

$U_4(3) \pmod{3}$

	blocks	defect	matrix
$3_1.G :$	1 2	7 1	49×7 3×1
$6_1.G :$	3	7	49×7
$12_1.G :$	4 $5 = 4 * 7$	7	40×6

	blocks	defect	matrix
$3_2.G :$	1 2	7 1	43×7 3×1
$6_2.G :$	3	7	43×7
$12_2.G :$	4 $5 = 4 * 7$	7	34×6

Block 1:	φ_1	φ_2	φ_3	φ_4	φ_5	φ_6	φ_7
$1_1 = \chi_1$	1	.	.	.	.	.	.
$21_1 = \chi_2$	2	.	1	.	.	.	.
$35_1 = \chi_3$	1	1	1	.	.	.	.
$35_2 = \chi_4$	1	1	1	.	.	.	.
$90_1 = \chi_5$	2	.	1	.	.	1	.
$140_1 = \chi_6$	3	2	2	.	.	1	.
$189_1 = \chi_7$	.	2	.	1	1	1	.
$210_1 = \chi_8$	1	1	2	.	.	.	1
$280_1 = \chi_9$	.	1	1	1	1	.	1
$280_2 = \chi_{10}$	.	1	1	1	1	.	1
$280_3 = \chi_{11}$	.	1	1	1	1	.	1
$280_4 = \chi_{12}$	.	1	1	1	1	.	1
$315_1 = \chi_{13}$	3	2	3	.	.	1	1
$315_2 = \chi_{14}$	3	2	3	.	.	1	1
$420_1 = \chi_{15}$	3	3	3	1	1	1	1
$560_1 = \chi_{16}$	.	2	2	2	2	.	2
$640_1 = \chi_{17}$	3	3	4	2	1	1	2
$640_2 = \chi_{18}$	3	3	4	1	2	1	2
$896_1 = \chi_{20}$	5	4	6	2	2	1	3
$15_1 = \chi_{56}$	.	1	.	.	.	.	.
$15_2 = \chi_{56}^{*2}$	.	1	.	.	.	.	.
$21_2 = \chi_{57}$	2	.	1	.	.	.	.
$21_3 = \chi_{57}^{*2}$	2	.	1	.	.	.	.
$105_1 = \chi_{58}$	2	1	1	.	.	1	.
$105_2 = \chi_{58}^{*2}$	2	1	1	.	.	1	.
$105_3 = \chi_{59}$	.	1	.	1	1	.	.
$105_4 = \chi_{59}^{*2}$	.	1	.	1	1	.	.
$105_5 = \chi_{60}$	2	1	1	.	.	1	.
$105_6 = \chi_{60}^{*2}$	2	1	1	.	.	1	.
$210_4 = \chi_{61}$	1	1	2	.	.	.	1
$210_5 = \chi_{61}^{*2}$	1	1	2	.	.	.	1
$315_3 = \chi_{62}$	1	2	2	1	1	.	1
$315_4 = \chi_{62}^{*2}$	1	2	2	1	1	.	1
$336_1 = \chi_{63}$	5	2	4	.	.	1	1
$336_2 = \chi_{63}^{*2}$	5	2	4	.	.	1	1
$360_1 = \chi_{64}$	3	2	3	1	.	1	1
$360_2 = \chi_{64}^{*8}$	3	2	3	1	.	1	1
$360_3 = \chi_{65}$	3	2	3	.	1	1	1
$360_4 = \chi_{65}^{*8}$	3	2	3	.	1	1	1
$384_1 = \chi_{66}$	1	2	2	1	1	1	1

