

THE SUBGROUP LATTICE OF $J_3 : 2$

THOMAS CONNOR AND DIMITRI LEEMANS

Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
1	$J_3 : 2$	100465920	1	2, 3 (6156), 5 (17442), 6 (20520), 7 (23256), 9 (25840), 10 (26163), 14 (43605), 55 (293760)	
2	J_3	50232960	1	4 (6156), 11 (29376), 12 (17442), 13 (20520), 15 (23256), 18 (25840), 21 (26163), 24 (43605)	1
3	$L_2(16) : 2 \cdot 2$	16320	6156	4, 31 (17), 65 (68), 94 (120), 104 (136)	1
4	$L_2(16) : 2$	8160	6156	8, 43 (17), 105 (68), 142 (120), 160 (136)	2, 3
5	$2^4 : A_5 : S_3$	5760	17442	12, 22 (3), 25 (5), 31 (6), 39 (10), 53 (16)	1
6	$L_2(17) \times 2$	4896	20520	13, 62 (18), 173 (102), 174 (102), 197 (136), 206 (153)	1
7	$M_{10} : S_3$	4320	23256	16, 15, 17, 23 (3), 44 (10), 104 (36), 113 (45)	1
8	$L_2(16)$	4080	6156	66 (17), 161 (68), 203 (120), 235 (136)	4
9	$3 \times 9 : 3 \cdot S_3 \cdot 2 \cdot 2 : 2$	3888	25840	19, 18, 20, 44 (9)	1
10	$2^{1+4} \cdot (A_5 : 2)$	3840	26163	21, 33 (5), 38 (6), 45 (10), 65 (16)	1
11	$L_2(19)$	3420	29376	85 (20), 162 (57), 163 (57), 260 (171), 264 (190)	2
12	$2^4 : A_5 : 3$	2880	17442	32, 40 (5), 43 (6), 59 (10), 84 (16)	2, 5
13	$L_2(17)$	2448	20520	95 (18), 240 (102), 241 (102), 264 (136), 273 (153)	2, 6

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
14	$2 \times 4 : 2 : 2 : 2 : S_3 : S_3$	2304	43605	25, 26, 24, 33 (3), 34 (3), 91 (16)	1
15	$A_6 : S_3$	2160	23256	27, 35 (3), 67 (10), 160 (36), 175 (45)	2, 7
16	$A_6 : S_3$	2160	23256	27, 36 (3), 53 (12), 68 (10), 91 (30)	7
17	$A_6 \times 3 \cdot 2$	2160	23256	27, 37, 69 (10), 164 (36), 176 (45)	7
18	$3 \times 9 : 3 \cdot S_3 \cdot 2 \cdot 2$	1944	25840	28, 67 (9)	2, 9
19	$3 \times 9 : 3 \cdot S_3 \cdot 2 \cdot 2$	1944	25840	29 (2), 28, 69 (9)	9
20	$3 \times 9 : 3 \cdot S_3 \cdot 2 : 2$	1944	25840	30 (2), 28, 68 (9)	9
21	$2^{1+4} : A_5$	1920	26163	46 (5), 57 (6), 70 (10), 105 (16)	2, 10
22	$2^4 : A_5 : 2$	1920	52326	32, 47 (5), 58 (6), 71 (10), 106 (16), 107 (16)	5
23	$S_6 : 2$	1440	69768	37, 35, 36, 92 (10), 195 (36), 207 (45)	7
24	$2 \times 4 : 2 : 2 : 2 : 3 : S_3$	1152	43605	40, 48, 46 (3), 136 (16)	2, 14
25	$2^4 : 3 : 2 : 2 : S_3$	1152	43605	40, 47 (3), 49 (6), 50 (3), 60 (8)	5 (2), 14
26	$D_8 \times 2 : 2 : 2 : 3 : S_3$	1152	43605	40, 51, 52 (3), 137 (16)	14
27	$A_6 \times 3$	1080	23256	54, 84 (12), 109 (10), 136 (30)	15, 16, 17
28	$3 \times 9 : 3 \cdot S_3 \cdot 2$	972	25840	41, 109 (9)	18, 19, 20
29	$3 \times 9 : 3 \cdot S_3 \cdot 2$	972	51680	41, 110 (9)	19
30	$3 \times 9 : S_3 \cdot S_3$	972	51680	42 (2), 41, 56 (6)	20
31	$2^4 : 5 : 2 \cdot S_3$	960	104652	43, 58 (3), 72 (5), 165 (16)	3, 5
32	$2^4 : A_5$	960	17442	73 (5), 89 (6), 114 (10), 162 (48), 166 (16)	12, 22 (3)
33	$2^{1+4} : 2^2 : S_3$	768	130815	46, 50, 51, 63 (3), 74 (4)	10, 14
34	$D_8 \cdot 2^2 : 2 : 2 : S_3$	768	130815	48, 47, 52, 63 (3), 75 (4)	14
35	$A_6 : 2$	720	69768	54, 138 (10), 260 (36), 273 (45)	15, 23
36	S_6	720	69768	54, 106 (12), 139 (10), 173 (30)	16, 23

