

Figure 1: timing-pattern

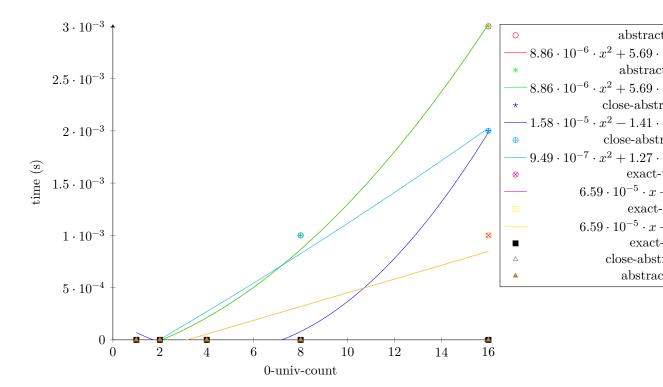


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

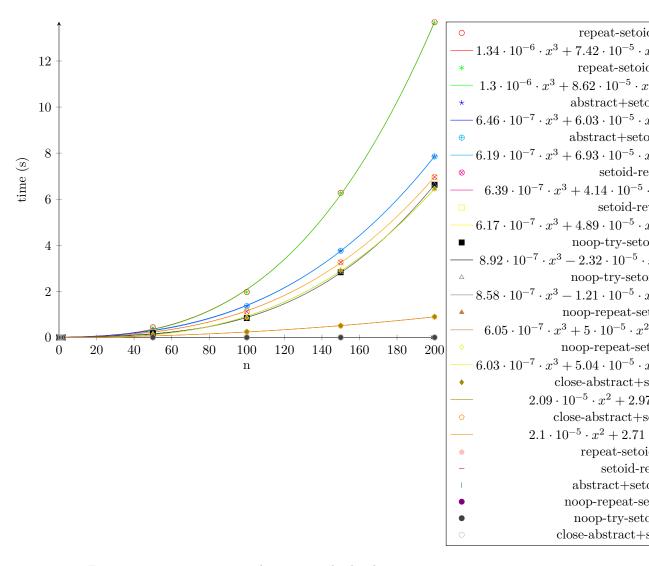


Figure 3: timing-repeat-setoid-rewrite-under-binders

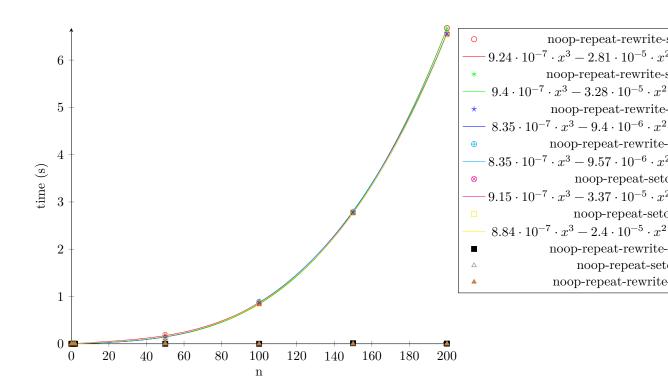


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

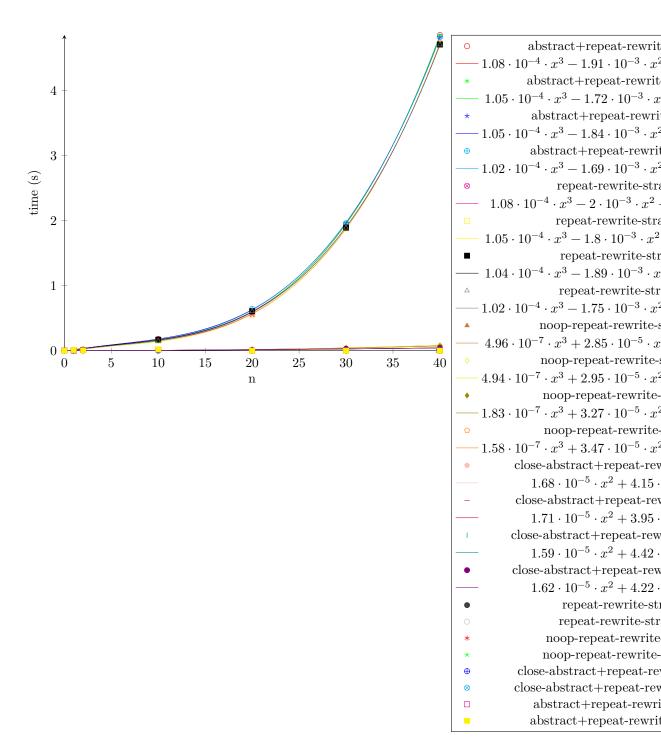


