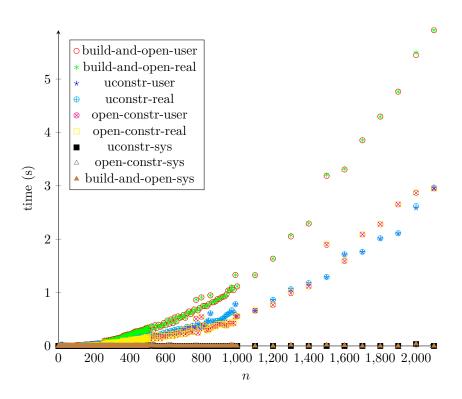
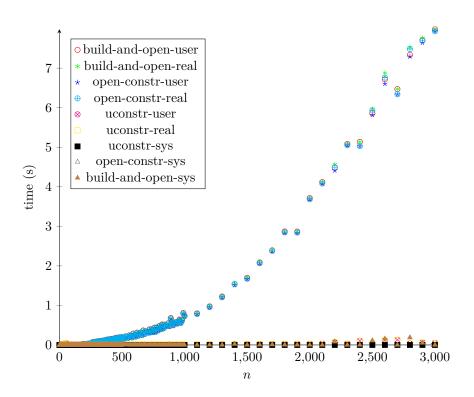


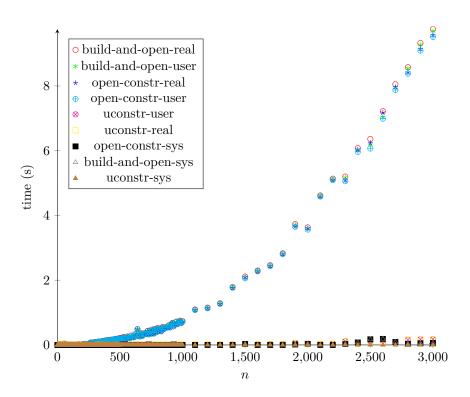
Figure 1: timing-do-n-open-constr-True



 $\label{prop:prop:constr-n-lambda-no-types-different-names} Figure~2:~timing-open-constr-n-lambda-no-types-different-names$ 



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



 $\label{prop:prop:same-names} Figure~4:~timing-open-constr-n-lambda-no-types-same-names$ 

