

$$\begin{aligned}
& (\forall X. ((E1NameF(X) \rightarrow BOX4F(X)) \wedge \\
& (E2NameF(X) \rightarrow E1NameF(X)) \wedge \\
& (E1NameInvF(X) \rightarrow BOX1F(X)) \wedge \\
& (E2NameF(X) \rightarrow BOX0F(X)) \wedge \\
& (PersonF(X) \rightarrow E1NameF(X)) \wedge \\
& (E1NameF(X) \rightarrow BOX2F(X)) \wedge \\
& (PersonF(X) \rightarrow \neg E2NameF(X)) \wedge \\
& (E1NameInvF(X) \rightarrow StringF(X)) \wedge \\
& (StringF(X) \rightarrow \neg PersonF(X)) \wedge \\
& (E1NameInvF(X) \rightarrow BOX3F(X)) \wedge \\
& \Box_F((BOX1F(X) \leftrightarrow \Box_F BOX14F(X)) \wedge \\
& (\Box_F BOX3F(X) \leftrightarrow (BOX3F(X) \wedge \\
& \Box_F BOX16F(X))) \wedge \\
& (\Box_F BOX12P(X) \leftrightarrow (BOX12P(X) \wedge \\
& \Box_F PNameP)) \wedge \\
& (BOX10P(X) \leftrightarrow \Box_F E1NameP(X)) \wedge \\
& (\Box_F BOX4F(X) \leftrightarrow (BOX4F(X) \wedge \\
& \Box_F BOX17F(X))) \wedge \\
& (\Box_F BOX14F(X) \leftrightarrow (BOX14F(X) \wedge \\
& \Box_F E1NameInvF(X))) \wedge \\
& (\Box_F BOX7P(X) \leftrightarrow (BOX7P(X) \wedge \\
& \Box_F BOX8P(X))) \wedge \\
& (\Box_F BOX13F(X) \leftrightarrow (BOX13F(X) \wedge \\
& \Box_F E2NameF(X))) \wedge \\
& (BOX18P(X) \leftrightarrow \Box_F BOX11P(X)) \wedge \\
& (BOX8P(X) \leftrightarrow \Box_F E1NameInvP(X)) \wedge \\
& (\Box_F BOX15F(X) \leftrightarrow (BOX15F(X) \wedge \\
& \Box_F E1NameF(X))) \wedge \\
& (BOX6P(X) \leftrightarrow \Box_F E2NameP(X)) \wedge \\
& (BOX16F(X) \leftrightarrow \Box_F PinvNameF) \wedge \\
& (\Box_F BOX9P(X) \leftrightarrow (BOX9P(X) \wedge \\
& \Box_F BOX10P(X))) \wedge \\
& (BOX19P(X) \leftrightarrow \Box_F BOX12P(X)) \wedge \\
& (\Box_F BOX11P(X) \leftrightarrow (BOX11P(X) \wedge \\
& \Box_F PinvNameP)) \wedge \\
& (BOX17F(X) \leftrightarrow \Box_F PNameF) \wedge \\
& (BOX2F(X) \leftrightarrow \Box_F BOX15F(X)) \wedge \\
& (\Box_F BOX5P(X) \leftrightarrow (BOX5P(X) \wedge \\
& \Box_F BOX6P(X))) \wedge \\
& (BOX0F(X) \leftrightarrow \Box_F BOX13F(X)) \wedge \\
& (BOX15F(X) \leftrightarrow BOX10P(X)) \wedge \\
& (PersonF(X) \leftrightarrow PersonP(X)) \wedge \\
& (BOX14F(X) \leftrightarrow BOX8P(X)) \wedge \\
& (BOX1F(X) \leftrightarrow BOX7P(X)) \wedge \\
& (BOX13F(X) \leftrightarrow BOX6P(X)) \wedge \\
& (StringF(X) \leftrightarrow StringP(X)) \wedge \\
& (BOX3F(X) \leftrightarrow BOX18P(X)) \wedge \\
& (BOX2F(X) \leftrightarrow BOX9P(X)) \wedge \\
& (E2NameF(X) \leftrightarrow E2NameP(X)) \wedge \\
& (PNameF \leftrightarrow PNameP) \wedge
\end{aligned}$$

$$\begin{aligned}
& (BOX4F(X) \leftrightarrow BOX19P(X)) \wedge \\
& (BOX0F(X) \leftrightarrow BOX5P(X)) \wedge \\
& (BOX16F(X) \leftrightarrow BOX11P(X)) \wedge \\
& (PinvNameF \leftrightarrow PinvNameP) \wedge \\
& (E1NameF(X) \leftrightarrow E1NameP(X)) \wedge \\
& (PinvNameF \leftrightarrow PinvNameF) \wedge \\
& (E1NameInvF(X) \leftrightarrow E1NameInvP(X)) \wedge \\
& (PNameF \leftrightarrow PNameF) \wedge \\
& (BOX17F(X) \leftrightarrow BOX12P(X))) \wedge \\
& (PinvName \rightarrow E1Name(dName)) \wedge \\
& (PName \rightarrow E1NameInv(dNameInv)))
\end{aligned}$$