

Figure 1: timing-pattern

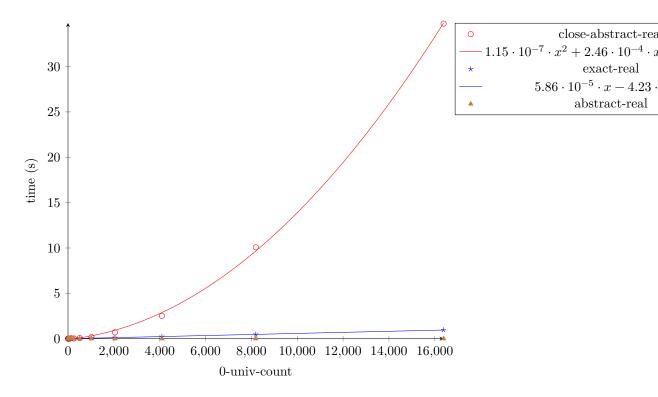


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

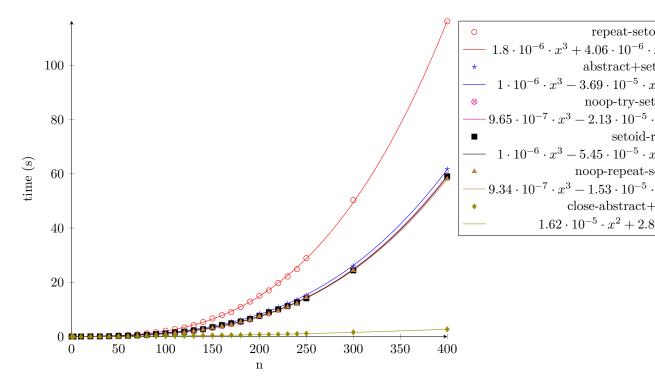


Figure 3: timing-repeat-setoid-rewrite-under-binders

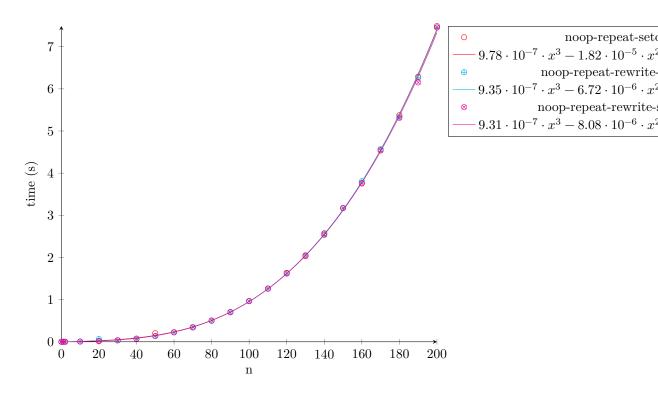
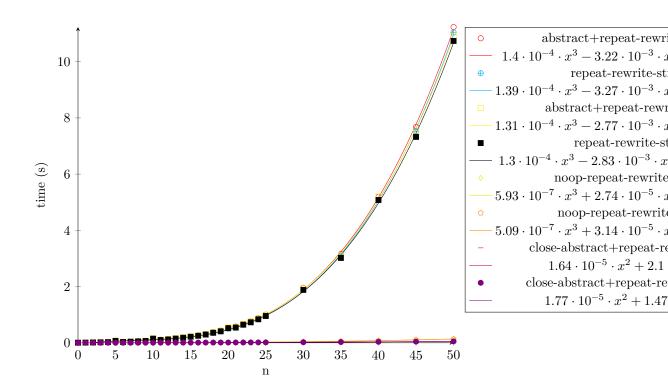
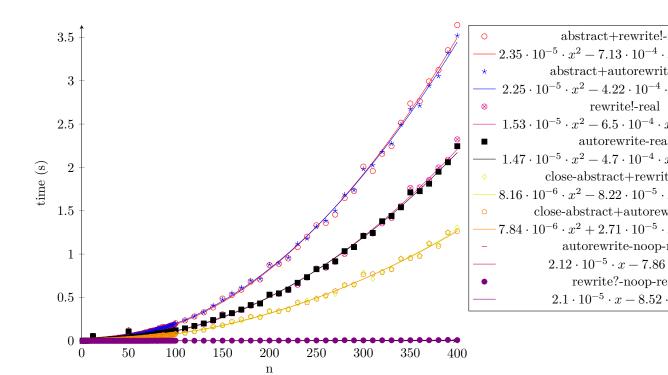


