

Figure 1: timing-pattern

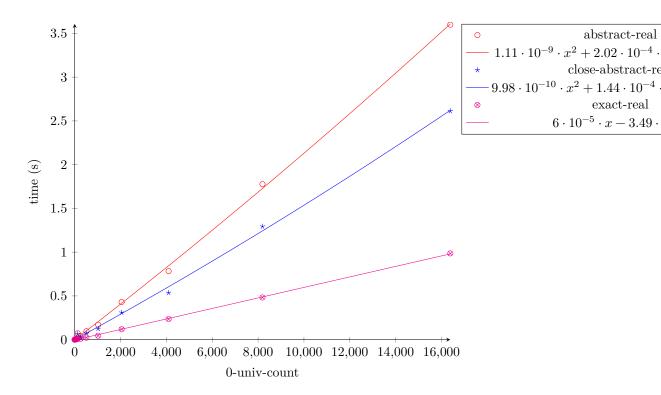


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

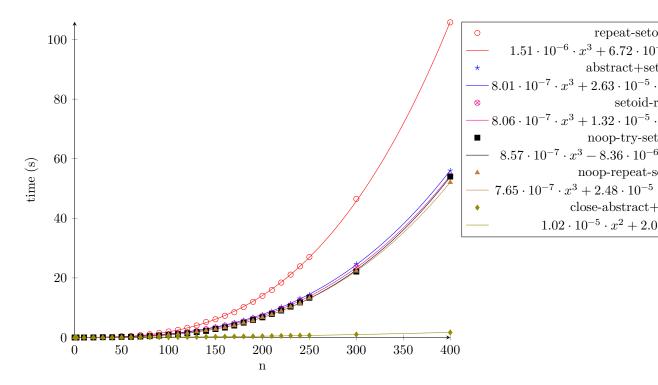
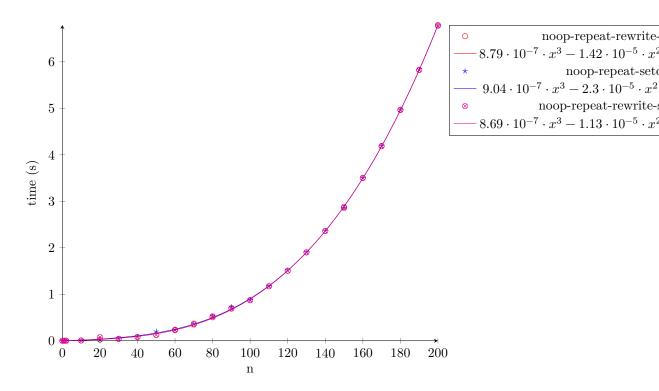
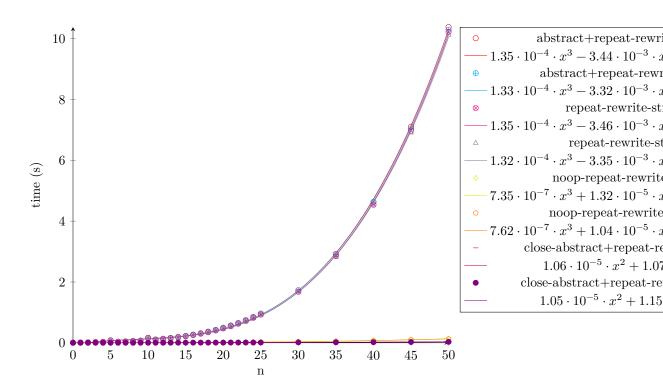


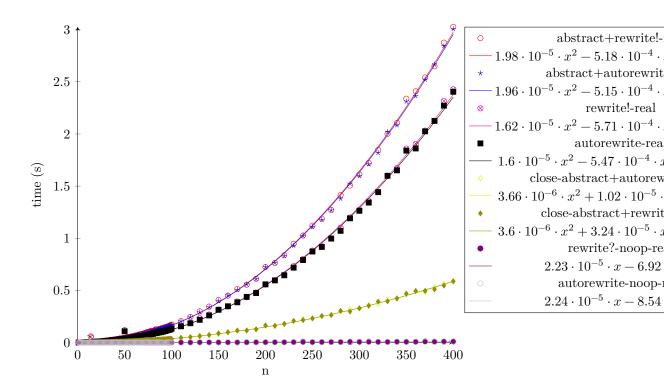
Figure 3: timing-repeat-setoid-rewrite-under-binders



