C2 : $H^4 = I$ C3 : $S^3 = I$ R16 : = C6 : =

Def 2 : :=

R48 : = • w

Lem 15

7.1.(7)-(9) = • w

Proof cont : WTS

 • w

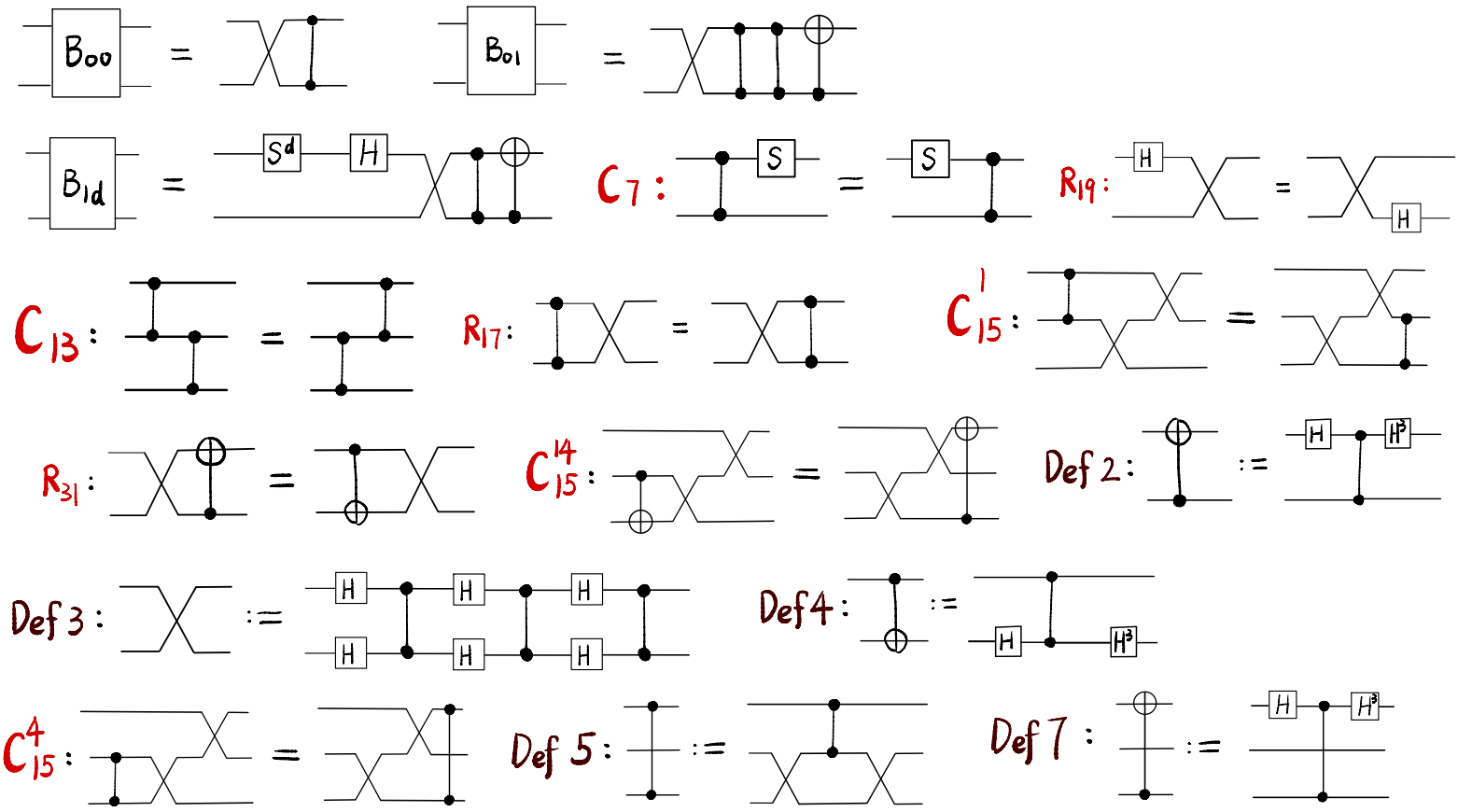
C2, C3 ||| R16, C6

 WTS • w

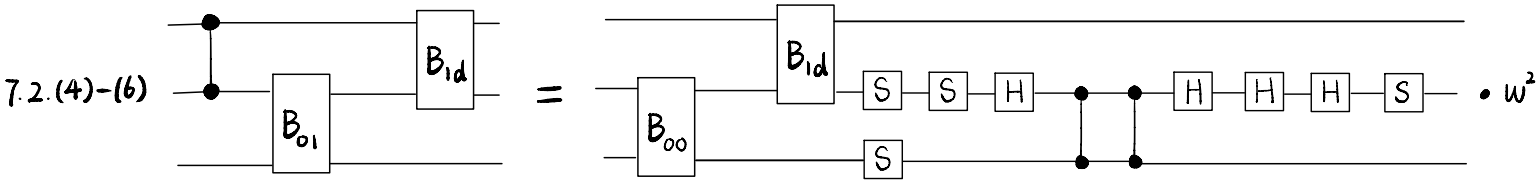
C2 ||| Def 2

 WTS • w

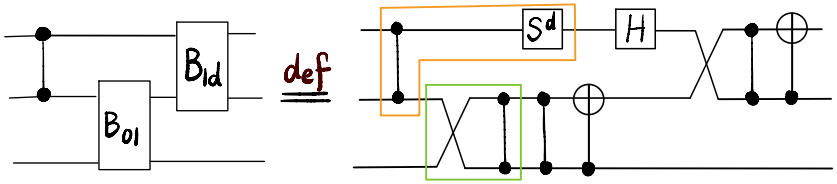
By R48, this completes the proof.



Lem 16 Def 2-5, Def 7, C_3, C_7, C_{15}, R_{16}, R_{17}, R_{19}, R_{31} & R_{49} imply

