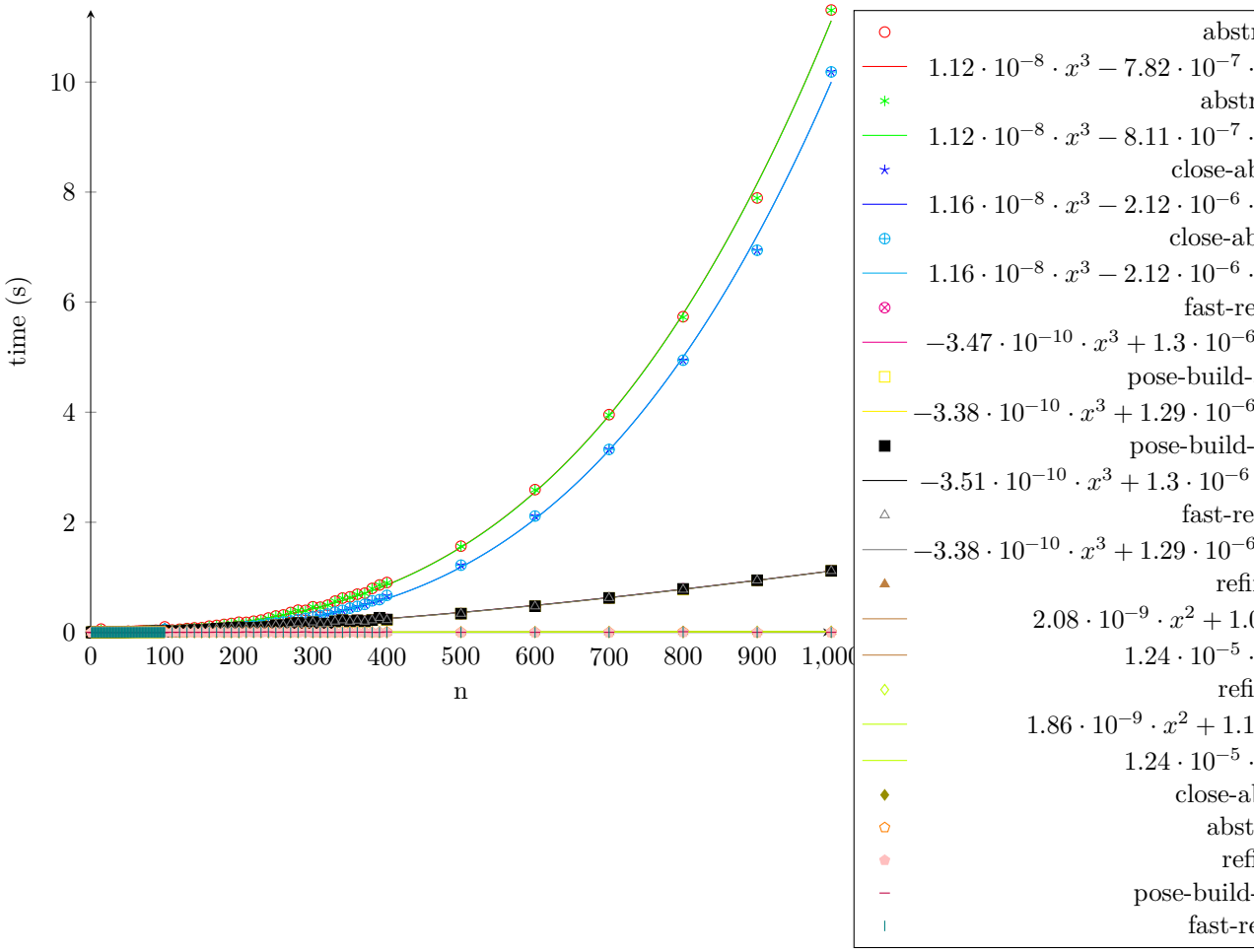


Figure 11: timing-rewrite-repeated-app-fast-rewrite

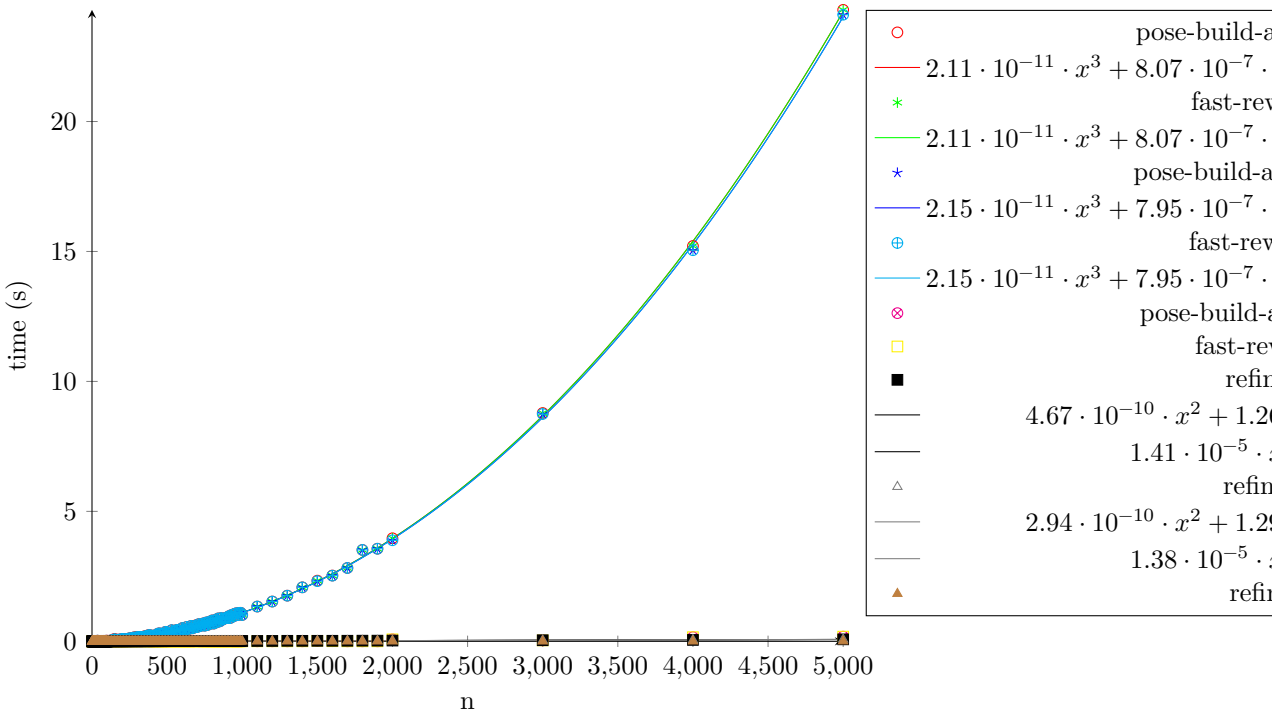


Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

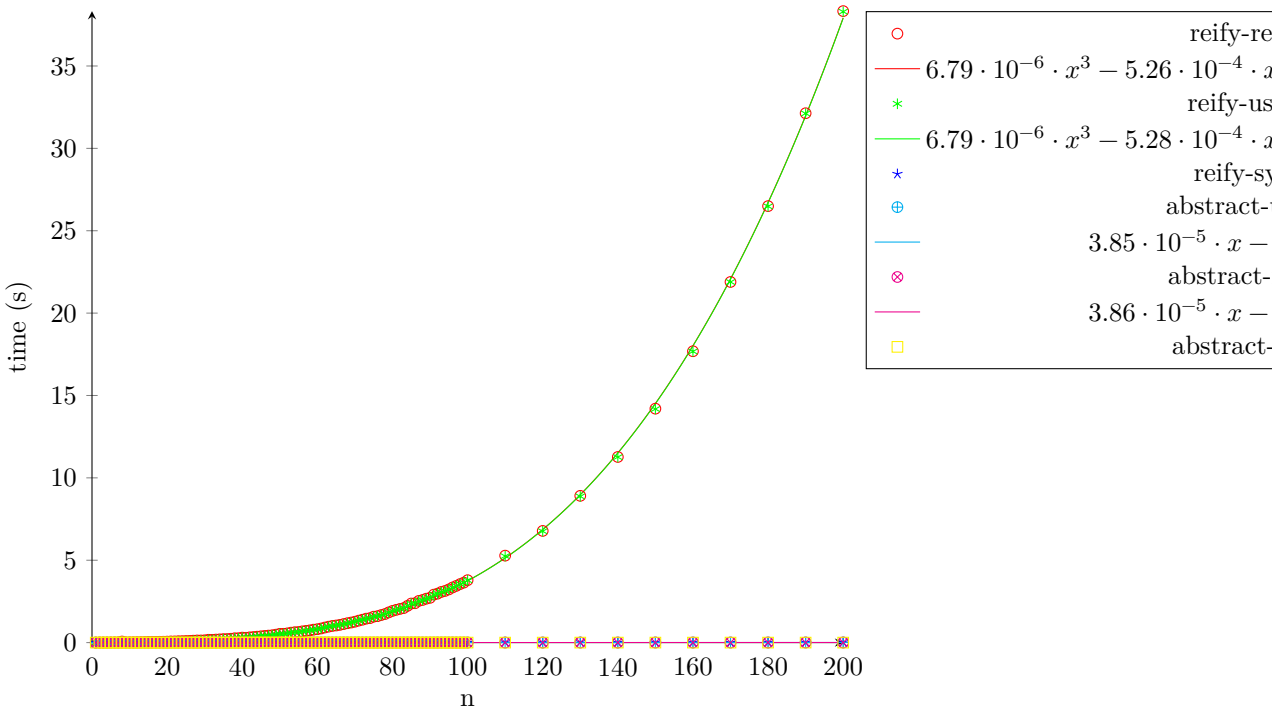


