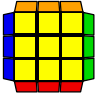


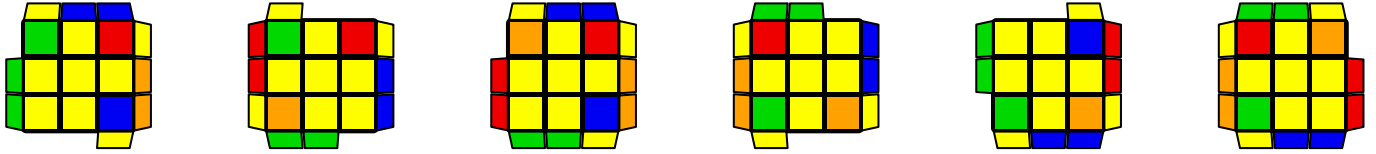


ZBLL Algorithms (Zborowski-Bruchem Last Layer)



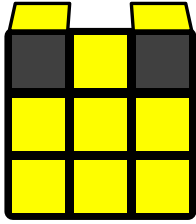
ZBLL solve LL, assuming EO are solved. Recognition order: COLL, block, bar, light, opp/adj color. Learn 2GLL (2-Generator LL) first. **COLL**, **easy**, **OLL variant**, scramble. Prerequisite: COLL.

Easy ZBLL-S & AS [6]

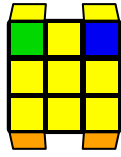


RUR'URU2'R' R'U2'RUR'UR RU'L'UR'U'L RU2R'U'RUR' R'U'RUR'R'U2R L'URU'LUR'

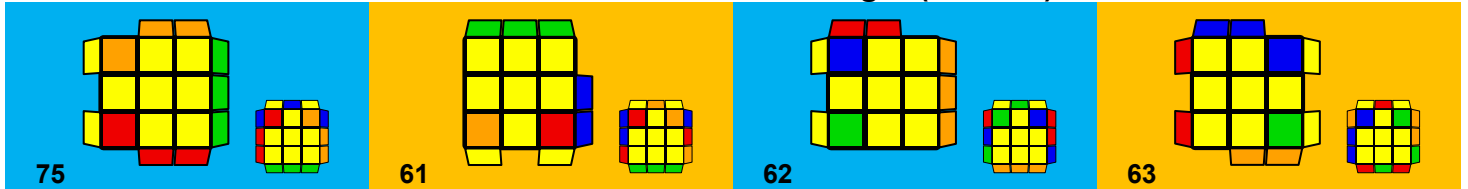
ZBLL-U [72]



U61-U72



F-light (2GLL-U)



75

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

61

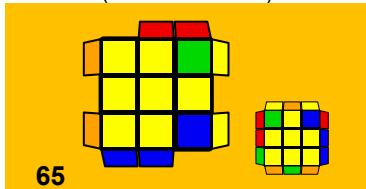
(R U R' U R U2' R') U
(R U2' R' U' R U' R')
(R U R' U R U2' R') U'
(R U2' R' U' R U' R')

62

(R U R' U') (R U' R' U2)2
R U R'
(R U' R' U2) (R U R' U2) (R U R' U)
R U R'

63

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



65

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

64

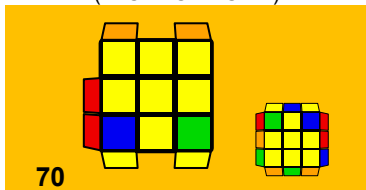
(R' U2' R2 U R2' U) R U'
(R U R' U') R U' R'
(R U R' U) (R U' R' U)
R' U' R2 U' R2' U2' R

66

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

69

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



70

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

71

x' R2 D2 (R' U' R D2)
R2' D (R U R' D') x
x' D (R U' R' D') R2 D2 (R' U R D2)
R2' x

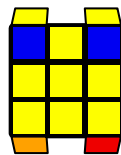
68

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

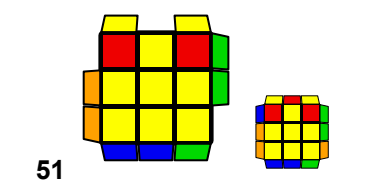
67

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

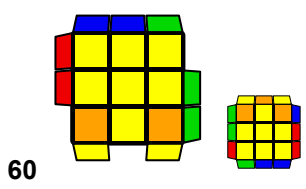
U49-U60



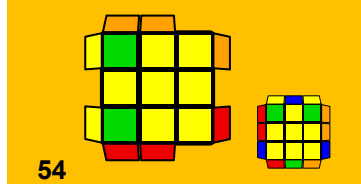
B-light



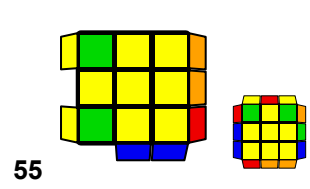
51



60



54

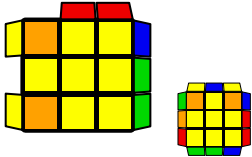


55

3x3 ZBL [334]

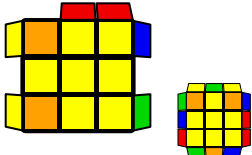
Advanced

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



56

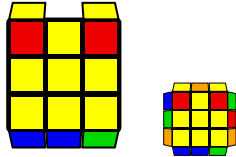
(R' U2 R) F U' (R' U R U)
(R' U R U') F'
(R' U2 R) F U' (R' U R U)
(R' U R U') F'



57

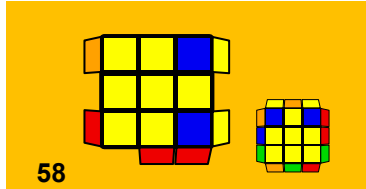
R' D' (R U' R' D) R2 U2'
R' U R U R'
(R U' R' U') (R U R D) (R' U R D)
R2'

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



49

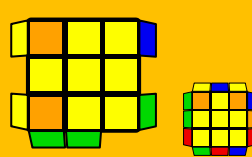
F (R U' R' U') (R U R D)
(R' U R D') R2'
R' D' (R U' R' D) R2 U2' R' U R U
R'



58

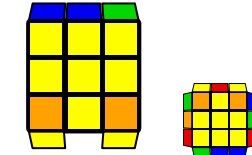
F (R U' R' U') F' U2 (r' U r2
U' r2' U' r2 U r')
F (R U R' U')2 F' U' R' (F' U' F) U R

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



50

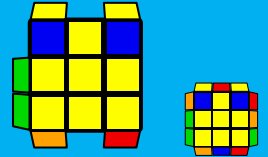
F (R U' R' U')2 F' U' R'
(F' U' F) U R
F (R U R' U') F' U2
(r' U r2 U' r2' U' r2 U r')



59

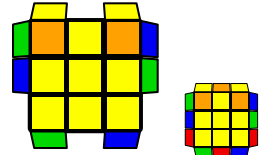
R D' R2' U (R U R' U2')
R2 D R'
(R' U2 R) F U' (R' U' R U) F'

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



52

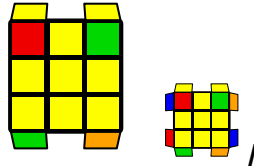
(R' U2 R) F U' (R' U' R U)
F'
R D' R2' U (R U R' U2') R2 D R'



53

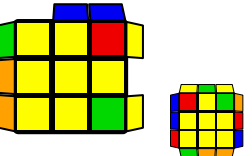
F (R U' R' U' R U2' R' U')2
F'
F (R U' R' U' R U2' R' U')2 F'

U1-U12



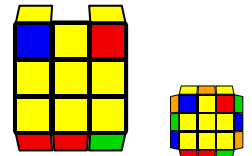
3

R2 D (r' U2 r D') R' U2 R'
(R U2 R D) (r' U2 r D') R2



9

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

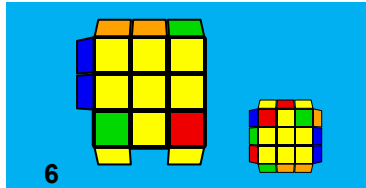


8

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

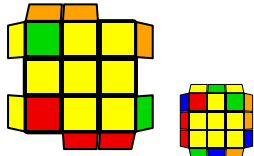
6

R2 D (R' U2 R D') R' U2 R'
(R U2 R D) (R' U2 R D') R2



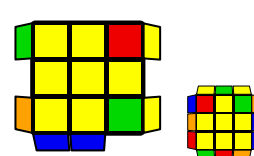
7

(R U' R' U') (R U2' R' U D)
(R' U R U2) (R' U R D')
(R' U' R U2)2 y R U2' R' U R U R'



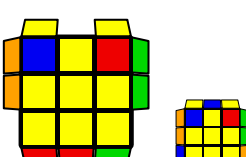
10

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



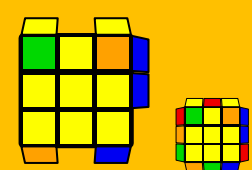
1

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



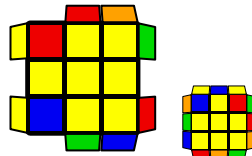
2

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



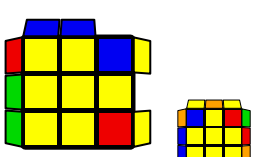
11

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



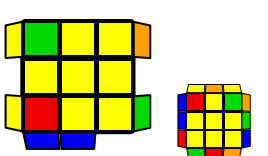
4

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



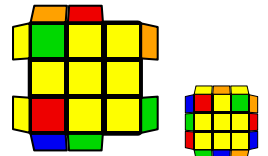
5

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

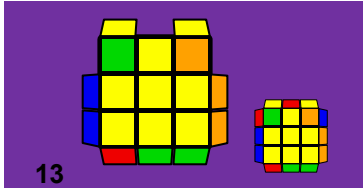
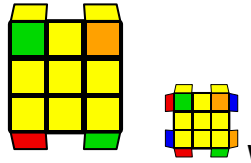


12

(R U' R' U) (R U R' U')2
R U L U' R' U L'
(L U' R U' L U') (R' U' R U')2
(R' U' R U R')

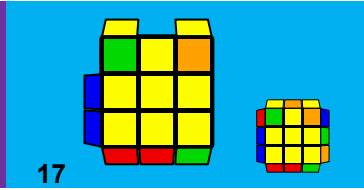


U13-U24



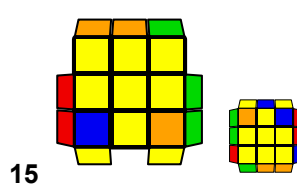
13

R2' D' (r U2 r' D) R U2 R
(R' U2 R' D') (r U2 r' D) R2



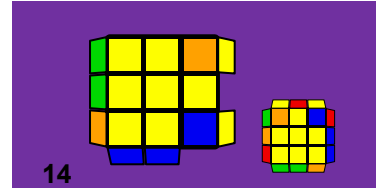
17

R2' D' (R U2 R' D) R U2 R
(R' U2 R' D') (R U2 R' D) R2



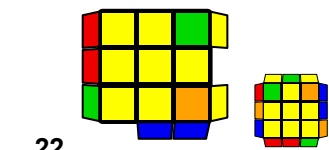
15

(R U R' U) R U2' R2'
z (R U R' D) R U' z'
(L U' R' U L' U' R)
(R U2' R' U' R U' R')



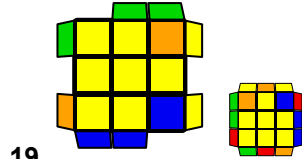
14

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



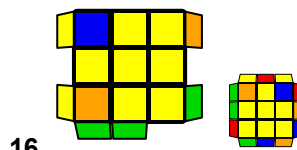
22

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



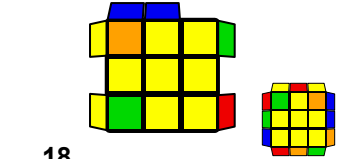
19

(R' U R U) (R' U2' R U' D')
(R U' R' U2) (R U' R' D)
(R U R' U2)2 y' R' U2 R U' R' U' R'



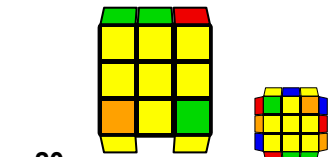
16

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



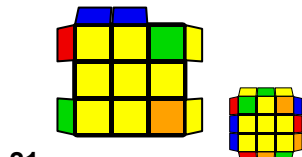
18

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



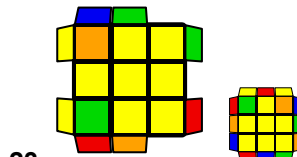
20

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



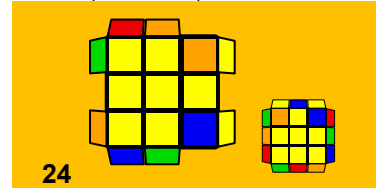
21

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



23

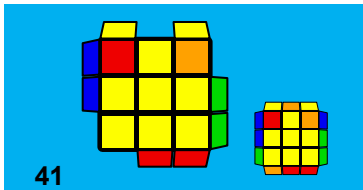
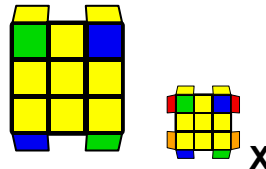
(R' U R U') R' U' (R U R'
U')2 (L' U R U' L)
(L' U R' U' L U) (R U' R' U)2
(R U R' U' R)



