

Figure 1: timing-pattern

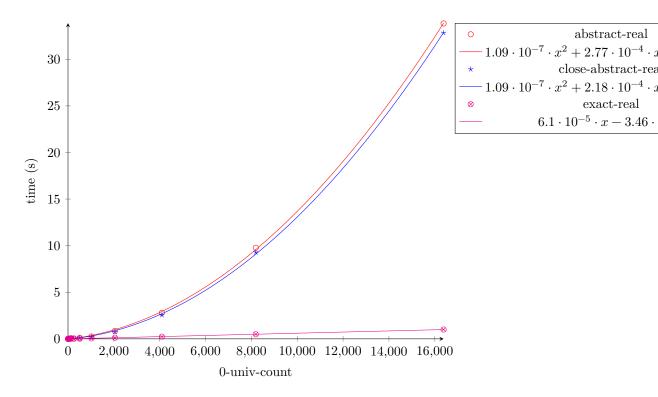
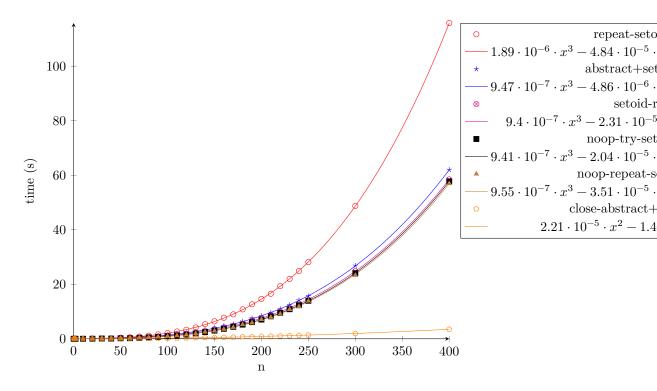


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



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

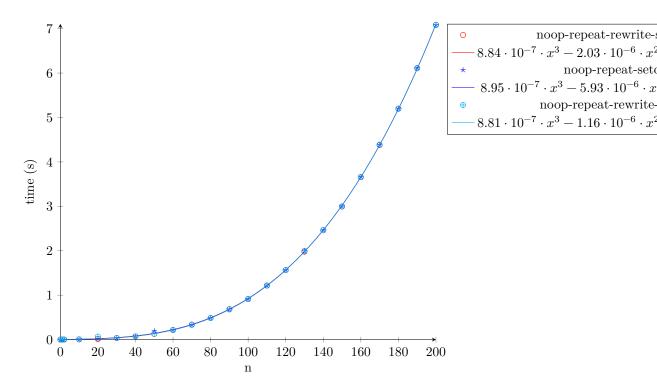
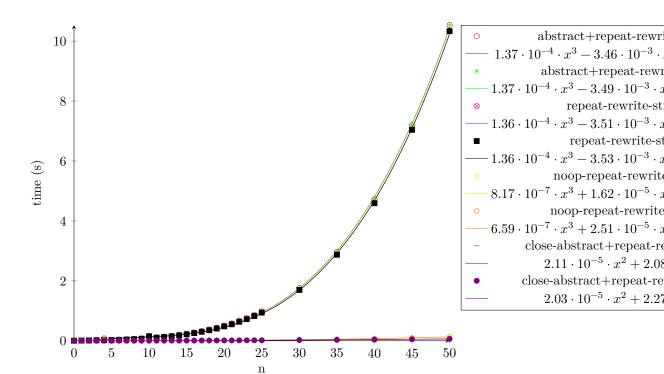