Figure 13: timing-typeclass-reification-let-in-HOAS

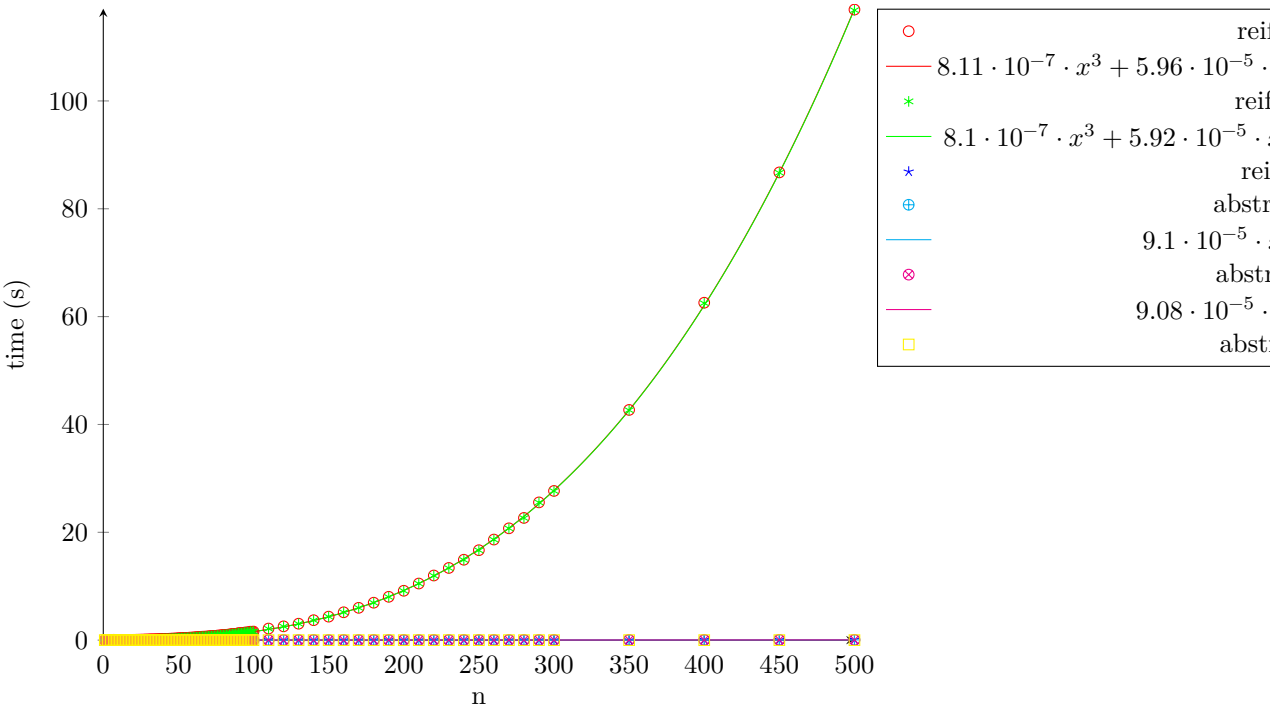
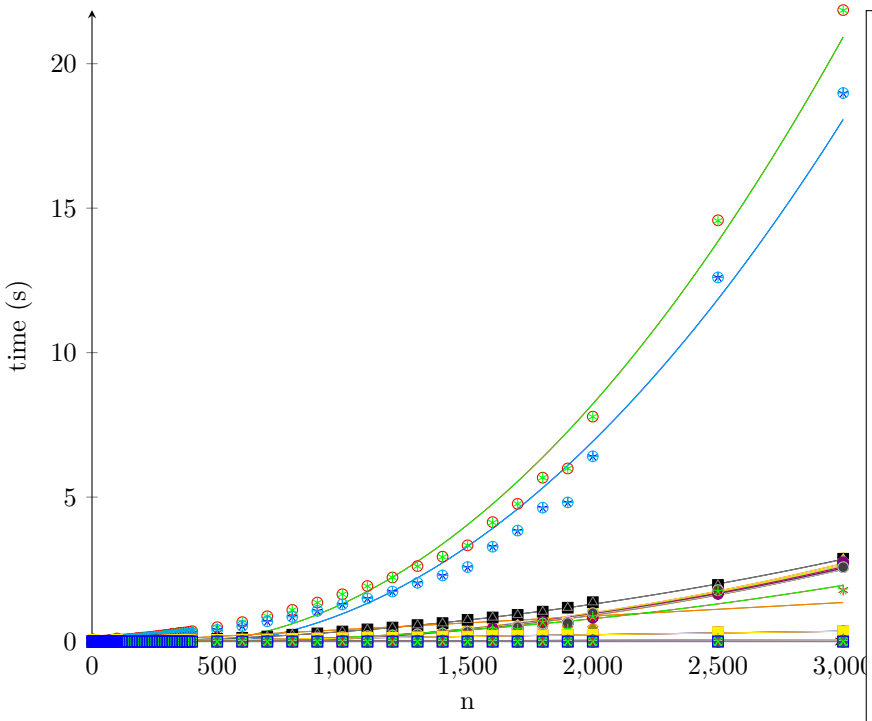


