

$$\begin{array}{ccccc}
 & & (a \otimes b) \otimes (c \otimes d) & & \\
 \nearrow \alpha_{a \otimes b, c, d} & & & \searrow \alpha_{a, b, c \otimes d} & \\
 ((a \otimes b) \otimes c) \otimes d & & & & (a \otimes (b \otimes (c \otimes d))) \\
 \downarrow \alpha_{a, b, c} \otimes \text{id}_d & & & & \uparrow \text{id}_a \otimes \alpha_{b, c, d} \\
 (a \otimes (b \otimes c)) \otimes d & \xrightarrow{\alpha_{a, b \otimes c, d}} & & & a \otimes ((b \otimes c) \otimes d)
 \end{array}$$