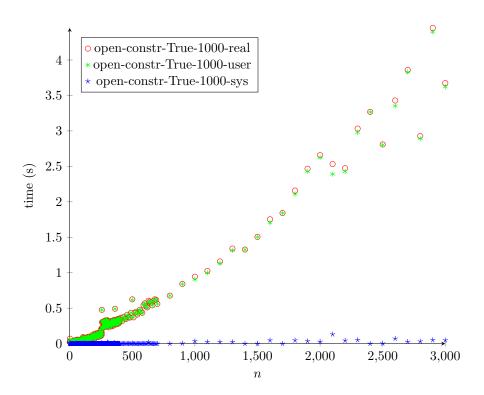
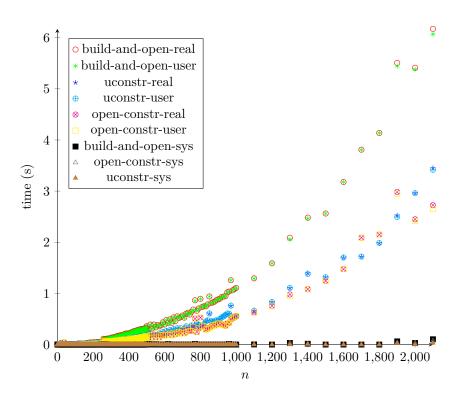


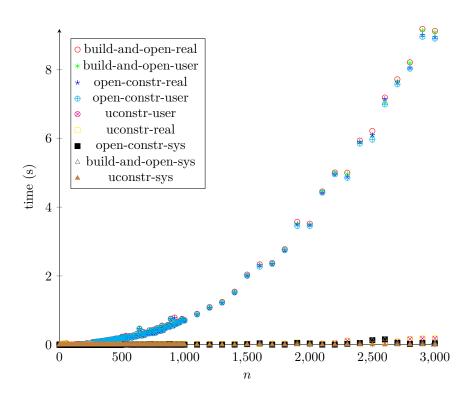
Figure 1: Timing of rewrite\_strat and setoid\_rewrite under binders



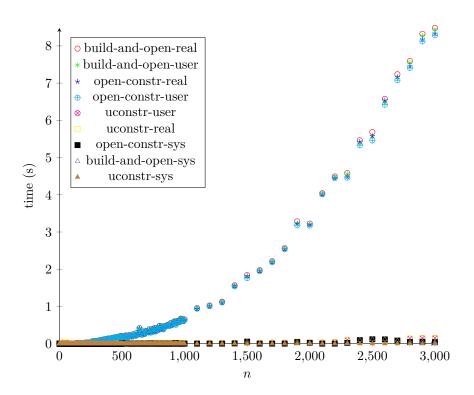
 $\label{eq:Figure 2: timing-do-n-open-constr-True} Figure \ 2: \ timing-do-n-open-constr-True$ 



