

Figure 1: timing-pattern

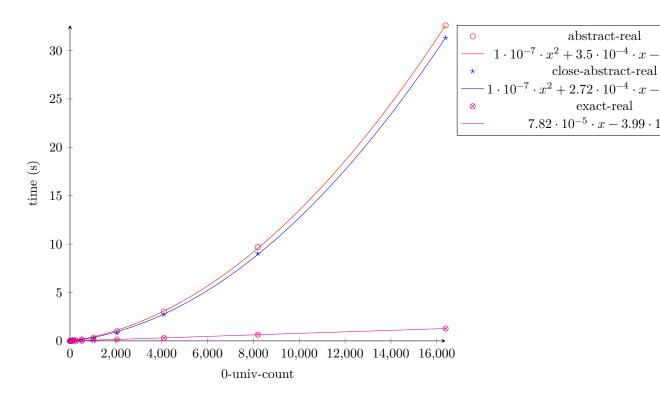
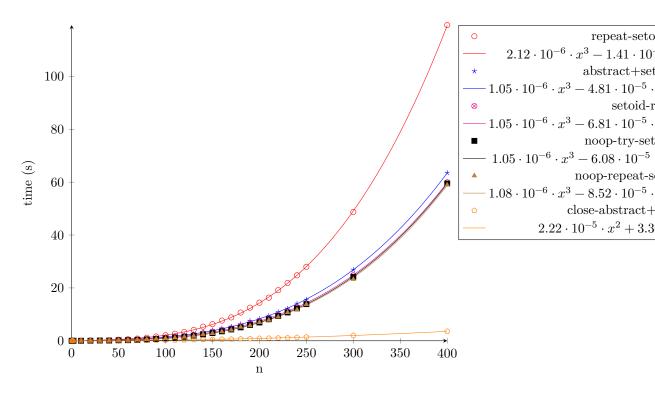


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



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

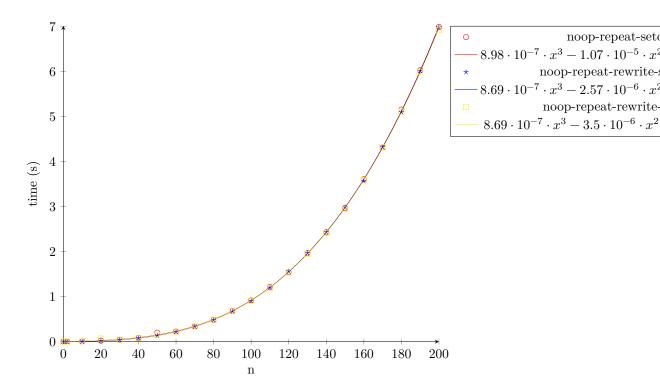
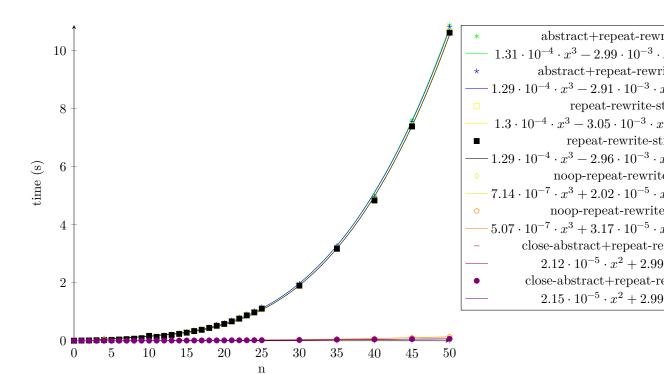
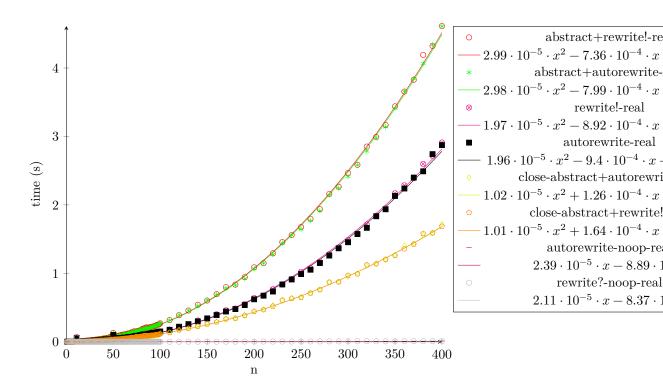


