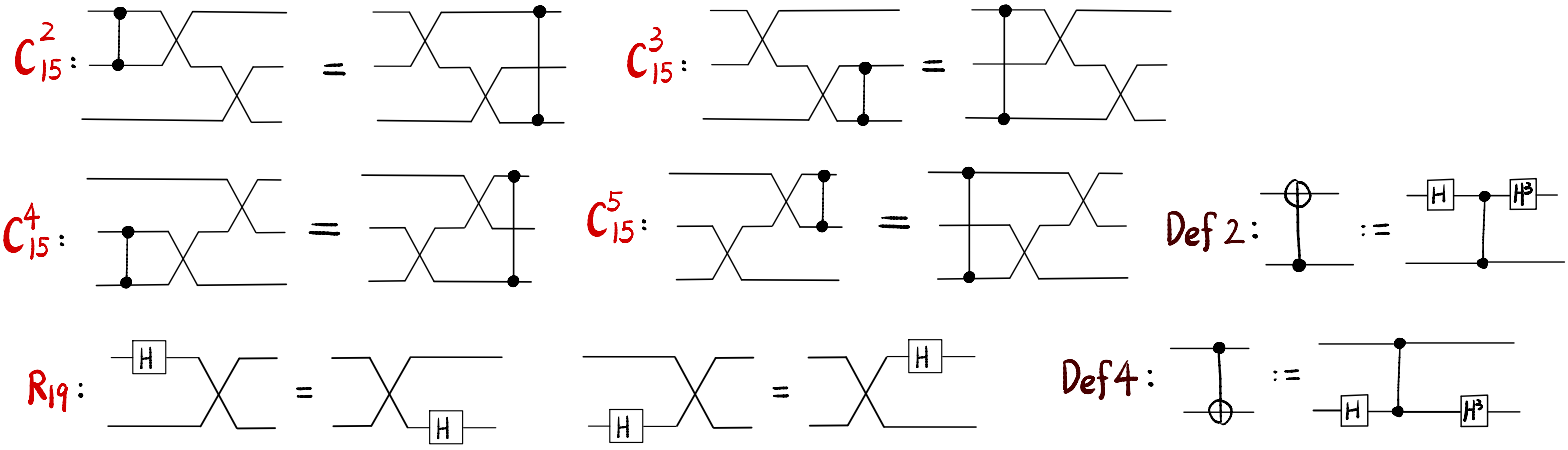
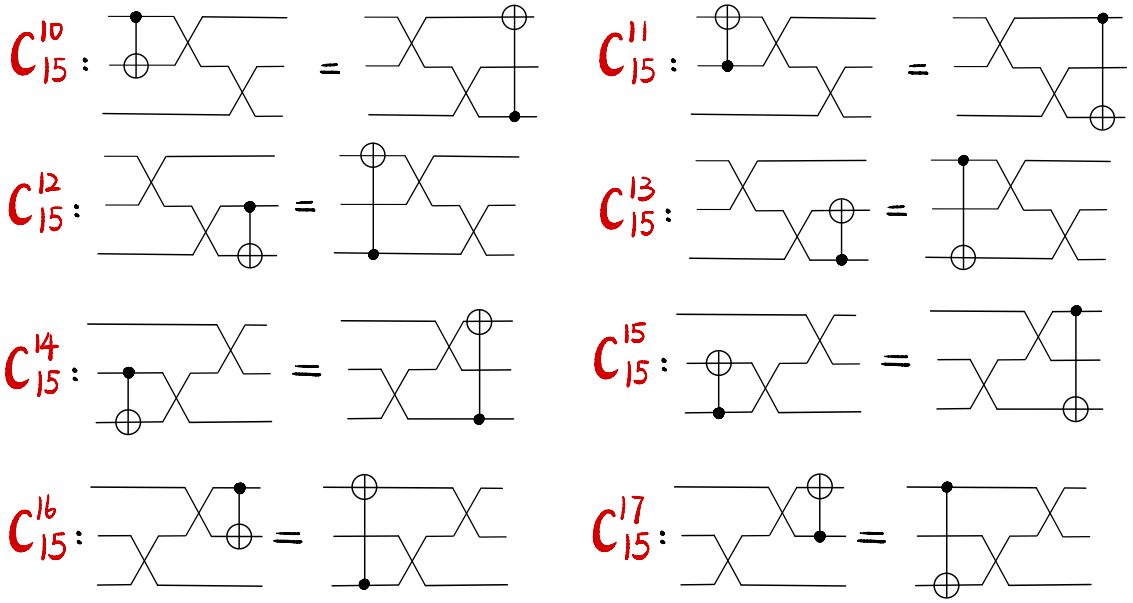
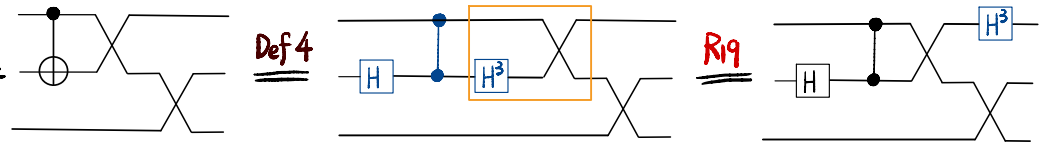
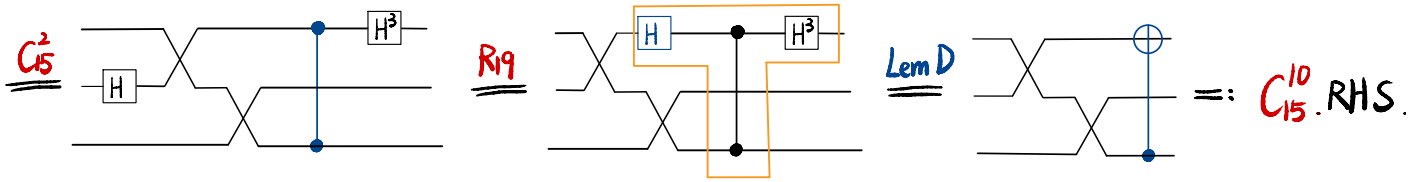


