

# $O_8^+(3).2_1 \pmod{7}$

	blocks	defect	matrix
$G :$	1	1	$7 \times 6$
	2	1	$7 \times 6$
	3	1	$7 \times 6$
	4	1	$7 \times 6$
	5	1	$5 \times 3$
	6	1	$5 \times 3$
	7	0	$819_1 = \chi_{9,0}, \varphi_{9,0}$
	8	0	$819_2 = \chi_{9,1}, \varphi_{9,1}$
	9	0	$819_3 = \chi_{10,0}, \varphi_{10,0}$
	10	0	$819_4 = \chi_{10,1}, \varphi_{10,1}$
	11	0	$819_5 = \chi_{11,0}, \varphi_{11,0}$
	12	0	$819_6 = \chi_{11,1}, \varphi_{11,1}$
	13	0	$4550_1 = \chi_{12+}, \varphi_{12+}$
	14	0	$4550_2 = \chi_{14+}, \varphi_{14+}$
	15	0	$5460_1 = \chi_{17,0}, \varphi_{17,0}$
	16	0	$5460_2 = \chi_{17,1}, \varphi_{17,1}$
	17	0	$10920_1 = \chi_{18+}, \varphi_{18+}$
	18	0	$10920_2 = \chi_{19+}, \varphi_{19+}$
	19	0	$5460_3 = \chi_{20,0}, \varphi_{20,0}$
	20	0	$5460_4 = \chi_{20,1}, \varphi_{20,1}$
	21	0	$9450_1 = \chi_{23,0}, \varphi_{23,0}$
	22	0	$9450_2 = \chi_{23,1}, \varphi_{23,1}$
	23	0	$18200_1 = \chi_{25,0}, \varphi_{25,0}$
	24	0	$18200_2 = \chi_{25,1}, \varphi_{25,1}$
	25	0	$36400_1 = \chi_{26+}, \varphi_{26+}$
	26	0	$36400_2 = \chi_{28+}, \varphi_{28+}$
	27	0	$24192_1 = \chi_{36,0}, \varphi_{36,0}$
	28	0	$24192_2 = \chi_{36,1}, \varphi_{36,1}$
	29	0	$27300_1 = \chi_{37,0}, \varphi_{37,0}$
	30	0	$27300_2 = \chi_{37,1}, \varphi_{37,1}$
	31	0	$29120_1 = \chi_{38,0}, \varphi_{38,0}$
	32	0	$29120_2 = \chi_{38,1}, \varphi_{38,1}$
	33	0	$58240_1 = \chi_{39+}, \varphi_{39+}$
	34	0	$58240_2 = \chi_{40+}, \varphi_{40+}$
	35	0	$29120_3 = \chi_{41,0}, \varphi_{41,0}$
	36	0	$29120_4 = \chi_{41,1}, \varphi_{41,1}$
	37	0	$40950_1 = \chi_{44,0}, \varphi_{44,0}$
	38	0	$40950_2 = \chi_{44,1}, \varphi_{44,1}$
	39	0	$81900_1 = \chi_{45+}, \varphi_{45+}$
	40	0	$81900_2 = \chi_{46+}, \varphi_{46+}$

	blocks	defect	matrix
	41	0	$40950_3 = \chi_{47,0}, \varphi_{47,0}$
	42	0	$40950_4 = \chi_{47,1}, \varphi_{47,1}$
	43	0	$46592_1 = \chi_{50,0}, \varphi_{50,0}$
	44	0	$46592_2 = \chi_{50,1}, \varphi_{50,1}$
	45	0	$46592_3 = \chi_{51,0}, \varphi_{51,0}$
	46	0	$46592_4 = \chi_{51,1}, \varphi_{51,1}$
	47	0	$46592_5 = \chi_{52,0}, \varphi_{52,0}$
	48	0	$46592_6 = \chi_{52,1}, \varphi_{52,1}$
	49	0	$49140_1 = \chi_{53,0}, \varphi_{53,0}$
	50	0	$49140_2 = \chi_{53,1}, \varphi_{53,1}$
	51	0	$98280_1 = \chi_{54+}, \varphi_{54+}$
	52	0	$98280_2 = \chi_{55+}, \varphi_{55+}$
	53	0	$49140_3 = \chi_{56,0}, \varphi_{56,0}$
	54	0	$49140_4 = \chi_{56,1}, \varphi_{56,1}$
	55	0	$109200_1 = \chi_{59+}, \varphi_{59+}$
	56	0	$109200_2 = \chi_{61+}, \varphi_{61+}$
	57	0	$54600_1 = \chi_{63,0}, \varphi_{63,0}$
	58	0	$54600_2 = \chi_{63,1}, \varphi_{63,1}$
	59	0	$54600_3 = \chi_{64,0}, \varphi_{64,0}$
	60	0	$54600_4 = \chi_{64,1}, \varphi_{64,1}$
	61	0	$54600_5 = \chi_{65,0}, \varphi_{65,0}$
	62	0	$54600_6 = \chi_{65,1}, \varphi_{65,1}$
	63	0	$66339_1 = \chi_{66,0}, \varphi_{66,0}$
	64	0	$66339_2 = \chi_{66,1}, \varphi_{66,1}$
	65	0	$66339_3 = \chi_{67,0}, \varphi_{67,0}$
	66	0	$66339_4 = \chi_{67,1}, \varphi_{67,1}$
	67	0	$66339_5 = \chi_{68,0}, \varphi_{68,0}$
	68	0	$66339_6 = \chi_{68,1}, \varphi_{68,1}$
	69	0	$163800_1 = \chi_{69,0}, \varphi_{69,0}$
	70	0	$163800_2 = \chi_{69,1}, \varphi_{69,1}$
	71	0	$163800_3 = \chi_{70,0}, \varphi_{70,0}$
	72	0	$163800_4 = \chi_{70,1}, \varphi_{70,1}$
	73	0	$163800_5 = \chi_{71,0}, \varphi_{71,0}$
	74	0	$163800_6 = \chi_{71,1}, \varphi_{71,1}$
	75	0	$368550_1 = \chi_{72+}, \varphi_{72+}$
	76	0	$368550_2 = \chi_{74+}, \varphi_{74+}$
	77	0	$232960_1 = \chi_{83,0}, \varphi_{83,0}$
	78	0	$232960_2 = \chi_{83,1}, \varphi_{83,1}$
	79	0	$465920_1 = \chi_{84+}, \varphi_{84+}$
	80	0	$465920_2 = \chi_{85+}, \varphi_{85+}$