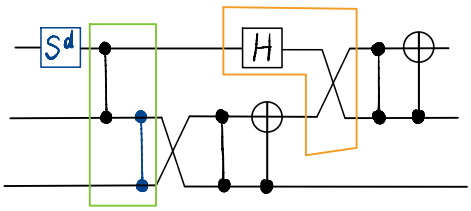


Proof: 7.2.(4)-(6). LHS :=

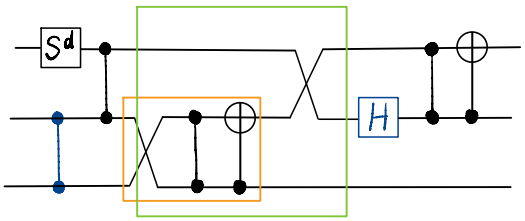


def

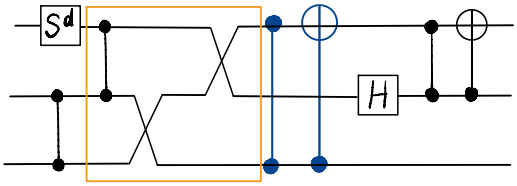
C_7 / R_{17}



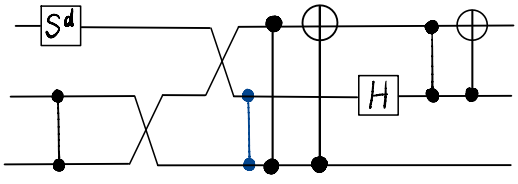
C_{13} / R_{19}

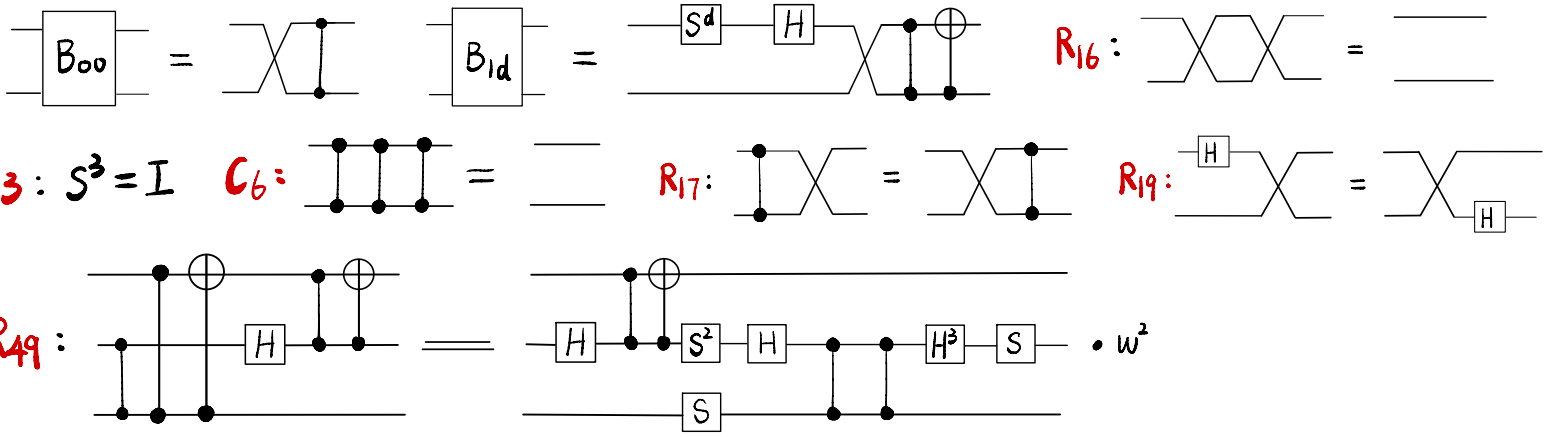


R_{17}, R_{31} / C^4_{15}, C^{14}_{15}



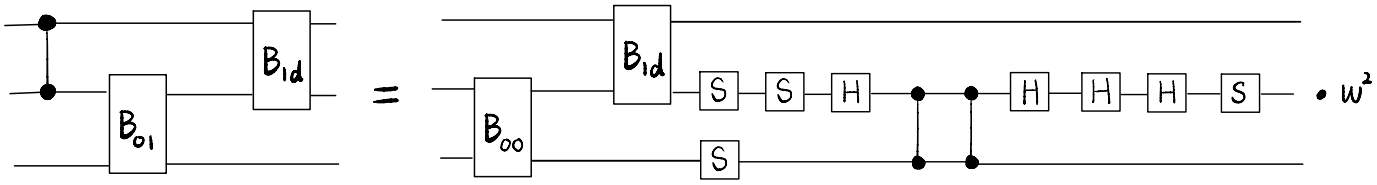
C'_{15}





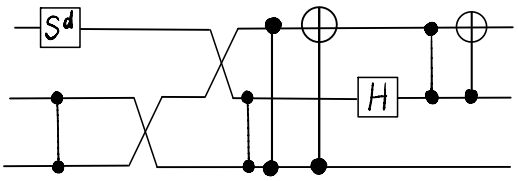
Lem 16

7.2.(4)-(6)

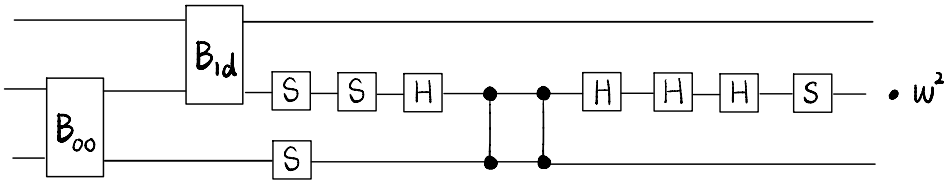


Proof cont :