Lem E Def 2, Def 4, G_{15} & R_{19} imply



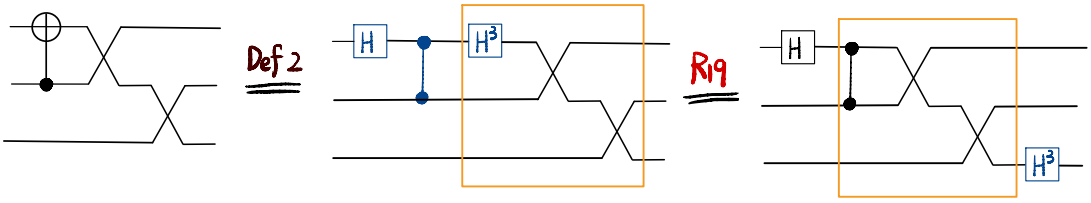
Proof: C_{15}^{10}. LHS :=

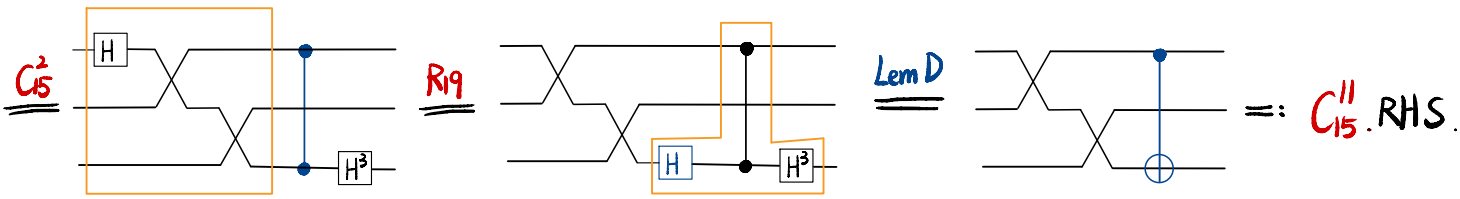




=: C_{15}^{10}. RHS.

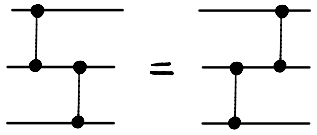
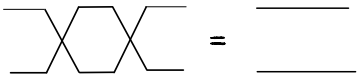
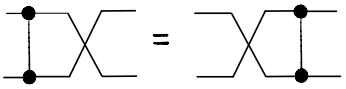
C_{15}^{11}. LHS :=

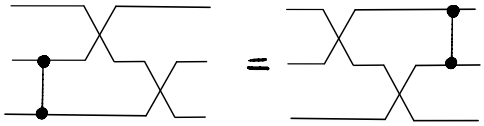


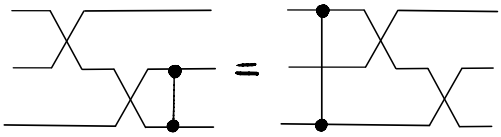
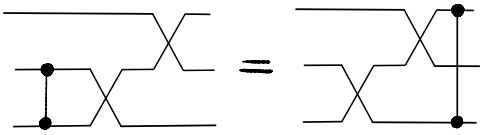


=: C_{15}^{11}. RHS.

