1 Permutation of imp_{lft} and imp_{rght}

The rules might not permute. These are the configurations for which a permutation was found:

$$\dfrac{\dfrac{\dfrac{\dot{i}\ \Gamma_l^0, imp(a)(b), c \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d), a}\ imp_R \quad \dot{i}\ \Gamma_l^0, imp(a)(b), b \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}\ imp_L \quad \rightsquigarrow \quad \dfrac{\dfrac{\dot{i}\ \Gamma_l^7, imp(a)(b), c \vdash \dot{r}\ a, d \quad \dot{i}\ \Gamma_l^7, imp(a)(b), c, b \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^7, imp(a)(b), c \vdash \dot{r}\ d}\ imp_L}{\dot{i}\ \Gamma_l^7, imp(a)(b) \vdash \dot{r}\ \Delta_r^9, imp(c)(d)}\ imp_R$$

$$\dfrac{\dfrac{\dfrac{\dot{i}\ \Gamma_l^0, imp(a)(b), c \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d), a}\ imp_R \quad \dfrac{\dot{i}\ \Gamma_l^0, imp(a)(b), c, b \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^0, imp(a)(b), b \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}\ imp_R}{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}\ imp_L \quad \rightsquigarrow \quad \dfrac{\dfrac{\dot{i}\ \Gamma_l^7, imp(a)(b), c \vdash \dot{r}\ a, d \quad \dot{i}\ \Gamma_l^7, imp(a)(b), c, b \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^7, imp(a)(b), c \vdash \dot{r}\ d}\ imp_L}{\dot{i}\ \Gamma_l^7, imp(a)(b) \vdash \dot{r}\ \Delta_r^9, imp(c)(d)}\ imp_R$$

These are the configurations for which a permutation was not found:

$$\dfrac{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d), a \quad \dfrac{\dot{i}\ \Gamma_l^0, imp(a)(b), c, b \vdash \dot{r}\ d}{\dot{i}\ \Gamma_l^0, imp(a)(b), b \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}\ imp_R}{\dot{i}\ \Gamma_l^0, imp(a)(b) \vdash \dot{r}\ \Delta_r^0, imp(c)(d)}\ imp_L$$