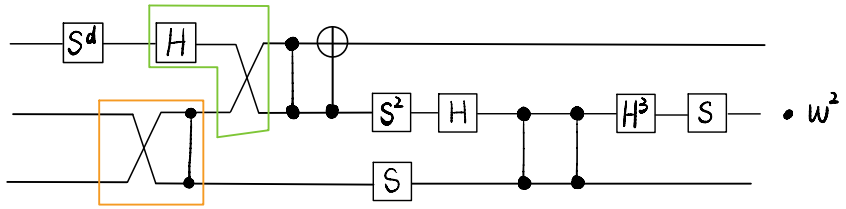
7.2.(4)-(6). LHS =



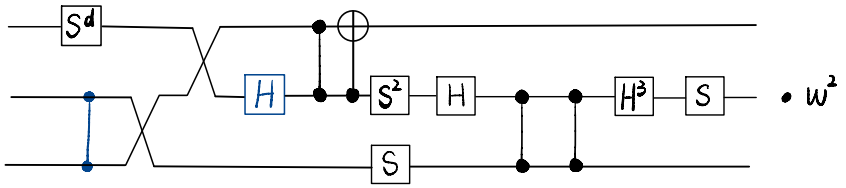
7.2.(4)-(6). RHS :=



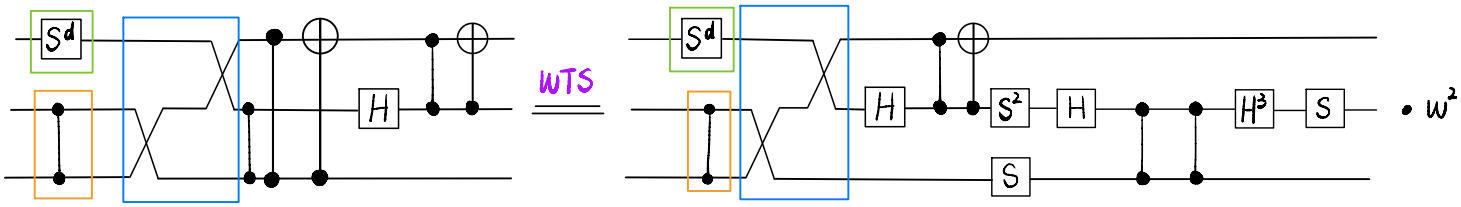
def =



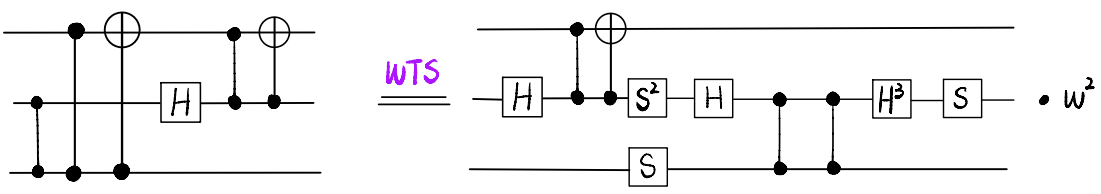
R_{17} / R_{19} =



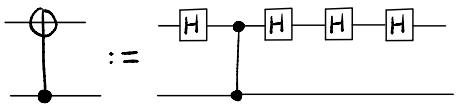
Hence,



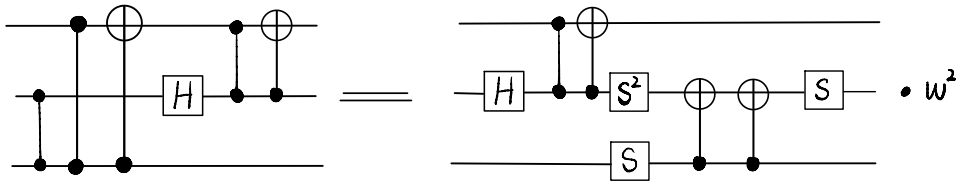
C_3 ||| R_{16}, C_6



C2 : $H^4 = I$ Def 2 :

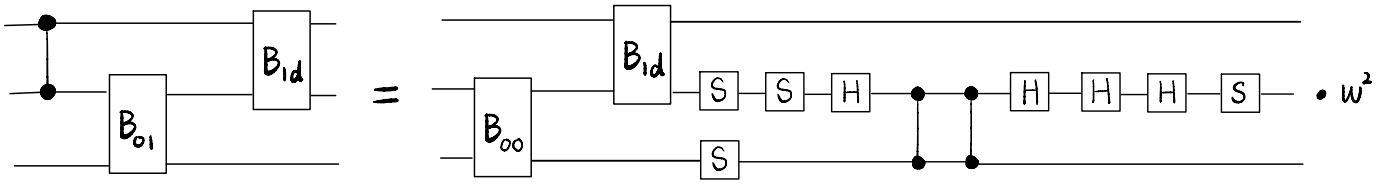


R49 :

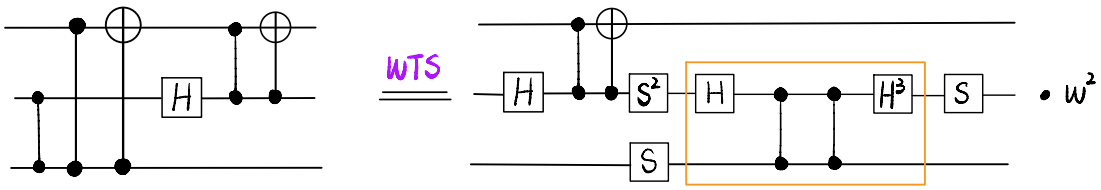


Lem 16

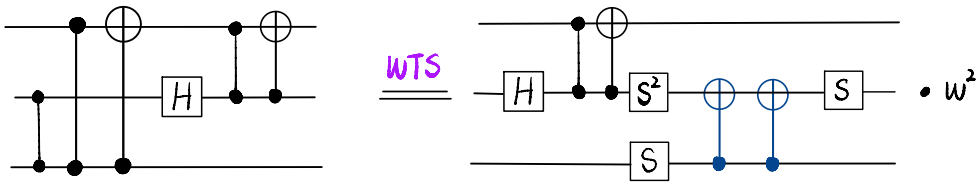
7.2.(4)-(6)