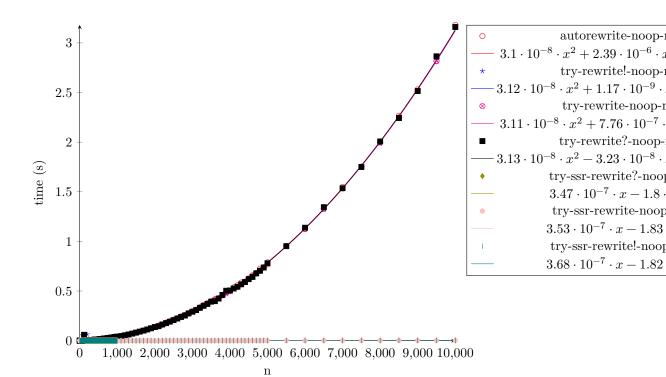
Figure 4: timing-repeat-setoid-rewrite-under-binders-noop



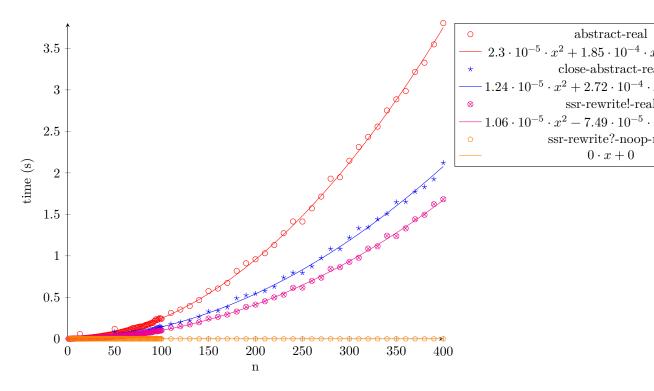
 $Figure\ 5:\ timing-rewrite-strat-under-binders$



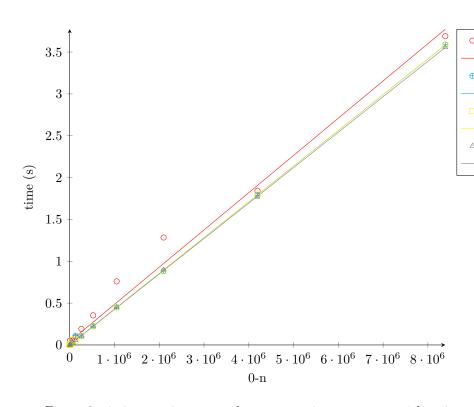
 $Figure \ 6: \ timing-rewrite-repeated-app-autorewrite \\$



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



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



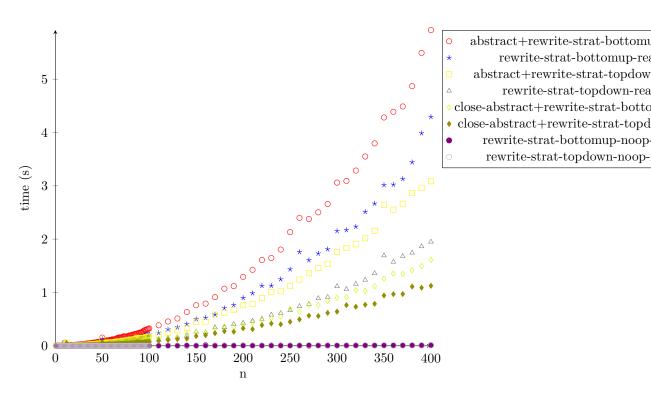
try-ssr-rewrite!-cold-noop-rea

 $4.45 \cdot 10^{-7} \cdot x + 3.99 \cdot 10^{-2}$ try-ssr-rewrite!-noop-real $4.27 \cdot 10^{-7} \cdot x + 1.68 \cdot 10^{-3}$