24

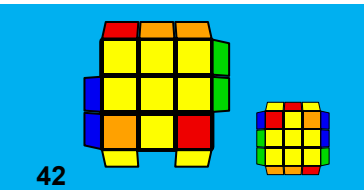
F (R U' R' U') (R U2 R' U')
F' U (R' U' R U' R' U2 R)
L (R' U' R U) L' U' (R' U' R U)
(R' U' R U) R' U R

U37-U48



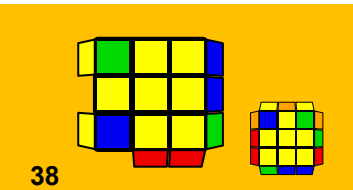
41

x' R2 D2 (R' U2 R D2)
R' U2 R' x
x' (R U2 R D2) (R' U2 R D2) R2' x



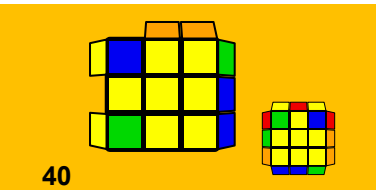
42

x R2' D2 (R U2 R' D2)
R U2 R x'
x (R' U2 R' D2) (R U2 R' D2) R2 x'



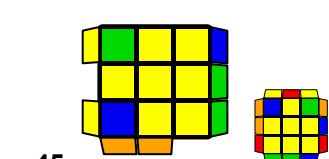
38

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



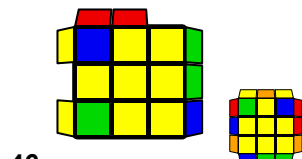
40

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



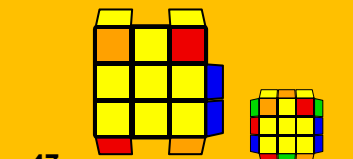
45

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



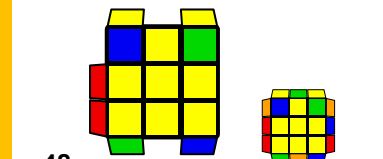
46

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



47

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



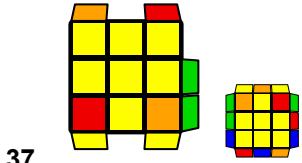
48

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

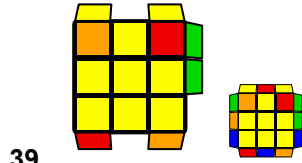
3x3 ZBLL [334]



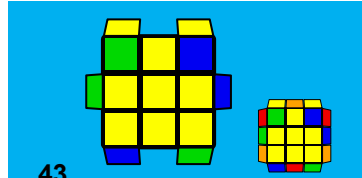
Advanced



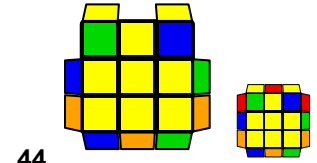
37
 $(R U R' U') L' U2 (R U R' U2 L) R U' R'$
 $R' D' (R U R' D) (R2 U R' U2) (R U' R' U) R U' R'$



39
 $(R' U' R U) L U2 (R' U' R U2) L' R' U R$
 $R U2' R' (L' U R U) (L U2 R' U) L' U L$



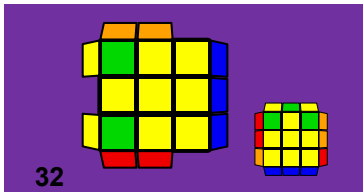
43
 $F (R U' R' U) (R U R' U) (R U' R' F')$
 $F (R U R' U') (R U' R' U) (R U R' F')$



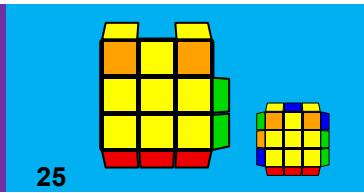
44
 $L' (R' U R U') L (R' U' R U2) (R U R2' U R2 U2' R')$
 $R U2' (R2' U' R2 U') R' U2 (R' U R) L' U (R' U' R) L$

U25-U36

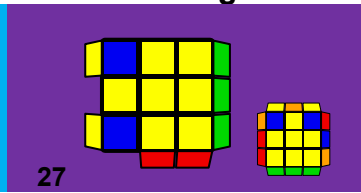
FB-light



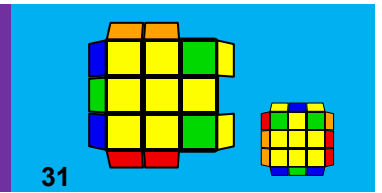
32
 $R2' F' (R U R' U') (R' F R2 U) (R' U2 R2 U) (R' U R) R2' F' (R U R' U') (R' F R2 U') (R' U2 R2 U) (R' U R)$



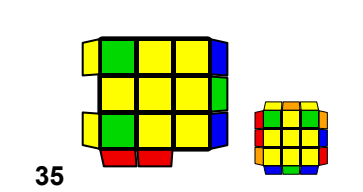
25
 $R' F (R U' R' U') (R U R' F') (R U R' U') (R' F R F' R) R' F (R U' R' U') (R U R' F') (R U R' U') (R' F R F' R)$



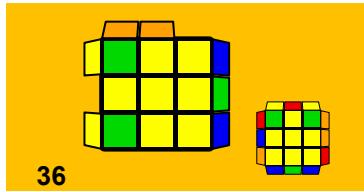
27
 $F2 (R U' R' U') (R U R' F') (R U R' U') (R' F R F2) y' (R' U R U') x' z (R U' R U R2) z' (R U' R' U) x (OH) F2 (R U' R' U') (R U R' F') (R U R' U') (R' F R F2)$



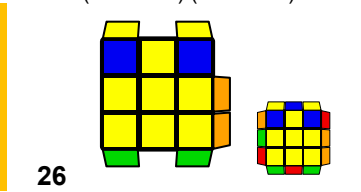
31
 $F' (R U R' U) (R U R' F') (R U R' U') (R' F R2 U') R' U2 (R U' R' F) F' (R U R' U') (R U R' F') (R U R' U') (R' F R2 U') R' U2 (R U' R' F)$



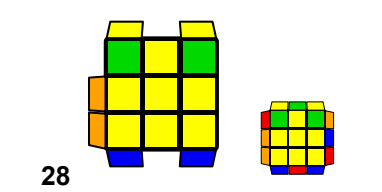
35
 $R2' D' (R U2 R' D) R U2 (R U R' U2) (R U R' U R) R' U' (R U' R' U2)2 R' D' (R U2 R' D) R2$



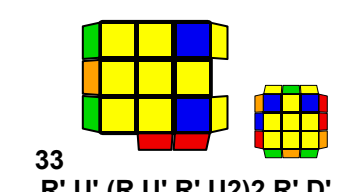
36
 $(R2 D R' U2 R D' R' U2 R') U' (R U2 R' U' R U' R') (R U R' U) (R U2' R' U) (R U2' R D) (R' U2 R D') R2$



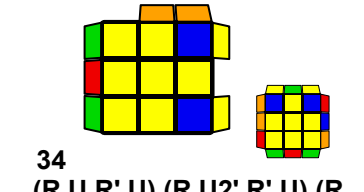
26
 $L' (R' U2 L U2) (R U' L' U) (R' U R U') L L' (R' U2 L U2) (R U' L' U) (R' U R U') L$



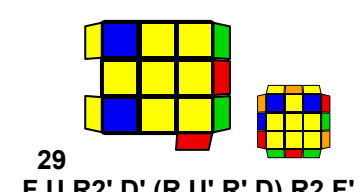
28
 $L (R U2' R' U2) (L' U R U') (L U' L' U) R' L (R U2' R' U2) (L' U R U') (L U' L' U) R'$



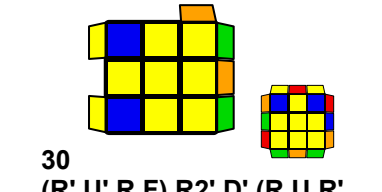
33
 $R' U' (R U' R' U2)2 R' D' (R U2 R' D) R2 R2' D' (R U2 R' D) R U2 (R U R' U2) (R U R' U R)$



34
 $(R U R' U) (R U2' R' U) (R U2' R D) (R' U2 R D') R2 (R2 D R' U2 R D' R' U2 R') U' (R U2 R' U' R U' R')$

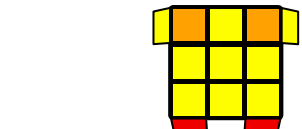
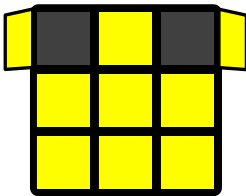


29
 $F U R2' D' (R U' R' D) R2 F' (R' U R) (R' U' R F) R2' D' (R U R' D) R2 U' F'$



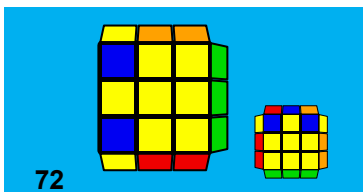
30
 $(R' U' R F) R2' D' (R U R' D) R2 U' F' F U R2' D' (R U' R' D) R2 F' (R' U R)$

ZBLL-T [72]

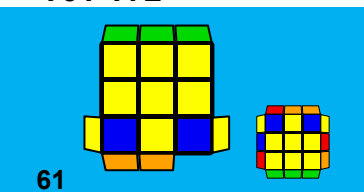


T61-T72

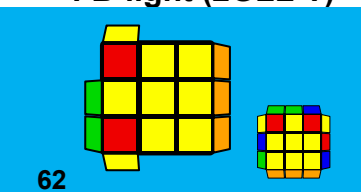
FB-light (2GLL-T)



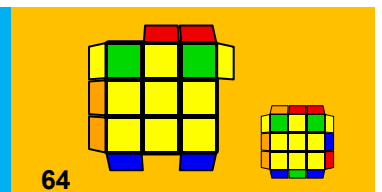
72
 $(R U R' U R U2' R') (L' U' L U' L' U2 L) (L' U2 L U L' U L) (R U2' R' U' R U' R')$



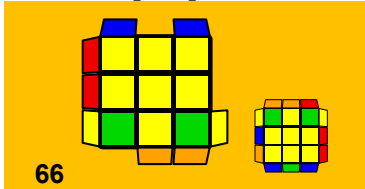
61
 $(R U' R' U2) (R U R' U2) (R U R' U) R U' R' (R U R' U') (R U' R' U2)2 R U R'$



62
 $(R U R' U R U2' R') U' (R U2' R' U' R U' R') (R U R' U R U2' R') U (R U2' R' U' R U' R')$

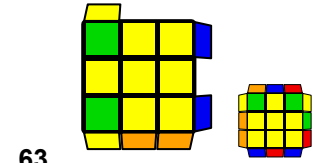


64
 $(R U2' R' U' R U' R') U (R U R' U R U2' R') (R U2' R' U' R U' R') U' (R U R' U R U2' R')$



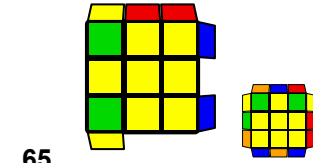
66

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



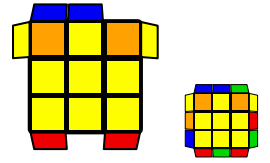
63

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



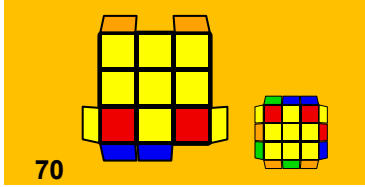
65

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



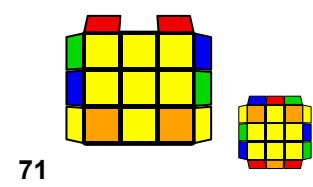
69

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



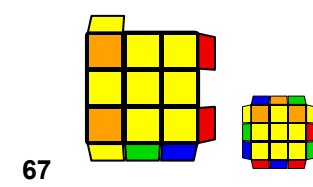
70

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



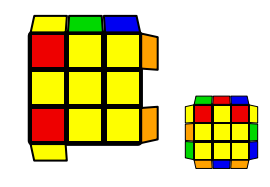
71

$x' D (R U' R' D') R2 D2$
 $(R' U R D2) R2' x$
 $x' R2 D2 (R' U' R D2) R2' D$
 $(R U R' D') x$



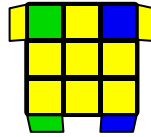
67

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



68

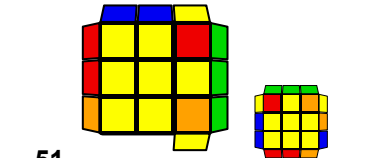
$(R U R2' U' R2 U' R2' U2')$
 $(R U' R U' R')$
 $(R U R' U) (R' U' R U')$
 $(R' U2' R U2' R U2' R')$



