

Figure 1: timing-pattern

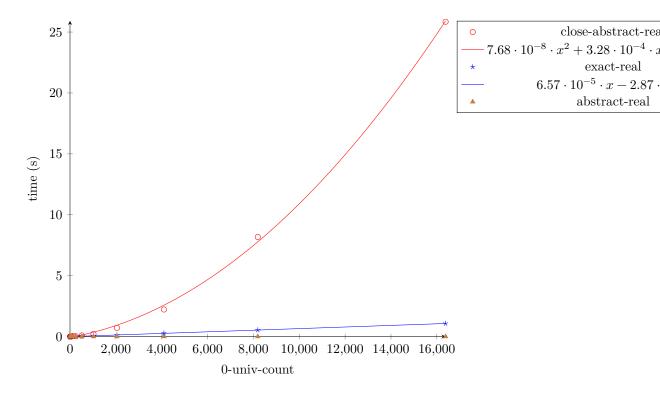


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

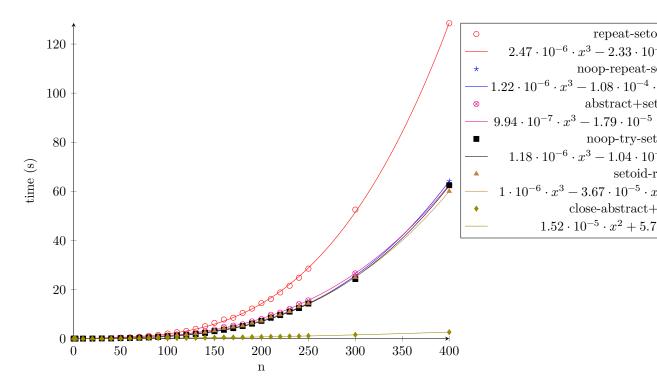
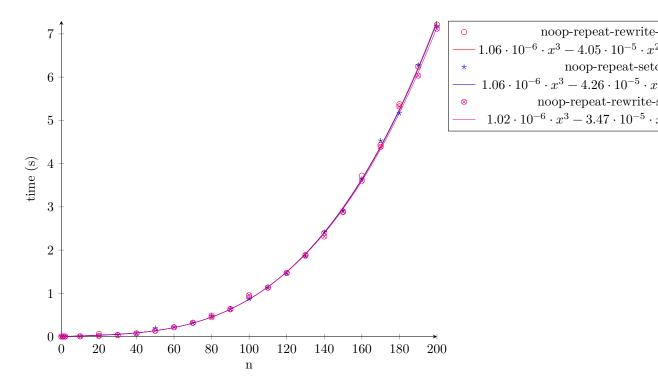
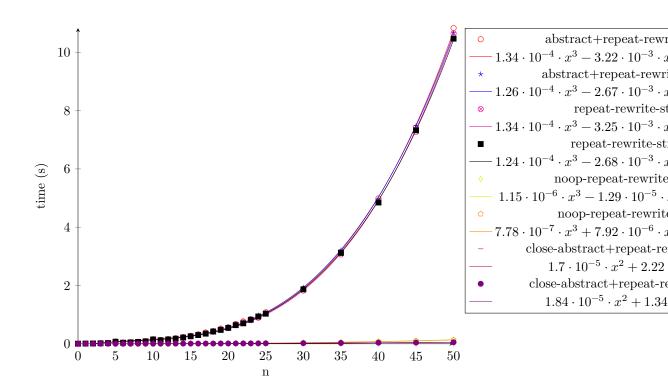


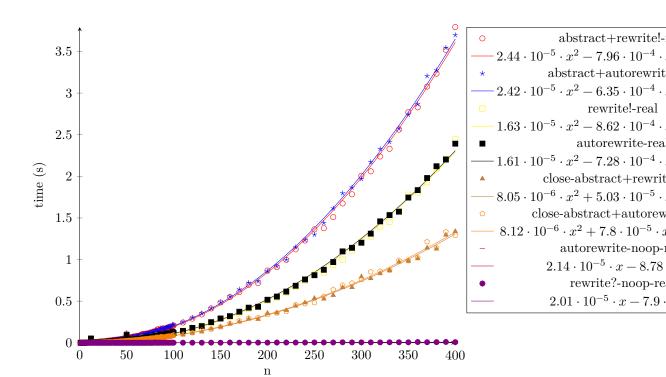
Figure 3: timing-repeat-setoid-rewrite-under-binders