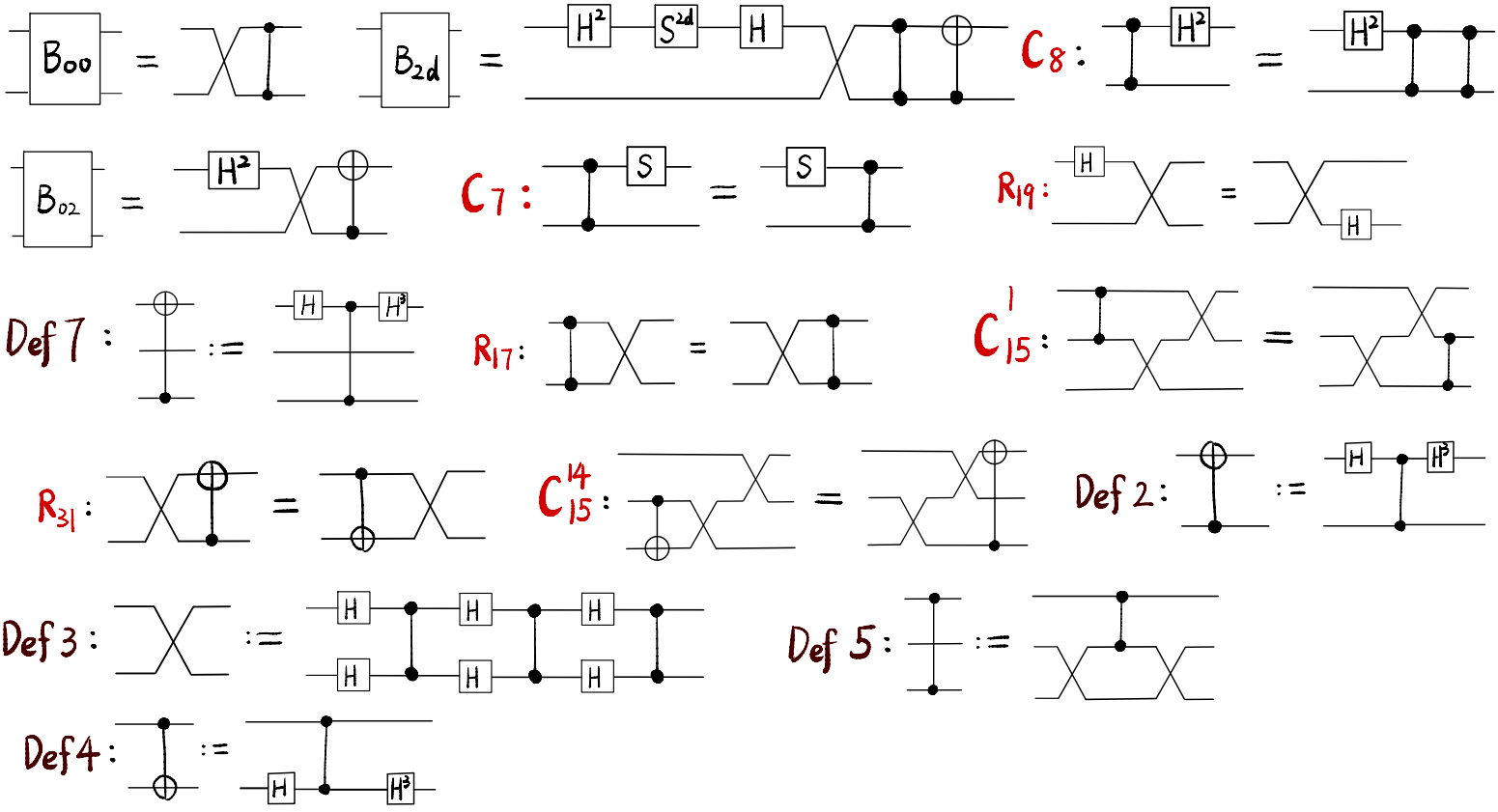
Proof cont :



