Figure 1: Timing of `rewrite_strat` and `setoid_rewrite` under binders

The plot legend contains:

- ○ repeat `rewrite_strat bottomup <- plus_n_O`
  $9.43 \cdot 10^{-5}(\# \text{ binders})^3 - 2.34 \cdot 10^{-3}(\# \text{ binders})^2 + 3.04 \cdot 10^{-2}(\# \text{ binders}) - 5.34 \cdot 10^{-2}$
- ∗ repeat `rewrite_strat topdown <- plus_n_O`
  $8.96 \cdot 10^{-5}(\# \text{ binders})^3 - 2.06 \cdot 10^{-3}(\# \text{ binders})^2 + 2.62 \cdot 10^{-2}(\# \text{ binders}) - 4.23 \cdot 10^{-2}$
- ∗ repeat `setoid_rewrite <- plus_n_O`
  $1.28 \cdot 10^{-6}(\# \text{ binders})^3 - 7.5 \cdot 10^{-6}(\# \text{ binders})^2 + 2.8 \cdot 10^{-3}(\# \text{ binders}) - 7.28 \cdot 10^{-3}$
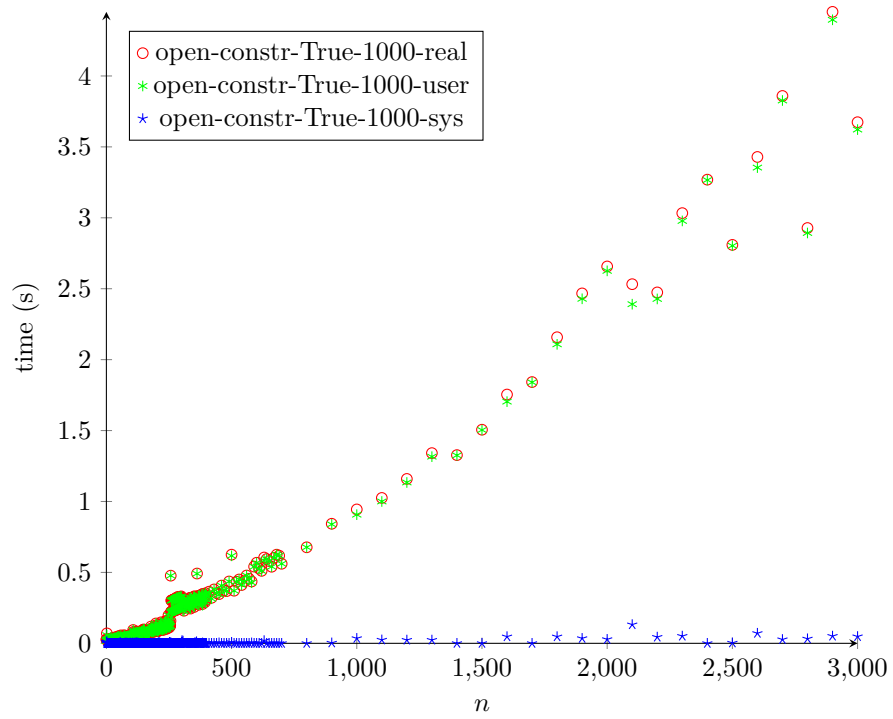
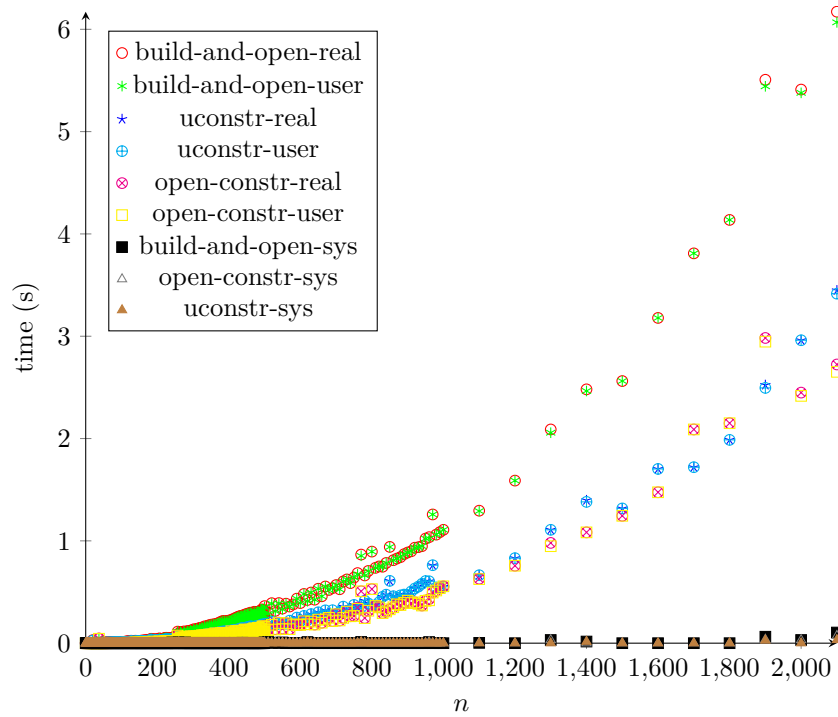Figure 2: timing-do-n-open-constr-True

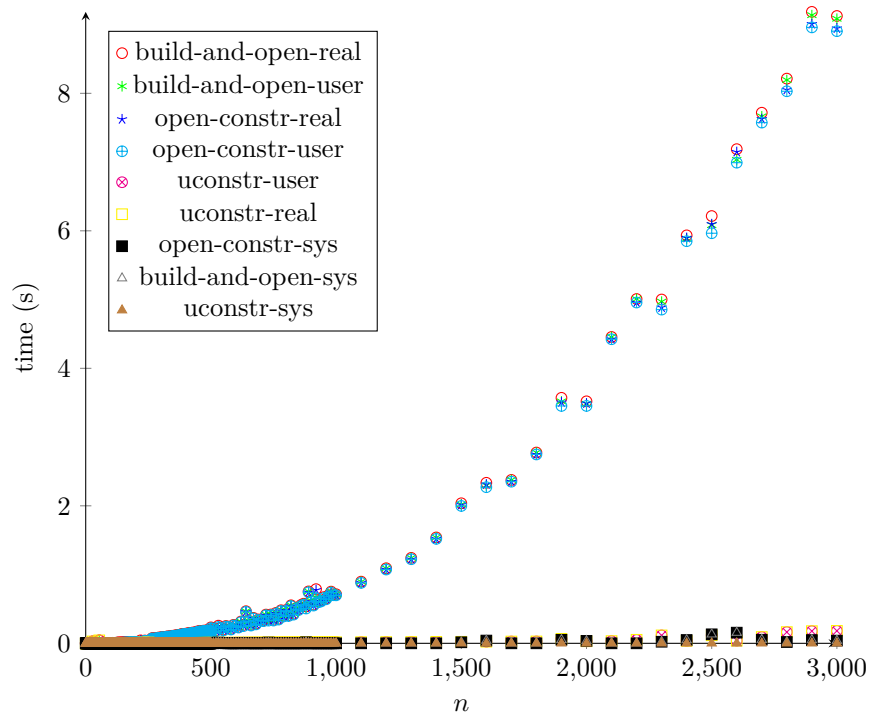Figure 3: timing-open-constr-n-lambda-no-types-different-names

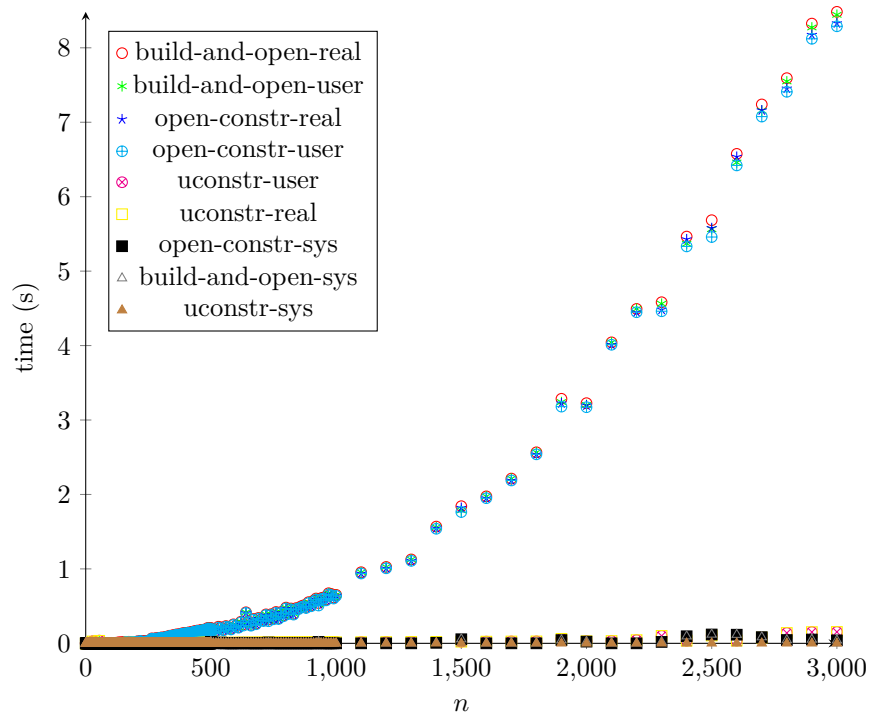Figure 4: timing-open-constr-n-lambda-no-types-no-names

