

Figure 1: timing-pattern

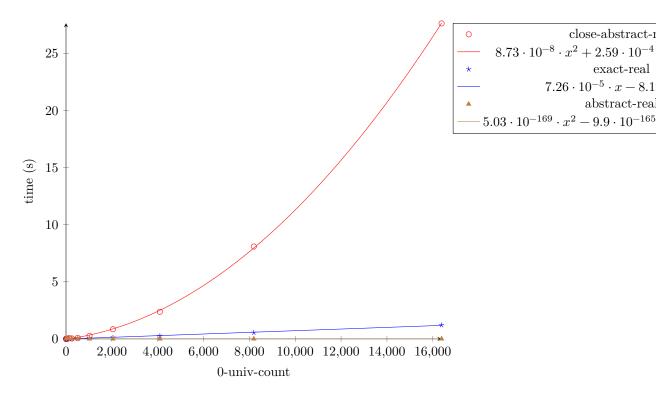
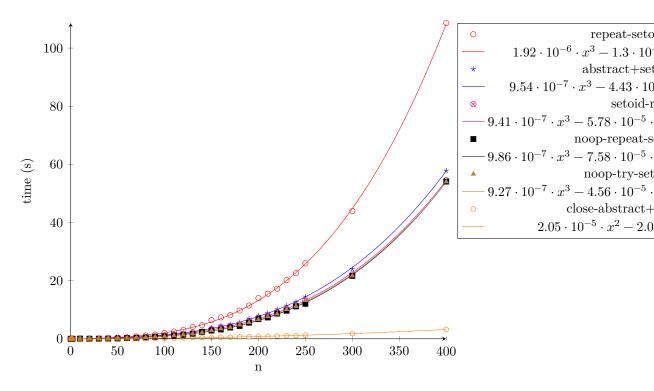


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



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

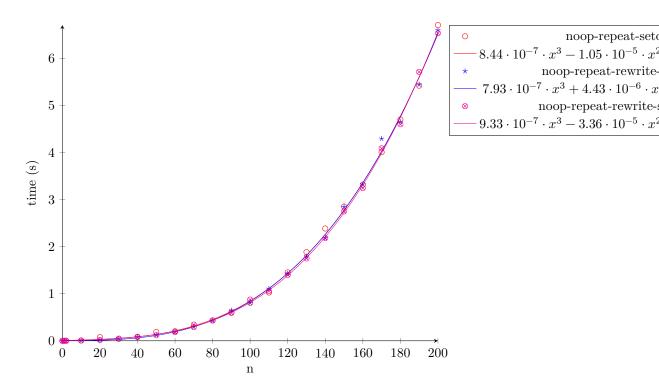
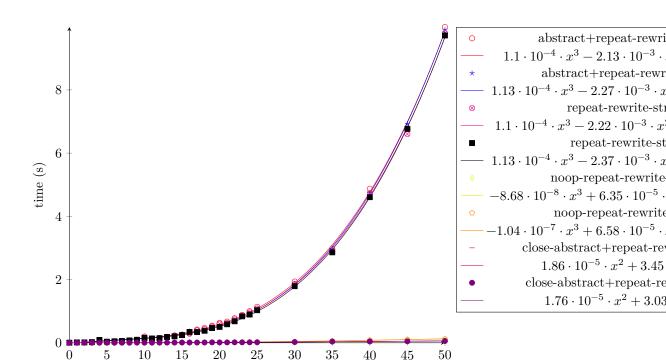
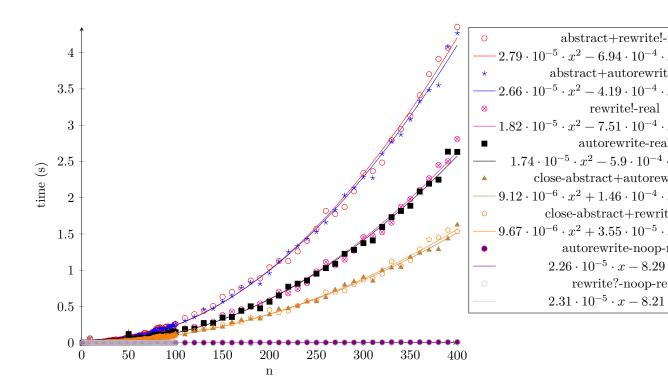