T49-T60

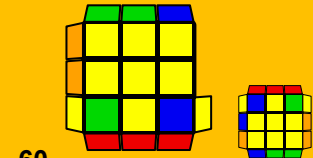


LR-light



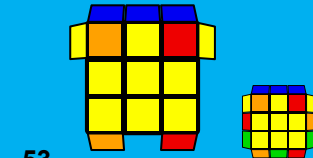
51

$(R U' R2' D') (r U2 r' D)$
 $(R2 U' R' U') R U' R'$
 $(R U R' F' R U R' U' R' F R) U'$
 $(R' F R U R U' R' F')$



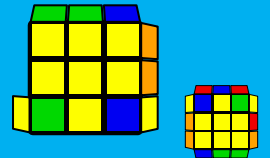
60

$(R U R' F' R U R' U' R' F R)$
 $U' (R' F R U R U' R' F')$
 $(R U' R2' D') (r U2 r' D)$
 $(R2 U' R' U') R U' R'$



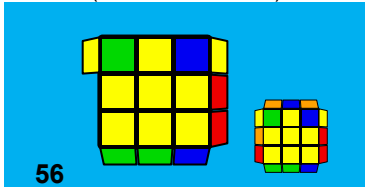
53

$(R U2' R' U) (L U' R U L2'$
 $U) R' U' L$
 $(R U2' R' U) (L U' R U L2' U)$
 $R' U' L$



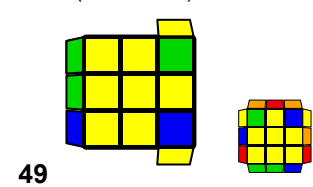
55

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



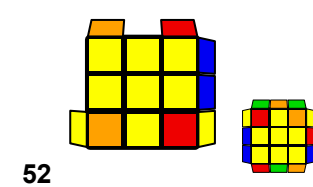
56

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



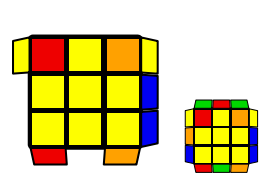
49

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



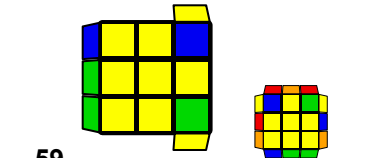
52

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



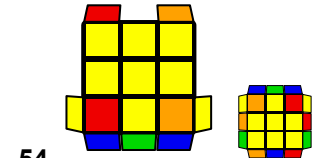
57

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



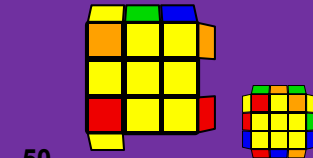
59

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



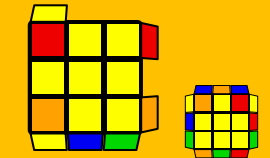
54

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



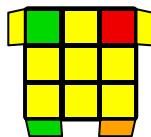
50

$R2' F2 (R U2 R U2') R' F'$
 $(R U R' U') R' F' R2$
 $(R' U' R U' R' U2 R) (R U R' U)$
 $(L' U R U' L) U2 R'$



58

$(R' U' R U' R' U2 R) (R U R'$
 $U) (L' U R U' L) U2 R'$
 $R2' F2 (R U2 R U2') R' F'$
 $(R U R' U') R' F' R2$



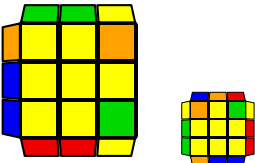
T13-T24

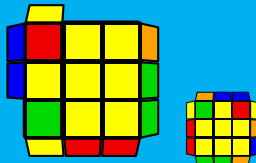


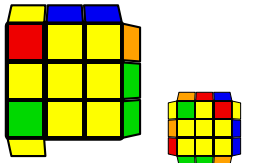
L-light

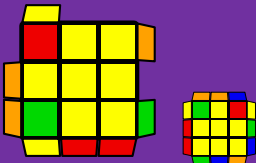
3x3 ZBLL [334]

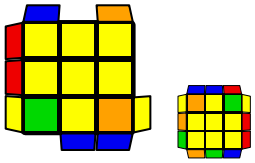
Advanced

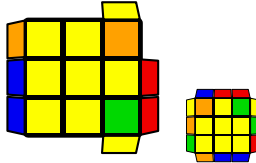
13 
 $L (R U' R' U) L' (R U R' U)$
 $(R U R' U) R U' R'$
 $L (R' U' R U) L' U' (R' U' R U)$
 $(R' U' R U) R' U R$

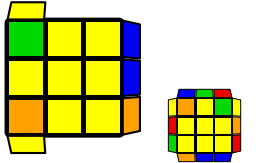
17 
 $(r U R' U') (r' F R F')$
 $(F R' F' r) (U R U' r')$

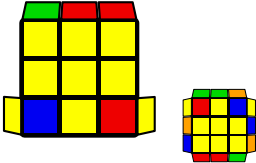
14 
 $R' D' (R U R' D) (R^2 U' R'$
 $U) (R U R' U') R U R'$
 $(R U' R' U) (R U' R' U') (R U R^2 D')$
 $(R U' R' D) R$

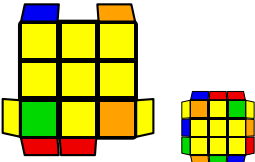
21 
 $(R U^2 R' U^2) (R' F R U R$
 $U' R' F')$
 $F (R U R' U') R' F' (R U^2 R U^2) R'$

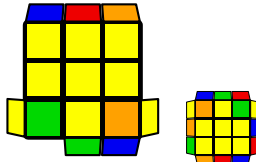
19 
 $(R U R D) (R' U^2 R D') (R'$
 $U' R' U) (R U' R' U') R U' R'$
 $(R' U^2 R U^2 D') (R U' R U)$
 $(R U' R^2 D)$

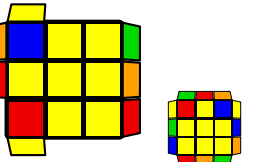
15 
 $(R U R' U) (R U R' U^2) L$
 $(R U' R' U) L'$
 $L U' (R U R') L' U^2 (R U' R' U')$
 $R U' R'$

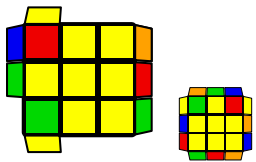
20 
 $(R U R' U') (R U' R')$
 $(L U' R U R' L')$
 $L (R U' R' U) L' (R U' R' U) R U' R'$

22 
 $L' U^2 (R U^2 R' U^2)$
 $L U R U' R'$
 $(R U' R' U) L' U^2 (R U^2 R' U^2) L$

24 
 $L' (R U R' U') L U$
 $(R U R' U') R U' R'$
 $(R U R' U) (R U' R' U') (L' U R U')$
 $R' L$

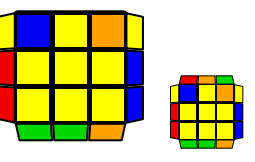
16 
 $F (R U R' U') R' F' U^2'$
 $(R U R U') R^2 U^2 R$
 $(R' U^2 R^2 U) (R' U' R' U^2) F$
 $(R U R U') R' F'$

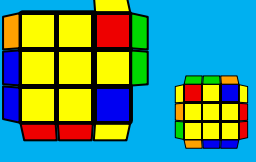
18 
 $(R' U^2 R U^2) (R' U R U')$
 $(L U' R' U L' U R)$
 $R' U' (R U' R' U)^2 (R U' R^2 D')$
 $(R U^2 R' D) R^2$

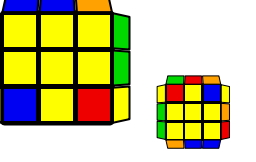
23 
 $(R U' R' U') (R U R D)$
 $(R' U^2 R D') R' U' R'$
 $(R U R D) (R' U^2 R D') (R' U' R' U)$
 $R U R'$

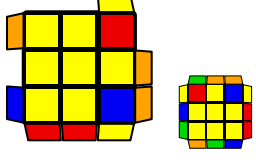
T1-T12

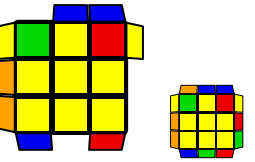
R-light

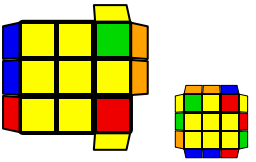
3 
 $R^2 F^2 (R U^2 R' R U^2')$
 $(R' F^2 R U') R' U R$
 $(R' U' R U) R' F^2 (R U^2 R' U^2)$
 $R' F^2 R^2$

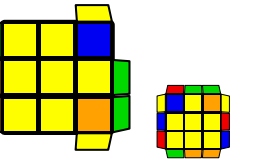
6 
 $(l' U' L U) (R U' r' F)$
 $F' (r U R' U') (r' F R)$

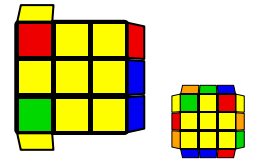
4 
 $F R^2 D (R' U' R D') R^2 U'$
 $(R U^2 R' U') F'$
 $(R U R' U^2) L U' (R U' R' U)$
 $(R U^2 R') L'$

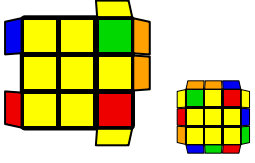
10 
 $(R U R' U') R' F'$
 $(R U^2 R U^2) R' F$
 $F' (R U^2 R' U^2) R' F (R U R U' R')$

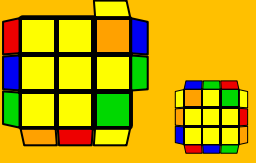
7 
 $(R' U^2 R) F U' (R' U R U) F'$
 $(R' U R)$
 $(R U R' U') (L U^2 L' U' L U')$
 $(R U' R' U) L'$

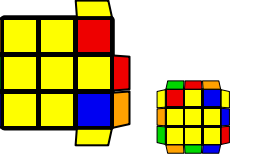
1 
 $R' U' (R U' R' U') R U^2$
 $L' (R' U R U') L$
 $(L' U L U^2) R' (L' U L U)$
 $(R U R' U R)$

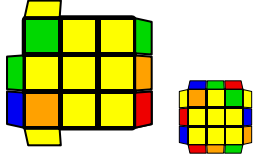
9 
 $F U (R U^2 R' U) (R U R' F')$
 $F (R U' R' U) (R U^2 R' U') F'$

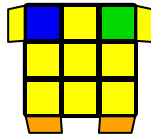
8 
 $(R' U' R U) (R' U R)$
 $L' (U R' U' R) L$
 $L' (R' U R U') L (R' U' R U') R' U R$

11 
 $(R U R' U') (R U R^2 D')$
 $(R U^2 R' D) R U' R U' R'$
 $(R U R' U) R' D' (R U^2 R' D) R^2 U'$
 $(R' U R U' R')$

5 
 $F (R U R' U')^2 F' (R U R'$
 $U') (R' F R F')$
 $(R U L' U) (R' U' L U') (R U R' U^2)$
 $R U^2 R'$

2 
 $R' U^2 (R^2 U R' U') R' U^2'$
 $F' (R U^2 R U^2) R' F$
 $F' (R U^2 R' U^2) R' F U^2' (R U R U')$
 $R^2 U^2 R'$

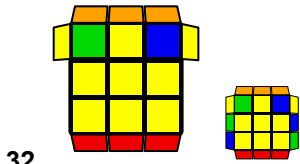
12 
 $R' U (R U R' U') R' D'$
 $(R U^2 R' D) R U R$
 $(R' U' R' D') (R U^2 R' D) (R U R U')$
 $R' U' R$



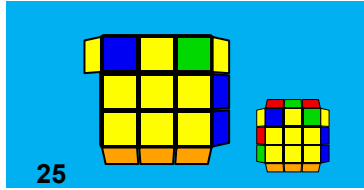
T25-T36



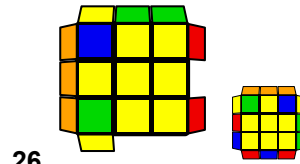
F-light



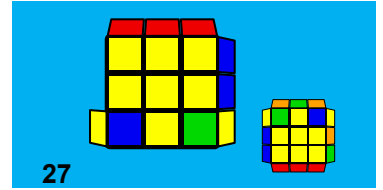
32
 $(R U R' U') (R' U L' U2)$
 $(R U' R' U2 L) R2 U' R'$
 $(R U R' U') (R' U L' U2)$
 $(R U' R' U2 L) R2 U' R'$