(Block 1:)	φ_1	φ_2	φ_3	φ_4	φ_5	φ_6	φ_7	
$384_2 = \chi_{66}^{*2}$	1	2	2	1	1	1	1	$\varphi_1 = 1_1$
$420_4 = \chi_{67}$	3	3	3	1	1	1	1	$\varphi_2 = 15_1$
$420_5 = \chi_{67}^{*2}$	3	3	3	1	1	1	1	$\varphi_3 = 19_1$
$630_2 = \chi_{68}$	4	4	5	1	1	1	2	$\varphi_4 = 45_1$
$630_3 = \chi_{68}^{*2}$	4	4	5	1	1	1	2	$\varphi_5 = 45_2$
$756_1 = \chi_{70}$	2	2	4	2	2	.	3	$\varphi_6 = 69_1$
$756_2 = \chi_{70}^{*2}$	2	2	4	2	2	.	3	$\varphi_7 = 156_1$
$945_1 = \chi_{71}$	2	4	4	3	3	1	3	
$945_2 = \chi_{71}^{*2}$	2	4	4	3	3	1	3	

Block 2:	φ_8	
$729_1 = \chi_{19}$	1	$\varphi_8 = 729_1$
$729_2 = \chi_{69}$	1	
$729_3 = \chi_{69}^{*2}$	1	

Block 3:	φ_9	φ_{10}	φ_{11}	φ_{12}	φ_{13}	φ_{14}	φ_{15}
$20_1 = \chi_{21}$	.	1	1	.	.	.	.
$56_1 = \chi_{22}$	2	.	.	1	.	.	.
$56_2 = \chi_{23}$	2	.	.	1	.	.	.
$70_1 = \chi_{24}$	1	1	1	1	.	.	.
$70_2 = \chi_{25}$	1	1	1	1	.	.	.
$70_3 = \chi_{26}$	1	1	1	1	.	.	.
$70_4 = \chi_{27}$	1	1	1	1	.	.	.
$70_5 = \chi_{28}$	1	1	1	1	.	.	.
$120_1 = \chi_{29}$	2	1	1	2	.	.	.
$210_2 = \chi_{30}$	.	2	2	1	.	1	.
$210_3 = \chi_{31}$	.	2	2	1	1	.	.
$504_1 = \chi_{32}$	3	3	3	3	.	.	1
$504_2 = \chi_{33}$	3	3	3	3	.	.	1
$540_1 = \chi_{34}$	2	5	5	4	1	1	.
$560_2 = \chi_{35}$	5	3	3	4	.	.	1
$630_1 = \chi_{36}$	.	2	2	1	1	1	1
$640_3 = \chi_{37}$	3	4	3	3	.	1	1
$640_4 = \chi_{38}$	3	3	4	3	1	.	1
$896_2 = \chi_{39}$	5	5	5	5	1	1	1
$6_1 = \chi_{72}$	1	.	.	.	.	.	.
$6_2 = \chi_{72}^{*2}$	1	.	.	.	.	.	.
$84_1 = \chi_{73}$	.	2	2	1	.	.	.
$84_2 = \chi_{73}^{*2}$	.	2	2	1	.	.	.
$120_4 = \chi_{74}$	2	1	1	2	.	.	.
$120_5 = \chi_{74}^{*2}$	2	1	1	2	.	.	.
$126_1 = \chi_{75}$	3	1	1	2	.	.	.
$126_2 = \chi_{75}^{*2}$	3	1	1	2	.	.	.
$210_6 = \chi_{76}$	3	3	3	3	.	.	.
$210_7 = \chi_{76}^{*2}$	3	3	3	3	.	.	.
$270_1 = \chi_{77}$	1	2	3	2	1	.	.
$270_2 = \chi_{77}^{*8}$	1	2	3	2	1	.	.
$270_3 = \chi_{78}$	1	3	2	2	.	1	.
$270_4 = \chi_{78}^{*8}$	1	3	2	2	.	1	.
$336_3 = \chi_{79}$	.	2	2	1	1	1	.
$336_4 = \chi_{79}^{*2}$	.	2	2	1	1	1	.
$384_3 = \chi_{80}$	1	2	2	1	.	.	1
$384_4 = \chi_{80}^{*2}$	1	2	2	1	.	.	1
$420_6 = \chi_{81}$	3	1	1	2	.	.	1
$420_7 = \chi_{81}^{*2}$	3	1	1	2	.	.	1
$630_4 = \chi_{82}$	6	4	4	5	.	.	1