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

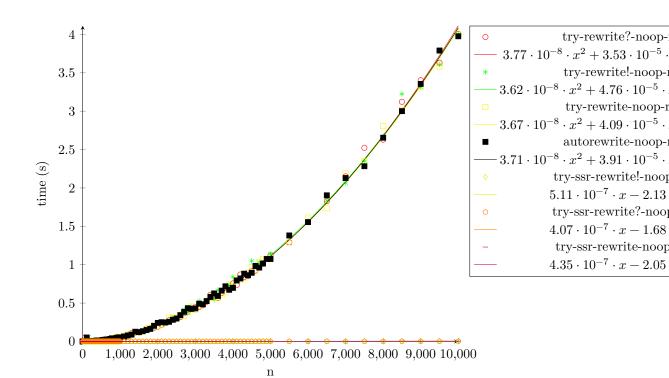


 $Figure\ 5:\ timing-rewrite-strat-under-binders$

n



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



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

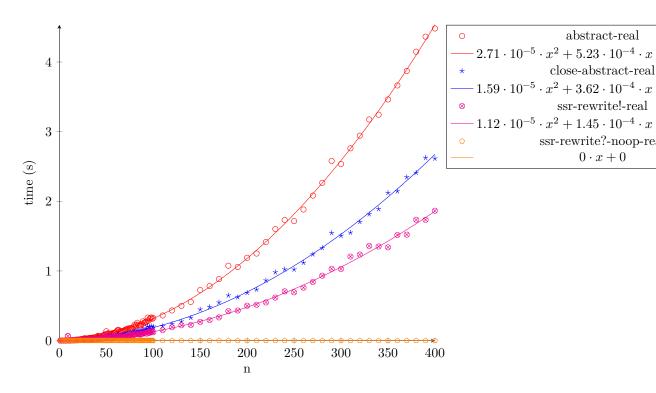
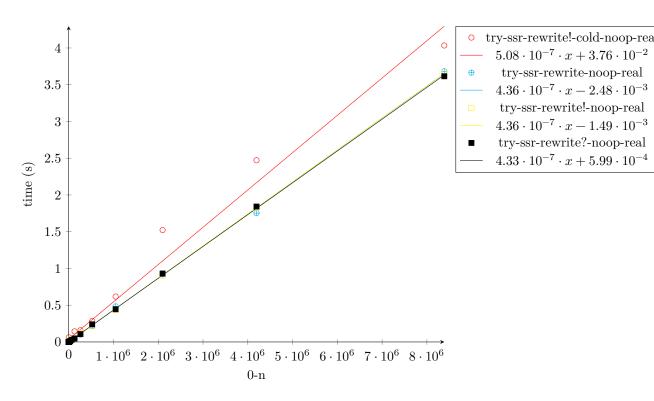


Figure 8: timing-rewrite-repeated-app-ssrrewrite



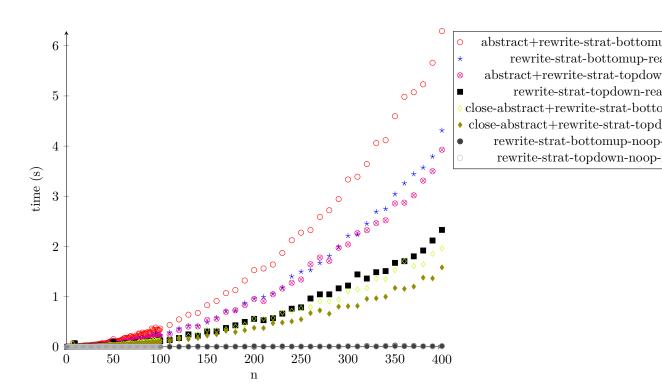
 $5.08\cdot 10^{-7}\cdot x + 3.76\cdot 10^{-2}$ try-ssr-rewrite-noop-real