Figure~3:~timing-open-constr-n-lambda-no-types-different-names



Figure~4:~timing-open-constr-n-lambda-no-types-no-names



 $Figure \ 5: \ timing-open-constr-n-lambda-no-types-same-names$ 

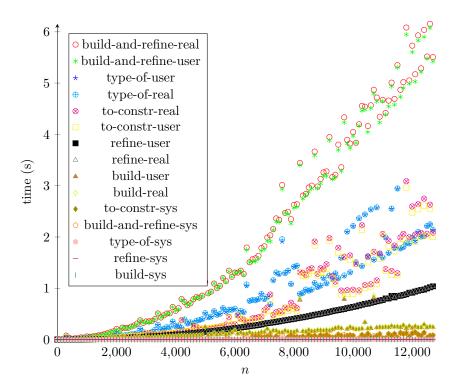


Figure 6: timing-app-n-uconstr

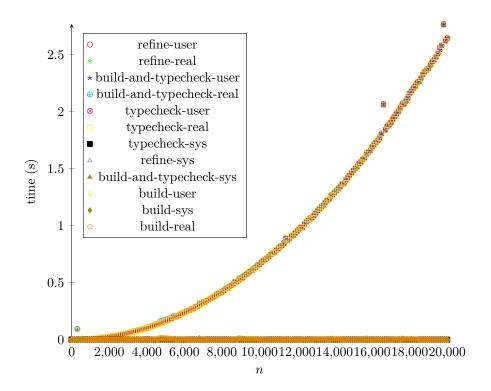


Figure 7: timing-app-n-ltac2  $\,$ 

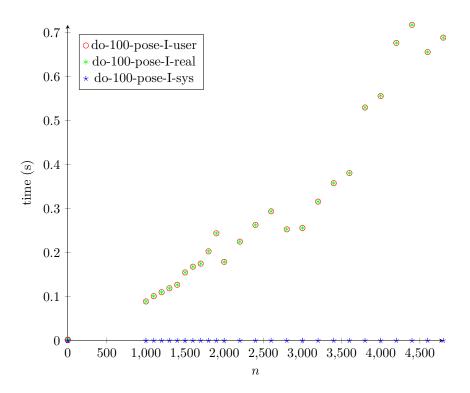


Figure 8: timing-do-n-pose

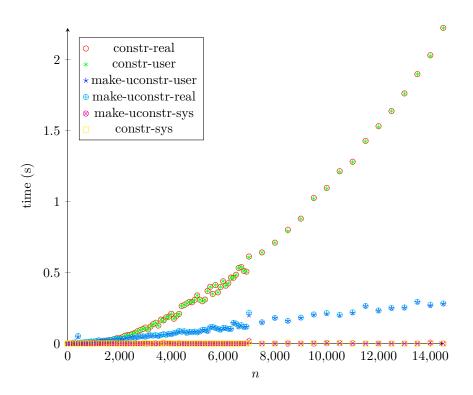


Figure 9: timing-let-n-uconstr

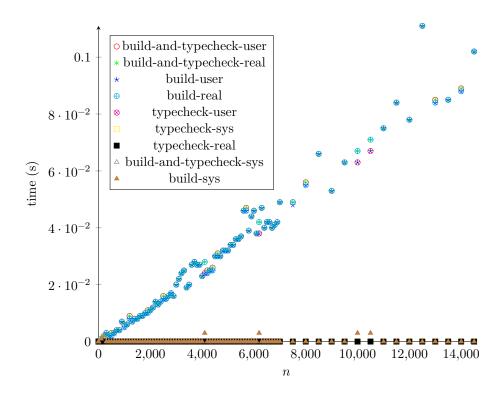
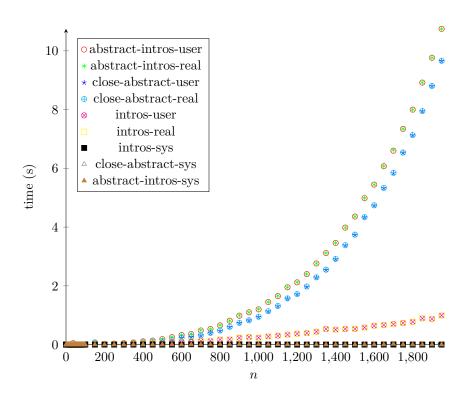


