

$L_2(31).2 \pmod{31}$

	blocks	defect	matrix
$G :$	1	1	31×30
	2	0	$31_1 = \chi_{11,0}, \varphi_{16,0}$
	3	0	$31_2 = \chi_{11,1}, \varphi_{16,1}$
$2.G :$	4	1	31×30

Block 1:	$\varphi_{1,0}$	$\varphi_{1,1}$	$\varphi_{2,0}$	$\varphi_{2,1}$	$\varphi_{3,0}$	$\varphi_{3,1}$	$\varphi_{4,0}$	$\varphi_{4,1}$	$\varphi_{5,0}$	$\varphi_{5,1}$	$\varphi_{6,0}$	$\varphi_{6,1}$	$\varphi_{7,0}$
$1_1 = \chi_{1,0}$	1	.	.	.	.	.	.	.	.	.	.	.	.
$1_2 = \chi_{1,1}$.	1	.	.	.	.	.	.	.	.	.	.	.
$30_1 = \chi_{2,+}$
$30_2 = \chi_{4,0}$	1	.	.	.	.	.
$30_3 = \chi_{4,1}$	1	.	.	.	.	.	.
$30_4 = \chi_{5,0}$.	.	.	1	.	.	.	.	.	.	.	.	.
$30_5 = \chi_{5,1}$.	.	1	.	.	.	.	.	.	.	.	.	.
$30_6 = \chi_{6,0}$	1	.	.
$30_7 = \chi_{6,1}$	1	.
$30_8 = \chi_{7,0}$.	1	.	.	.	.	.	.	.	.	.	.	.
$30_9 = \chi_{7,1}$	1	.	.	.	.	.	.	.	.	.	.	.	.
$30_{10} = \chi_{8,0}$	1	.	.	.	.
$30_{11} = \chi_{8,1}$	1	.	.	.
$30_{12} = \chi_{9,0}$
$30_{13} = \chi_{9,1}$	1
$30_{14} = \chi_{10,0}$	1	.	.	.	.	.	.	.	.
$30_{15} = \chi_{10,1}$	1	.	.	.	.	.	.	.
$32_1 = \chi_{12,0}$	1	.
$32_2 = \chi_{12,1}$	1	.	.
$32_3 = \chi_{13,0}$	1	.	.	.	.	.
$32_4 = \chi_{13,1}$	1	.	.	.	.	.	.
$32_5 = \chi_{14,0}$	1
$32_6 = \chi_{14,1}$
$32_7 = \chi_{15,0}$	1	.	.	.	.	.	.	.	.
$32_8 = \chi_{15,1}$	1	.	.	.	.	.	.	.
$32_9 = \chi_{16,0}$.	.	.	1	.	.	.	.	.	.	.	.	.
$32_{10} = \chi_{16,1}$.	.	1	.	.	.	.	.	.	.	.	.	.
$32_{11} = \chi_{17,0}$
$32_{12} = \chi_{17,1}$
$32_{13} = \chi_{18,0}$	1	.	.	.	.
$32_{14} = \chi_{18,1}$	1	.	.	.

(Block 1:)	$\varphi_{7,1}$	$\varphi_{8,0}$	$\varphi_{8,1}$	$\varphi_{9,0}$	$\varphi_{9,1}$	$\varphi_{10,0}$	$\varphi_{10,1}$	$\varphi_{11,0}$	$\varphi_{11,1}$	$\varphi_{12,0}$	$\varphi_{12,1}$	$\varphi_{13,0}$
$1_1 = \chi_{1,0}$
$1_2 = \chi_{1,1}$
$30_1 = \chi_{2,+}$.	1	1	.	.	.	.	.	.	.	.	.
$30_2 = \chi_{4,0}$	1	.	.
$30_3 = \chi_{4,1}$	1	.
$30_4 = \chi_{5,0}$
$30_5 = \chi_{5,1}$
$30_6 = \chi_{6,0}$	1	.	.	.	.	.
$30_7 = \chi_{6,1}$	1	.	.	.	.	.	.
$30_8 = \chi_{7,0}$
$30_9 = \chi_{7,1}$
$30_{10} = \chi_{8,0}$	1	.	.	.
$30_{11} = \chi_{8,1}$	1	.	.	.	.
$30_{12} = \chi_{9,0}$	1	.	.	1	.	.	.	.	.	.	.	.
$30_{13} = \chi_{9,1}$	1	.	.	.	.	.	.	.
$30_{14} = \chi_{10,0}$
$30_{15} = \chi_{10,1}$	1
$32_1 = \chi_{12,0}$	1	.	.	.	.
$32_2 = \chi_{12,1}$	1	.	.	.
$32_3 = \chi_{13,0}$	1
$32_4 = \chi_{13,1}$
$32_5 = \chi_{14,0}$	1	.	.	.	.	.
$32_6 = \chi_{14,1}$	1	.	.	.	.	1	.	.	.	.	.	.
$32_7 = \chi_{15,0}$
$32_8 = \chi_{15,1}$
$32_9 = \chi_{16,0}$
$32_{10} = \chi_{16,1}$
$32_{11} = \chi_{17,0}$.	.	1	1	.	.	.	.	.	.	.	.
$32_{12} = \chi_{17,1}$.	1	.	.	1	.	.	.	.	.	.	.
$32_{13} = \chi_{18,0}$	1	.
$32_{14} = \chi_{18,1}$	1	.	.

