

Figure 1: timing-pattern

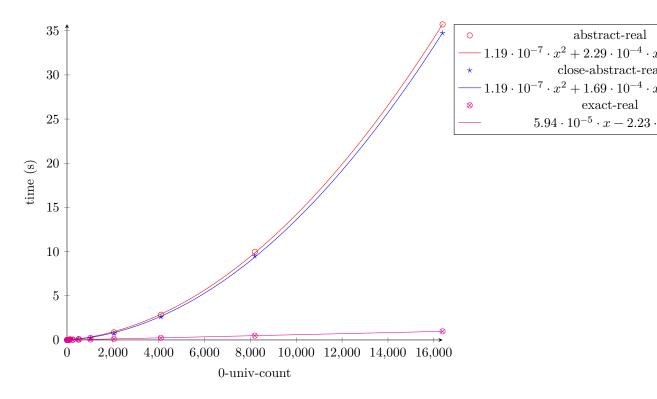
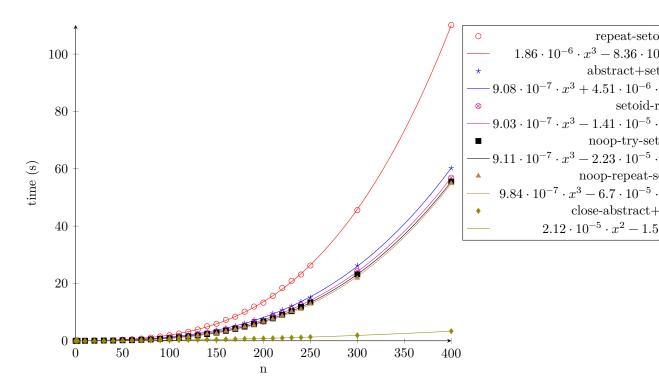


Figure 2: timing-n-polymorphic-universes param-1-n  $\,0\,$ 



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

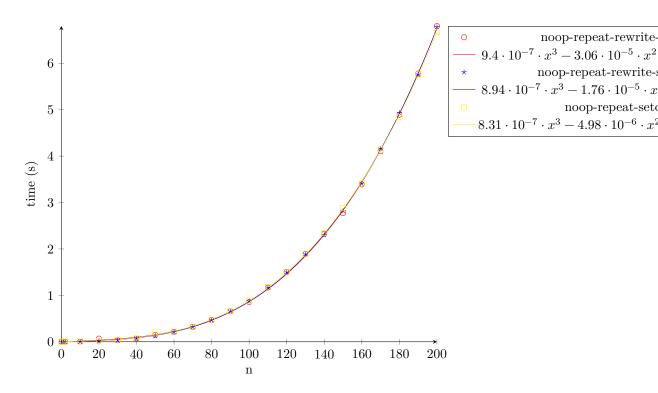


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

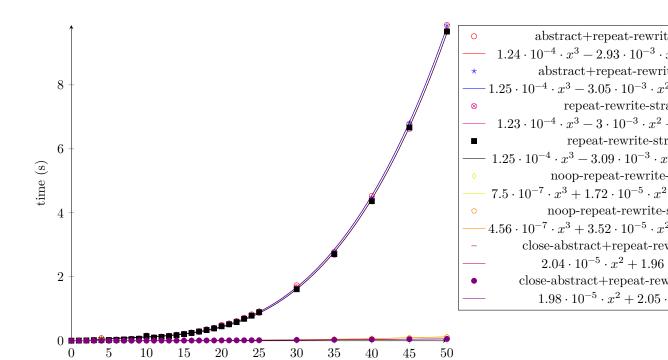
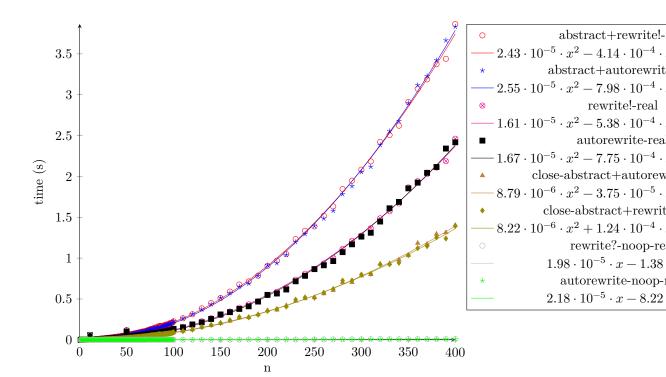
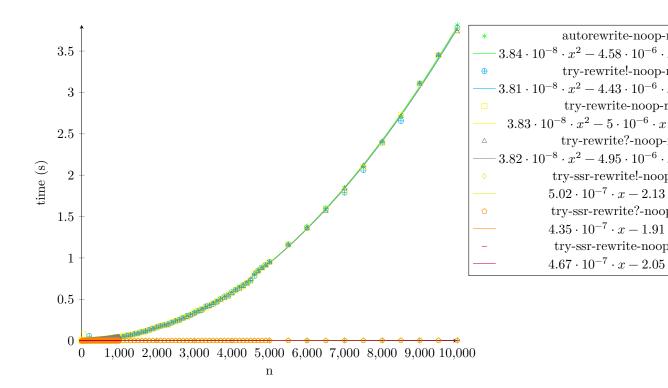


