

The group G is isomorphic to the group labelled by [48, 28] in the Small Groups library.
 Ordinary character table of $G \cong C_2 \cdot S_4 = \text{SL}(2,3) \cdot C_2$:

	1a	2a	4a	3a	6a	4b	8a	8b
χ_1	1	1	1	1	1	1	1	1
χ_2	1	1	1	1	1	-1	-1	-1
χ_3	2	2	2	-1	-1	0	0	0
χ_4	3	3	-1	0	0	-1	1	1
χ_5	3	3	-1	0	0	1	-1	-1
χ_6	2	-2	0	-1	1	0	$E(8) - E(8)^3$	$-E(8) + E(8)^3$
χ_7	2	-2	0	-1	1	0	$-E(8) + E(8)^3$	$E(8) - E(8)^3$
χ_8	4	-4	0	1	-1	0	0	0

Trivial source character table of $G \cong C_2 \cdot S_4 = \text{SL}(2,3) \cdot C_2$ at $p = 3$:								
Normalisers N_i	N_1				N_2			
	P_1		P_2		P_1		P_2	
Representatives $n_j \in N_i$	1a	4b	4a	2a	8a	8b	1a	4a
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	3	-1	3	3	-1	-1	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	3	1	3	3	1	1	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	3	-1	-1	3	1	1	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	3	1	-1	3	-1	-1	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 1 \cdot \chi_8$	6	0	0	-6	$E(8) - E(8)^3$	$E(8) - E(8)^3$	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	6	0	0	-6	$E(8) - E(8)^3$	$-E(8) + E(8)^3$	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	1	1	1	1	1	1	1	1
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	1	-1	1	1	-1	-1	1	-1
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	4	0	0	-4	0	0	1	$E(4)$
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	4	0	0	-4	0	0	1	$-E(4)$

$$P_1 = \text{Group}([()]) \cong 1$$

$$P_2 = \text{Group}([(1, 11, 3)(2, 18, 7)(4, 47, 30)(5, 40, 28)(6, 27, 14)(8, 48, 37)(9, 44, 35)(10, 34, 21)(12, 31, 41)(13, 16, 39)(15, 26, 29)(17, 25, 42)(19, 38, 45)(20, 23, 43)(22, 33, 36)(24, 32, 46)]) \cong C_3$$

$$N_1 = \text{Group}([(1, 2, 6, 10)(3, 18, 14, 34)(4, 9, 16, 24)(5, 8, 17, 23)(7, 27, 21, 11)(12, 33, 29, 45)(13, 32, 30, 44)(15, 38, 31, 22)(19, 41, 36, 26)(20, 40, 37, 25)(28, 48, 42, 43)(1, 3, 11)(2, 7, 18)(4, 30, 47)(5, 28, 40)(6, 14, 27)(8, 37, 48)(9, 35, 44)(10, 21, 34)(12, 41, 31)(13, 39, 16)(15, 29, 26)(17, 42, 25)(19, 45, 38)(20, 43, 23)(22, 36, 33)(24, 46, 32), (1, 4, 6, 16)(2, 8, 10, 23)(3, 12, 14, 29)(5, 31, 17, 15)(7, 19, 21, 36)(9, 38, 24, 22)(11, 25, 27, 40)(13, 42, 30, 28)(18, 32, 34, 44)(20, 46, 37, 35)(26, 39, 40, 47)(32, 43, 44, 48)(1, 6)(2, 10)(3, 14)(4, 16, 17)(5, 17)(7, 21, 11)(8, 23, 27, 41)(9, 24, 30, 47)(10, 25, 31, 48)(11, 26, 32, 49)(12, 28, 34, 50)(13, 29, 35, 51)(14, 30, 36, 52)(15, 31, 37, 53)(16, 32, 38, 54)(17, 33, 39, 55)(18, 34, 40, 56)(19, 35, 41, 57)(20, 36, 42, 58)(21, 37, 43, 59)(22, 38, 44, 60)(23, 39, 45, 61)(24, 40, 46, 62)(25, 41, 47, 63)(26, 42, 48, 64)(27, 43, 49, 65)(28, 44, 50, 66)(29, 45, 51, 67)(30, 46, 52, 68)(31, 47, 53, 69)(32, 48, 54, 70)(33, 49, 55, 71)(34, 50, 56, 72)(35, 51, 57, 73)(36, 52, 58, 74)(37, 53, 59, 75)(38, 54, 60, 76)(39, 55, 61, 77)(40, 56, 62, 78)(41, 57, 63, 79)(42, 58, 64, 80)(43, 59, 65, 81)(44, 60, 66, 82)(45, 61, 67, 83)(46, 62, 68, 84)(47, 63, 69, 85)(48, 64, 70, 86)(49, 65, 71, 87)(50, 66, 72, 88)(51, 67, 73, 89)(52, 68, 74, 90)(53, 69, 75, 91)(54, 70, 76, 92)(55, 71, 77, 93)(56, 72, 78, 94)(57, 73, 79, 95)(58, 74, 80, 96)(59, 75, 81, 97)(60, 76, 82, 98)(61, 77, 83, 99)(62, 78, 84, 100)(63, 79, 85, 101)(64, 80, 86, 102)(65, 81, 87, 103)(66, 82, 88, 104)(67, 83, 89, 105)(68, 84, 90, 106)(69, 85, 91, 107)(70, 86, 92, 108)(71, 87, 93, 109)(72, 88, 94, 110)(73, 89, 95, 111)(74, 90, 96, 112)(75, 91, 97, 113)(76, 92, 98, 114)(77, 93, 99, 115)(78, 94, 100, 116)(79, 95, 101, 117)(80, 96, 102, 118)(81, 97, 103, 119)(82, 98, 104, 120)(83, 99, 105, 121)(84, 100, 106, 122)(85, 101, 107, 123)(86, 102, 108, 124)(87, 103, 109, 125)(88, 104, 110, 126)(89, 105, 111, 127)(90, 106, 112, 128)(91, 107, 113, 129)(92, 108, 114, 130)(93, 109, 115, 131)(94, 110, 116, 132)(95, 111, 117, 133)(96, 112, 118, 134)(97, 113, 119, 135)(98, 114, 120, 136)(99, 115, 121, 137)(100, 116, 122, 138)] \cong C_3$$

