

Figure 1: timing-pattern

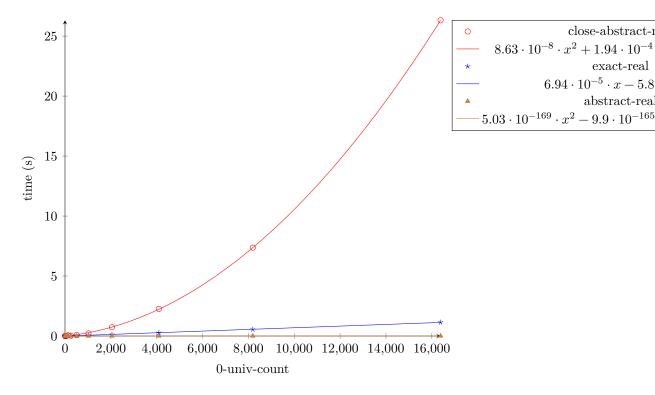
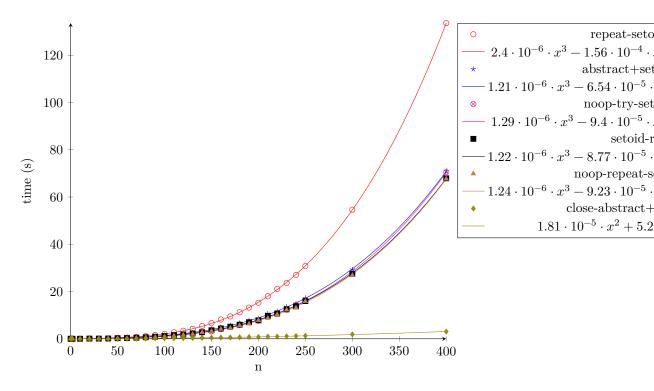
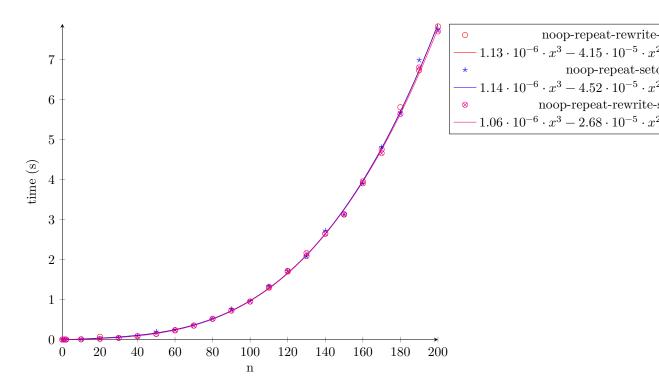


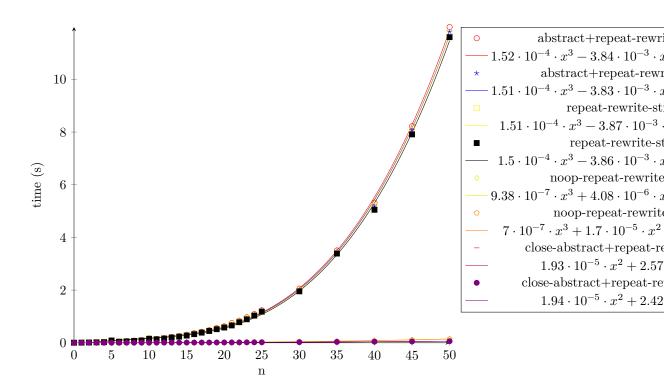
Figure 2: timing-n-polymorphic-universes param-1-n  $\,0\,$ 



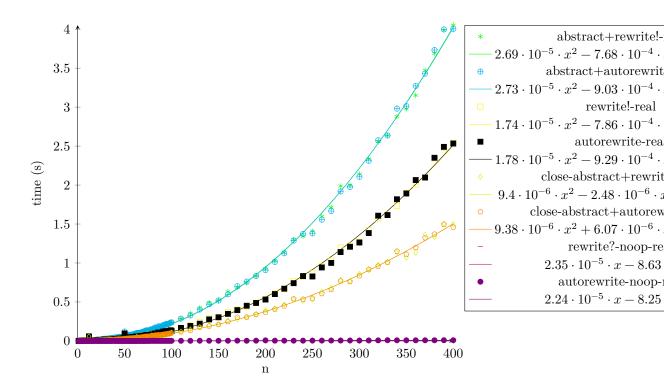
 $Figure \ 3: \ timing-repeat-setoid-rewrite-under-binders$ 