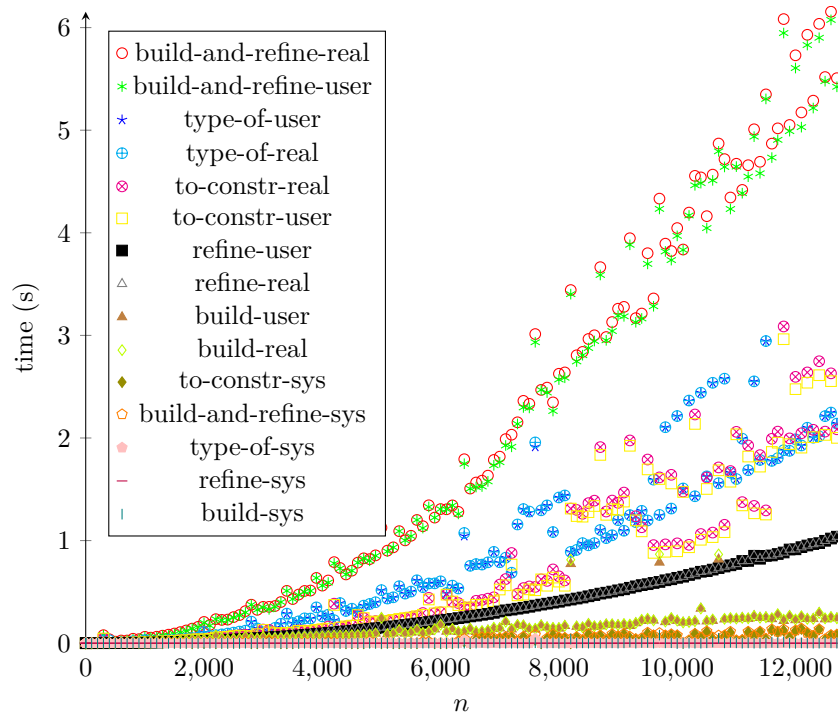Figure 5: timing-open-constr-n-lambda-no-types-same-names
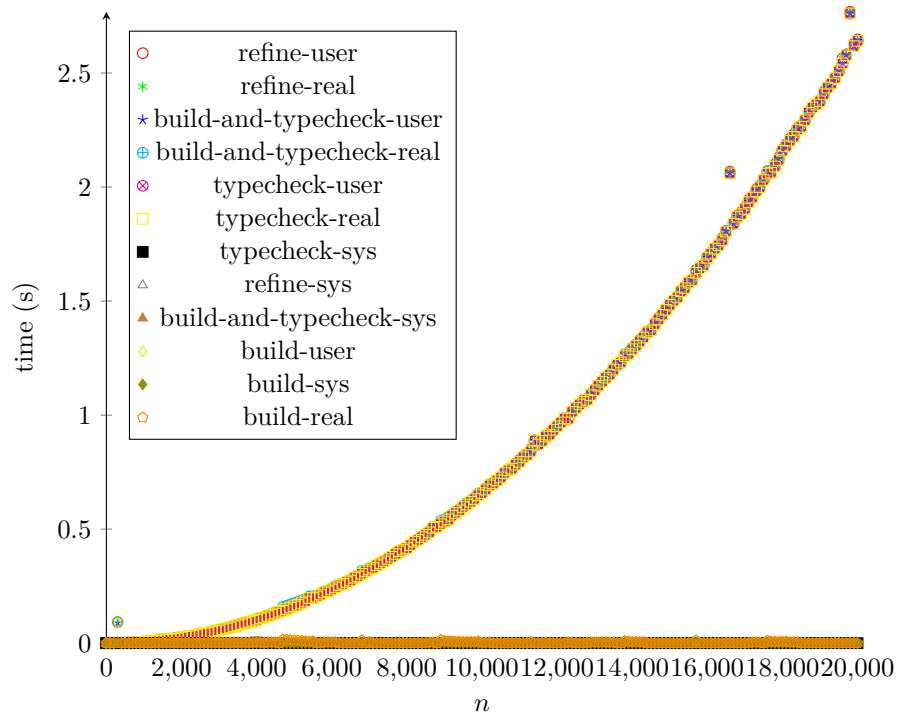
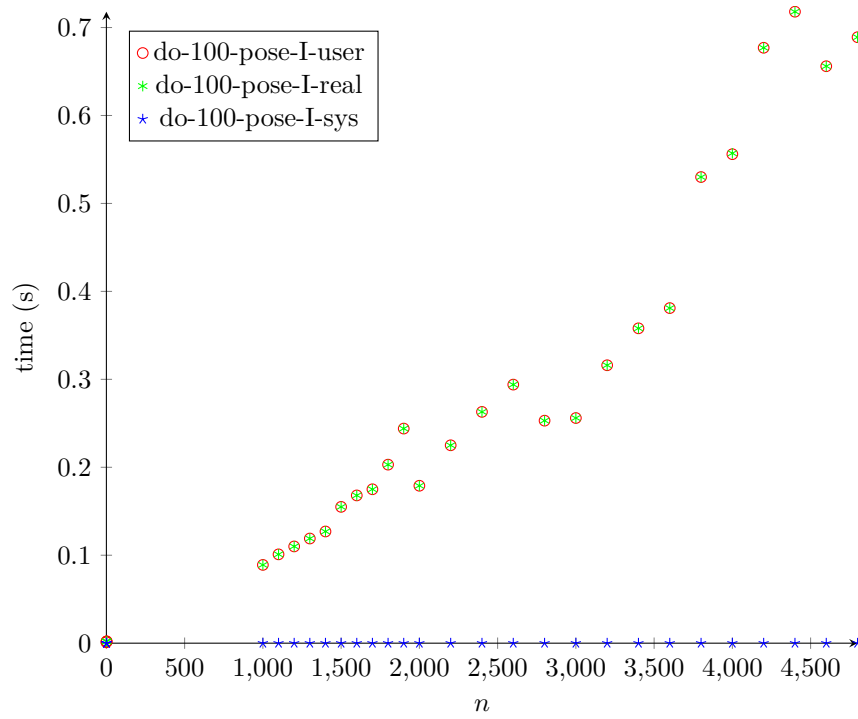Figure 6: timing-app-n-uconstr

Figure 7: timing-app-n-ltac2
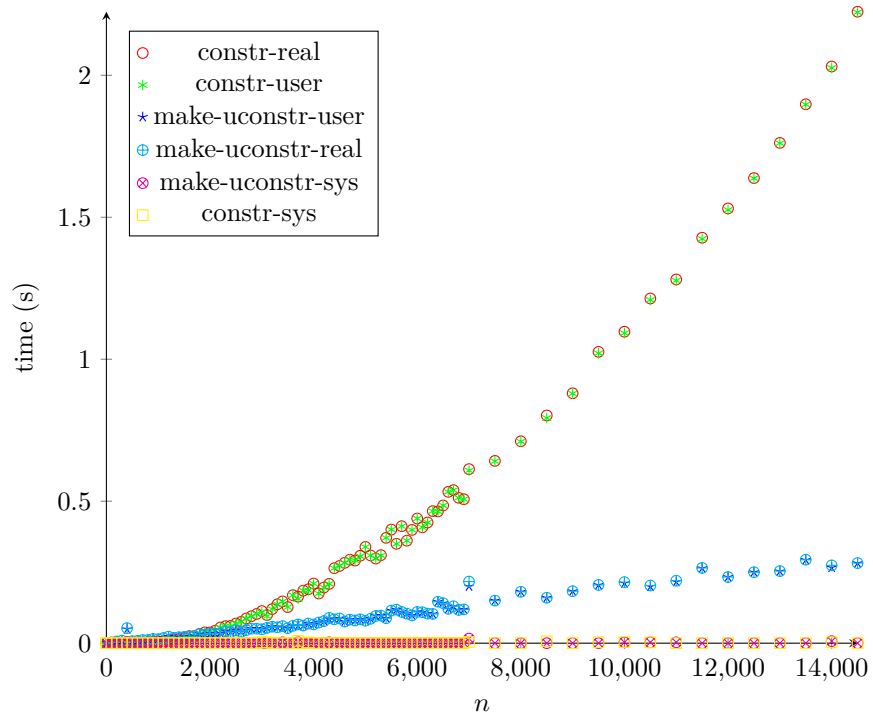
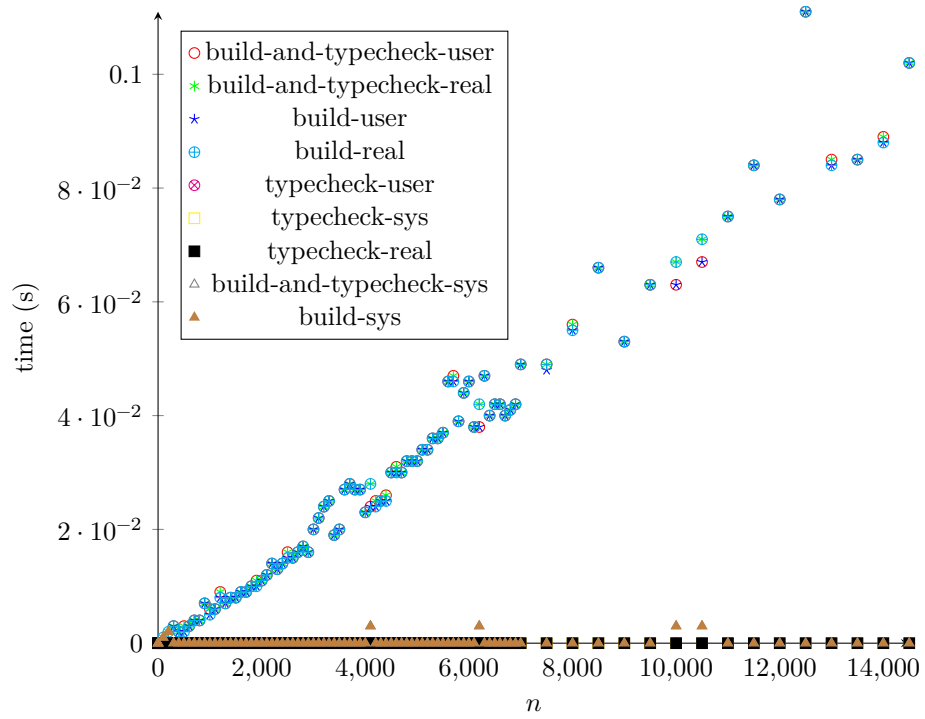Figure 8: timing-do-n-pose