	blocks	defect	matrix
	81	0	$232960_3 = \chi_{86,0}, \varphi_{86,0}$
	82	0	$232960_4 = \chi_{86,1}, \varphi_{86,1}$
	83	0	$245700_1 = \chi_{89,0}, \varphi_{89,0}$
	84	0	$245700_2 = \chi_{89,1}, \varphi_{89,1}$
	85	0	$262080_1 = \chi_{90,0}, \varphi_{90,0}$
	86	0	$262080_2 = \chi_{90,1}, \varphi_{90,1}$
	87	0	$524160_1 = \chi_{91+}, \varphi_{91+}$
	88	0	$524160_2 = \chi_{92+}, \varphi_{92+}$
	89	0	$262080_3 = \chi_{93,0}, \varphi_{93,0}$
	90	0	$262080_4 = \chi_{93,1}, \varphi_{93,1}$
	91	0	$291200_1 = \chi_{96,0}, \varphi_{96,0}$
	92	0	$291200_2 = \chi_{96,1}, \varphi_{96,1}$
	93	0	$582400_1 = \chi_{97+}, \varphi_{97+}$
	94	0	$582400_2 = \chi_{99+}, \varphi_{99+}$
	95	0	$419328_1 = \chi_{105,0}, \varphi_{102,0}$
	96	0	$419328_2 = \chi_{105,1}, \varphi_{102,1}$
	97	0	$419328_3 = \chi_{106,0}, \varphi_{103,0}$
	98	0	$419328_4 = \chi_{106,1}, \varphi_{103,1}$
	99	0	$419328_5 = \chi_{107,0}, \varphi_{104,0}$
	100	0	$419328_6 = \chi_{107,1}, \varphi_{104,1}$
	101	0	$465920_3 = \chi_{108,0}, \varphi_{105,0}$
	102	0	$465920_4 = \chi_{108,1}, \varphi_{105,1}$
	103	0	$465920_5 = \chi_{109,0}, \varphi_{106,0}$
	104	0	$465920_6 = \chi_{109,1}, \varphi_{106,1}$
	105	0	$465920_7 = \chi_{110,0}, \varphi_{107,0}$
	106	0	$465920_8 = \chi_{110,1}, \varphi_{107,1}$
	107	0	$491400_1 = \chi_{111,0}, \varphi_{108,0}$
	108	0	$491400_2 = \chi_{111,1}, \varphi_{108,1}$
	109	0	$716800_1 = \chi_{113,0}, \varphi_{109,0}$
	110	0	$716800_2 = \chi_{113,1}, \varphi_{109,1}$
	111	0	$716800_3 = \chi_{114,0}, \varphi_{110,0}$
	112	0	$716800_4 = \chi_{114,1}, \varphi_{110,1}$