Figure 5: timing-rewrite-strat-under-binders

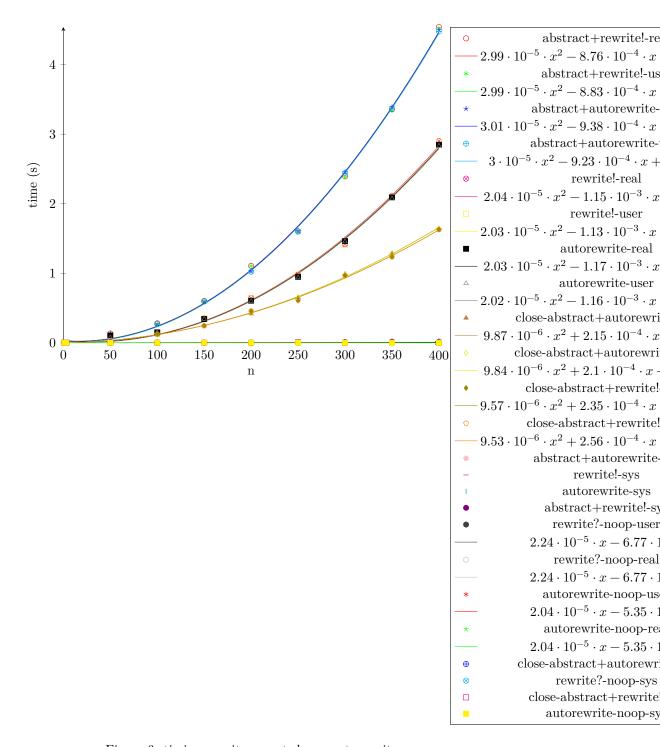


Figure 6: timing-rewrite-repeated-app-autorewrite

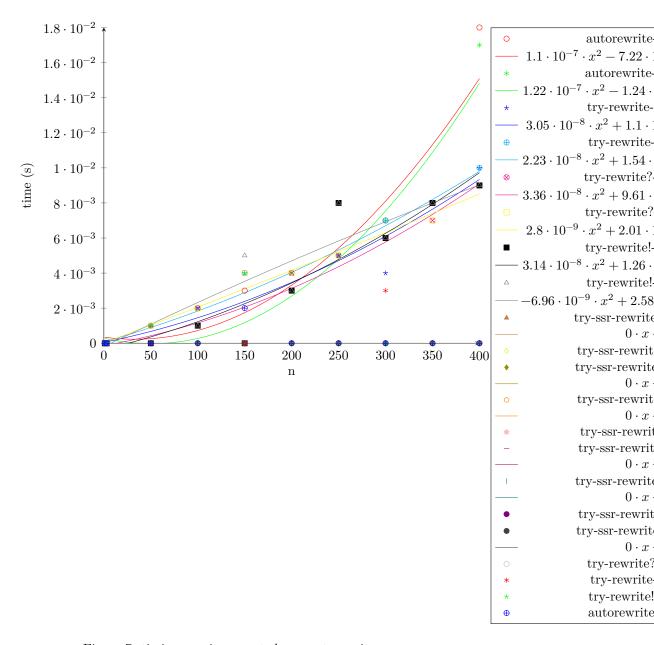


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

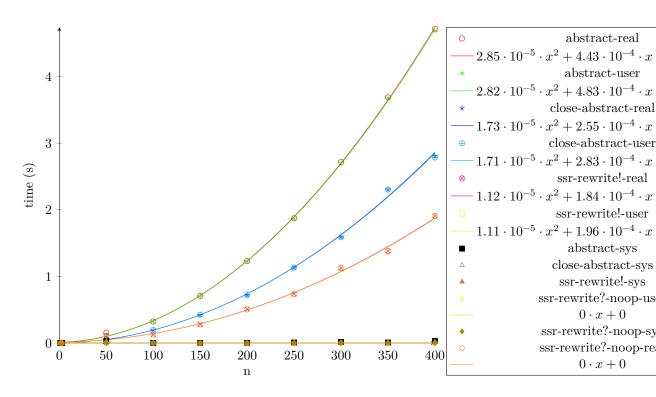


Figure 8: timing-rewrite-repeated-app-ssrrewrite

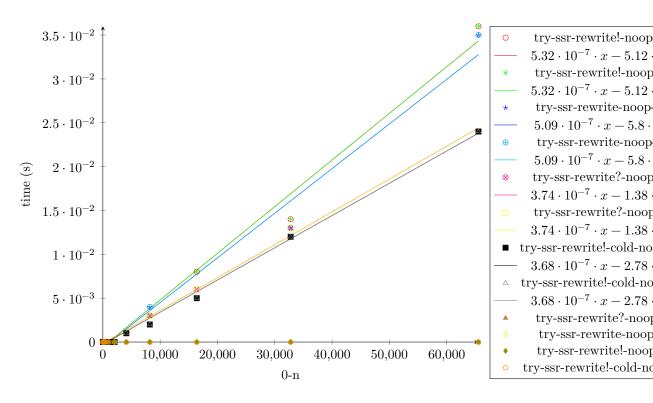


Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn $\,1\,$

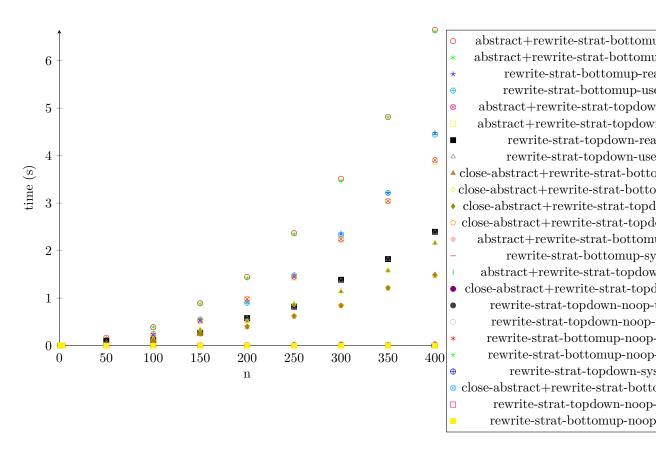
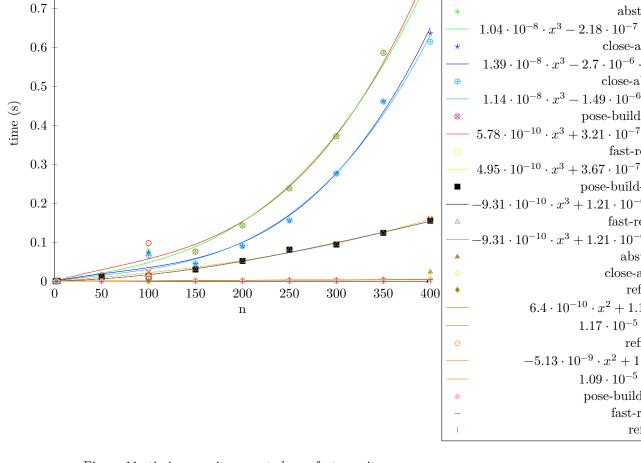


Figure 10: timing-rewrite-repeated-app-rewrite-strat

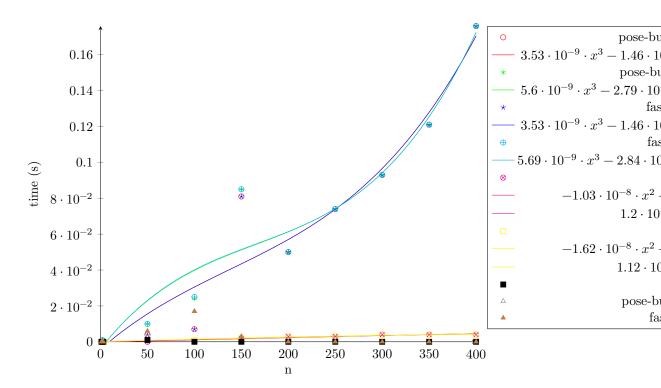


abst

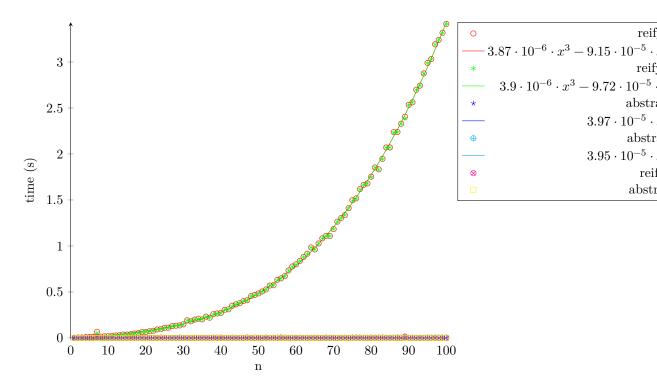
 $1.45 \cdot 10^{-8} \cdot x^3 - 2.42 \cdot 10^{-6}$

