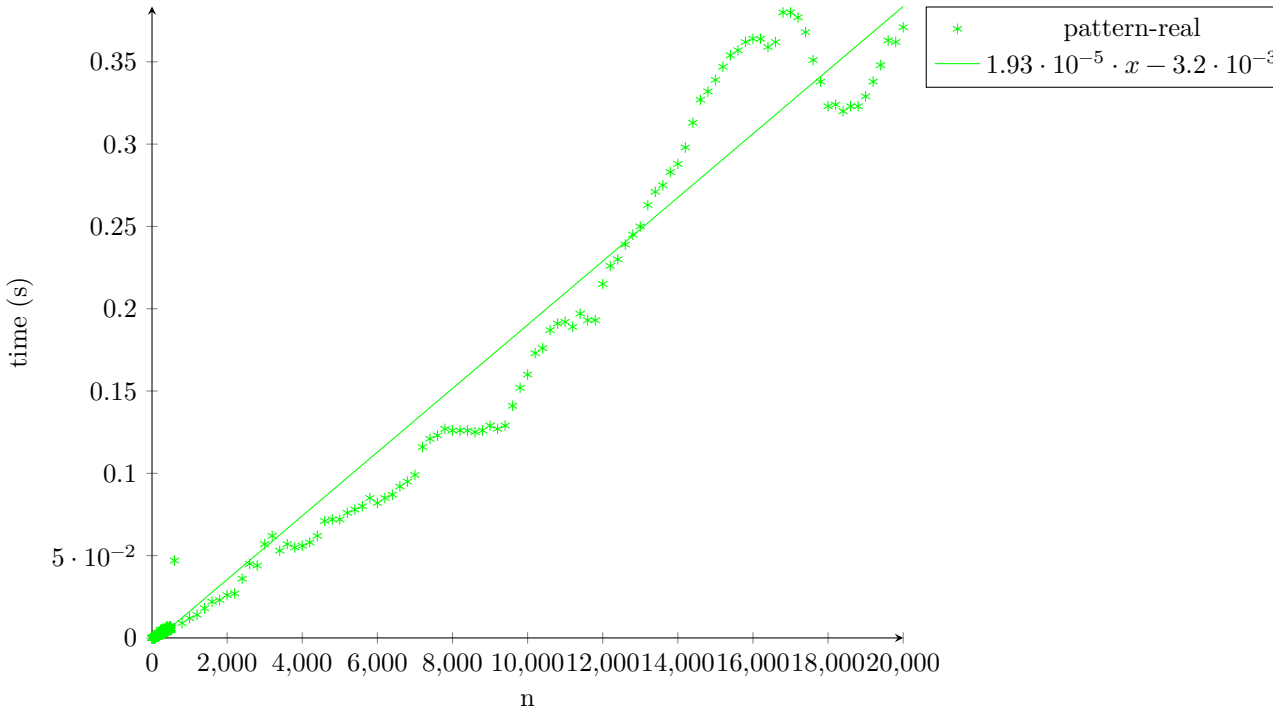


Figure 1: timing-pattern

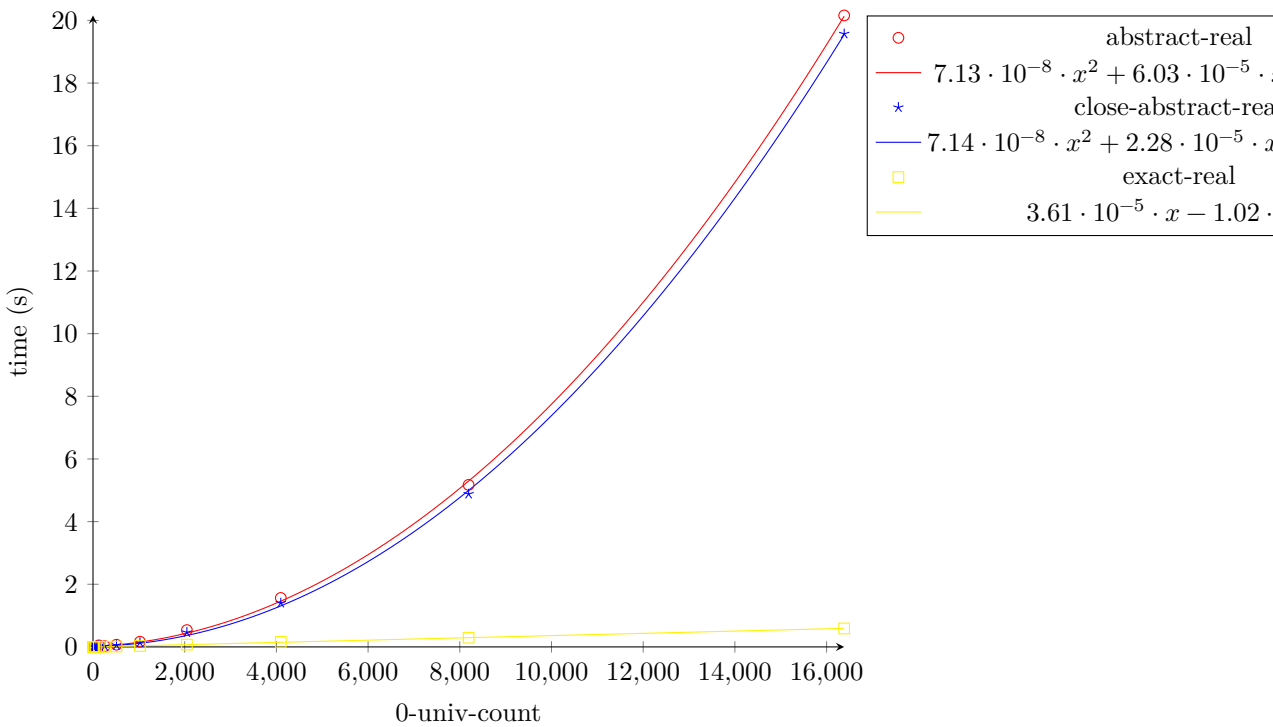


Figure 2: timing-n-polymorphic-universes param-1-n 0

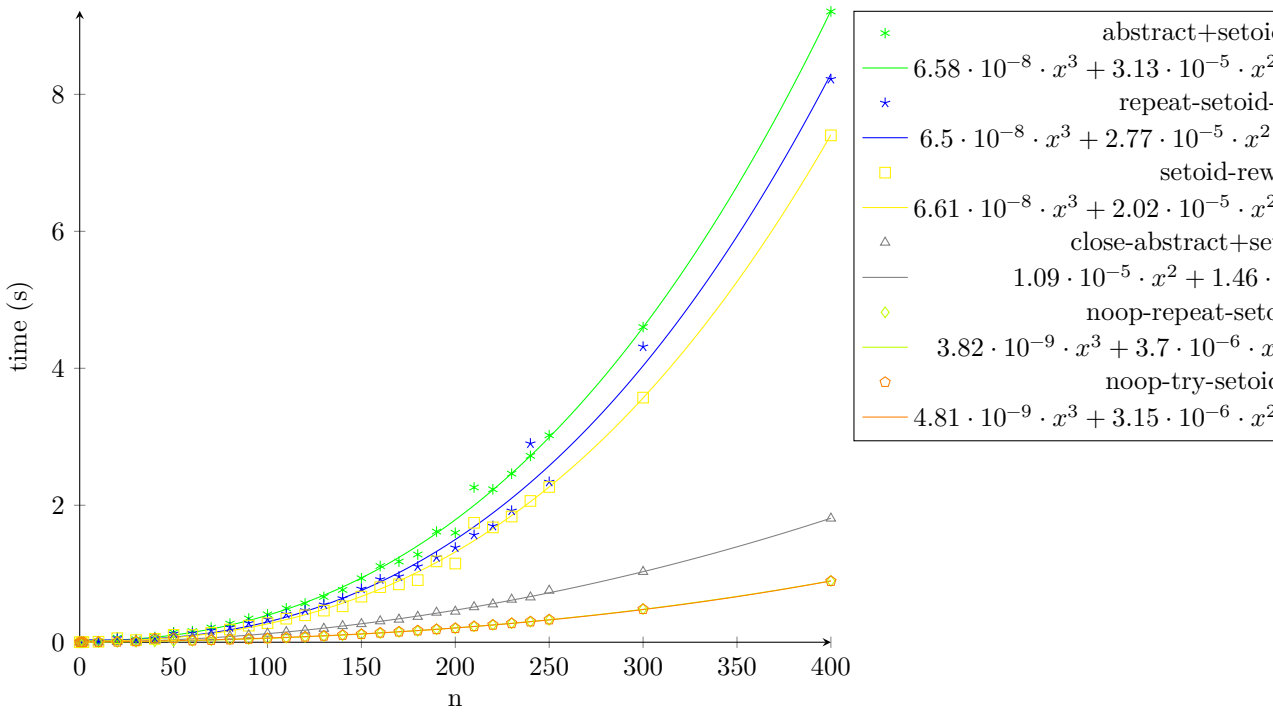


Figure 3: timing-repeat-setoid-rewrite-under-binders

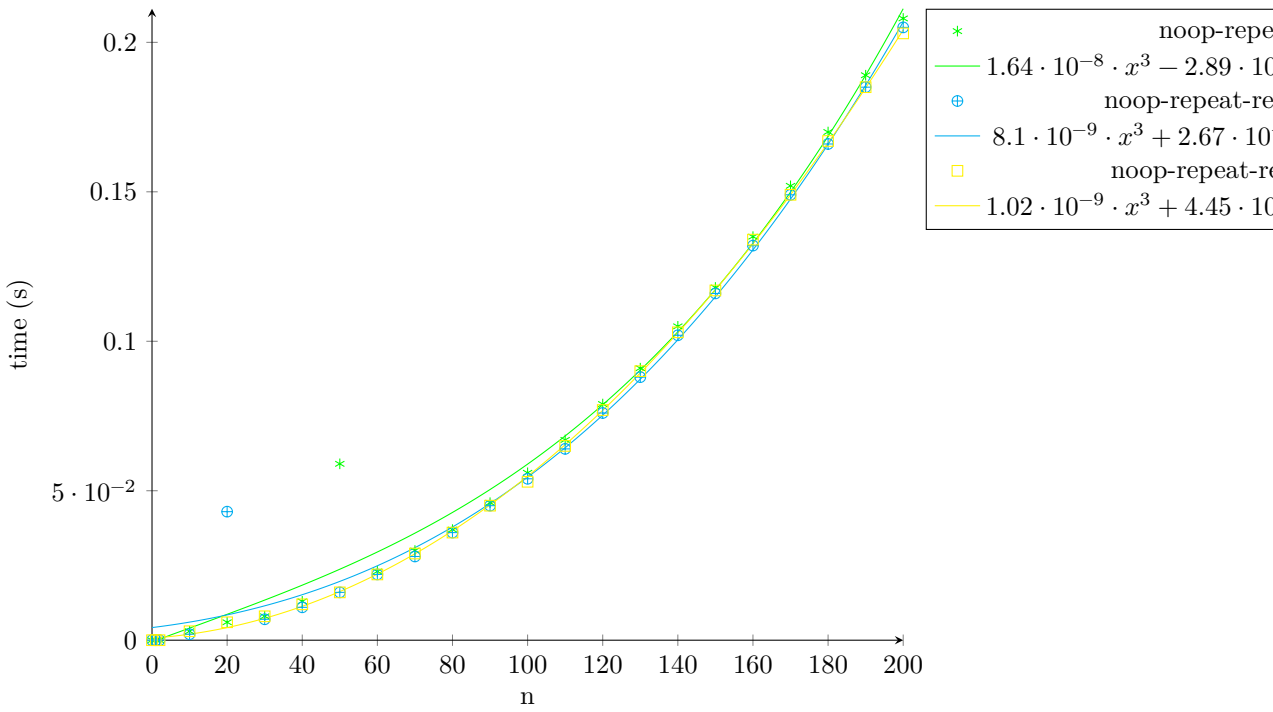


