

Figure 1: timing-pattern

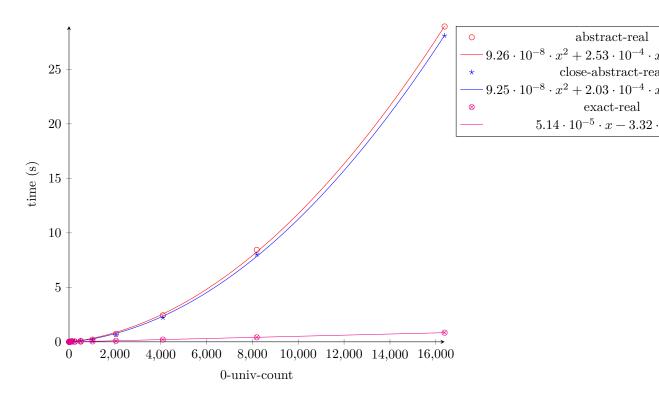
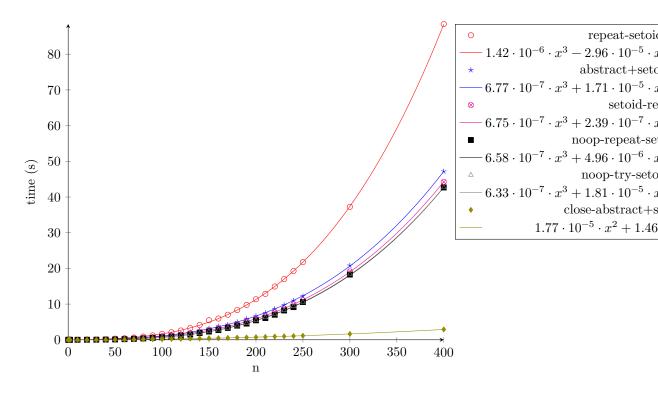


Figure 2: timing-n-polymorphic-universes param-1-n $\,0\,$



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

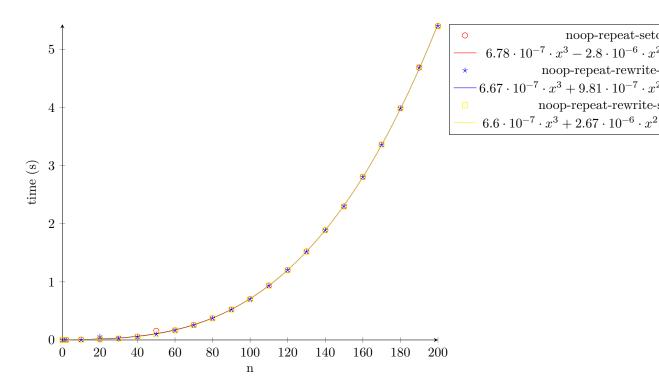
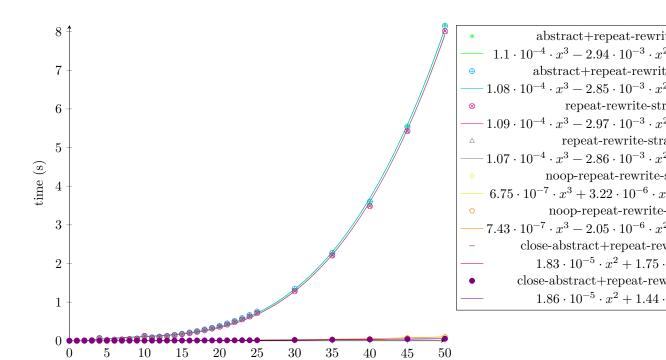


Figure 4: timing-repeat-setoid-rewrite-under-binders-noop



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

n

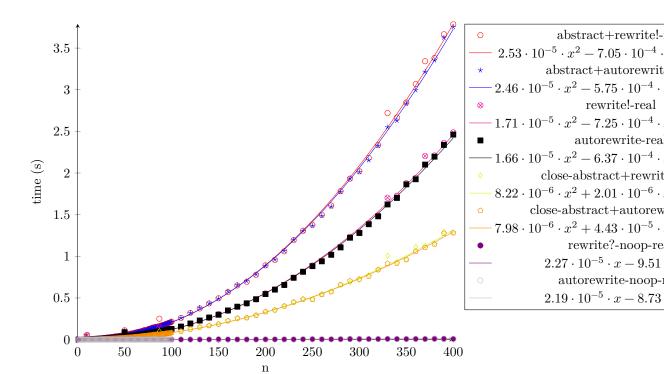
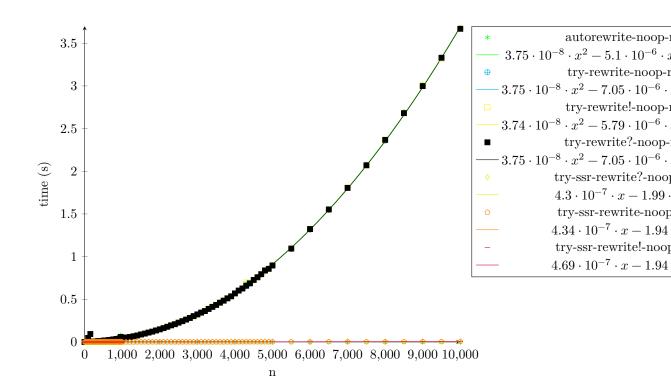


