

Figure 1: timing-pattern

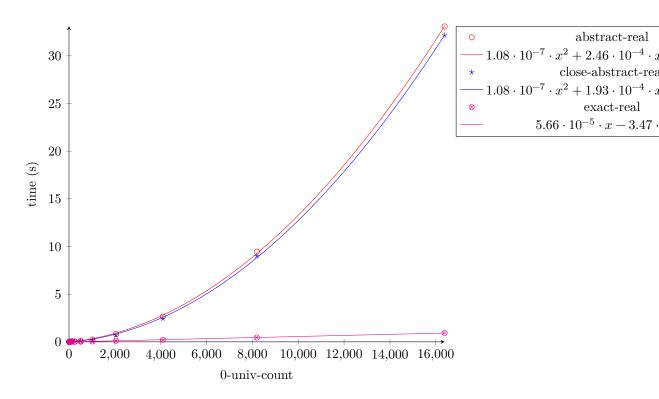


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

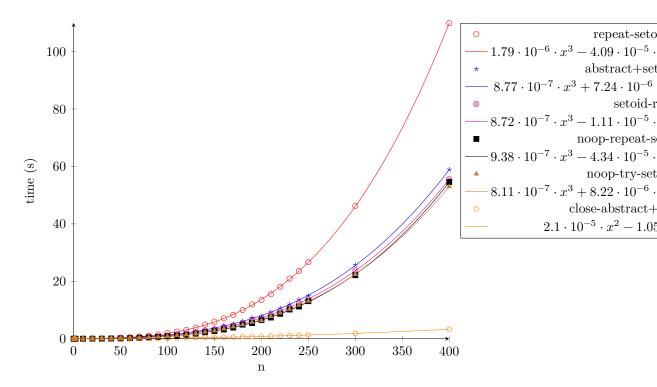


Figure 3: timing-repeat-setoid-rewrite-under-binders

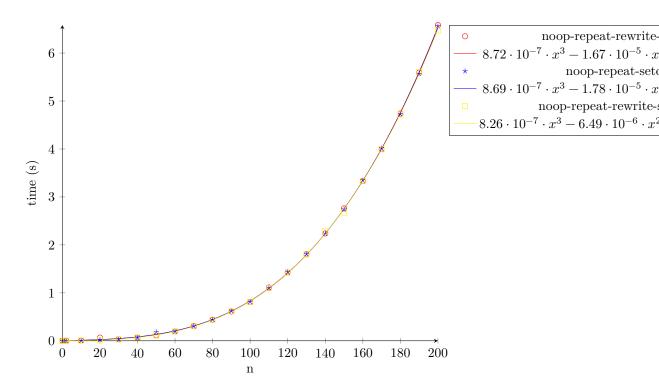
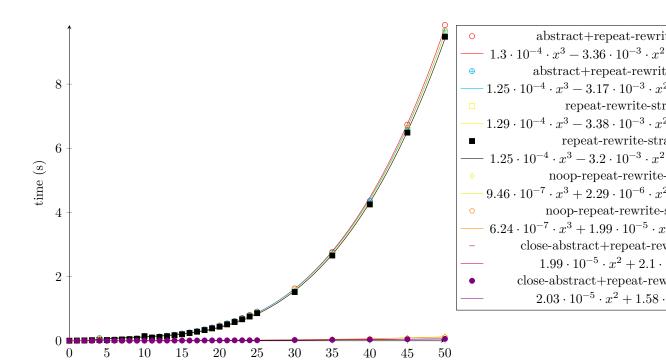


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop



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

n

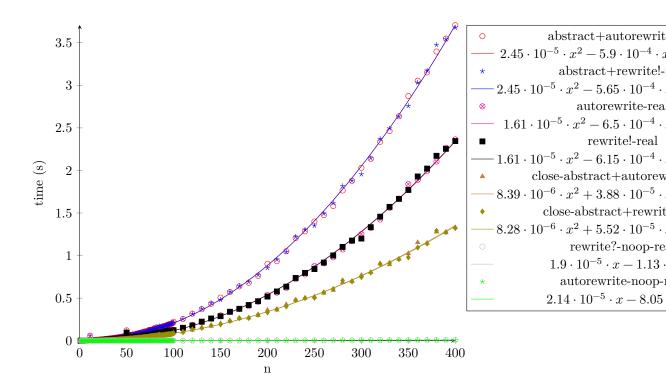
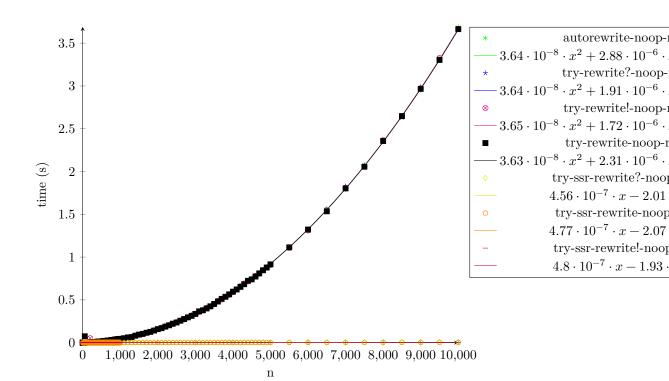


