

$$\begin{aligned}
(f_1 \circ g_1)(a^*, c) &= \bigvee_{b \in B} f_1(a^*, b) \wedge g_1(b^*, c) \\
&\leq_{\mathbf{DP}} \bigvee_{b \in B} f_2(a^*, b) \wedge g_2(b^*, c) \\
&= (f_2 \circ g_2)(a^*, c).
\end{aligned}$$