

The group G is isomorphic to the group labelled by [120, 5] in the Small Groups library.

Ordinary character table of $G \cong \text{SL}(2,5)$:

	1a	2a	4a	3a	6a	5a	10a	5b	10b
χ_1	1	1	1	1	1	1	1	1	1
χ_2	3	3	-1	0	0	$-E(5) - E(5)^4$	$-E(5) - E(5)^4$	$-E(5)^2 - E(5)^3$	$-E(5)^2 - E(5)^3$
χ_3	3	3	-1	0	0	$-E(5)^2 - E(5)^3$	$-E(5)^2 - E(5)^3$	$-E(5) - E(5)^4$	$-E(5) - E(5)^4$
χ_4	4	4	0	1	1	-1	-1	-1	-1
χ_5	5	5	1	-1	-1	0	0	0	0
χ_6	2	-2	0	-1	1	$E(5) + E(5)^4$	$-E(5) - E(5)^4$	$E(5)^2 + E(5)^3$	$-E(5)^2 - E(5)^3$
χ_7	2	-2	0	-1	1	$E(5)^2 + E(5)^3$	$-E(5)^2 - E(5)^3$	$E(5) + E(5)^4$	$-E(5) - E(5)^4$
χ_8	4	-4	0	1	-1	-1	1	-1	1
χ_9	6	-6	0	0	0	1	-1	1	-1

Trivial source character table of $G \cong \text{SL}(2,5)$ at $p = 2$:

Normalisers N_i	N_1				N_2				N_3	N_4		
p -subgroups of G up to conjugacy in G	P_1				P_2				P_3	P_4		
Representatives $n_j \in N_i$	1a	5a	5b	3a	1a	5a	5b	3a	1a	1a	3a	3b
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 2 \cdot \chi_9$	24	4	4	0	0	0	0	0	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9$	16	$-2 * E(5)^2 - 2 * E(5)^3$	$-2 * E(5) - 2 * E(5)^4$	-2	0	0	0	0	0	0	0	0
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8 + 1 \cdot \chi_9$	16	$-2 * E(5) - 2 * E(5)^4$	$-2 * E(5)^2 - 2 * E(5)^3$	-2	0	0	0	0	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8 + 0 \cdot \chi_9$	8	-2	-2	2	0	0	0	0	0	0	0	0
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	12	2	2	0	12	2	2	0	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	8	$-E(5)^2 - E(5)^3$	$-E(5) - E(5)^4$	-1	8	$-E(5)^2 - E(5)^3$	$-E(5) - E(5)^4$	-1	0	0	0	0
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	8	$-E(5) - E(5)^4$	$-E(5)^2 - E(5)^3$	-1	8	$-E(5) - E(5)^4$	$-E(5)^2 - E(5)^3$	-1	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	4	-1	-1	1	4	-1	-1	1	0	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	6	1	1	0	6	1	1	0	2	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	1	1	1	1	1	1	1	1	1	1	1	1
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	5	0	0	-1	5	0	0	-1	1	1	$E(3)$	$E(3)^2$
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8 + 0 \cdot \chi_9$	5	0	0	-1	5	0	0	-1	1	1	$E(3)^2$	$E(3)$

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

$$P_2 = \text{Group}([(1, 5)(2, 4)(3, 8)(6, 7)(9, 11)(10, 12)(13, 14)(15, 16)(17, 18)(19, 20)(21, 23)(22, 24)]) \cong \text{C2}$$

$$P_3 = \text{Group}([(1, 5)(2, 4)(3, 8)(6, 7)(9, 11)(10, 12)(13, 14)(15, 16)(17, 18)(19, 20)(21, 23)(22, 24), (1, 24, 5, 22)(2, 17, 4, 18)(3, 10, 8, 12)(6, 23, 7, 21)(9, 14, 11, 13)(15, 20, 16, 19)]) \cong \text{C4}$$

$$P_4 = \text{Group}([(1, 5)(2, 4)(3, 8)(6, 7)(9, 11)(10, 12)(13, 14)(15, 16)(17, 18)(19, 20)(21, 23)(22, 24), (1, 24, 5, 22)(2, 17, 4, 18)(3, 10, 8, 12)(6, 23, 7, 21)(9, 14, 11, 13)(15, 20, 16, 19), (1, 11, 5, 9)(2, 21, 4, 23)(3, 15, 8, 16)(6, 17, 7, 18)(10, 19, 12, 20)(13, 24, 14, 22)]) \cong \text{Q8}$$

$$N_1 = \text{Group}([(1, 2, 5, 4)(3, 6, 8, 7)(9, 13, 11, 14)(10, 15, 12, 16)(17, 19, 18, 20)(21, 24, 23, 22), (1, 3, 2)(4, 5, 8)(6, 9, 10)(7, 11, 12)(13, 16, 17)(14, 15, 18)(19, 21, 22)(20, 23, 24)]) \cong \text{SL}(2,5)$$

$$N_2 = \text{Group}([(1, 2, 5, 4)(3, 6, 8, 7)(9, 13, 11, 14)(10, 15, 12, 16)(17, 19, 18, 20)(21, 24, 23, 22), (1, 3, 2)(4, 5, 8)(6, 9, 10)(7, 11, 12)(13, 16, 17)(14, 15, 18)(19, 21, 22)(20, 23, 24)]) \cong \text{SL}(2,5)$$

$$N_3 = \text{Group}([(1, 24, 5, 22)(2, 17, 4, 18)(3, 10, 8, 12)(6, 23, 7, 21)(9, 14, 11, 13)(15, 20, 16, 19), (1, 5)(2, 4)(3, 8)(6, 7)(9, 11)(10, 12)(13, 14)(15, 16)(17, 18)(19, 20)(21, 23)(22, 24), (1, 9, 5, 11)(2, 23, 4, 21)(3, 16, 8, 15)(6, 18, 7, 17)(10, 20, 12, 19)(13, 22, 14, 24)]) \cong \text{Q8}$$

$$N_4 = \text{Group}([(1, 11, 5, 9)(2, 21, 4, 23)(3, 15, 8, 16)(6, 17, 7, 18)(10, 19, 12, 20)(13, 24, 14, 22), (1, 24, 5, 22)(2, 17, 4, 18)(3, 10, 8, 12)(6, 23, 7, 21)(9, 14, 11, 13)(15, 20, 16, 19), (1, 5)(2, 4)(3, 8)(6, 7)(9, 11)(10, 12)(13, 14)(15, 16)(17, 18)(19, 20)(21, 23)(22, 24), (1, 2, 3)(4, 8, 5)(6, 10, 9)(7, 12, 11)(13, 17, 16)(14, 18, 15)(19, 22, 21)(20, 24, 23)]) \cong \text{SL}(2,3)$$