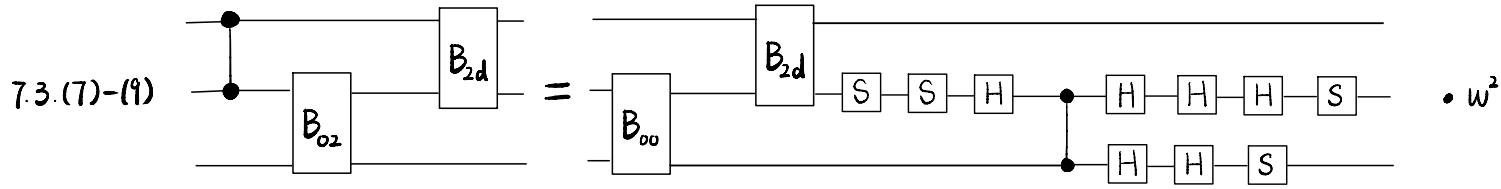
C2 ||| Def 2



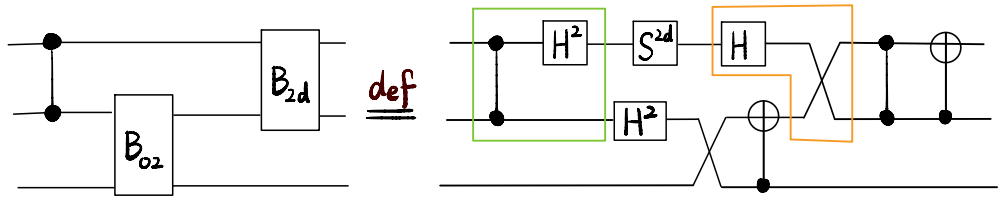
By R49, this completes the proof.



Lem 17 Def 2-5, Def 7, C_2, C_3, C_7, C_8, C_{15}, R_{16}, R_{17}, R_{19}, R_{31} & R_{50} imply

