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 $p = 2$:

Normalisers N_i	N_1			N_2			N_3	N_4	N_5
p-subgroups of G up to conjugacy in G	P_1			P_2			P_3	P_4	P_5
Representatives $n_j \in N_i$	$1a$	$5b$	$5a$	$1a$	$5b$	$5a$	$1a$	$1a$	$1a$
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 1 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	4	4	4	0	0	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 1 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	4	$2 * E(5)^2 + 2 * E(5)^3$	$2 * E(5) + 2 * E(5)^4$	0	0	0	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 1 \cdot \chi_7 + 0 \cdot \chi_8$	4	$2 * E(5) + 2 * E(5)^4$	$2 * E(5)^2 + 2 * E(5)^3$	0	0	0	0	0	0
$1 \cdot \chi_1 + 1 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	2	2	2	2	2	2	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 1 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	2	$E(5) + E(5)^4$	$E(5)^2 + E(5)^3$	2	$E(5) + E(5)^4$	$E(5)^2 + E(5)^3$	0	0	0
$0 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 1 \cdot \chi_8$	2	$E(5)^2 + E(5)^3$	$E(5) + E(5)^4$	2	$E(5)^2 + E(5)^3$	$E(5) + E(5)^4$	0	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 1 \cdot \chi_3 + 0 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	2	2	2	0	0	0	2	0	0
$1 \cdot \chi_1 + 0 \cdot \chi_2 + 0 \cdot \chi_3 + 1 \cdot \chi_4 + 0 \cdot \chi_5 + 0 \cdot \chi_6 + 0 \cdot \chi_7 + 0 \cdot \chi_8$	2	2	2	0	0	0	0	2	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	1

$P_1 = Group([()]) \cong 1$
$P_2 = Group([(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20)]) \cong$ C2
$P_3 = Group([(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15)]) \cong$ C2
$P_4 = Group([(1,5)(2,3)(4,20)(6,19)(7,18)(8,17)(9,16)(10,15)(11,14)(12,13)]) \cong$ C2
$P_5 = Group([(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20),(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15)]) \cong$ C2 x C2

$N_1 = Group([(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15),(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20),(1,4,8,12,16)(2,6,10,14,18)(3,7,11,15,19)(5,9,13,17,20)]) \cong$ D20
$N_2 = Group([(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15),(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20),(1,4,8,12,16)(2,6,10,14,18)(3,7,11,15,19)(5,9,13,17,20)]) \cong$ D20
$N_3 = Group([(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15),(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20)]) \cong$ C2 x C2
$N_4 = Group([(1,5)(2,3)(4,20)(6,19)(7,18)(8,17)(9,16)(10,15)(11,14)(12,13),(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15),(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20)]) \cong$ C2 x C2
$N_5 = Group([(1,2)(3,5)(4,18)(6,16)(7,20)(8,14)(9,19)(10,12)(11,17)(13,15),(1,3)(2,5)(4,7)(6,9)(8,11)(10,13)(12,15)(14,17)(16,19)(18,20)]) \cong$ C2 x C2