$$R^{*}(s_{0}, s_{1}), R(s_{1}, s_{2}) \Rightarrow i_{1} \leq_{0} i_{2} \quad R^{*}(s_{0}, s_{2}), R^{*}(s_{2}, s) \Rightarrow i_{2} \leq_{0} i$$

$$S_{1} = s \Rightarrow i_{1} \leq_{0} i \quad R^{*}(s_{0}, s_{1}), R(s_{1}, s_{2}), R^{*}(s_{2}, s) \Rightarrow i_{1} \leq_{0} i$$

$$R^{*}(s_{0}, s_{1}), R^{*}(s_{1}, s) \Rightarrow i_{1} \leq_{0} i$$

$$R^{*}(s_{0}, s) \Rightarrow i_{0} \leq_{0} i$$