

Figure 1: timing-pattern

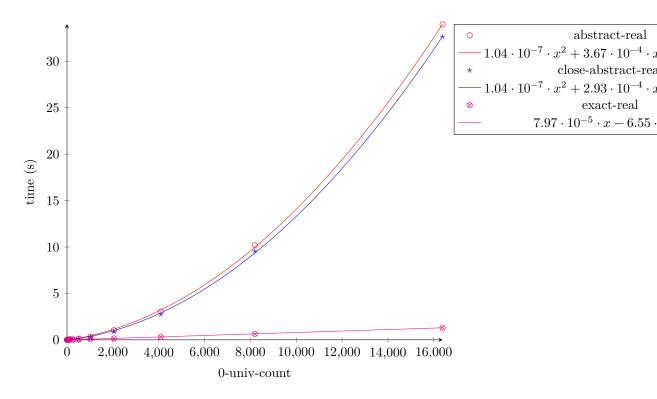
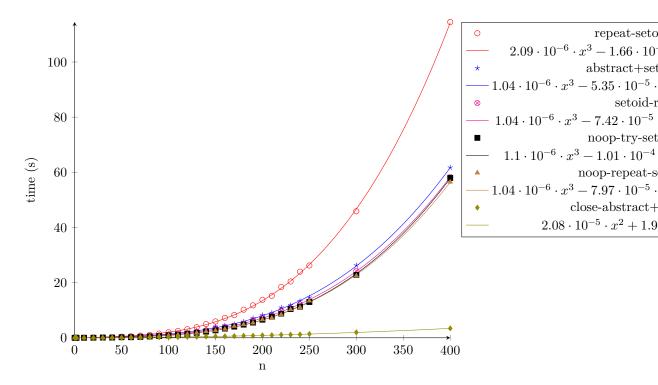
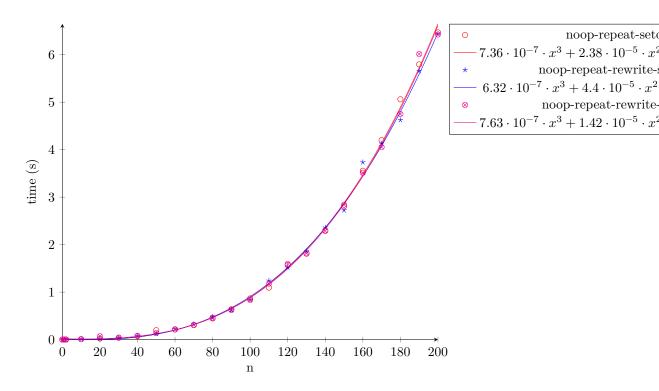


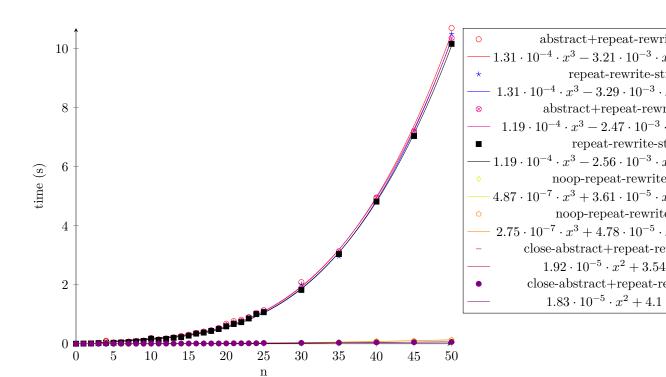
Figure 2: timing-n-polymorphic-universes param-1-n  $\,0\,$ 



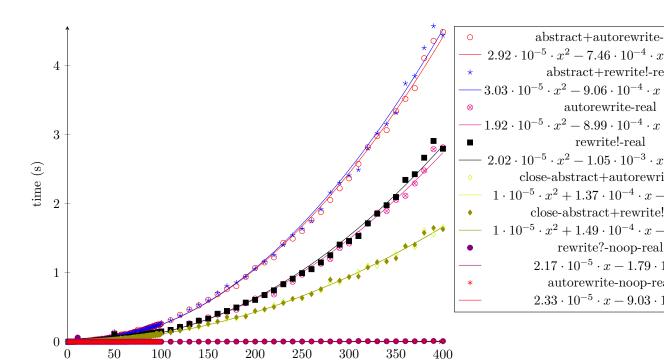
 $Figure \ 3: \ timing-repeat-setoid-rewrite-under-binders$ 



