The group G is isomorphic to the group labelled by $[32, 23]$ in the Small Groups library.
Ordinary character table of $G \cong C2 \times (C4 : C4)$:

	1a	4a	4b	2a	2b	2c	4c	4d	4e	4f	4g	2d	2e	2f	4h	4i	4j	4k	2g	4l
χ_1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
χ_2	1	-1	1	1	1	1	1	1	-1	-1	-1	1	1	1	-1	1	1	1	-1	-1
χ_3	1	-1	-1	1	1	1	1	-1	-1	-1	-1	1	1	1	1	-1	-1	-1	1	1
χ_4	1	-1	1	1	1	1	-1	-1	-1	-1	-1	1	1	1	-1	1	-1	-1	-1	-1
χ_5	1	-1	1	1	1	1	-1	1	-1	-1	-1	1	1	1	1	-1	-1	-1	1	-1
χ_6	1	1	-1	1	1	1	-1	-1	1	1	1	1	1	1	-1	-1	1	1	-1	-1
χ_7	1	1	1	1	1	1	-1	-1	1	1	1	1	1	1	1	-1	-1	-1	-1	1
χ_8	1	1	-1	1	1	1	1	-1	1	1	1	1	1	1	-1	-1	-1	-1	1	1
χ_9	1	$-E(4)$	-1	-1	1	-1	$E(4)$	$E(4)$	$E(4)$	1	1	-1	-1	1	$-E(4)$	$-E(4)$	$-E(4)$	-1	1	$E(4)$
χ_{10}	1	$E(4)$	-1	-1	1	-1	$-E(4)$	$-E(4)$	$-E(4)$	1	1	-1	-1	1	$E(4)$	$E(4)$	$E(4)$	-1	1	$-E(4)$
χ_{11}	1	$-E(4)$	-1	-1	1	-1	$E(4)$	$-E(4)$	$E(4)$	-1	1	-1	1	-1	$E(4)$	$-E(4)$	$E(4)$	1	-1	$-E(4)$
χ_{12}	1	$E(4)$	-1	1	1	1	$-E(4)$	$E(4)$	$-E(4)$	-1	-1	1	-1	-1	$E(4)$	$-E(4)$	$E(4)$	1	-1	$-E(4)$
χ_{13}	1	$-E(4)$	1	-1	1	-1	$-E(4)$	$E(4)$	$E(4)$	-1	-1	1	-1	-1	$E(4)$	$E(4)$	$-E(4)$	1	-1	$-E(4)$
χ_{14}	1	$E(4)$	1	-1	1	-1	$E(4)$	$-E(4)$	$-E(4)$	-1	-1	1	-1	-1	$-E(4)$	$-E(4)$	$E(4)$	1	1	$E(4)$
χ_{15}	1	$-E(4)$	1	1	1	1	$-E(4)$	$-E(4)$	$E(4)$	-1	1	-1	-1	-1	$E(4)$	$-E(4)$	$E(4)$	1	-1	$E(4)$
χ_{16}	1	$-E(4)$	1	1	1	1	$E(4)$	$-E(4)$	$-E(4)$	-1	1	-1	-1	-1	$E(4)$	$-E(4)$	$-E(4)$	-1	-1	$-E(4)$
χ_{17}	2	0	0	-2	-2	0	0	0	0	2	2	2	0	0	0	0	0	0	-2	0
χ_{18}	2	0	0	-2	-2	0	0	0	0	0	0	2	2	2	0	0	0	0	0	0
χ_{19}	2	0	0	2	-2	-2	0	0	0	0	0	-2	-2	-2	0	0	0	0	2	0
χ_{20}	2	0	0	-2	-2	0	0	0	0	0	0	-2	-2	-2	0	0	0	0	2	0

Trivial source character table of $G \cong C2 \times (C4 : C4)$ at $p = 2$:

$P_1 = Group([()]) \cong 1$
$P_2 = Group([(1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2$
$P_3 = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32)]) \cong C2$
$P_4 = Group([(1,16)(2,22)(3,25)(4,26)(5,6)(7,29)(8,30)(9,10)(11,31)(12,13)(14,15)(17,27)(18,28)(19,20)(21,23)(24,27)(28,29)]) \cong C2$
$P_5 = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32)]) \cong C2$
$P_6 = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29)]) \cong C2$
$P_7 = Group([(1,4)(2,20)(3,23)(4,5)(6,26)(7,27)(8,9)(10,30)(11,12)(13,31)(15,16)(17,18)(19,32)(21,22)(24,25)(28,29)]) \cong C2$
$P_8 = Group([(1,26)(2,30)(3,31)(4,16)(5,15)(6,14)(7,32)(8,22)(9,21)(10,20)(11,25)(12,24)(13,23)(17,29)(18,28)(19,27)]) \cong C2$
$P_9 = Group([(1,14)(2,20)(3,23)(4,5)(6,26)(7,27)(8,9)(10,30)(11,12)(13,31)(15,16)(17,18)(19,32)(21,22)(24,25)(28,29), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times C2$
$P_{10} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times C2$
$P_{11} = Group([(1,27,6,32)(2,31,10,23)(3,30,13,9)(4,18,15,29)(5,17,16,28)(7,16)(8,21)(11,14,24,26)(12,25)(19,22)(20,30)]) \cong C2 \times C2$
$P_{12} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times C2$
$P_{13} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32)]) \cong C2 \times C2$
$P_{14} = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29), (1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32)]) \cong C2 \times C2$
$P_{15} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times C2$
$P_{16} = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times C2$
$P_{17} = Group([(1,18,6,29)(2,25,10,12)(3,9,13,22)(4,27,15,32)(5,7,16,19)(8,31,21,11)(20,24,30,14)(17,26,28,23)]) \cong C4$
$P_{18} = Group([(1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4$
$P_{19} = Group([(1,13,5,25)(2,19,9,29)(3,16,12,6)(4,24,14,31)(7,22,18,10)(8,28,20,32)(11,26,23,15)(17,30,27,21)]) \cong C4$
$P_{20} = Group([(1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4$
$P_{21} = Group([(1,11,5,23)(2,17,9,27)(3,14,12,4)(6,16,31)(7,20,18,8)(10,28,22,32)(13,26,25,15)(19,29,21,30)(24,31)]) \cong C4$
$P_{22} = Group([(1,24,5,31)(2,28,9,32)(3,15,12,26)(4,13,14,25)(6,11,16,23)(7,30,18,21)(8,19,20,29)(10,27,22,17)]) \cong C4$
$P_{23} = Group([(1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4$
$P_{24} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 \times C2$
$P_{25} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4 \times C2$
$P_{26} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{27} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{28} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{29} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,27,6,32)(2,31,10,23)(3,30,13,9)(4,18,15,29)(5,17,16,28)(7,16)(8,21)(11,14,24,26)(12,25)(19,22)(20,30)]) \cong C4 \times C2$
$P_{30} = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29), (1,18,6,29)(2,25,10,12)(3,9,13,22)(4,27,15,32)(5,7,16,19)(8,31,21,11)(20,24,30,14)(17,26,28,23)]) \cong C2 \times C2 \times C2$
$P_{31} = Group([(1,14)(2,20)(3,23)(4,5)(6,26)(7,27)(8,9)(10,30)(11,12)(13,31)(15,16)(17,18)(19,32)(21,22)(24,25)(28,29), (1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4 \times C2$
$P_{32} = Group([(1,18,6,29)(2,25,10,12)(3,9,13,22)(4,27,15,32)(5,7,16,19)(8,31,21,11)(20,24,30,14)(17,26,28,23), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C4 \times C2$
$P_{33} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{34} = Group([(1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4 \times C2$
$P_{35} = Group([(1,15)(2,21)(3,24)(4,6)(5,26)(7,28)(8,10)(9,30)(11,13)(12,31)(14,16)(17,19)(18,32)(20,22)(23,25)(27,29), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{36} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2$
$P_{37} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2 \times C2$
$P_{38} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 \times C2$
$P_{39} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32)]) \cong C4 \times C2 \times C2$
$P_{40} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,11,5,23)(2,17,9,27)(3,14,12,4)(6,16,31)(7,20,18,8)(10,28,22,32)(13,26,25,15)(19,29,21,30)(24,31)]) \cong C4 \times C2$
$P_{41} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32), (1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4 \times C2 \times C2$
$P_{42} = Group([(1,8,6,21)(2,15,10,4)(3,27,13,32)(5,20,16,30)(7,31,19,23)(9,26,22,14)(11,18,24,29)(12,17,25,28)]) \cong C4 : C4$
$P_{43} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 : C4$
$P_{44} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 : C4$
$P_{45} = Group([(1,5)(2,9)(3,12)(4,14)(6,16)(7,18)(8,20)(10,22)(11,23)(13,25)(15,26)(17,27)(19,29)(21,30)(24,31)(28,32), (1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 : C4$
$P_{46} = Group([(1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23)]) \cong C4 : C4$

$N_1 = Group([(1,2,6,10)(3,18,13,29)(4,8,15,21)(5,9,16,22)(7,25,19,12)(11,27,24,32)(14,20,26,30)(17,31,28,23), (1,3,5,12)(2,7,9,18)(4,11,14,23)(6,13,16,25)(8,17,20,27)(10,19,22,29)(15,24,26,31)(21,28,30,32), (1,4)(2,8)(3,11)(5,14)(6,15)(7,17)(9,20)(10,21)(12,23)(13,24)(16,26)(18,27)(19,28)(22,30)(25,31)(29,32), (1,6)(2,10)(3,13)(4,15)(5,16)(7,19)(8,21)(9,22)(11,24)(12,25)(14,26)(17,28)(18,29)(20,30)(23,31)(27,32)]) \cong C2 \times (C4 : C4)$