(Block 3:)	φ_9	φ_{10}	φ_{11}	φ_{12}	φ_{13}	φ_{14}	φ_{15}
$630_5 = \chi_{82}^{*2}$	6	4	4	5	.	.	1
$630_6 = \chi_{83}$	3	3	3	3	.	1	1
$630_7 = \chi_{83}^{*5}$	3	3	3	3	.	1	1
$630_8 = \chi_{84}$	3	3	3	3	1	.	1
$630_9 = \chi_{84}^{*5}$	3	3	3	3	1	.	1
$840_3 = \chi_{85}$	3	5	5	4	1	1	1
$840_4 = \chi_{85}^{*2}$	3	5	5	4	1	1	1
$840_5 = \chi_{86}$	3	5	5	4	1	1	1
$840_6 = \chi_{86}^{*2}$	3	5	5	4	1	1	1

$$\begin{aligned}
\varphi_9 &= 6_1 \\
\varphi_{10} &= 10_1 \\
\varphi_{11} &= 10_2 \\
\varphi_{12} &= 44_1 \\
\varphi_{13} &= 126_1 \\
\varphi_{14} &= 126_2 \\
\varphi_{15} &= 294_1
\end{aligned}$$

Block 4:	φ_{16}	φ_{17}	φ_{18}	φ_{19}	φ_{20}	φ_{21}
$20_2 = \chi_{40}$	1	1	.	.	.	.
$120_2 = \chi_{41}$	2	1	1	1	.	.
$140_2 = \chi_{42}$	2	1	.	.	1	.
$224_1 = \chi_{43}$	4	2	.	1	1	.
$224_3 = \chi_{44}$	4	2	.	1	1	.
$224_5 = \chi_{45}$	4	2	.	1	1	.
$224_7 = \chi_{46}$	4	2	.	1	1	.
$280_5 = \chi_{47}$	5	3	1	1	1	.
$280_7 = \chi_{48}$	5	3	1	1	1	.
$280_9 = \chi_{49}$	5	3	1	1	1	.
$420_2 = \chi_{50}$	7	4	1	1	2	.
$540_2 = \chi_{51}$	2	1	1	2	.	1
$640_5 = \chi_{52}$	10	6	1	2	3	.
$640_7 = \chi_{53}$	5	3	1	1	1	1
$840_1 = \chi_{54}$	7	4	1	2	2	1
$896_3 = \chi_{55}$	8	5	2	2	2	1
$84_3 = \chi_{87}$	2	1	.	1	.	.
$84_4 = \chi_{87}^{*5}$	2	1	.	1	.	.
$120_6 = \chi_{88}$	2	1	1	1	.	.
$120_7 = \chi_{88}^{*5}$	2	1	1	1	.	.
$216_1 = \chi_{89}$	4	3	1	.	1	.
$216_2 = \chi_{89}^{*5}$	4	3	1	.	1	.
$384_5 = \chi_{90}$	7	4	.	1	2	.
$384_6 = \chi_{90}^{*5}$	7	4	.	1	2	.
$420_8 = \chi_{91}$	7	4	1	1	2	.
$420_9 = \chi_{91}^{*5}$	7	4	1	1	2	.
$420_{12} = \chi_{92}$	7	4	1	1	2	.
$420_{13} = \chi_{92}^{*5}$	7	4	1	1	2	.
$480_1 = \chi_{93}$	2	1	1	1	.	1
$480_2 = \chi_{93}^{*29}$	2	1	1	1	.	1
$480_5 = \chi_{94}$	7	4	1	2	2	.
$480_6 = \chi_{94}^{*29}$	7	4	1	2	2	.
$504_3 = \chi_{95}$	9	5	1	2	2	.
$504_4 = \chi_{95}^{*5}$	9	5	1	2	2	.
$756_3 = \chi_{96}$	6	4	2	2	1	1
$756_4 = \chi_{96}^{*5}$	6	4	2	2	1	1
$840_7 = \chi_{97}$	7	4	1	2	2	1
$840_8 = \chi_{97}^{*5}$	7	4	1	2	2	1
$840_{11} = \chi_{98}$	7	4	1	2	2	1
$840_{12} = \chi_{98}^{*5}$	7	4	1	2	2	1