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

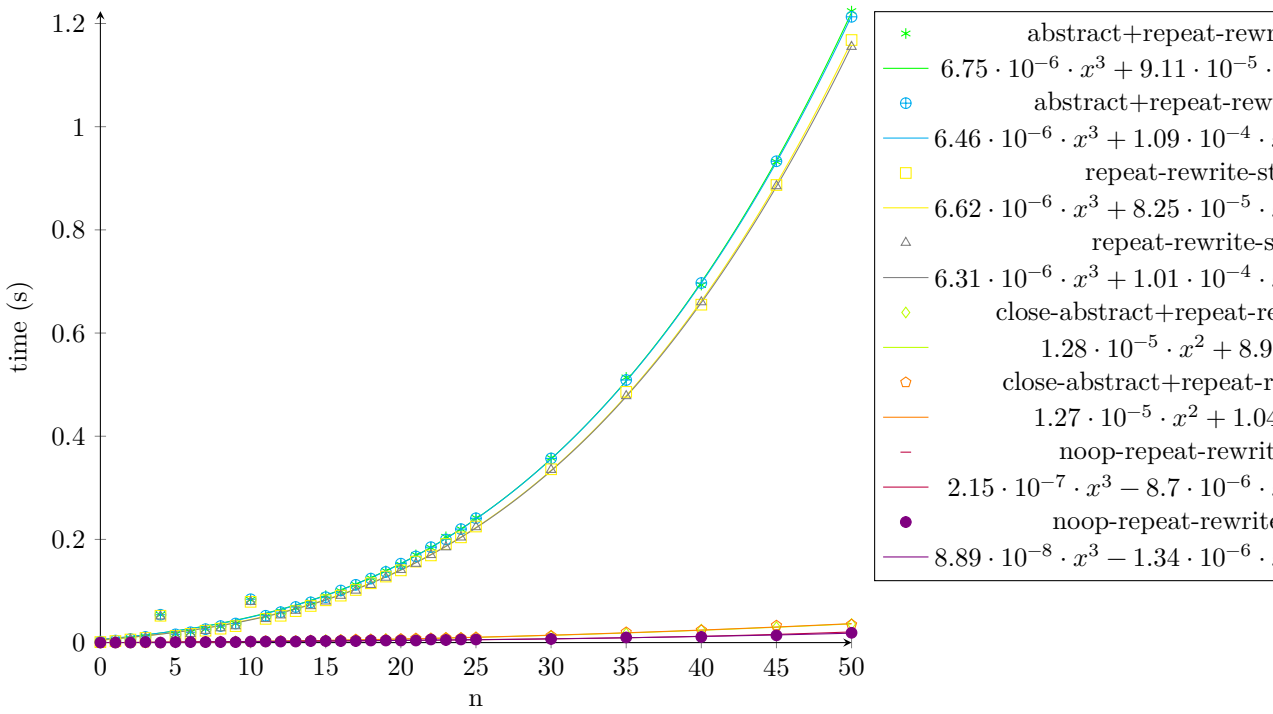


Figure 5: timing-rewrite-strat-under-binders

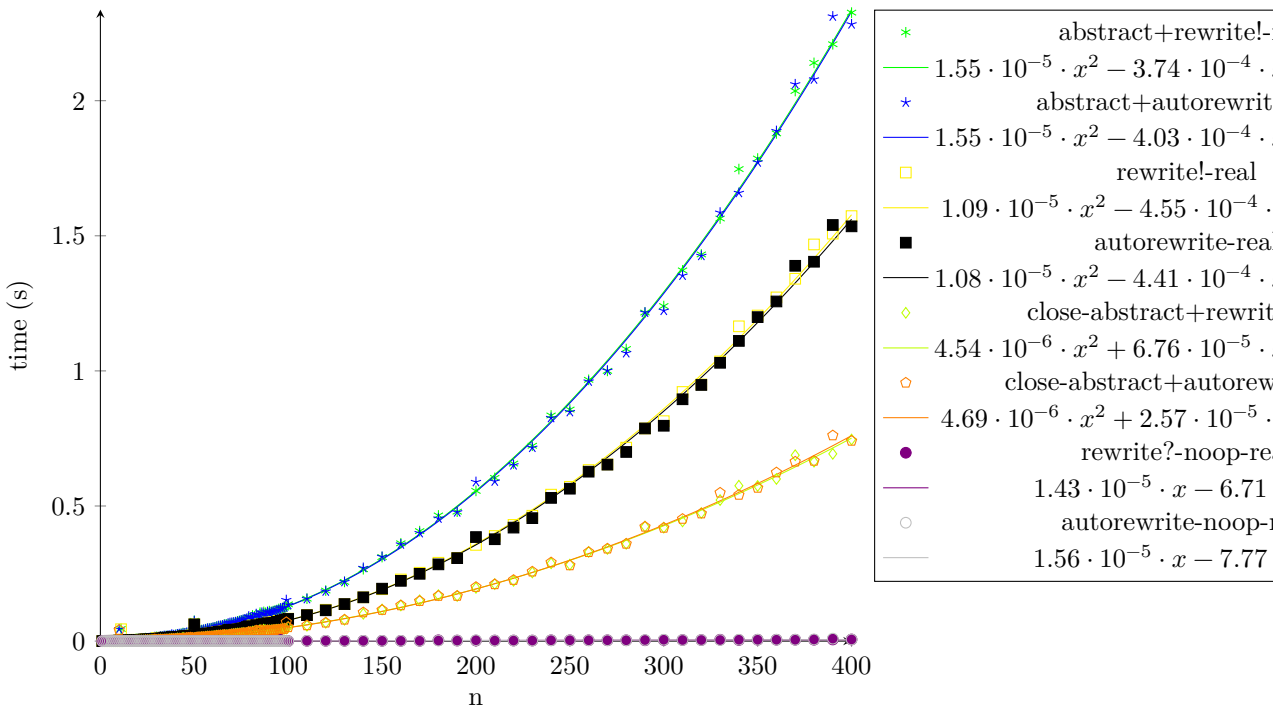


Figure 6: timing-rewrite-repeated-app-autorewrite

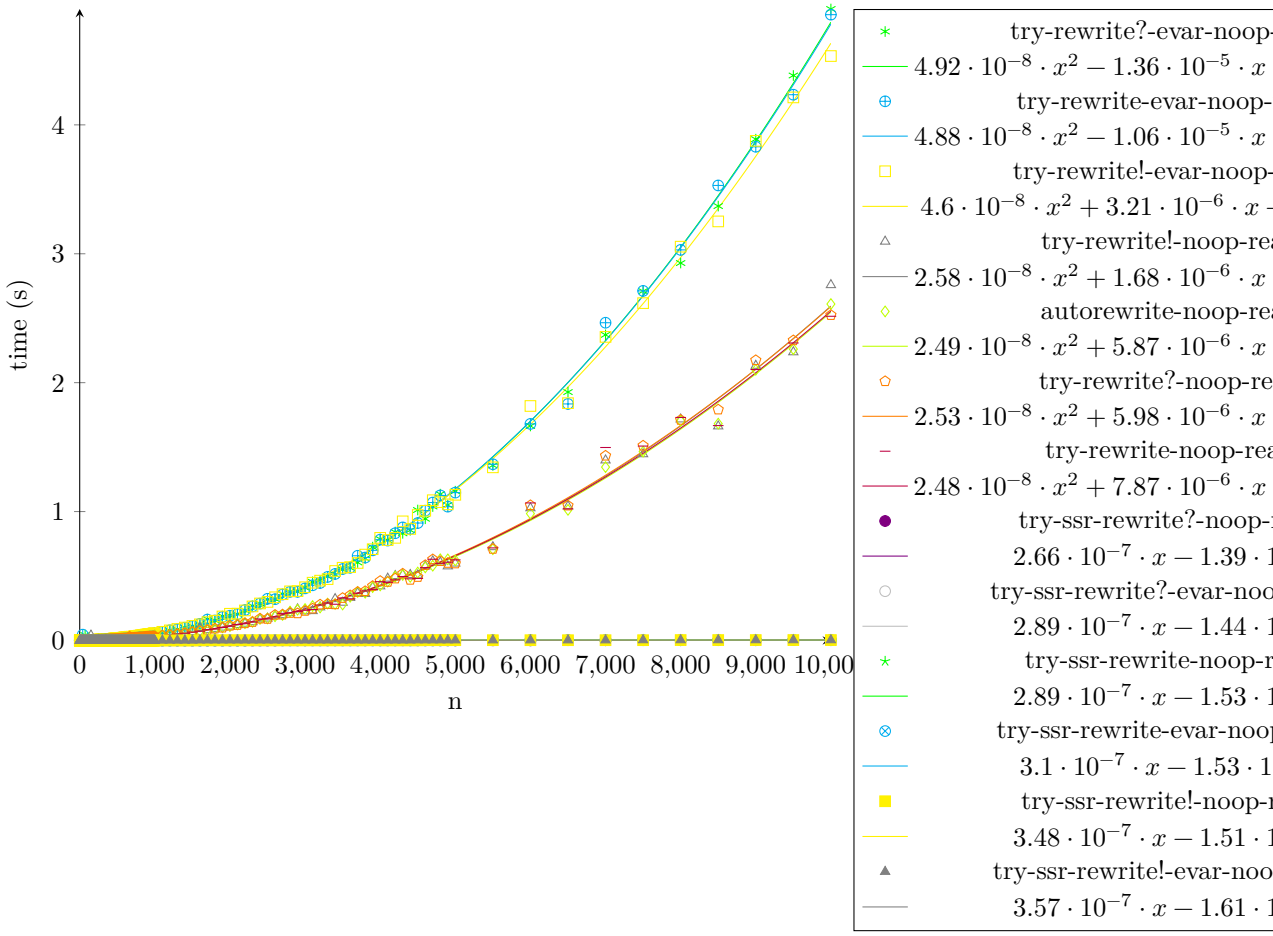


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

