ton sets $\{S_i\}_{i\in I}$, with $S_i=\{s_i\}, s_i\in \mathbf{P}$, the following equality holds:

Lemma. Given posets P, Q, a monotone map $f: P \to Q$, and a family of single-

 $\uparrow \left(\bigcup_{p \in \uparrow} \{f(p)\}\right) = \uparrow \left(\bigcup_{i \in I} \{f(s_i)\}\right).$