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop



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

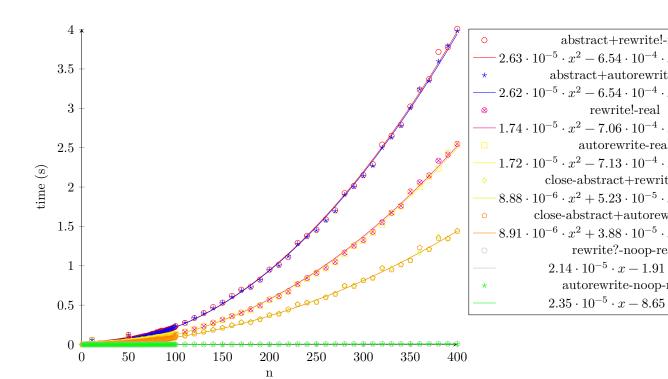


Figure 6: timing-rewrite-repeated-app-autorewrite

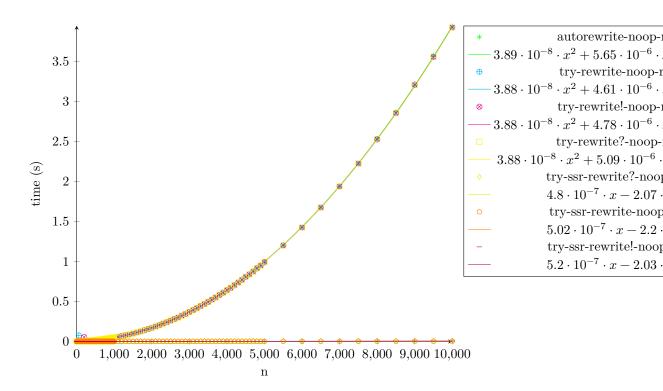


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

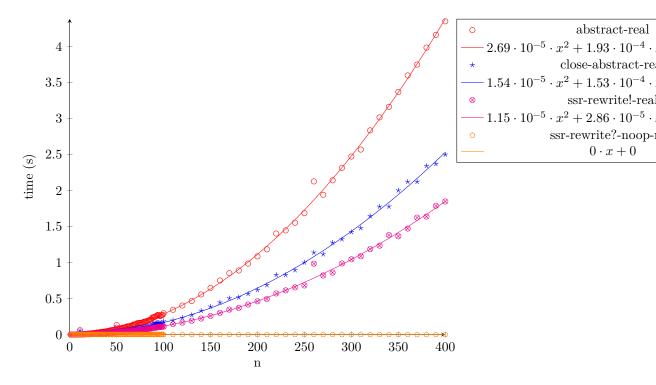
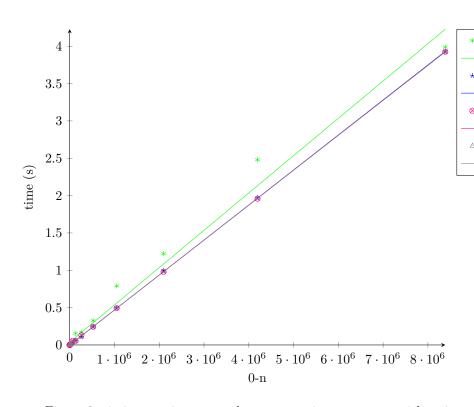


Figure 8: timing-rewrite-repeated-app-ssrrewrite



try-ssr-rewrite!-cold-noop-rea

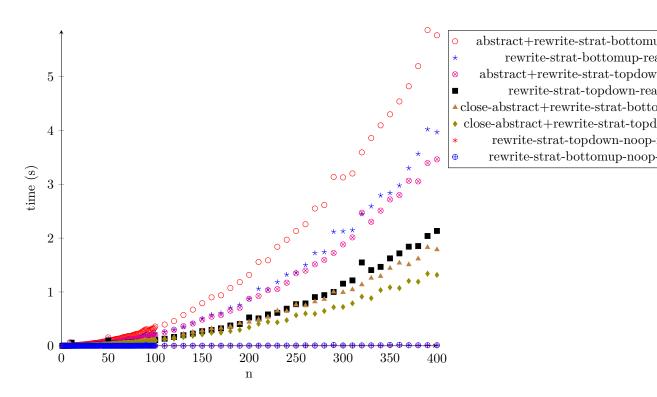
 $\begin{array}{l} 5 \cdot 10^{-7} \cdot x + 3.66 \cdot 10^{-2} \\ \text{try-ssr-rewrite-noop-real} \end{array}$

 $\begin{array}{l} 4.69 \cdot 10^{-7} \cdot x - 9.19 \cdot 10^{-4} \\ \text{try-ssr-rewrite!-noop-real} \end{array}$

 $4.68 \cdot 10^{-7} \cdot x + 1.17 \cdot 10^{-3}$ try-ssr-rewrite?-noop-real

 $4.68\cdot 10^{-7}\cdot x - 5.63\cdot 10^{-4}$

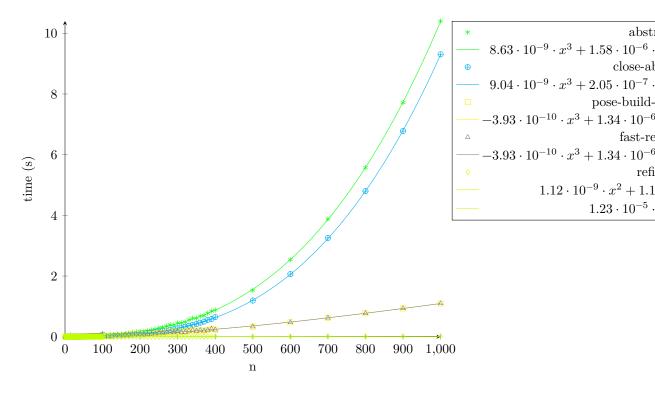
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn $\ 1$