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

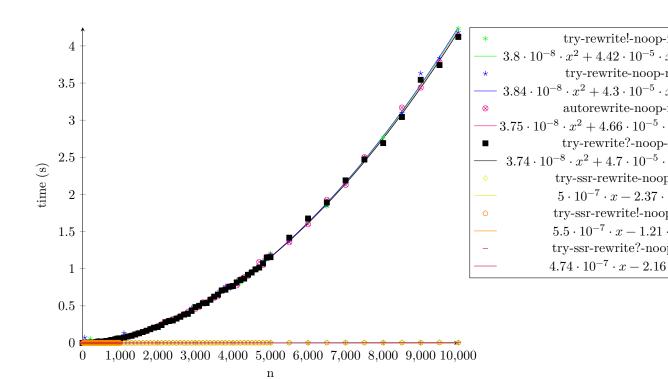


 $Figure\ 5:\ timing-rewrite-strat-under-binders$ 



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

n



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

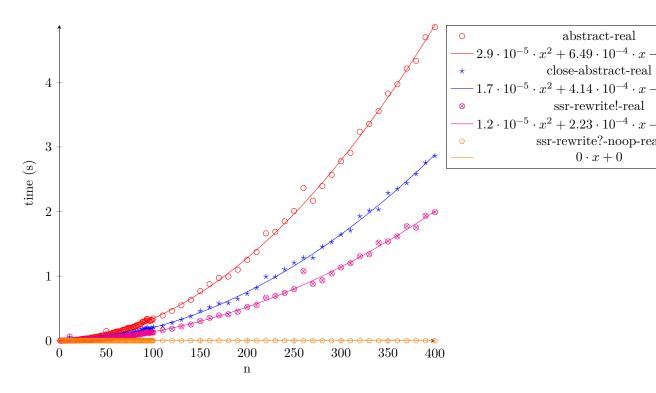
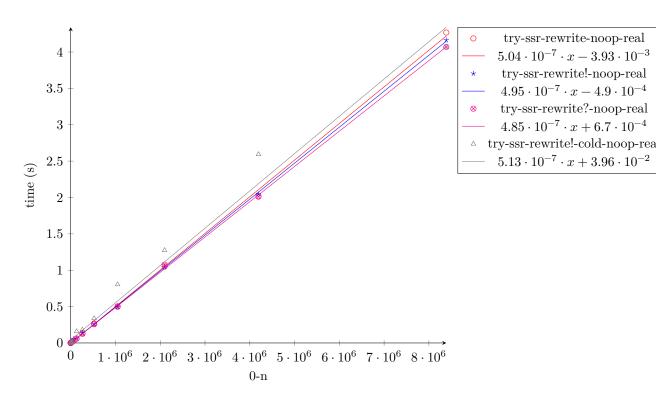


Figure 8: timing-rewrite-repeated-app-ssrrewrite



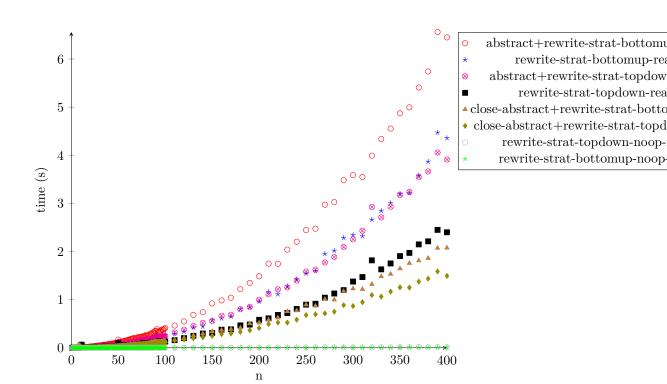
try-ssr-rewrite-noop-real

 $5.04\cdot 10^{-7}\cdot x - 3.93\cdot 10^{-3}$ try-ssr-rewrite!-noop-real

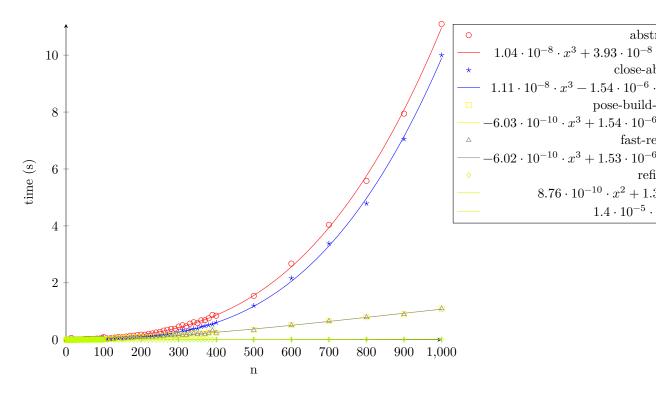
 $4.95 \cdot 10^{-7} \cdot x - 4.9 \cdot 10^{-4}$ try-ssr-rewrite?-noop-real $4.85\cdot 10^{-7}\cdot x + 6.7\cdot 10^{-4}$ 