Figure 14: timing-typeclass-reification-let-in-PHOAS


time (s)
n
0
5
10
15
20
0
500
1,000
1,500
2,000
2,500
3,000

abstract-real
$2.89 \cdot 10^{-6} \cdot x^2 - 1.76 \cdot 10^{-3}$
abstract-user
$2.89 \cdot 10^{-6} \cdot x^2 - 1.76 \cdot 10^{-3}$
fast-rewrite-real
$2.59 \cdot 10^{-6} \cdot x^2 - 1.8 \cdot 10^{-3}$
fast-rewrite-user
$2.59 \cdot 10^{-6} \cdot x^2 - 1.8 \cdot 10^{-3}$
check-pf-cast-rea
$4.09 \cdot 10^{-7} \cdot x^2 - 3.35 \cdot 10^{-4} \cdot x$
check-pf-cast-use
$4.09 \cdot 10^{-7} \cdot x^2 - 3.35 \cdot 10^{-4} \cdot x$
close-abstract-rea
$3.03 \cdot 10^{-7} \cdot x^2 + 4.1 \cdot 10^{-5} \cdot x$
close-abstract-use
$3.02 \cdot 10^{-7} \cdot x^2 + 4.24 \cdot 10^{-5} \cdot x$
type-pf-cast-user
$3.97 \cdot 10^{-7} \cdot x^2 - 3.21 \cdot 10^{-4} \cdot x$
type-pf-cast-real
$3.97 \cdot 10^{-7} \cdot x^2 - 3.2 \cdot 10^{-4} \cdot x$
refine-user
$3.86 \cdot 10^{-7} \cdot x^2 - 3.31 \cdot 10^{-4} \cdot x$
$4.7 \cdot 10^{-4} \cdot x - 5.73 \cdot$
refine-real
$3.86 \cdot 10^{-7} \cdot x^2 - 3.31 \cdot 10^{-4} \cdot x$
$4.7 \cdot 10^{-4} \cdot x - 5.73 \cdot$
type-admit-real
$3.87 \cdot 10^{-7} \cdot x^2 - 3.06 \cdot 10^{-4} \cdot x$
type-admit-user
$3.87 \cdot 10^{-7} \cdot x^2 - 3.06 \cdot 10^{-4} \cdot x$
type-admit-cast-us
$3.81 \cdot 10^{-7} \cdot x^2 - 3.05 \cdot 10^{-4} \cdot x$
type-admit-cast-re
$3.81 \cdot 10^{-7} \cdot x^2 - 3.05 \cdot 10^{-4} \cdot x$
check-admit-cast-u
$3.68 \cdot 10^{-7} \cdot x^2 - 2.81 \cdot 10^{-4} \cdot x$
check-admit-cast-re
$3.69 \cdot 10^{-7} \cdot x^2 - 2.81 \cdot 10^{-4} \cdot x$
check-admit-user
$2.55 \cdot 10^{-7} \cdot x^2 - 1.2 \cdot 10^{-4} \cdot x$
check-admit-real
$2.55 \cdot 10^{-7} \cdot x^2 - 1.2 \cdot 10^{-4} \cdot x$
build-eval-thunk-us
$1.2 \cdot 10^{-4} \cdot x - 9.36 \cdot$
build-eval-thunk-re
$1.2 \cdot 10^{-4} \cdot x - 6.49 \cdot$
build-thunk-real
$1.19 \cdot 10^{-4} \cdot x - 6.79 \cdot$
build-thunk-user
$1.19 \cdot 10^{-4} \cdot x - 9.56 \cdot$