

Figure 1: timing-pattern

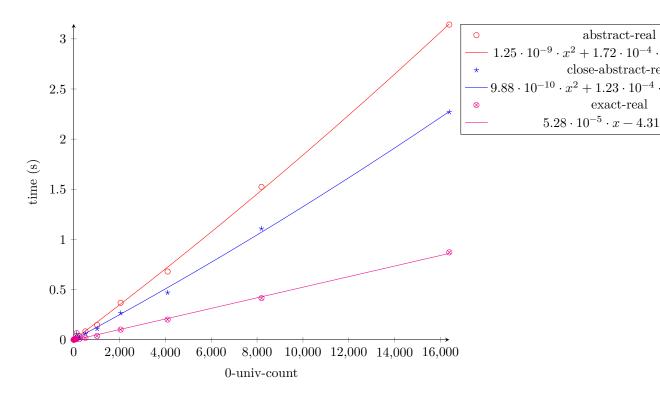
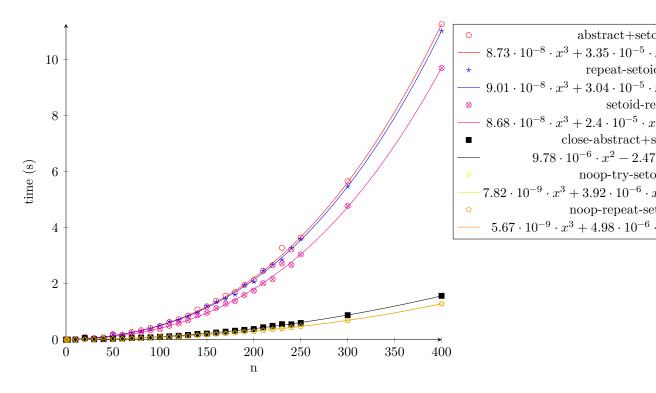
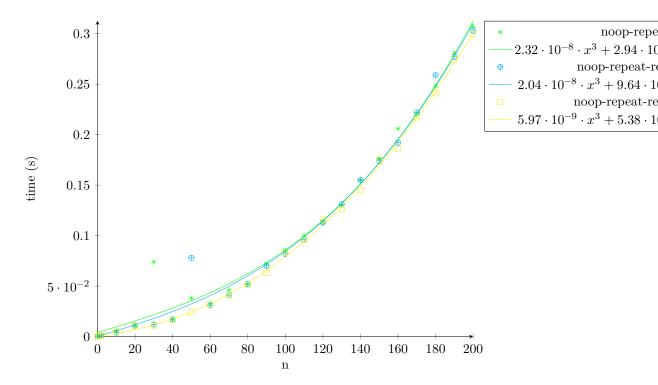


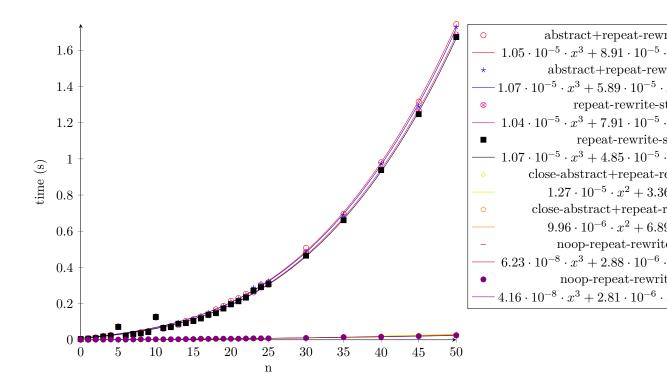
Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



