$$\boxed{\text{Règles du While en Sémantique Op.Structurelle}}$$

$$(x := a, \sigma) \Rightarrow \sigma[x \mapsto \mathcal{A}[a]\sigma]$$

$$(\texttt{skip}, \sigma) \Rightarrow \sigma$$

$$\frac{(S_1, \sigma) \Rightarrow \sigma'}{((S_1; S_2), \sigma) \Rightarrow (S_2, \sigma')} \qquad \frac{(S_1, \sigma) \Rightarrow (S_1', \sigma')}{((S_1; S_2), \sigma) \Rightarrow (S_1'; S_2, \sigma')}$$

$$\mathcal{B}[b]\sigma = \mathit{ff} : (\texttt{if } b \texttt{ then } S_1 \texttt{ else } S_2, \sigma) \Rightarrow (S_2, \sigma)$$

$$\mathcal{B}[b]\sigma = \mathit{tt} : (\texttt{if } b \texttt{ then } S_1 \texttt{ else } S_2, \sigma) \Rightarrow (S_1, \sigma)$$

$$(\texttt{while } b \texttt{ do } S, \sigma) \Rightarrow$$
$$(\texttt{if } b \texttt{ then } (S; \texttt{while } b \texttt{ do } S) \texttt{ else skip}), \sigma)$$