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



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



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

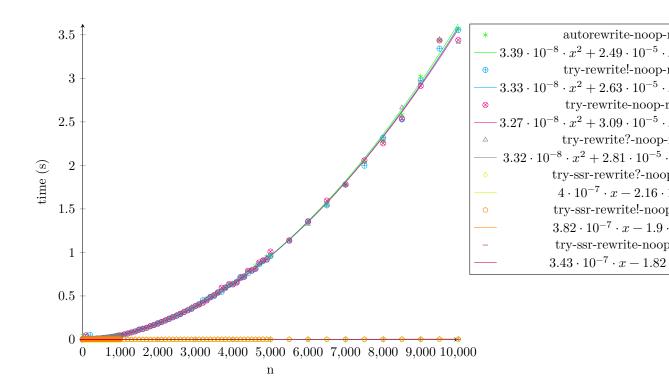
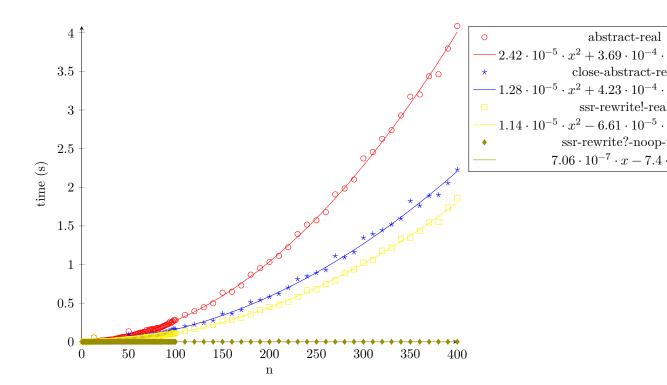
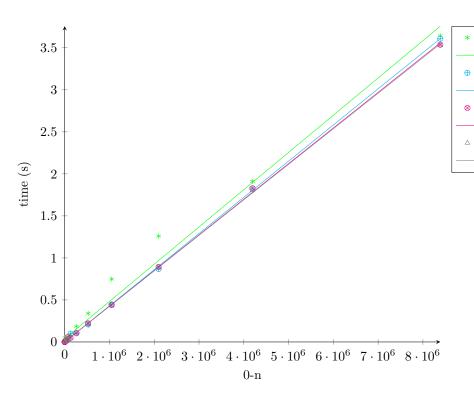


Figure 7: timing-rewrite-repeated-app-autorewrite-noop



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



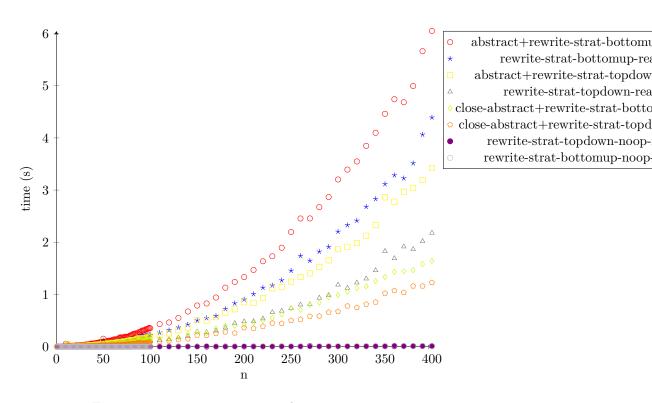
try-ssr-rewrite!-cold-noop-rea

 $4.43 \cdot 10^{-7} \cdot x + 3.89 \cdot 10^{-2}$ try-ssr-rewrite!-noop-real $4.3 \cdot 10^{-7} \cdot x - 6.86 \cdot 10^{-4}$