 $4.36\cdot 10^{-7}\cdot x - 2.48\cdot 10^{-3}$ try-ssr-rewrite!-noop-real $4.36 \cdot 10^{-7} \cdot x - 1.49 \cdot 10^{-3}$

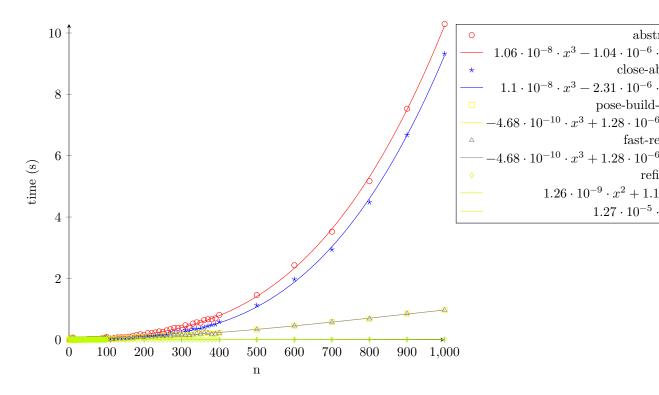
try-ssr-rewrite?-noop-real

 $4.33\cdot 10^{-7}\cdot x + 5.99\cdot 10^{-4}$

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



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



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

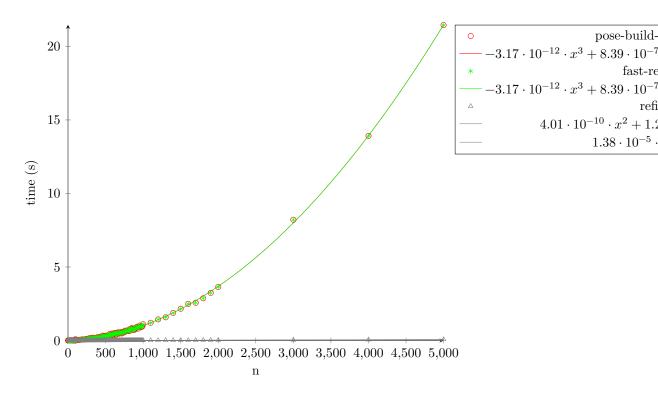


Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

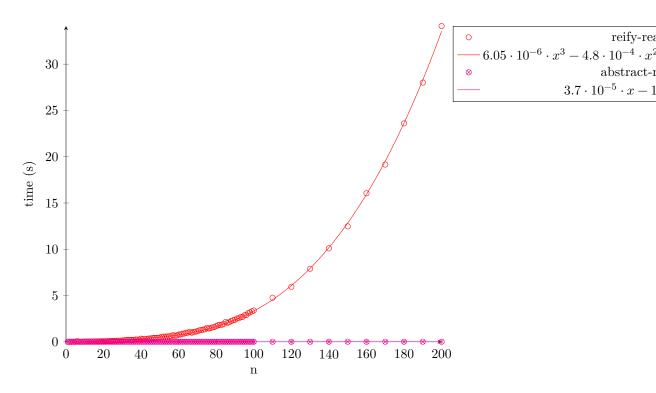


Figure 13: timing-typeclass-reification-let-in-HOAS

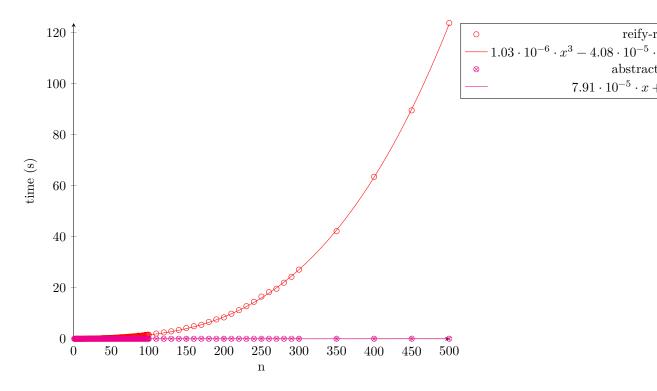


Figure 14: timing-typeclass-reification-let-in-PHOAS