## Quantum LTC With Positive Rate

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preamble. preamble.

 $a_0 g$   $a_1 g$  g

Figure 1: Square of the complex, with edges  $(g, ag), (agb, gb) \in E_A, (g, gb), (agb, ag) \in E_B$ .

 $\begin{array}{c} a_1g\\ a_0g \end{array}$ 

Figure 2: Square of the complex, with edges  $(g, ag), (agb, gb) \in E_A, (g, gb), (agb, ag) \in E_B$ .

 $a_1g$   $a_0g$ 

Figure 3: Square of the complex, with edges  $(g, ag), (agb, gb) \in E_A, (g, gb), (agb, ag) \in E_B$ .

 $\begin{array}{ccc} & a_3g & a_2g \\ & a_0 \mathfrak{g}_5g & a_1g \\ & a_4g \end{array}$ 

Figure 4: Square of the complex, with edges  $(g, ag), (agb, gb) \in E_A, (g, gb), (agb, ag) \in E_B$ .