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop



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



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

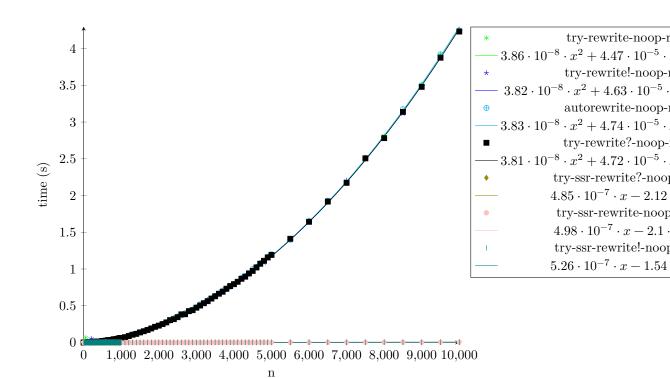


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

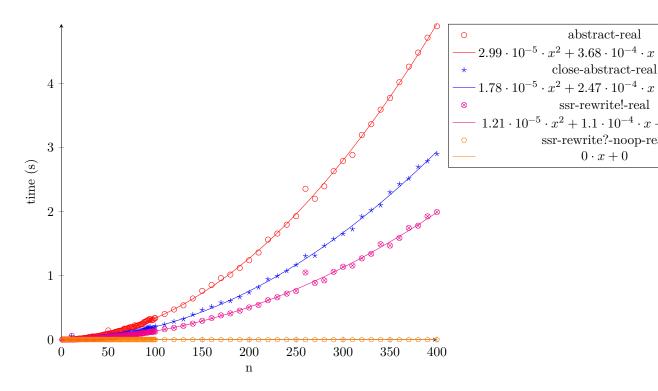
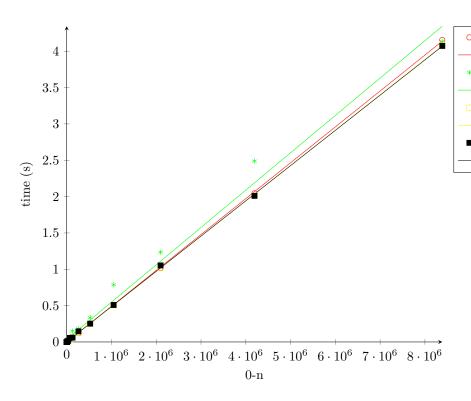


Figure 8: timing-rewrite-repeated-app-ssrrewrite



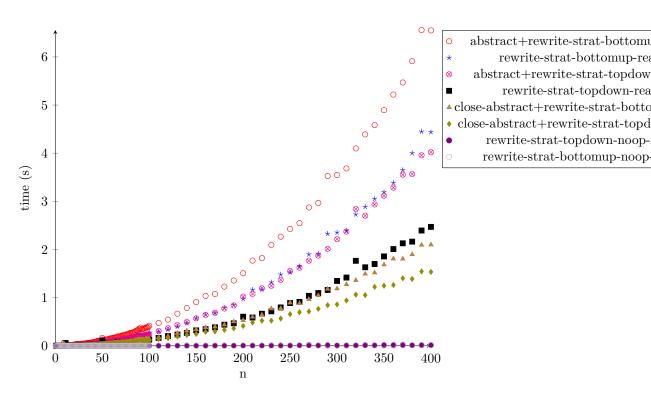
try-ssr-rewrite-noop-real

 $4.94 \cdot 10^{-7} \cdot x - 3.18 \cdot 10^{-3}$ try-ssr-rewrite!-cold-noop-rea

 $\begin{array}{l} 5.14 \cdot 10^{-7} \cdot x + 3.39 \cdot 10^{-2} \\ \text{try-ssr-rewrite?-noop-real} \\ 4.86 \cdot 10^{-7} \cdot x - 1.5 \cdot 10^{-3} \end{array}$