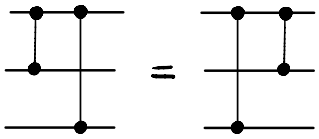
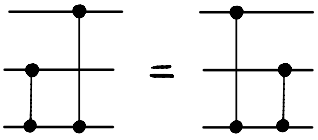
Reasoning analogously, we can prove $C_{15}^{12} - C_{15}^{17}$ are the consequence of Def 2, Def 4, G_{15} & R_{19}.

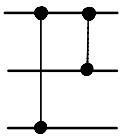
C_{13}:  R_{16}:  R_{17}: 

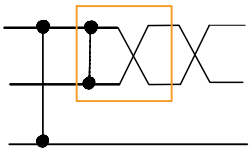
C_{15}: 

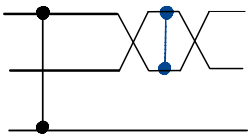
C_{15}^{3}:  C_{15}^{4}: 

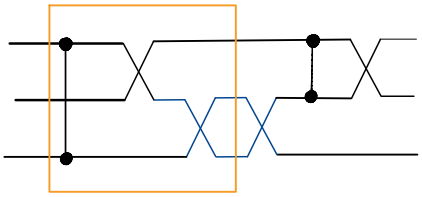
Lem F Def 5, R_{16}, R_{17}, G_3 & G_5 imply

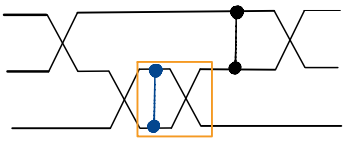
C_{13}^{1}:  C_{13}^{2}: 

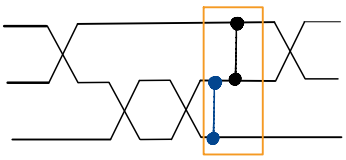
Proof: C_{13}^{1}. RHS := 

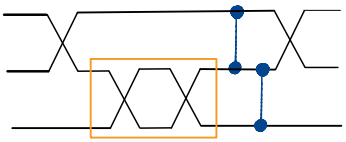
R_{16} 

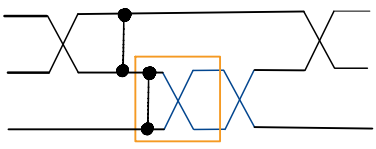
R_{17} 

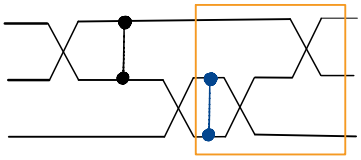
R_{16} 

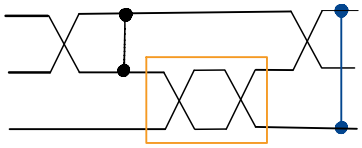
C_{15}^{3} 

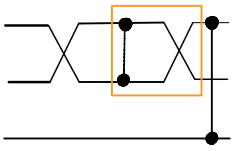
R_{17} 

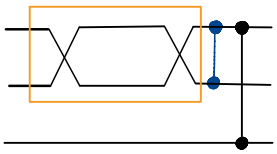
C_{13} 

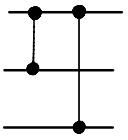
R_{16} 

R_{17} 

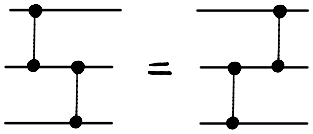
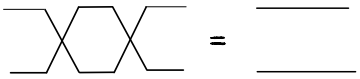
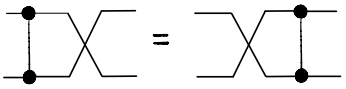
C_{15}^{4} 

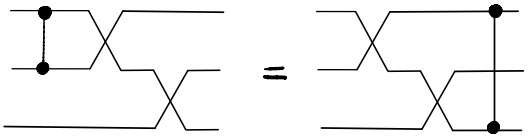
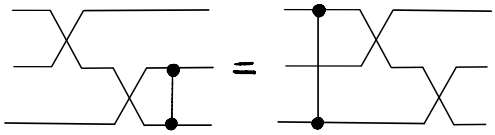
R_{16} 