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



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



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

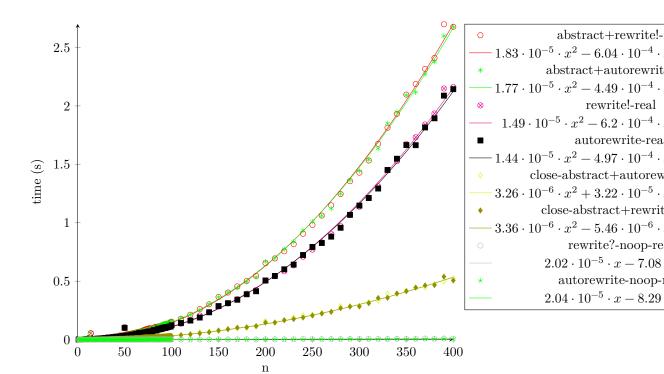
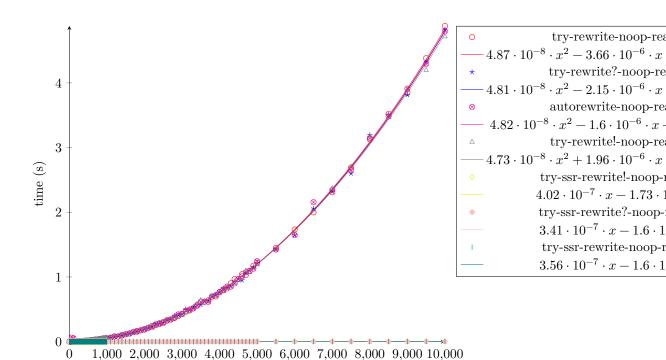
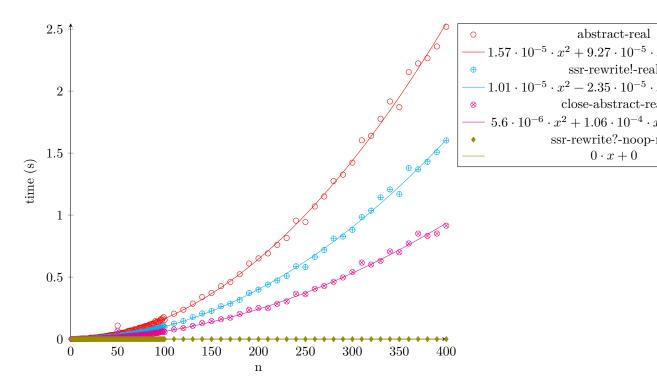


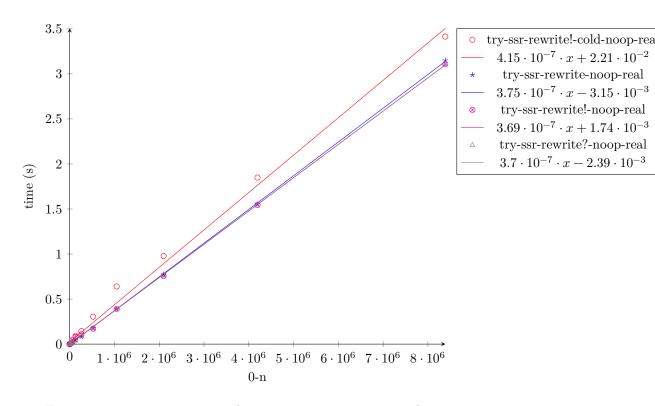
Figure 6: timing-rewrite-repeated-app-autorewrite



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



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

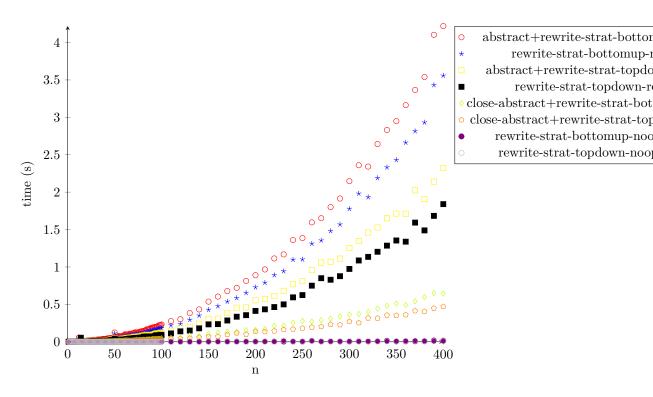


 $4.15\cdot 10^{-7}\cdot x + 2.21\cdot 10^{-2}$

try-ssr-rewrite-noop-real $3.75 \cdot 10^{-7} \cdot x - 3.15 \cdot 10^{-3}$ try-ssr-rewrite!-noop-real

 $3.69 \cdot 10^{-7} \cdot x + 1.74 \cdot 10^{-3}$ try-ssr-rewrite?-noop-real $3.7 \cdot 10^{-7} \cdot x - 2.39 \cdot 10^{-3}$

