

$$\textcircled{2} \quad \frac{\frac{\rho_1 \vdash d_2 \xrightarrow{d}^* \rho_2}{\vdash \rho_1 \ln d_2 \xrightarrow{d} \rho_1 \ln \rho_2}}{+ [x \leftarrow 2] \ln d_2 \xrightarrow{d} [x \leftarrow 2] \ln \rho_2} \quad D_8$$

$$\textcircled{c} \quad [x \leftarrow 2] \vdash \rho_3; \rho_4 \xrightarrow{d} \rho_3[\rho_4] \equiv [x \leftarrow 2] \vdash [y \leftarrow 3]; [z \leftarrow 5] \xrightarrow{d} \underbrace{[y \leftarrow 3, z \leftarrow 5]}_{\rho_2} \quad D_6$$

$$\textcircled{3} \quad \vdash \rho_1 \ln \rho_2 \xrightarrow{d} \rho_2 \equiv [x \leftarrow 2] \ln \underbrace{[y \leftarrow 3, z \leftarrow 5]}_{\rho_2} \xrightarrow{d} [y \leftarrow 3, z \leftarrow 5] \quad D_9$$