$$\begin{aligned}
\varphi_{16} &= 4_1 \\
\varphi_{17} &= 16_1 \\
\varphi_{18} &= 36_1 \\
\varphi_{19} &= 60_1 \\
\varphi_{20} &= 116_1 \\
\varphi_{21} &= 360_1
\end{aligned}$$

Block 1:	φ_1	φ_2	φ_3	φ_4	φ_5	φ_6	φ_7
$1_1 = \chi_1$	1	.	.	.	.	.	.
$21_1 = \chi_2$	2	.	1	.	.	.	.
$35_1 = \chi_3$	1	1	1	.	.	.	.
$35_2 = \chi_4$	1	1	1	.	.	.	.
$90_1 = \chi_5$	2	.	1	.	.	1	.
$140_1 = \chi_6$	3	2	2	.	.	1	.
$189_1 = \chi_7$	.	2	.	1	1	1	.
$210_1 = \chi_8$	1	1	2	.	.	.	1
$280_1 = \chi_9$	.	1	1	1	1	.	1
$280_2 = \chi_{10}$	.	1	1	1	1	.	1
$280_3 = \chi_{11}$	.	1	1	1	1	.	1
$280_4 = \chi_{12}$	.	1	1	1	1	.	1
$315_1 = \chi_{13}$	3	2	3	.	.	1	1
$315_2 = \chi_{14}$	3	2	3	.	.	1	1
$420_1 = \chi_{15}$	3	3	3	1	1	1	1
$560_1 = \chi_{16}$	.	2	2	2	2	.	2
$640_1 = \chi_{17}$	3	3	4	2	1	1	2
$640_2 = \chi_{18}$	3	3	4	1	2	1	2
$896_1 = \chi_{20}$	5	4	6	2	2	1	3
$36_1 = \chi_{99}$	2	1	1	.	.	.	.
$36_2 = \chi_{99}^{*2}$	2	1	1	.	.	.	.
$45_1 = \chi_{100}$	.	.	.	1	.	.	.
$45_2 = \chi_{100}^{*8}$	.	.	.	1	.	.	.
$45_3 = \chi_{101}$	.	.	.	.	1	.	.
$45_4 = \chi_{101}^{*8}$	.	.	.	.	1	.	.
$126_1 = \chi_{102}$	4	1	2	.	.	1	.
$126_2 = \chi_{102}^{*2}$	4	1	2	.	.	1	.
$189_2 = \chi_{103}$	.	2	.	1	1	1	.
$189_3 = \chi_{103}^{*2}$	.	2	.	1	1	1	.
$315_3 = \chi_{104}$	3	2	3	.	.	1	1
$315_4 = \chi_{104}^{*2}$	3	2	3	.	.	1	1
$315_5 = \chi_{105}$	1	2	2	1	1	.	1
$315_6 = \chi_{105}^{*2}$	1	2	2	1	1	.	1
$315_7 = \chi_{106}$	1	2	2	1	1	.	1
$315_8 = \chi_{106}^{*2}$	1	2	2	1	1	.	1
$630_2 = \chi_{107}$	4	4	5	1	1	1	2
$630_3 = \chi_{107}^{*2}$	4	4	5	1	1	1	2
$720_1 = \chi_{108}$	6	4	6	1	1	2	2
$720_2 = \chi_{108}^{*2}$	6	4	6	1	1	2	2
$756_1 = \chi_{110}$	2	2	4	2	2	.	3

