

The group G is isomorphic to the group labelled by [168, 42] in the Small Groups library.
 Ordinary character table of $G \cong \text{PSL}(3,2)$:

	1a	2a	4a	3a	7a	7b
χ_1	1	1	1	1	1	1
χ_2	3	-1	1	0	$E(7)^3 + E(7)^5 + E(7)^6$	$E(7) + E(7)^2 + E(7)^4$
χ_3	3	-1	1	0	$E(7) + E(7)^2 + E(7)^4$	$E(7)^3 + E(7)^5 + E(7)^6$
χ_4	6	2	0	0	-1	-1
χ_5	7	-1	-1	1	0	0
χ_6	8	0	0	-1	1	1

Trivial source character table of $G \cong \text{PSL}(3,2)$ at $p = 7$:

Normalisers N_i	N_1				N_2		
p -subgroups of G up to conjugacy in G	P_1				P_2		
Representatives $n_j \in N_i$	1a	2a	4a	3a	1a	3b	3a
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6$	7	3	1	1	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6$	7	-1	-1	1	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6$	14	2	0	-1	0	0	0
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6$	14	-2	2	-1	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6$	1	1	1	1	1	1	1
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6$	8	0	0	-1	1	$E(3)$	$E(3)^2$
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6$	8	0	0	-1	1	$E(3)^2$	$E(3)$

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

$$P_2 = \text{Group}([(1, 7, 2, 3, 4, 6, 5)]) \cong \text{C}7$$

$$N_1 = \text{Group}([(2, 4)(3, 5), (1, 2, 3)(5, 6, 7)]) \cong \text{PSL}(3, 2)$$

$$N_2 = \text{Group}([(1, 7, 2, 3, 4, 6, 5), (2, 7, 4)(3, 6, 5)]) \cong \text{C}7 : \text{C}3$$