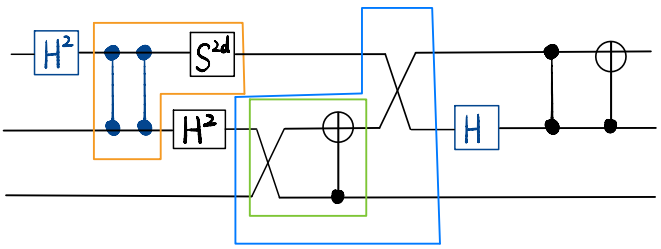


Proof : 7.3.(7)-(9). LHS :=

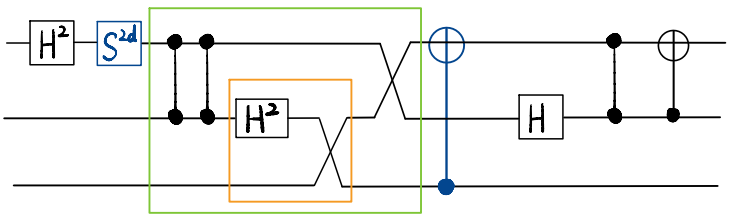


def

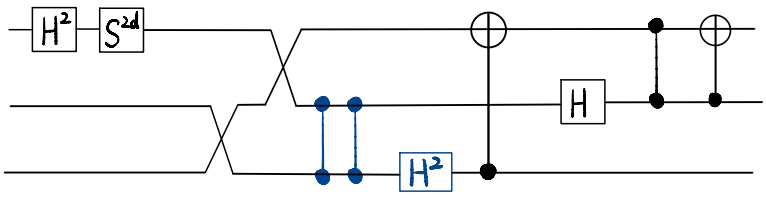
C_8 / R_{19}

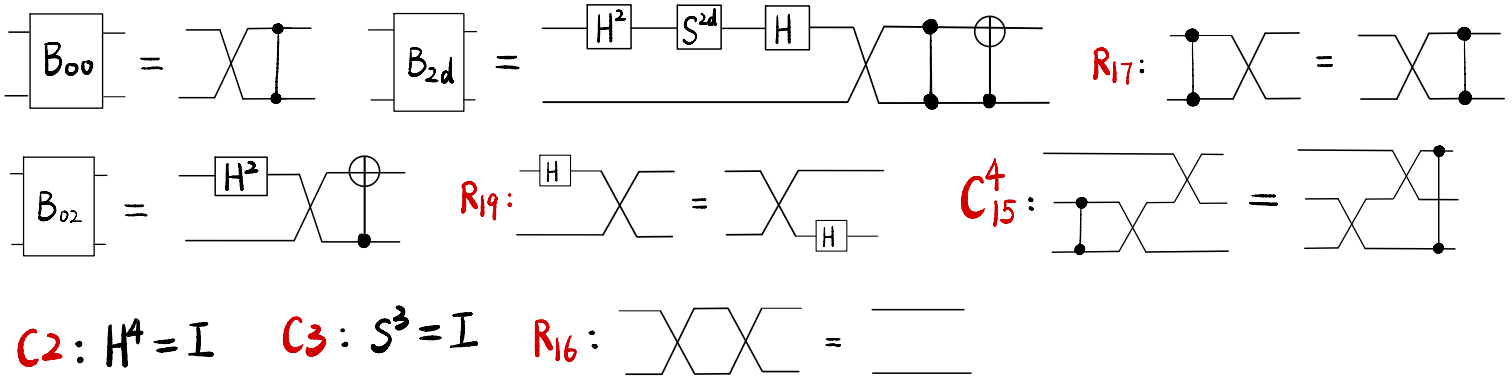


C_7 , R_{31} / C_{15}^{14}



R_{19} / C_{15}^{1}

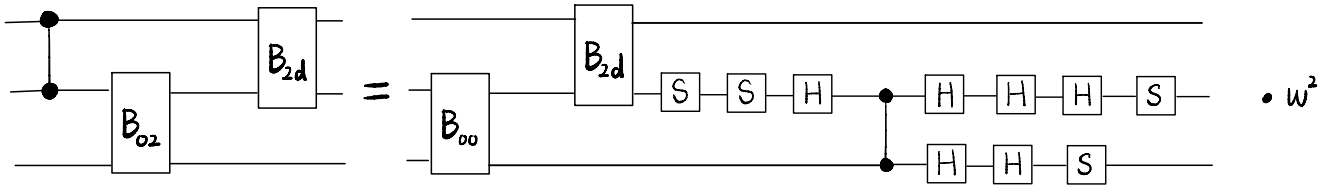




C2 : $H^4 = I$ C3 : $S^3 = I$ R_{16} :

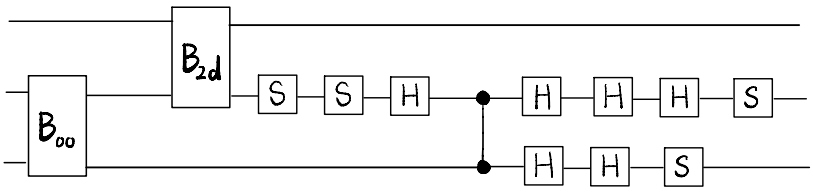
Lem 17

7.3.(7)-(9)

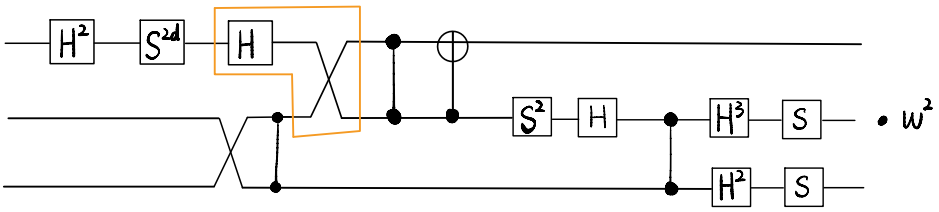


Proof cont :

