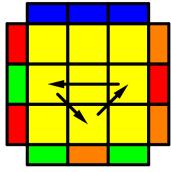


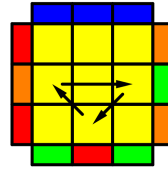
3x3 Rubik's Cube PLL algorithms

U type permutations



$R U' R U R U R U' R' U' R^2$
 $y^2 R U R' U R' U' R^2 U' R' U R' U R U^2$

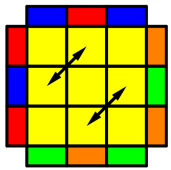
Ua type permutation



$R^2 U R U R' U' R' U' R' U R'$
 $y^2 R' U R' U' R' U' R' U R U R^2$

Ub type permutation

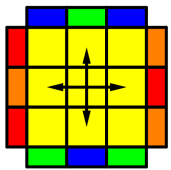
Z type permutation



$M^2 U M^2 U M' U^2 M^2 U^2 M'$
 $M' U M^2 U M^2 U M' U^2 M^2$

Z type permutation

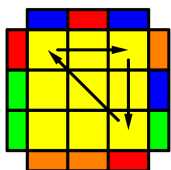
H type permutation



$M^2 U M^2 U^2 M^2 U M^2$

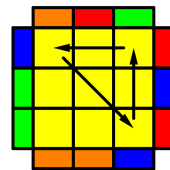
H type permutation

A type permutations



$x R' U R' D^2 R U' R' D^2 R^2$

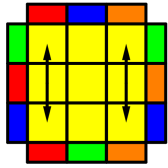
Aa type permutation



$x R^2 D^2 R U R' D^2 R U' R$
 $x' R U' R D^2 R' U R D^2 R^2$

Ab type permutation

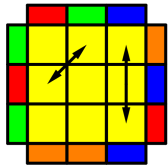
E type permutation



$x' R U' R' D R U R' D' R U R' D R U' R' D'$

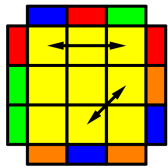
E type permutation

R type permutations



$R U R' F' R U^2 R' U^2 R' F R U R U^2 R'$
 $R U' R' U' R U R D R' U' R D' R' U^2 R'$

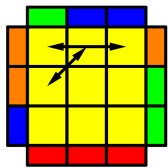
Ra type permutation



$R' U^2 R U^2 R' F R U R' U' R' F' R^2$

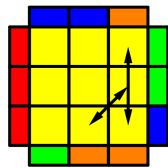
Rb type permutation

J type permutation



$R' U L' U^2 R U' R' U^2 R r$

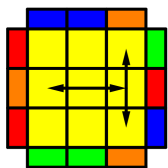
Ja type permutation



$R U R' F' R U R' U' R' F R^2 U' R' U'$

Jb type permutation

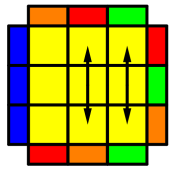
T type permutation



$R U R' U' R' F R^2 U' R' U' R U R' F'$

T type permutation

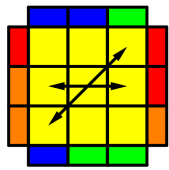
F type permutation



$R' U' F' R U R' U' R' F R^2 U' R' U' R U R' U R$

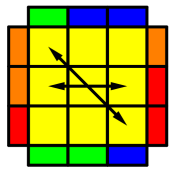
F type permutation

N type permutations



$z U R' D R^2 U' R U D' R' D R^2 U' R D'$

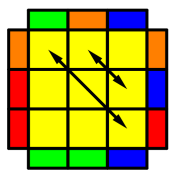
Na type permutation



$z U' R D' R^2 U R' D U' R D' R^2 U R' D$

Nb type permutation

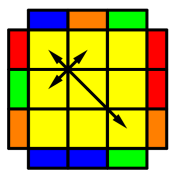
V type permutation



$z D' R^2 D R^2 U R' D' R U' R U R' D R U'$

V type permutation

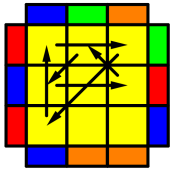
Y type permutation



$F R U' R' U' R U R' F' R U R' U' R' F R F'$

Y type permutation

G type permutations



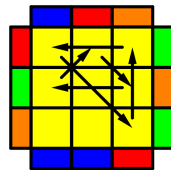
R2 u R' U R' U' R u' R2 y' R' U R
R2 U R' U R' U' R U' R2 D U' R' U R D'

Ga type permutation



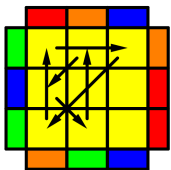
F' U' F R2 u R' U R U' R u' R2
U' R' U' R U D' R2 U R' U R U' R U' R2 D

Gb type permutation



R2 F2 R U2 R U2 R' F R U R' U' R' F R2
y2 R2 U' R U' R U R' U R2 D' U R U' R' D U'

Gc type permutation



R U R' U' D R2 U' R U' R' U R' U R2 D'
D' R U R' U' D R2 U' R U' R' U R' U R2

Gd type permutation