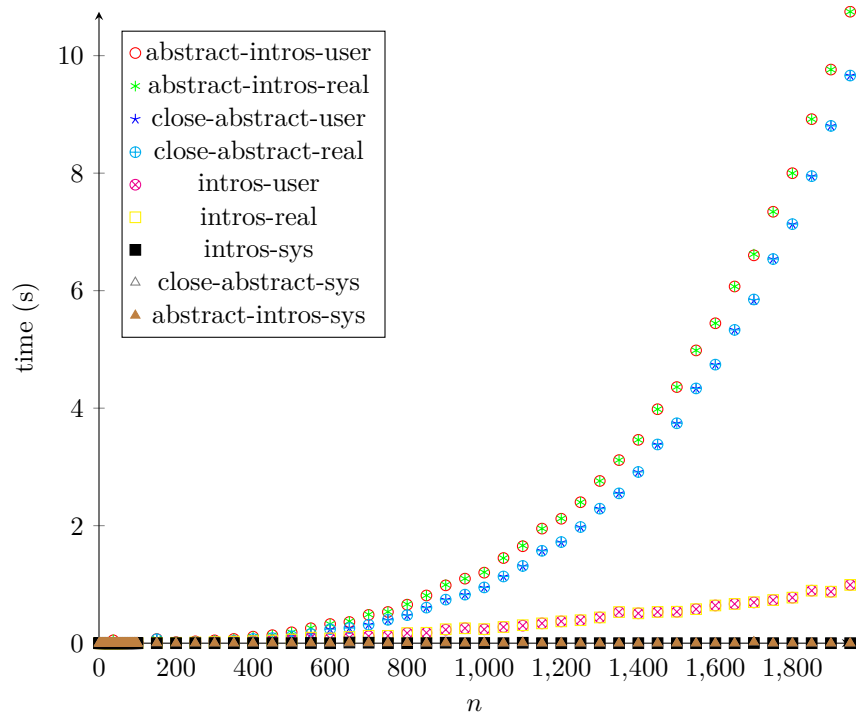Figure 9: timing-let-n-uconstr

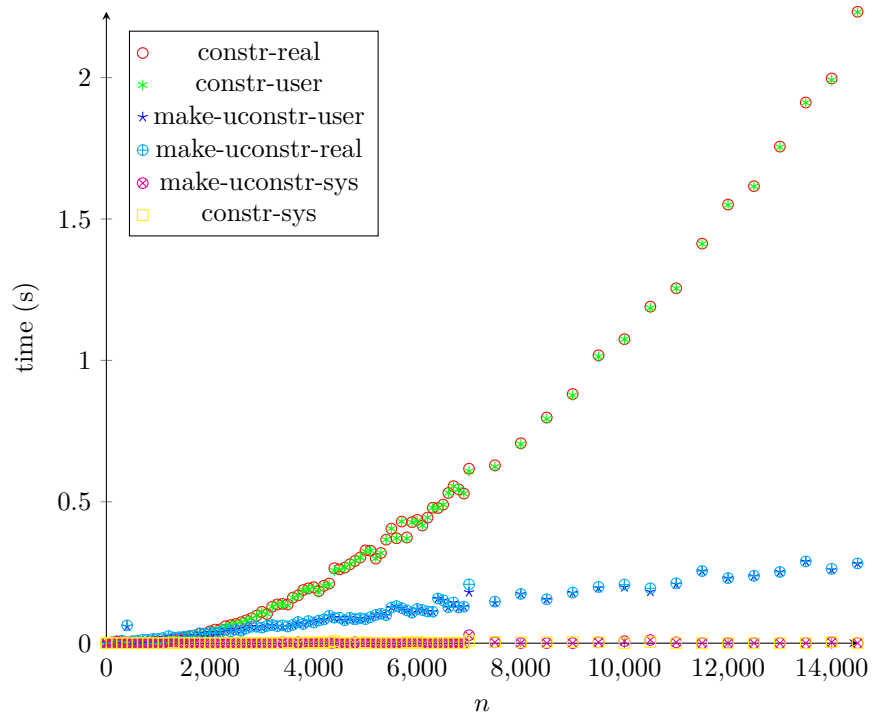Figure 10: timing-let-n-ltac2

Figure 11: timing-intros-n-let

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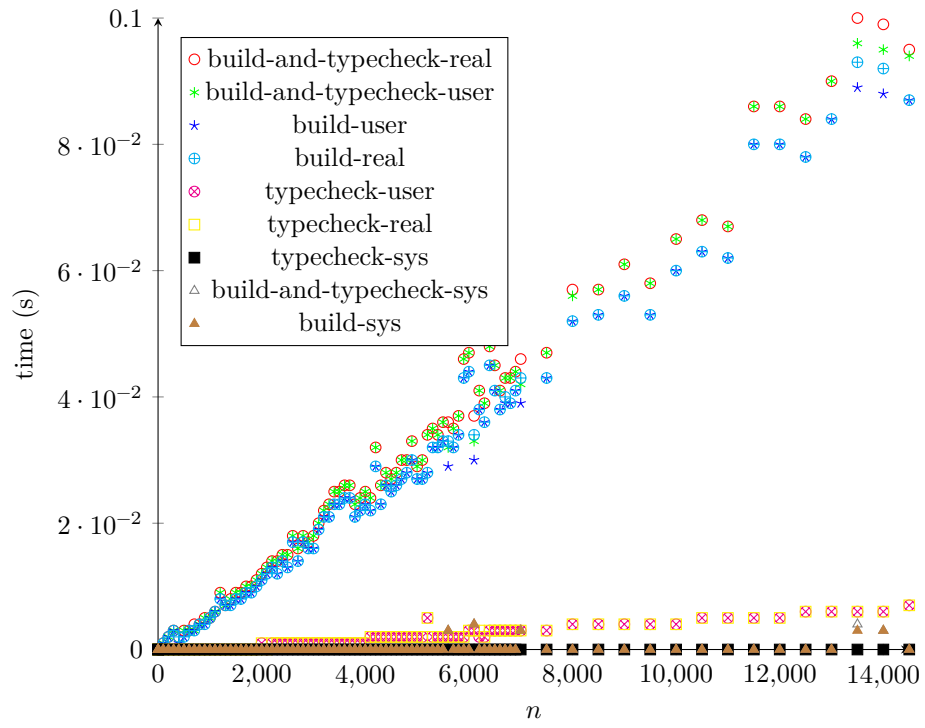Figure 12: timing-fun-n-uconstr

