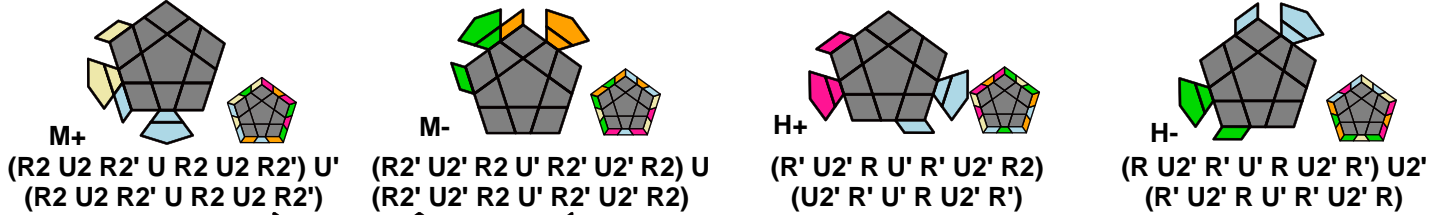
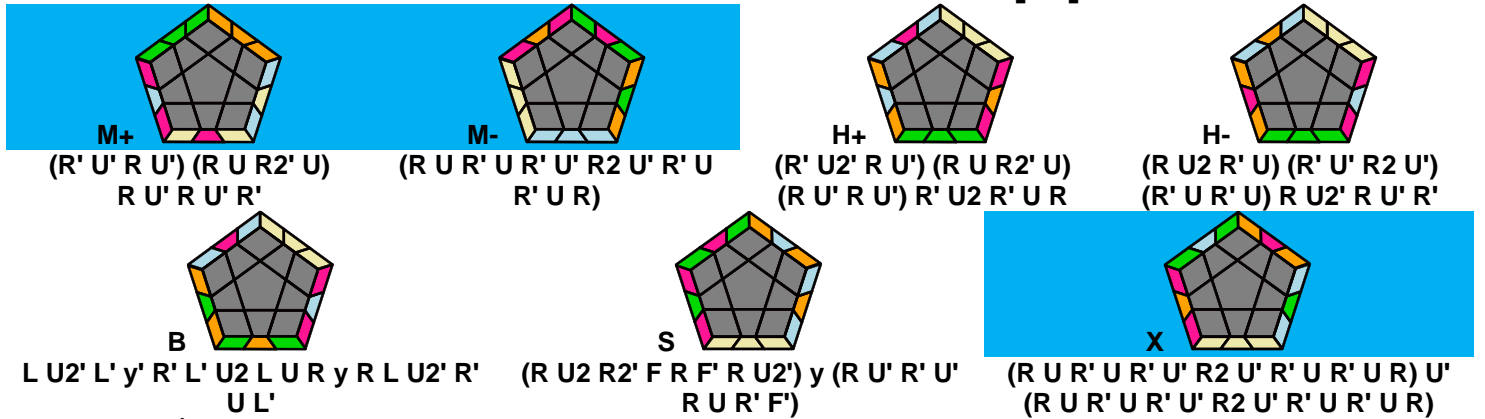
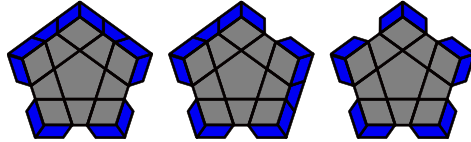
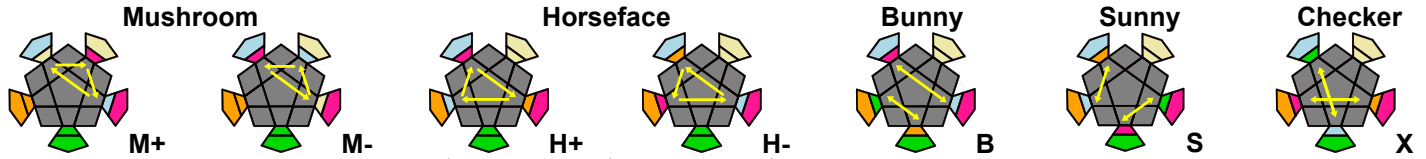


