

Figure 1: timing-pattern

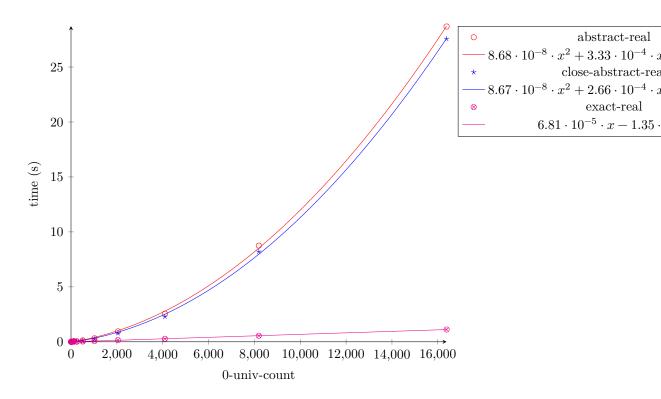


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

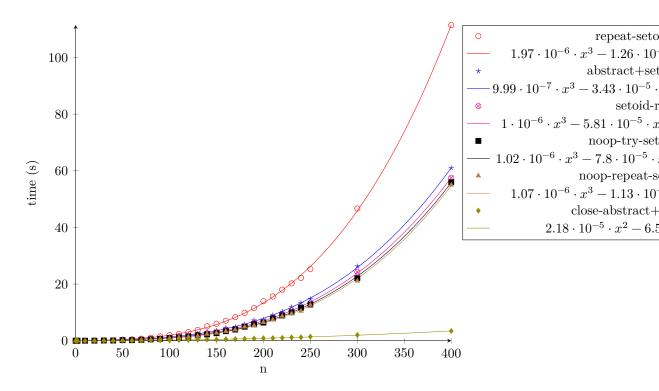


Figure 3: timing-repeat-setoid-rewrite-under-binders

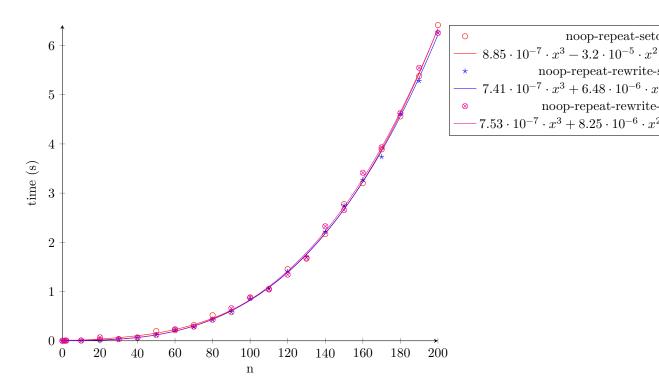


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

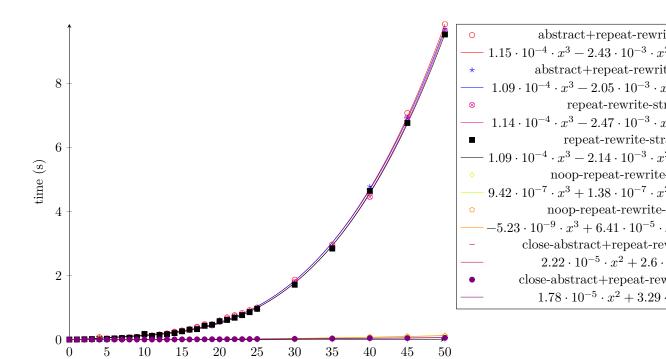


Figure 5: timing-rewrite-strat-under-binders

n

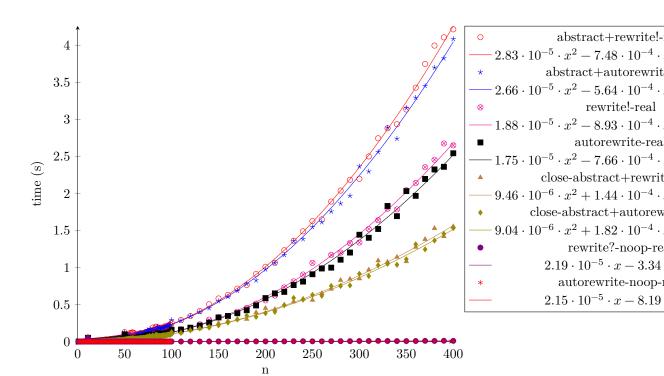
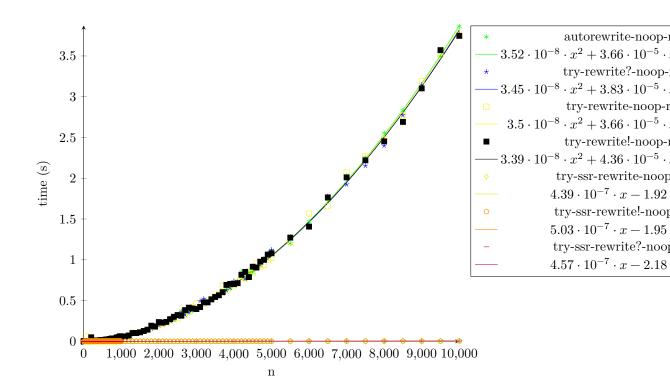
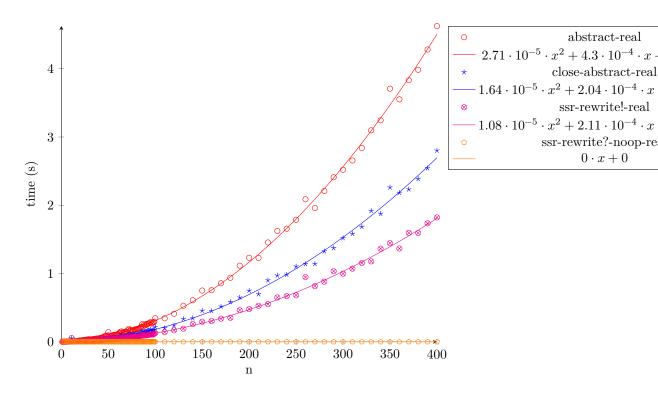


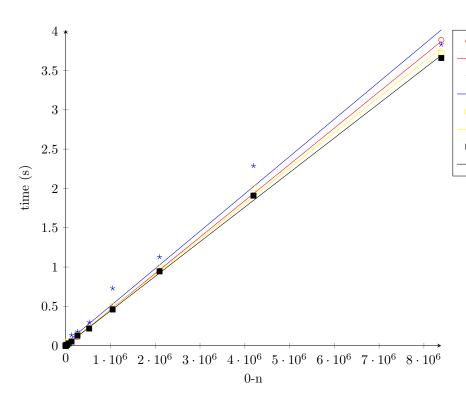
Figure 6: timing-rewrite-repeated-app-autorewrite



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



