$$\begin{array}{c|c} \mathbf{C}_1 & \xrightarrow{f_1} & \mathbf{D}_1 \\ \hline K & \mathbf{MonCat} & \mathbf{D}_1 \\ \hline F & \mathbf{MonCatMonCat} & \mathbf{G} \\ \hline \mathbf{C}_2 & \xrightarrow{\mathbf{MonCat}} & \mathbf{D}_2 \\ \hline \mathbf{H} & \mathbf{MonCatMonCat} & \mathbf{K} \\ \mathbf{C}_3 & \xrightarrow{\mathbf{MonCat}} & \mathbf{D}_3 \\ \hline \mathbf{C}_3 & \xrightarrow{\mathbf{MonCat}} & \mathbf{D}_3 \\ \end{array}$$