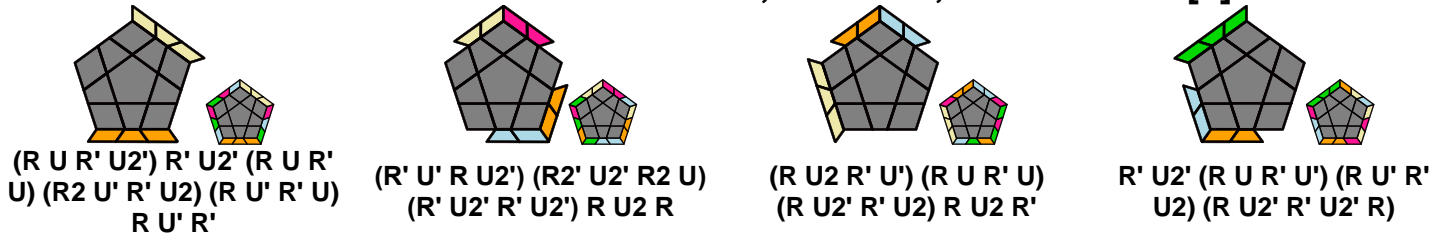
Megaminx PLL Algorithms

Algorithms from James Macdiarmid <http://docs.google.com/spreadsheets/d/1IVODoMORbDdVxwTG4RUZPWCSrx8uPx2bwwXg5tuQYE>

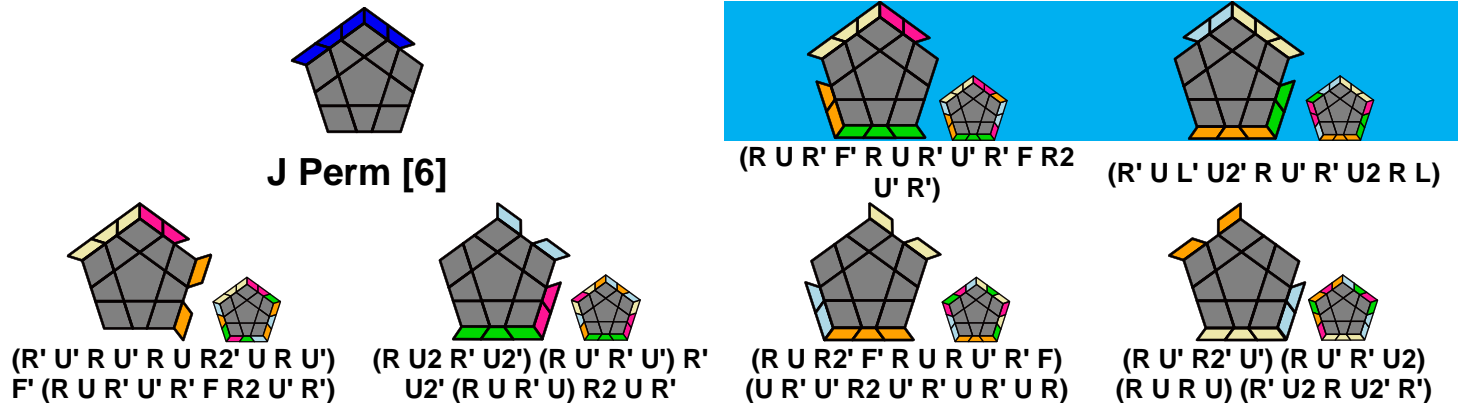
CPLL are not included. B=BR, D=DR. 3x3 PLL or PLL inverse.



