

Figure 1: pegasus\_v\_chimera\_uc.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell



Figure 2: all\_to\_aux.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux.tikz( $\bigwedge$ ):

- NTR-KZFD
- NTR-ABCG



Figure 3: logical\_fork.tikz

Gadgets with adjacency graph corresponding to logical\_fork.tikz(  $\stackrel{\bullet}{\swarrow}$  ):

• NTR-ABCB



Figure 4: k4\_missing\_2edge.tikz

Gadgets with adjacency graph corresponding to k4\_missing\_2edge.tikz(  $\buildrel \buildrel \buil$ 

ullet Asymmetric reduction



Figure 5: k4-missing\_edge.tikz

Gadgets with adjacency graph corresponding to k4\_missing\_edge.tikz( $\bigwedge$ ):

• Asymmetric cubic reduction



Figure 6: k4.tikz

Gadgets with adjacency graph corresponding to  $k4.tikz(\triangle)$ :

- PTR-Ishikawa
- PTR-BCR (1-4)
- PTR-KZ
- Z version of PTR-KZ

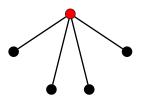


Figure 7:  $all_{to}=4.tikz$ 

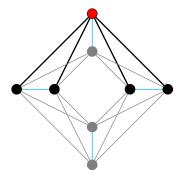


Figure 8: all\_to\_aux4\_inPegasus.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux4.tikz( \( \):

## • NTR-KZFD

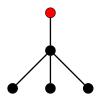


Figure 9: logical\_fork3.tikz

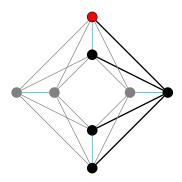


Figure 10: logical\_fork3\_inPegasus.tikz

Gadgets with adjacency graph corresponding to logical\_fork3.tikz( $\stackrel{\frown}{\swarrow}$ ):

• NTR-ABCB

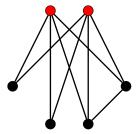


Figure 11: 2aux\_to\_all4\_1conn.tikz

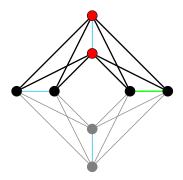


Figure 12:  $2aux\_to\_all4\_1conn\_inPegasus.tikz$ 

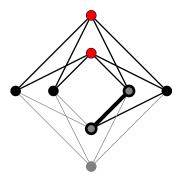


Figure 13:  $2aux\_to\_all4\_1conn\_inChimera.tikz$ 

Gadgets with adjacency graph corresponding to 2aux\_to\_all4\_1conn.tikz(



ullet positive term reduction

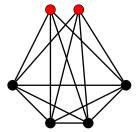


Figure 14: 2aux\_to\_all4\_allConn.tikz

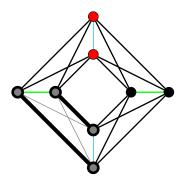


Figure 15: 2aux\_to\_all4\_allConn\_inPegasus.tikz

Gadgets with adjacency graph corresponding to 2aux\_to\_all4\_allConn.tikz(



• PTR-Ishikawa

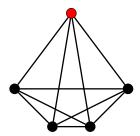


Figure 16: aux\_to\_all4\_allConn.tikz

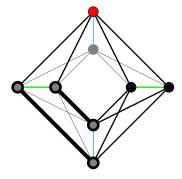


Figure 17: aux\_to\_all4\_allConn\_inPegasus.tikz

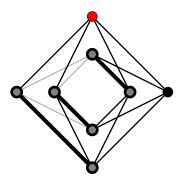
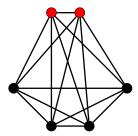


Figure 18:  $aux_to_all4_allConn_inChimera.tikz$ 

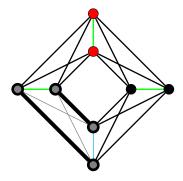
 $Gadgets\ with\ adjacency\ graph\ corresponding\ to\ aux\_to\_all4\_allConn.tikz($ 



- PTR-BCR-2
- PTR-BCR-4



 $Figure~19:~2auxConn\_to\_all4\_allConn.tikz$ 



 $Figure~20:~2auxConn\_to\_all4\_allConn\_inPegasus.tikz$ 

 $Gadgets\ with\ adjacency\ graph\ corresponding\ to\ 2auxConn\_to\_all4\_allConn.tikz($ 



## • PTR-BCR-3

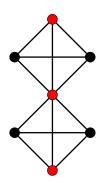


Figure 21: 2k4\_shared\_aux.tikz

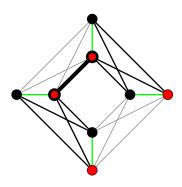


Figure 22:  $2k4\_shared\_aux\_inPegasus.tikz$ 

Gadgets with adjacency graph corresponding to 2k4\_shared\_aux.tikz(\*\*):

- $\bullet\,$  Two copies of PTR-KZ sharing an auxilla
- Two copies of z-version of PTR-KZ sharing an auxilla