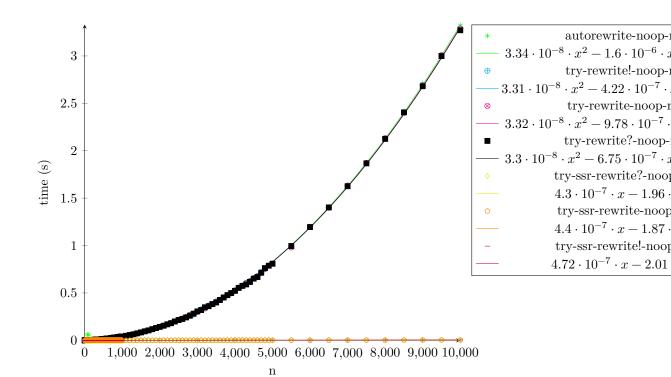
 $Figure\ 4:\ timing-repeat-setoid-rewrite-under-binders-noop$



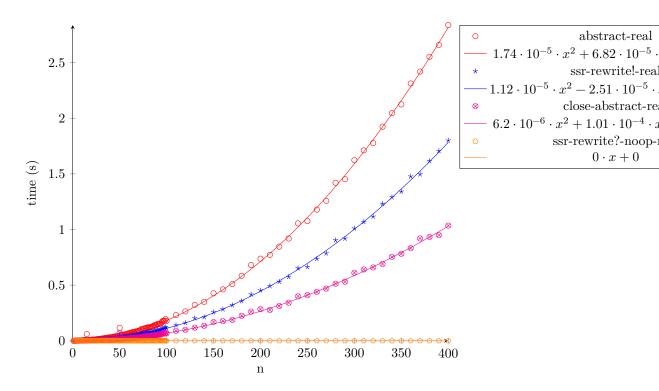
 $Figure\ 5:\ timing-rewrite-strat-under-binders$



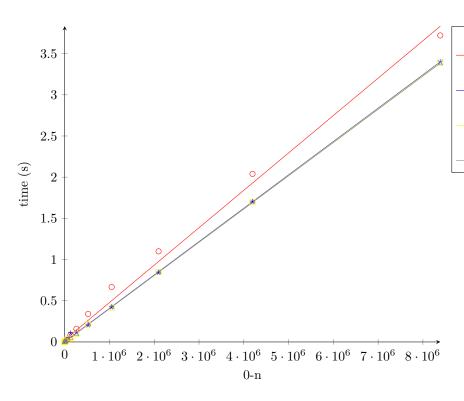
 $Figure \ 6: \ timing-rewrite-repeated-app-autorewrite \\$



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



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



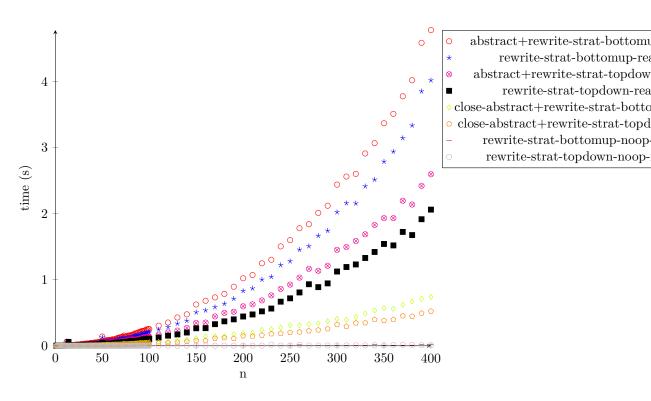
try-ssr-rewrite!-cold-noop-rea $4.54 \cdot 10^{-7} \cdot x + 2.49 \cdot 10^{-2}$

try-ssr-rewrite!-noop-real $4.05\cdot 10^{-7}\cdot x + 3.54\cdot 10^{-3}$

try-ssr-rewrite?-noop-real $4.05\cdot 10^{-7}\cdot x - 7.87\cdot 10^{-4}$

 $\begin{array}{l} \text{try-ssr-rewrite-noop-real} \\ 4.03 \cdot 10^{-7} \cdot x - 7.13 \cdot 10^{-4} \end{array}$

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



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

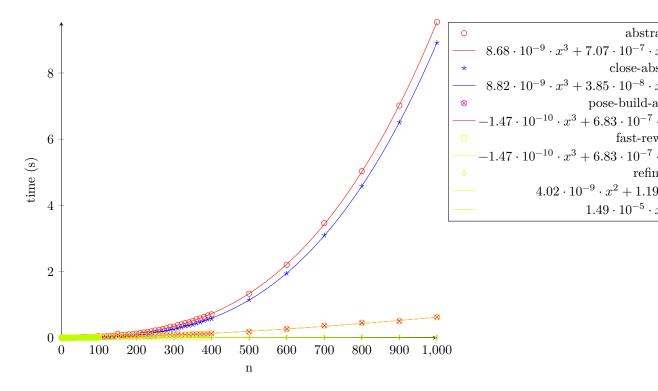
rewrite-strat-bottomup-rea abstract + rewrite - strat - topdow