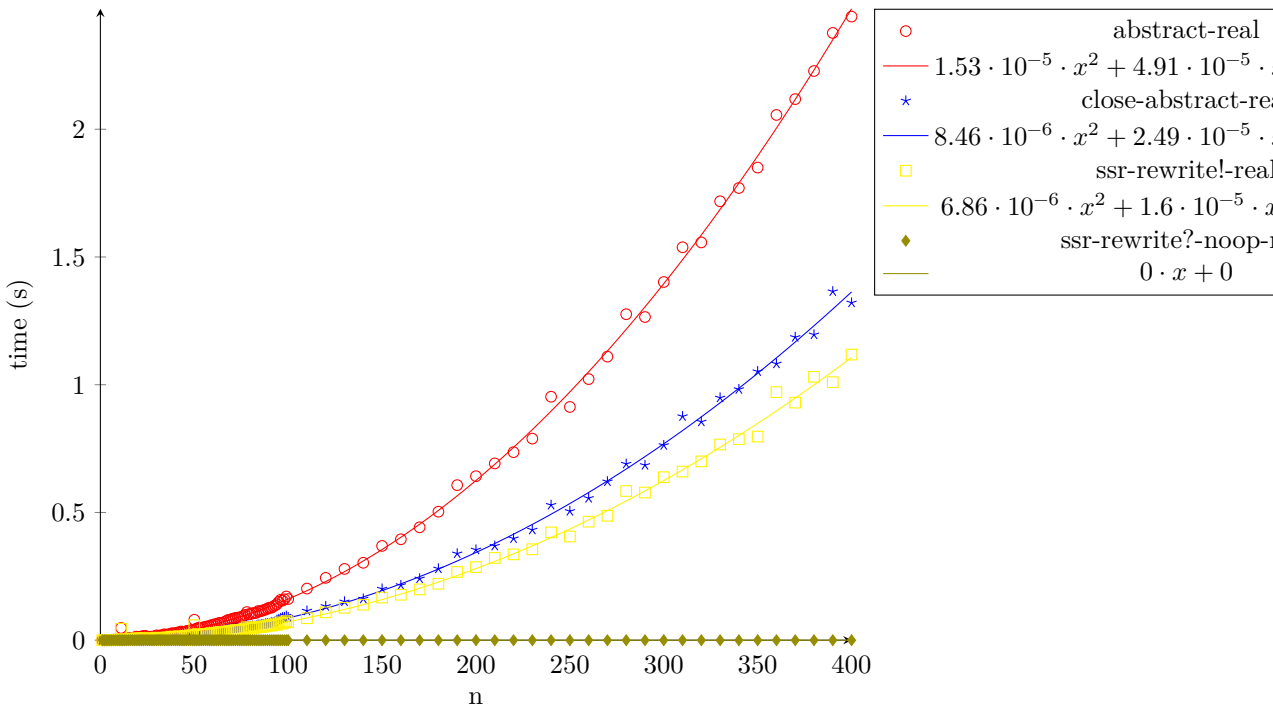


Figure 8: timing-rewrite-repeated-app-ssrrewrite

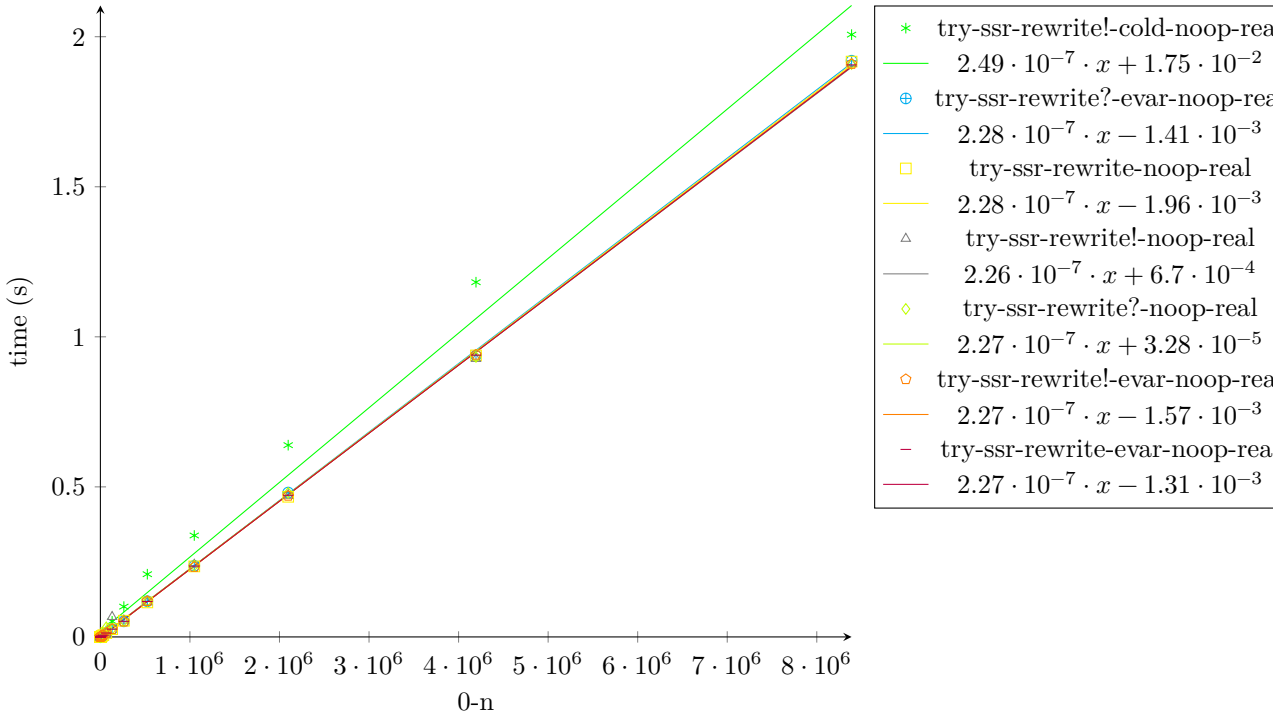


Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn 1

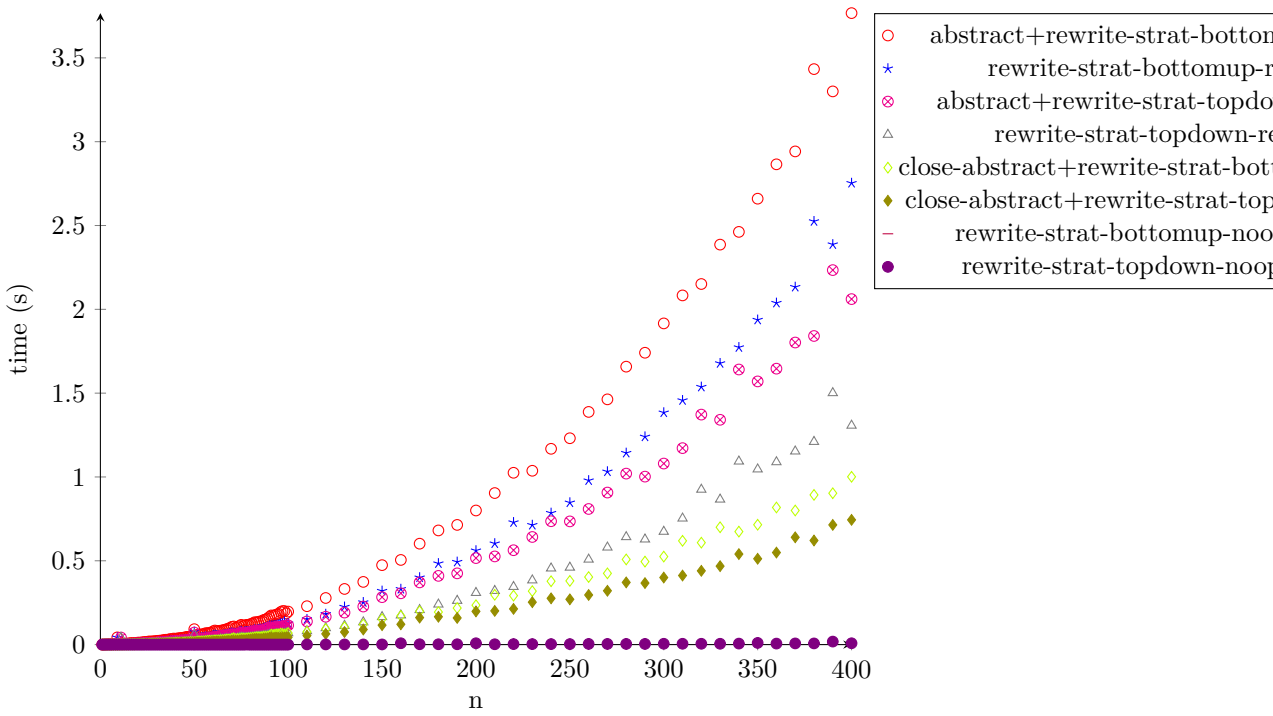


Figure 10: timing-rewrite-repeated-app-rewrite-strat

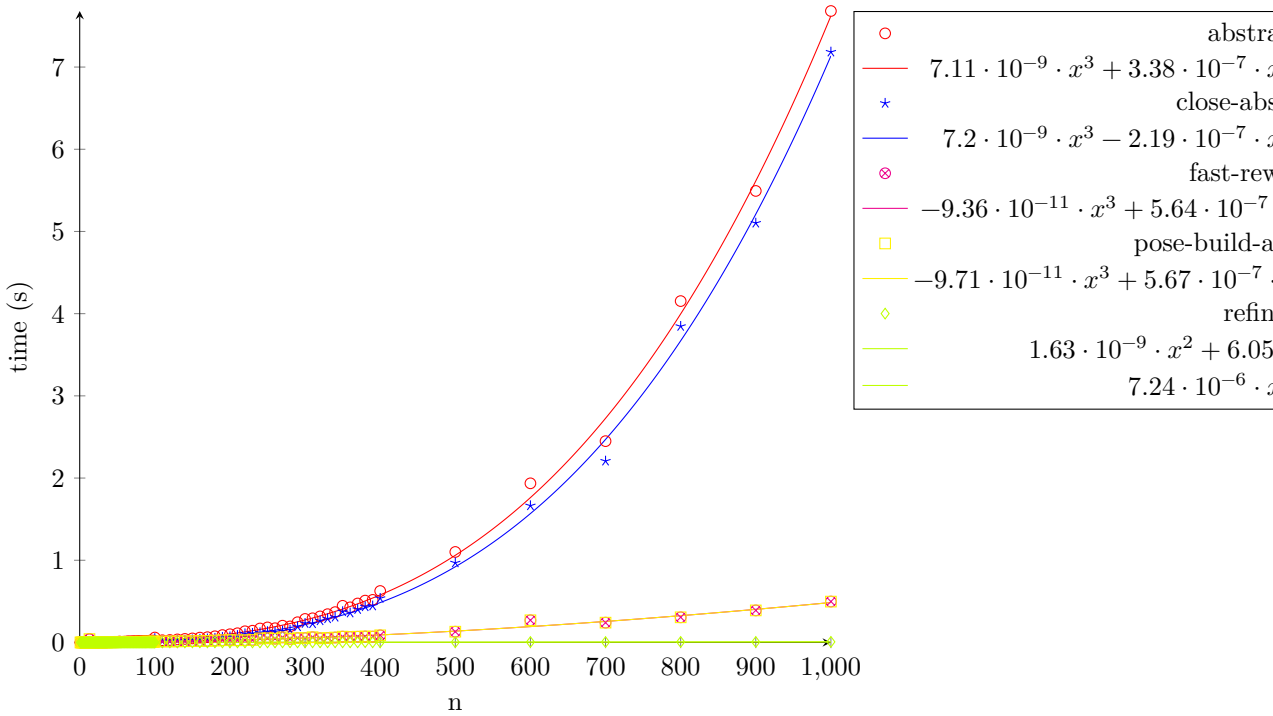