Figure 10: timing-let-n-ltac 2



Figure~11:~timing-intros-n-let

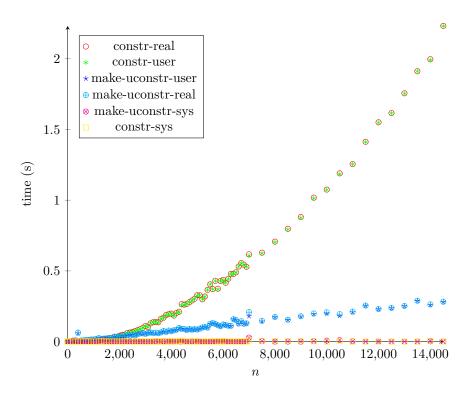


Figure 12: timing-fun-n-uconstr

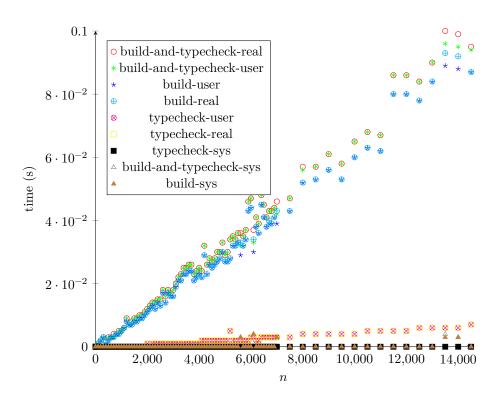


Figure 13: timing-fun-n-ltac2

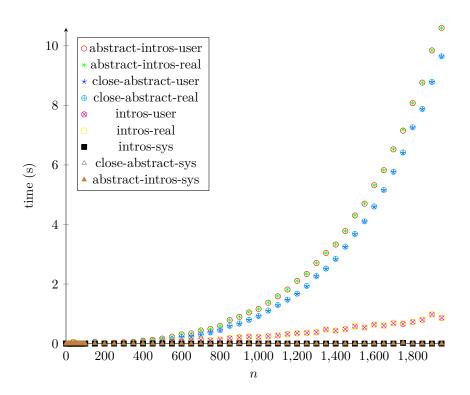
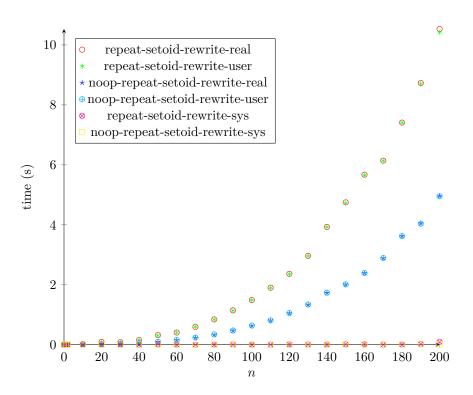
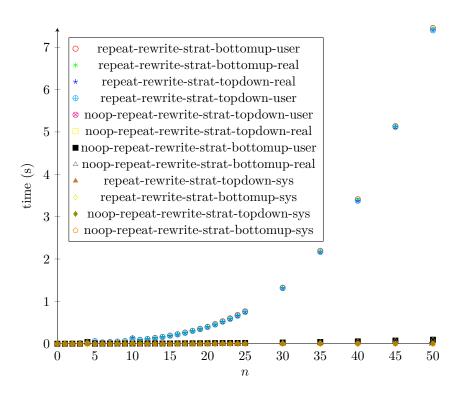


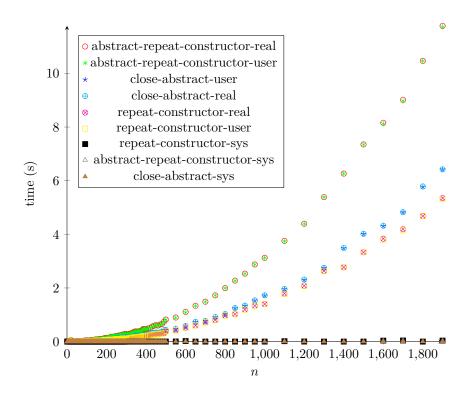
Figure 14: timing-intros-n-fun



 $Figure~15:~timing\mbox{-repeat-setoid-rewrite-under-binders}$ 



 $Figure~16:~timing\mbox{-rewrite-strat-under-binders}$ 



 ${\bf Figure~17:~timing\hbox{-}conj\hbox{-}True\hbox{-}repeat\hbox{-}constructor}$ 

