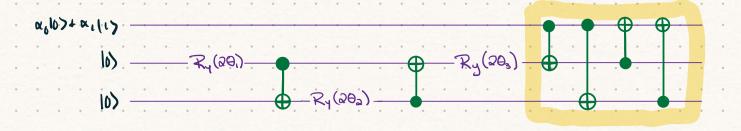
k sowther Pre 10/210/2 = 10/210/2 Pre(10/2/1) = 10/2/11/2 qubit so $\mathbb{R}_{j}(\theta)|0\rangle_{j}=(0500)_{j}+\sin\theta|1\rangle_{j}$ 1 & change PKR 11/2 10/2 = 11/4 (1/2 Pul 11/211/2 = 11/4 10/2 R; (0) 11); = -sin010); + cos 011); if we have 06/07+ 01/17 Ry (203) R1(50°) R2 (0,) 10) = (650,10) + sin 0,11) P23 (con 0)+ sin 0,11)10/3 = cos 0,10>10>+ sin 0,11>11> R3(0) (cos 0,10>10>+ sin 0,11>1)= cos 0,10> (cos 0,10>+ sin 0,11>)+ sin 0,11>(-sin 0,10>+ cos 0,11>) = Cos O, Cos O2 10>10> + Cos O, 800 O2 10>11> - Sin O, sin O2 11>10>+ Sin O, cos O2 11>11> P32 (Cos O, cos O2 10>10> + cos O, 8/2 0>10>11> - Sin O sin O2 11>10> + Sin O, cos O2 11>11>) = cos0, cos02 (0)(0)+ cos0; sin02 (1)(1) - sin0; sin02 (1)(0) + sin0, cos02 (0)(1) $R_{2}(\theta_{3})(\cos\theta_{1}\cos\theta_{2}|0)|0\rangle+\cos\theta_{1}\sin\theta_{2}|1\rangle|1\rangle-\sin\theta_{1}\sin\theta_{2}|1\rangle|0\rangle+\sin\theta_{1}\cos\theta_{2}|0\rangle|1\rangle)$ (cs. 6, cs. 6, (cs. 6, 10) + sin 6, 11) 10) + cs. 6, sin 6, (-sin 6, 10) + cs. 6, 11) 11) - SINDI SINDO (-SINDO 10) + COSOS (1)) 10>+ SINDI COSOS (COSOS 10)+ SINDO 11))11) So out from prep is

(050, 6502 6503 100) + 650, 65502 Sin 03/10) - (050, 8in 02 Sin 03/10)
+ (050, 5in 02 6503 (11) + 8in 0, 8in 02 Sin 03/10) - 8in 0, 8in 02 (0503/10)
+ 5in 0, (0502 6503/101) + 8in 0, (0502 Sin 03/11)

C,1007 + C21017 + C31107 + C41117

Prep output verified V

(1 = 650, 650) (650) (650) + Sin 0, Cos 0, Sin 0, Sin 0, Cos 0, Sin 0, S



Cloning 00107 + 0,117

P12 ((400)+4,11) (C,100)+C2101)+C3(10)+C4(11)))

00 C,10>100> + 00 C210>101> + 00 C310>110> + 00 C410>111)

+ x,C, 1,>(10) +x,C2 (1) (11) + x, C3/1>(00) + x, C4/1>(01)

J. P13

00 C110>1005 + 00 C210>101> + 00 C310>110> + 00 C410>111)

+ w, C, (1) (11) + x, C2(1) (10) + x, C3(1) (0) + x, C4(1) (00)

Par

00 C110>100> + 00 C210>101> + 00 C3 11>110> + 00 C4 11>11)

+ x, C, 10> (11) + x, C2 (0> 110> + x, C3 (1> 101> + x, C4(1> 100>

1, P31

αο C, 107100) + αο C2 (17101) + αο C3 (17110) + αο C4 (07111)
+α, C, 117111) + α, C2 (07110) + α, C3 (07101) + α, C4 (17100)

α, C, 1000) + α, C, 100) + α, C, 100) + α, C, 100) + α, C, 100) + α, C, 100)

Cloner out put V

Note that running dener backwards switches Casi C3

Rezakhani: li / 107812/x -> MIC/Aliblix + > li/Aljb lj/x + 3/1/Aliblix

$$C_1 = \mu$$
 $C_2 = 2$ $C_3 = 0$ $C_4 = v$