(Block 1:)	$\varphi_{13,1}$	$\varphi_{14,0}$	$\varphi_{14,1}$	$\varphi_{15,0}$	$\varphi_{15,1}$		
$1_1 = \chi_{1,0}$	$\varphi_{1,0} =$	1_1
$1_2 = \chi_{1,1}$	$\varphi_{1,1} =$	1_2
$30_1 = \chi_{2,+}$	$\varphi_{2,0} =$	3_1
$30_2 = \chi_{4,0}$	$\varphi_{2,1} =$	3_2
$30_3 = \chi_{4,1}$	$\varphi_{3,0} =$	5_1
$30_4 = \chi_{5,0}$.	1	.	.	.	$\varphi_{3,1} =$	5_2
$30_5 = \chi_{5,1}$.	.	1	.	.	$\varphi_{4,0} =$	7_1
$30_6 = \chi_{6,0}$	$\varphi_{4,1} =$	7_2
$30_7 = \chi_{6,1}$	$\varphi_{5,0} =$	9_1
$30_8 = \chi_{7,0}$.	.	.	1	.	$\varphi_{5,1} =$	9_2
$30_9 = \chi_{7,1}$	1	$\varphi_{6,0} =$	11_1
$30_{10} = \chi_{8,0}$	$\varphi_{6,1} =$	11_2
$30_{11} = \chi_{8,1}$	$\varphi_{7,0} =$	13_1
$30_{12} = \chi_{9,0}$	$\varphi_{7,1} =$	13_2
$30_{13} = \chi_{9,1}$	$\varphi_{8,0} =$	15_1
$30_{14} = \chi_{10,0}$	1	.	.	.	.	$\varphi_{8,1} =$	15_2
$30_{15} = \chi_{10,1}$	$\varphi_{9,0} =$	17_1
$32_1 = \chi_{12,0}$	$\varphi_{9,1} =$	17_2
$32_2 = \chi_{12,1}$	$\varphi_{10,0} =$	19_1
$32_3 = \chi_{13,0}$	$\varphi_{10,1} =$	19_2
$32_4 = \chi_{13,1}$	1	.	.	.	.	$\varphi_{11,0} =$	21_1
$32_5 = \chi_{14,0}$	$\varphi_{11,1} =$	21_2
$32_6 = \chi_{14,1}$	$\varphi_{12,0} =$	23_1
$32_7 = \chi_{15,0}$.	.	1	.	.	$\varphi_{12,1} =$	23_2
$32_8 = \chi_{15,1}$.	1	.	.	.	$\varphi_{13,0} =$	25_1
$32_9 = \chi_{16,0}$.	.	.	1	.	$\varphi_{13,1} =$	25_2
$32_{10} = \chi_{16,1}$	1	$\varphi_{14,0} =$	27_1
$32_{11} = \chi_{17,0}$	$\varphi_{14,1} =$	27_2
$32_{12} = \chi_{17,1}$	$\varphi_{15,0} =$	29_1
$32_{13} = \chi_{18,0}$	$\varphi_{15,1} =$	29_2
$32_{14} = \chi_{18,1}$		

