

Figure 1: timing-pattern

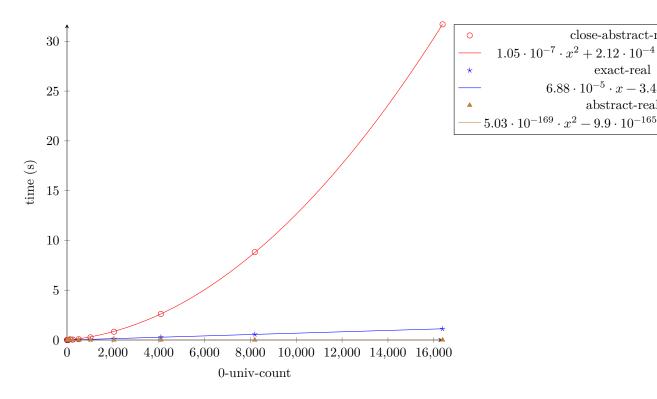
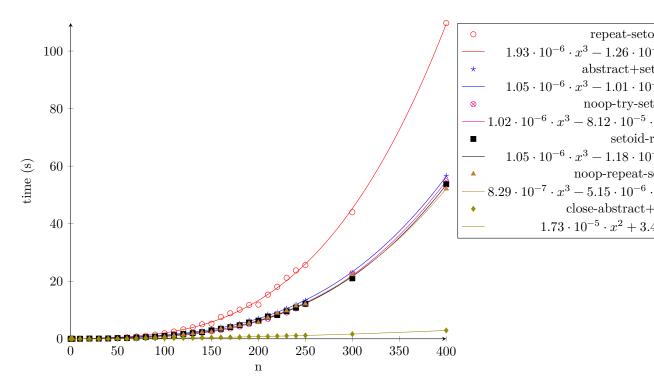
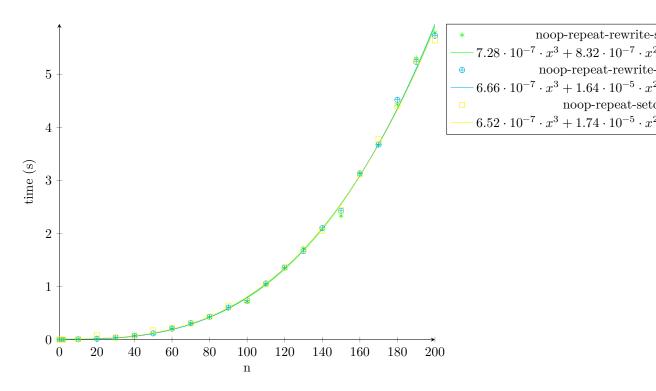


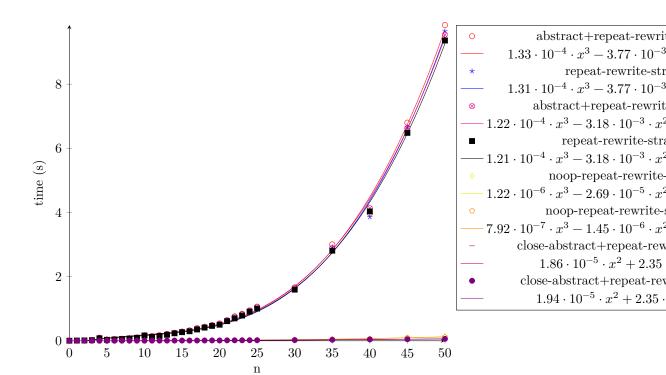
Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



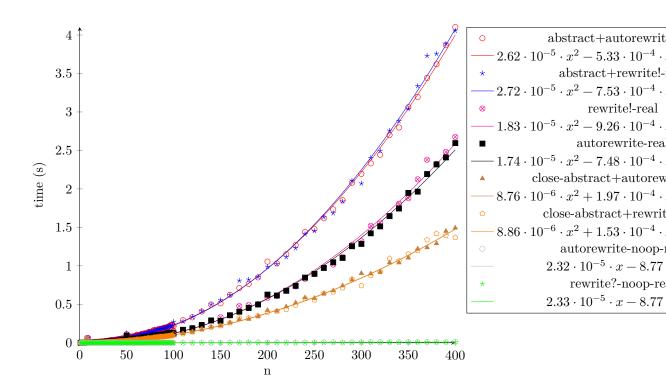
 $Figure \ 3: \ timing-repeat-setoid-rewrite-under-binders$