Figure 6: timing-rewrite-repeated-app-autorewrite



 $Figure~7:~timing\mbox{-rewrite-repeated-app-autorewrite-noop}$

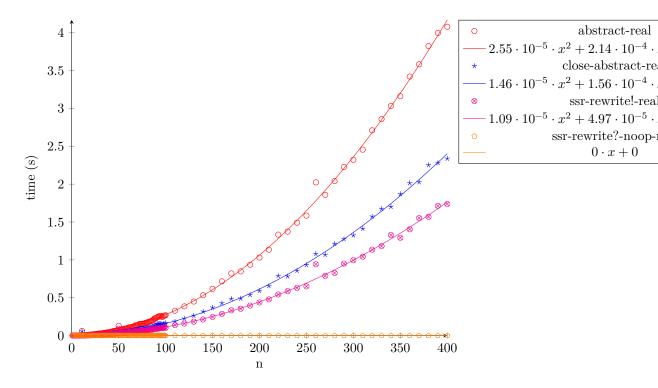
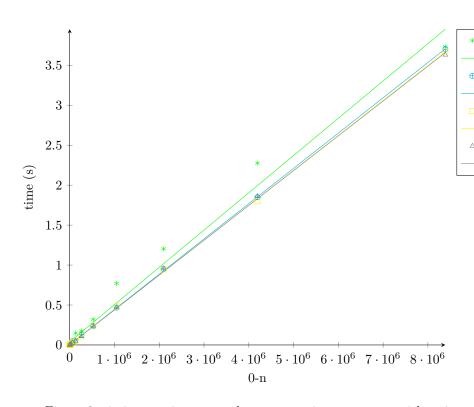


Figure 8: timing-rewrite-repeated-app-ssrrewrite



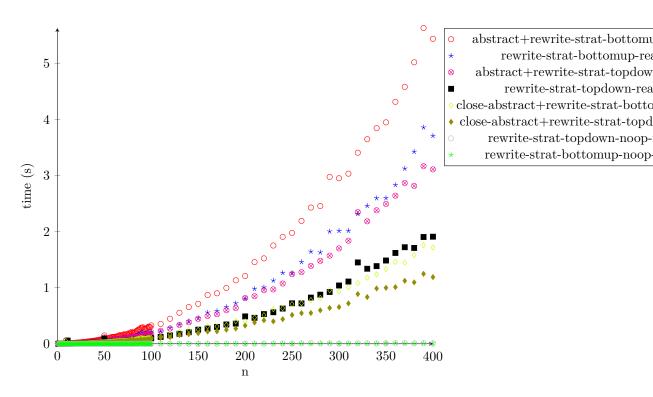
try-ssr-rewrite!-cold-noop-rea $4.67\cdot 10^{-7}\cdot x + 3.85\cdot 10^{-2}$

try-ssr-rewrite!-noop-real $4.42\cdot 10^{-7}\cdot x + 2.56\cdot 10^{-3}$

try-ssr-rewrite?-noop-real $4.37\cdot 10^{-7}\cdot x + 1.27\cdot 10^{-3}$ try-ssr-rewrite-noop-real