2 Lines, 2 Blocks, Line + Block [4]



J Perm [6]



Line + T/R Perm or Bar [10]



Megaminx PLL [136]



Advanced

(R U R' U2) (R' U2' R2 U')
R' U R' U2 R

(R' U' R U2') (R U2 R2' U)
R U' R U2' R'

(R' U2' R U') (R U R2' U2)
R U2' R U' R'

(R U2 R' U) (R' U' R2 U2')
R' U2 R' U R

(R U R' U) (R2 U2' R2' U2')
(R U2 R U2) R' U2' R'

(R' U' R U') (R2' U2 R2 U2)
(R' U2' R' U2') R U2 R

(R U2 R U2') (R' U2' R' U2)
(R2 U2 R2' U') R U' R'

(R' U2' R' U2) (R U2 R U2')
(R2' U2' R2 U) R' U R

Block + 2/1 Bars [10]

(F R U' R' U' R U R' F' R U
R' U' R' F R F')

(F R' F' R) (U R U' R') F (R
U' R' U) (R U R' F')

(R' U2 R' D') (R U' R' D)
R U R U' R' U' R

R U (R2 U' R' U') (R U R'
U') R' U (R2' U R U' R)

R U2 (R2' F R F') (R U' R'
F') U F R U' R'

R' U' (R2' U R U) (R' U' R
U) R U' (R2 U' R' U R')

(R U' R U) (R2' U R' U') (R'
U R U') (R' U' R2 U R)

(R' U R' U') (R2 U' R U) (R
U' R' U) (R U R2' U' R')

R' U (R U R' U') R' D'
(R U R' D) R U2' R

(R U' R' F) U (R U' R' F') (R
U R') (F' U' F) (R U R')

5 Bars [4]

H+

(R U2 R' F') (R U R' U') (R'
F R2 U2' R') [H-: U' alg]

B

(R L U2 L' U R' L U' R U2
L' U2 R')

H-

(R' U2 R' U2') (R U' R' U2')
R U2 R [H+: U alg]

B

(R' L' U2' R U' L R' U L' U2'
R U2' L)

4/3 Bars [5]

(R U R' F' R U R' U' R' F R
U' R' F R2 U' R' U' R U R' F')

(R' U' R U2') (R2' U2' R2
U') (R2' U2' R2 U) R' U R

(R U R' U' R' F R2 U' R' U' R U R' F')

R2 U B2' U (R2' U R2 U')
B2 U2' R2'

R2' U' F2 U' (R2 U' R2' U)
F2' U2 R2

R Perms [4]

B

B

Megaminx PLL [136]



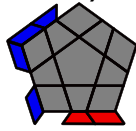
Advanced

R' U2' (R2 U R' U') (R' U2 R U R U' R')

R2 U R2' U2 R U2' (R U R' U') (R U' R2' U2) R U R'

R U2 (R2' U' R U) (R U2' R' U' R' U R)

R2' U' R2 U2' R' U2 (R' U' R U) (R' U R2 U2') R' U' R



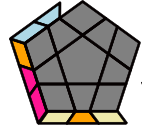
R Perm + Bar [8]



(R' U2 R U') (R2' U2 R2 U) (R' U' R' U2') R U' R



y2 (R2 U2 R2' U R2 U2 R2') U2' (R2 U2' R2' U' R2 U2' R2')



y' (R' U' R U) (R' U R2 U) (R' U R U) (R' U' R' U') R2 U' R'



(R' U R' U2) (R U R U') (R2' U2' R2 U) R' U2' R



y2' (R U2' R' U) (R2 U2' R2' U') (R U R U2) R' U R'



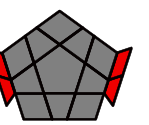
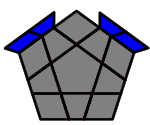
(R2 U2' R2' U' R2 U2' R2') U2 (R2 U2 R2' U R2 U2 R2')



y2' (R U R' U') (R U' R2' U') (R U' R' U') (R U R U) R2' U R



y2 (R U' R U2') (R' U' R' U) (R2 U2 R2' U') R U2 R'



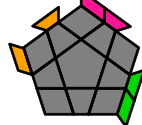
Y/T Perm [6]



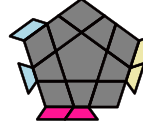
(R' U2' R U2 R' F R U R' U' R' F' R2)