Figure 6: timing-rewrite-repeated-app-autorewrite



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

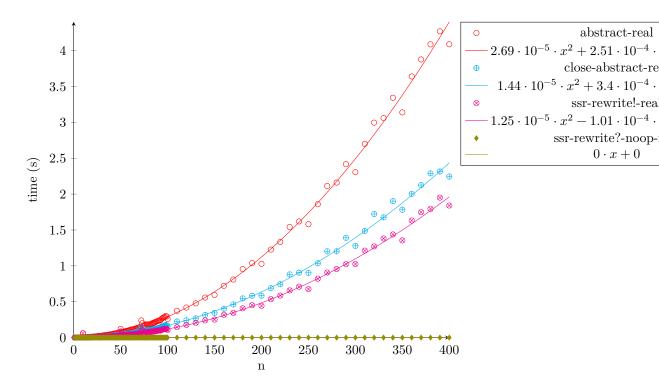
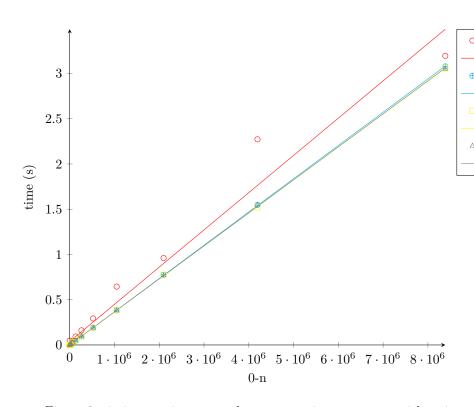


Figure 8: timing-rewrite-repeated-app-ssrrewrite

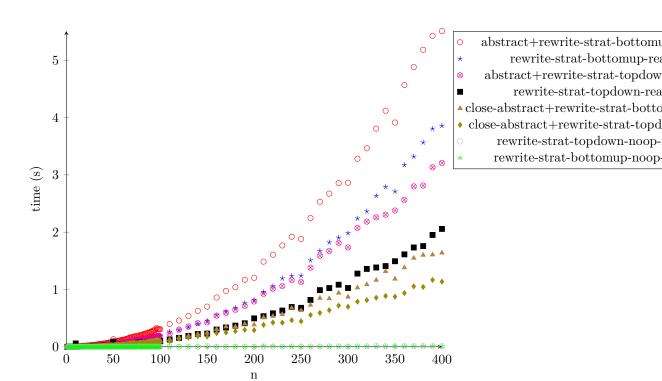


try-ssr-rewrite!-cold-noop-rea $4.11\cdot 10^{-7}\cdot x + 3.76\cdot 10^{-2}$

 $\begin{array}{l} \text{try-ssr-rewrite?-noop-real} \\ 3.68 \cdot 10^{-7} \cdot x - 7.85 \cdot 10^{-4} \\ \text{try-ssr-rewrite-noop-real} \end{array}$

 $\begin{array}{l} 3.64 \cdot 10^{-7} \cdot x + 5.61 \cdot 10^{-4} \\ \text{try-ssr-rewrite!-noop-real} \\ 3.65 \cdot 10^{-7} \cdot x + 4.28 \cdot 10^{-4} \end{array}$