try-ssr-rewrite-noop-real $4.24\cdot 10^{-7}\cdot x + 1.6\cdot 10^{-3}$

try-ssr-rewrite?-noop-real $4.23\cdot 10^{-7}\cdot x + 9\cdot 10^{-4}$

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

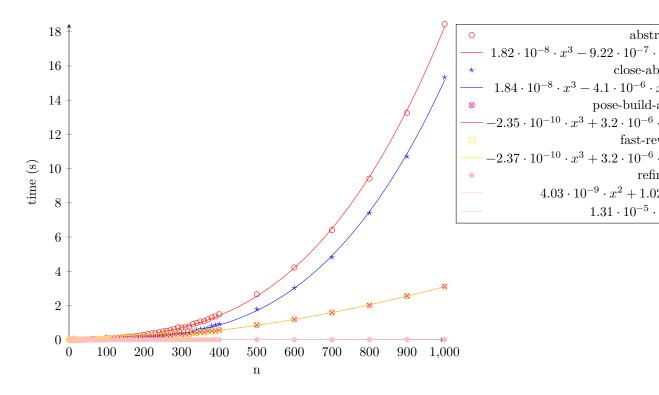


rewrite-strat-bottomup-rea abstract + rewrite - strat - topdow

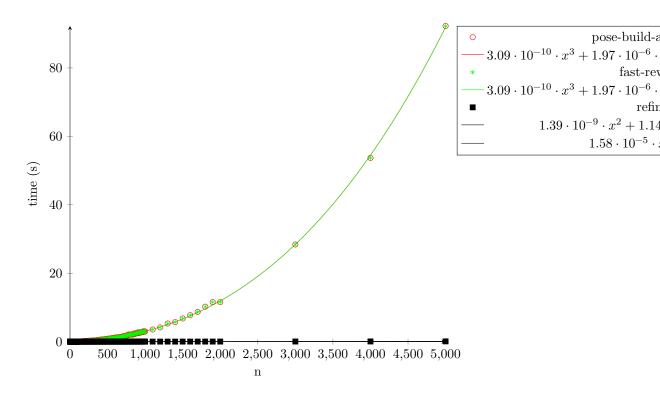
rewrite-strat-topdown-rea

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

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



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



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

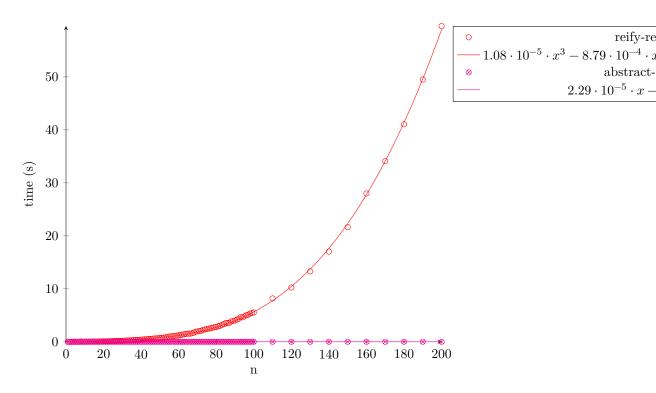
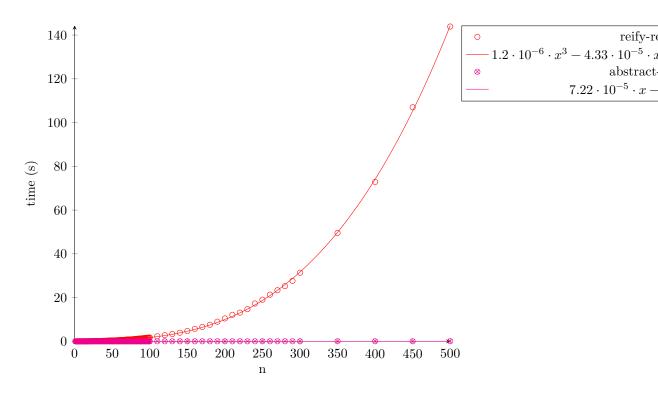


Figure 13: timing-typeclass-reification-let-in-HOAS



 ${\bf Figure~14:~timing-type class-reification-let-in-PHOAS}$