Figure 11: timing-rewrite-repeated-app-fast-rewrite

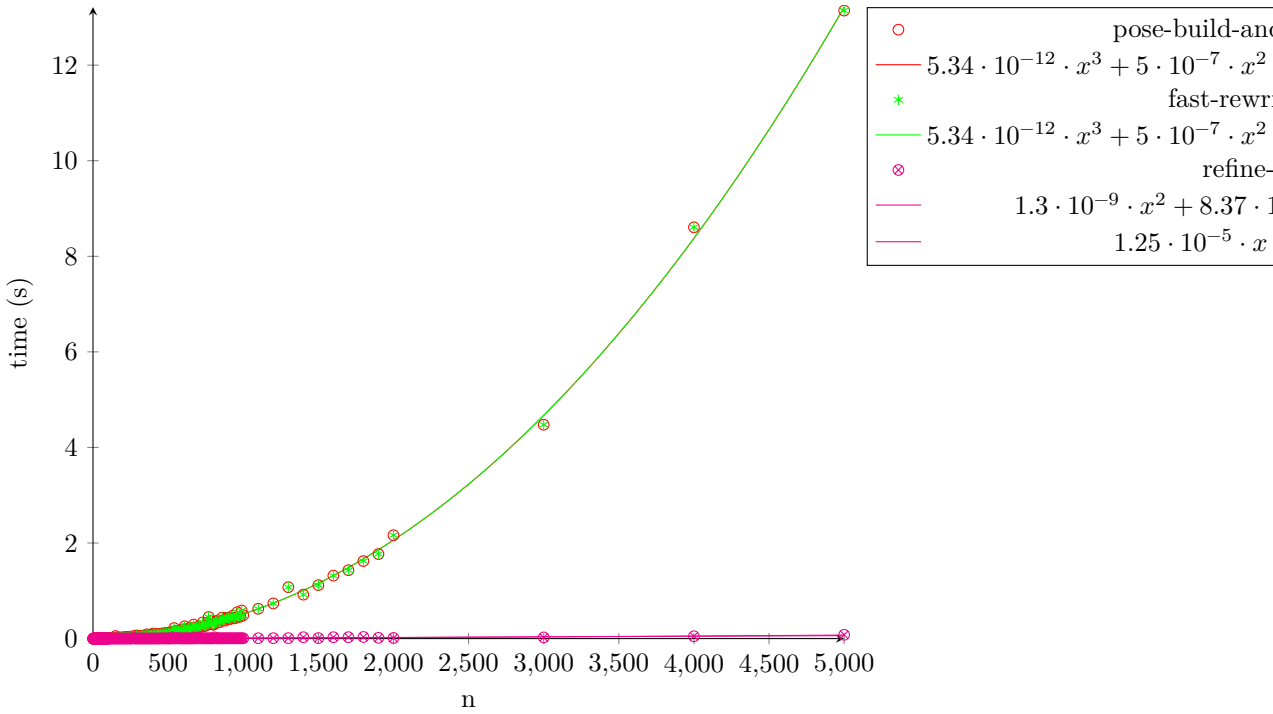


Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

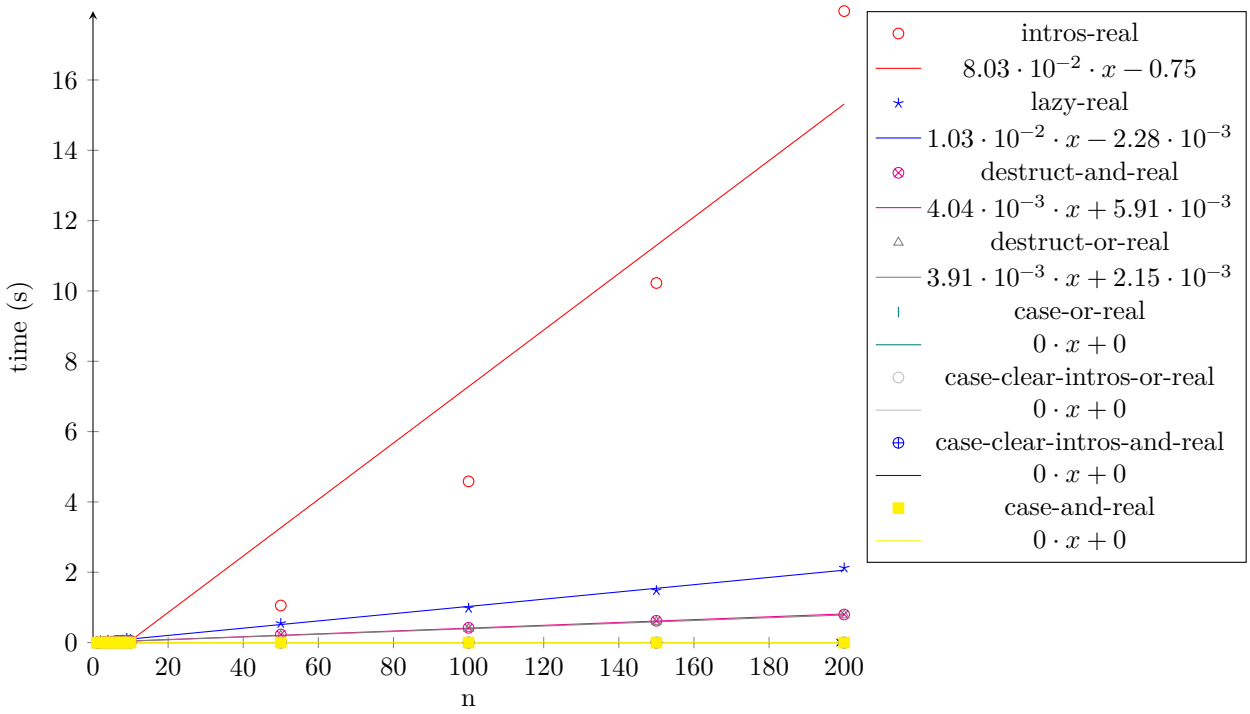


Figure 13: timing-destruct-large-context

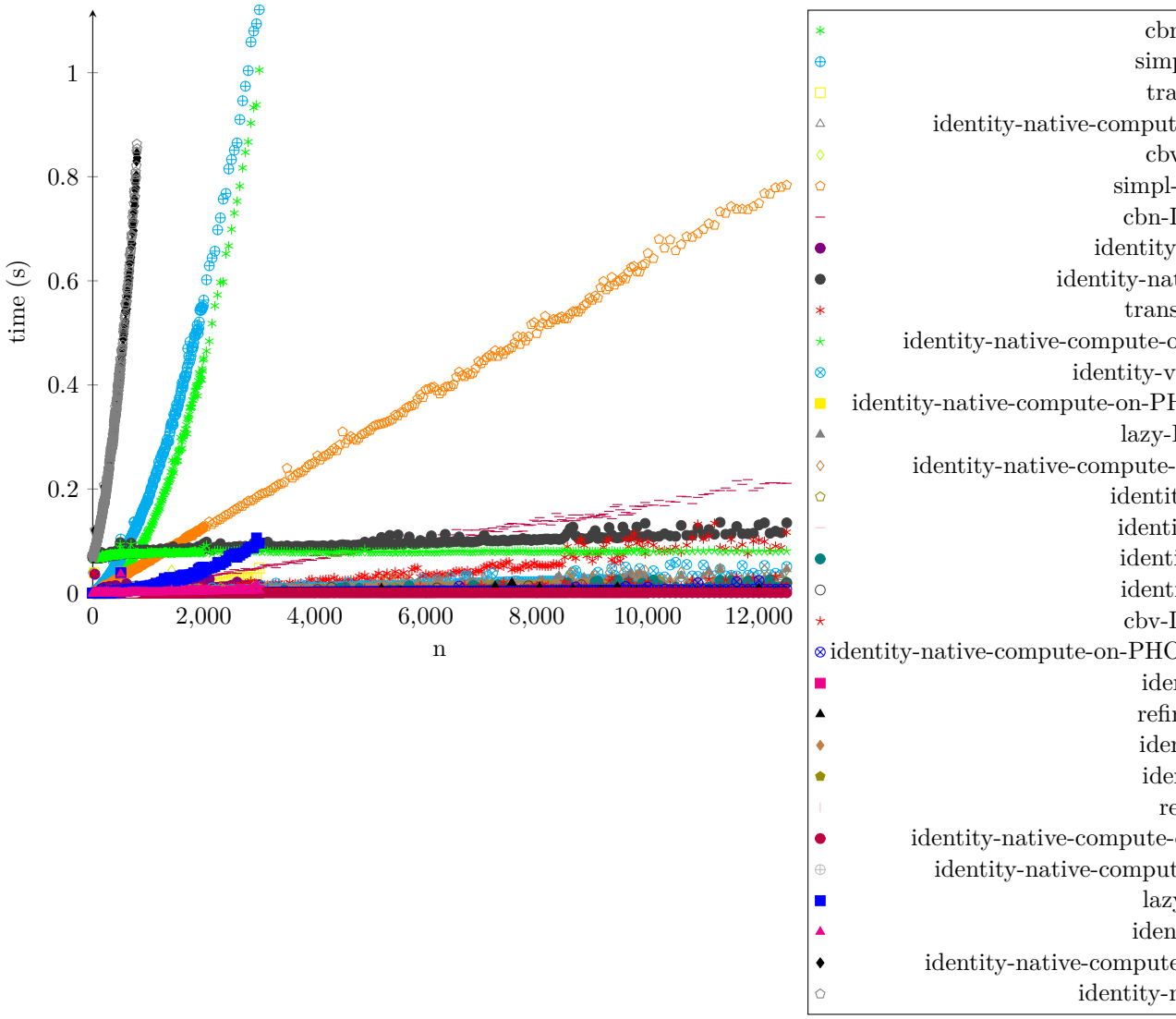
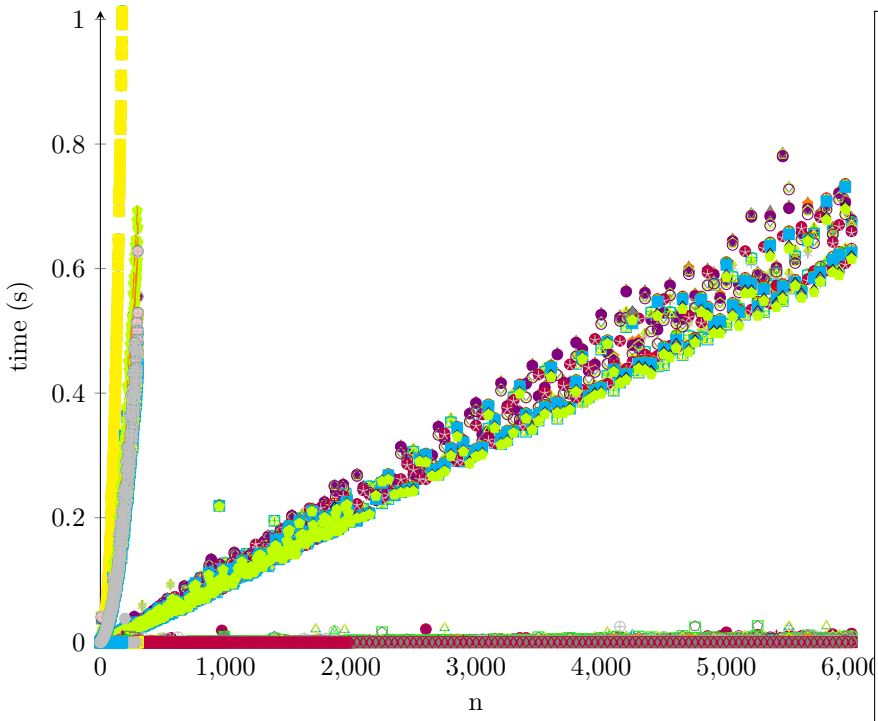


