

Figure 1: timing-pattern

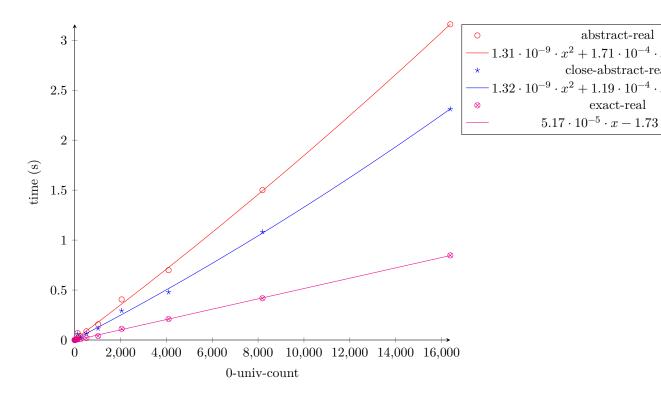


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

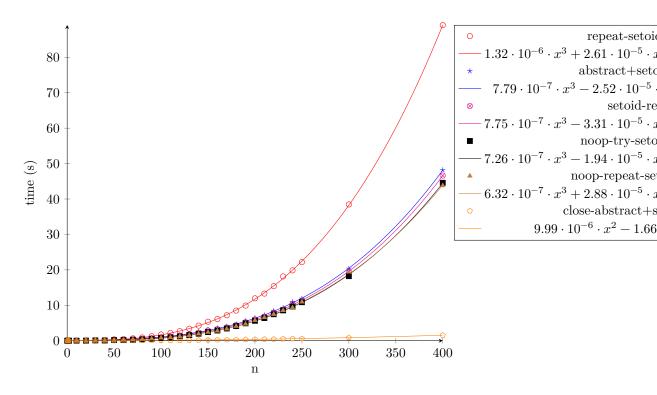


Figure 3: timing-repeat-setoid-rewrite-under-binders

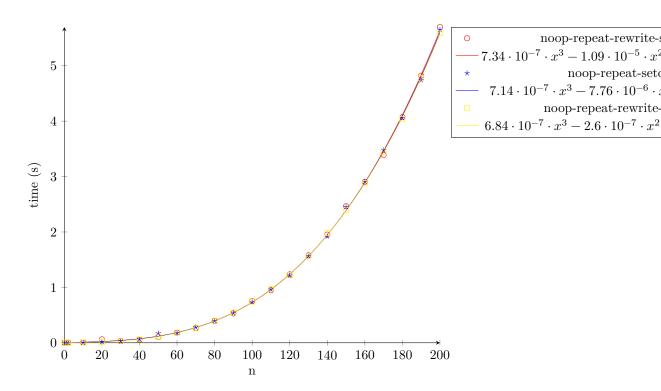
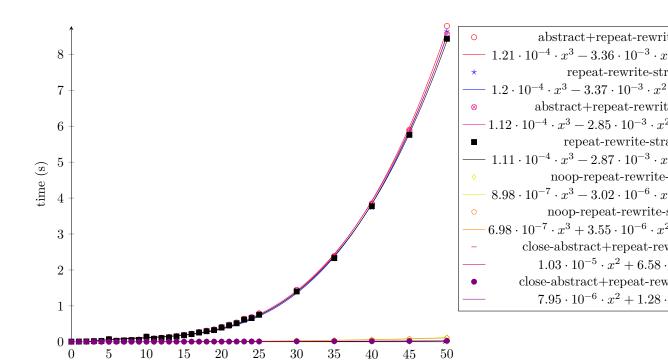
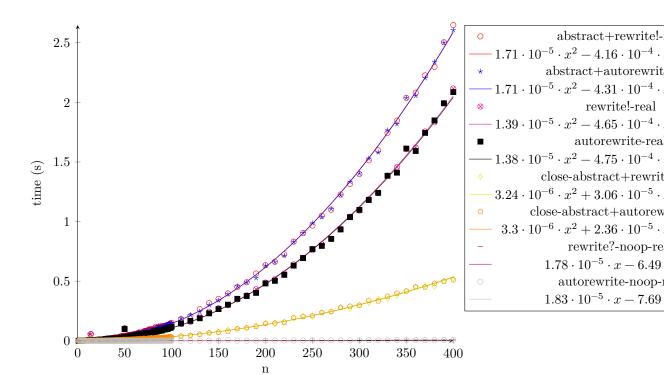