(R2' F R U) (R U' R' F') (R U2' R' U2 R)



R2' U2' R2 U2 R2' U' R2 U2 R2' U2' R2



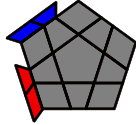
R2 U2 R2' U2' R2 U R2' U2' R2 U2 R2'



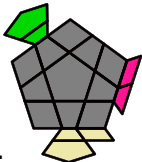
(R2 U2 R2' U) (R2 U' R2' U) R2 U2 R2'



(R2 U2' R2' U') (R2 U R2' U') R2 U2' R2'

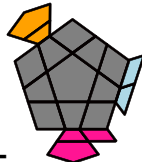


Adj Bars [12]



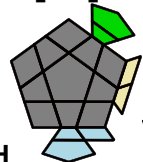
H+

y2' B (R U R' U) (R U R' U') (R U' R' U') B' (U2' R U2 R')



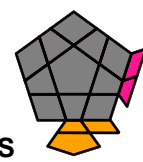
H-

y (R2' U2' R2 U' R2' U2' R2) U' (R2 U2 R2' U R2 U2 R2')



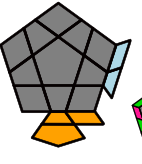
H

y' (R U2 R' U2) (R' U2' R2 U') (R' U' R' U2) (R U2 R U' R')



S

y' (R U' R' U2) (R2 U R' U2) (R U' R' U') (R U' R' U' R')



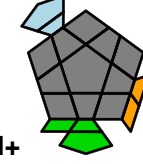
B

y (R2' U2 R2 U) (R2' U' R2 U2') (R2' U' R2 U2) R2' U2' R2



M

(R U2 R' U2) (R U2 R U2) (R' U R' U') (R2 U2' R' U' R')



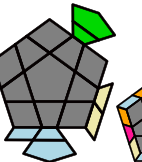
H+

(R' U2' R U2') (R U2 R2' U) (R U' R U2') (R' U2' R' U R)



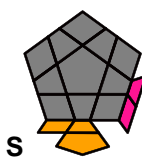
H-

(R' U R U2') (R2' U' R U2') (R' U R U) (R' U R U R)



H

(R U R' U) (R' U2' R2 U) (R2' U R2 U2) (R' U' R U2' R')



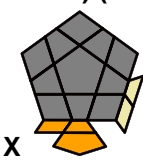
S

y2' (R2 U2 R2' U R2 U2 R2') U (R2' U2' R2 U' R2' U2' R2)



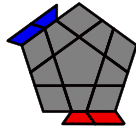
B

y2' (R2 U2' R2' U') (R2 U R2' U2) (R2 U R2' U2') R2 U2 R2'



X

y' (R' U2' R U2') (R' U2' R' U2') (R U' R U) (R2' U2 R U R)

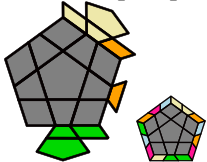


Opp Bars [12]

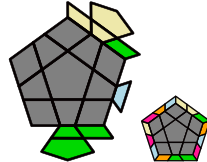
Megaminx PLL [136]



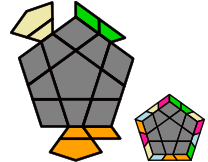
Advanced



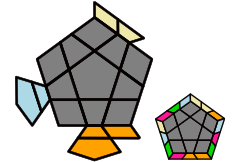
$(R' U' R2 U') (R2' U2 R U) (R U2' R U) (R2' U2 R2 U2 R2')$



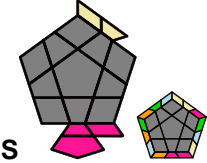
$(R2 U2' R2' U2') (R2 U' R' U2) (R' U' R' U2') (R2 U R2' U R)$