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



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

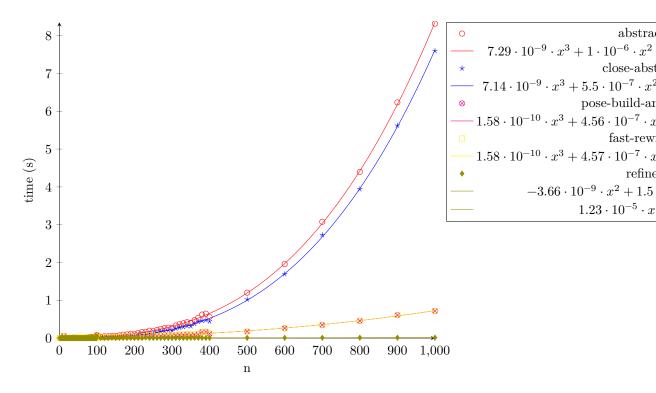
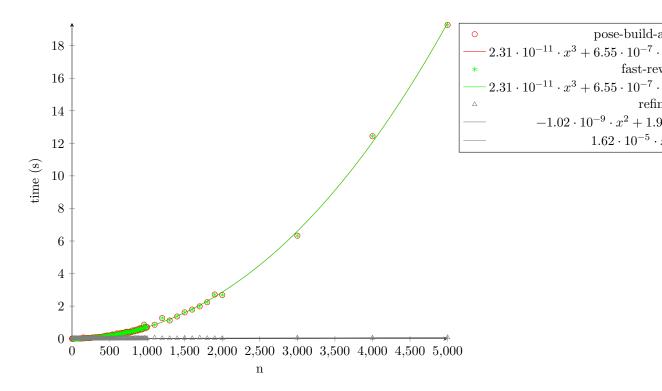