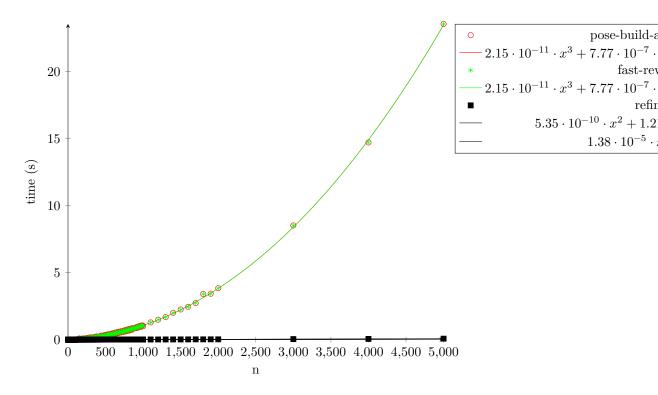
rewrite-strat-bottomup-rea

rewrite-strat-topdown-rea

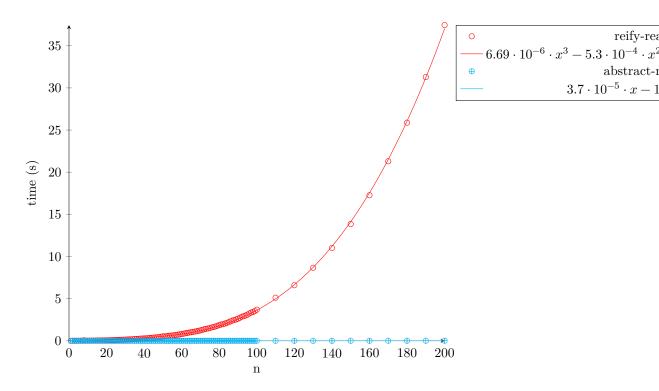
 $Figure\ 10:\ timing-rewrite-repeated-app-rewrite-strat$



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



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



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

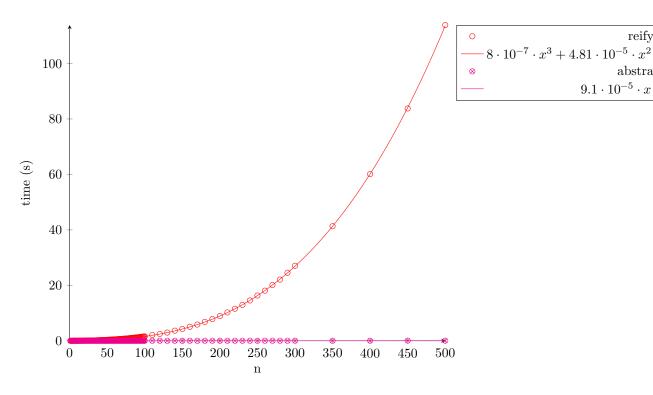


Figure 14: timing-typeclass-reification-let-in-PHOAS

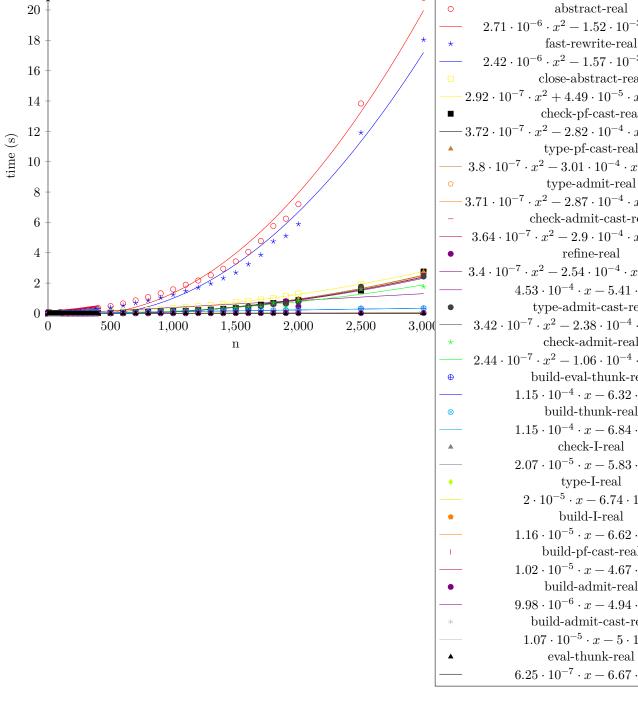


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2