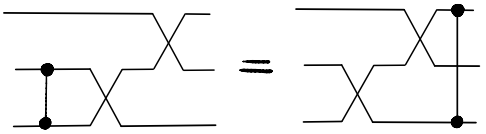
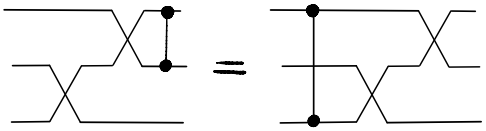
R_{17} 

R_{16} 

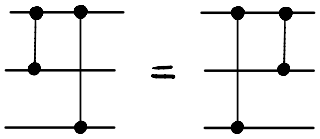
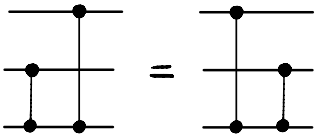
=: G_{13}^{1}. LHS

C_{13}:  R_{16}:  R_{17}: 

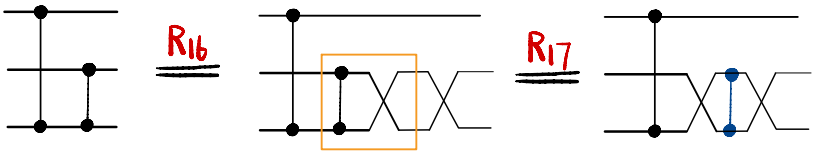
C_{15}^2:  C_{15}^3: 

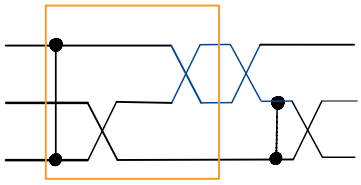
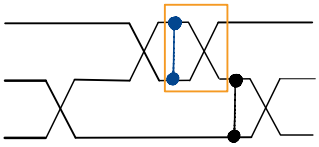
C_{15}^4:  C_{15}^5: 

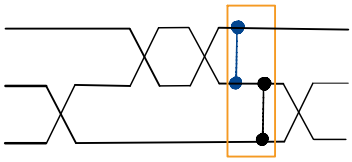
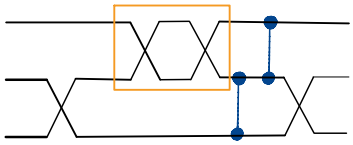
Lem F Def 5, R_{16}, R_{17}, G_3 & G_5 imply

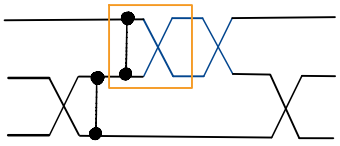
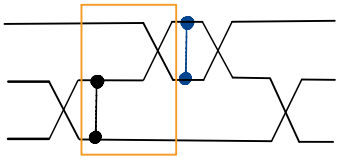
C_{13}^1:  C_{13}^2: 

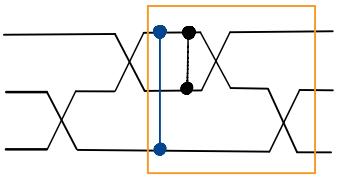
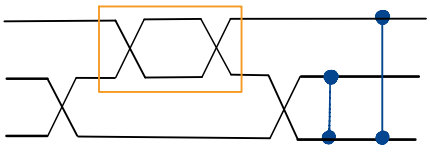
Method 1

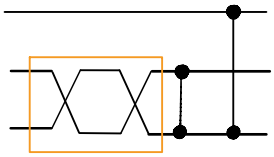
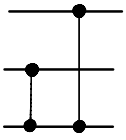
Proof: C_{13}^2. RHS := 

R_{16}  C_{15}^5 

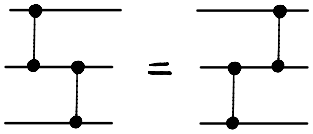
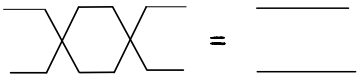
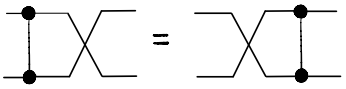
R_{17}  C_{13} 

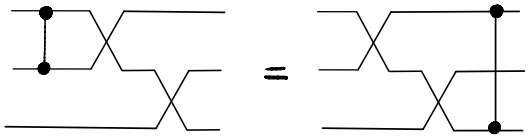
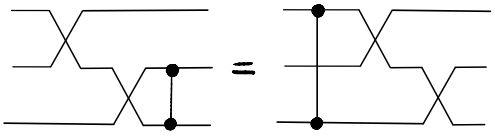
R_{16}  R_{17} 