 ${\bf Figure~8:~timing\text{-}rewrite\text{-}repeated\text{-}app\text{-}ssrrewrite}$



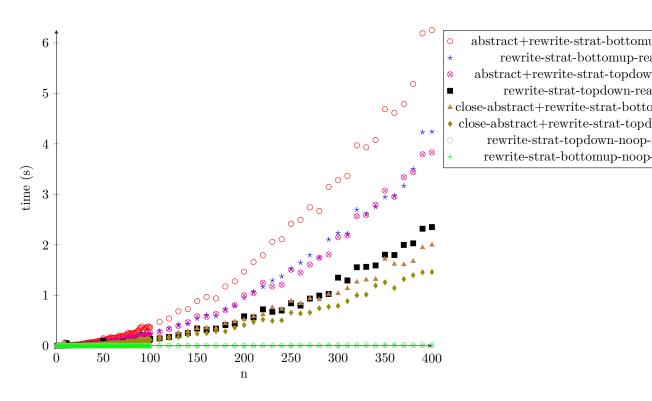
try-ssr-rewrite?-noop-real $4.62\cdot 10^{-7}\cdot x - 4.2\cdot 10^{-3}$

try-ssr-rewrite!-cold-noop-rea $4.75 \cdot 10^{-7} \cdot x + 3.01 \cdot 10^{-2}$ try-ssr-rewrite!-noop-real

 $\begin{array}{l} 4.5\cdot 10^{-7}\cdot x + 7.27\cdot 10^{-3} \\ \text{try-ssr-rewrite-noop-real} \end{array}$

 $4.4\cdot 10^{-7}\cdot x + 1.78\cdot 10^{-3}$

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



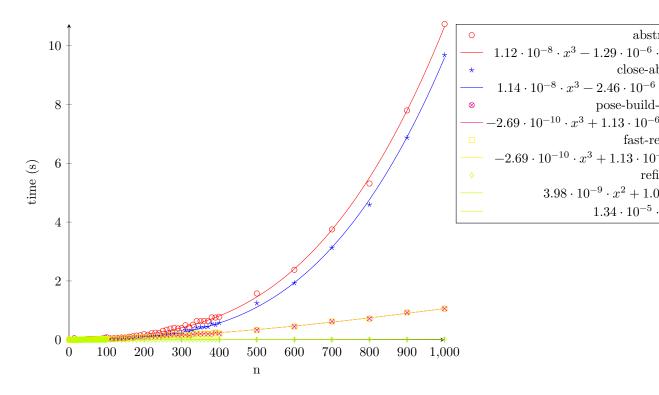
 $abstract + rewrite - strat - bottom \\ \\$

rewrite-strat-bottomup-rea abstract + rewrite - strat - topdowrewrite-strat-topdown-rea