 $5.13\cdot 10^{-7}\cdot x + 3.96\cdot 10^{-2}$ 

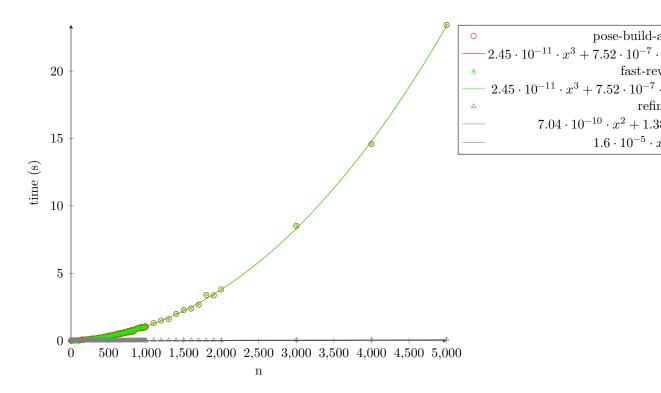
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn  $\,1\,$ 



 $Figure~10:~timing\mbox{-rewrite-repeated-app-rewrite-strat}$ 



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



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

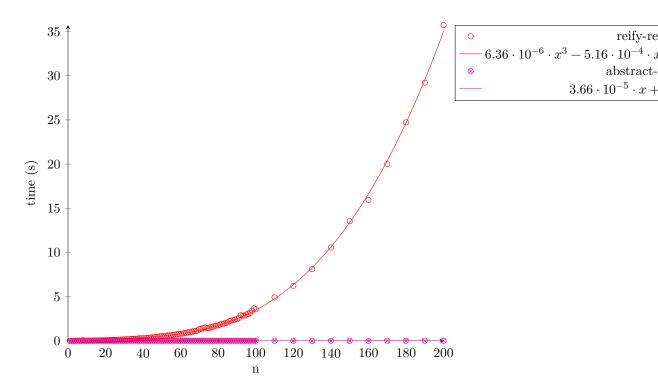


Figure 13: timing-typeclass-reification-let-in-HOAS

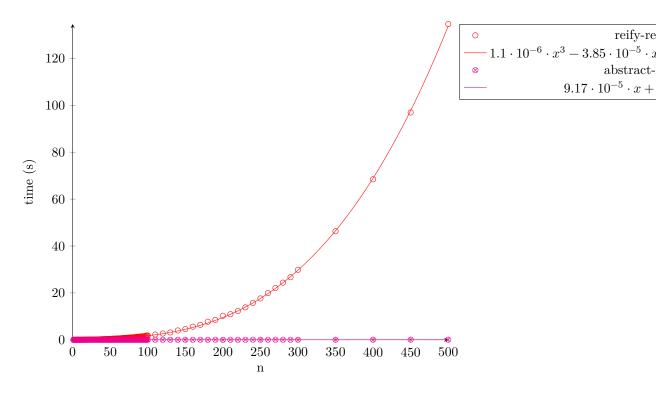


Figure 14: timing-typeclass-reification-let-in-PHOAS

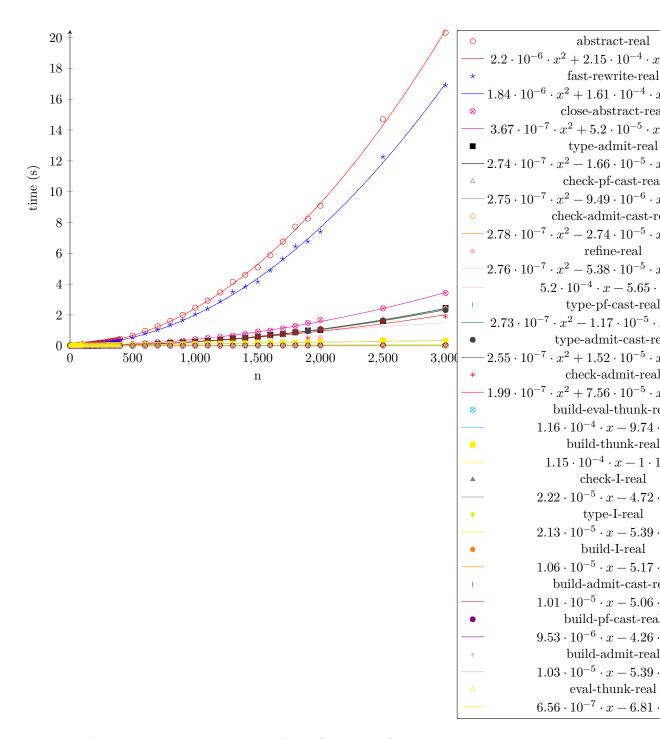


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2