

$$\begin{aligned}
((A \uparrow B) \uparrow A) \uparrow ((A \uparrow B) \uparrow B) &= \overline{\overline{A} \overline{B} A \overline{A} \overline{B} B} = \overline{A} \overline{B} A \vee \overline{A} \overline{B} B = \overline{A} \overline{B} (A \vee B) = \\
&= (\overline{A} \vee \overline{B}) (A \vee B) = \overline{A} \overline{B} \vee A \overline{B} = A \underline{\vee} B
\end{aligned}$$