Block 4:	$\varphi_{17,0}$	$\varphi_{17,1}$	$\varphi_{18,0}$	$\varphi_{18,1}$	$\varphi_{19,0}$	$\varphi_{19,1}$	$\varphi_{20,0}$	$\varphi_{20,1}$	$\varphi_{21,0}$	$\varphi_{21,1}$	$\varphi_{22,0}$
$32_{15} = \chi_{19,+}$
$30_{16} = \chi_{21,0}$
$30_{17} = \chi_{21,1}$
$30_{18} = \chi_{22,0}$	1	.	.
$30_{19} = \chi_{22,1}$	1	.
$30_{20} = \chi_{23,0}$	1	.	.	.	.	.
$30_{21} = \chi_{23,1}$	1	.	.	.	.	.	.
$30_{22} = \chi_{24,0}$	1
$30_{23} = \chi_{24,1}$
$30_{24} = \chi_{25,0}$
$30_{25} = \chi_{25,1}$
$30_{26} = \chi_{26,0}$.	.	.	1	.	.	.	.	.	.	.
$30_{27} = \chi_{26,1}$.	.	1	.	.	.	.	.	.	.	.
$30_{28} = \chi_{27,0}$	1	.	.	.	.
$30_{29} = \chi_{27,1}$	1	.	.	.
$30_{30} = \chi_{28,0}$	1	.	.	.	.	.	.	.	.	.	.
$30_{31} = \chi_{28,1}$.	1	.	.	.	.	.	.	.	.	.
$32_{16} = \chi_{29,0}$	1	.	.	.	.	.
$32_{17} = \chi_{29,1}$	1	.	.	.	.	.	.
$32_{18} = \chi_{30,0}$	1	.	.
$32_{19} = \chi_{30,1}$	1	.
$32_{20} = \chi_{31,0}$.	.	.	1	.	.	.	.	.	.	.
$32_{21} = \chi_{31,1}$.	.	1	.	.	.	.	.	.	.	.
$32_{22} = \chi_{32,0}$	1
$32_{23} = \chi_{32,1}$
$32_{24} = \chi_{33,0}$
$32_{25} = \chi_{33,1}$
$32_{26} = \chi_{34,0}$	1	.	.	.	.	.	.	.	.	.	.
$32_{27} = \chi_{34,1}$.	1	.	.	.	.	.	.	.	.	.
$32_{28} = \chi_{35,0}$	1	.	.	.
$32_{29} = \chi_{35,1}$	1	.	.	.	.

(Block 4:)	$\varphi_{28,0}$	$\varphi_{28,1}$	$\varphi_{29,0}$	$\varphi_{29,1}$	$\varphi_{30,0}$	$\varphi_{30,1}$	$\varphi_{31,0}$	$\varphi_{31,1}$
$32_{15} = \chi_{19+}$
$30_{16} = \chi_{21,0}$	1	.
$30_{17} = \chi_{21,1}$	1
$30_{18} = \chi_{22,0}$
$30_{19} = \chi_{22,1}$
$30_{20} = \chi_{23,0}$	1	.	.	.	.	.	.	.
$30_{21} = \chi_{23,1}$.	1	.	.	.	.	.	.
$30_{22} = \chi_{24,0}$
$30_{23} = \chi_{24,1}$
$30_{24} = \chi_{25,0}$
$30_{25} = \chi_{25,1}$
$30_{26} = \chi_{26,0}$.	.	1	.	.	.	.	.
$30_{27} = \chi_{26,1}$.	.	.	1	.	.	.	.
$30_{28} = \chi_{27,0}$
$30_{29} = \chi_{27,1}$
$30_{30} = \chi_{28,0}$	1	.	.
$30_{31} = \chi_{28,1}$	1	.	.	.
$32_{16} = \chi_{29,0}$.	.	1	.	.	.	.	.
$32_{17} = \chi_{29,1}$.	.	.	1	.	.	.	.
$32_{18} = \chi_{30,0}$
$32_{19} = \chi_{30,1}$
$32_{20} = \chi_{31,0}$	1	.	.	.
$32_{21} = \chi_{31,1}$	1	.	.
$32_{22} = \chi_{32,0}$
$32_{23} = \chi_{32,1}$
$32_{24} = \chi_{33,0}$
$32_{25} = \chi_{33,1}$
$32_{26} = \chi_{34,0}$	1
$32_{27} = \chi_{34,1}$	1	.
$32_{28} = \chi_{35,0}$	1	.	.	.	.	.	.	.
$32_{29} = \chi_{35,1}$.	1	.	.	.	.	.	.

$$\begin{array}{ll} \varphi_{17,0} = 2_1 & \varphi_{24,1} = 16_2 \\ \varphi_{17,1} = 2_2 & \varphi_{25,0} = 18_1 \\ \varphi_{18,0} = 4_1 & \varphi_{25,1} = 18_2 \\ \varphi_{18,1} = 4_2 & \varphi_{26,0} = 20_1 \\ \varphi_{19,0} = 6_1 & \varphi_{26,1} = 20_2 \\ \varphi_{19,1} = 6_2 & \varphi_{27,0} = 22_1 \\ \varphi_{20,0} = 8_1 & \varphi_{27,1} = 22_2 \\ \varphi_{20,1} = 8_2 & \varphi_{28,0} = 24_1 \\ \varphi_{21,0} = 10_1 & \varphi_{28,1} = 24_2 \\ \varphi_{21,1} = 10_2 & \varphi_{29,0} = 26_1 \\ \varphi_{22,0} = 12_1 & \varphi_{29,1} = 26_2 \\ \varphi_{22,1} = 12_2 & \varphi_{30,0} = 28_1 \\ \varphi_{23,0} = 14_1 & \varphi_{30,1} = 28_2 \\ \varphi_{23,1} = 14_2 & \varphi_{31,0} = 30_1 \\ \varphi_{24,0} = 16_1 & \varphi_{31,1} = 30_2 \end{array}$$