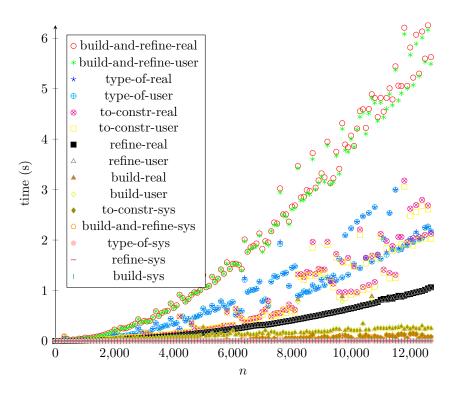


Figure 5: timing-app-n-uconstr

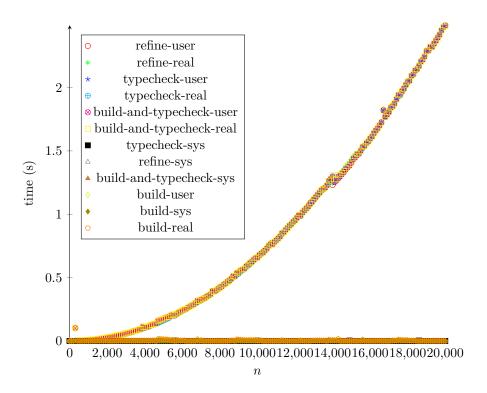


Figure 6: timing-app-n-ltac2

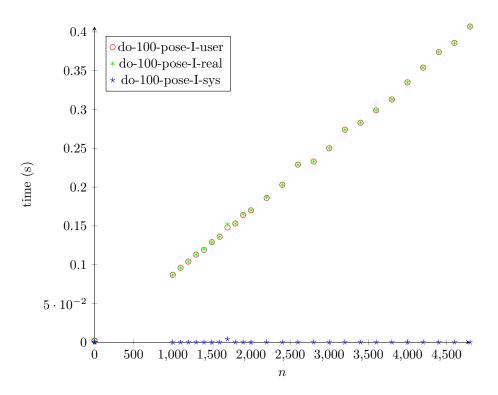


Figure 7: timing-do-n-pose

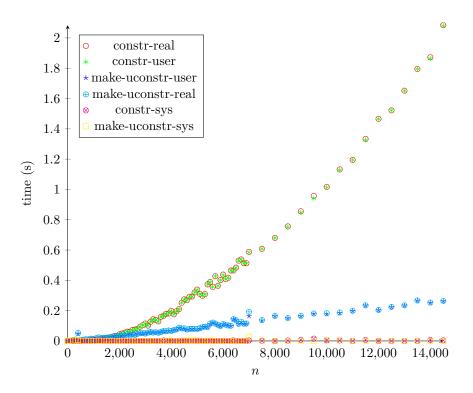


Figure 8: timing-let-n-uconstr

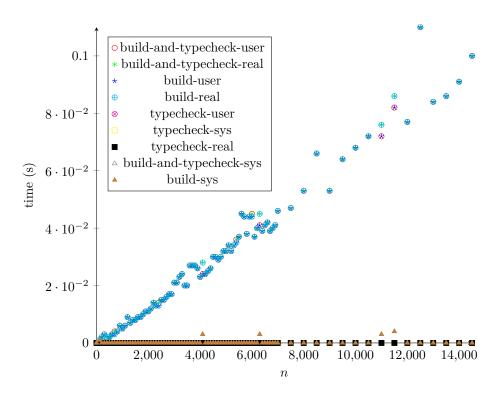


Figure 9: timing-let-n-ltac2

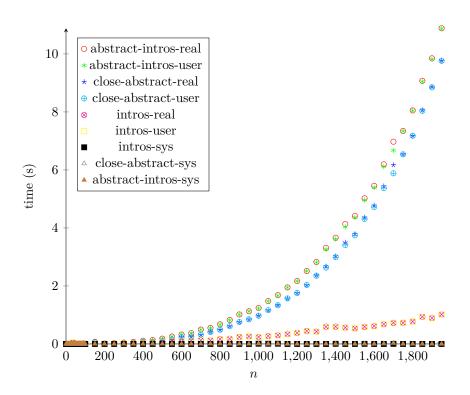


Figure 10: timing-intros-n-let  $\,$ 

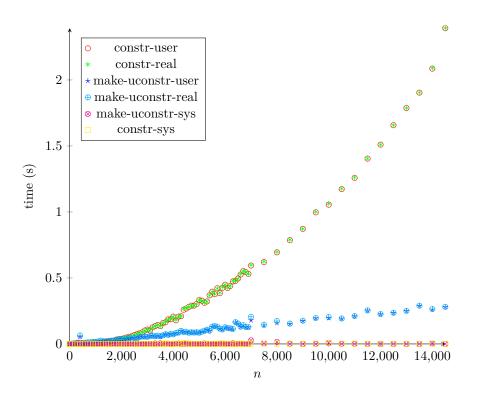


Figure 11: timing-fun-n-uconstr

