The group G is isomorphic to the group labelled by [16, 8] in the Small Groups library.
Ordinary character table of $G \cong$ QD16:

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

Trivial source character table of $G \cong$ QD16 at $p = 2$:

Normalisers N_i	N_1	N_2	N_3	N_4	N_5	N_6	N_7	N_8	N_9	N_{10}
p-subgroups of G up to conjugacy in G	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}
Representatives $n_j \in N_i$	$1a$	$1a$	$1a$	$1a$	$1a$	$1a$	$1a$	$1a$	$1a$	$1a$
$1\cdot\chi_1+1\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+2\cdot\chi_5+2\cdot\chi_6+2\cdot\chi_7$	16	0	0	0	0	0	0	0	0	0
$1\cdot\chi_1+1\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+2\cdot\chi_7$	8	8	0	0	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+1\cdot\chi_5+1\cdot\chi_6+1\cdot\chi_7$	8	0	2	0	0	0	0	0	0	0
$1\cdot\chi_1+1\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7$	4	4	0	4	0	0	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+1\cdot\chi_7$	4	4	2	0	2	0	0	0	0	0
$0\cdot\chi_1+1\cdot\chi_2+0\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+1\cdot\chi_7$	4	4	0	0	0	2	0	0	0	0
$0\cdot\chi_1+0\cdot\chi_2+1\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7$	2	2	2	2	2	0	2	0	0	0
$0\cdot\chi_1+1\cdot\chi_2+0\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7$	2	2	0	2	0	2	0	2	0	0
$1\cdot\chi_1+0\cdot\chi_2+0\cdot\chi_3+1\cdot\chi_4+0\cdot\chi_5+0\cdot\chi_6+0\cdot\chi_7$	2	2	0	2	0	0	0	0	2	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	1	1	1	1	1	1	1	1	1

$P_1 = Group([()]) \cong 1$
$P_2 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16)]) \cong$ C2
$P_3 = Group([(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14)]) \cong$ C2
$P_4 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16)]) \cong$ C4
$P_5 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14)]) \cong$ C2 x C2
$P_6 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9)]) \cong$ C4
$P_7 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14)]) \cong$ D8
$P_8 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9)]) \cong$ Q8
$P_9 = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,12,11,6,5,16,4,13)(2,15,14,10,8,9,7,3)]) \cong$ C8
$P_{10} = Group([(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9)]) \cong$ QD16

$N_1 = Group([(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16)]) \cong$ QD16
$N_2 = Group([(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16)]) \cong$ QD16
$N_3 = Group([(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16)]) \cong$ C2 x C2
$N_4 = Group([(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14)]) \cong$ QD16
$N_5 = Group([(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16)]) \cong$ D8
$N_6 = Group([(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16)]) \cong$ Q8
$N_7 = Group([(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9)]) \cong$ QD16
$N_8 = Group([(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14)]) \cong$ QD16
$N_9 = Group([(1,12,11,6,5,16,4,13)(2,15,14,10,8,9,7,3),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16),(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9)]) \cong$ QD16
$N_{10} = Group([(1,2,5,8)(3,12,10,16)(4,14,11,7)(6,15,13,9),(1,3)(2,6)(4,15)(5,10)(7,16)(8,13)(9,11)(12,14),(1,4,5,11)(2,7,8,14)(3,9,10,15)(6,12,13,16),(1,5)(2,8)(3,10)(4,11)(6,13)(7,14)(9,15)(12,16)]) \cong$ QD16