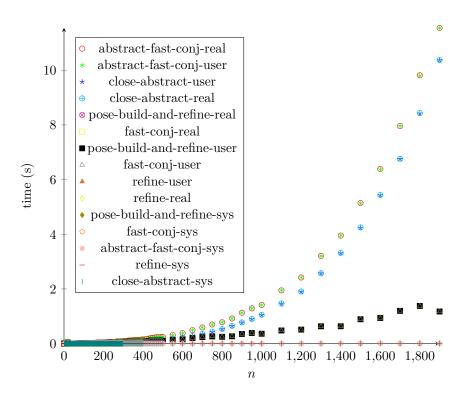


Figure 18: timing-conj-True-fast-conj

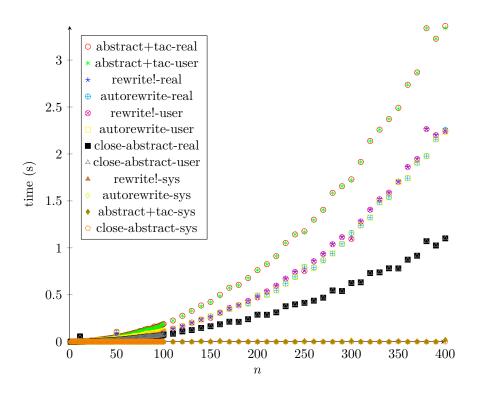


Figure 19: timing-rewrite-repeated-app-autorewrite

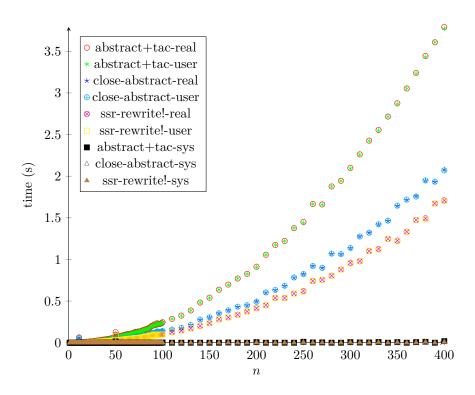
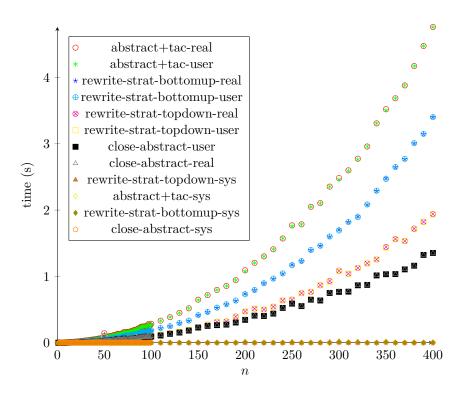


Figure 20: timing-rewrite-repeated-app-ssrrewrite



 $Figure\ 21:\ timing-rewrite-repeated-app-rewrite-strat$ 

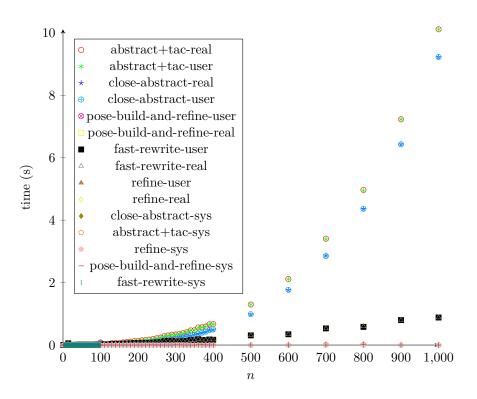


Figure 22: timing-rewrite-repeated-app-fast-rewrite

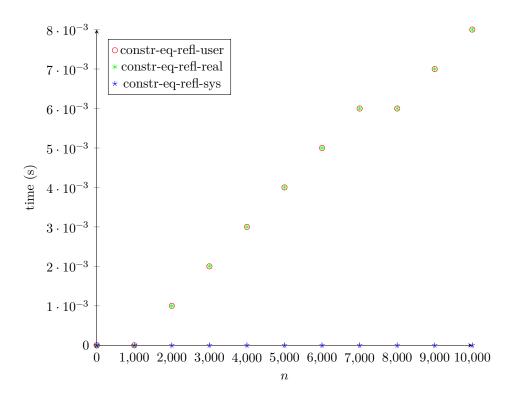


Figure 23: timing-constr-eq-alpha

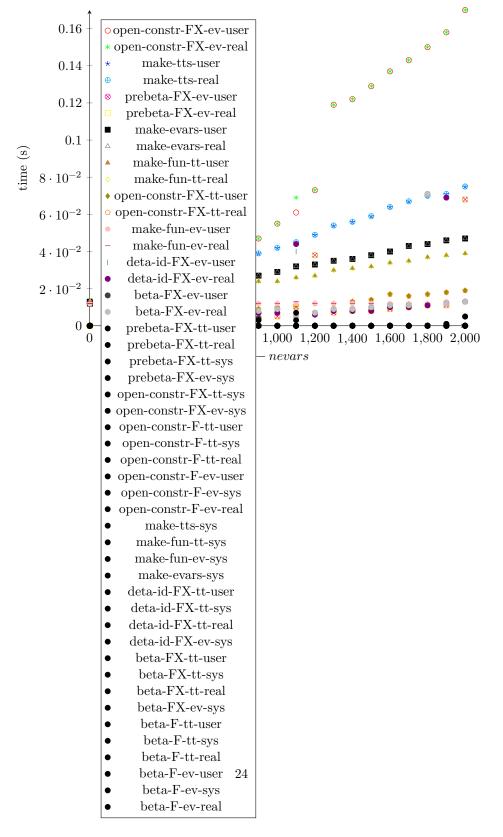


Figure 24: timing-lift-identity-evar-subst-nevars param-ctx-size  $\ 0,\ 1,\$ param-extra-binders  $\ 0,\ 1$ 