try-ssr-rewrite-noop-real $4.27\cdot 10^{-7}\cdot x + 7.74\cdot 10^{-4}$

try-ssr-rewrite?-noop-real $4.24\cdot 10^{-7}\cdot x + 5.98\cdot 10^{-4}$

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



 $abstract + rewrite - strat - bottom \\ u$ rewrite-strat-bottomup-realabstract + rewrite - strat - topdow

rewrite-strat-topdown-rea

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

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

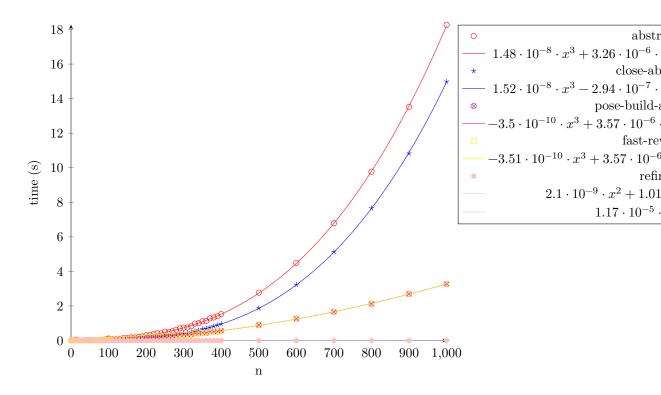


Figure 11: timing-rewrite-repeated-app-fast-rewrite

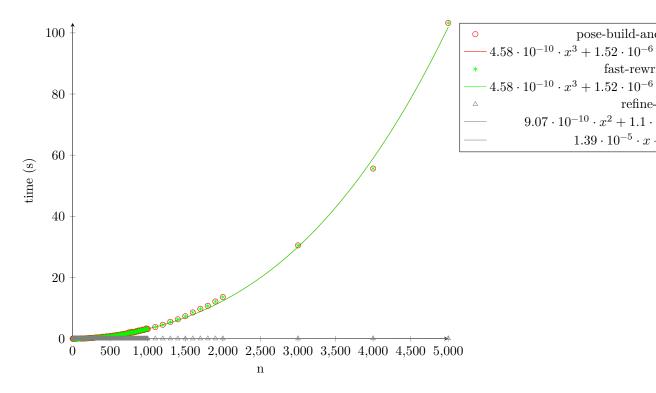


Figure 12: timing-rewrite-repeated-app-fast-rewrite-no-abstract

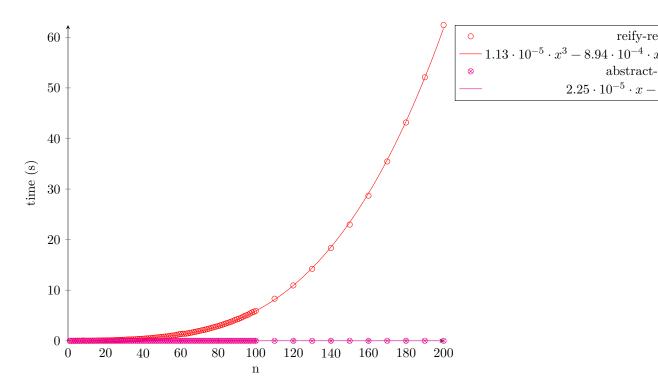


Figure 13: timing-typeclass-reification-let-in-HOAS

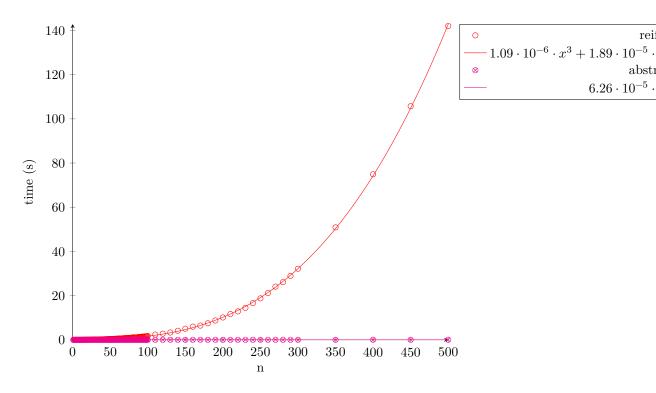


Figure 14: timing-typeclass-reification-let-in-PHOAS