Figure 14: timing-Reify/BaselineStats

Figure 15: timing-Reify/CanonicalStructures


time (s)
1
0.8
0.6
0.4
0.2
0
0
1,000
2,000
3,000
4,000
5,000
6,000
n

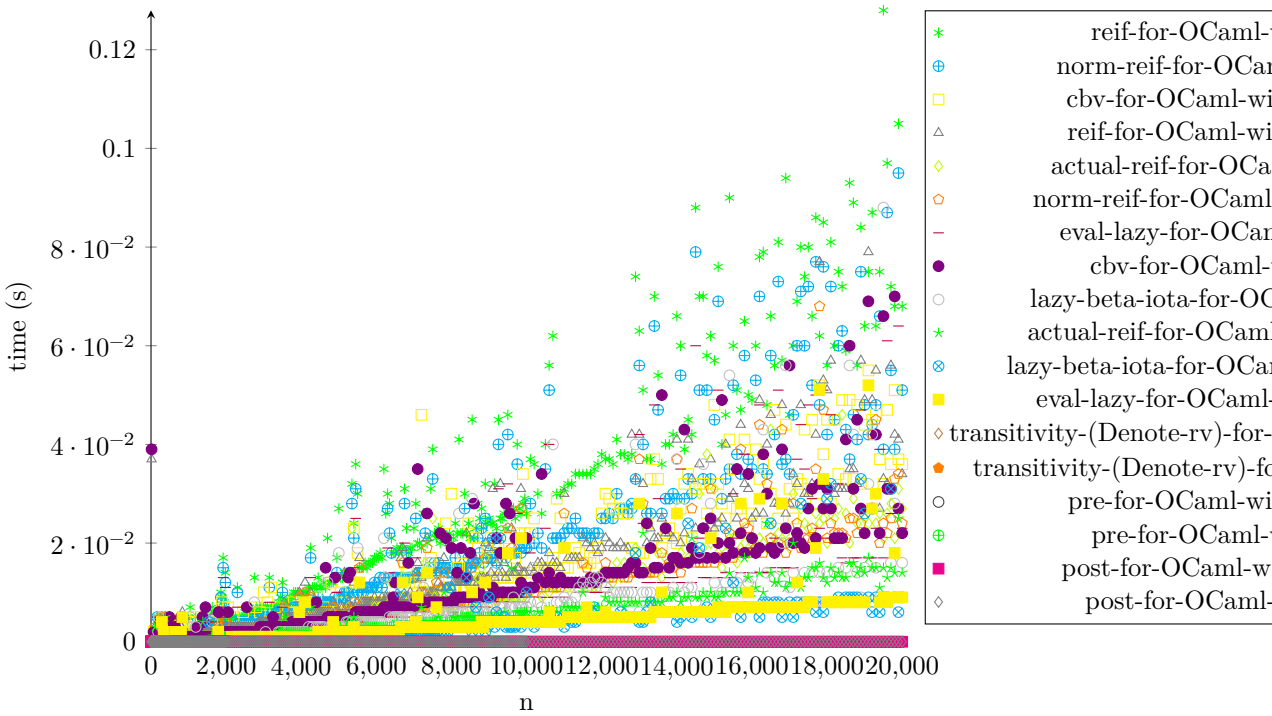
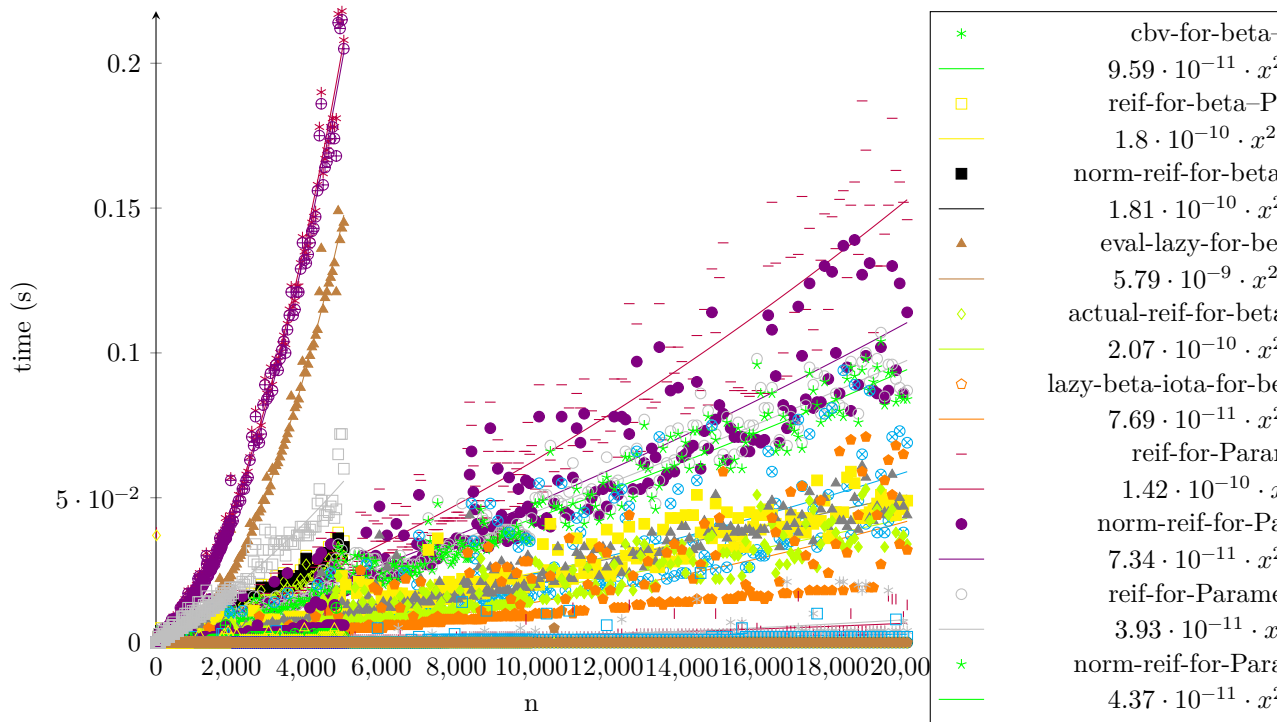


Figure 17: timing-Reify/OCaml


time (s)
0.2
0.15
0.1
$5 \cdot 10^{-2}$
0
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
20,000
n
cbv-for-beta-
$9.59 \cdot 10^{-11} \cdot x^2$
reif-for-beta–P
$1.8 \cdot 10^{-10} \cdot x^2$
norm-reif-for-beta
$1.81 \cdot 10^{-10} \cdot x^2$
eval-lazy-for-be
$5.79 \cdot 10^{-9} \cdot x^2$
actual-reif-for-beta
$2.07 \cdot 10^{-10} \cdot x^2$
lazy-beta-iota-for-be
$7.69 \cdot 10^{-11} \cdot x^2$
reif-for-Para
$1.42 \cdot 10^{-10} \cdot x$
norm-reif-for-Pa
$7.34 \cdot 10^{-11} \cdot x^2$
reif-for-Parame
$3.93 \cdot 10^{-11} \cdot x$
norm-reif-for-Para
$4.37 \cdot 10^{-11} \cdot x^2$
eval-lazy-for-Pa
$5.8 \cdot 10^{-11} \cdot x^2$
actual-reif-for-Par
$1.32 \cdot 10^{-11} \cdot x$
actual-reif-for-P
$1.78 \cdot 10^{-11} \cdot x^2$
eval-lazy-for-Para
$3.31 \cdot 10^{-11} \cdot x$
lazy-beta-iota-for-
$7.15 \cdot 10^{-11} \cdot x^2$
cbv-for-Para
$1.06 \cdot 10^{-11} \cdot x$
cbv-for-beta–P
$1.29 \cdot 10^{-10} \cdot x^2$
cbv-for-Parame
$1.92 \cdot 10^{-11} \cdot x^2$
lazy-beta-iota-for-
$1.11 \cdot 10^{-10} \cdot x^2$
lazy-beta-iota-for-Pa
$1.58 \cdot 10^{-12} \cdot x$
eval-lazy-for-beta
$9.79 \cdot 10^{-11} \cdot x^2$
transitivity-(Denote-rv)-
$9.79 \cdot 10^{-11} \cdot x^2$
transitivity-(Denote-rv
$9.79 \cdot 10^{-11} \cdot x^2$
transitivity-(Denote-rv)-
$9.79 \cdot 10^{-11} \cdot x^2$
transitivity-(Denote-rv
$9.79 \cdot 10^{-11} \cdot x^2$