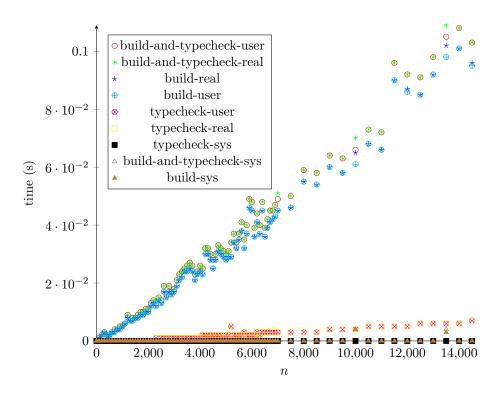


Figure 12: timing-fun-n-ltac2  $\,$ 

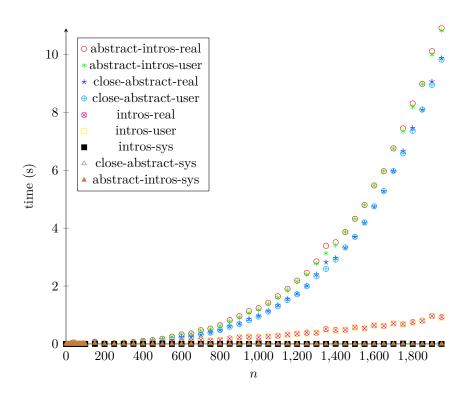
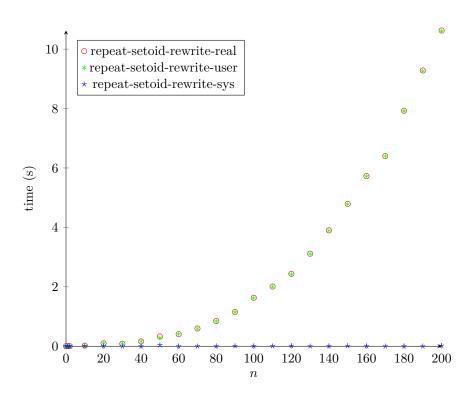
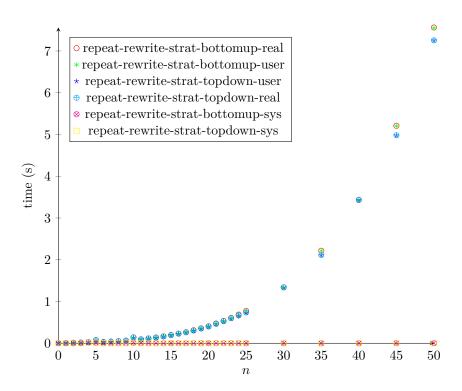


Figure 13: timing-intros-n-fun



 $Figure~14:~timing\mbox{-repeat-setoid-rewrite-under-binders}$ 



 $Figure\ 15:\ timing-rewrite-strat-under-binders$ 

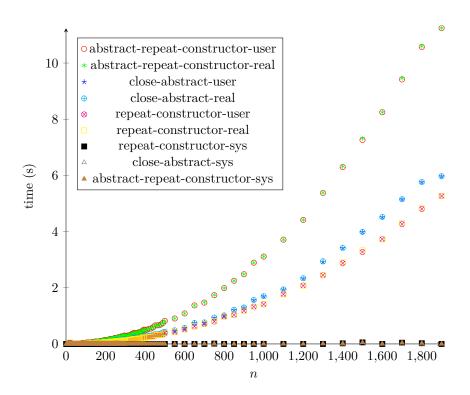


Figure 16: timing-conj-True-repeat-constructor

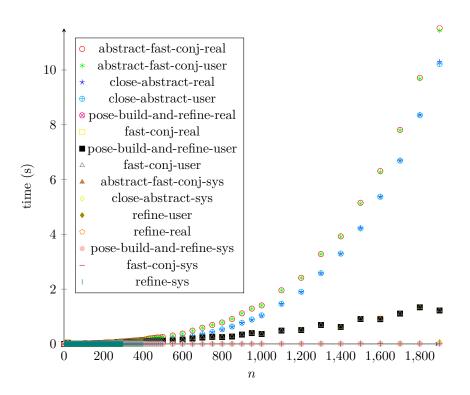
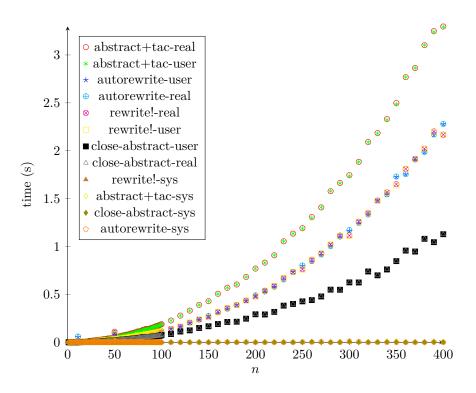