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



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



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

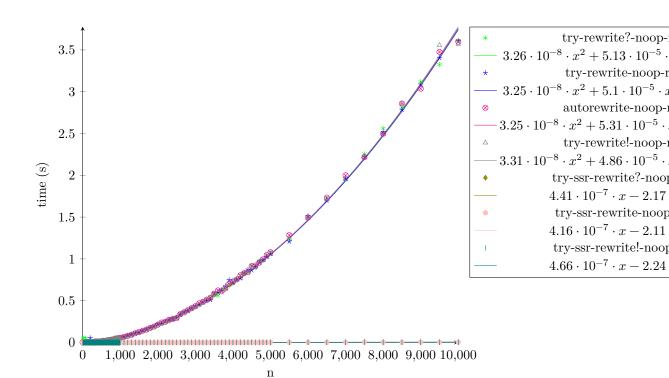


Figure 7: timing-rewrite-repeated-app-autorewrite-noop

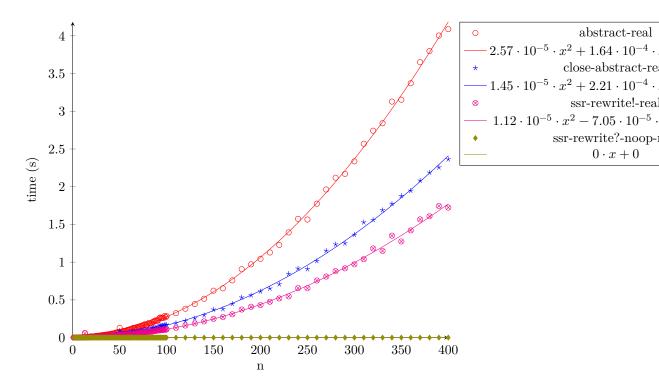
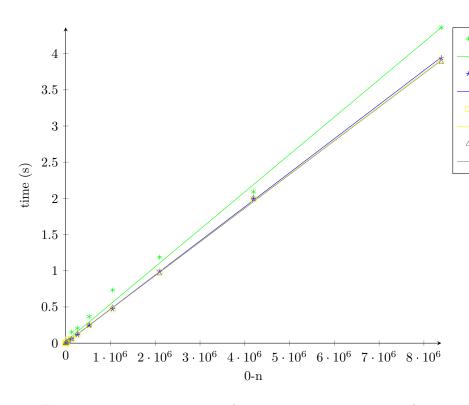


Figure 8: timing-rewrite-repeated-app-ssrrewrite



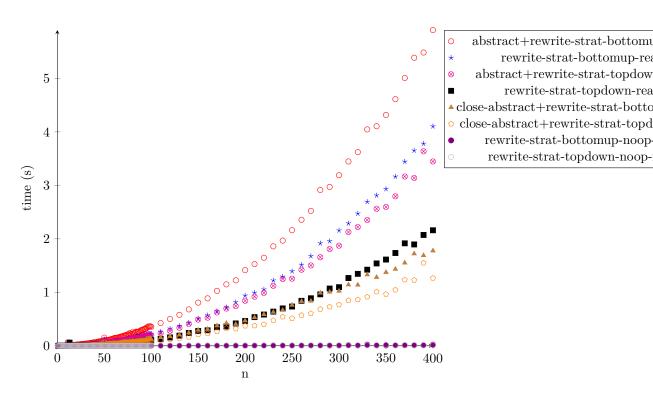
try-ssr-rewrite!-cold-noop-rea  $5.17 \cdot 10^{-7} \cdot x + 2.22 \cdot 10^{-2}$ 

try-ssr-rewrite-noop-real  $4.71\cdot 10^{-7}\cdot x - 2.29\cdot 10^{-4}$ 

try-ssr-rewrite?-noop-real  $4.67\cdot 10^{-7}\cdot x + 4.01\cdot 10^{-4}$ 

try-ssr-rewrite!-noop-real  $4.65\cdot 10^{-7}\cdot x + 1.4\cdot 10^{-3}$ 

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



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

rewrite-strat-topdown-rea

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

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

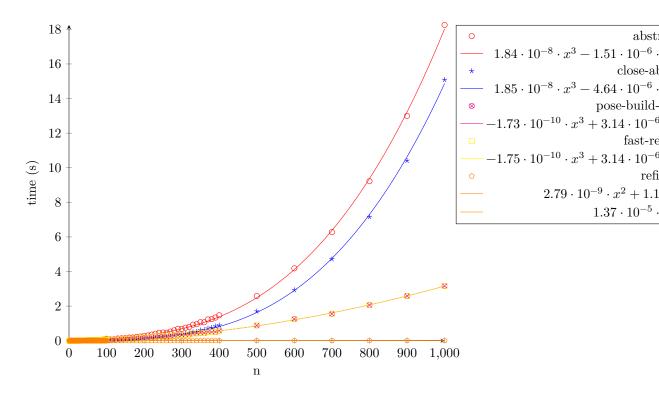
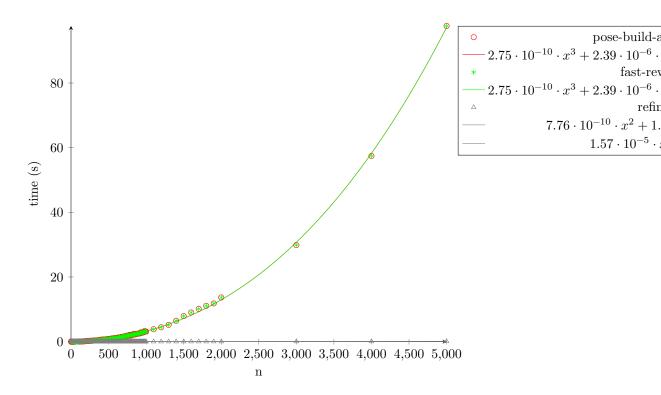


Figure 11: timing-rewrite-repeated-app-fast-rewrite



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