Problem psi

$$R_0, X \vdash_{\mathrm{ipl}} \tilde{g}\,?$$

Not Proved

Clauses in R_0: 24

Clauses in X: 9

Atoms: 22

Calls to the SAT-solver: 31

Added clauses (= YES answers): 7

Generated worlds (= NO answers): 24

Worlds in the countermodel: 6

Problem description

Flat clauses R_0 (24):

1. $\tilde{p}_1 \wedge \tilde{p}_2 \to \tilde{p}_0$
2. $\tilde{p}_3 \to p_3$
3. $\tilde{p}_3 \to p_4$
4. $\tilde{p}_4 \to p_2$
5. $\tilde{p}_4 \to \tilde{p}_3$
6. $\tilde{p}_5 \to p_1$
7. $\tilde{p}_5 \to \tilde{p}_4$
8. $\tilde{p}_0 \to \tilde{p}_5$
9. $\tilde{p}_7 \wedge \tilde{p}_8 \to \tilde{p}_6$
10. $\tilde{p}_6 \to \tilde{p}_5$
11. $\tilde{p}_{10} \wedge \tilde{p}_{11} \to \tilde{p}_9$
12. $\tilde{p}_9 \to \tilde{p}_5$
13. $\tilde{p}_{13} \wedge \tilde{p}_{14} \to \tilde{p}_{12}$
14. $\tilde{p}_{12} \to \tilde{p}_5$
15. $p_0 \to \tilde{g}$

16. $p_1 \wedge p_2 \wedge p_3 \wedge p_4 \rightarrow \tilde{g}$
17. $p_3 \rightarrow \tilde{p}_{11}$
18. $p_1 \rightarrow \tilde{p}_{13}$
19. $p_4 \rightarrow \tilde{p}_{10}$
20. $p_2 \rightarrow \tilde{p}_8$
21. $p_3 \rightarrow \tilde{p}_7$
22. $p_1 \rightarrow \tilde{p}_2$
23. $p_4 \rightarrow \tilde{p}_{14}$
24. $p_2 \rightarrow \tilde{p}_1$

Implication clauses X (9):

$\lambda_0 = (p_4 \rightarrow p_3) \rightarrow \tilde{p}_{11}$
$\lambda_1 = (p_4 \rightarrow p_1) \rightarrow \tilde{p}_{13}$
$\lambda_2 = (p_3 \rightarrow p_4) \rightarrow \tilde{p}_{10}$
$\lambda_3 = (p_3 \rightarrow p_2) \rightarrow \tilde{p}_8$
$\lambda_4 = (p_2 \rightarrow p_3) \rightarrow \tilde{p}_7$
$\lambda_5 = (p_2 \rightarrow p_1) \rightarrow \tilde{p}_2$
$\lambda_6 = (p_1 \rightarrow p_4) \rightarrow \tilde{p}_{14}$
$\lambda_7 = (p_1 \rightarrow p_2) \rightarrow \tilde{p}_1$
$\lambda_8 = (p_0 \rightarrow \bot) \rightarrow \tilde{g}$

Added clauses (7):

$\varphi_0 = \tilde{p}_{10} \rightarrow \tilde{p}_8$
$\varphi_1 = \tilde{p}_{14} \rightarrow \tilde{p}_1$
$\varphi_2 = \tilde{p}_{11} \rightarrow \tilde{p}_{13}$
$\varphi_3 = \tilde{p}_7 \rightarrow \tilde{p}_2$
$\varphi_4 = \tilde{p}_1 \rightarrow \tilde{p}_{10}$
$\varphi_5 = \tilde{p}_{13} \rightarrow \tilde{p}_{11}$
$\varphi_6 = \tilde{p}_8 \rightarrow \tilde{p}_{10}$