$$(q_1; p_1)$$

$$\downarrow j \qquad i$$

$$(q_2; p_1) \qquad (q_1; p_2)$$

$$\downarrow j \qquad i$$

$$(i, j) \qquad \qquad \downarrow j \qquad i$$

$$(q_3; p_1) \leftarrow (q_2; \cancel{p_2}) \qquad (q_1; p_3)$$