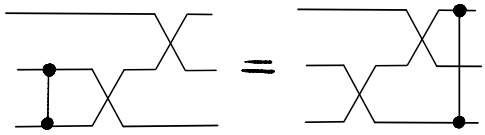
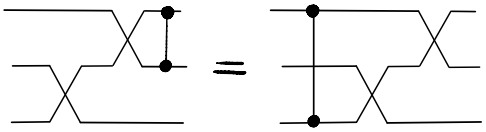
C_{15}^4  C_{15}^2 C_{15}^3 

R_{16}  R_{16}  =: C_{13}^2. LHS

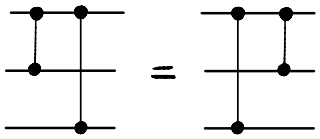
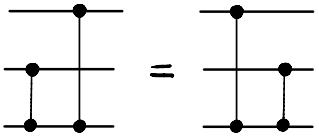
∎

C_{13}:  R_{16}:  R_{17}: 

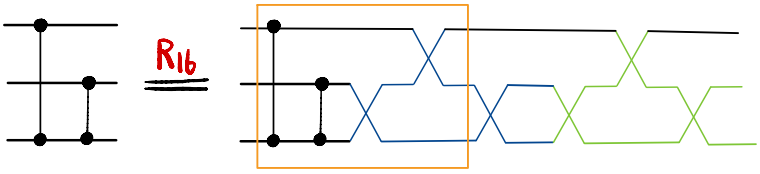
C^2_{15}:  C^3_{15}: 

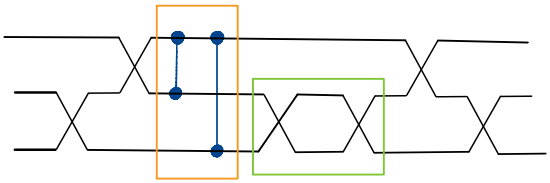
C^4_{15}:  C^5_{15}: 

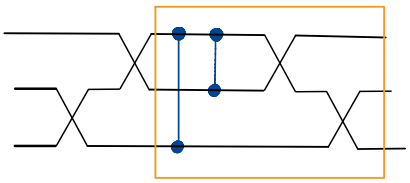
Lem F Def 5, R_{16}, R_{17}, G_3 & G_5 imply

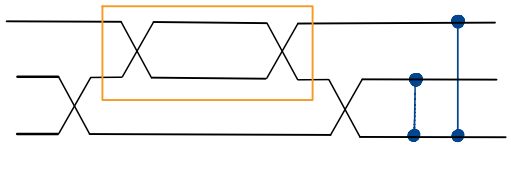
C^1_{13}:  C^2_{13}: 

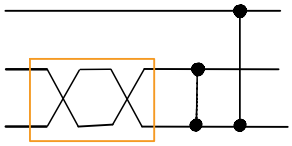
Method 2

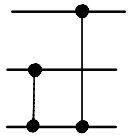
Proof: C^2_{13}. RHS := 

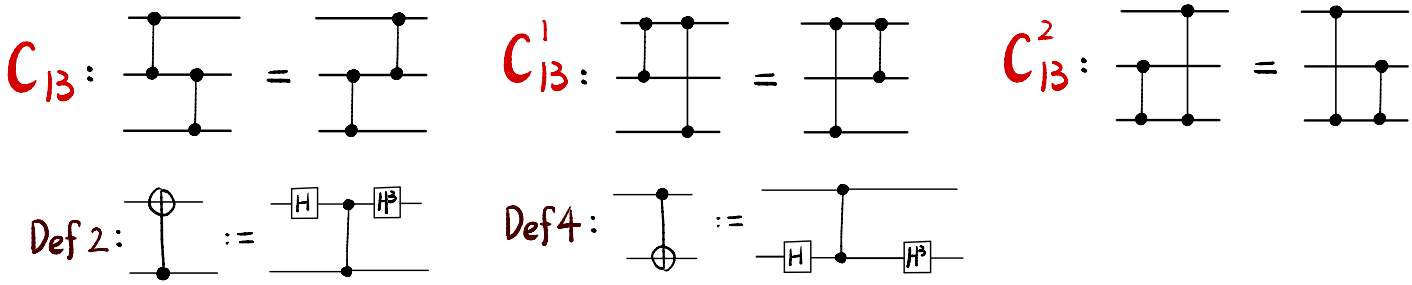
$\overset{C^4_{15}}{\underset{C^5_{15}}{=}}$ 