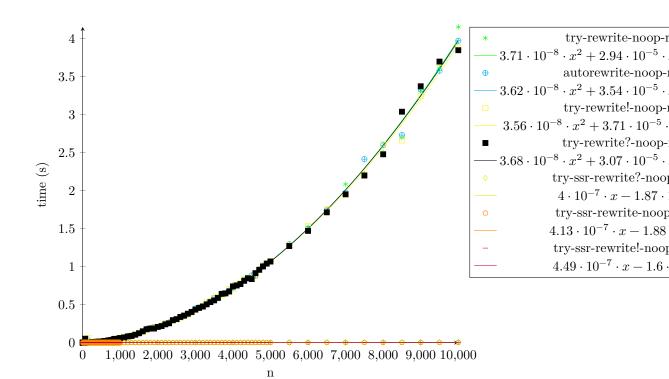
 $Figure \ 4: \ timing-repeat-setoid-rewrite-under-binders-noop \\$



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



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



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

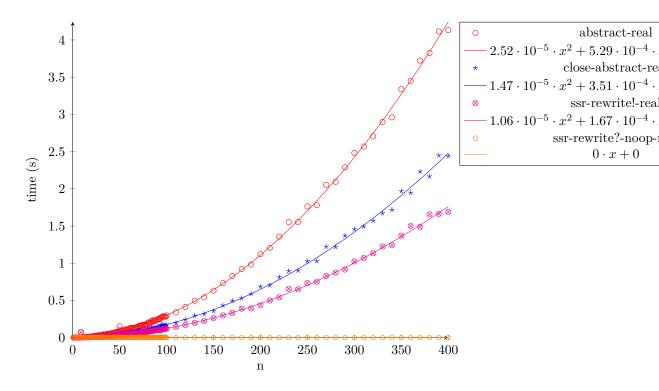
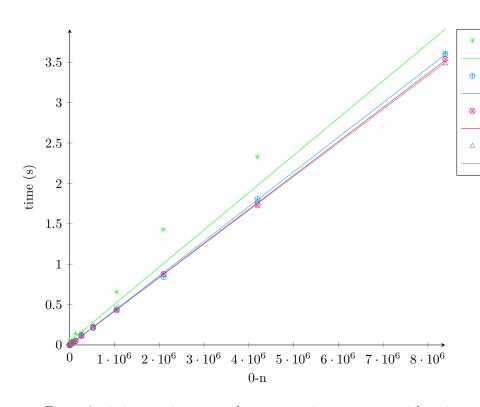


Figure 8: timing-rewrite-repeated-app-ssrrewrite



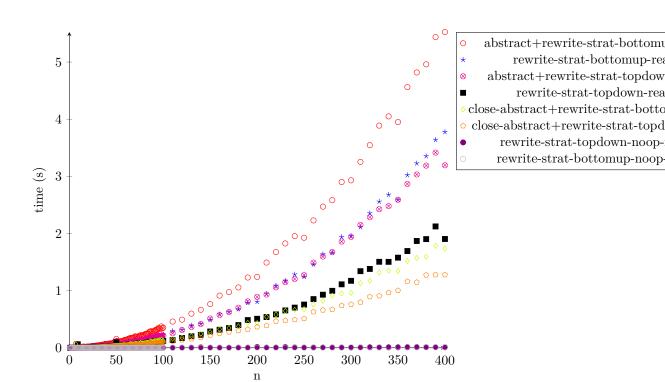
try-ssr-rewrite!-cold-noop-rea $4.61\cdot 10^{-7}\cdot x + 4.25\cdot 10^{-2}$