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop

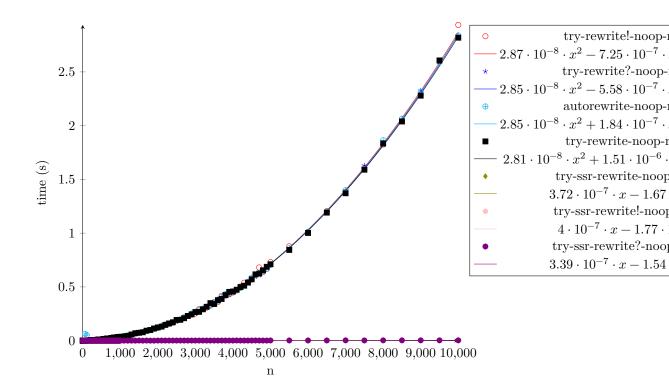


 $Figure\ 5:\ timing-rewrite-strat-under-binders$

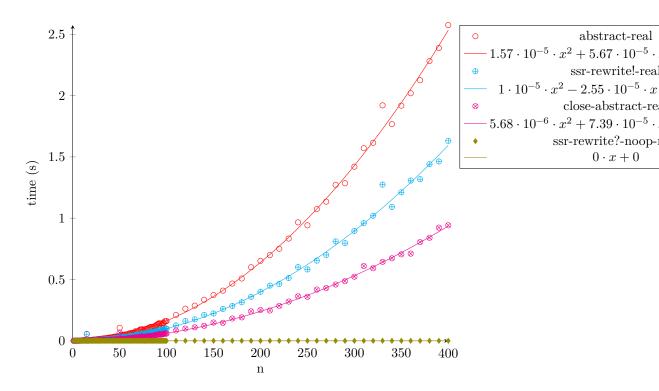
n



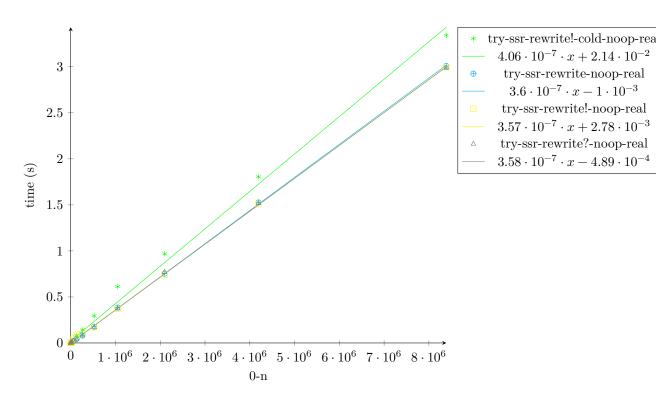
 $Figure \ 6: \ timing-rewrite-repeated-app-autorewrite \\$



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



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



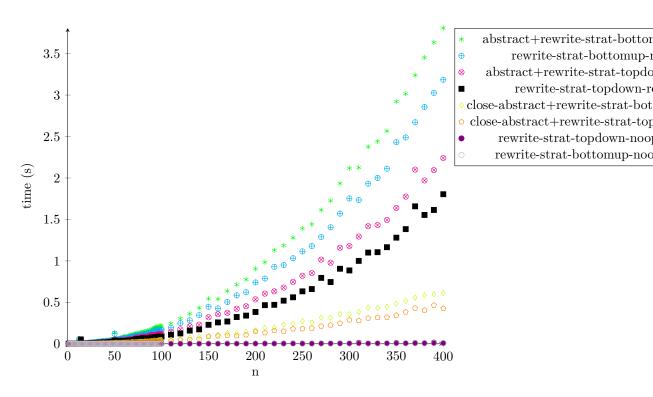
 $4.06 \cdot 10^{-7} \cdot x + 2.14 \cdot 10^{-2}$

try-ssr-rewrite-noop-real $3.6 \cdot 10^{-7} \cdot x - 1 \cdot 10^{-3}$ try-ssr-rewrite!-noop-real

