The group G is isomorphic to the group labelled by [20, 4] in the Small Groups library.
Ordinary character table of $G \cong D20$:

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

Trivial source character table of $G \cong D20$ at $p = 5$:

Normalisers N_i	N_1				N_2			
p-subgroups of G up to conjugacy in G	P_1				P_2			
Representatives $n_j \ \in N_i$	$1a$	$2b$	$2a$	$2c$	$1a$	$2b$	$2a$	$2c$
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	5	1	5	1	0	0	0	0
$0 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	5	-1	5	-1	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8$	5	1	-5	-1	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8$	5	-1	-5	1	0	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	1	1	1	1	1	1	1	1
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	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
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	1	-1	-1	1	1	-1	-1	1

$P_1 = Group([()]) \cong 1$
$P_2 = Group([(1, 4, 8, 12, 16)(2, 6, 10, 14, 18)(3, 7, 11, 15, 19)(5, 9, 13, 17, 20)]) \cong C5$

$N_1 = Group([(1, 2)(3, 5)(4, 18)(6, 16)(7, 20)(8, 14)(9, 19)(10, 12)(11, 17)(13, 15), (1, 3)(2, 5)(4, 7)(6, 9)(8, 11)(10, 13)(12, 15)(14, 17)(16, 19)(18, 20), (1, 4, 8, 12, 16)(2, 6, 10, 14, 18)(3, 7, 11, 15, 19)(5, 9, 13, 17, 20)]) \cong D20$
$N_2 = Group([(1, 4, 8, 12, 16)(2, 6, 10, 14, 18)(3, 7, 11, 15, 19)(5, 9, 13, 17, 20), (1, 2)(3, 5)(4, 18)(6, 16)(7, 20)(8, 14)(9, 19)(10, 12)(11, 17)(13, 15), (1, 3)(2, 5)(4, 7)(6, 9)(8, 11)(10, 13)(12, 15)(14, 17)(16, 19)(18, 20)]) \cong D20$