Appendix

A. Tarzariol, M. Gebser, M. Law, K. Schekotihin

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The document contains an example of how the conflict analysis method *sbca* works.

Example 1 *Consider a scenario where* ILASP *is being run on a task* T *with the following language bias:*

```
#modeb(1,r(var(t),var(t))).
#modeb(1,close(var(t),var(t)),(symmetric,anti_reflexive)).
#modeb(2,pGEQ(var(t),var(t))).
#modeb(1,q(var(t),var(t))).
```

At some point in the execution of ILASP, T *may compute the hypothesis* $H = \{$`:- close(V1,V2).` `:- not pGEQ(V1,V1), q(V1,V1).`$\}$. *Within the hypothesis space computed by* ILASP,[1] *the first rule is only theta-subsumed by itself, and the second rule is theta-subsumed by the following rules.*

```
:- q(V1,V1).
:- pGEQ(V1,V2).
:- q(V1,V2).
:- pGEQ(V1,V1).
:- not pGEQ(V1,V1); q(V1,V1).
:- not pGEQ(V1,V1); q(V1,V2).
:- not pGEQ(V1,V2); q(V1,V2).
:- not pGEQ(V2,V1); q(V1,V2).
:- not pGEQ(V2,V2); q(V1,V2).
:- not pGEQ(V1,V1); not pGEQ(V1,V2); q(V1,V2).
:- not pGEQ(V1,V1); not pGEQ(V2,V1); q(V1,V2).
:- not pGEQ(V1,V1); not pGEQ(V2,V2); q(V1,V2).
:- not pGEQ(V1,V2); not pGEQ(V2,V1); q(V1,V2).
:- not pGEQ(V1,V2); not pGEQ(V2,V2); q(V1,V2).
:- not pGEQ(V2,V1); not pGEQ(V2,V2); q(V1,V2).
```

Let R^1 *be the first rule and* $R^2, \ldots, R^{16}$ *be the rules that theta-subsume the second rule. In this case, for any positive example* e *that is not covered by* H, $sbca(e, H, T) = (\neg R^1_{id}) \vee ((\neg R^2_{id}) \wedge \ldots \wedge (\neg R^{16}_{id}))$.

[1] This space is smaller than the full hypothesis space as isomorphic rules are discarded; for instance, `:- q(V2, V2)` is isomorphic to `:- q(V1, V1)`, so is not considered by ILASP.