

Figure 1: timing-pattern

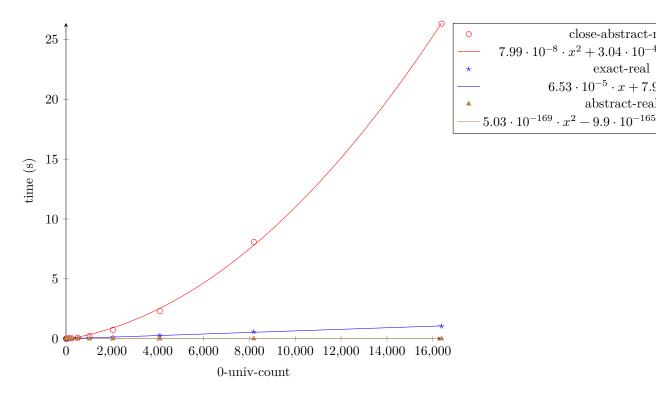


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

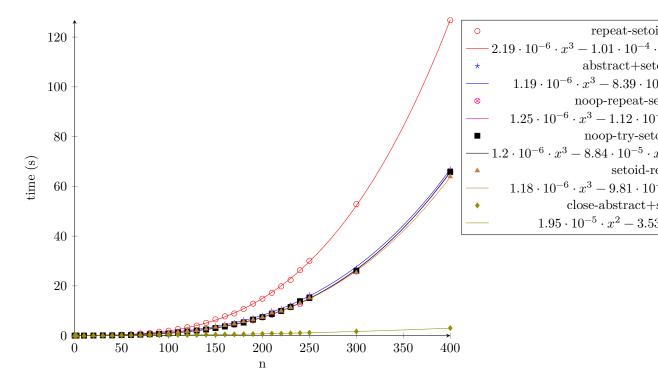
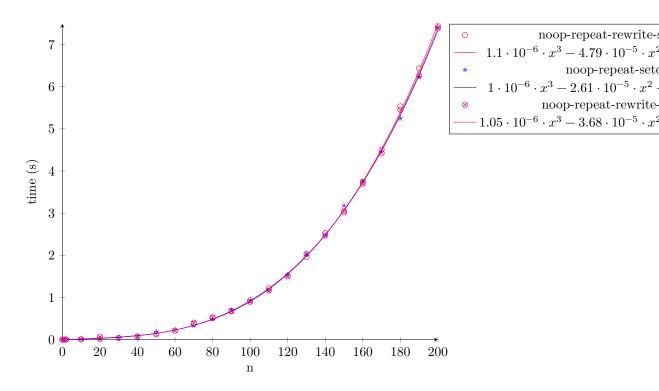
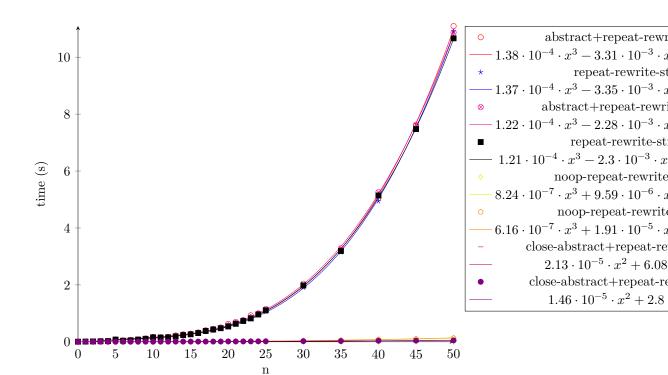


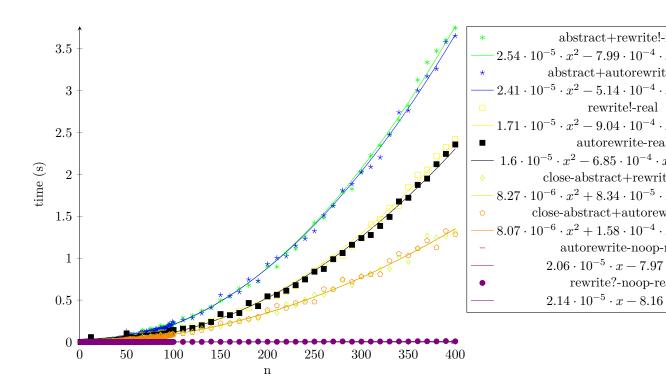
Figure 3: timing-repeat-setoid-rewrite-under-binders



