

## **antecedent-surjection\_functionality\_wrt\_iff<sup>11,40</sup>**

$\forall es:\text{ES}, P_1, P_2, Q_1, Q_2:(\text{E} \rightarrow \mathbb{P}), f:(\{e:\text{E} \mid P_1(e)\} \rightarrow \{e:\text{E} \mid Q_1(e)\}) .$   
 $(\forall e:\text{E}. (P_1(e)) \iff (P_2(e)))$   
 $\Rightarrow (\forall e:\text{E}. (Q_1(e)) \iff (Q_2(e)))$   
 $\Rightarrow (Q_1 \leftarrow\leftarrow f-- P_1 \iff Q_2 \leftarrow\leftarrow f-- P_2)$