Figure 13: timing-fun-n-ltac2

13
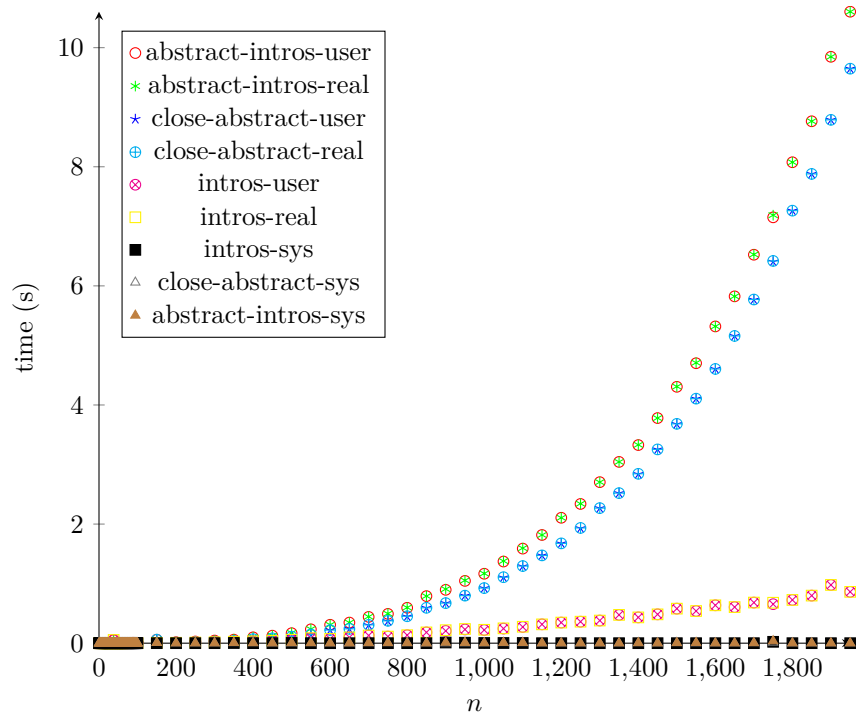
Figure 14: timing-intros-n-fun
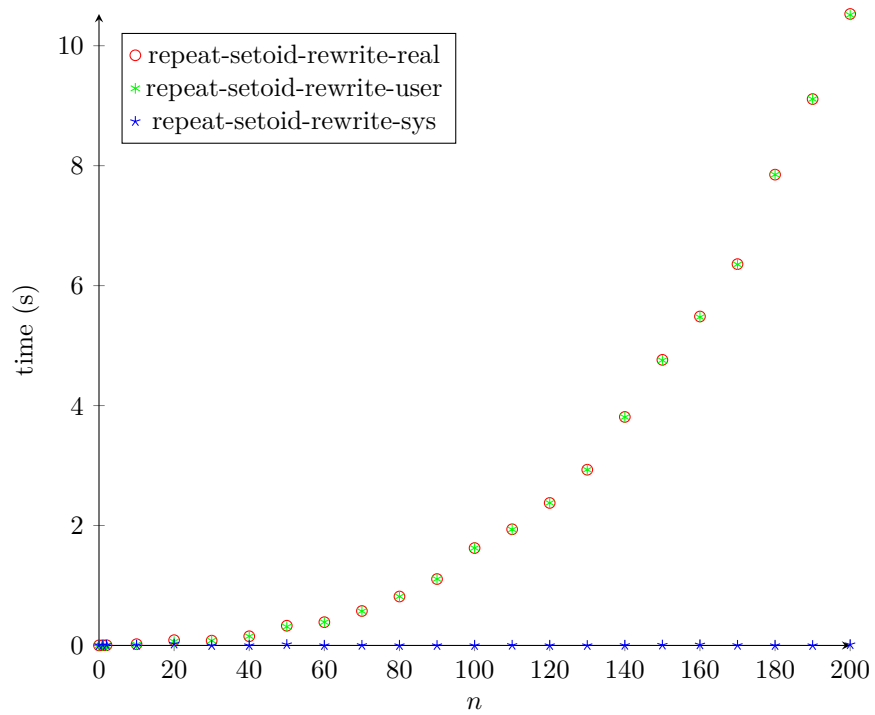
Figure 15: timing-repeat-setoid-rewrite-under-binders
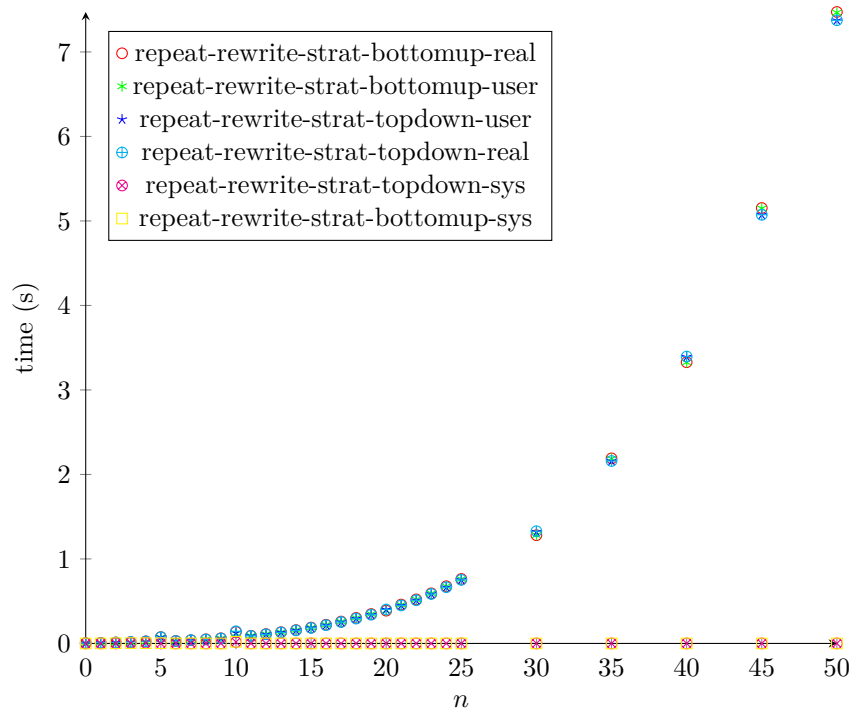
Figure 16: timing-rewrite-strat-under-binders
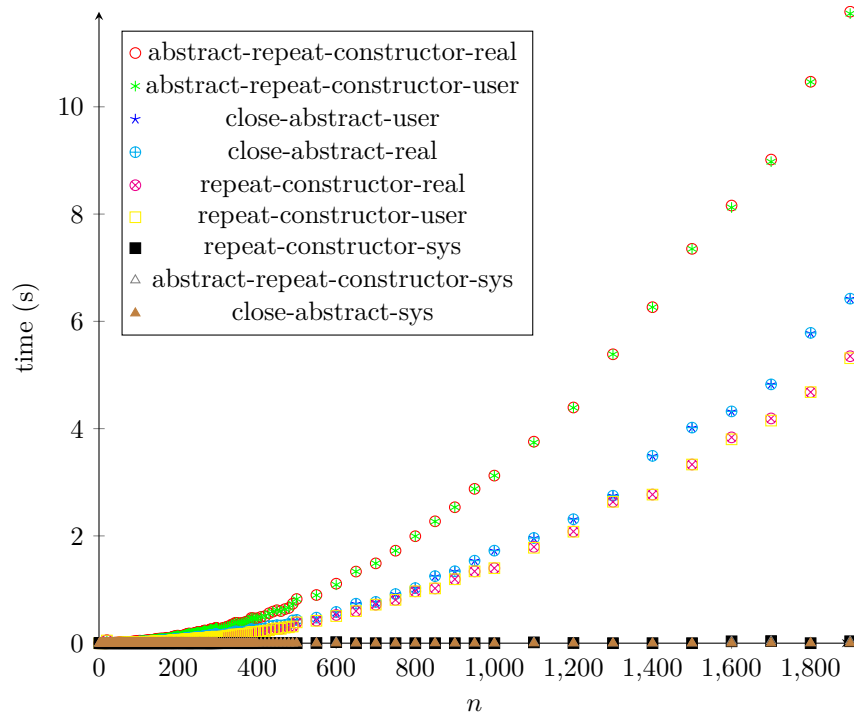
Figure 17: timing-conj-True-repeat-constructor

17
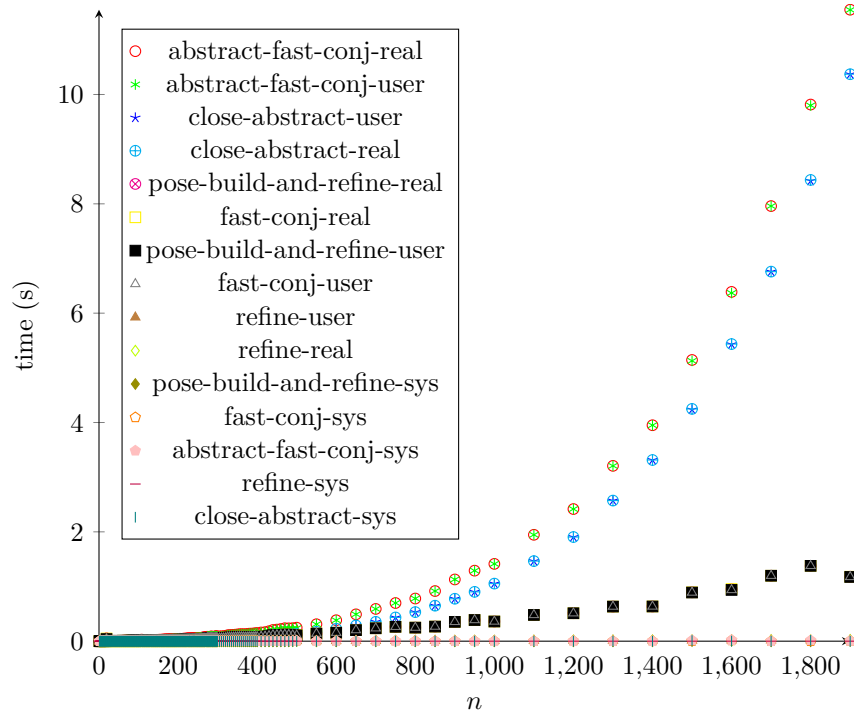
Figure 18: timing-conj-True-fast-conj
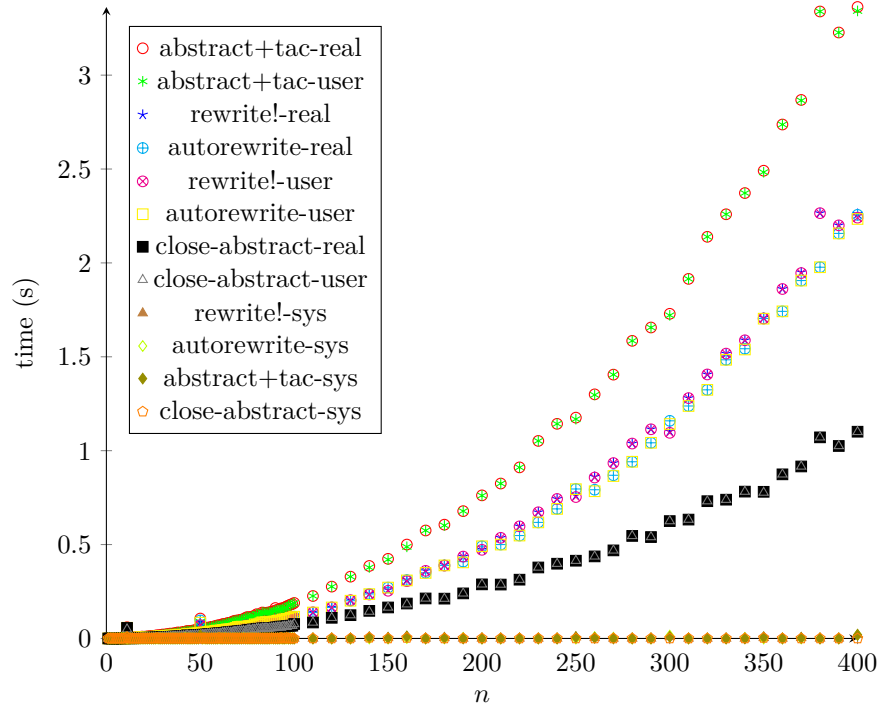
Figure 19: timing-rewrite-repeated-app-autorewrite

