

$$\begin{aligned}
(\mathbf{d} \otimes \mathbf{g})(\langle p, r \rangle^*, \langle q, s \rangle) &= \mathbf{d}(p^*, q) \wedge \mathbf{g}(r^*, s) \\
&\leq_{\mathbf{DP}} \mathbf{e}(p^*, q) \wedge \mathbf{h}(r^*, s) \\
&= (\mathbf{e} \otimes \mathbf{g})(\langle p, r \rangle^*, \langle q, s \rangle).
\end{aligned}$$