$y' (R2' U2' R2 U' R2' U2' R2) U (R2 U2 R2' U R2 U2 R2')$

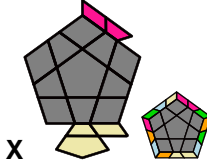


$y2' (R U R' U2 R U2 R') U' (R' U' R U' R' U2 R)$



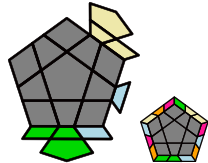
S

$y (R U R U) (R' U R U) (R' U2' R U') (R2' U2' R U R')$

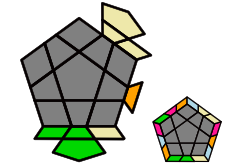


X

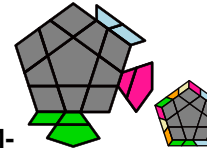
$y2 (R U R U2) (R2' U R U') (R U2' R' U2') (R' U2' R U2' R')$



$(R U R2' U) (R2 U2' R' U') (R' U2 R' U') (R2 U2' R2' U2' R2)$

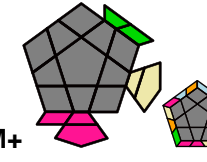


$(R2' U2 R2 U2) (R2' U R U2') (R U R U2) (R2' U' R2 U' R')$



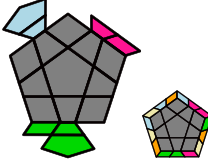
M-

$y2 (R' U' R U2' R' U2' R) U (R U R' U R U2' R')$

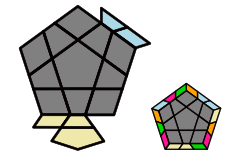


M+

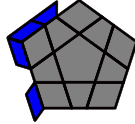
$y' (R U2 R' U) B' (U R U' R' U') B (R U2' R')$



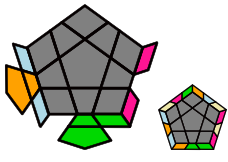
$y' (R' U' R' U') (R U' R' U') (R U2 R' U) (R2 U2 R' U' R)$



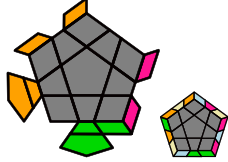
$y (R2 U2 R2' U R2 U2 R2') U' (R2 U2' R2' U' R2 U2' R2')$



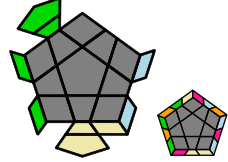
R Perm [8]



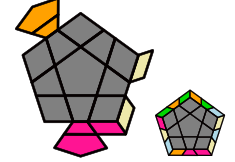
$(L F R' F' L' F) (R2 U R' U R U2' R') F'$



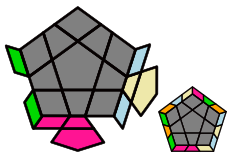
$F (R U2 R' U' R U' R2') F' L F R F' L'$



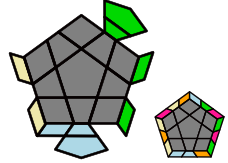
$y' (F R U R' U' F') (L F R U' R' U F' L')$



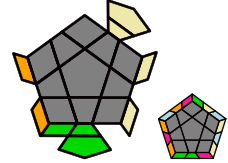
$y2' (L F U' R U R' F' L') (F U R U' R' F')$



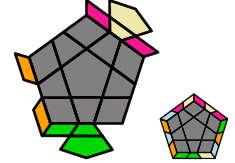
$(R' U' R' F) (R U R U') R' y' (R2' U' R U') R' U2 R B$



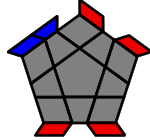
$(R' F' U' F U R) U (R' U' F R' F' R U R)$



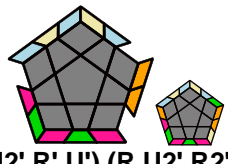
$(R' U' R2 U') (R2' U2 R U) (R U2' R U) (R2' U R2 U2' R2')$