(Block 1:)	φ_1	φ_2	φ_3	φ_4	φ_5	φ_6	φ_7
$756_2 = \chi_{110}^{*2}$	2	2	4	2	2	.	3
$945_1 = \chi_{111}$	2	4	4	3	3	1	3
$945_2 = \chi_{111}^{*2}$	2	4	4	3	3	1	3

$$\begin{aligned} \varphi_1 &= 1_1 \\ \varphi_2 &= 15_1 \\ \varphi_3 &= 19_1 \\ \varphi_4 &= 45_1 \\ \varphi_5 &= 45_2 \\ \varphi_6 &= 69_1 \\ \varphi_7 &= 156_1 \end{aligned}$$

Block 2:	φ_8
$729_1 = \chi_{19}$	1
$729_2 = \chi_{109}$	1
$729_3 = \chi_{109}^{*2}$	1

$$\varphi_8 = 729_1$$

Block 3:	φ_9	φ_{10}	φ_{11}	φ_{12}	φ_{13}	φ_{14}	φ_{15}
$20_1 = \chi_{21}$	.	1	1	.	.	.	.
$56_1 = \chi_{22}$	2	.	.	1	.	.	.
$56_2 = \chi_{23}$	2	.	.	1	.	.	.
$70_1 = \chi_{24}$	1	1	1	1	.	.	.
$70_2 = \chi_{25}$	1	1	1	1	.	.	.
$70_3 = \chi_{26}$	1	1	1	1	.	.	.
$70_4 = \chi_{27}$	1	1	1	1	.	.	.
$70_5 = \chi_{28}$	1	1	1	1	.	.	.
$120_1 = \chi_{29}$	2	1	1	2	.	.	.
$210_2 = \chi_{30}$	.	2	2	1	.	1	.
$210_3 = \chi_{31}$	.	2	2	1	1	.	.
$504_1 = \chi_{32}$	3	3	3	3	.	.	1
$504_2 = \chi_{33}$	3	3	3	3	.	.	1
$540_1 = \chi_{34}$	2	5	5	4	1	1	.
$560_2 = \chi_{35}$	5	3	3	4	.	.	1
$630_1 = \chi_{36}$	.	2	2	1	1	1	1
$640_3 = \chi_{37}$	3	4	3	3	.	1	1
$640_4 = \chi_{38}$	3	3	4	3	1	.	1
$896_2 = \chi_{39}$	5	5	5	5	1	1	1
$90_2 = \chi_{112}$	1	2	2	1	.	.	.
$90_3 = \chi_{112}^{*2}$	1	2	2	1	.	.	.
$126_3 = \chi_{113}$	3	1	1	2	.	.	.
$126_4 = \chi_{113}^{*2}$	3	1	1	2	.	.	.
$126_5 = \chi_{114}$	3	1	1	2	.	.	.
$126_6 = \chi_{114}^{*2}$	3	1	1	2	.	.	.
$126_7 = \chi_{115}$	.	.	.	.	.	1	.
$126_8 = \chi_{115}^{*5}$	.	.	.	.	.	1	.
$126_9 = \chi_{116}$	.	.	.	.	1	.	.
$126_{10} = \chi_{116}^{*5}$	.	.	.	.	1	.	.
$270_1 = \chi_{117}$	1	2	3	2	1	.	.
$270_2 = \chi_{117}^{*8}$	1	2	3	2	1	.	.
$270_3 = \chi_{118}$	1	3	2	2	.	1	.
$270_4 = \chi_{118}^{*8}$	1	3	2	2	.	1	.
$504_3 = \chi_{119}$	3	3	3	3	.	.	1
$504_4 = \chi_{119}^{*2}$	3	3	3	3	.	.	1
$540_4 = \chi_{120}$	2	5	5	4	1	1	.
$540_5 = \chi_{120}^{*2}$	2	5	5	4	1	1	.
$630_4 = \chi_{121}$	6	4	4	5	.	.	1
$630_5 = \chi_{121}^{*2}$	6	4	4	5	.	.	1
$720_3 = \chi_{122}$	1	4	4	2	1	1	1

