

$$\begin{array}{ccccccccc}
 0 & \longrightarrow & R_2 & \longrightarrow & K^{d_2} & \longrightarrow & V_2 & \longrightarrow & 0 \\
 & & \downarrow & & \downarrow & & \downarrow & & \\
 0 & \longrightarrow & R_1 & \longrightarrow & K^{d_1} & \longrightarrow & V_1 & \longrightarrow & 0 \\
 & & \downarrow & & \downarrow & & \downarrow & & \\
 0 & \longrightarrow & R_2 \otimes K^{d_1} + K^{d_1} \otimes R_1 & \longrightarrow & \mathbb{M}_{d_2 \times d_1}(K) & \longrightarrow & V_2 \otimes V_1 & \longrightarrow & 0
 \end{array}$$