19
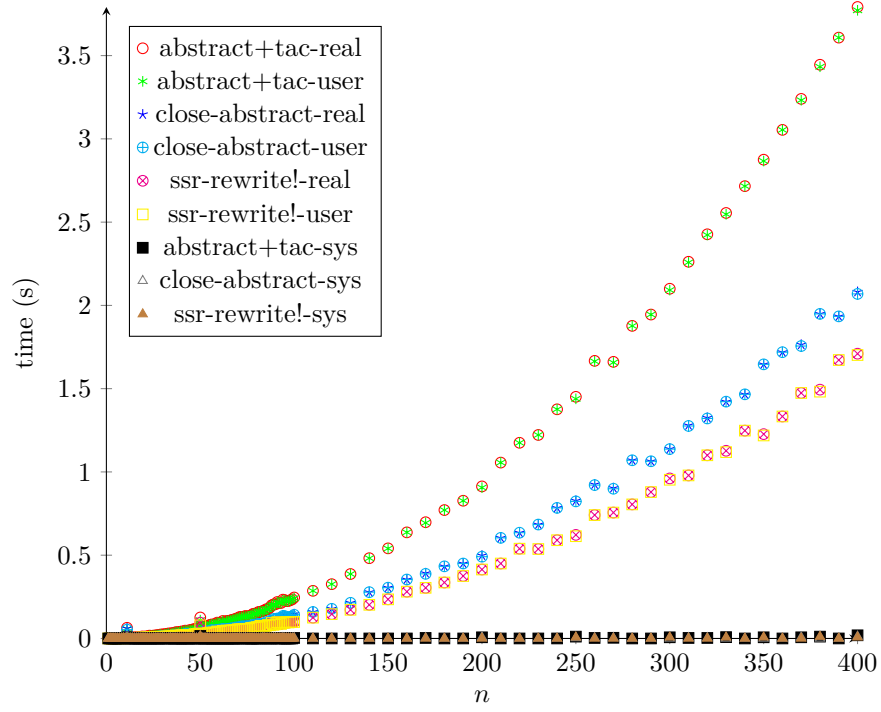
Figure 20: timing-rewrite-repeated-app-ssrrewrite
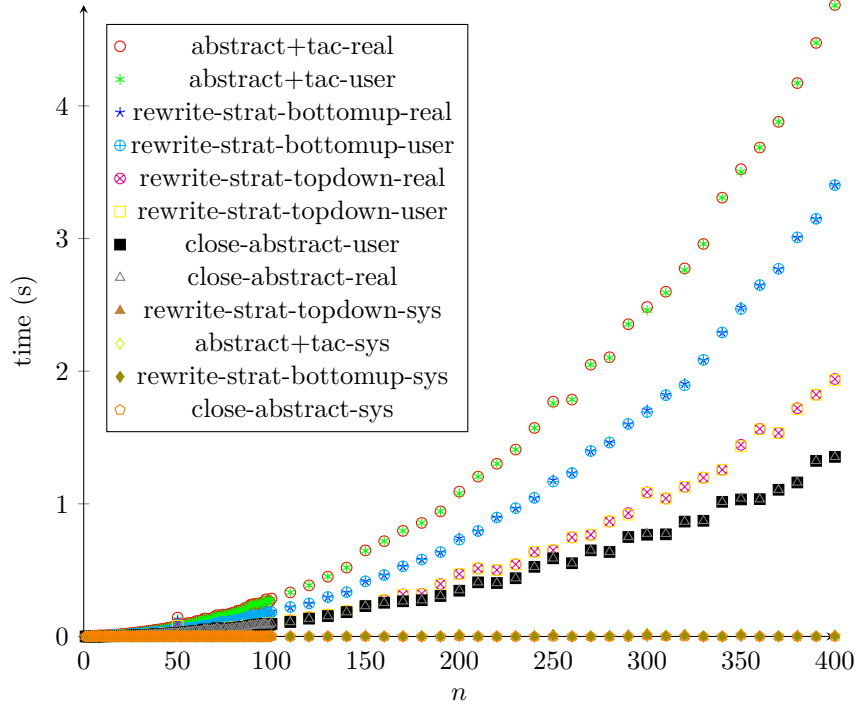
Figure 21: timing-rewrite-repeated-app-rewrite-strat
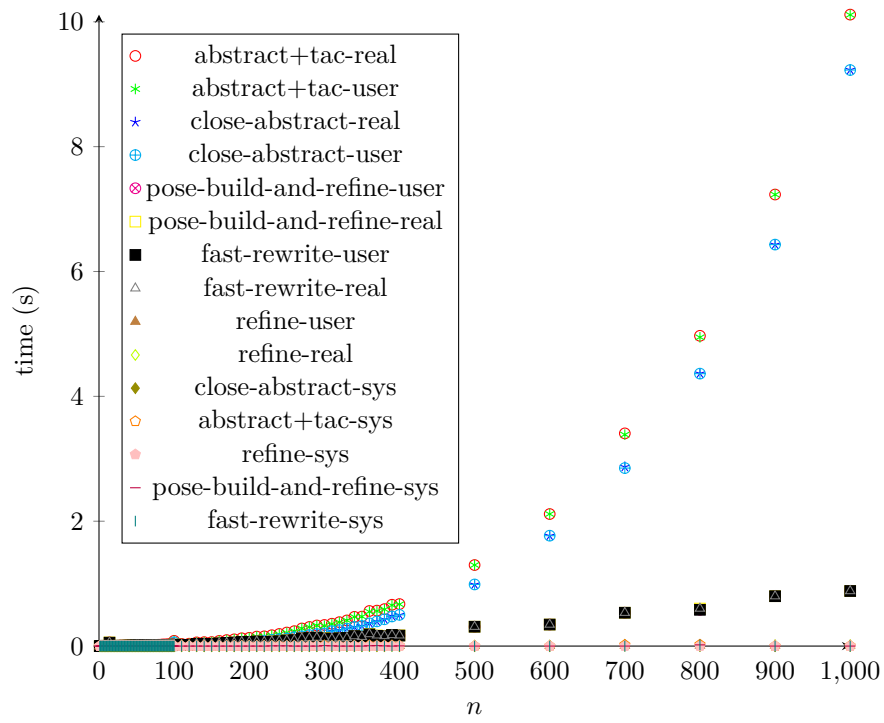
Figure 22: timing-rewrite-repeated-app-fast-rewrite
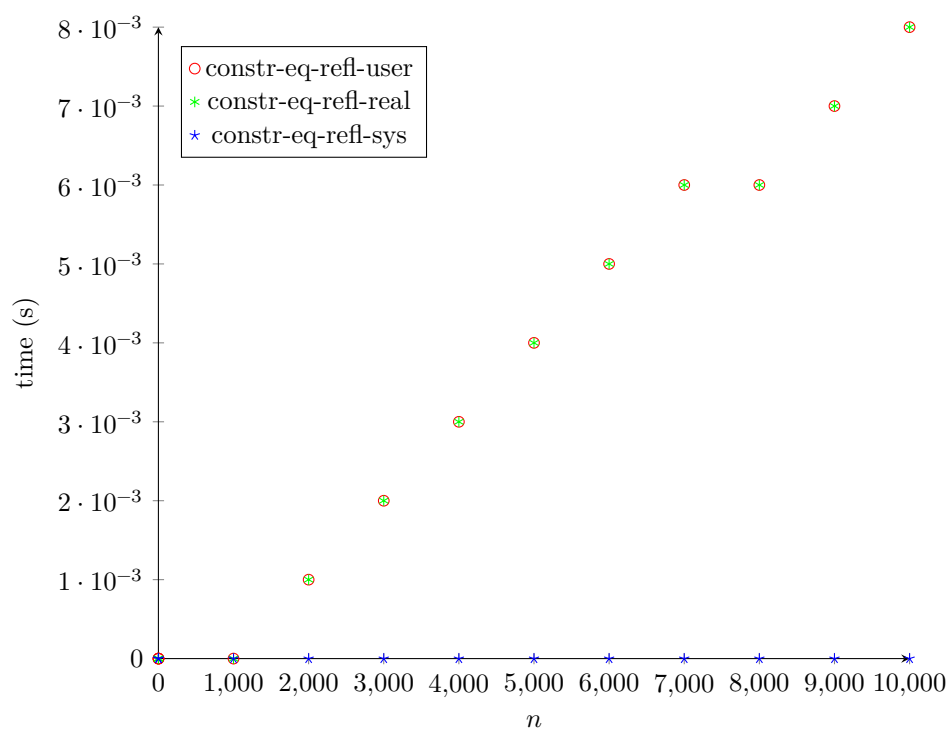
Figure 23: timing-constr-eq-alpha
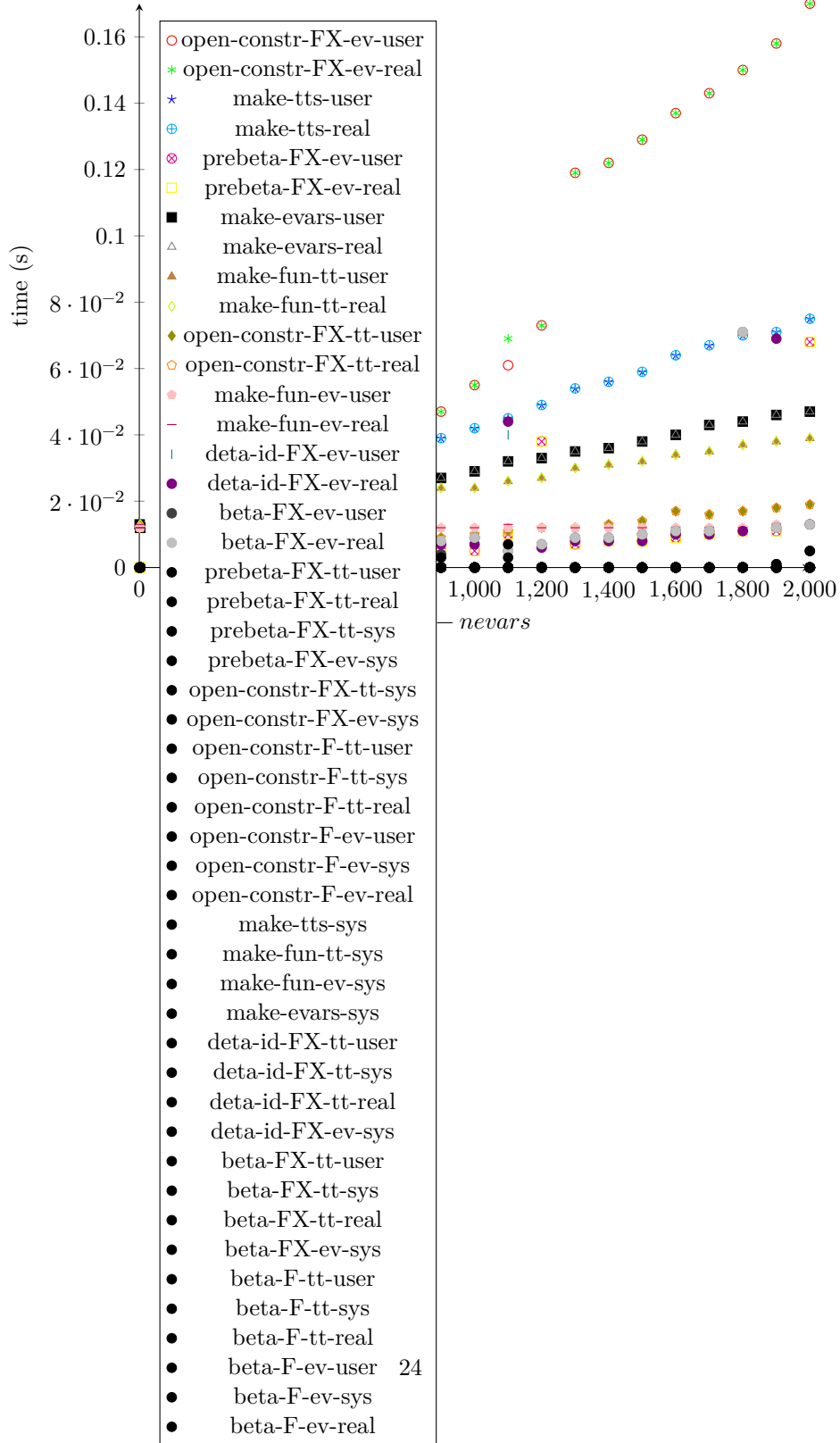
Figure 24: timing-lift-identity-evar-subst-nevars param-ctx-size 0, 1, param-extra-binders 0, 1