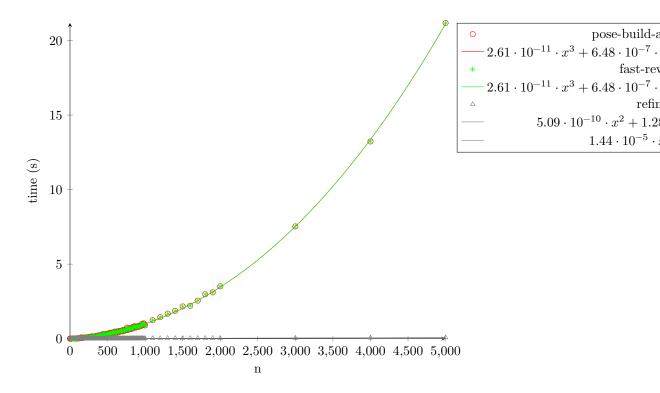
rewrite-strat-topdown-noop-

rewrite-strat-bottomup-noop-

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



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



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

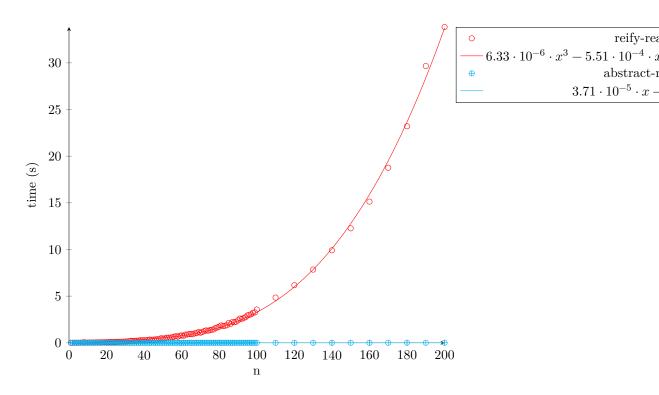


Figure 13: timing-typeclass-reification-let-in-HOAS

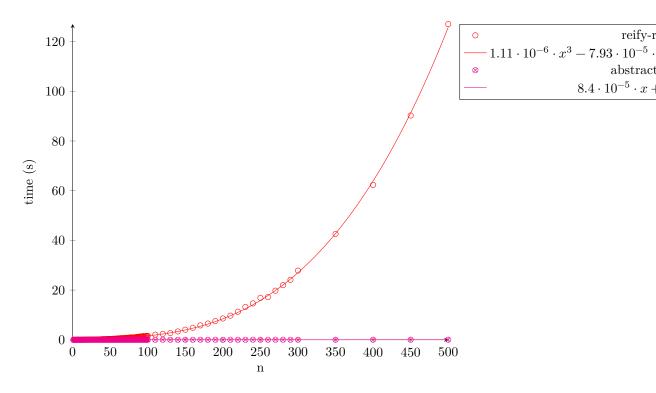


Figure 14: timing-typeclass-reification-let-in-PHOAS

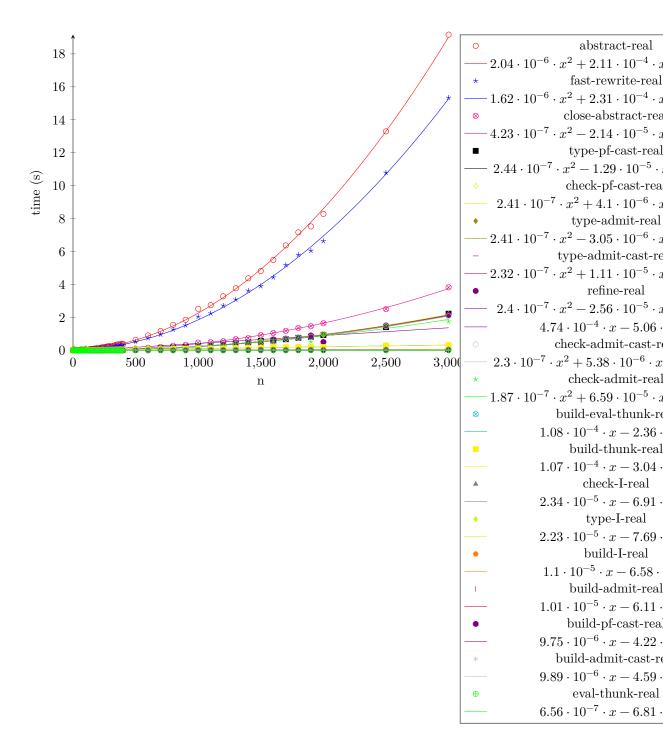


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2