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

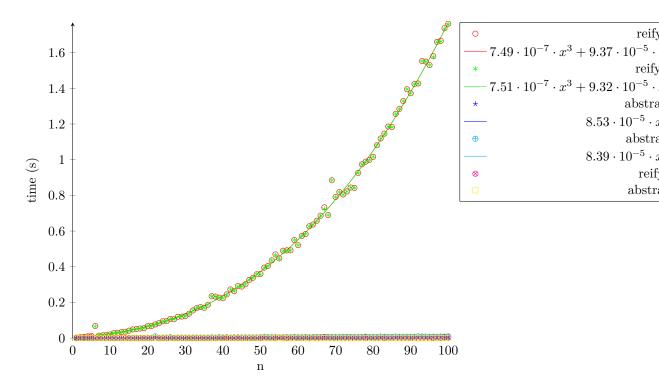
0.8



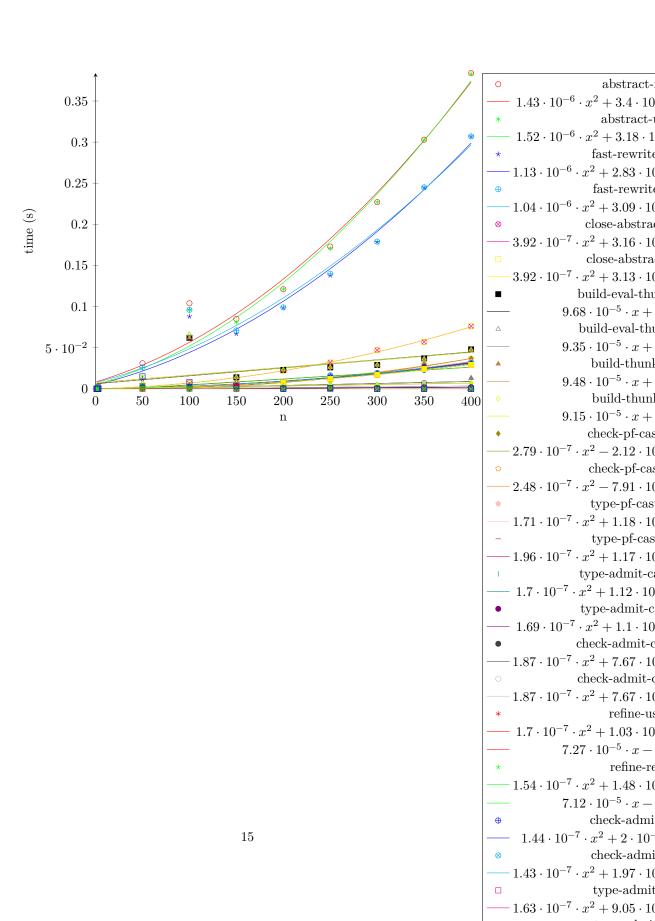
Figure~12:~timing-rewrite-repeated-app-fast-rewrite-no-abstract



 ${\bf Figure~13:~timing-type class-reification-let-in-HOAS}$



 ${\bf Figure~14:~timing-type class-reification-let-in-PHOAS}$



abstract-

abstract-

fast-rewrite

fast-rewrite

close-abstrac

close-abstra

build-eval-thu

build-thunk $9.48 \cdot 10^{-5} \cdot x +$

build-thunl

check-pf-cas

check-pf-cas

type-pf-cas

type-pf-cas

type-admit-ca

type-admit-c

check-admit-c

check-admit-o

 $7.27\cdot 10^{-5}\cdot x -$

 $7.12\cdot 10^{-5}\cdot x$ check-admi

check-admi

type-admit

type-admit

 $1.61 \cdot 10^{-7} \cdot x^2 + 8.57 \cdot 10^{-1}$

refine-us

refine-re

 $9.15 \cdot 10^{-5} \cdot x +$

 $9.68 \cdot 10^{-5} \cdot x +$ build-eval-thu $9.35 \cdot 10^{-5} \cdot x +$