$\overset{C^1_{13}}{\underset{R_{16}}{=}}$ 

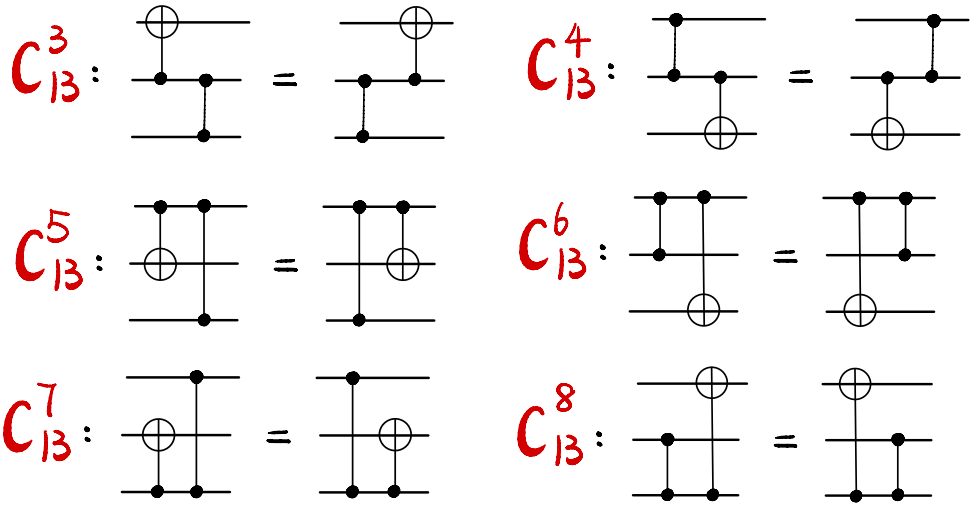
$\overset{C^2_{15}}{\underset{C^3_{15}}{=}}$ 

$\overset{R_{16}}{=}$ 

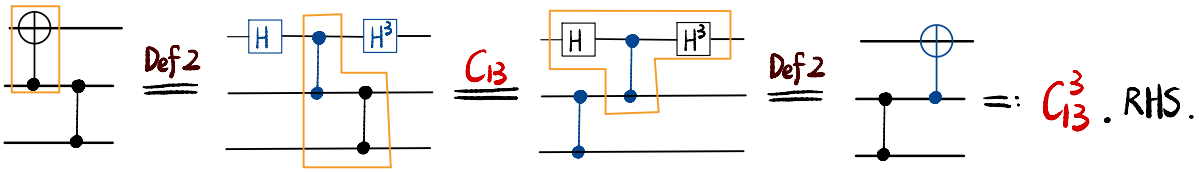
$\overset{R_{16}}{=}$  =: C^2_{13}. LHS



Lem F' Def 2, Def 4 & C_{13} imply

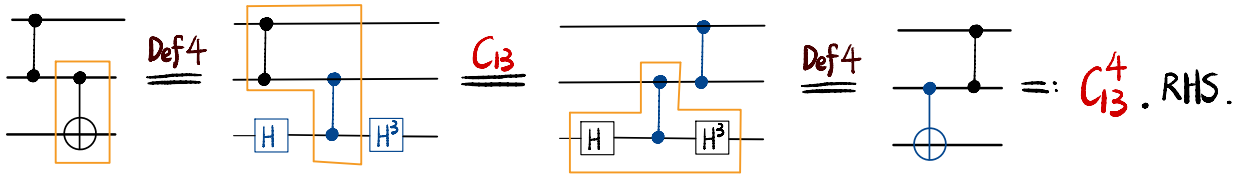


Proof: C_{13}^{3}. LHS :=



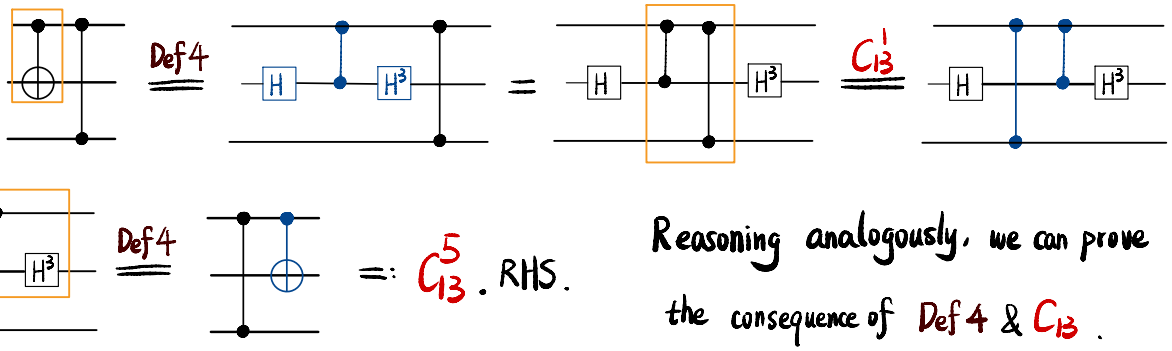
=: C_{13}^{3}. RHS.