Figure 5: timing-rewrite-strat-under-binders

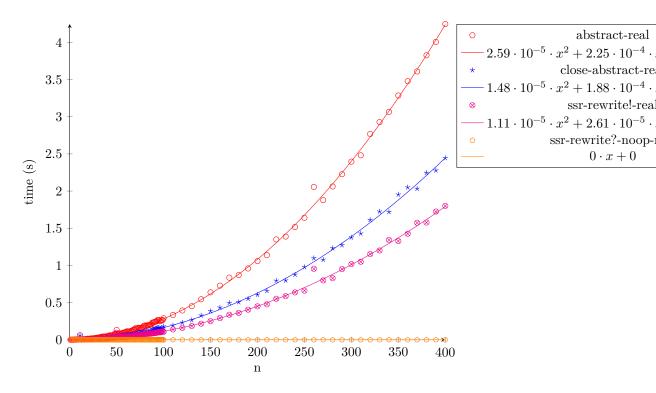
n



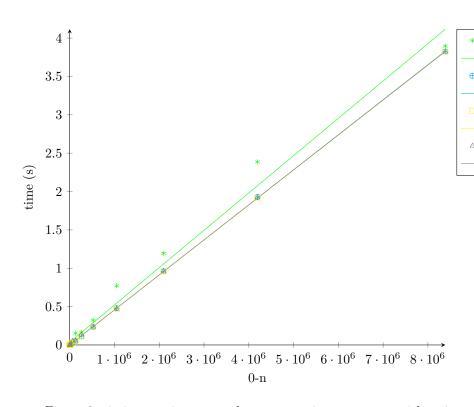
 $Figure \ 6: \ timing-rewrite-repeated-app-autorewrite \\$ 



 $Figure~7:~timing\mbox{-rewrite-repeated-app-autorewrite-noop}$ 



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



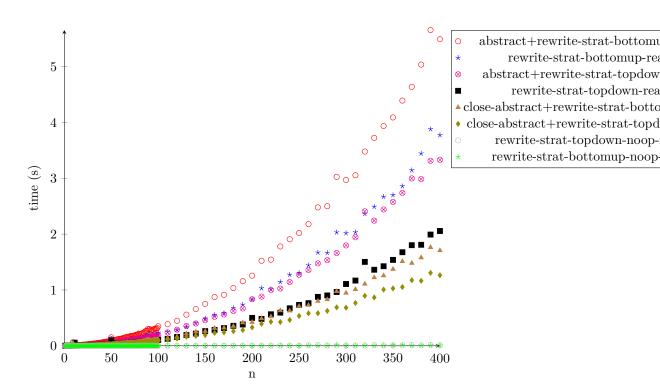
try-ssr-rewrite!-cold-noop-rea  $4.86 \cdot 10^{-7} \cdot x + 3.55 \cdot 10^{-2}$ try-ssr-rewrite?-noop-real

 $\begin{array}{l} 4.57 \cdot 10^{-7} \cdot x - 4.81 \cdot 10^{-4} \\ \text{try-ssr-rewrite-noop-real} \end{array}$ 

 $\begin{array}{l} 4.56\cdot 10^{-7}\cdot x - 1.2\cdot 10^{-3}\\ \text{try-ssr-rewrite!-noop-real} \end{array}$ 