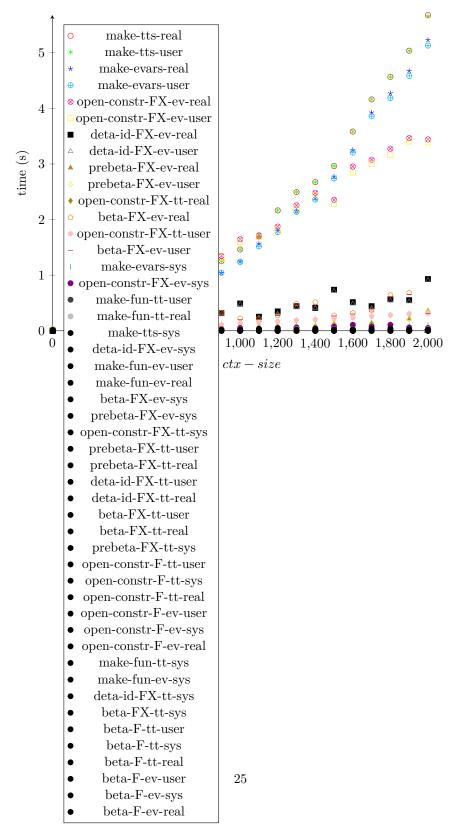


Figure 25: timing-lift-identity-evar-subst-ctx param-extra-binders  $\ 0, \ 1, \ param-nevars \ 0, \ 1$ 

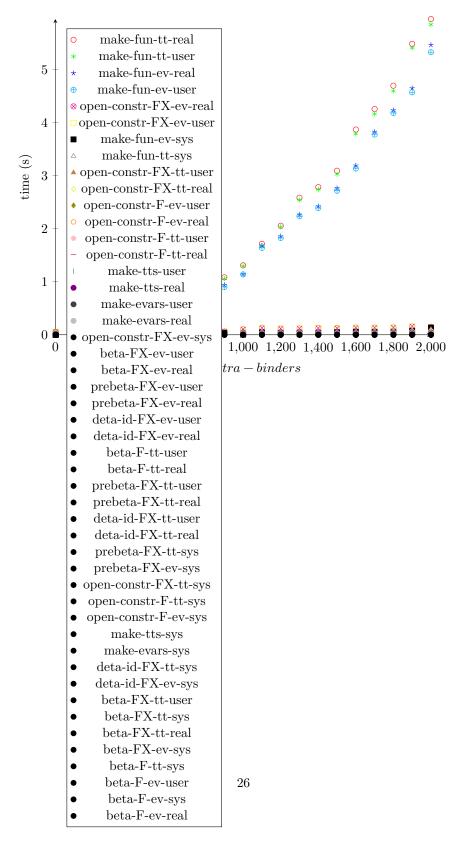


Figure 26: timing-lift-identity-evar-subst-binders param-ctx-size 0, 1, param-nevars 0, 1

