

# $O_7(3) \pmod{13}$

	blocks	defect	matrix
$G :$	1	1	$8 \times 6$
	2	0	$78_1 = \chi_2, \varphi_2$
	3	0	$91_1 = \chi_3, \varphi_3$
	4	0	$182_1 = \chi_6, \varphi_6$
	5	0	$195_1 = \chi_7, \varphi_7$
	6	0	$260_1 = \chi_8, \varphi_8$
	7	0	$260_2 = \chi_9, \varphi_9$
	8	0	$273_1 = \chi_{10}, \varphi_{10}$
	9	0	$546_1 = \chi_{11}, \varphi_{11}$
	10	0	$819_1 = \chi_{12}, \varphi_{12}$
	11	0	$910_1 = \chi_{13}, \varphi_{13}$
	12	0	$910_2 = \chi_{14}, \varphi_{14}$
	13	0	$1092_1 = \chi_{15}, \varphi_{15}$
	14	0	$1365_1 = \chi_{16}, \varphi_{16}$
	15	0	$1365_2 = \chi_{17}, \varphi_{17}$
	16	0	$1560_1 = \chi_{18}, \varphi_{18}$
	$17 = \overline{16}$	0	$1560_2 = \chi_{19}, \varphi_{19}$
	18	0	$1638_1 = \chi_{20}, \varphi_{20}$
	19	0	$1820_1 = \chi_{21}, \varphi_{21}$
	20	0	$2106_1 = \chi_{22}, \varphi_{22}$
	21	0	$2184_1 = \chi_{23}, \varphi_{23}$
	22	0	$2457_1 = \chi_{24}, \varphi_{24}$
	23	0	$2730_1 = \chi_{25}, \varphi_{26}$
	24	0	$2730_2 = \chi_{26}, \varphi_{27}$
	25	0	$4095_1 = \chi_{28}, \varphi_{28}$
	26	0	$4095_2 = \chi_{29}, \varphi_{29}$
	27	0	$4368_1 = \chi_{30}, \varphi_{30}$
	28	0	$5265_1 = \chi_{32}, \varphi_{32}$
	29	0	$5460_1 = \chi_{33}, \varphi_{33}$
	30	0	$5460_2 = \chi_{34}, \varphi_{34}$
	31	0	$5460_3 = \chi_{35}, \varphi_{35}$
	32	0	$5824_1 = \chi_{36}, \varphi_{36}$
	33	0	$5824_2 = \chi_{37}, \varphi_{37}$
	34	0	$6552_1 = \chi_{38}, \varphi_{38}$
	35	0	$7020_1 = \chi_{39}, \varphi_{39}$
	36	0	$7020_2 = \chi_{40}, \varphi_{40}$
	37	0	$7280_1 = \chi_{41}, \varphi_{41}$
	38	0	$7280_2 = \chi_{42}, \varphi_{42}$
	39	0	$7280_3 = \chi_{43}, \varphi_{43}$
	40	0	$7371_1 = \chi_{44}, \varphi_{44}$