try-ssr-rewrite!-noop-real $4.29\cdot 10^{-7}\cdot x - 2.03\cdot 10^{-3}$

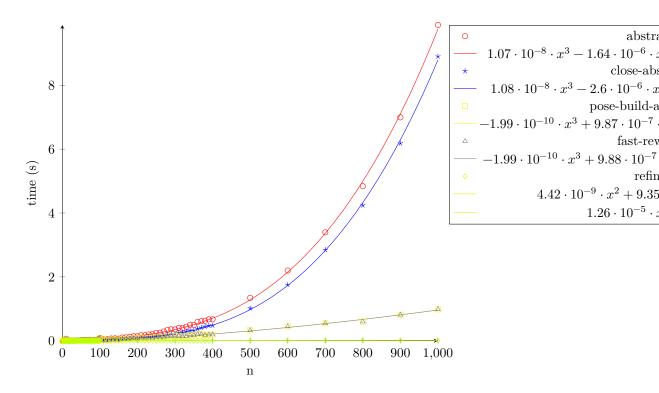
try-ssr-rewrite-noop-real $4.2\cdot 10^{-7}\cdot x - 2.16\cdot 10^{-3}$

try-ssr-rewrite?-noop-real $4.17\cdot 10^{-7}\cdot x - 1.21\cdot 10^{-4}$

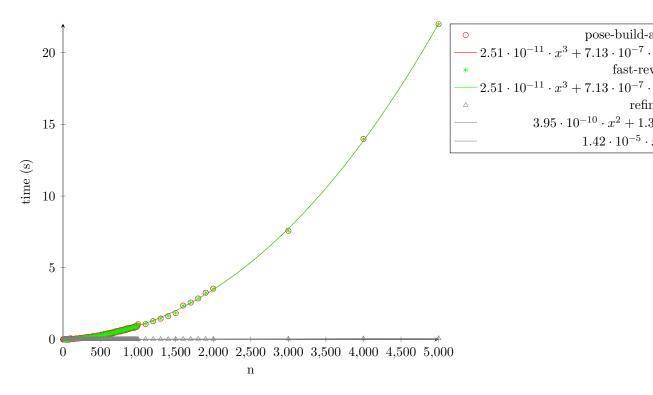
Figure 9: timing-rewrite-repeated-app-ssrrewrite-noop param-1-lgn $\ 1$



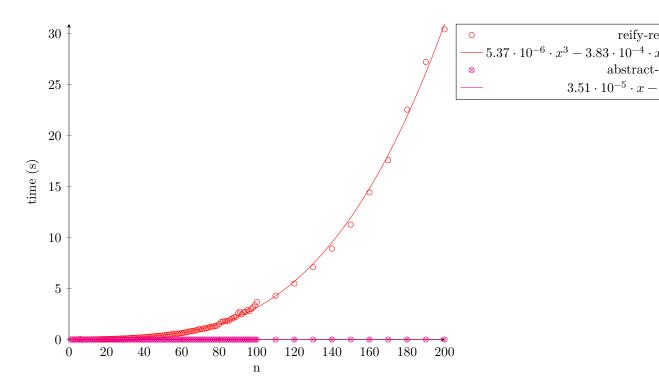
 $Figure~10:~timing\mbox{-rewrite-repeated-app-rewrite-strat}$



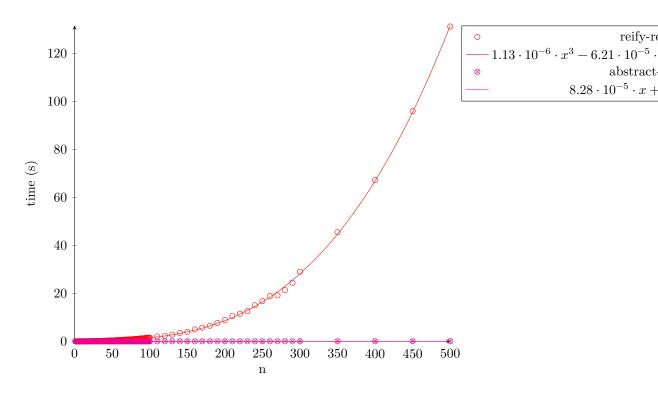
 $Figure~11:~timing\mbox{-rewrite-repeated-app-fast-rewrite}$



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



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



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