

Figure 1: timing-pattern

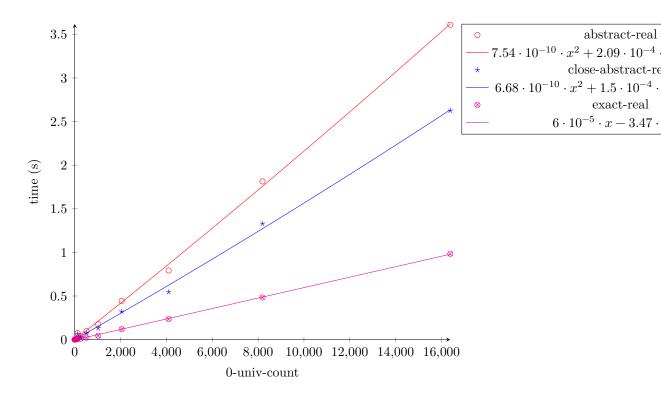


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$

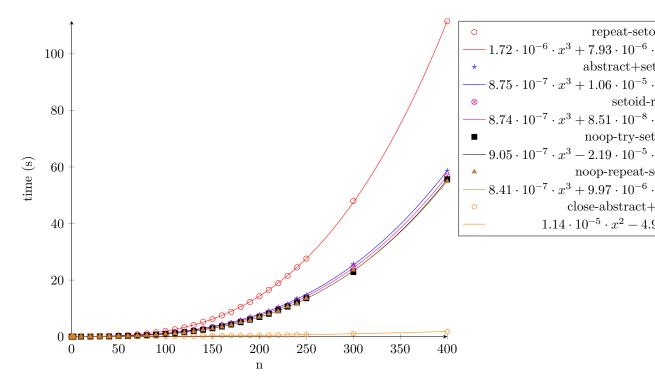
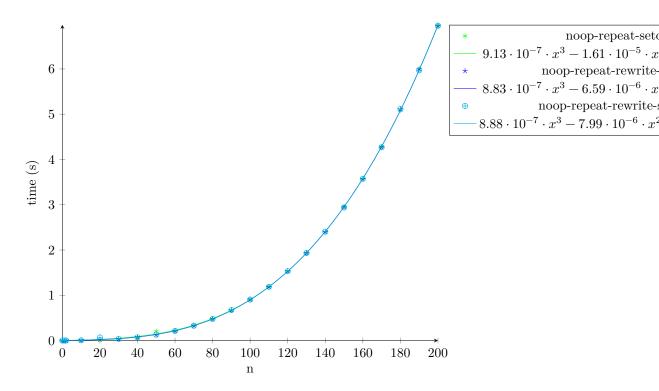
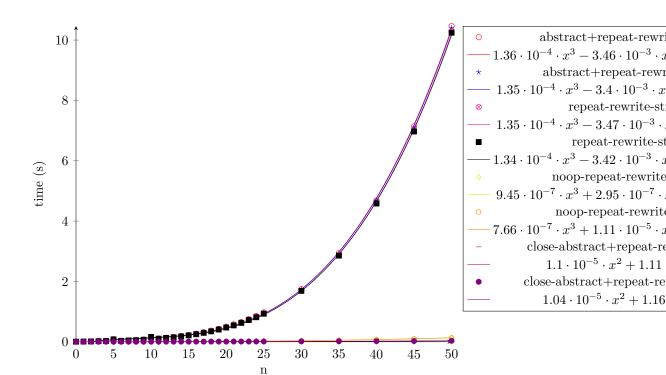


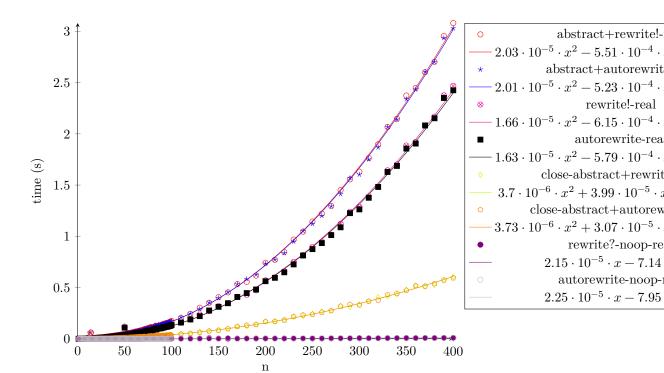
Figure 3: timing-repeat-setoid-rewrite-under-binders