	blocks	defect	matrix
	41	0	$8190_1 = \chi_{45}, \varphi_{45}$
	42	0	$8190_2 = \chi_{46}, \varphi_{46}$
	43	0	$11648_1 = \chi_{47}, \varphi_{47}$
	44	0	$14742_1 = \chi_{48}, \varphi_{48}$
	45	0	$16380_1 = \chi_{49}, \varphi_{50}$
	46	0	$16640_1 = \chi_{50}, \varphi_{51}$
	47	0	$16640_2 = \chi_{51}, \varphi_{52}$
	48	0	$17472_1 = \chi_{52}, \varphi_{53}$
	49	0	$17472_2 = \chi_{53}, \varphi_{54}$
	50	0	$21840_1 = \chi_{57}, \varphi_{55}$
	51	0	$22113_1 = \chi_{58}, \varphi_{56}$
2.G :	52	0	$520_1 = \chi_{59}, \varphi_{57}$
	53	1	$8 \times 6$
	54	0	$1456_1 = \chi_{62}, \varphi_{60}$
	55	0	$1456_2 = \chi_{63}, \varphi_{61}$
	56	0	$1456_3 = \chi_{64}, \varphi_{62}$
	57	0	$3120_1 = \chi_{65}, \varphi_{63}$
	58	0	$3640_1 = \chi_{66}, \varphi_{64}$
	59	0	$7280_4 = \chi_{69}, \varphi_{67}$
	60	0	$7280_5 = \chi_{70}, \varphi_{68}$
	61	0	$7280_6 = \chi_{71}, \varphi_{69}$
	62	0	$7280_7 = \chi_{72}, \varphi_{70}$
	63	0	$10920_1 = \chi_{73}, \varphi_{73}$
	64	0	$11648_2 = \chi_{74}, \varphi_{74}$
	65	0	$11648_3 = \chi_{75}, \varphi_{75}$
	66	0	$13104_1 = \chi_{76}, \varphi_{76}$
	67	0	$13104_2 = \chi_{77}, \varphi_{77}$
	68	0	$13104_3 = \chi_{78}, \varphi_{78}$
	69	0	$14040_1 = \chi_{79}, \varphi_{79}$
	70	0	$16640_3 = \chi_{82}, \varphi_{80}$
	71	0	$16640_4 = \chi_{83}, \varphi_{81}$
	72	0	$21840_2 = \chi_{86}, \varphi_{82}$
	73	0	$21840_3 = \chi_{87}, \varphi_{83}$
	74	0	$23296_1 = \chi_{88}, \varphi_{84}$
3.G :	75	1	$8 \times 6$
	$76 = 75^*$		
	77	0	$351_1 = \chi_{90}, \varphi_{86}$
	$78 = 77^*$		
	79	0	$351_3 = \chi_{91}, \varphi_{87}$
	$80 = 79^*$		

	blocks	defect	matrix
	81	0	$2457_2 = \chi_{95}, \varphi_{91}$
	82 = 81*		
	83	0	$2457_4 = \chi_{96}, \varphi_{92}$
	84 = 83*		
	85	0	$2457_6 = \chi_{97}, \varphi_{93}$
	86 = 85*		
	87	0	$2808_1 = \chi_{98}, \varphi_{94}$
	88 = 87*		
	89	0	$2808_3 = \chi_{99}, \varphi_{95}$
	90 = 89*		
	91	0	$4914_1 = \chi_{100}, \varphi_{96}$
	92 = 91*		
	93	0	$4914_3 = \chi_{101}, \varphi_{97}$
	94 = 93*		
	95	0	$5265_2 = \chi_{102}, \varphi_{98}$
	96 = 95*		
	97	0	$7020_3 = \chi_{103}, \varphi_{100}$
	98 = 97*		
	99	0	$7371_2 = \chi_{104}, \varphi_{101}$
	100 = 99*		
	101	0	$7371_4 = \chi_{105}, \varphi_{102}$
	102 = 101*		
	103	0	$9477_1 = \chi_{108}, \varphi_{103}$
	104 = 103*		
	105	0	$9828_1 = \chi_{109}, \varphi_{104}$
	106 = 105*		
	107	0	$12285_1 = \chi_{110}, \varphi_{105}$
	108 = 107*		
	109	0	$12285_3 = \chi_{111}, \varphi_{106}$
	110 = 109*		
	111	0	$12285_5 = \chi_{112}, \varphi_{107}$
	112 = 111*		
	113	0	$12285_7 = \chi_{113}, \varphi_{108}$
	114 = 113*		
	115	0	$12285_9 = \chi_{114}, \varphi_{109}$
	116 = 115*		
	117	0	$14742_2 = \chi_{115}, \varphi_{110}$
	118 = 117*		
	119	0	$16848_1 = \chi_{116}, \varphi_{111}$
	120 = 119*		

	blocks	defect	matrix
	121	0	$19656_1 = \chi_{117}, \varphi_{113}$
	$122 = 121^*$		
	123	0	$19656_3 = \chi_{118}, \varphi_{114}$
	$124 = 123^*$		
	125	0	$22464_1 = \chi_{120}, \varphi_{115}$
	$126 = 125^*$		
	127	0	$22464_3 = \chi_{121}, \varphi_{116}$
	$128 = 127^*$		
$6.G :$	129	1	$8 \times 6$
	$130 = 129^*$		
	131	0	$14040_2 = \chi_{126}, \varphi_{121}$
	$132 = 131^*$		
	133	0	$19656_5 = \chi_{128}, \varphi_{123}$
	$134 = 133^*$		
	135	0	$22464_5 = \chi_{130}, \varphi_{124}$
	$136 = 135^*$		
	137	0	$22464_7 = \chi_{131}, \varphi_{125}$
	$138 = 137^*$		