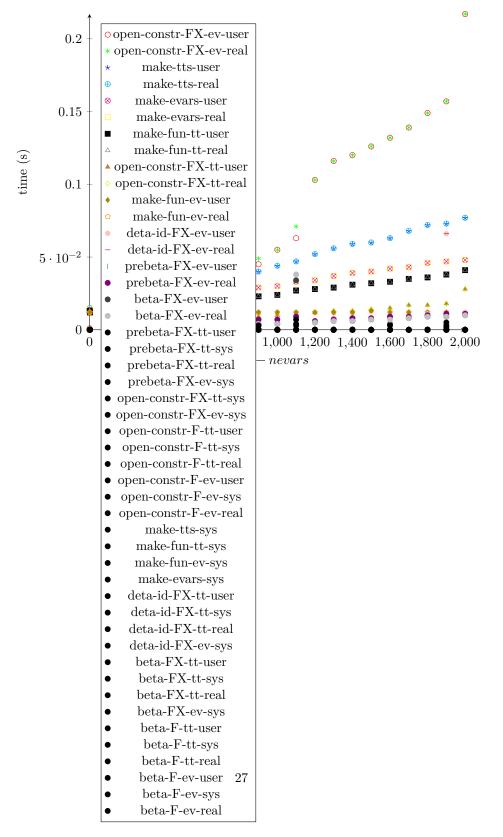


Figure 27: timing-lift-non-identity-evar-subst-nevars param-ctx-size  $0,\ 1$  param-extra-binders  $0,\ 1$ 

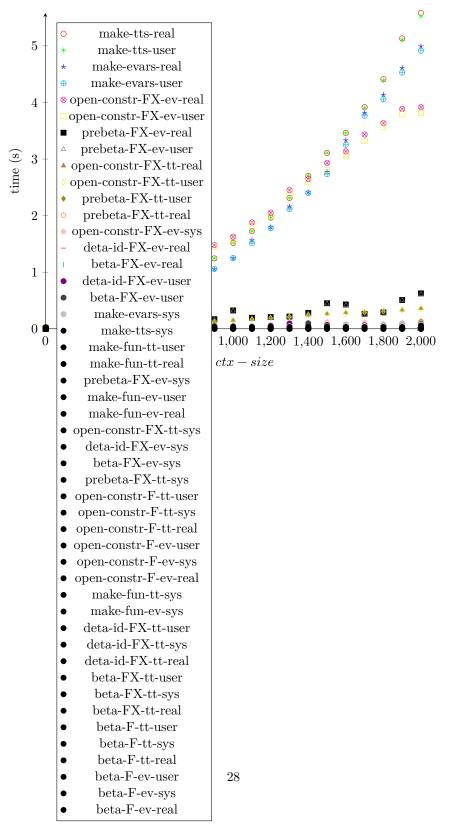


Figure 28: timing-lift-non-identity-evar-subst-ctx param-extra-binders 0, 1, param-nevars 0, 1

