$$(\text{un}_{\mathcal{U}}^{\mathbf{P}} \mathbin{\mathring{\varsigma}} \text{Unc}(\mathbf{f}))(p^*, [q_1, q_2]) = \bigvee_{[p_1, p_2] \in \text{Int}(\mathbf{P})} \text{un}_{\mathcal{U}}^{\mathbf{P}}(p^*, [p_1, p_2]) \wedge \text{Unc}(f)([p_1, p_2]^*, [q_1, q_2])$$

$$= \bigvee_{[p_1, p_2] \in \text{Int}(\mathbf{P})} (p \preceq p_1) \wedge \mathbf{f}(p_1^*, q_1) \wedge \mathbf{f}(p_2^*, q_2)$$