

$$\begin{array}{ccccccc}
& 0 & & 0 & & 0 & \\
& \downarrow & & \downarrow & & \downarrow & \\
0 \longrightarrow & \mathrm{Hom}(x, z_1) & \longrightarrow & \mathrm{Hom}(x, z_2) & \longrightarrow & \mathrm{Hom}(x, z_3) & \\
& \downarrow & & \downarrow & & \downarrow & \\
0 \longrightarrow & \mathrm{Hom}(x', z_1) & \longrightarrow & \mathrm{Hom}(x', z_2) & \longrightarrow & \mathrm{Hom}(x', z_3) & \longrightarrow 0 \\
& \downarrow & & \downarrow & & \downarrow & \\
0 \longrightarrow & \mathrm{Hom}(x'', z_1) & \longrightarrow & \mathrm{Hom}(x'', z_2) & \longrightarrow & \mathrm{Hom}(x'', z_3) & \\
& \downarrow & & \downarrow & & \downarrow & \\
& 0 & & 0 & & 0 & 
\end{array}$$