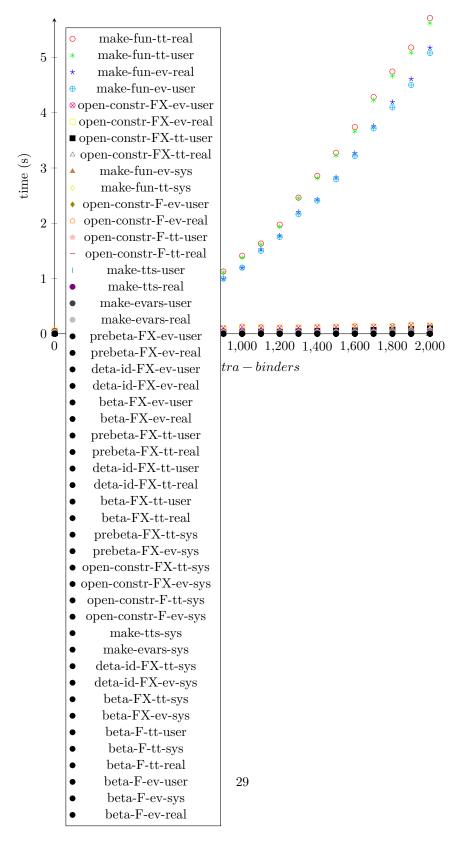
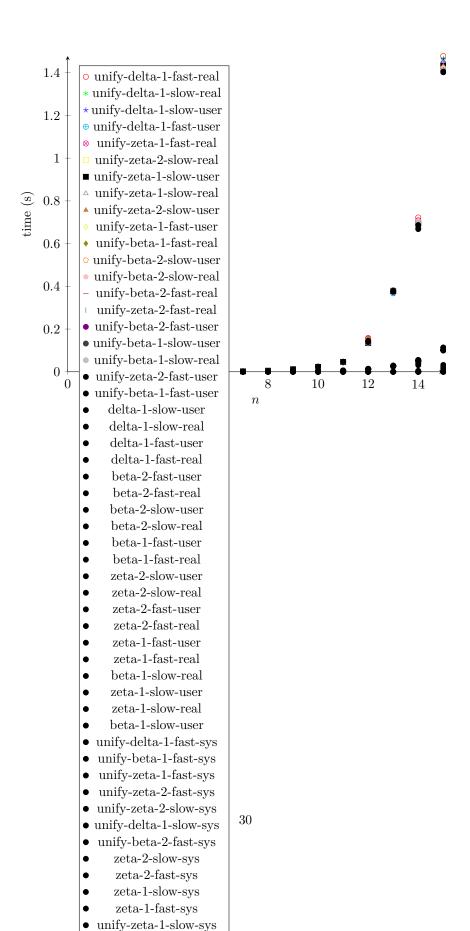
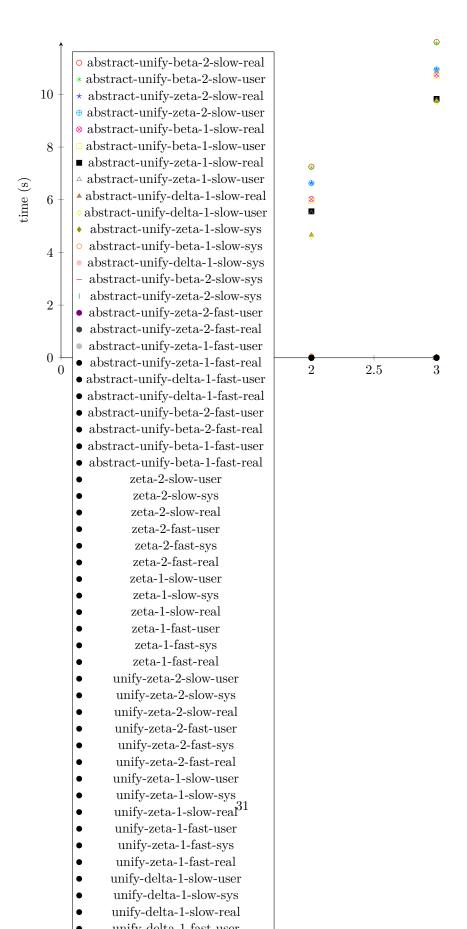


Figure 29: timing-lift-non-identity-evar-subst-binders param-ctx-size 0, 1 param-nevars 0, 1



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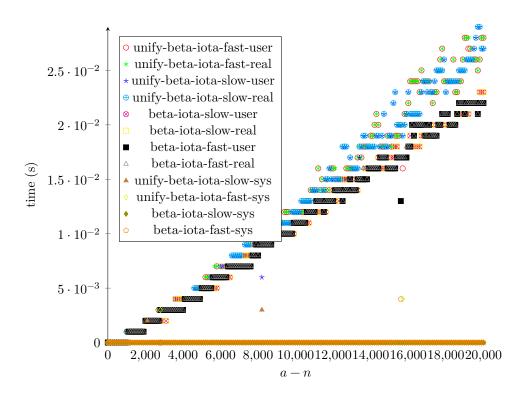