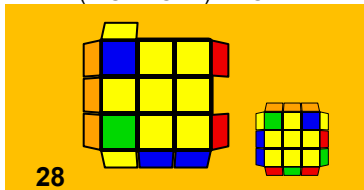
25
 $(R' U R U2') L'$
 $(R' U R U') L$
 $(R' U R U2') L' (R' U R U') L$



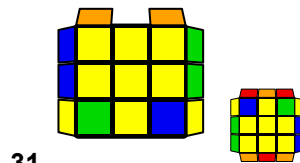
26
 $(R U R D) (R' U' R D')$
 $(R' U2 R' U') R U' R'$
 $(R U R D) (R' U' R D') (R' U2 R' U')$
 $R U' R'$



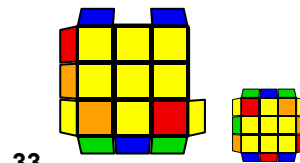
27
 $(R U' R' U2) L$
 $(R U' R' U) L'$
 $(R U' R' U2) L (R U' R' U) L'$



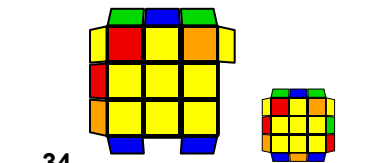
28
 $(R' U L U' R U L') U$
 $(R U R' U R U2' R')$
 $(R' U L U' R U L') U$
 $(R U R' U R U2' R')$



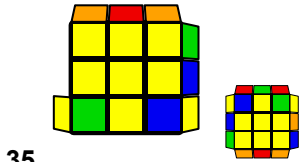
31
 $(r U' r U2') (R' F R U2) r2' F$
 $(r U' r U2') (R' F R U2) r2' F$



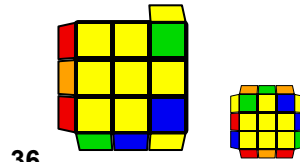
33
 $(R U' R' U) (R U R' U')2$
 $R' D' (R U' R' D) R$
 $R' D' (R U R' D) R U (R U' R' U)$
 $(R U' R' U) R U R'$



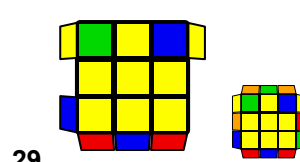
34
 $(R U R' U) (R U' R' U')$
 $L' U2 (R U2' R' U2) L$
 $L' U2 (R U2' R' U2) L U (R U R' U')$
 $R U' R'$



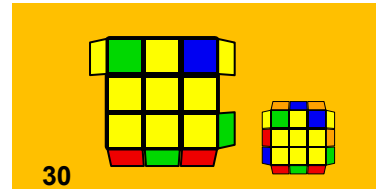
35
 $R' D' (R U R' D) R U (R U'$
 $R' U) (R U' R' U') R U R'$
 $(R U' R' U) (R U R' U')2 R' D'$
 $(R U' R' D) R$



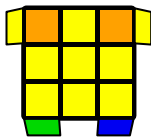
36
 $L' U2 (R U2' R' U2) L U$
 $(R U R' U') R U' R'$
 $(R U R' U) (R U' R' U') L' U2$
 $(R U2' R' U2) L$



29
 $F (R U' R' U') (R U2 R' U')$
 $F' (R' U' R' U' R' U2 R)$
 $(R' U2' R U R' U R) F U$
 $(R U2' R' U) (R U R' F')$



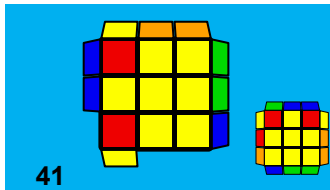
30
 $(R' U2' R U R' U R) F U$
 $(R U2' R' U) (R U R' F')$
 $F (R' U' R' U') (R U2 R' U') F'$
 $(R' U' R' U' R' U2 R)$



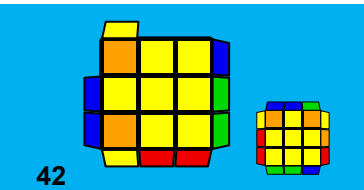
T37-T48



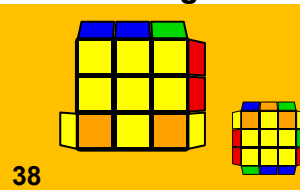
B-light



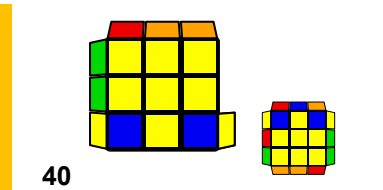
41
 $x (R' U2 R' D2) (R U2 R')$
 $D2 R2 x'$
 $x R2' D2 (R U2 R' D2) (R U2 R) x'$



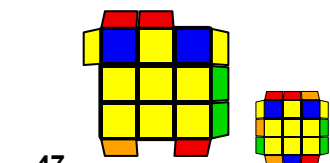
42
 $x' (R U2 R' D2) (R' U2 R)$
 $D2 R2' x$
 $x' R2 D2 (R' U2 R' D2) (R' U2 R') x$



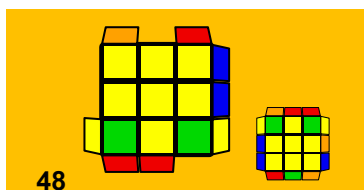
38
 $(R U2 R D R' U2 R D' R2')$
 $U (R U2 R' U' R U' R')$
 $(R U2' R' U' R U' R')$
 $(R2' D' R U2 R' D R U2 R)$



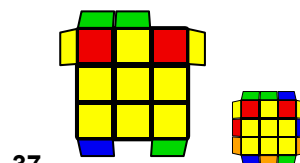
40
 $(R U2 R D) (R' U2 R D')$
 $(R U' R U') R' U2 R$
 $(R' U2' R U R' U R)$
 $(R2 D R' U2 R D' R' U2 R')$



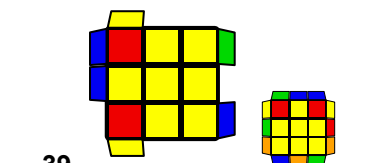
47
 $(R' U R2 D) (R' U R D')$
 $(R' U R' U') (R U' R' U') R$
 $(R' U R U) (R' U R U') R D$
 $(R' U' R D') R2 U' R$



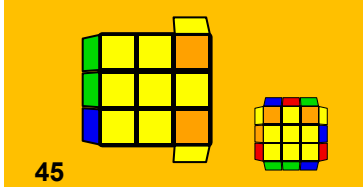
48
 $(F R U R' U' R' F' R) U$
 $(F' R U R' U' R' F R2 U' R')$
 $(R U' R' U') (R U' R' U') R' D'$
 $(R U R' D) R2 U' R$



37
 $R' D' (R U R' D) (R2 U R'$
 $U2) (R U' R' U') R U' R'$
 $(R U R' U') L' U2 (R U R' U2 L)$
 $R U' R'$

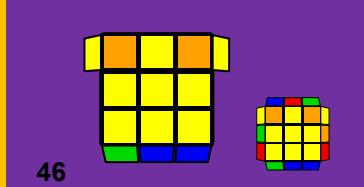


39
 $(R U2' R') (L' U R U)$
 $(L U2 R' U') L' U L$
 $(R' U' R U) L U2 (R' U' R U2) L'$
 $R' U R$



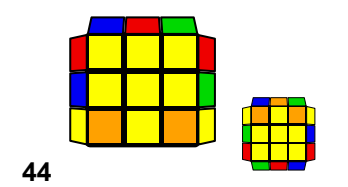
45

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



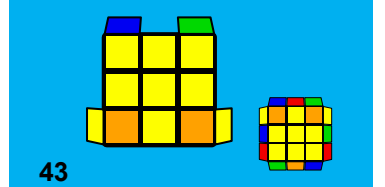
46

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



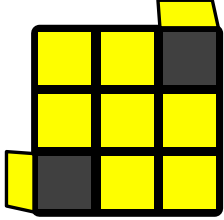
44

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



43

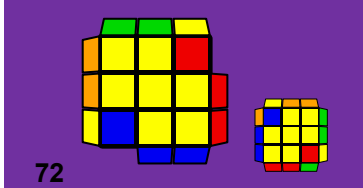
F (R U R' U') (R U' R' U')
(R U R' F')
F (R U' R' U) (R U R' U) (R U' R' F')



ZBLL-L [72]

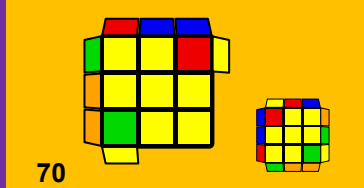
L61-L72

Pure (2GLL-L)



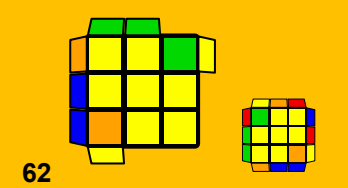
72

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



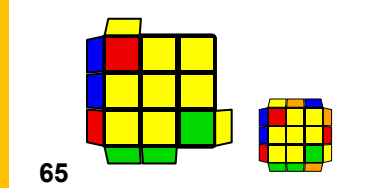
70

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



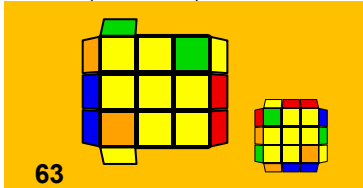
62

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



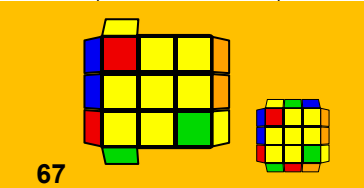
65

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



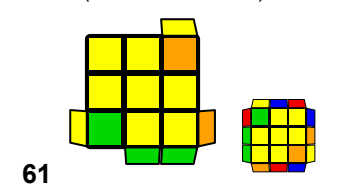
63

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



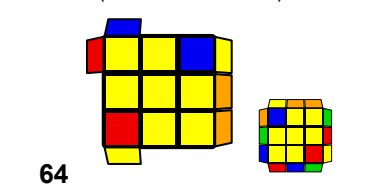
67

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



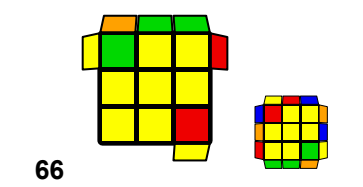
61

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



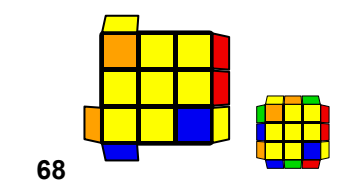
64

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



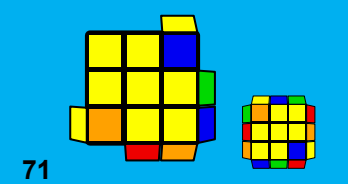
66

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



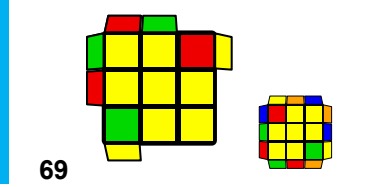
68

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



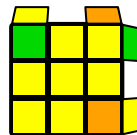
71

(R U2 R' U') (R U R' U')2
R U' R'
(R U2 R' U') (R U R' U')2 R U' R'



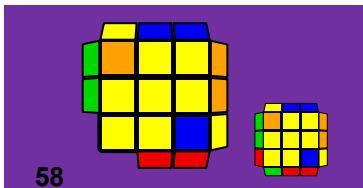
69

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



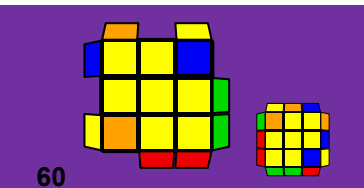
L49-L60

Diagonal



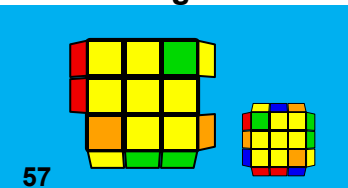
58

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



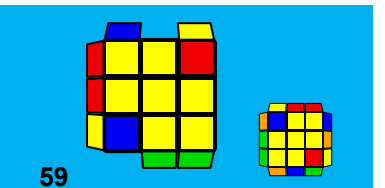
60

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



57

r U2' (R2' F R F') R U2' r'
r U2' (R2' F R F') R U2' r'



59

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

3x3 ZBL [334]