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

Legend entries:
- unify-delta-1-fast-real
- unify-delta-1-slow-real
- unify-delta-1-slow-user
- unify-delta-1-fast-user
- unify-zeta-1-fast-real
- unify-zeta-2-slow-real
- unify-zeta-1-slow-user
- unify-zeta-1-slow-real
- unify-zeta-2-slow-user
- unify-zeta-1-fast-user
- unify-beta-1-fast-real
- unify-beta-2-slow-user
- unify-beta-2-slow-real
- unify-beta-2-fast-real
- unify-zeta-2-fast-real
- unify-beta-2-fast-user
- unify-beta-1-slow-user
- unify-beta-1-slow-real
- unify-zeta-2-fast-user
- unify-beta-1-fast-user
- delta-1-slow-user
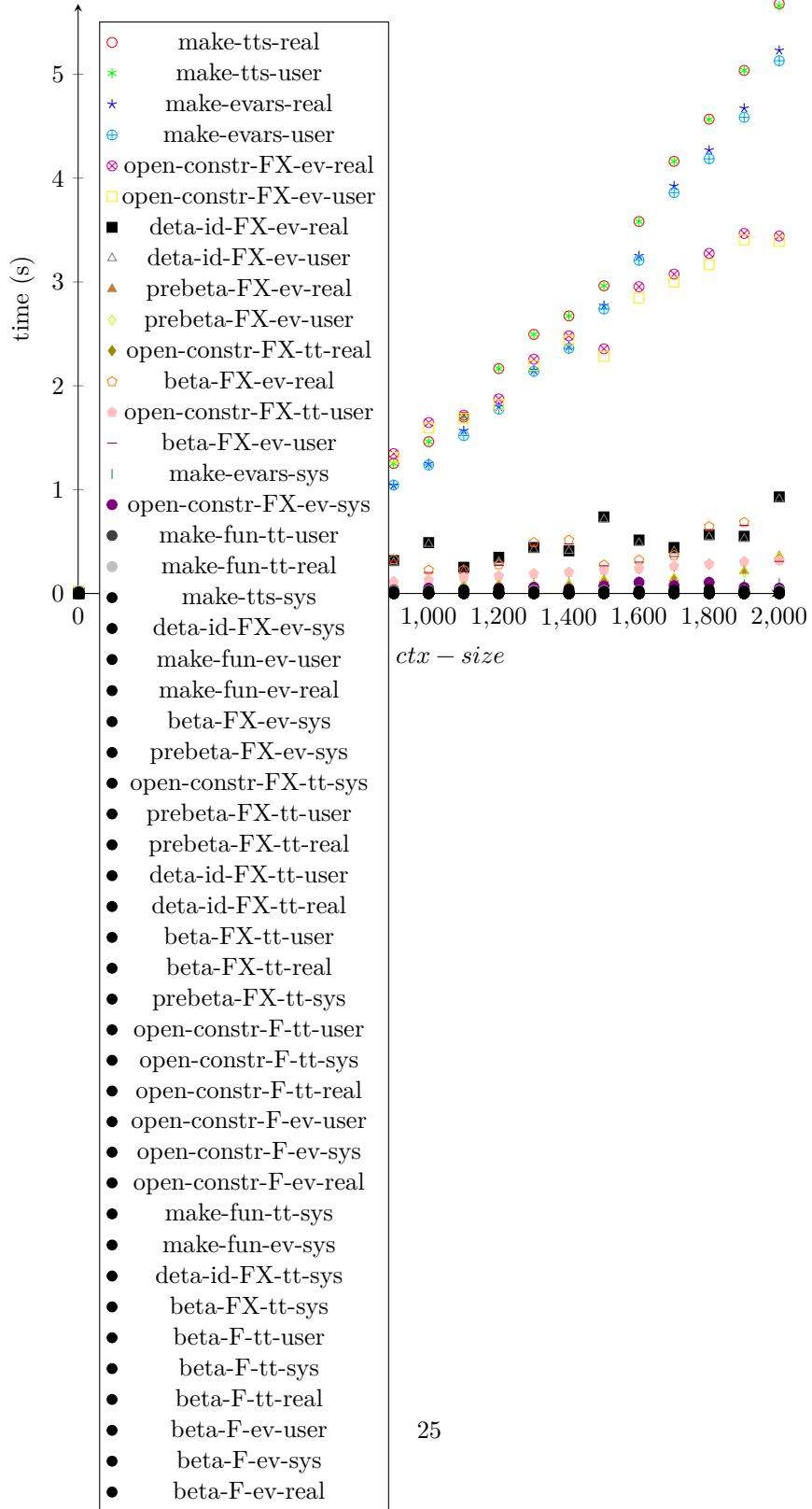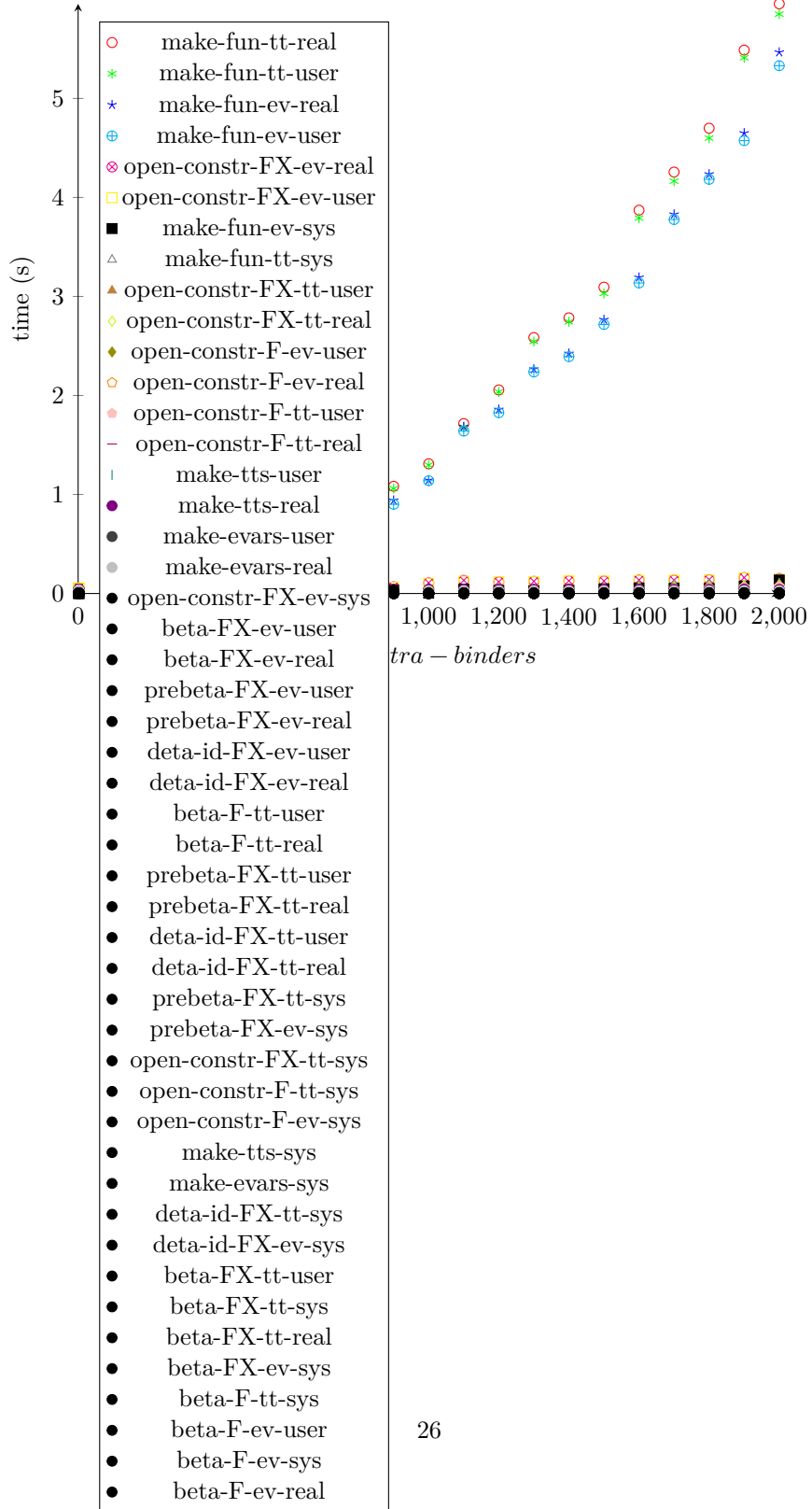- delta-1-slow-real
- delta-1-fast-user
- delta-1-fast-real
- beta-2-fast-user
- beta-2-fast-real
- beta-2-slow-user
- beta-2-slow-real
- beta-1-fast-user
- beta-1-fast-real
- zeta-2-slow-user
- zeta-2-slow-real
- zeta-2-fast-user
- zeta-2-fast-real
- zeta-1-fast-user
- zeta-1-fast-real
- beta-1-slow-real
- zeta-1-slow-user
- zeta-1-slow-real
- beta-1-slow-user
- unify-delta-1-fast-sys
- unify-beta-1-fast-sys
- unify-zeta-1-fast-sys
- unify-zeta-2-fast-sys
- unify-zeta-2-slow-sys
- unify-delta-1-slow-sys
- unify-beta-2-fast-sys
- zeta-2-slow-sys
- zeta-2-fast-sys
- zeta-1-slow-sys
- zeta-1-fast-sys
- unify-zeta-1-slow-sys
- unify-beta-2-slow-sys