Figure 17: timing-conj-True-fast-conj



Figure~18:~timing-rewrite-repeated-app-autorewrite

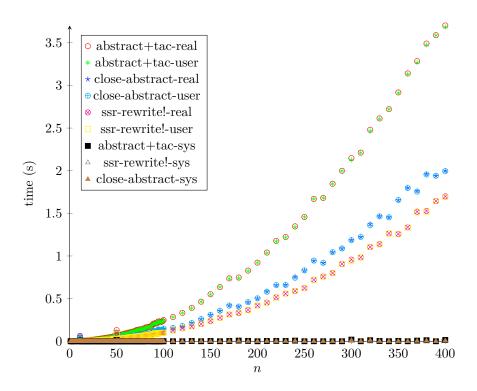
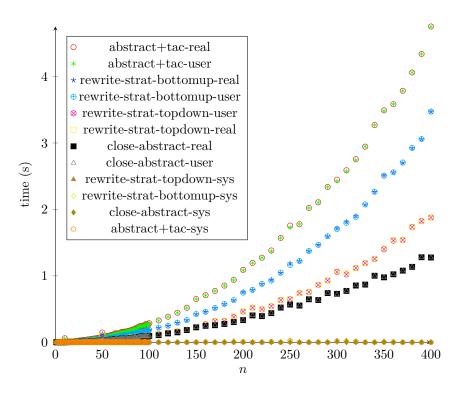


Figure 19: timing-rewrite-repeated-app-ssrrewrite



 $Figure\ 20:\ timing-rewrite-repeated-app-rewrite-strat$ 

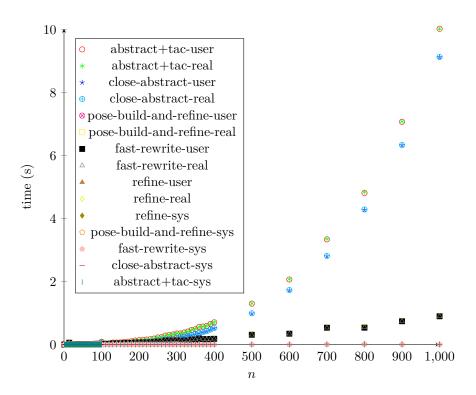


Figure 21: timing-rewrite-repeated-app-fast-rewrite

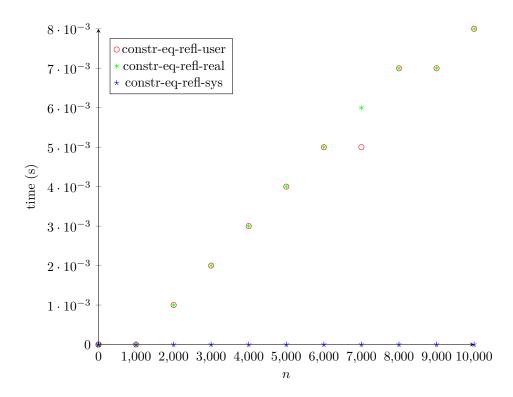


Figure 22: timing-constr-eq-alpha

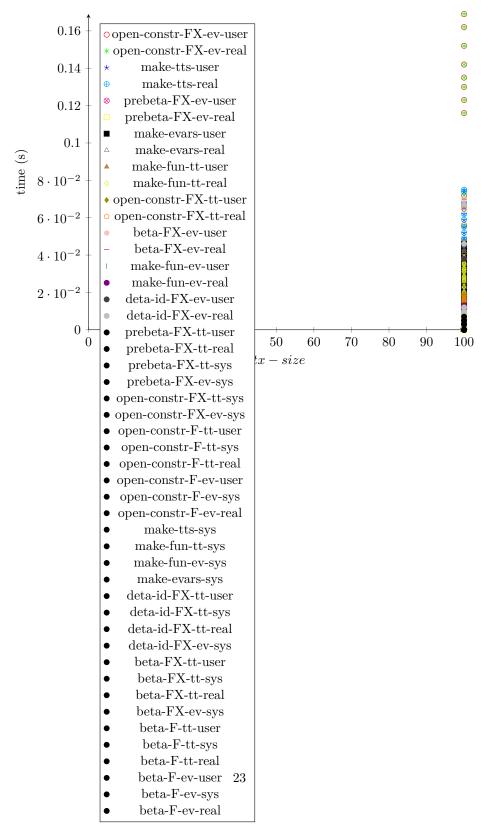


Figure 23: timing-lift-identity-evar-subst-nevar sparam-extra-binders  $\phantom{-}0,\phantom{-}1,\phantom{-}$  param-nevars  $\phantom{-}1$ 