C_{13}^{4}. LHS :=



=: C_{13}^{4}. RHS.

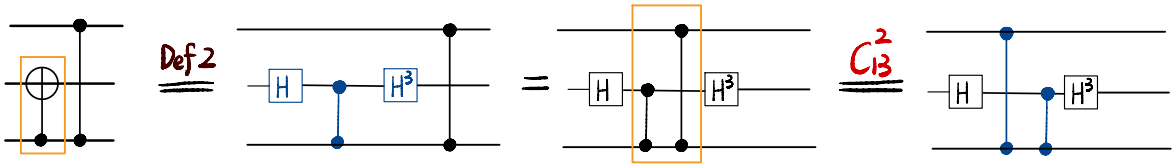
C_{13}^{5}. LHS :=

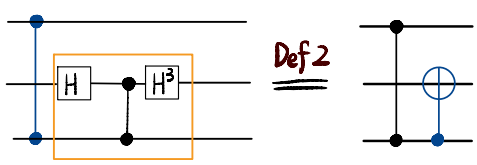


=: C_{13}^{5}. RHS.

Reasoning analogously, we can prove C_{13}^{6} is the consequence of Def 4 & C_{13}.

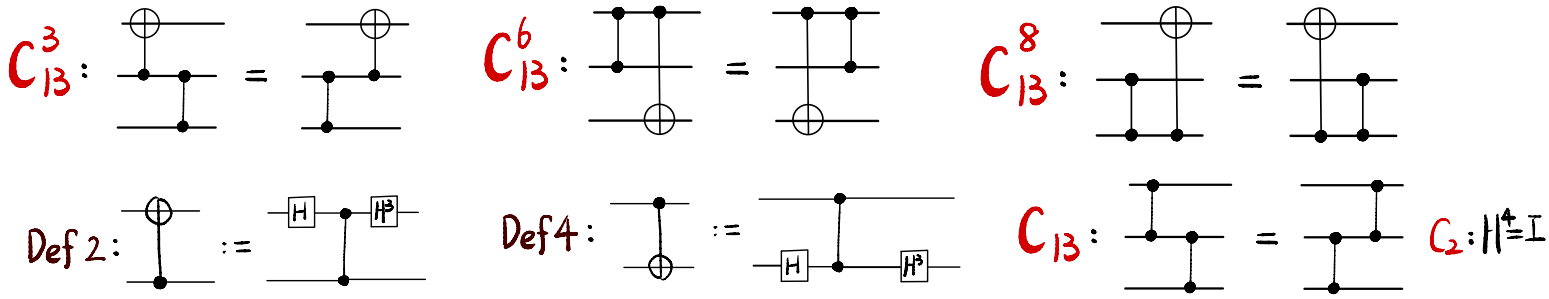
C_{13}^{7}. LHS :=



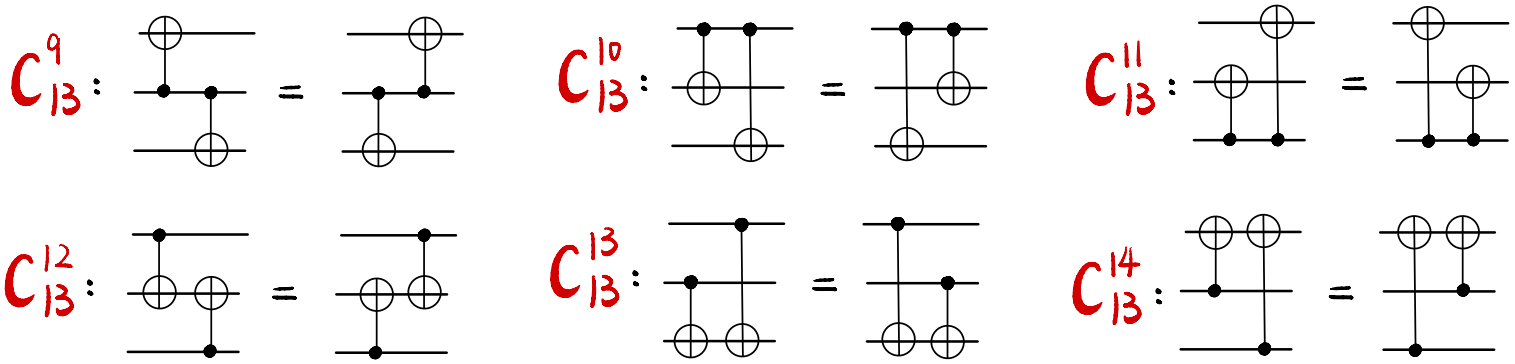


=: C_{13}^{7}. RHS.