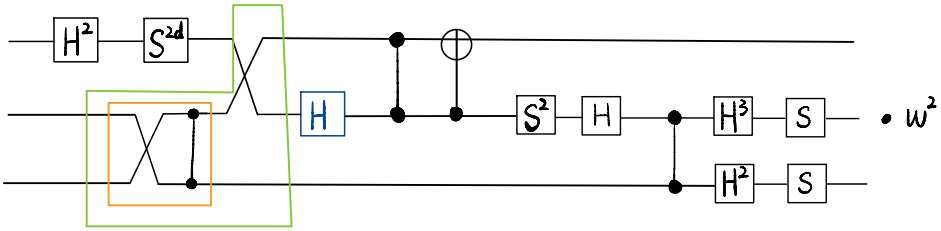
7.3.(7)-(9).RHS :=



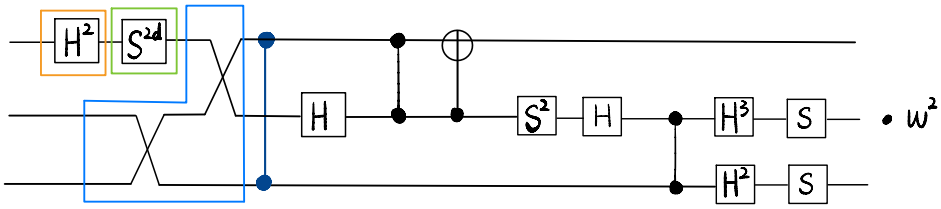
def



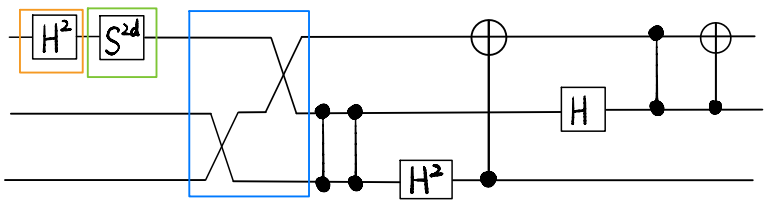
R_{19}



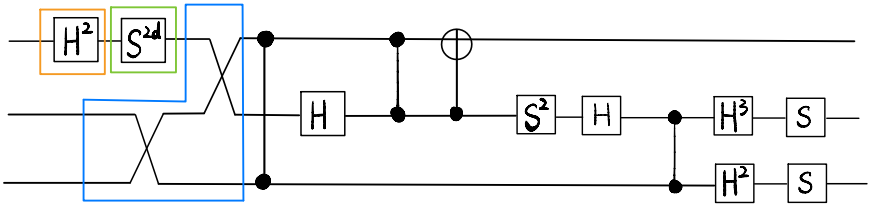
R_{17}
C_{15}^4



Hence,

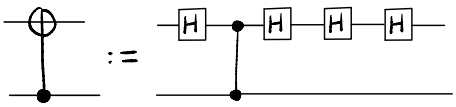


WTS