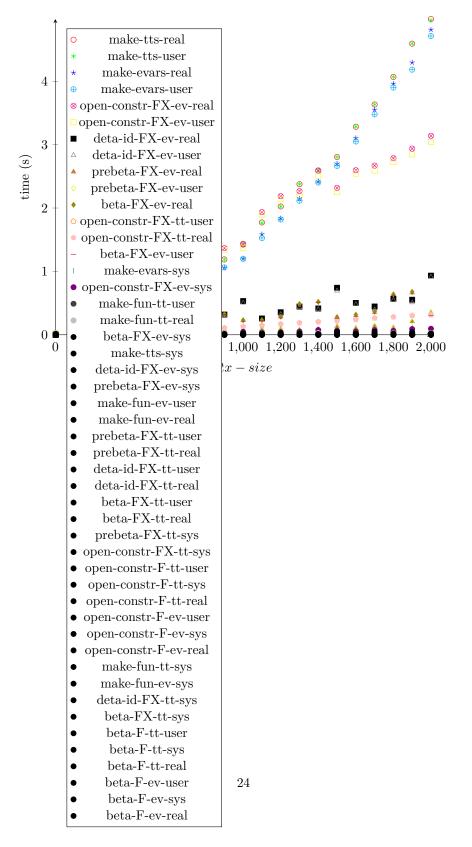


Figure 24: timing-lift-identity-evar-subst-ctxparam-extra-binders  $\ 0, \ 1, \ param-nevars \ 0, \ 1$ 

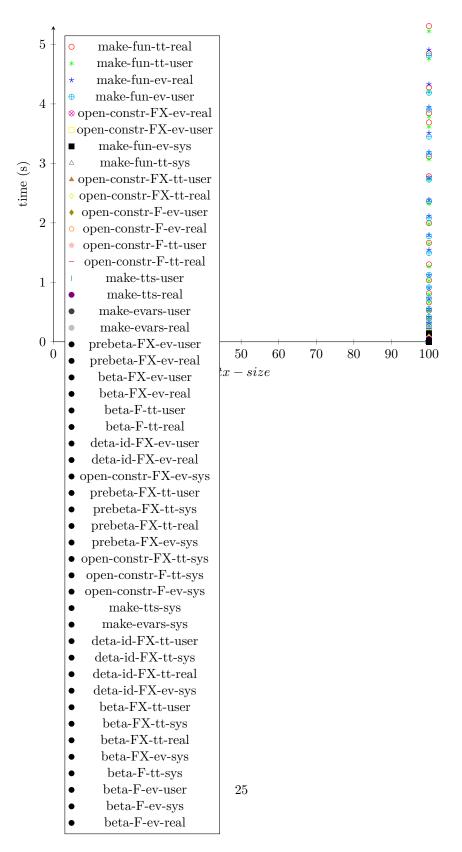


Figure 25: timing-lift-identity-evar-subst-binders param-extra-binders param-nevars 0, 1

1,

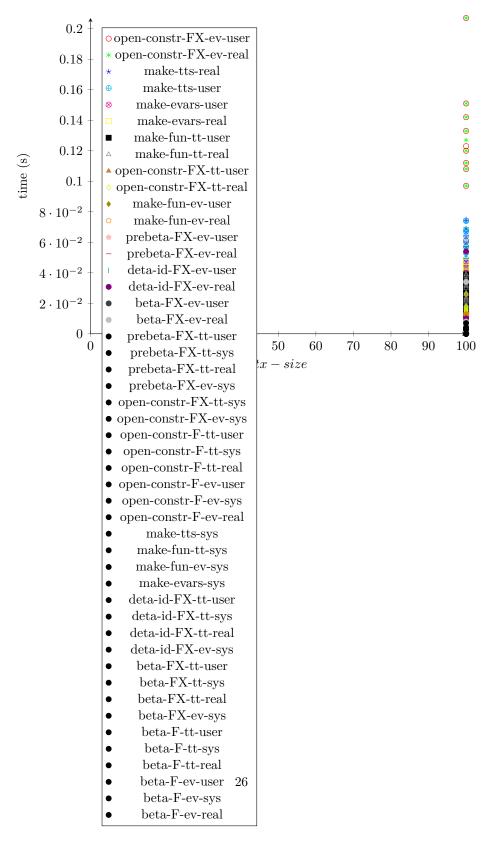


Figure 26: timing-lift-non-identity-evar-subst-nevar sparam-extra-binders  $\ 0,\ 1,\$  param-nevar s  $\ 1$ 