Figure 11: timing-rewrite-repeated-app-fast-rewrite



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

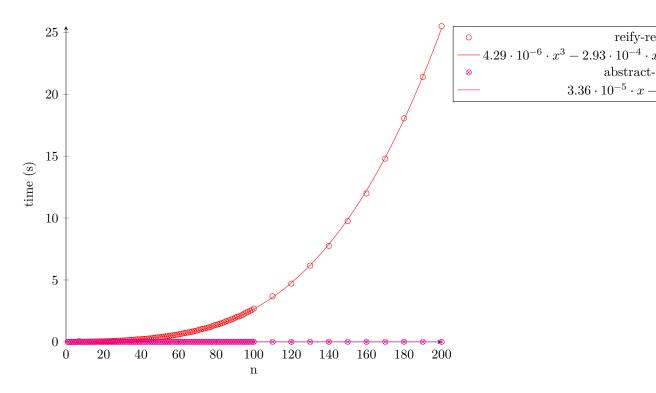


Figure 13: timing-typeclass-reification-let-in-HOAS

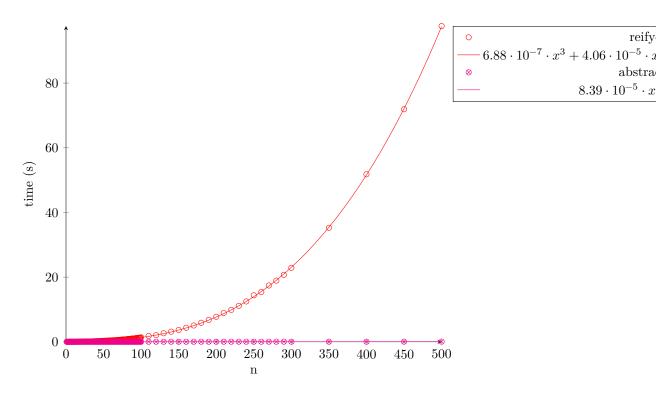


Figure 14: timing-typeclass-reification-let-in-PHOAS

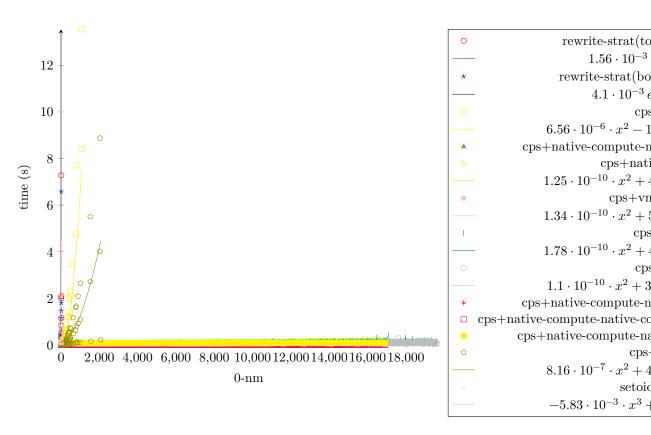


Figure 15: timing-rewrite-lift-lets-map param-1-n 1, param-2-m 1

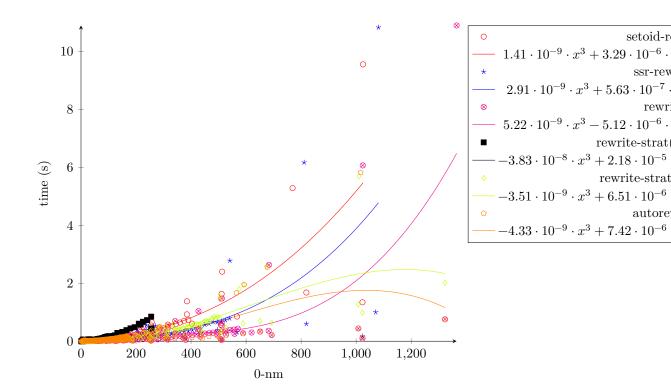


Figure 16: timing-rewrite-plus-0-tree param-1-n 0, param-2-m 1, param-3-input-size 5, param-4-output-size 3, param-5-num-rewrites 1

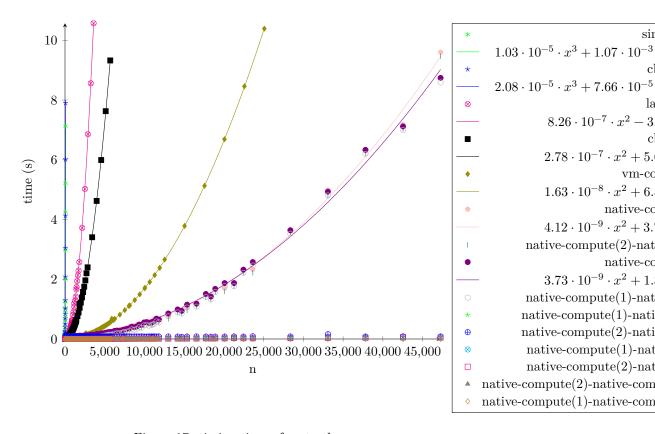


Figure 17: timing-sieve-of-eratosthenes

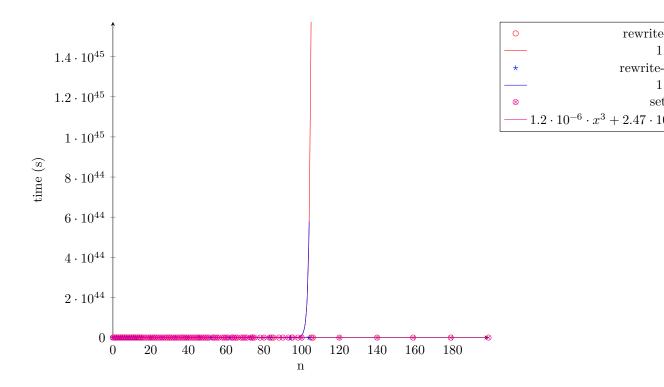


Figure 18: timing-rewrite-under-lets-plus-0 $\,$

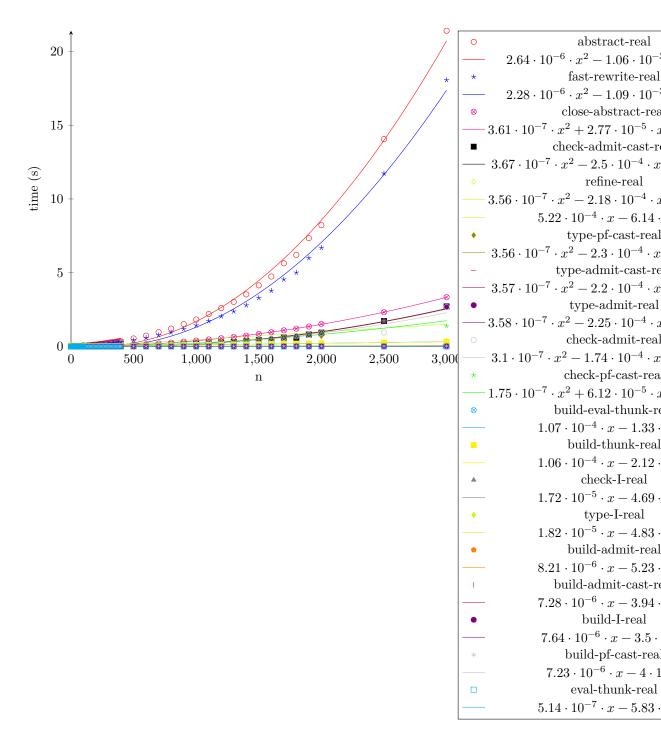


Figure 19: timing-rewrite-repeated-app-fast-rewrite-ltac2