<b>Block 1:</b>	$\varphi_1$	$\varphi_4$	$\varphi_5$	$\varphi_{25}$	$\varphi_{31}$	$\varphi_{49}$	
$1_1 = \chi_1$	1	.	.	.	.	.	$\varphi_1 = 1_1$
$105_1 = \chi_4$	.	1	.	.	.	.	$\varphi_4 = 105_1$
$168_1 = \chi_5$	1	.	1	.	.	.	$\varphi_5 = 167_1$
$2835_1 = \chi_{27}$	.	.	1	1	.	.	$\varphi_{25} = 2668_1$
$4536_1 = \chi_{31}$	.	1	.	.	1	.	$\varphi_{31} = 4431_1$
$17920_1 = \chi_{54}$	.	.	.	1	.	1	$\varphi_{49} = 15252_1$
$17920_2 = \chi_{55}$	.	.	.	1	.	1	
$19683_1 = \chi_{56}$	.	.	.	.	1	1	

<b>Block 53:</b>	$\varphi_{58}$	$\varphi_{59}$	$\varphi_{65}$	$\varphi_{66}$	$\varphi_{71}$	$\varphi_{72}$	
$560_1 = \chi_{60}$	1	.	.	.	.	.	$\varphi_{58} = 560_1$
$560_2 = \chi_{61}$	.	1	.	.	.	.	$\varphi_{59} = 560_2$
$6720_1 = \chi_{67}$	1	.	1	.	.	.	$\varphi_{65} = 6160_1$
$6720_2 = \chi_{68}$	.	1	.	1	.	.	$\varphi_{66} = 6160_2$
$15120_1 = \chi_{80}$	.	.	1	.	1	.	$\varphi_{71} = 8960_1$
$15120_2 = \chi_{81}$	.	.	.	1	.	1	$\varphi_{72} = 8960_2$
$17920_3 = \chi_{84}$	.	.	.	.	1	1	
$17920_4 = \chi_{85}$	.	.	.	.	1	1	

<b>Blocks 75, 76:</b>	$\varphi_{85}$	$\varphi_{88}$	$\varphi_{89}$	$\varphi_{90}$	$\varphi_{99}$	$\varphi_{112}$	
$27_1 = \chi_{89}$	1	.	.	.	.	.	$\varphi_{85} = 27_1$
$378_1 = \chi_{92}$	.	1	.	.	.	.	$\varphi_{88} = 378_1$
$1728_1 = \chi_{93}$	1	.	.	1	.	.	$\varphi_{89} = 1350_1$
$1728_3 = \chi_{94}$	.	1	1	.	.	.	$\varphi_{90} = 1701_1$
$7560_1 = \chi_{106}$	.	.	.	1	1	.	$\varphi_{99} = 5859_1$
$7560_3 = \chi_{107}$	.	.	.	1	1	.	$\varphi_{112} = 18333_1$
$19683_2 = \chi_{119}$	.	.	1	.	.	1	
$24192_1 = \chi_{122}$	.	.	.	.	1	1	

<b>Blocks 129, 130:</b>	$\varphi_{117}$	$\varphi_{118}$	$\varphi_{119}$	$\varphi_{120}$	$\varphi_{122}$	$\varphi_{126}$	
$4536_2 = \chi_{123}$	1	.	.	.	.	.	$\varphi_{117} = 4536_1$
$12096_1 = \chi_{124}$	.	1	1	.	.	.	$\varphi_{118} = 4968_1$
$12096_3 = \chi_{125}$	.	1	1	.	.	.	$\varphi_{119} = 7128_1$
$15120_3 = \chi_{127}$	.	.	1	1	.	.	$\varphi_{120} = 7992_1$
$20736_1 = \chi_{129}$	1	.	.	.	1	.	$\varphi_{122} = 16200_1$
$24192_3 = \chi_{132}$	.	.	.	1	1	.	$\varphi_{126} = 24192_1$
$24192_5 = \chi_{133}$	.	.	.	.	.	1	
$29160_1 = \chi_{134}$	.	1	.	.	.	1	