(Block 3:)	φ_9	φ_{10}	φ_{11}	φ_{12}	φ_{13}	φ_{14}	φ_{15}
$720_4 = \chi_{122}^{*2}$	1	4	4	2	1	1	1
$1260_1 = \chi_{123}$	6	6	6	6	1	1	2
$1260_2 = \chi_{123}^{*2}$	6	6	6	6	1	1	2

$$\begin{aligned}
\varphi_9 &= 6_1 \\
\varphi_{10} &= 10_1 \\
\varphi_{11} &= 10_2 \\
\varphi_{12} &= 44_1 \\
\varphi_{13} &= 126_1 \\
\varphi_{14} &= 126_2 \\
\varphi_{15} &= 294_1
\end{aligned}$$

Block 4:	φ_{16}	φ_{17}	φ_{18}	φ_{19}	φ_{20}	φ_{21}
$20_2 = \chi_{40}$	1	1	.	.	.	.
$120_2 = \chi_{41}$	2	1	1	1	.	.
$140_2 = \chi_{42}$	2	1	.	.	1	.
$224_1 = \chi_{43}$	4	2	.	1	1	.
$224_3 = \chi_{44}$	4	2	.	1	1	.
$224_5 = \chi_{45}$	4	2	.	1	1	.
$224_7 = \chi_{46}$	4	2	.	1	1	.
$280_5 = \chi_{47}$	5	3	1	1	1	.
$280_7 = \chi_{48}$	5	3	1	1	1	.
$280_9 = \chi_{49}$	5	3	1	1	1	.
$420_2 = \chi_{50}$	7	4	1	1	2	.
$540_2 = \chi_{51}$	2	1	1	2	.	1
$640_5 = \chi_{52}$	10	6	1	2	3	.
$640_7 = \chi_{53}$	5	3	1	1	1	1
$840_1 = \chi_{54}$	7	4	1	2	2	1
$896_3 = \chi_{55}$	8	5	2	2	2	1
$36_3 = \chi_{124}$	.	.	1	.	.	.
$36_4 = \chi_{124}^{*5}$	.	.	1	.	.	.
$216_1 = \chi_{125}$	4	3	1	.	1	.
$216_2 = \chi_{125}^{*5}$	4	3	1	.	1	.
$360_1 = \chi_{126}$	5	3	.	1	2	.
$360_2 = \chi_{126}^{*29}$	5	3	.	1	2	.
$360_5 = \chi_{127}$	.	.	.	.	.	1
$360_6 = \chi_{127}^{*29}$	.	.	.	.	.	1
$504_5 = \chi_{128}$	9	5	1	2	2	.
$504_6 = \chi_{128}^{*5}$	9	5	1	2	2	.
$504_9 = \chi_{129}$	9	5	1	2	2	.
$504_{10} = \chi_{129}^{*5}$	9	5	1	2	2	.
$540_6 = \chi_{130}$	2	1	1	2	.	1
$540_7 = \chi_{130}^{*5}$	2	1	1	2	.	1
$756_3 = \chi_{131}$	6	4	2	2	1	1
$756_4 = \chi_{131}^{*5}$	6	4	2	2	1	1
$1260_3 = \chi_{132}$	14	8	2	3	4	1
$1260_4 = \chi_{132}^{*5}$	14	8	2	3	4	1

$$\begin{aligned}
\varphi_{16} &= 4_1 \\
\varphi_{17} &= 16_1 \\
\varphi_{18} &= 36_1 \\
\varphi_{19} &= 60_1 \\
\varphi_{20} &= 116_1 \\
\varphi_{21} &= 360_1
\end{aligned}$$