

Lemma. Given $\mathbf{d}, \mathbf{e}, \mathbf{g}, \mathbf{h} \in \text{Hom}_{\text{DP}} (\mathbf{P}; \mathbf{Q})$ one has:

$$\frac{\mathbf{d} \leq_{\text{DP}} \mathbf{e} \quad \mathbf{g} \leq_{\text{DP}} \mathbf{h}}{(\mathbf{d} \vee \mathbf{g}) \leq_{\text{DP}} (\mathbf{e} \vee \mathbf{h})}.$$