



$$\begin{aligned}
 |\Phi^-\rangle &= \frac{1}{\sqrt{2}}(|0\rangle_1|0\rangle_2 - |1\rangle_1|1\rangle_2) \\
 &\xrightarrow{\text{CNOT}} \frac{1}{\sqrt{2}}(|0\rangle_1|0\rangle_2 - |1\rangle_1|0\rangle_2) \\
 &= |-\rangle_1|0\rangle_2 \\
 &\xrightarrow{H} |1\rangle_1|0\rangle_2,
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 |\Psi^+\rangle &= \frac{1}{\sqrt{2}}(|0\rangle_1|1\rangle_2 + |1\rangle_1|0\rangle_2) \\
 &\xrightarrow{\text{CNOT}} \frac{1}{\sqrt{2}}(|0\rangle_1|1\rangle_2 + |1\rangle_1|1\rangle_2) \\
 &= |+\rangle_1|1\rangle_2 \\
 &\xrightarrow{H} |0\rangle_1|1\rangle_2,
 \end{aligned} \tag{2}$$

$$\begin{aligned}
 |\Psi^-\rangle &= \frac{1}{\sqrt{2}}(|0\rangle_1|1\rangle_2 - |1\rangle_1|0\rangle_2) \\
 &\xrightarrow{\text{CNOT}} \frac{1}{\sqrt{2}}(|0\rangle_1|1\rangle_2 - |1\rangle_1|1\rangle_2) \\
 &= |-\rangle_1|1\rangle_2 \\
 &\xrightarrow{H} |1\rangle_1|1\rangle_2
 \end{aligned} \tag{3}$$