<b>Block 1:</b>	$\varphi_{1,0}$	$\varphi_{8,0}$	$\varphi_{16,0}$	$\varphi_{24,0}$	$\varphi_{82,0}$	$\varphi_{101,0}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.
$300_1 = \chi_{8,0}$	1	1	.	.	.	.
$2808_1 = \chi_{16,0}$	.	.	1	.	.	.
$17550_1 = \chi_{24,0}$	.	1	.	1	.	.
$218700_1 = \chi_{82,0}$	.	.	.	1	1	.
$332800_1 = \chi_{101,0}$	.	.	1	.	.	1
$531441_1 = \chi_{112,0}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{1,0} &= 1_1 \\ \varphi_{8,0} &= 299_1 \\ \varphi_{16,0} &= 2808_1 \\ \varphi_{24,0} &= 17251_1 \\ \varphi_{82,0} &= 201449_1 \\ \varphi_{101,0} &= 329992_1 \end{aligned}$$

<b>Block 2:</b>	$\varphi_{1,1}$	$\varphi_{8,1}$	$\varphi_{16,1}$	$\varphi_{24,1}$	$\varphi_{82,1}$	$\varphi_{101,1}$
$1_2 = \chi_{1,1}$	1	.	.	.	.	.
$300_2 = \chi_{8,1}$	1	1	.	.	.	.
$2808_2 = \chi_{16,1}$	.	.	1	.	.	.
$17550_2 = \chi_{24,1}$	.	1	.	1	.	.
$218700_2 = \chi_{82,1}$	.	.	.	1	1	.
$332800_2 = \chi_{101,1}$	.	.	1	.	.	1
$531441_2 = \chi_{112,1}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{1,1} &= 1_2 \\ \varphi_{8,1} &= 299_2 \\ \varphi_{16,1} &= 2808_2 \\ \varphi_{24,1} &= 17251_2 \\ \varphi_{82,1} &= 201449_2 \\ \varphi_{101,1} &= 329992_2 \end{aligned}$$

<b>Block 3:</b>	$\varphi_{2,0}$	$\varphi_{5,0}$	$\varphi_{30,0}$	$\varphi_{33,0}$	$\varphi_{72,0}$	$\varphi_{75,0}$
$260_1 = \chi_{2,0}$	1	.	.	.	.	.
$260_3 = \chi_{5,0}$	.	1	.	.	.	.
$23400_1 = \chi_{30,0}$	1	.	1	.	.	.
$23400_3 = \chi_{33,0}$	.	1	.	1	.	.
$189540_2 = \chi_{76,1}$	.	.	1	.	1	.
$189540_4 = \chi_{79,1}$	.	.	.	1	.	1
$332800_4 = \chi_{102,1}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{2,0} &= 260_1 \\ \varphi_{5,0} &= 260_3 \\ \varphi_{30,0} &= 23140_1 \\ \varphi_{33,0} &= 23140_3 \\ \varphi_{72,0} &= 166400_1 \\ \varphi_{75,0} &= 166400_3 \end{aligned}$$

<b>Block 4:</b>	$\varphi_{2,1}$	$\varphi_{5,1}$	$\varphi_{30,1}$	$\varphi_{33,1}$	$\varphi_{72,1}$	$\varphi_{75,1}$
$260_2 = \chi_{2,1}$	1	.	.	.	.	.
$260_4 = \chi_{5,1}$	.	1	.	.	.	.
$23400_2 = \chi_{30,1}$	1	.	1	.	.	.
$23400_4 = \chi_{33,1}$	.	1	.	1	.	.
$189540_1 = \chi_{76,0}$	.	.	1	.	1	.
$189540_3 = \chi_{79,0}$	.	.	.	1	.	1
$332800_3 = \chi_{102,0}$	.	.	.	.	1	1

$$\begin{aligned} \varphi_{2,1} &= 260_2 \\ \varphi_{5,1} &= 260_4 \\ \varphi_{30,1} &= 23140_2 \\ \varphi_{33,1} &= 23140_4 \\ \varphi_{72,1} &= 166400_2 \\ \varphi_{75,1} &= 166400_4 \end{aligned}$$

<b>Block 5:</b>	$\varphi_{3+}$	$\varphi_{31+}$	$\varphi_{73+}$
$520_1 = \chi_{3+}$	1	.	.
$46800_1 = \chi_{31+}$	1	1	.
$379080_1 = \chi_{77+}$	.	1	1
$332800_5 = \chi_{103,0}$	.	.	1
$332800_6 = \chi_{103,1}$	.	.	1

$$\begin{aligned} \varphi_{3+} &= 520_1 \\ \varphi_{31+} &= 46280_1 \\ \varphi_{73+} &= 332800_1 \end{aligned}$$

<b>Block 6:</b>	$\varphi_{4+}$	$\varphi_{32+}$	$\varphi_{74+}$
$520_2 = \chi_{4+}$	1	.	.
$46800_2 = \chi_{32+}$	1	1	.
$379080_2 = \chi_{78+}$	.	1	1
$332800_7 = \chi_{104,0}$	.	.	1
$332800_8 = \chi_{104,1}$	.	.	1

$$\begin{aligned} \varphi_{4+} &= 520_2 \\ \varphi_{32+} &= 46280_2 \\ \varphi_{74+} &= 332800_2 \end{aligned}$$