Advanced

55
 $F (R U R' U') R' F (R2 U' R' U') (R U R' F2)$
 $F (R U R' U') R' F (R2 U' R' U') (R U R' F2)$

56
 $(R U' R' U) (R U R' U)$
 $(R U' R2' D') (R U R' D) R$
 $(R U' R' U) (R U R' U) (R U' R2' D') (R U R' D) R$

53
 $(R' U' R U') (L U' R' U L')$
 $(R U R' U') (R U R' U R)$
 $(R U R' U) (L' U R U' L) R' U'$
 $(R U R' U') R U' R'$

54
 $(R U R' U) (L' U R U' L)$
 $R' U' (R U R' U') (R U' R')$
 $(R' U' R U') (L U' R' U L')$
 $(R U R' U') (R U R' U R)$

50
 $(R U2' R' U') L' U2$
 $(R U R') (L U L' U L)$
 $(L' U2 L U) R U2 (L' U' L)$
 $(R' U' R U' R')$

51
 $(L' U2 L U) R U2 (L' U' L)$
 $(R' U' R U' R')$
 $(R U2' R' U') L' U2 (R U R')$
 $(L U L' U L)$

49
 $r U2' (r2' F R F') r2 R' U2 r'$
 $r U2 R (r2' F R F') r2 U2' r'$

52
 $r U2 R (r2' F R F') r2 U2' r'$
 $r U2' (r2' F R F') r2 R' U2 r'$

L25-L36 R-light

29
 $F' (r U R' U') (r' F R)$
 $(l' U' L U) (R U' r' F)$

25
 $(R' U' R U) R' F2 (R U2 R' U2) R' F2 R2$
 $R2' F2 (R U2' R U2') (R' F2 R U')$
 $R' U R$

26
 $(L' U L U2) R' (L' U L U)$
 $R (U R' U R)$
 $R' U' (R U' R' U') R U2 L'$
 $(R' U R U') L$

32
 $(R U R' U') (L U2 L' U' L U')$
 $(R U' R' U) L'$
 $(R' U2 R) F U' (R' U R U) F'$
 $(R' U R)$

36
 $F (R U' R' U') (R U2 R' U')$
 F'
 $F U (R U2 R' U) (R U R' F')$

27
 $(R U R' U2) L U' (R U' R' U)$
 $(R U2' R') L'$
 $F R2 D (R' U' R D') R2' U'$
 $(R U2 R' U') F'$

31
 $L' (R' U R U') L (R' U' R U')$
 $R' U R$
 $(R' U' R U) (R' U L') (R U R' U') R L$

33
 $F' (R U2' R' U2) R' F$
 $(R U R U' R')$
 $(R U R' U') R' F' (R U2 R U2') R' F$

34
 $(R U R' U) R' D' (R U2 R' D) R2 U' (R' U R U' R')$
 $(R U R' U') (R U R2' D')$
 $(R U2 R' D) R U' R U' R'$

30
 $(R U L' U) (R' U' L U')$
 $(R U R' U2') R U2' R'$
 $F (R U R' U') 2 F' (R U R' U')$
 $(R' F R F')$

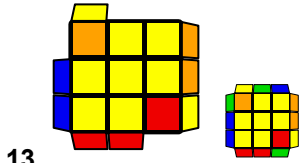
35
 $(R' U' R' D') (R U2 R' D)$
 $(R U R U') R' U' R$
 $R' U L y' (R2 U R2' U' R2) y L' R$

28
 $F' (R U2' R' U2) R' F U2'$
 $(R U R U') R2' U2' R$
 $R' U2' (R2 U R' U') R' U2' F'$
 $(R U2 R U2') R' F$

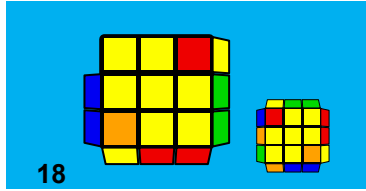
L13-L24 B-light

3x3 ZBLL [334]

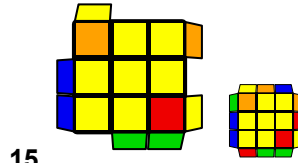
Advanced



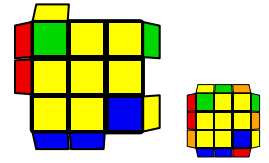
13
 $(R U R' U) (R U' R' U')$
 $(R U' R') L (U' R U R') L'$
 $L (R U' R' U) L' (R U R' U)$
 $(R U R' U) R U' R'$



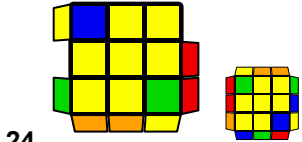
18
 $(F R' F' r) (U R U' r')$
 $(r U R' U') (r' F R F')$



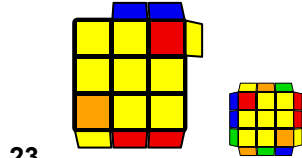
15
 $L U' (R U R') L' U2$
 $(R U' R' U') R U' R'$
 $(R U R' U) (R U R' U2)$
 $L (R U' R' U) L'$



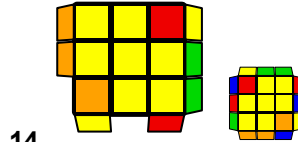
19
 $(R U R' U) (R U R' U') (R U$
 $R D) (R' U2 R D') R' U' R'$
 $(R U R D) (R' U2 R D') (R' U' R' U)$
 $(R U' R' U') R U' R'$



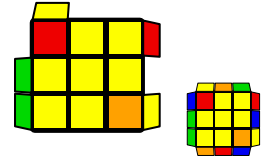
24
 $(R U R' U') L' U2$
 $(R U2' R' U2) L$
 $L' U2 (R U2' R' U2) L U R U' R'$



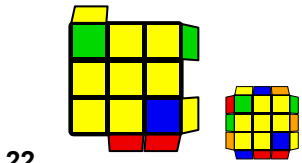
23
 $F (R U R' U') R' F'$
 $(R U2 R U2') R'$
 $(R U2' R' U2) (R' F R U R U' R' F')$



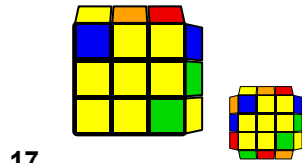
14
 $(R U' R' U) (R U' R' U') R U$
 $R2' (D' R U' R' D) R$
 $R' D' (R U R' D) (R2 U' R' U)$
 $(R U R' U) R U R'$



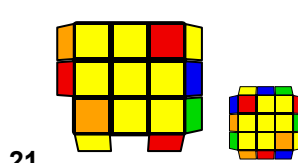
20
 $L (R U' R' U) L' (R U R' U)$
 $R U' R'$
 $(R U R' U') (R U' R') L (U' R U R') L'$



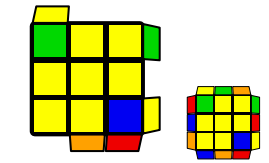
22
 $(R U R' U) (R U' R' U')$
 $(L' U R U') R' L$
 $L' (R U R' U) L U (R U R' U)$
 $R U' R'$



17
 $R' U' (R U' R' U)2 (R U' R2'$
 $D') (R U2 R' D) R2$
 $(R' U2 R U2') (R' U' R U')$
 $(L U' R' U L' U R)$



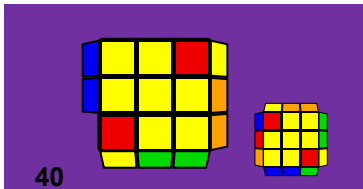
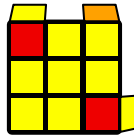
21
 $(R U R D) (R' U2 R D')$
 $(R' U' R' U) R U R'$
 $(R U' R' U') (R U R D) (R' U2 R D')$
 $R' U' R'$



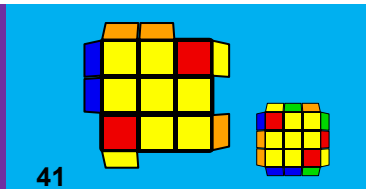
16
 $(R' U2' R2 U) (R' U' R' U2')$
 $F (R U R U') R' F'$
 $F (R U R' U') R' F' U2' (R U R U')$
 $R2' U2' R$

L37-L48

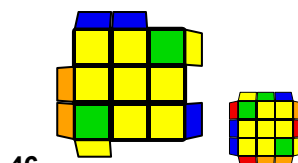
F-Comm



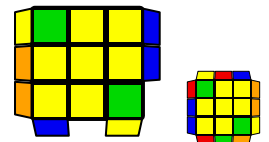
40
 $(R U2 R D) (r' U2 r D') R2$
 $R2 D (r' U2 r D') (R' U2 R')$



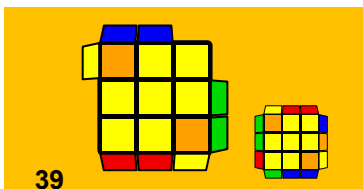
41
 $(R U2 R D) (R' U2 R D') R2$
 $R2 D (R' U2 R D') (R' U2 R')$



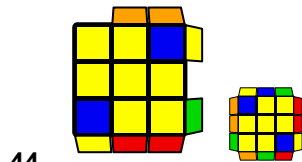
46
 $(R' U' R U) (R' U R U')$
 $(L U' R' U) (L' U R)$
 $(R' U' L U') (R U L' U) (R' U' R U')$
 $R' U R$



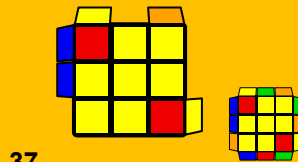
38
 $(R U2' R2' D') (R U' R' D)$
 $R2 U' R'$
 $R2 D (R' U R D') (R2' U R U2 R')$



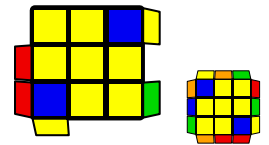
39
 $(L' U R U' L U R')$
 $(R' U2' R U R' U R)$
 $(R' U' R U' R' U2 R)$
 $(R U' L' U R' U' L)$



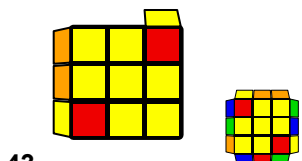
44
 $(R' U' R U2)2 y (R U2' R' U$
 $R U R')$
 $(R U' R' U') (R U2' R' U D)$
 $(R' U R U2) (R' U' R D')$



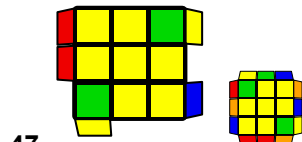
37
 $(R' U2 R U R' U R)$
 $(L' U R U' L U R')$
 $(L U' R' U L' U' R) U2$
 $(R' U' R U' R' U2 R)$



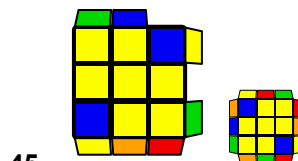
42
 $(R U2' R' U2) (R U R2' D')$
 $(R U2 R' D) R2 U2' R'$
 $(R U2' R' U2) (R U R2' D')$
 $(R U2 R' D) R2 U2' R'$



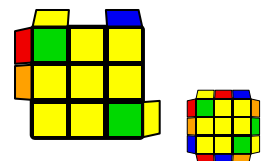
43
 $F (R U R' U') R' F' U' R U$
 $(R U' R' U') R' U R$
 $(R' U' R U) (R U R' U') R' U F$
 $(R U R' U') F'$



47
 $(R' U' R D') (R U R' U2')$
 $(R U R' U) (D R U' R)$
 $(R' U' R' U D') (R U' R' U2')$
 $(R U' R' D) (R U' R)$



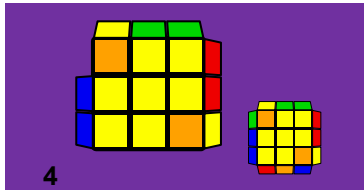
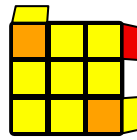
45
 $(L U' R U L' U') (R' U R$
 $U')2 (R' U' R U R')$
 $(R U' R' U) (R U R' U')2$
 $R U L U' R' U L'$



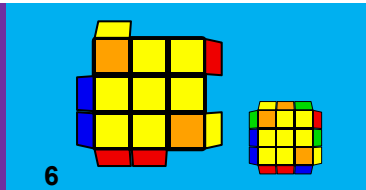
48
 $(R U2' R' U) (L' U2 R U2')$
 $(L U R' U) (L' U L)$
 $(R' U' R U') L U' (R' U2 L' U2)$
 $R U' L U2 L'$

L1-L12

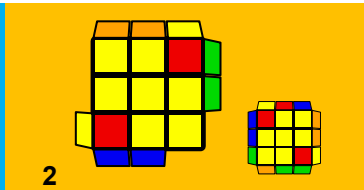
B-Comm



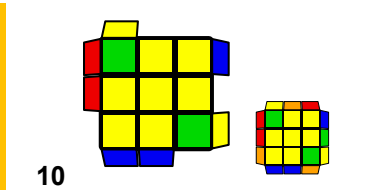
4
(R' U2 R' D') (r U2 r' D) R2
R2' D' (r U2 r' D) R U2 R