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



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



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

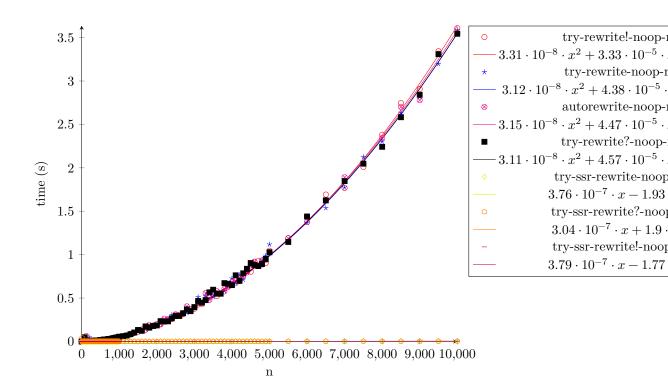
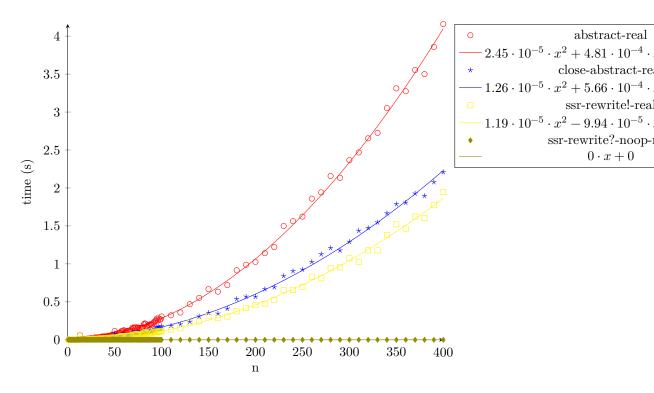
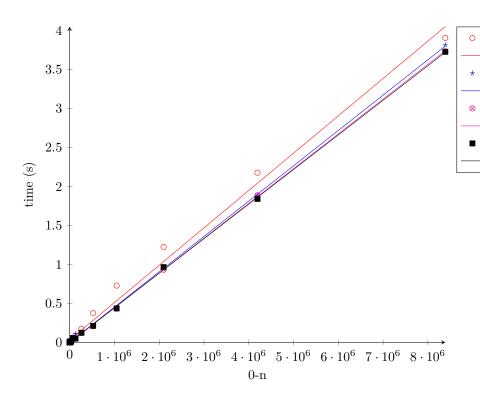


Figure 7: timing-rewrite-repeated-app-autorewrite-noop



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



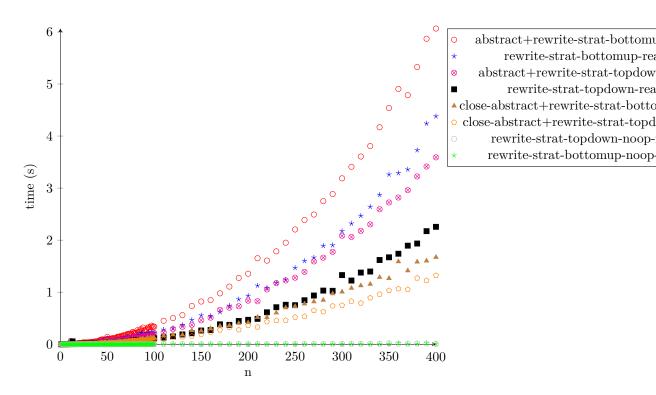
try-ssr-rewrite!-cold-noop-rea $4.79 \cdot 10^{-7} \cdot x + 3.18 \cdot 10^{-2}$

try-ssr-rewrite!-noop-real $4.53 \cdot 10^{-7} \cdot x - 3.82 \cdot 10^{-4}$ try-ssr-rewrite?-noop-real