Axis labels: time (s), n

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time (s)

- abstract-unify-beta-2-slow-real
- abstract-unify-beta-2-slow-user
- abstract-unify-zeta-2-slow-real
- abstract-unify-zeta-2-slow-user
- abstract-unify-beta-1-slow-real
- abstract-unify-beta-1-slow-user
- abstract-unify-zeta-1-slow-real
- abstract-unify-zeta-1-slow-user
- abstract-unify-delta-1-slow-real
- abstract-unify-delta-1-slow-user
- abstract-unify-zeta-1-slow-sys
- abstract-unify-beta-1-slow-sys
- abstract-unify-delta-1-slow-sys
- abstract-unify-beta-2-slow-sys
- abstract-unify-zeta-2-slow-sys
- abstract-unify-zeta-2-fast-user
- abstract-unify-zeta-2-fast-real
- abstract-unify-zeta-1-fast-user
- abstract-unify-zeta-1-fast-real
- abstract-unify-delta-1-fast-user
- abstract-unify-delta-1-fast-real
- abstract-unify-beta-2-fast-user
- abstract-unify-beta-2-fast-real
- abstract-unify-beta-1-fast-user
- abstract-unify-beta-1-fast-real
- zeta-2-slow-user
- zeta-2-slow-sys
- zeta-2-slow-real
- zeta-2-fast-user
- zeta-2-fast-sys
- zeta-2-fast-real
- zeta-1-slow-user
- zeta-1-slow-sys
- zeta-1-slow-real
- zeta-1-fast-user
- zeta-1-fast-sys
- zeta-1-fast-real
- unify-zeta-2-slow-user
- unify-zeta-2-slow-sys
- unify-zeta-2-slow-real
- unify-zeta-2-fast-user
- unify-zeta-2-fast-sys
- unify-zeta-2-fast-real
- unify-zeta-1-slow-user
- unify-zeta-1-slow-sys
- unify-zeta-1-slow-real
- unify-zeta-1-fast-user
- unify-zeta-1-fast-sys
- unify-zeta-1-fast-real
- unify-delta-1-slow-user
- unify-delta-1-slow-sys
- unify-delta-1-slow-real
- unify-delta-1-fast-user

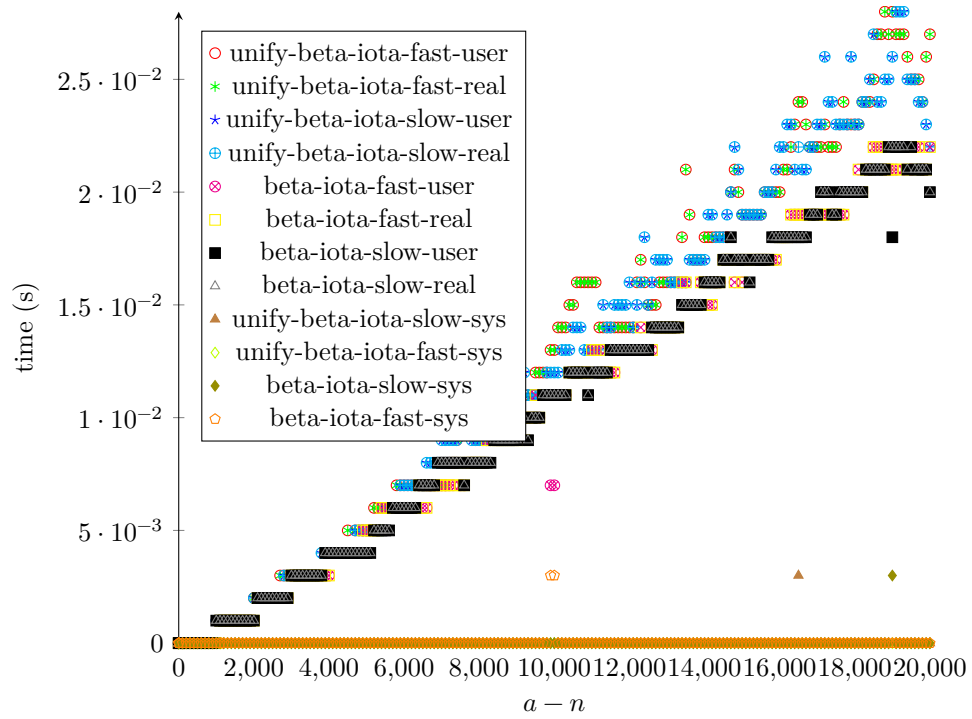Figure 32: timing-iota-reduction-fact8 param-fact-n 8

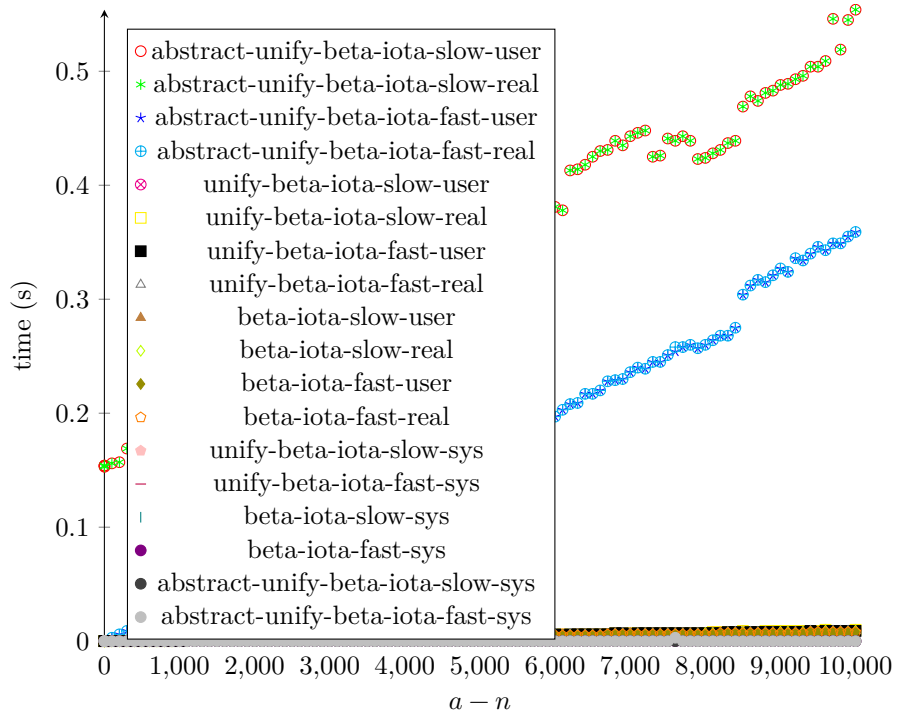Figure 33: timing-iota-reduction-fact9 param-fact-n 9