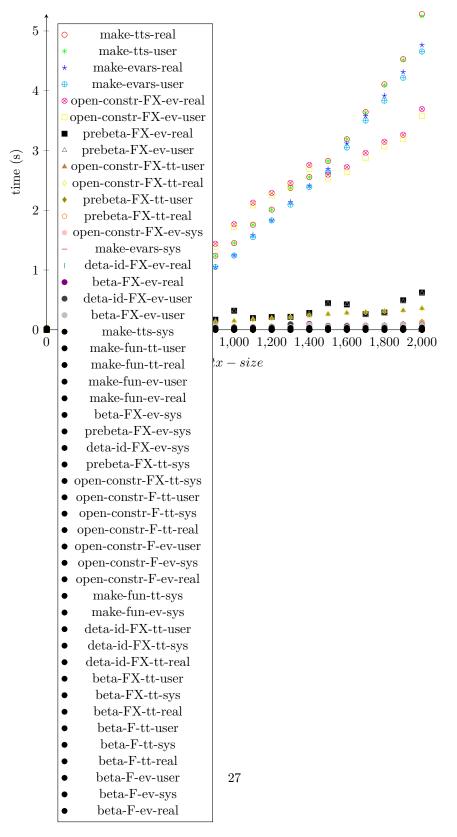


Figure 27: timing-lift-non-identity-evar-subst-ctx param-extra-binders  $0,\ 1,$  param-nevars  $0,\ 1$ 

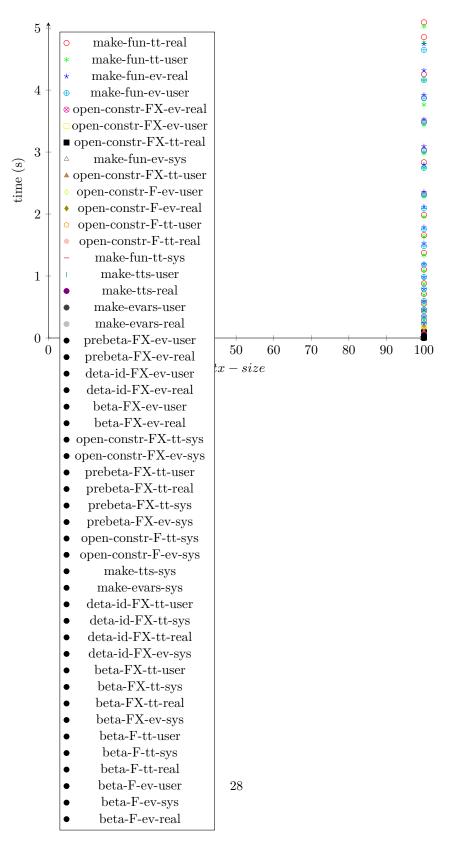
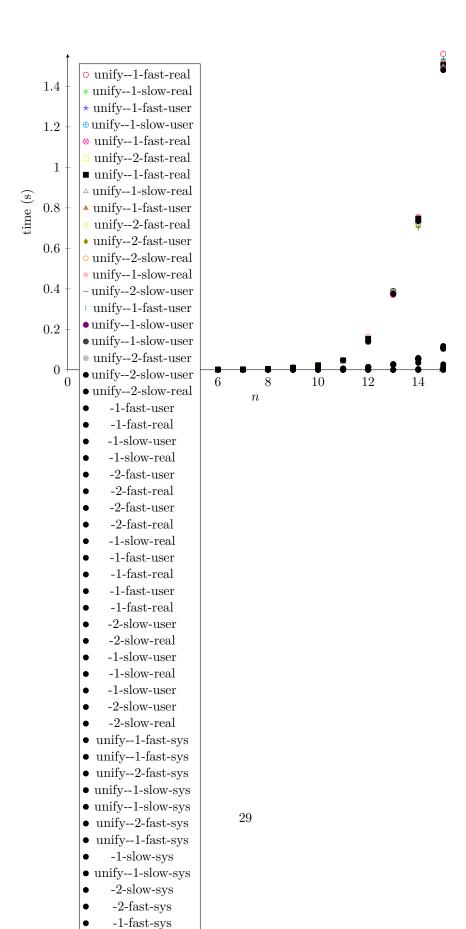
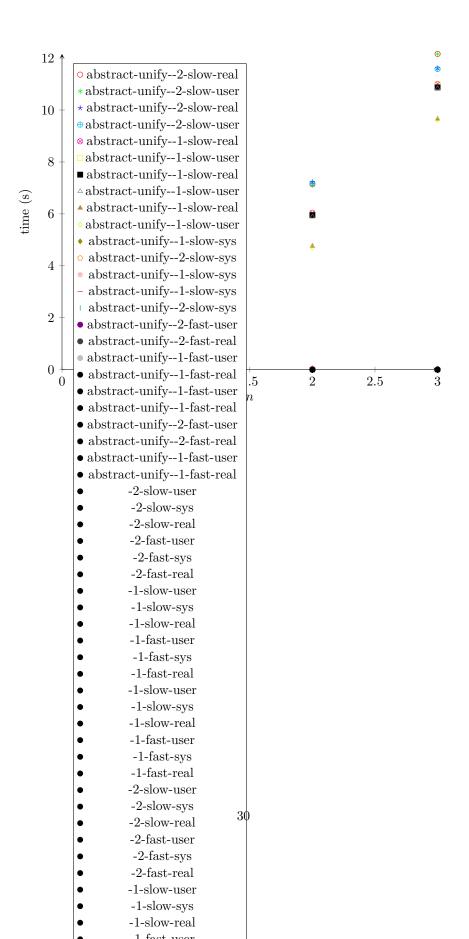