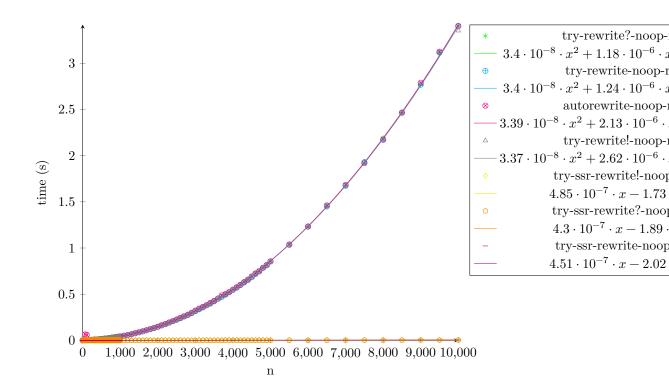
 $Figure\ 4:\ timing-repeat-setoid-rewrite-under-binders-noop$



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



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



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

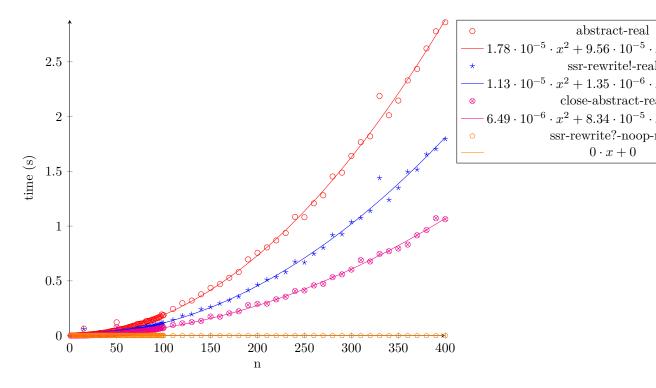
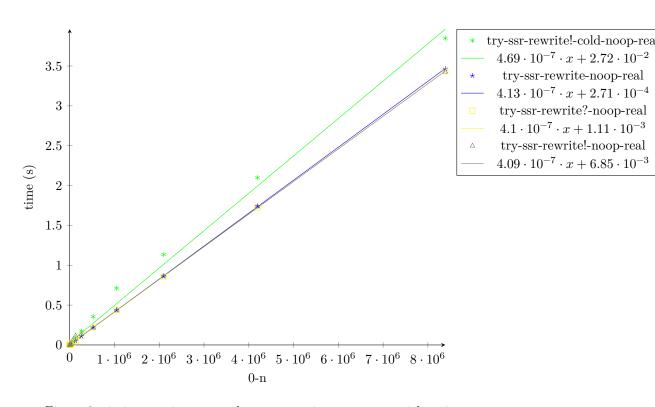


Figure 8: timing-rewrite-repeated-app-ssrrewrite



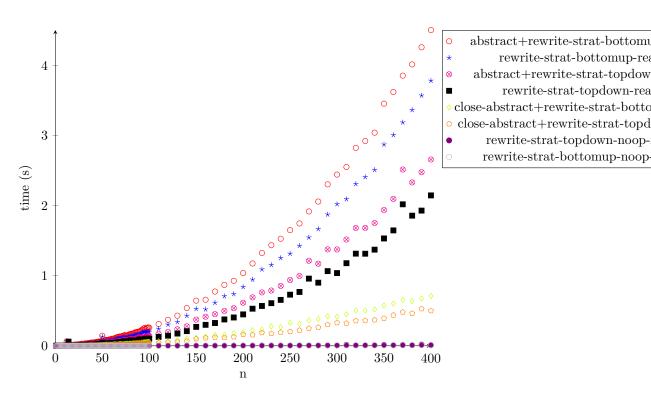
 $4.69 \cdot 10^{-7} \cdot x + 2.72 \cdot 10^{-2}$

try-ssr-rewrite-noop-real $4.13\cdot 10^{-7}\cdot x + 2.71\cdot 10^{-4}$

try-ssr-rewrite?-noop-real $4.1 \cdot 10^{-7} \cdot x + 1.11 \cdot 10^{-3}$ try-ssr-rewrite!-noop-real

 $4.09 \cdot 10^{-7} \cdot x + 6.85 \cdot 10^{-3}$

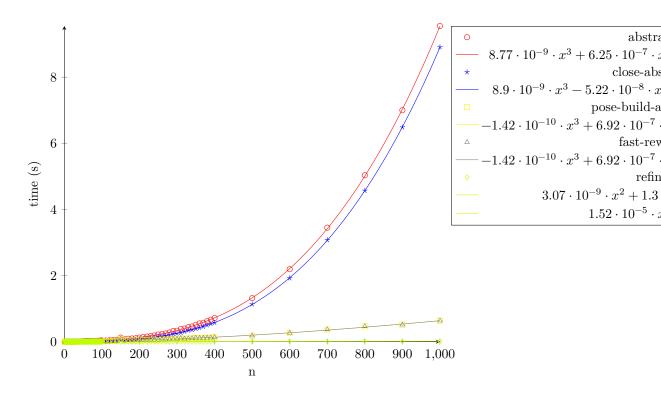
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn $\,1\,$



