$$Y \xrightarrow{\operatorname{id}_{Y} \otimes \eta_{X}} Y \otimes X \otimes X^{\vee} \xrightarrow{f \otimes \operatorname{id}_{X^{\vee}}} Z \otimes X \otimes X^{\vee} \xrightarrow{\operatorname{id}_{Z} \otimes \operatorname{br}} Z \otimes X^{\vee} \otimes X \xrightarrow{\operatorname{id}_{Z} \otimes \varepsilon_{X}} Z$$