

Inference at \* 1 0 1 1  
of proof for Lemma Agatha Murder Puzzle (JProver)Lori2R:

1. Agatha hates Charles
2. Agatha hates Agatha
3.  $\forall p:\text{Person}. \neg p \text{ is richer than Agatha} \Rightarrow \text{The Butler hates } p$
4.  $\forall p:\text{Person}. \text{Agatha hates } p \Rightarrow \neg \text{Charles hates } p$
5.  $\forall p:\text{Person}. \text{Agatha hates } p \Rightarrow \text{The Butler hates } p$
6.  $\forall p:\text{Person}. \neg p \text{ hates Agatha} \vee \neg p \text{ hates The Butler} \vee \neg p \text{ hates Charles}$
7.  $\forall p, q:\text{Person}. p \text{ kills } q \Rightarrow \neg p \text{ is richer than } q$
8.  $\forall p, q:\text{Person}. p \text{ kills } q \Rightarrow p \text{ hates } q$
9.  $\neg \text{The Butler is richer than Agatha} \Rightarrow \text{The Butler hates The Butler}$
10.  $\text{Agatha hates Agatha} \Rightarrow \neg \text{Charles hates Agatha}$
- $\vdash \neg \text{The Butler kills Agatha} \ \& \ \neg \text{Charles kills Agatha}$   
by allL (5) Agatha

- 1:
11.  $\text{Agatha hates Agatha} \Rightarrow \text{The Butler hates Agatha}$
  - $\vdash \neg \text{The Butler kills Agatha} \ \& \ \neg \text{Charles kills Agatha}$
- .