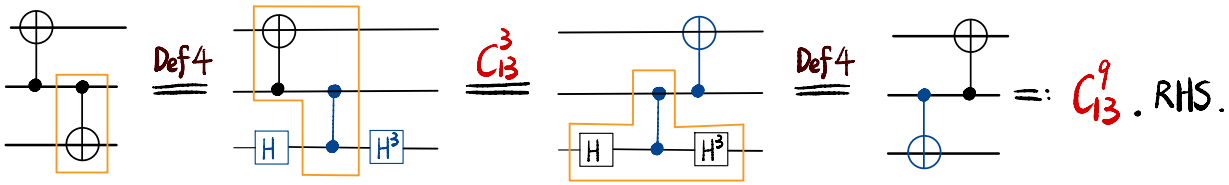
Reasoning analogously, we can prove C_{13}^{8} is the consequence of Def 2 & C_{13}.



Lem F[11] Def 2, Def 4 & C_3 imply

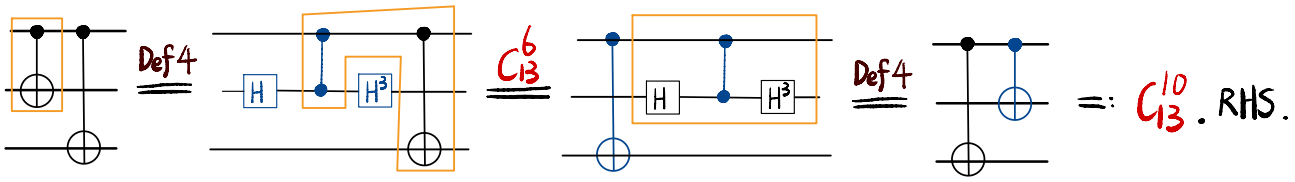


Proof: C_{13}^{9}. LHS :=



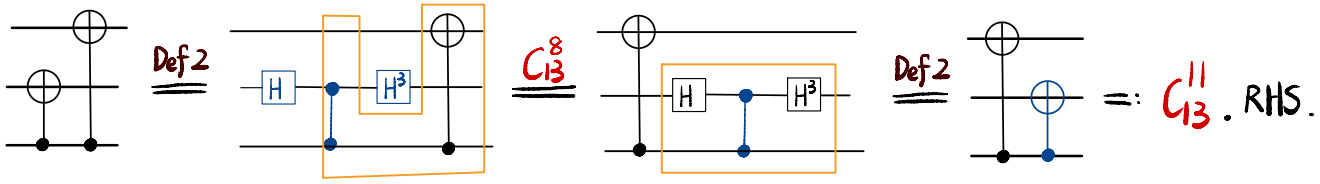
=: C_{13}^{9}. RHS.

C_{13}^{10}. LHS :=



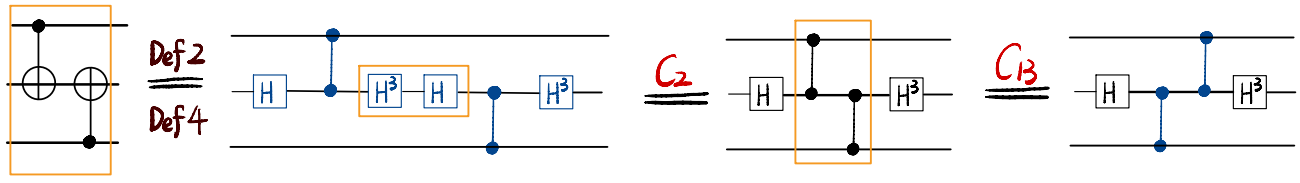
=: C_{13}^{10}. RHS.

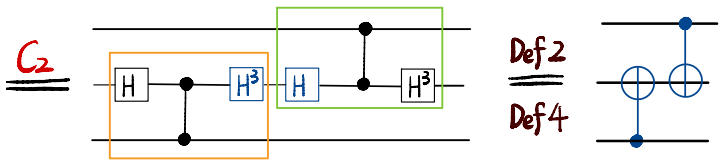
C_{13}^{11}. LHS :=



=: C_{13}^{11}. RHS.

C_{13}^{12}. LHS :=





=: C_{13}^{12}. RHS.

Reasoning analogously, we can prove C_{13}^{13} & C_{13}^{14}.