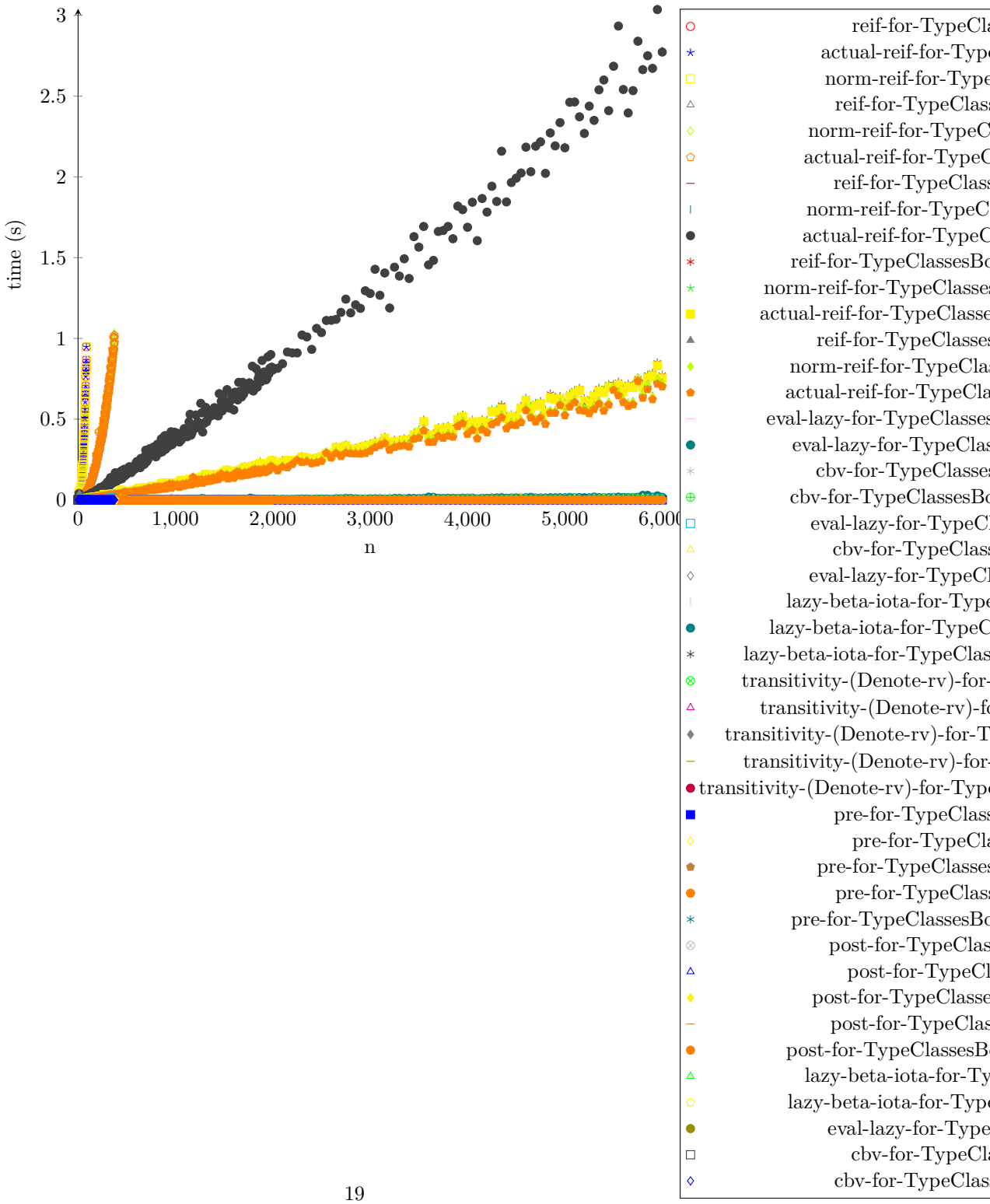


Figure 19: timing-Reify/TypeClasses

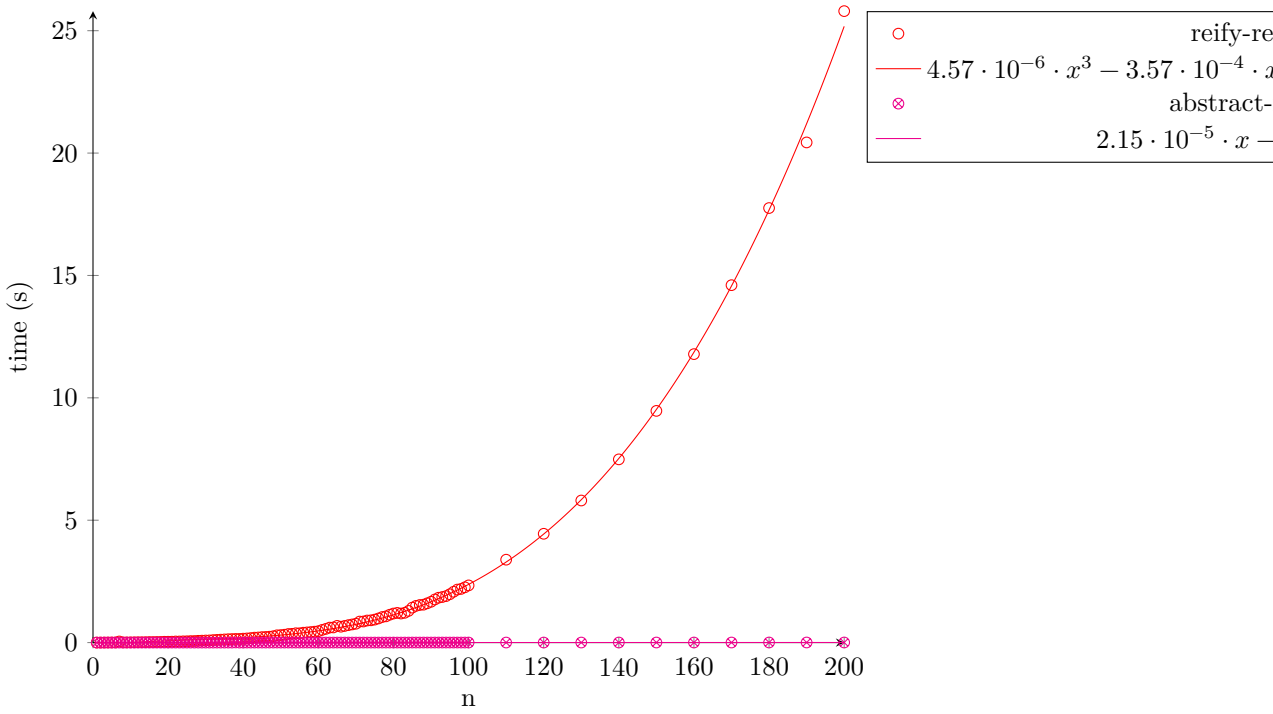


Figure 20: timing-typeclass-reification-let-in-HOAS

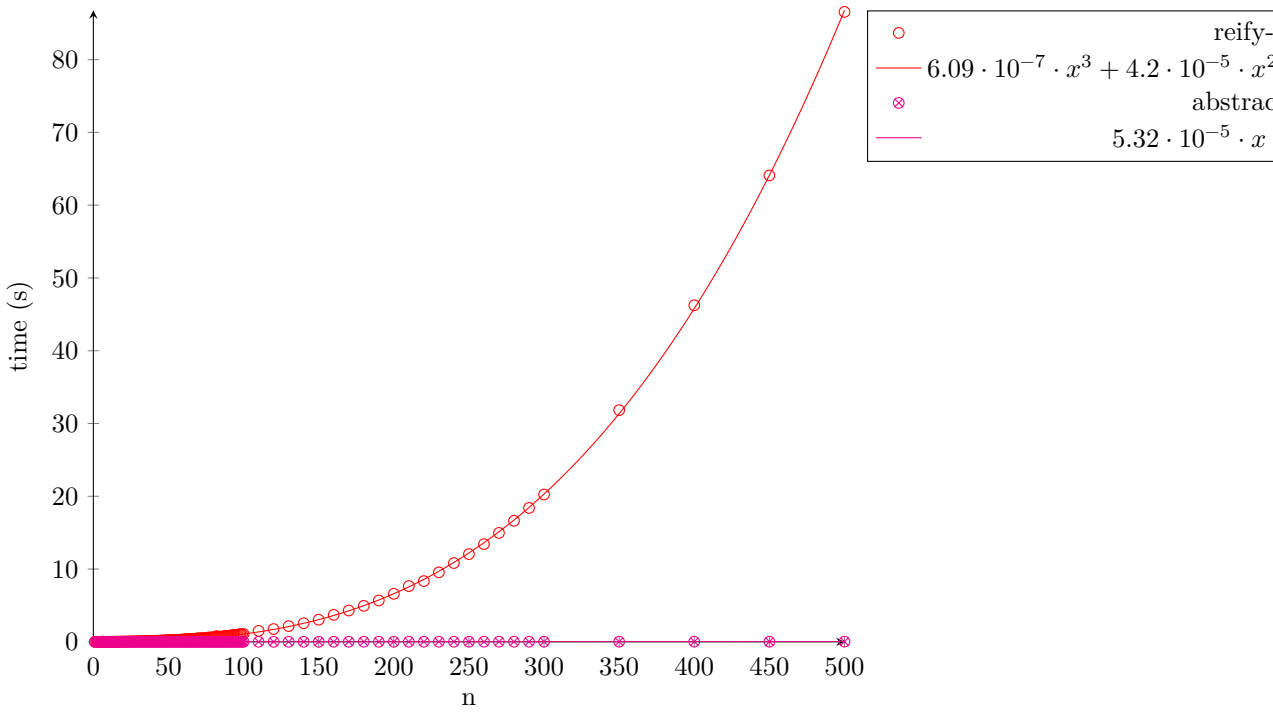


Figure 21: timing-typeclass-reification-let-in-PHOAS

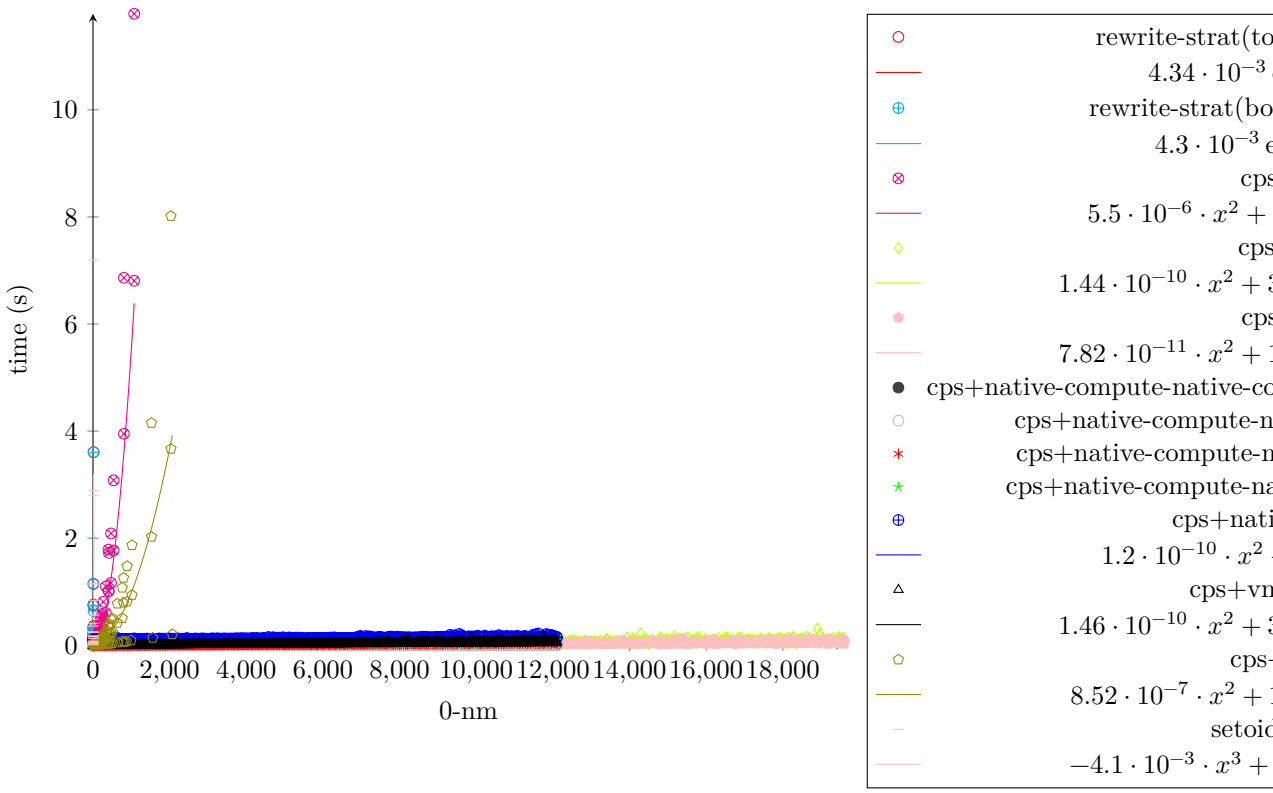


Figure 22: timing-rewrite-lift-lets-map param-1-n 1, param-2-m 1

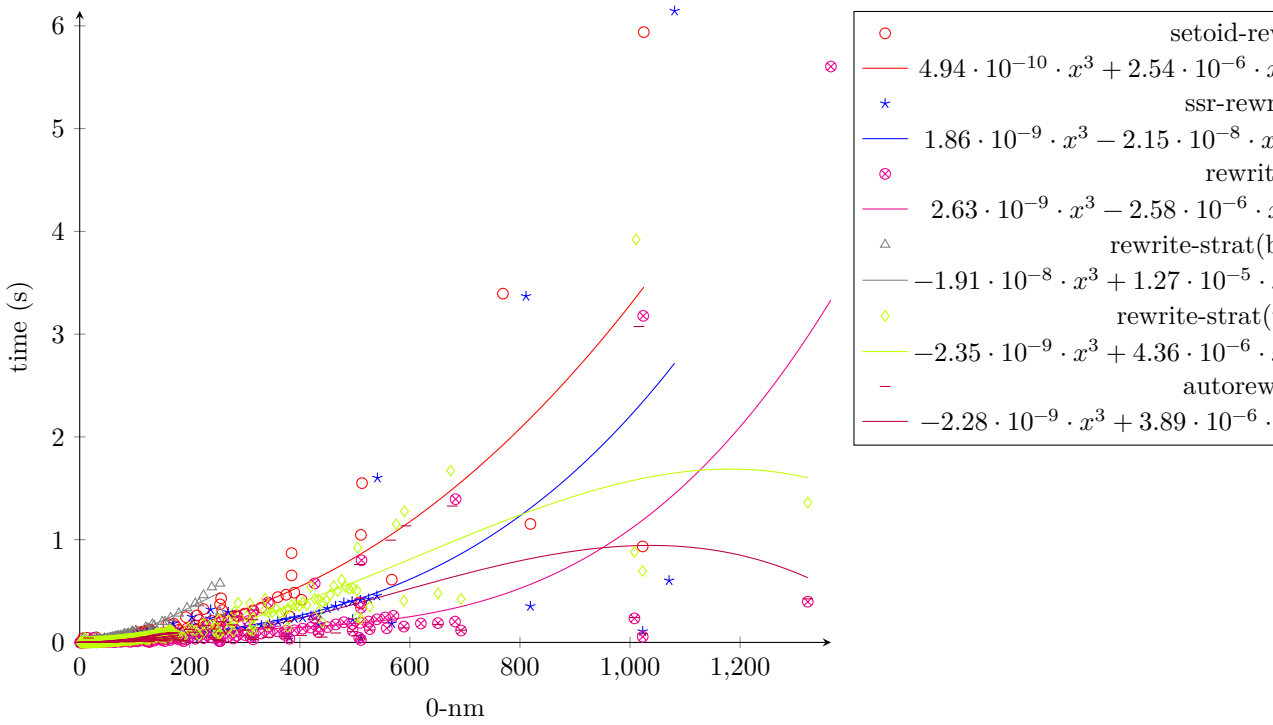


Figure 23: timing-rewrite-plus-0-tree param-1-n 0, param-2-m 1, param-3-input-size 5, param-4-output-size 3, param-5-num-rewrites 1