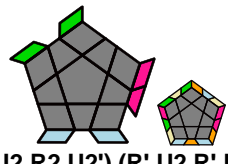
$y2 (R' U' R' F R F' U R) U' (R' U' F' U F R)$



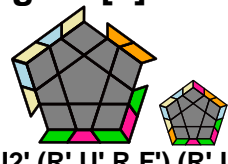
Bar + Lights [4]



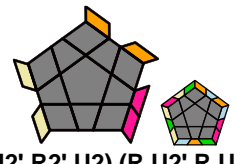
$(R U2' R' U') (R U2' R2' U2) L U' R U L' R' U2' R$



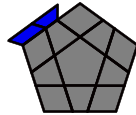
$(R' U2 R2 U2') (R' U2 R' U) (R U2 R' U) (R2 U2 R2' U2' R)$



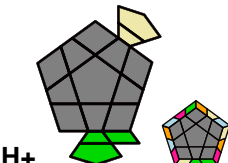
$F U2' (R' U' R F') (R' U' R F) U' (R' U2' R U2) F'$



$(R U2' R2' U2) (R U2' R U') (R' U2' R U') (R2' U2' R2 U2 R')$

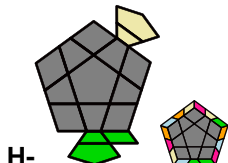


Bar [12]



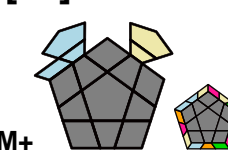
H+

$(R2' U2 R2 U) R2' F2 U' (R2 U R2' U) F2' U R2$



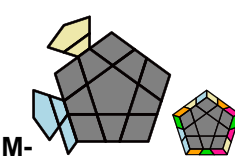
H-

$R2' U' F2 U' (R2 U' R2' U) F2' (R2 U' R2' U2' R2)$



M+

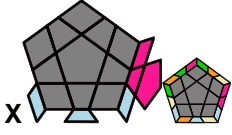
$(R U2 R' U') (R2 U R' U) (R U2' R' U) (R' U R U2 R')$



M-

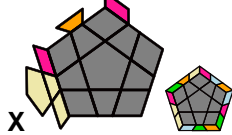
$(R U2' R' U') (R U' R U2) (R' U' R U') (R2' U R U2' R')$

X



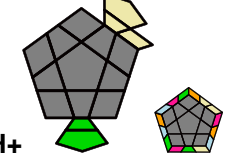
(R2 B2' R2' U') (R2 B2 R2' U2) (R2 B2' R2' U') R2 B2 R2'

X



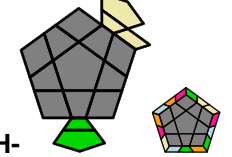
R2 U R2' U R2 U2' R2' U2 y' R2' U' R2 U2' R2' U2' R2

H+



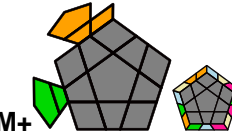
R2 U B2' U (R2' U R2 U') B2 (R2' U R2 U2 R2')

H-



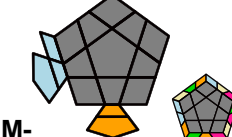
(R2 U2' R2' U') R2 B2' U (R2' U' R2 U') B2 U' R2'

M+



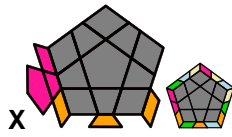
(R' U2 R U) (R' U R' U2') (R U R' U) (R2 U' R' U2 R)

M-



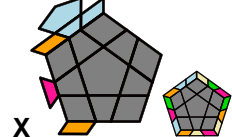
(R' U2' R U) (R2' U' R U') (R' U2 R U') (R U' R' U2' R)

X

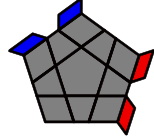


(R2' F2 R2 U') (R2' F2' R2 U2) (R2' F2 R2 U') R2' F2' R2

X




R2' U' R2 U' R2' U2 R2 U2' y R2 U R2' U2 R2 U2 R2'