try-ssr-rewrite!-noop-real $4.85\cdot 10^{-7}\cdot x + 2.42\cdot 10^{-3}$

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



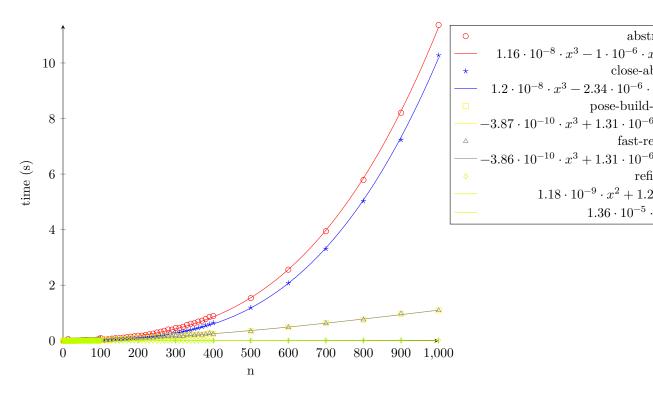
rewrite-strat-bottomup-rea

rewrite-strat-topdown-rea

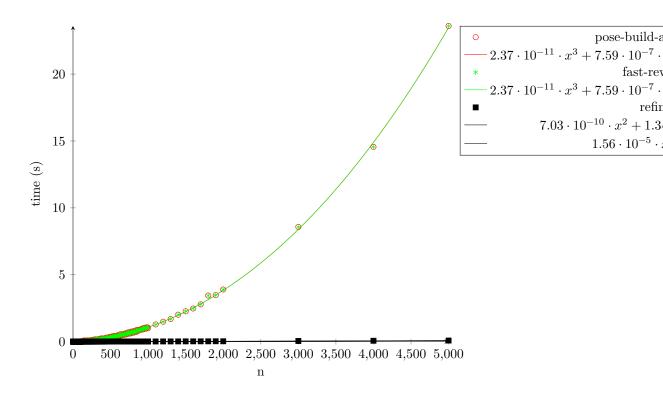
rewrite-strat-topdown-noop-

rewrite-strat-bottomup-noop-

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



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



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

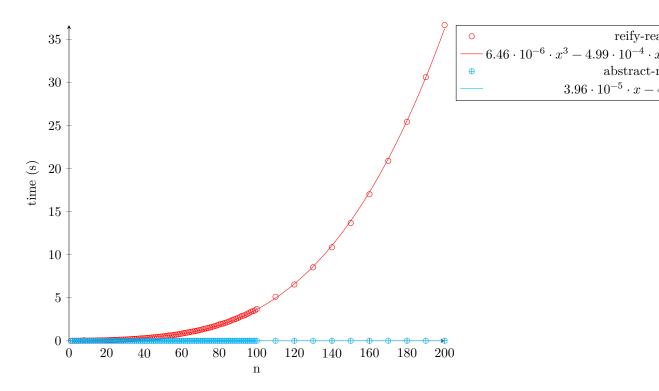


Figure 13: timing-typeclass-reification-let-in-HOAS

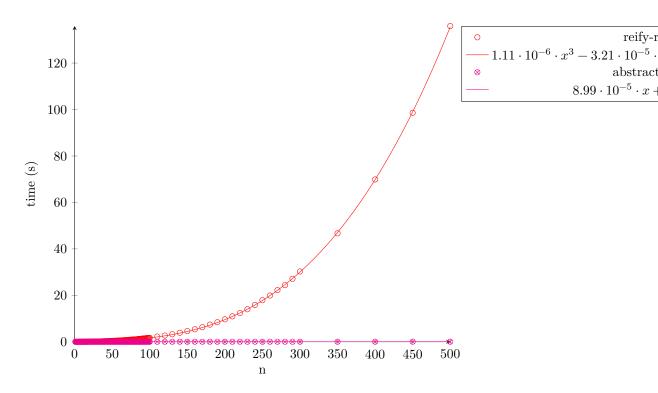


Figure 14: timing-typeclass-reification-let-in-PHOAS

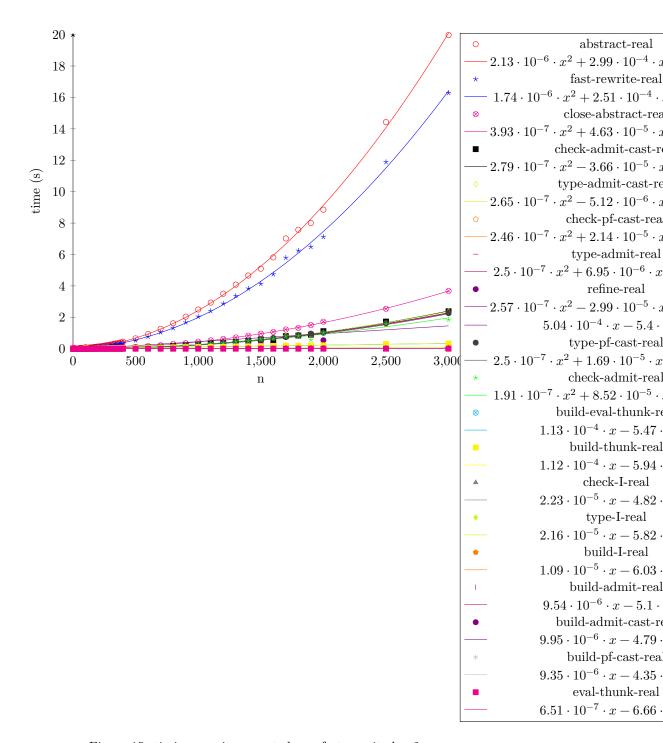


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2