

$$\begin{array}{ccc}
 C_1 & \xrightarrow[\text{Cat}]{f_1} & D_1 \\
 F \downarrow \text{Cat} & & \text{Cat} \uparrow G \\
 C_2 & \xrightarrow[\text{Cat}]{f_2} & D_2 \\
 H \downarrow \text{Cat} & & \text{Cat} \uparrow I \\
 C_3 & \xrightarrow[\text{Cat}]{f_3} & D_3
 \end{array}$$

$$\begin{array}{ccc}
 C_1 & \xrightarrow[\text{Cat}]{f_1} & D_1 \\
 F \circ H \downarrow \text{Cat} & & \text{Cat} \uparrow I \circ G \\
 C_3 & \xrightarrow[\text{Cat}]{f_3} & D_3
 \end{array}$$