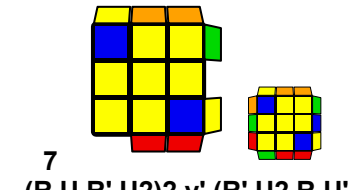
6
(R' U2 R' D') (R U2 R' D)
R2
R2' D' (R U2 R' D) R U2 R



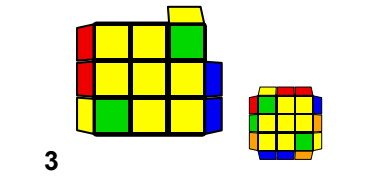
2
(L U' R' U L' U' R)
(R U2' R' U' R U' R')
(R U R' U) (R U2' R2') z (R U R' D)
R U' z'



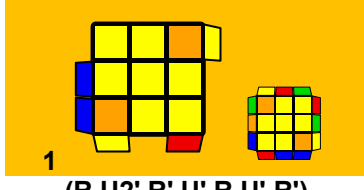
10
(R U R' U') (R U' R' U)
(L' U R U' L U' R')
(R U L' U R' U' L) U'
(R U R' U R U' R')



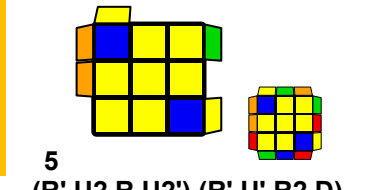
7
(R U R' U2)2 y' (R' U2 R U'
R' U' R)
(R U R' U') L' U2 (R U L U)
(R' U L' U) L



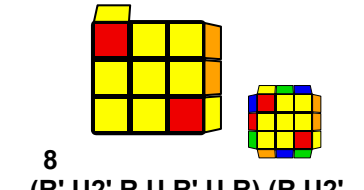
3
(R' U2' R2 D) (R' U R D')
R2 U R
R2' D' (R U' R' D) (R2 U' R' U2 R)



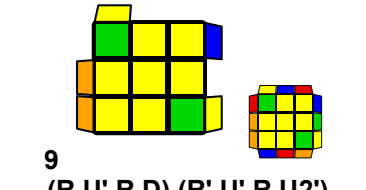
1
(R U2' R' U' R U' R')
(L U' R' U L' U' R)
(R' U2 R' D') (R U2 R' D) R U2
(R U R' U R)



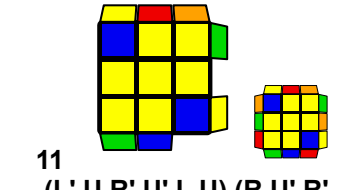
5
(R' U2 R U2') (R' U' R2 D)
(R' U2 R D') R2' U2' R
(R' U2' R2 D) (R' U2 R D') R2' U
(R U2 R' U2' R)



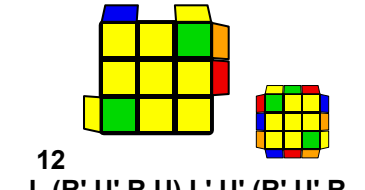
8
(R' U2' R U R' U R) (R U2'
R' U2) L' (U R U' R') L
L' (R U R' U') L (U2 R U2' R')
(R' U' R U' R' U2 R)



9
(R U' R D) (R' U' R U2')
(R' U' R U D') R' U' R'
(R' U' R U D) (R' U' R U2')
(R' U' R D') R' U' R'

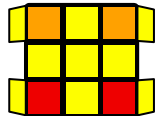
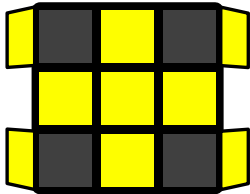


11
(L' U R' U' L U) (R U' R'
U)2 R U R' U' R
(R' U R U') R' U' (R U R' U')2
(L' U R U' L)



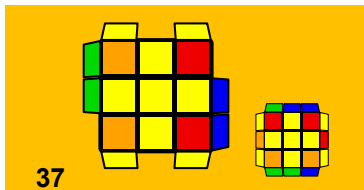
12
L (R' U' R U) L' U' (R' U' R
U) (R' U' R U) R' U' R
F (R U' R' U') (R U2 R' U') F' U
(R' U' R U' R' U2 R)

ZBLL-H [40]

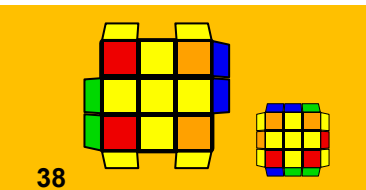


H33-H40

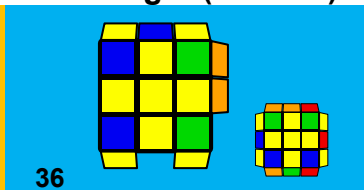
FB-light (2GLL-H)



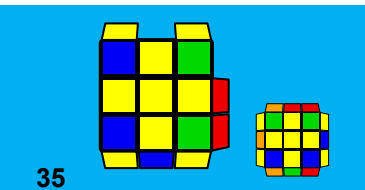
37
(R' U2' R U R' U R) U
(R U R' U R U2 R')
(R U2' R' U' R U' R') U'
(R' U' R U' R' U2 R)



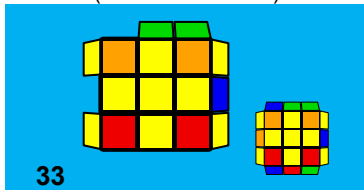
38
(R U2' R' U' R U' R') U'
(R' U' R U' R' U2 R)
(R' U2' R U R' U R) U
(R U R' U R U2 R')



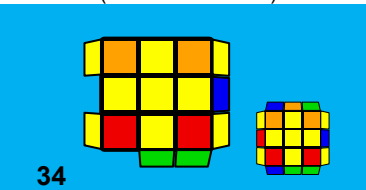
36
(R U2 R' U') (R U R' U')
R U' R'
(R U R' U) (R U' R' U) R U2' R'



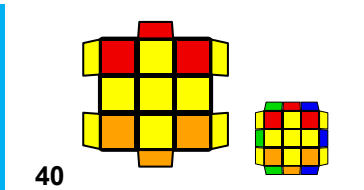
35
R' U2' (R U R' U')
(R U R' U R)
(R' U' R U') (R' U R U') R' U2 R



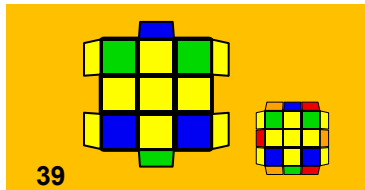
33
(R U R' U) (R U' R' U)
R U2' R'
(R U2 R' U') (R U R' U') R U' R'



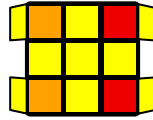
34
(R' U' R U') (R' U R U')
R' U2 R
R' U2' (R U R' U') (R U R' U R)



40
(R U R' U) (R U' R' U)2
R' U' R2 U' R' U' R' U R
(R U R' U) (R U' R' U)2 R' U' R2 U'
R' U' R' U R



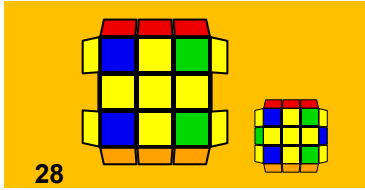
39
(R' U' R U' R' U2 R) U
(R U2' R' U' R U' R')
(R' U' R U' R' U2 R) U
(R U2' R' U' R U' R')



H25-H32

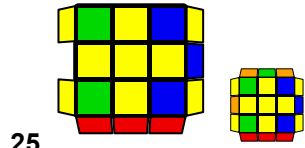


LR-light



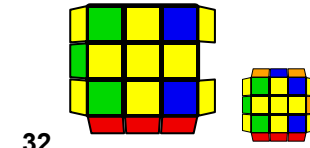
28

$(R U' L' U R' U' L)^2$
 $(R U' L' U R' U' L)^2$



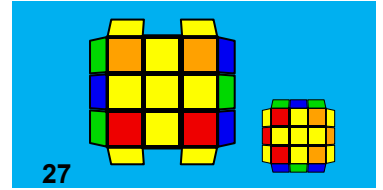
25

$F U' R^2 U (R U^2 R' U) R^2$
 $U^2 (R' U' R F')$
 $F U' R^2 U (R U^2 R' U) R^2 U^2$
 $(R' U' R F')$



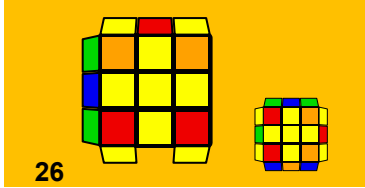
32

$F R' U (R U^2 R^2 U') (R U^2$
 $R' U') R^2 U F'$
 $F U' R^2 U (R U^2 R' U) R^2 U^2$
 $(R' U' R F')$



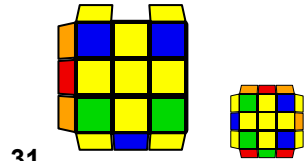
27

$F (R U R' U')^3 F'$
 $F (R U R' U')^3 F'$



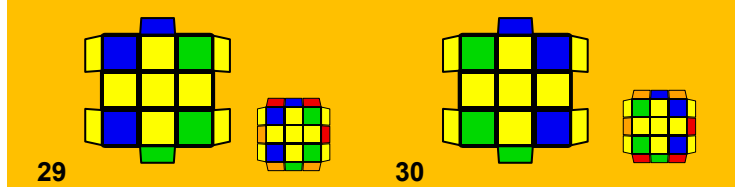
26

$(R U R' U R U^2 R') L' U^2$
 $(R U' R' U^2) L R U' R'$
 $(R' U' R U' R' U^2 R) U (R' U' R)$
 $L U^2 (R' U' R) U^2 L'$



31

$(R' U' R U' R' U^2 R) U (R'$
 $U' R) L U^2 (R' U' R) U^2 L'$
 $(R U R' U R U^2 R') L' U^2$
 $(R U' R' U^2) L R U' R'$

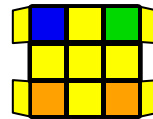


29

$(U^2) (R U R' U R U^2 R^2')$
 $U^2 (L U' R U L' U) R' U R$
 $(U^2) (R U R' U R U^2 R^2') U^2$
 $(L U' R U L' U) R' U R$

30

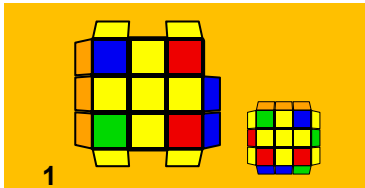
$(U^2) (R' U' R U' R' U^2 R^2)$
 $U^2 (L' U' R' U' L' U') R U' R'$
 $(U^2) (R' U' R U' R' U^2 R^2) U^2$
 $(L' U' R' U' L' U') R U' R'$