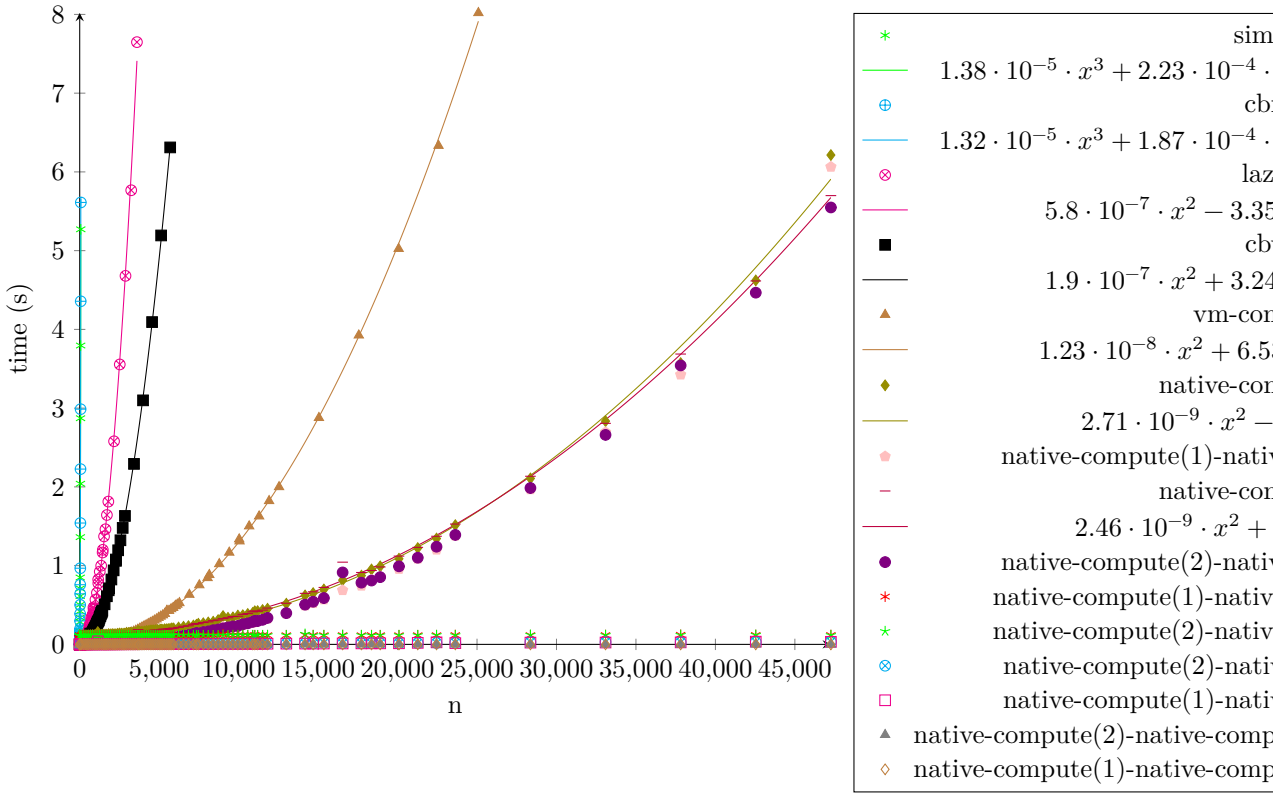


Figure 24: timing-sieve-of-eratosthenes

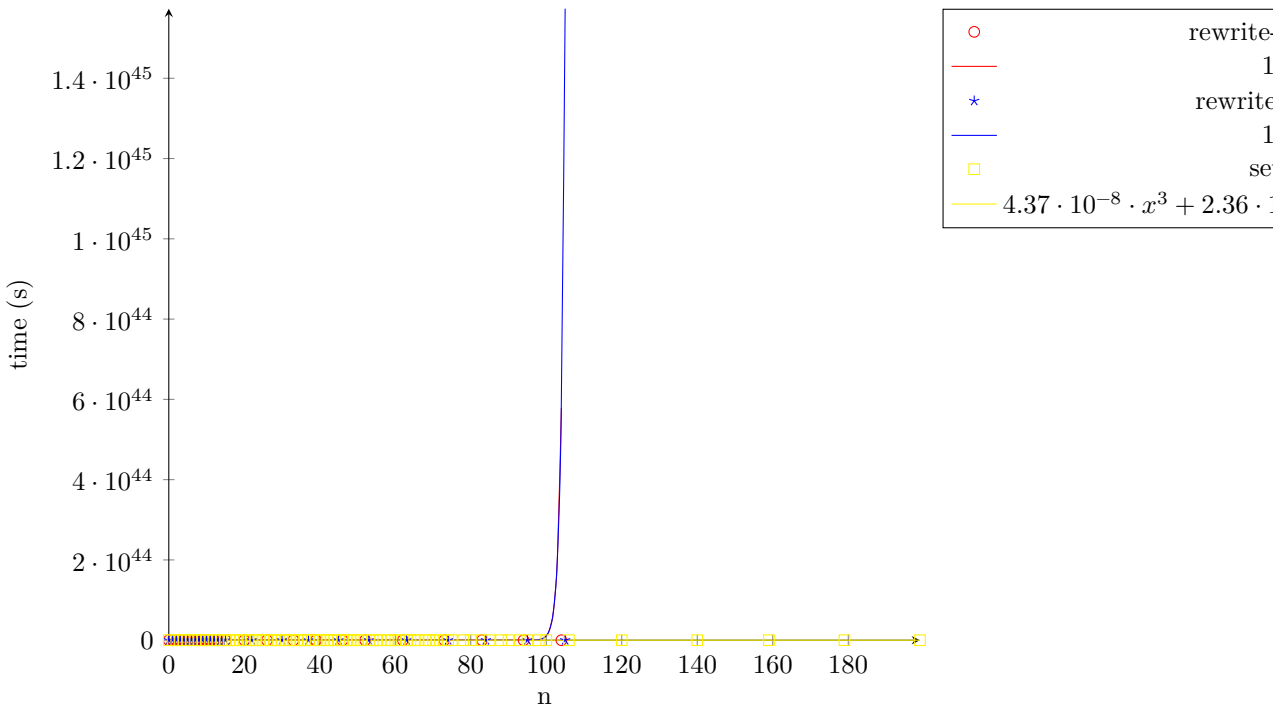


Figure 25: timing-rewrite-under-lets-plus-0

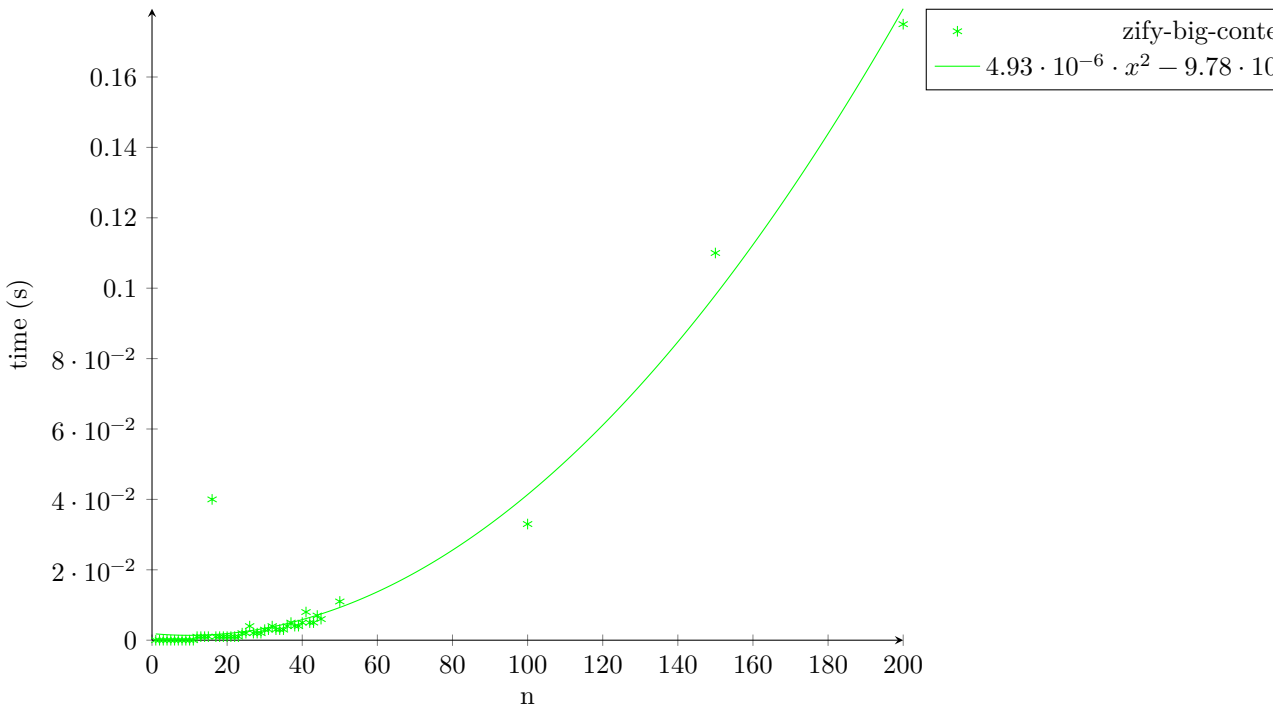


Figure 26: timing-zify-large-context

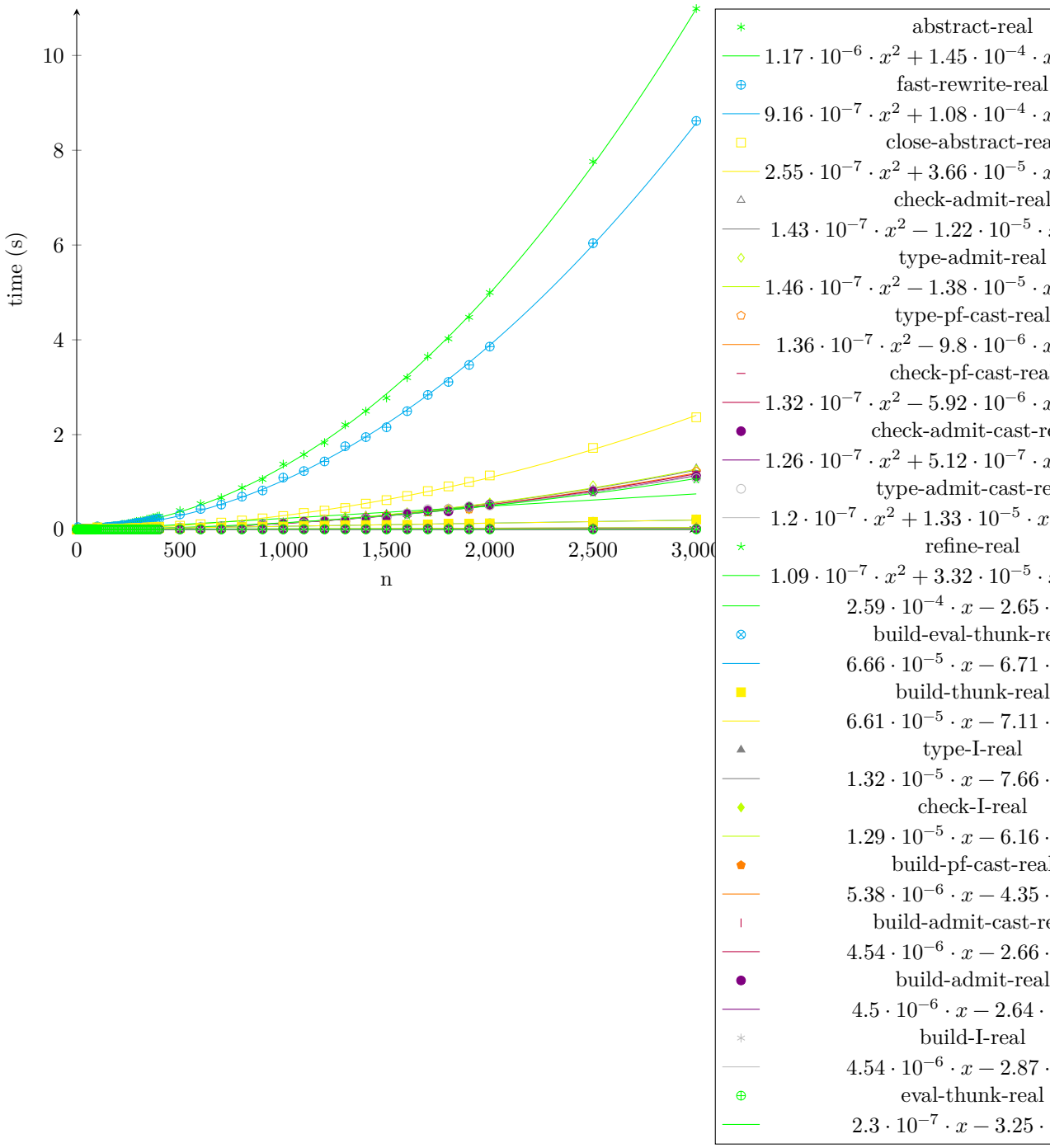
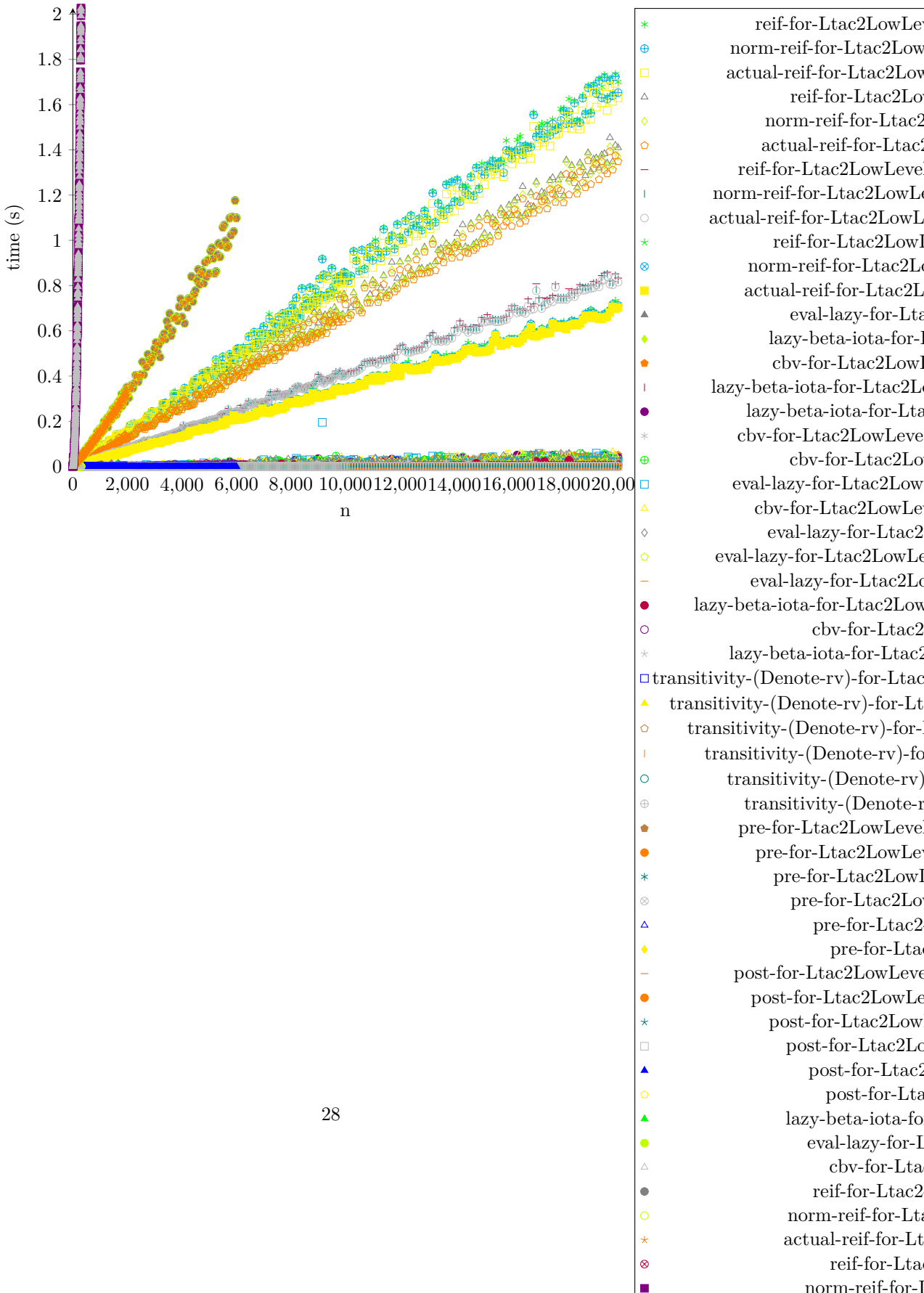


Figure 27: timing-rewrite-repeated-app-fast-rewrite-ltac2


time (s)
n
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1.8
2
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
16,000
18,000
20,000
reif-for-Ltac2LowLe
norm-reif-for-Ltac2Low
actual-reif-for-Ltac2Low
reif-for-Ltac2Lo
norm-reif-for-Ltac2
actual-reif-for-Ltac2
reif-for-Ltac2LowLevel
norm-reif-for-Ltac2LowL
actual-reif-for-Ltac2LowL
reif-for-Ltac2LowL
norm-reif-for-Ltac2L
actual-reif-for-Ltac2L