 $4.36\cdot 10^{-7}\cdot x + 2.52\cdot 10^{-3}$

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

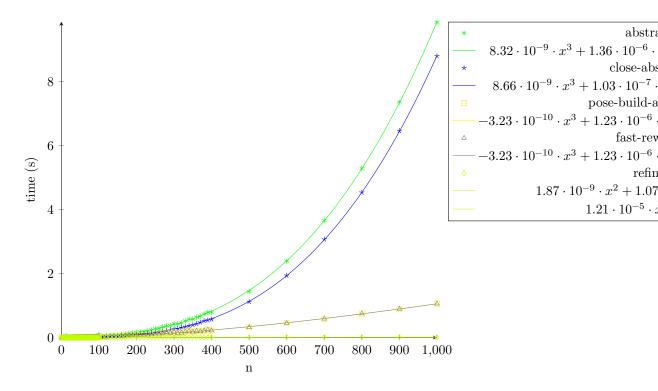


rewrite-strat-bottomup-real

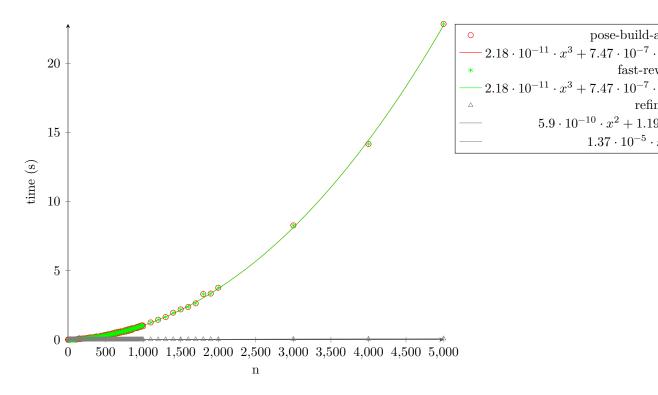
rewrite-strat-topdown-rea

rewrite-strat-topdown-nooprewrite-strat-bottomup-noop-

 $Figure~10:~timing\mbox{-rewrite-repeated-app-rewrite-strat}$



 ${\bf Figure~11:~timing\text{-}rewrite\text{-}repeated\text{-}app\text{-}fast\text{-}rewrite}$



 $Figure~12:~timing\mbox{-rewrite-repeated-app-fast-rewrite-no-abstract}$

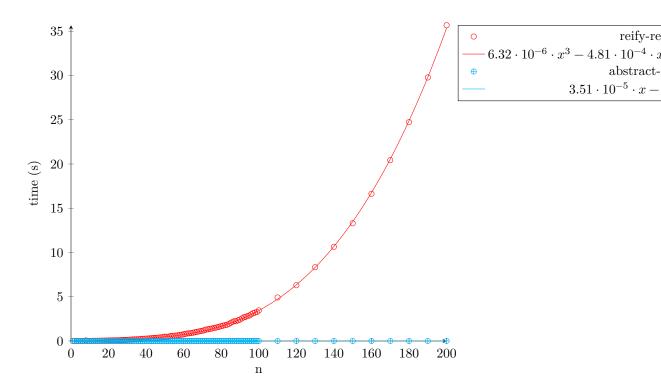


Figure 13: timing-typeclass-reification-let-in-HOAS

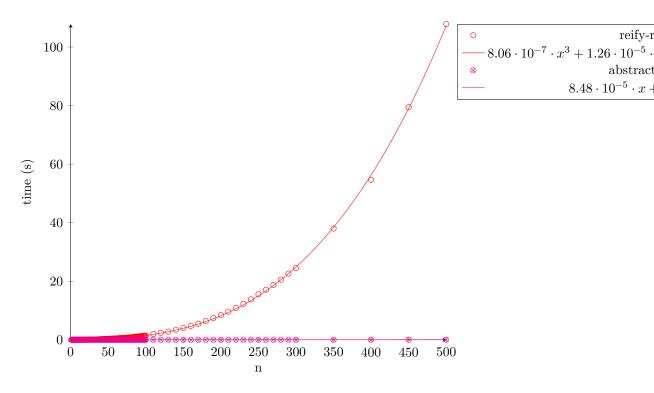


Figure 14: timing-typeclass-reification-let-in-PHOAS

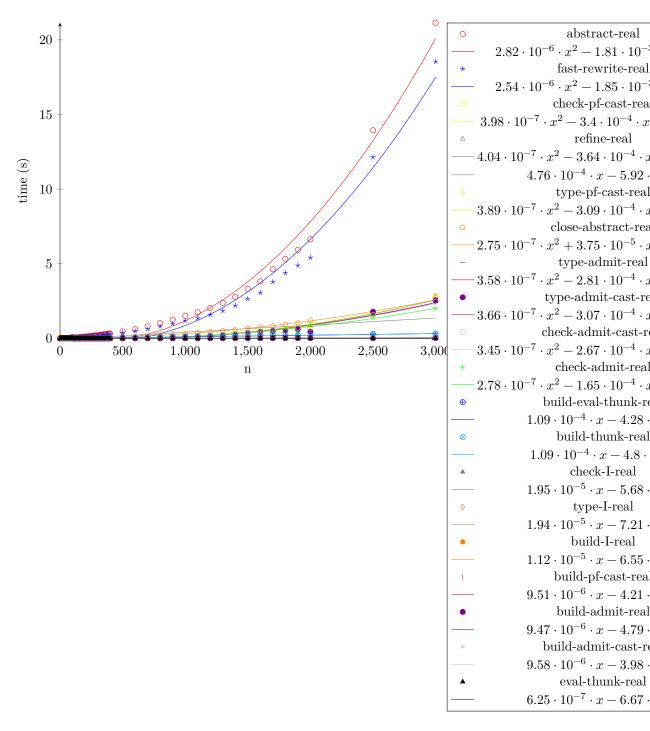


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2