 $3.57 \cdot 10^{-7} \cdot x + 2.78 \cdot 10^{-3}$ try-ssr-rewrite?-noop-real

 $3.58 \cdot 10^{-7} \cdot x - 4.89 \cdot 10^{-4}$

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



rewrite-strat-bottomup-r

rewrite-strat-topdown-re

rewrite-strat-topdown-noop rewrite-strat-bottomup-noo

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

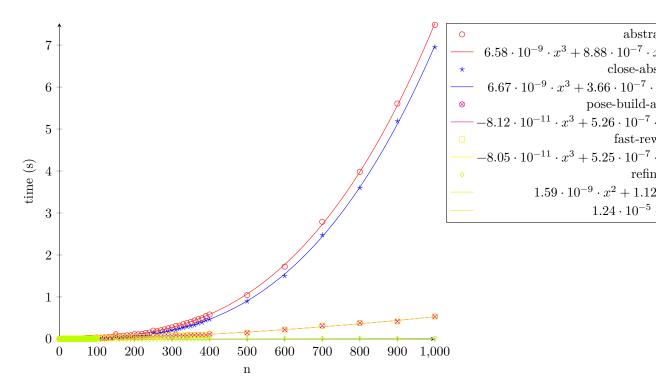
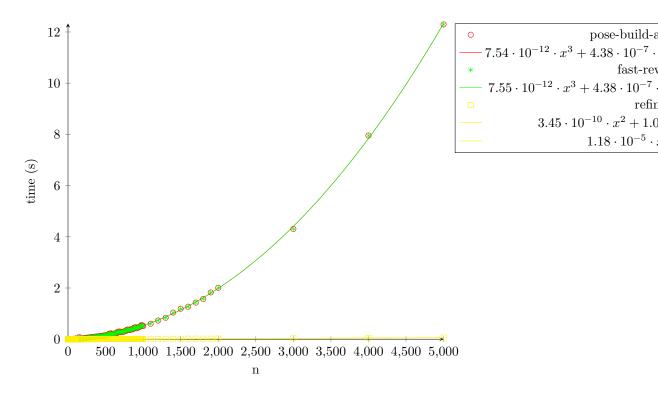


Figure 11: timing-rewrite-repeated-app-fast-rewrite



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

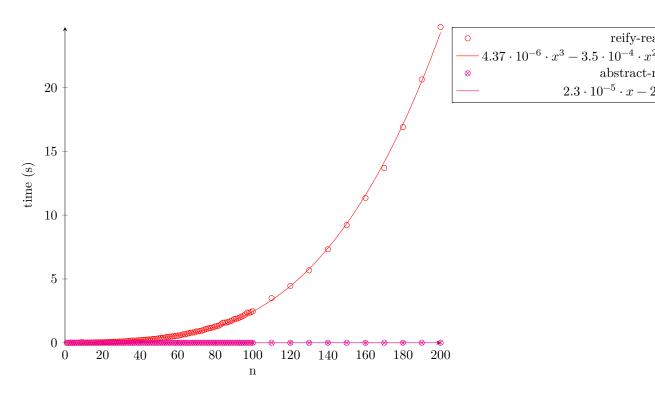
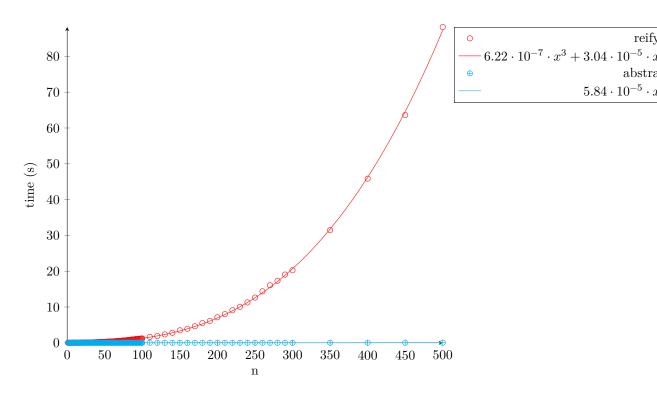


Figure 13: timing-typeclass-reification-let-in-HOAS



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

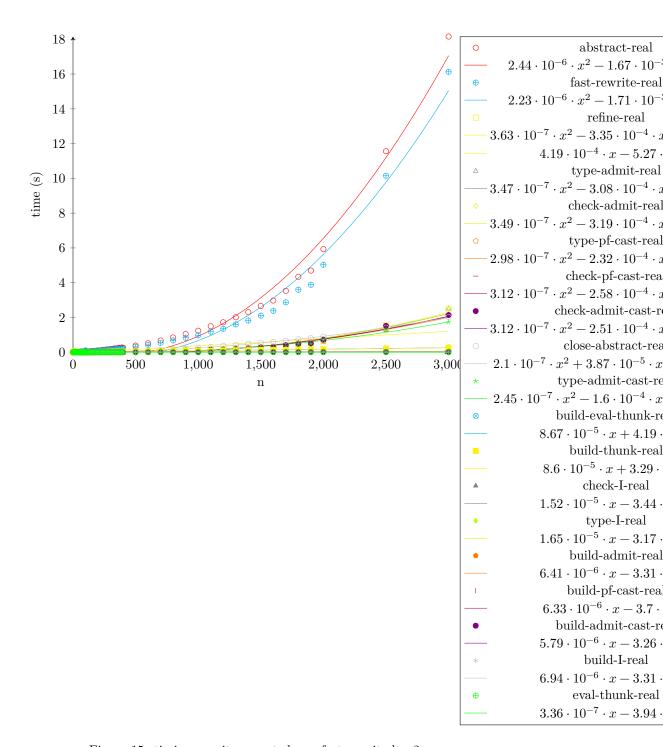


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2