eval-lazy-for-Lta
lazy-beta-iota-for-
cbv-for-Ltac2Low
lazy-beta-iota-for-Ltac2L
lazy-beta-iota-for-Lta
cbv-for-Ltac2LowLeve
cbv-for-Ltac2Lo
eval-lazy-for-Ltac2Low
cbv-for-Ltac2LowLe
eval-lazy-for-Ltac2
eval-lazy-for-Ltac2LowLe
eval-lazy-for-Ltac2Lo
lazy-beta-iota-for-Ltac2Low
cbv-for-Ltac2
lazy-beta-iota-for-Ltac2
transitivity-(Denote-rv)-for-Ltac
transitivity-(Denote-rv)-for-Lt
transitivity-(Denote-rv)-for-
transitivity-(Denote-rv)-fo
transitivity-(Denote-rv)
transitivity-(Denote-r
pre-for-Ltac2LowLevel
pre-for-Ltac2LowLe
pre-for-Ltac2LowL
pre-for-Ltac2Lo
pre-for-Ltac2
pre-for-Lta
post-for-Ltac2LowLeve
post-for-Ltac2LowLe
post-for-Ltac2Low
post-for-Ltac2Lo
post-for-Ltac2
post-for-Lta
lazy-beta-iota-fo
eval-lazy-for-L
cbv-for-Lta
reif-for-Ltac2
norm-reif-for-Lta
actual-reif-for-Lt
reif-for-Lta
norm-reif-for-L