H1-H12

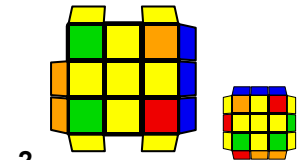


F-light



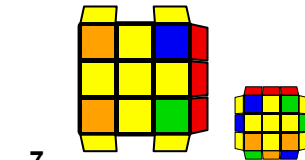
1

$(F' r U R' U' r' F R)$
 $(R U^2 R' U' R U' R')$
 $(R U^2 R' U' R U' R') U$
 $(r U R' U') (r' F R F')$



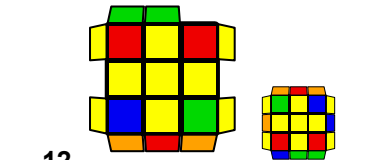
2

$(R U R' U R U^2 R') U' (R^2 D$
 $R' U R D' R' U' R')$
 $(R' U' R U' R' U^2 R) U^2$
 $(r U R' U' r' F R F')$



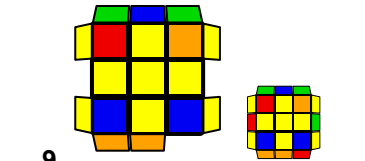
7

$F (R U R' U') R' F' U^2$
 $(R U R' U) R^2 U^2 R'$
 $R^2 F (R U R' U') R' F' (R U' R' U')$
 $(R U R' U R)$



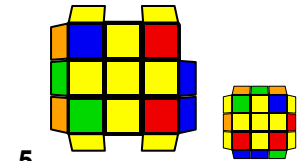
12

$F U' (R U^2 R' U^2) (R U' R'$
 $U') (R U R' U) F'$
 $F U' (R U' R' U) (R U R' U^2)$
 $(R U^2 R' U) F'$



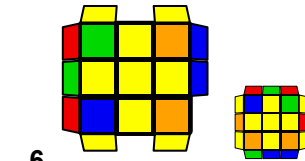
9

$R U^2 (R^2 U' R^2 U') R' U'$
 $(L' U' R' U' L' U' R)$
 $(R' U' L' U R U' L) U$
 $(R U R^2 U R^2 U^2 R')$



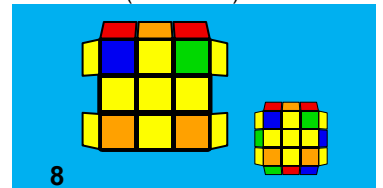
5

$(R U^2 R' U) L' U^2 (R U^2 R'$
 $U^2) L (R U' R')$
 $(R U R') L' U^2 (R U^2 R' U^2) L U'$
 $(R U^2 R')$



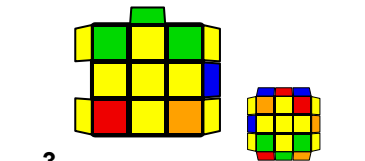
6

$(R' U^2 R U') L U^2 (R' U^2 R$
 $U^2) L' (R' U R)$
 $(R U R' F') U' (R U^2 R^2 U')$
 $(R U' R' U^2) (F R^2 U' R')$



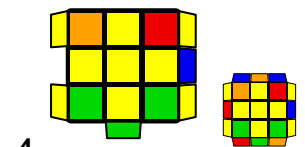
8

$F (R U' R' U) (R U^2 R' U')$
 $(R U R' U') F'$
 $F U (R U' R' U) (R U^2 R' U')$
 $(R U R' F)$



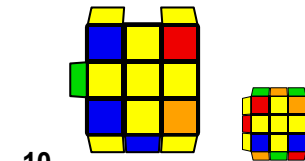
3

$(R U^2 R' U' R U' R')$
 $(R^2 D' R U' R' D R U)$
 $(R U R' U R U^2 R') U^2$
 $(R^2 D R' U^2 R D' R' U^2 R')$



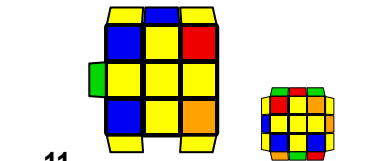
4

$(R' U^2 R U R' U R)$
 $(R^2 D R' U R D' R' U' R')$
 $(R U R D R' U' R D' R^2)$
 $(R' U' R U' R' U^2 R)$



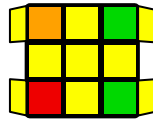
10

$(R' U^2 R) L U^2 (R' U R U^2')$
 $L' U' R U R$
 $(R' U' R U') L U^2 (R' U' R U^2) L'$
 $(R' U^2 R)$



11

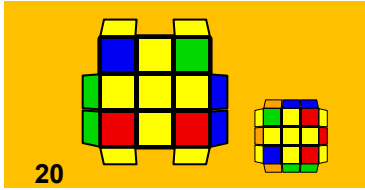
$(R U^2 R') L' U^2 (R U' R'$
 $U^2) L U' (R U' R')$
 $(R U R' U) L' U^2 (R U R' U^2) L$
 $(R U^2 R')$



H13-H24

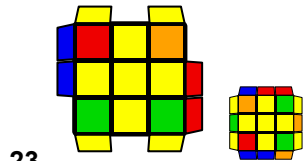


R-light



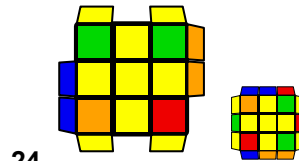
20

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



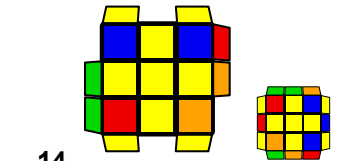
23

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



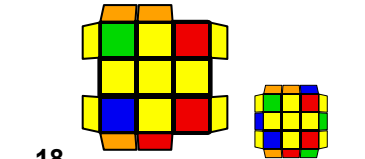
24

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



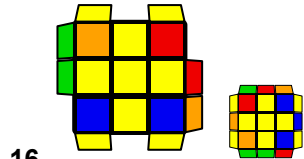
14

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



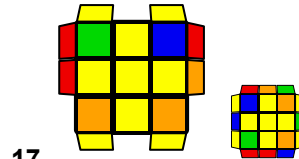
18

(R U2 R D) R2' D2 (R U' R' D2) (R U' R D') R2
R2 D (R' U R' D2) (R U R' D2)
R2 D' (R' U2 R')



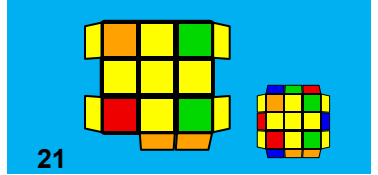
16

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



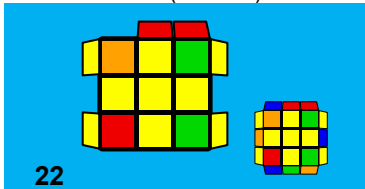
17

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



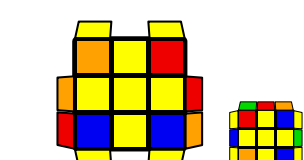
21

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



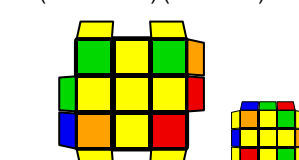
22

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



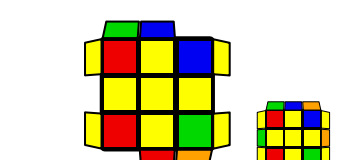
19

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



13

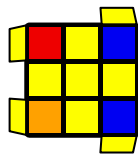
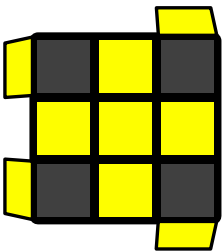
R2 D (R' U R D') (R2' U R2 D) (R' U2 R D') R2
R2 D (R' U2 R D') (R2' U' R2 D)
(R' U' R D') R2



15

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

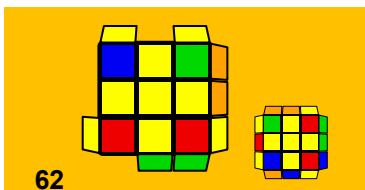
ZBL [72]



Pi61-Pi72

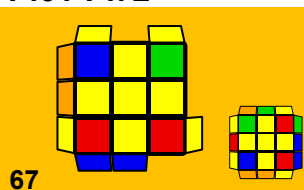


R-light (2GLL-Pi)



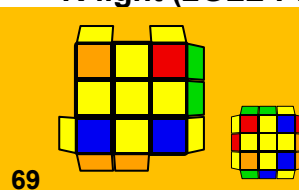
62

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



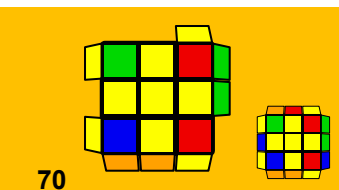
67

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



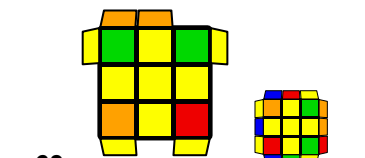
69

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



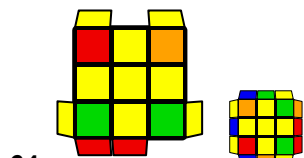
70

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



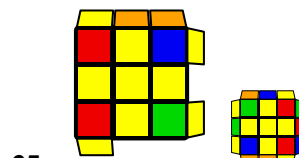
63

(R U2' R' U2) (R U' R' U2)2
R U R'
(R U' R' U2) (R U' R' U2)2 R U2' R'



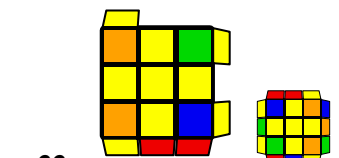
64

(R' U2 R U2') (R' U R U2')2
R' U' R
(R' U R U2') (R' U' R U2')2 R' U2 R



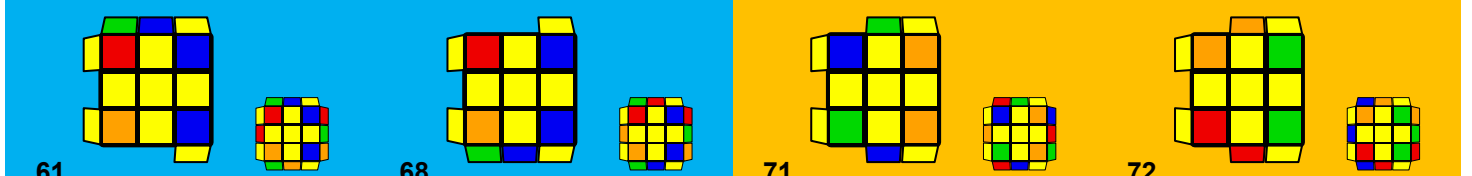
65

(R U' R' U2) (R U R' U2')2
R U2' R'
(R U2' R' U2) (R U' R' U2)2 R U R'



66

(R' U R U2') (R' U' R U2')2
R' U2 R
(R' U2 R U2') (R' U' R U2')2 R' U' R



61
 $R U2' R2' U' R2 U' R2' U2'$
R
 $R' U2' R2 U R2' U R2 U2' R'$

68
 $R' U2' R2 U R2' U R2 U2'$
R'
 $R U2' R2' U' R2 U' R2' U2' R$

71
 $(R U2' R' U' R U' R') U'$
 $(R U2' R' U' R U' R')$
 $(R U2' R' U' R U' R') U'$
 $(R U2' R' U' R U' R')$

72
 $F (R U R' U')2 F' (R U R' U'$
M' U R U' r')
 $F (R U R' U')2 F'$
 $(R U R' U' M' U R U' r')$

Pi49-Pi60

L-light

51
 $F (R2 U' R U2) (R U R' U')$
 $(R' U R2 F')$
 $F (R2 U' R U') (R U R' U2)$
 $(R' U R2 F')$

58
 $F (R2' U' R U') (R U R' U2)$
 $(R' U R2 F')$
 $F (R2' U' R U2) (R U R' U)$
 $(R' U R2 F')$

54
 $R U2' R' x (R' U R U')3 x'$
R U2' R'
 $R U2' R' x (R' U R U')3 x' R U2' R'$

53
 $F U (R' U' R2 U') (R2' U2' R$
U2) (R U R' F')
 $F U (R' U' R2 U') (R2' U2' R U2)$
 $(R U R' F')$

60
 $(R U2 R' U') F' (R U2 R' U')$
 $(R U R' F) R U R'$
 $(R U R' F') (R U R' U) (R U2 R' F)$
 $(U R U2 R')$

50
 $(R U R' F') (R U R' U) (R U2$
R' F) (U R U2 R')
 $(R U2 R' U') F' (R U2 R' U')$
 $(R U R' F) R U R'$

59
 $(R' U2' R2 U) (R U R2' D')$
 $(R U R' U'D) R'$
 $R U D' (R U R' D) (R2 U' R' U')$
R2' U2' R

52
 $(R U R' U') (R U R2' D') (R$
U' R' D) (R U R' U2 R')
 $(R U2' R' U) R' D' (R U R' D)$
R2 U' (R' U R U' R')

49
 $R U D' (R U R' D) (R2 U' R'$
U') R2' U2' R
 $(R' U2' R2 U) (R U R2' D)$
 $(R U R' U'D) R'$

57
 $(R U2' R' U) R' D' (R U R'$
D) R2 U' (R' U R U' R')
 $(R U R' U') (R U R2' D') (R U R' D)$
 $(R U R' U2 R')$

55
 $(R U R' U) (R U R' U') (R U$
R D) (R' U R D') R2'
 $(R U R' U) (R U R' U') (R U R D)$
 $(R' U R D') R2'$

56
 $R2' D' (R U R' D) R U (R U'$
R' U) (R U R' U R)
 $R2' D' (R U R' D) R U (R U R' U)$
 $(R U R' U R)$

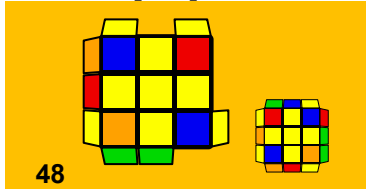
Pi37-Pi48

42
 $(L' U R U' L U R') U$
 $(L' U R U' L U R')$
 $(R U' L' U R' U' L) U'$
 $(R U' L' U R' U' L)$

44
 $(R U R' U') (R' U2' R U2) R'$
D' (R U R' UD) R2 U2' R'
 $(R' U' R U) (R U2' R' U2) R D$
 $(R' U R U'D) R2' U2' R$

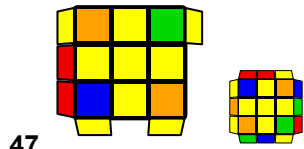
37
 $R' F (R U R' U') R' F' (R2 U'$
R' U) (R U R' U2 R)
 $(R' U2 R U R' U') (R U R2' F)$
 $(R U R U') R' F' R$

39
 $F' (R U R' U') (R' F R U') (R$
U' R' U') (R U R' U) R U R'
 $(R U R' U') (R U R' U) (R U R' U)$
 $R' F' (R U R U') R' F$