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



rewrite-strat-bottomup-r abstract + rewrite - strat - topdo

rewrite-strat-topdown-re

rewrite-strat-bottomup-noorewrite-strat-topdown-noop

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

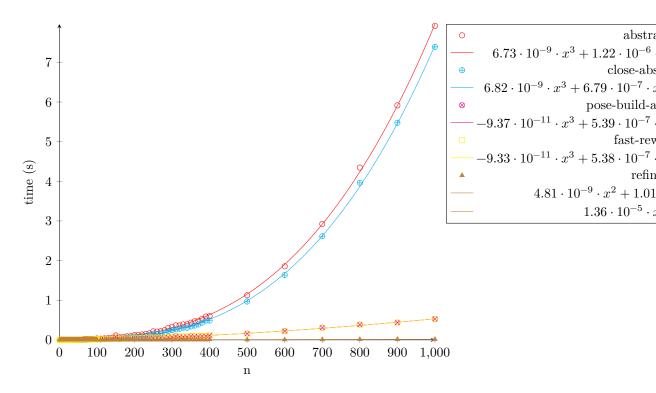
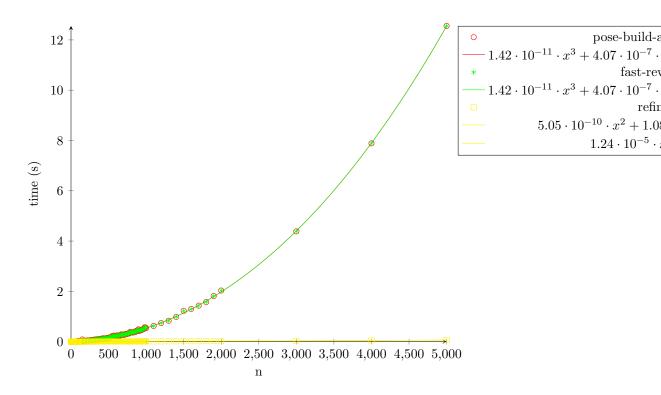


Figure 11: timing-rewrite-repeated-app-fast-rewrite



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

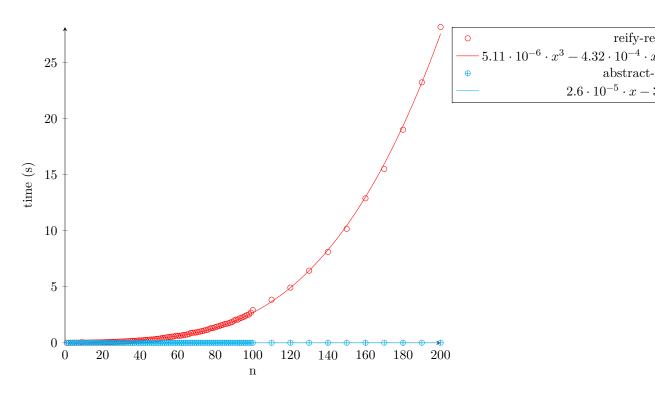


Figure 13: timing-typeclass-reification-let-in-HOAS

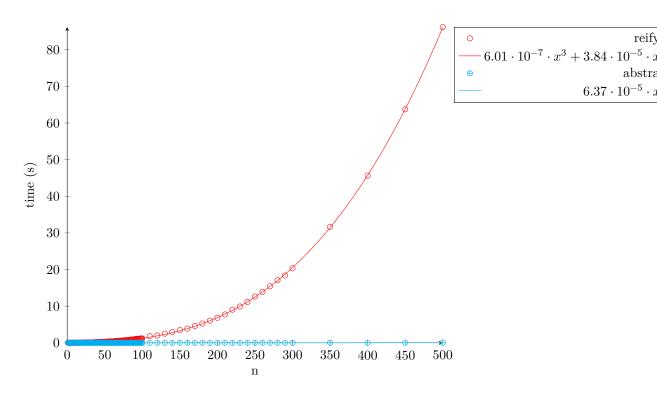


Figure 14: timing-typeclass-reification-let-in-PHOAS

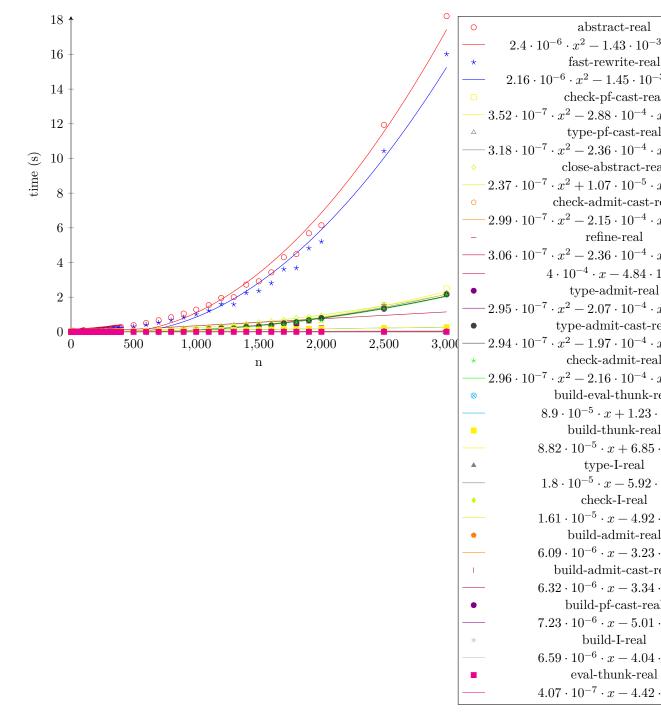


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2