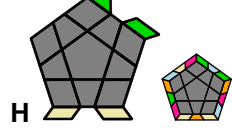


Lights [10]

y (R U R' U' R' F R2 U' R' U' R U R' F') U2' (R U R' U' R' F R2 U' R' U' R U R' F')

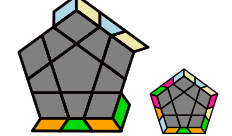


H

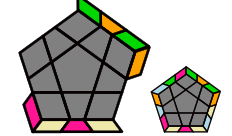


y' (R' U2 R U) (R' U R U') (R' U2 R U') (R U R' U) R U2' R'

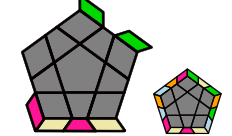
(R U R U) (R' U R' U) (R U' R U2') (R' U2' R' U') R U2 R'



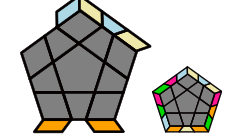
y2' (R U2' R' U) (R U2 R U2) (R' U R' U') (R U' R U') R' U' R'



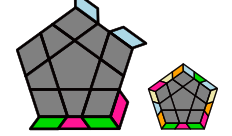
F U2' F' U2' R F R' U' R F' U2' R' U' R U2' R'



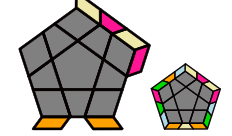
y2' (R U R' U') (R' U2 R U) (R U R2' U) (R U' R U) (R' U' R U2' R')



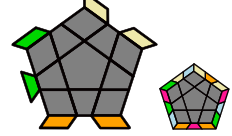
y2' (R' U2' R U) (R' U R2 U2') (R' U' R U) (R' U2' R U' R')



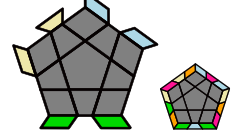
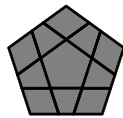
y2 (R U2 R' U') (R U' R2' U2) (R U R' U') (R U2 R' U R)



y2 (R U R' U2) (R U' R' U) (R U2 R2' U') (R U' R' U2 R)




y2' (R' U' R U2') (R' U R U') (R' U2' R2 U) (R' U R U2' R')





Others [10]

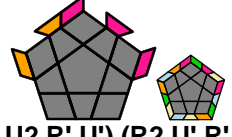
F U2 (R U2' R' U) (R U R' U2') F' (R' U' R U2') R' U2' R




F (R U R' F) U R' U' F' U (R2 U2' R' F')



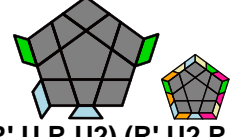
(R' U2 R' U') (R2 U' R' U') (R U R' U) (R' U R2 U') R' U2' R



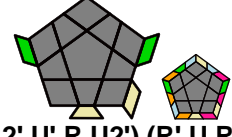
(R U2' R U) (R2' U R U) (R' U' R U') (R U' R2' U) R U2 R'



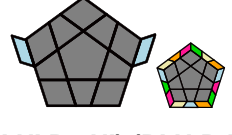
(R' U R U2) (R' U2 R U) (R2' U' R U') (R' U' R U2) R' U R2



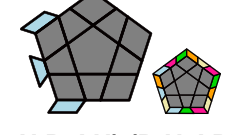
(R2' U' R U2') (R' U R U) (R' U R2 U') (R' U2' R U2') R' U' R



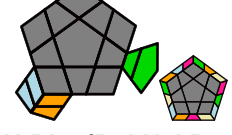
(R' U' R2 U') (R' U R U') (R2' U' R2 U) (R' U' R U) R2' U2 R



(R2 U R2' U) (R U2' R' U) (R' U2' R U) (R' U R2 U) R U' R2'



R U R' y (R2' U2' R2 U') (R2' U2 R2 F) (R2' U R2 U2') F'



R' U' R y' (R2 U2 R2' U) (R2 U2' R2' B') U B U' R2 U' R2'