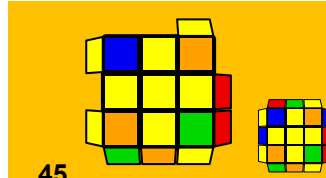
48

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



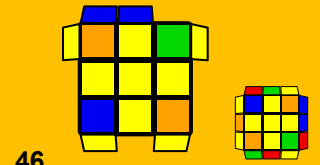
47

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



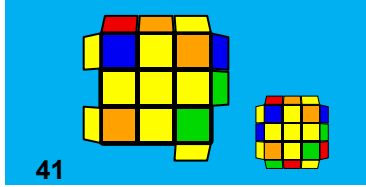
45

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



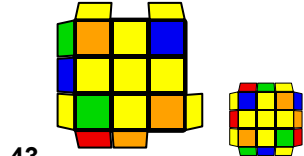
46

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



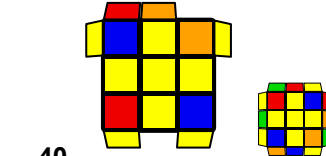
41

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



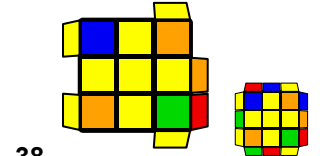
43

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



40

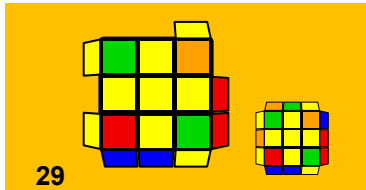
L (R' U' R U) L' U2
(R' U R U') R' U2' R
R' U2' (R U R' U') R U2
L (U' R' U R) L'



38

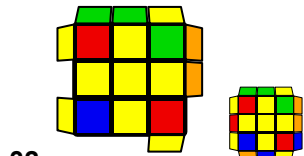
(R U R D) (R' U R D') R2'
U' (R U R' U') (R U' R')
L' (R U R' U') L U2 (R U' R' U)
R U2' R'

Pi25-Pi36



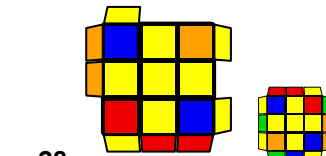
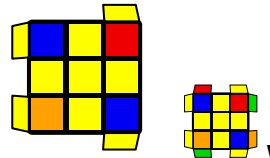
29

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



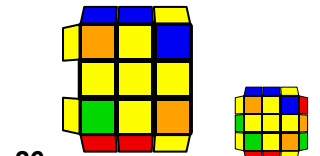
32

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



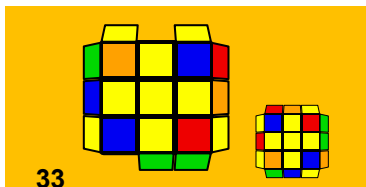
28

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



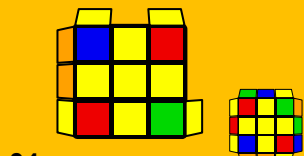
26

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



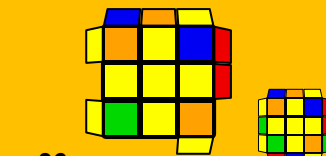
33

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



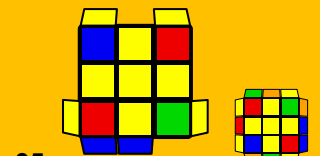
34

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



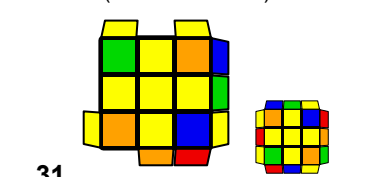
36

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



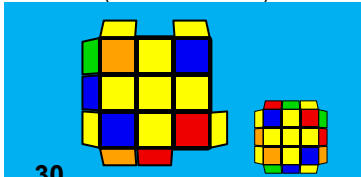
35

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



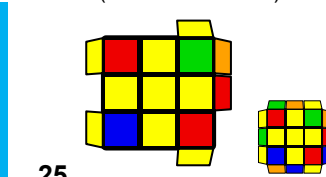
31

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



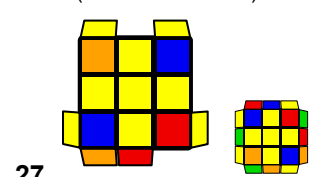
30

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



25

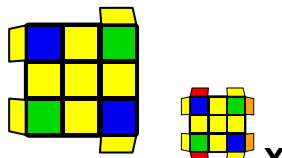
R' U2' (R U R' U') R U2
L (U' R' U R) L'
L (R' U' R U) L' U2 (R' U R U')
R' U2' R



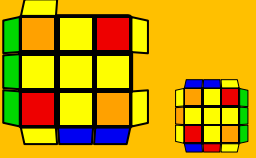
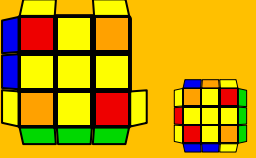
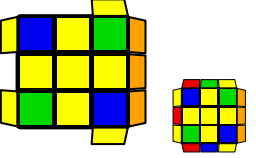
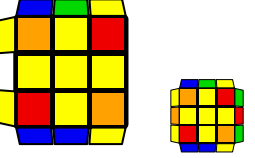
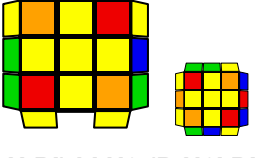
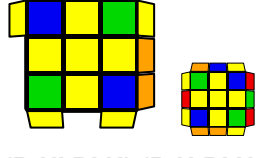
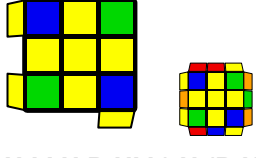
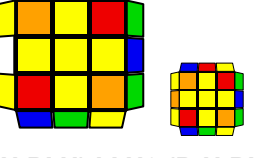
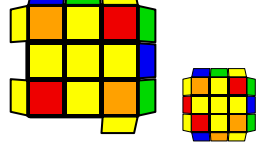
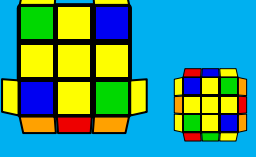
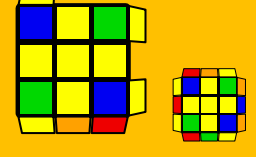
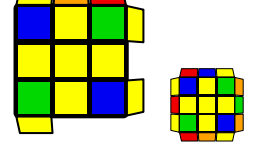
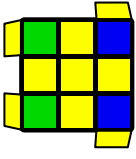

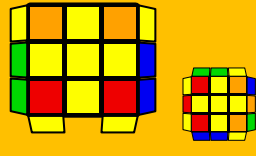
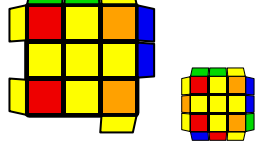
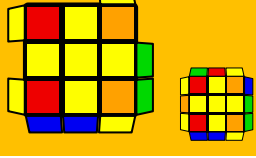
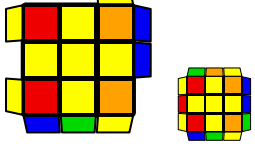
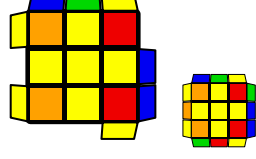
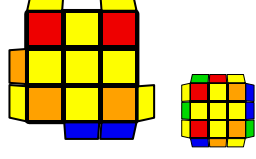
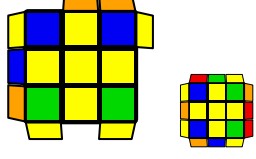
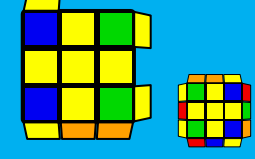
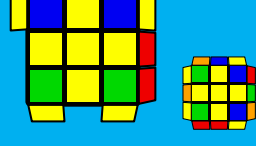
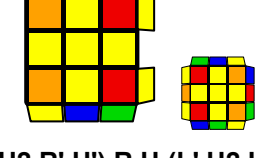
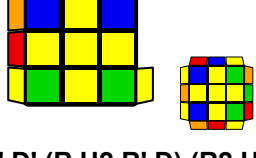
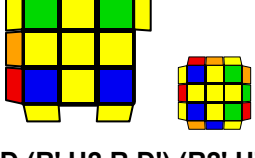
27

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

Pi1-Pi12



X

<p>1</p>  <p>(R U2' R' U' R U' R') U (r U R' U') (r' F R F') (R' U' R U' R' U2 R) U (R U2 R' U' R U' R')</p>	<p>2</p>  <p>(R' U' R U' R' U2 R) U2 (r U R' U' r' F R F') (R U R' U' R U2 R') U' (R2 D R' U R D' R' U' R')</p>	<p>7</p>  <p>R2' F (R U R U') R' F' (R U' R' U') (R U R' U R) F (R U R' U') R' F' U2' (R U R' U) R2 U2' R'</p>	<p>5</p>  <p>(R U R' F') U' (R U2' R2' U') (R U' R' U2') (F R2 U' R') (R' U2' R U') L U2 (R' U2' R U2) L' (R' U R)</p>
<p>6</p>  <p>(R U R') L' U2 (R U2' R' U2) L U' (R U2' R') (R U2' R' U) L' U2 (R U2' R' U2) L (R U' R')</p>	<p>10</p>  <p>F U' (R U' R' U) (R U R' U2) (R U2' R' U) F' F U' (R U2' R' U2) (R U' R' U') (R U R' U') F'</p>	<p>11</p>  <p>(R' U L' U R U' L) U (R U R2' U R2 U2' R') R U2' (R2' U' R2 U') R' U' (L' U R' U' L U' R)</p>	<p>9</p>  <p>(R U R' U) L' U2 (R U R' U2) L R U2' R' (R U2' R') L' U2 (R U' R' U2) L U' R U' R'</p>
<p>12</p>  <p>(R' U' R U') L U2 (R' U' R U2) L' R' U2' R (R' U2 R) L U2 (R' U R U2') L' U R' U R</p>	<p>8</p>  <p>F U (R U' R' U) (R U2' R' U') (R U R' F') F (R U' R' U) (R U2 R' U') (R U R' U') F'</p>	<p>3</p>  <p>(R U R' U R U2' R') U2' (R2 D R' U2 R D' R' U2 R') (R U2' R' U' R U' R') (R2' D' R U' R' D R U R)</p>	<p>4</p>  <p>(R U R D R' U' R D' R2') (R' U' R U' R' U2 R) (R' U2' R U R' U R) (R2 D R' U R D' R' U' R')</p>
<p>Pi13-Pi24  LR-light </p>			
<p>19</p>  <p>F U (R U2 R' U) (R U R' F') (R U2' R' U' R U' R') (R U R' U R U2' R') F (R' U R' U') (R U2' R' U') F'</p>	<p>22</p>  <p>(R' U' R' D' R U R' D R2) (R U2 R' U' R U' R') (R U R' U R U2 R') (R2' D' R U' R' D R U R)</p>	<p>23</p>  <p>(R U' L' U R' U' L) U' (R U R' U R U2' R') (R U2' R' U' R U' R') U (L' U R' U' L U R')</p>	<p>15</p>  <p>(R' U' R U') R2' D' (R U R' D) R2 U' (R' U2 R) (R' U2 R U) R2' D' (R U' R' D) R2 (U' R' U R)</p>
<p>16</p>  <p>(R U R' U) R2 D (R' U' R D') R2' U (R U2 R') (R U2 R' U') R2 D (R' U R D') R2' U' R U' R'</p>	<p>18</p>  <p>(R U2' R' U') (R U2' R' U2) (R U' R2' D') (R U' R' D) R R' D' (R U R' D) (R2 U R' U2) (R U2' R' U) R U2' R'</p>	<p>17</p>  <p>R2 D (R' U R' D2) (R U R' D2) R2 D' (R' U2 R') (R U2 R D) R2' D2 (R U' R' D2) (R U' R D') R2</p>	<p>21</p>  <p>(L' U R U' L U') (R' U' R U' R') (R U R' U R U) (L' U R' U' L)</p>
<p>24</p>  <p>(R U R' U) F' (R U2' R' U2) R' F R (R' U' R U' R' U') (L U' R U L')</p>	<p>20</p>  <p>(R U2 R' U') R U (L' U2 L U2) R' U' (L' U L) (R U R' U') (R' U2' R2 D) (R' U R D') (R2' U R2 U2' R')</p>	<p>13</p>  <p>R2' D' (R U2 R' D) (R2 U R2' D') (R U R' D) R2 R2' D' (R U' R' D) (R2 U' R2' D') (R U2 R') D R2</p>	<p>14</p>  <p>R2 D (R' U2 R D') (R2' U' R2 D) (R' U' R D') R2 R2 D (R' U R D') (R2 U R2' D) (R' U2 R D') R2</p>