Figure 28: timing-lift-non-identity-evar-subst-binders param-extra-binders  $\ \ \, 1,$  param-nevars  $\ \ \, 0,\,1$ 



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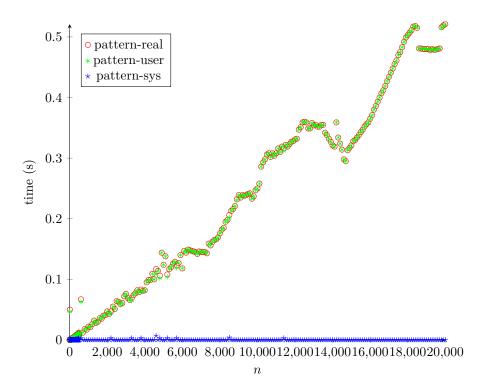


Figure 31: timing-pattern

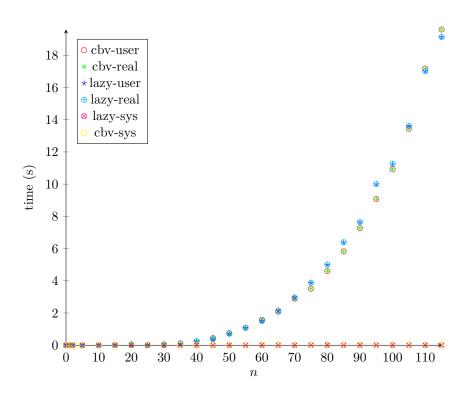


Figure 32: timing-quadratic-cbv-lazy-PHOAS param-num-binders  $\ 0$ 

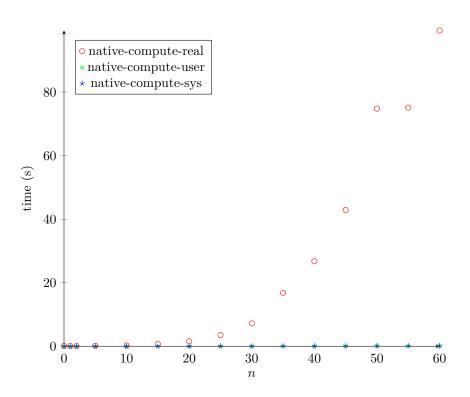


Figure 33: timing-quadratic-native-PHOAS param-num-binders  $\,0\,$ 

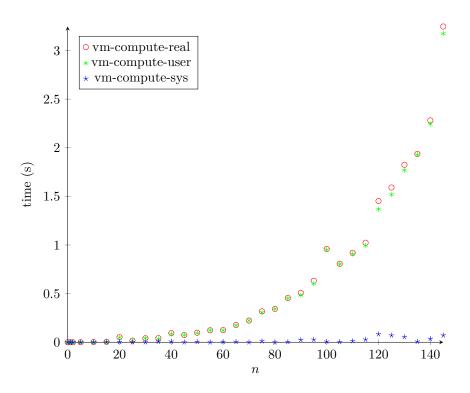


Figure 34: timing-quadratic-vm-PHOAS param-num-binders  $\ 0$