 $\begin{array}{l} 4.46\cdot 10^{-7}\cdot x - 2.6\cdot 10^{-3} \\ \text{try-ssr-rewrite-noop-real} \end{array}$

 $4.44\cdot 10^{-7}\cdot x - 6.39\cdot 10^{-4}$

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

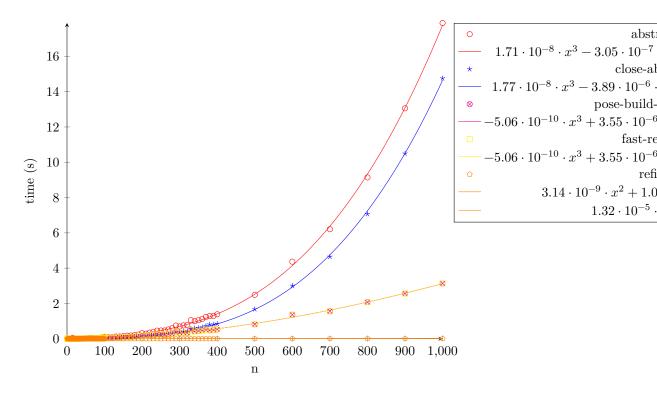


rewrite-strat-bottomup-reaction and the strategy of the strategy of

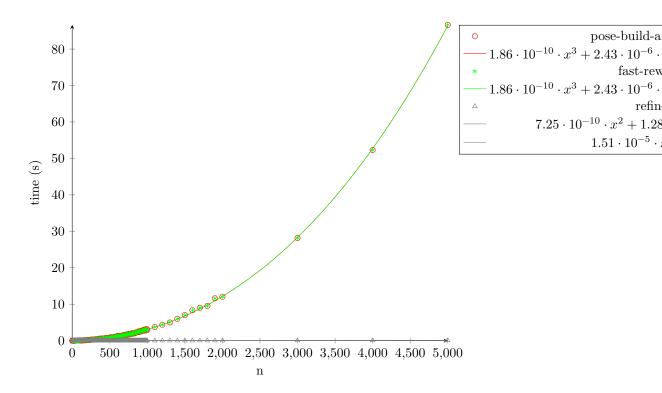
rewrite-strat-topdown-rea

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

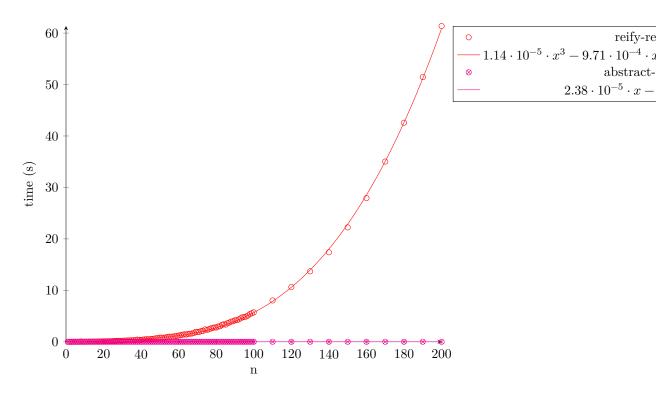


Figure 13: timing-typeclass-reification-let-in-HOAS

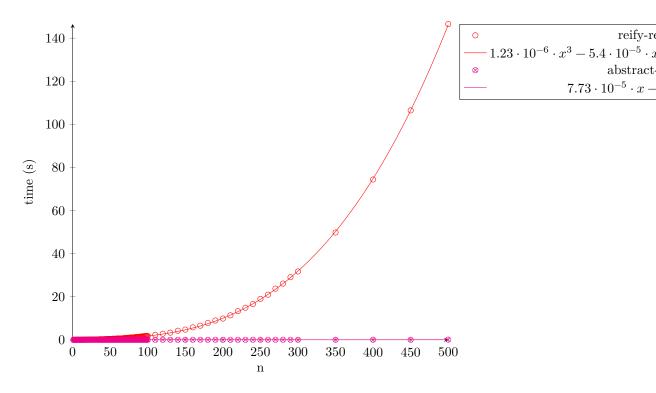


Figure 14: timing-typeclass-reification-let-in-PHOAS