 $4.56\cdot 10^{-7}\cdot x + 1.74\cdot 10^{-3}$ 

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



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

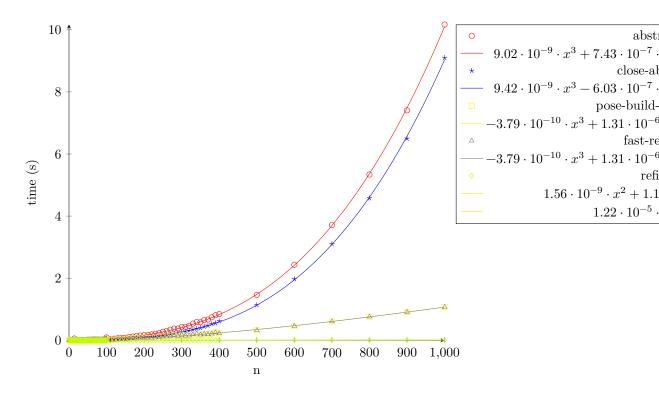
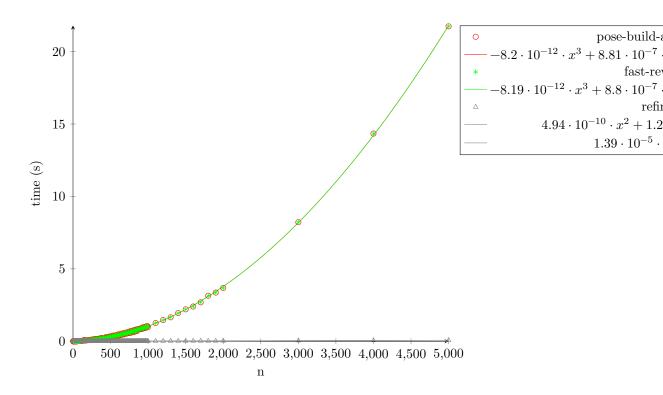


Figure 11: timing-rewrite-repeated-app-fast-rewrite



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

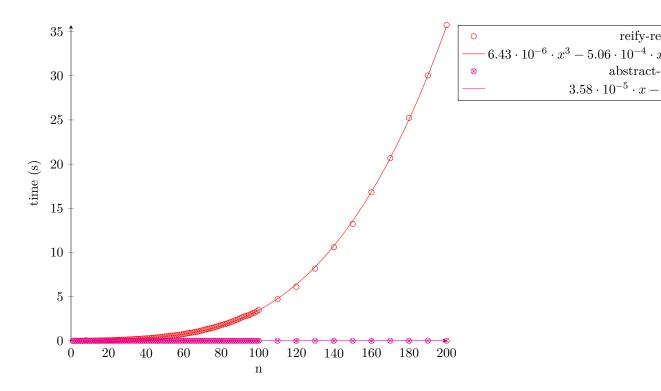
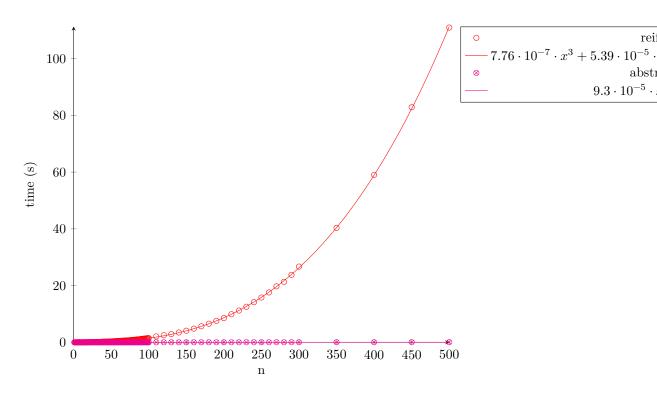


Figure 13: timing-typeclass-reification-let-in-HOAS



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

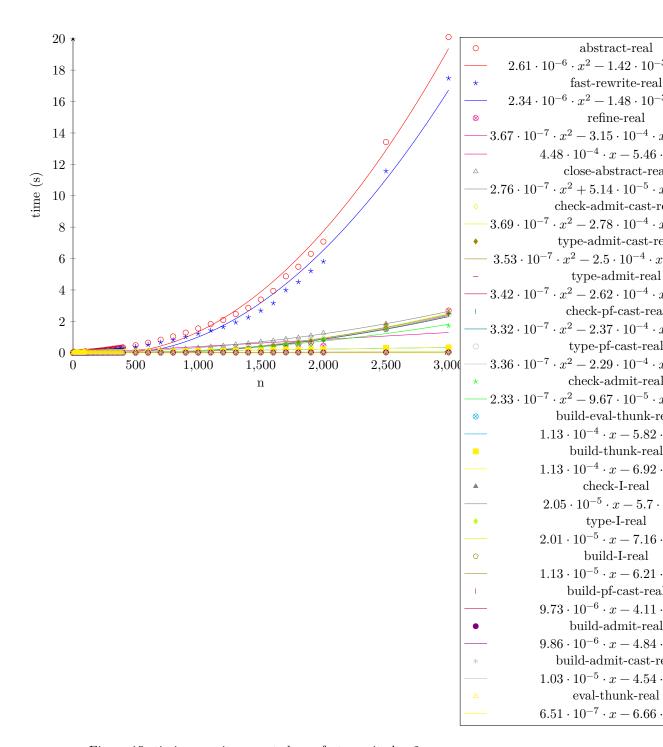


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2