$$
\begin{array}{ccc}
I \otimes I & I \otimes \big(I \otimes (v)_A\big) & \big((u)_A \otimes I\big) \otimes I \\[2mm]
\rho_I \Big\|\, \lambda_I & {\scriptstyle 1_I \otimes \lambda_{(v)_A}} \Big\| {\scriptstyle \lambda_{(I \otimes (v)_A)}} & {\scriptstyle \rho_{(u)_A} \otimes 1_I} \Big\| {\scriptstyle \rho_{((u)_A \otimes I)}} \\[2mm]
I & I \otimes (v)_A & (u)_A \otimes I
\end{array}
$$