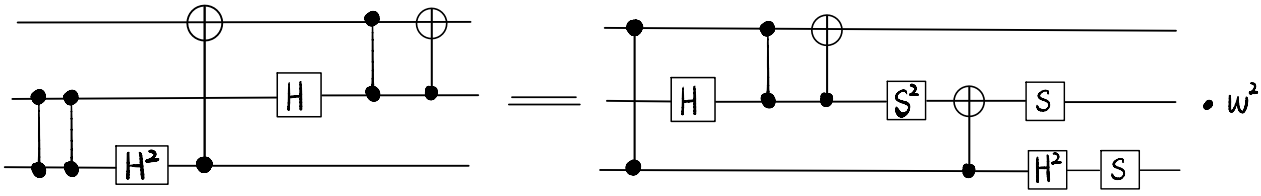


C_2, C_3
R_{16}

C2 : $H^4 = I$ Def 2 :

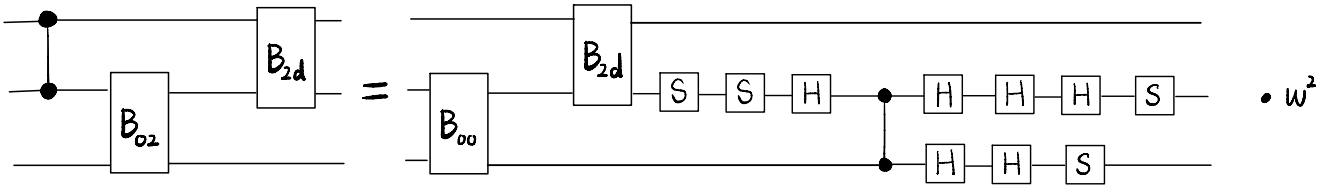


R_{50} :

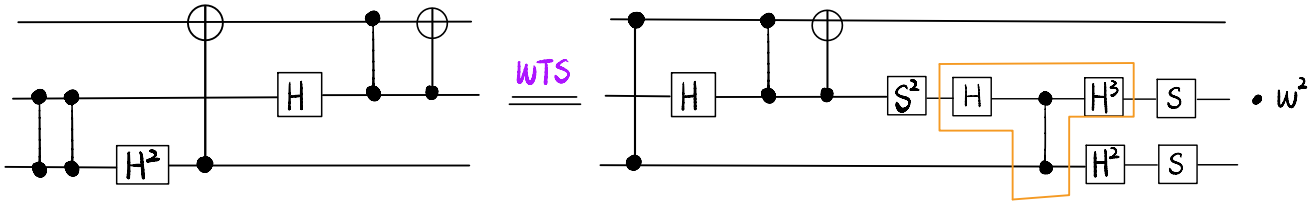


Lem 17

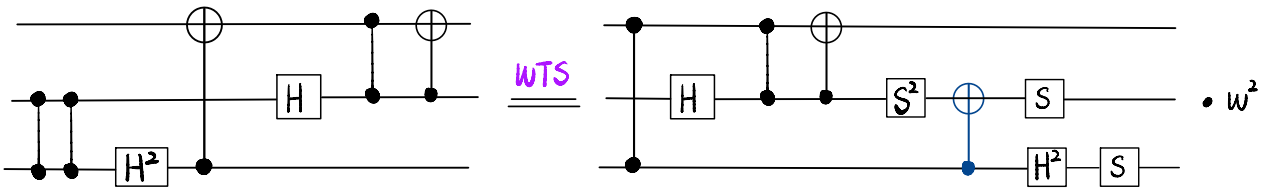
7.3.(7)-(9)



Proof cont :



C_2 ||| Def 2



By R_{50}, this completes the proof.