Figure 32: timing-iota-reduction-fact8 param-fact-n  $\,\,8\,$ 

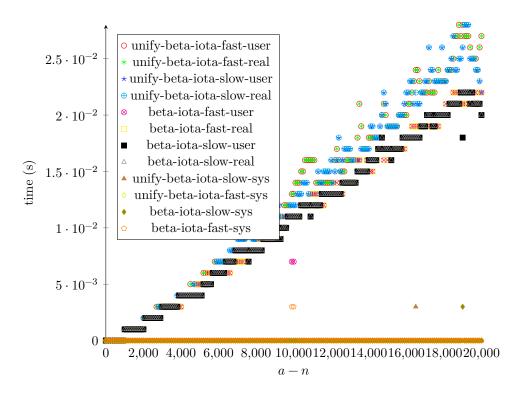


Figure 33: timing-iota-reduction-fact9 param-fact-n  $\ 9$ 

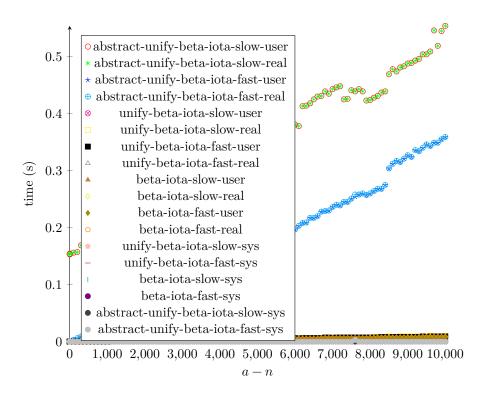


Figure 34: timing-iota-reduction-with-abstract-fact8 param-fact-n  $\,\,8\,$ 

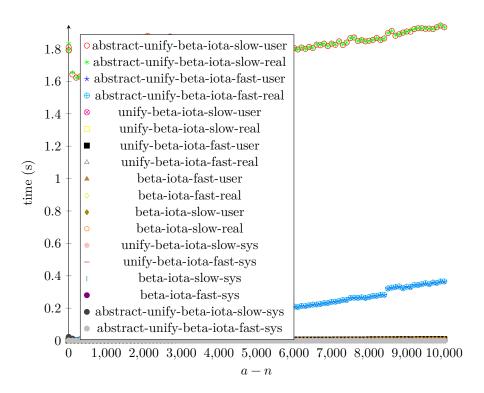


Figure 35: timing-iota-reduction-with-abstract-fact9 param-fact-n  $\,\,9$ 

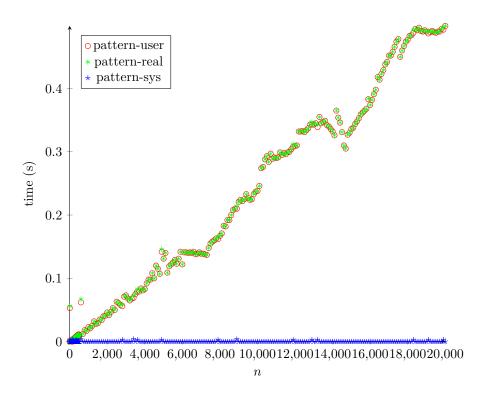


Figure 36: timing-pattern

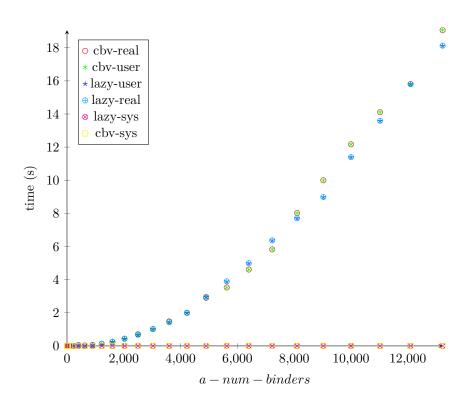


Figure 37: timing-quadratic-cbv-lazy-PHOAS param-n $\,\,0\,\,$ 

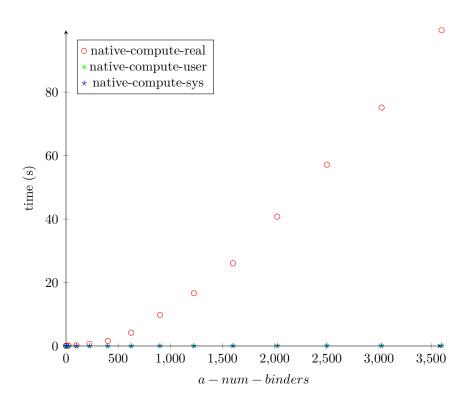


Figure 38: timing-quadratic-native-PHOAS param-n  $\,0\,$ 

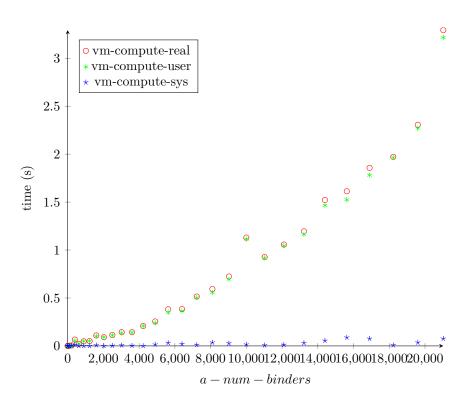


Figure 39: timing-quadratic-vm-PHOAS param-n $\,\,0$