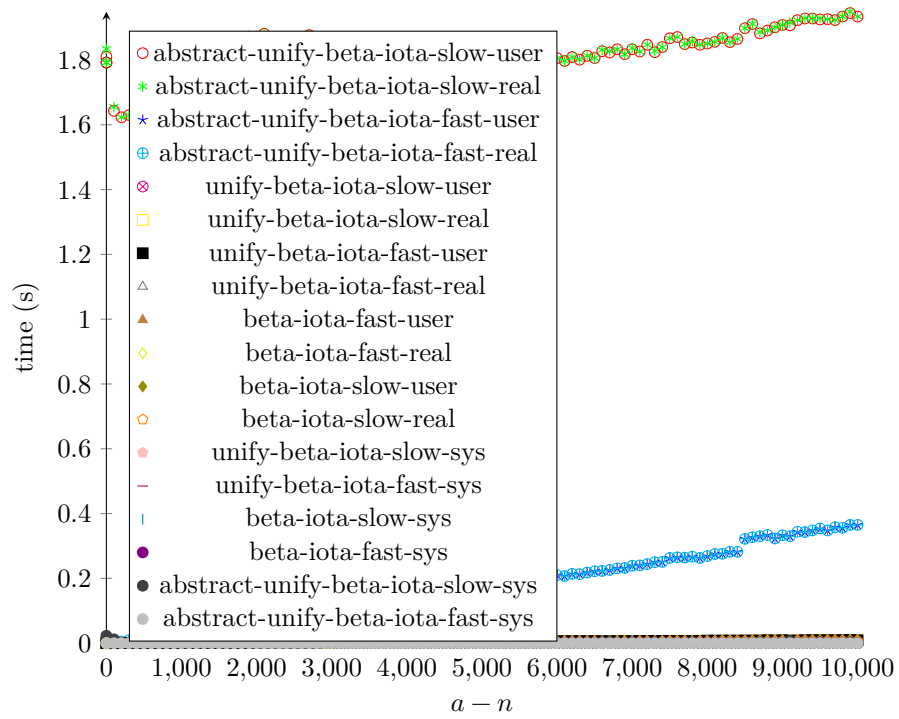Figure 34: timing-iota-reduction-with-abstract-fact8 param-fact-n 8

Figure 35: timing-iota-reduction-with-abstract-fact9 param-fact-n 9
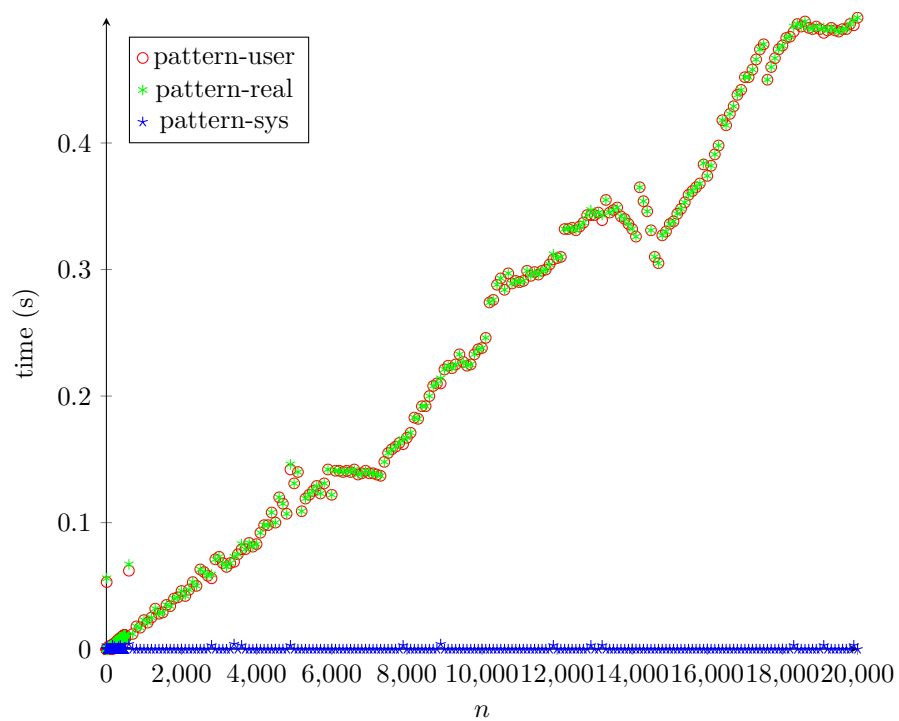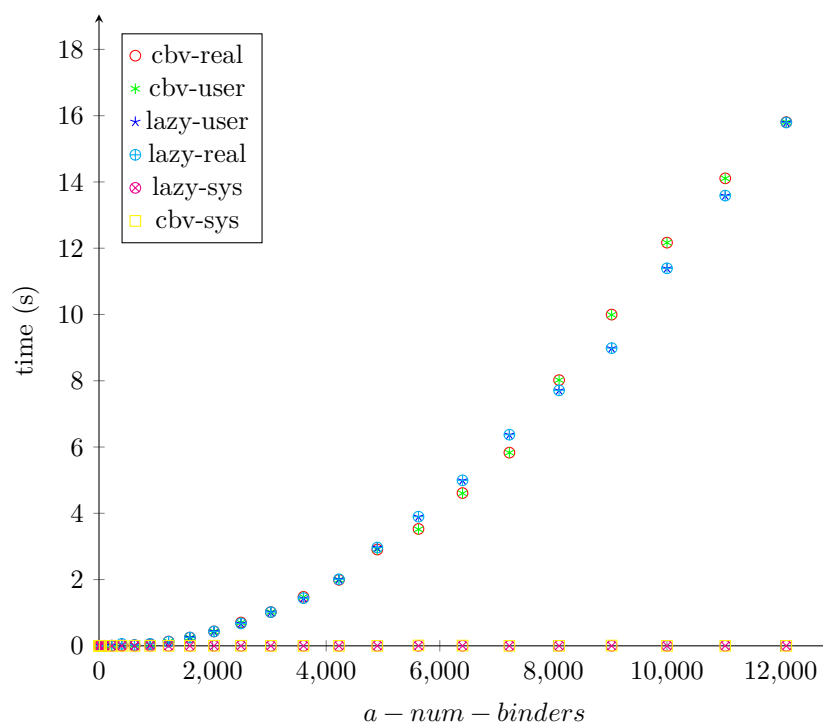
Figure 36: timing-pattern

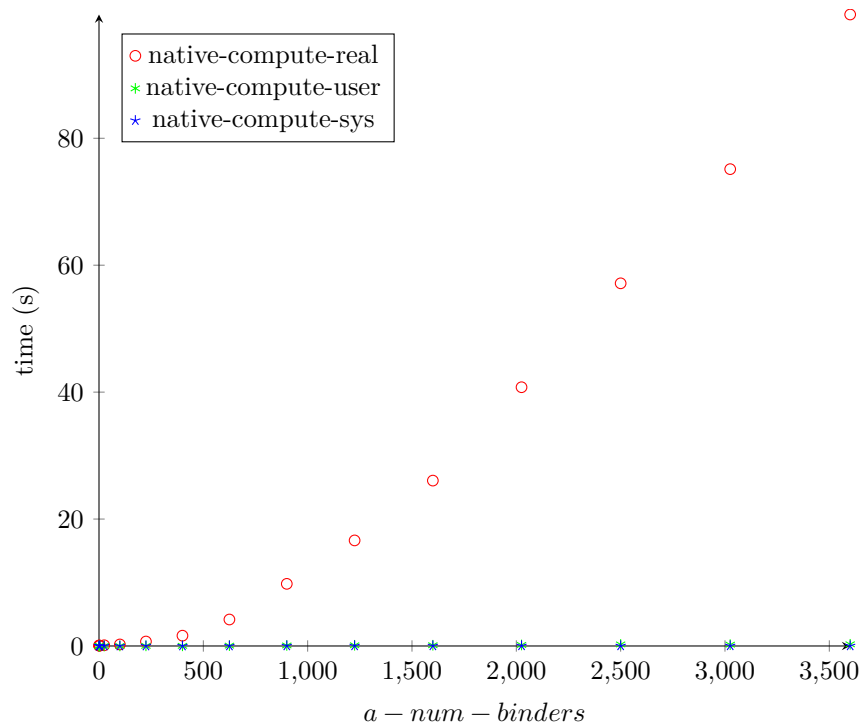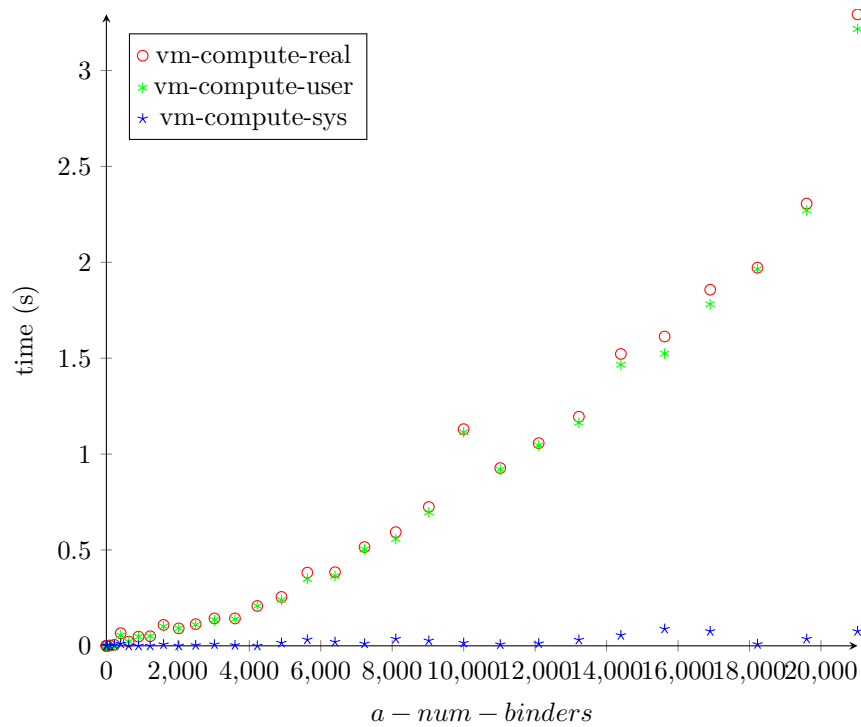Figure 37: timing-quadratic-cbv-lazy-PHOAS param-n 0

Figure 38: timing-quadratic-native-PHOAS param-n 0

Figure 39: timing-quadratic-vm-PHOAS param-n 0