rewrite-strat-topdown-rea

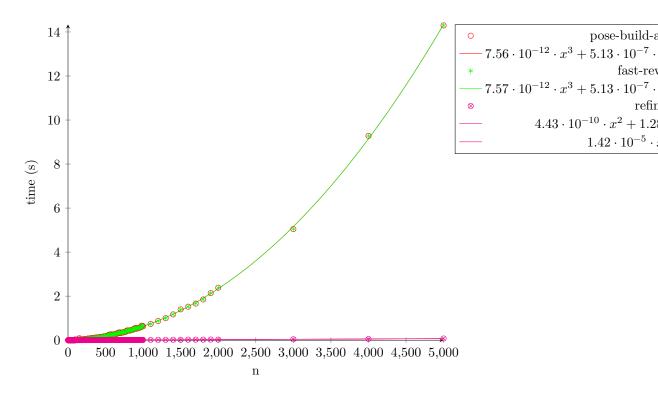
rewrite-strat-bottomup-noop-

rewrite-strat-topdown-noop-

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



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



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

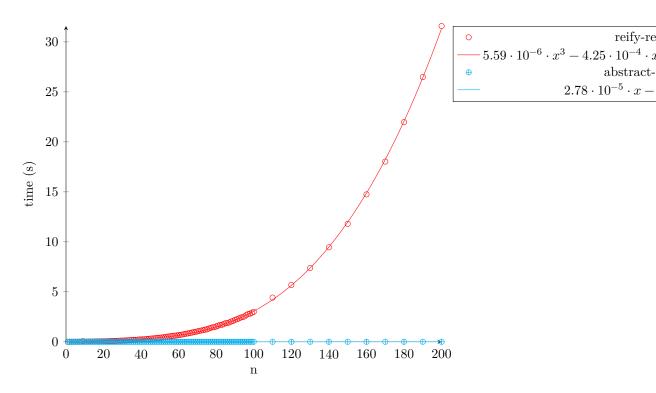


Figure 13: timing-typeclass-reification-let-in-HOAS

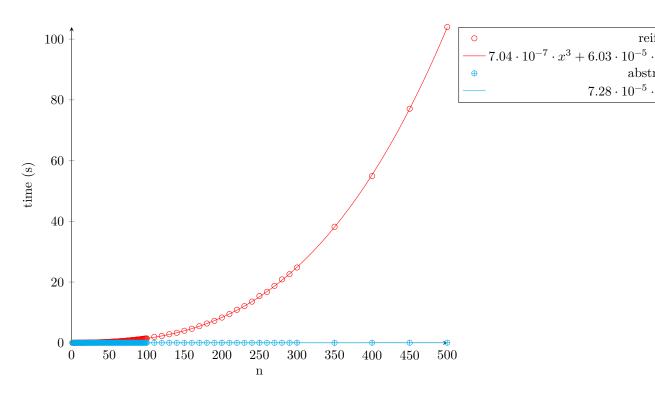


Figure 14: timing-typeclass-reification-let-in-PHOAS

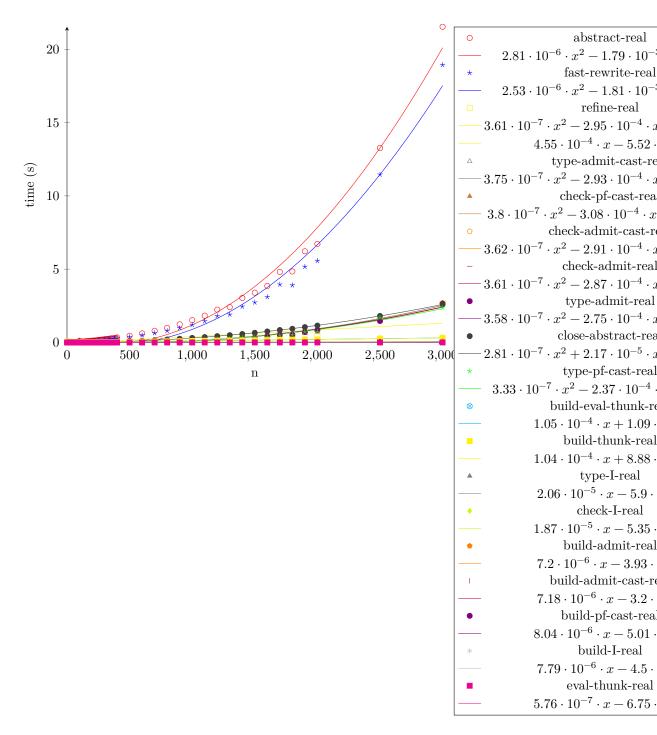


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2