$$N_2 = \text{Group}([(1, 11, 3)(2, 18, 7)(4, 47, 30)(5, 40, 28)(6, 27, 14)(8, 48, 37)(9, 44, 35)(10, 34, 21)(12, 31, 41)(13, 16, 39)(15, 26, 29)(17, 25, 42)(19, 38, 45)(20, 23, 43)(22, 33, 36)(24, 32, 46)], [(1, 2, 6, 10)(3, 18, 14, 34)(4, 9, 16, 24)(5, 8, 17, 23)(7, 27, 21, 11)(12, 33, 29, 45)(13, 32, 30, 44)(15, 38, 31, 22)(19, 41, 36, 26)(20, 40, 37, 25)(28, 48, 42, 43)(1, 3, 11)(2, 7, 18)(4, 30, 47)(5, 28, 40)(6, 14, 27)(8, 37, 48)(9, 35, 44)(10, 21, 34)(12, 41, 31)(13, 39, 16)(15, 29, 26)(17, 42, 25)(19, 45, 38)(20, 43, 23)(22, 36, 33)(24, 46, 32), (1, 4, 6, 16)(2, 8, 10, 23)(3, 12, 14, 29)(5, 31, 17, 15)(7, 19, 21, 36)(9, 38, 24, 22)(11, 25, 27, 40)(13, 42, 30, 28)(18, 32, 34, 44)(20, 46, 37, 35)(26, 39, 40, 47)(32, 43, 44, 48)(1, 6)(2, 10)(3, 14)(4, 16, 17)(5, 17)(7, 21, 11)(8, 23, 27, 41)(9, 24, 30, 47)(10, 25, 31, 48)(11, 26, 32, 49)(12, 28, 34, 50)(13, 29, 35, 51)(14, 30, 36, 52)(15, 31, 37, 53)(16, 32, 38, 54)(17, 33, 39, 55)(18, 34, 40, 56)(19, 35, 41, 57)(20, 36, 42, 58)(21, 37, 43, 59)(22, 38, 44, 60)(23, 39, 45, 61)(24, 40, 46, 62)(25, 41, 47, 63)(26, 42, 48, 64)(27, 43, 49, 65)(28, 44, 50, 66)(29, 45, 51, 67)(30, 46, 52, 68)(31, 47, 53, 69)(32, 48, 54, 70)(33, 49, 55, 71)(34, 50, 56, 72)(35, 51, 57, 73)(36, 52, 58, 74)(37, 53, 59, 75)(38, 54, 60, 76)(39, 55, 61, 77)(40, 56, 62, 78)(41, 57, 63, 79)(42, 58, 64, 80)(43, 59, 65, 81)(44, 60, 66, 82)(45, 61, 67, 83)(46, 62, 68, 84)(47, 63, 69, 85)(48, 64, 70, 86)(49, 65, 71, 87)(50, 66, 72, 88)(51, 67, 73, 89)(52, 68, 74, 90)(53, 69, 75, 91)(54, 70, 76, 92)(55, 71, 77, 93)(56, 72, 78, 94)(57, 73, 79, 95)(58, 74, 80, 96)(59, 75, 81, 97)(60, 76, 82, 98)(61, 77, 83, 99)(62, 78, 84, 100)(63, 79, 85, 101)(64, 80, 86, 102)(65, 81, 87, 103)(66, 82, 88, 104)(67, 83, 89, 105)(68, 84, 90, 106)(69, 85, 91, 107)(70, 86, 92, 108)(71, 87, 93, 109)(72, 88, 94, 110)(73, 89, 95, 111)(74, 90, 96, 112)(75, 91, 97, 113)(76, 92, 98, 114)(77, 93, 99, 115)(78, 94, 100, 116)(79, 95, 101, 117)(80, 96, 102, 118)(81, 97, 103, 119)(82, 98, 104, 120)(83, 99, 105, 121)(84, 100, 106, 122)(85, 101, 107, 123)(86, 102, 108, 124)(87, 103, 109, 125)(88, 104, 110, 126)(89, 105, 111, 127)(90, 106, 112, 128)(91, 107, 113, 129)(92, 108, 114, 130)(93, 109, 115, 131)(94, 110, 116, 132)(95, 111, 117, 133)(96, 112, 118, 134)(97, 113, 119, 135)(98, 114, 120, 136)(99, 115, 121, 137)(100, 116, 122, 138)] \cong C_3 : C_4$$