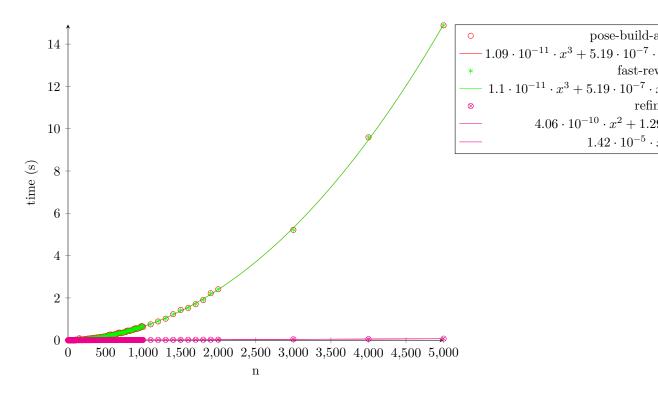
rewrite-strat-bottomup-rea abstract + rewrite - strat - topdowrewrite-strat-topdown-rea

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

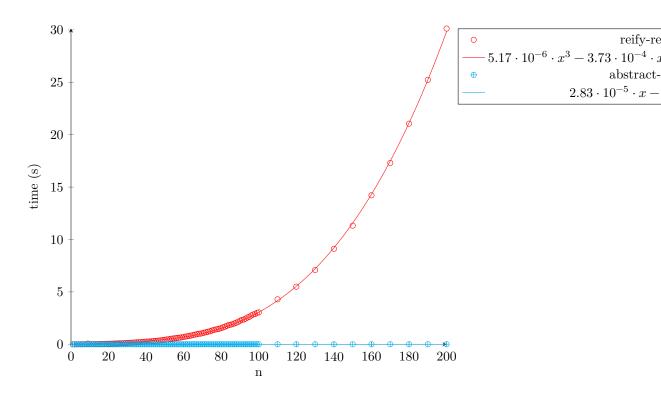
 $Figure\ 10:\ timing-rewrite-repeated-app-rewrite-strat$



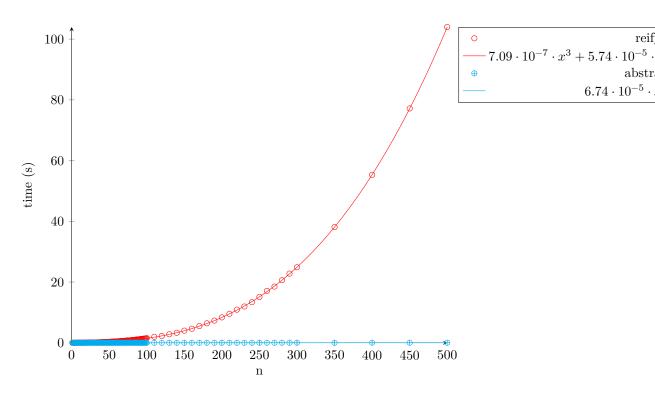
 $Figure~11:~timing\mbox{-rewrite-repeated-app-fast-rewrite}$



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



 ${\bf Figure~13:~timing-type class-reification-let-in-HOAS}$



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

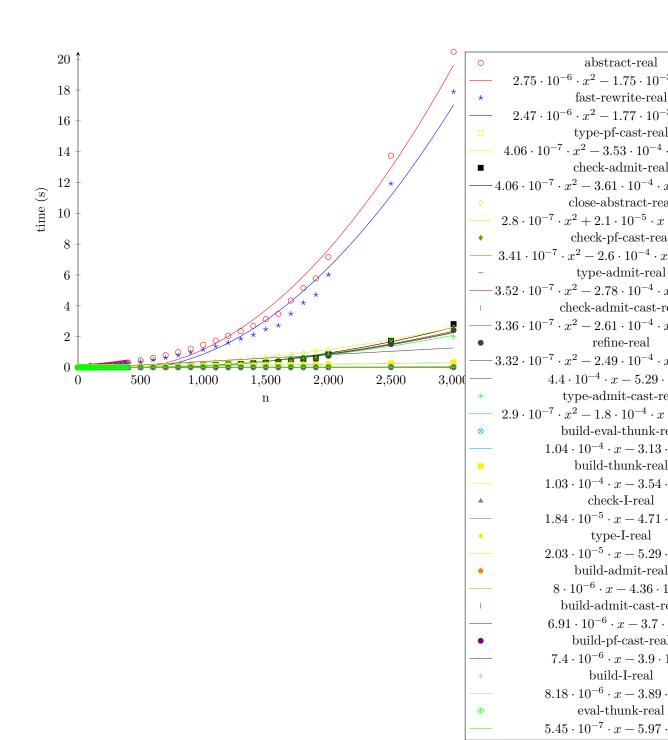


Figure 15: timing-rewrite-repeated-app-fast-rewrite-ltac2