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
37	M_{10}	720	23256	54, 140 (10), 261 (36), 274 (45)	17, 23 (3)
38	$2^{1+4} : (D_{10} \cdot 2)$	640	156978	57, 97 (5), 195 (16)	10
39	$2^4 : S_3 : S_3$	576	174420	60, 59, 61, 76 (3), 71 (3), 198 (16)	5
40	$2^4 : 3 : 2 : 2 : 3$	576	43605	77 (2), 78, 73, 93 (8)	12 (2), 24, 25, 26
41	$3 \times 9 : 3 \cdot S_3$	486	25840	64, 86 (12)	28, 29 (2), 30 (2)
42	$3 \times 9 : 3 \cdot S_3$	486	103360	64, 87, 88 (3)	30
43	$2^4 : 5 : 3 : 2$	480	104652	66, 89, 115 (5), 236 (16)	4, 12, 31
44	$M_9 : S_3$	432	232560	67, 68, 69, 92 (3), 177 (9)	7, 9
45	$2^{1+4} : 2 : S_3$	384	261630	70, 79, 80, 81, 74, 82, 83, 98 (3), 113 (4)	10
46	$2^{1+4} : A_4$	384	130815	78, 99, 116 (4)	21, 24, 33
47	$2^3 \cdot 2 : 2 : 2 : S_3$	384	130815	73, 100 (3), 117 (8), 118 (4)	22 (2), 25, 34
48	$2 \times 4 : 2 : 2 : 2 : S_3$	384	43605	73, 99 (3), 119 (12)	24, 34 (3)
49	$2^3 \cdot 2 : 2 : 2 : S_3$	384	261630	77, 76, 72, 100 (3), 120 (4)	25
50	$2 \times 4 : 2 : 2 : 2 : S_3$	384	130815	78, 100 (3), 120 (8), 121 (4)	25, 33
51	$2 \times 4 : 2 : 2 : 2 : S_3$	384	43605	78, 101 (3), 122 (12)	26, 33 (3)
52	$2 \times 4 : 2 : 2 : 2 : 3 : 2$	384	130815	73, 101, 123 (4)	26, 34
53	$A_5 : S_3$	360	279072	84, 106 (3), 141 (5), 165 (6), 198 (10)	5, 16
54	A_6	360	23256	166 (12), 199 (10), 241 (30)	27, 35 (3), 36 (3), 37
55	$19 : 3 \cdot 3 : 2$	342	293760	85, 108, 265 (19)	1
56	$3^2 : S_3 \cdot S_3$	324	310080	87, 86, 88, 111 (3), 112 (3)	30
57	$2^{1+4} : (D_{10})$	320	156978	90, 145 (5), 260 (16)	21, 38
58	$2^4 : 5 : 2 \cdot 2$	320	313956	89, 146 (5), 262 (16)	22, 31
59	$2^4 : 3 : S_3$	288	174420	93, 114, 115 (3), 266 (16)	12, 39
60	$A_4 \times 2 \times 2 : S_3$	288	174420	93, 117 (3), 124 (3), 120 (6), 141 (8)	25 (2), 39
61	$2^4 : 3 : S_3$	288	174420	93, 124, 125 (3), 267 (16)	39
62	$D_{34} \cdot 2 \cdot 2 \times 2$	272	369360	96, 95, 94, 275 (17)	6
63	$2^{1+4} : D_8$	256	392445	101, 97, 102, 99, 98, 103, 100	33, 34

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
64	$3 \times 9 : 3 \cdot 3$	243	25840	134 (4)	41, 42 (4)
65	$A_5 \times 2 \cdot 2$	240	418608	105, 178 (5), 195 (6), 242 (10)	3, 10
66	$2^4 : 5 : 3$	240	104652	135, 179, 303 (16)	8, 43
67	$3 : S_3 \cdot 2 \cdot S_3$	216	232560	109, 138 (3), 243 (9)	15, 18, 44
68	$3 : S_3 \cdot 2 : S_3$	216	232560	112 (2), 109, 139 (3), 244 (9)	16, 20, 44
69	$3^2 : S_3 \cdot 2 \cdot 2$	216	232560	109, 110 (2), 140, 245 (9)	17, 19, 44
70	$2^{1+4} : S_3$	192	261630	116, 126, 127, 145 (3), 175 (4)	21, 45
71	$2 \times 4 : 2 : 2 : S_3$	192	523260	117, 114, 125, 147 (3), 174 (4)	22, 39
72	$2^3 \cdot 2 : 2 \cdot S_3$	192	261630	115, 146 (3), 178 (4)	31 (2), 49
73	$2^3 \cdot 2 : 2 : 2 : 3$	192	43605	148, 180 (8), 181 (12)	32 (2), 40, 47 (3), 48, 52 (3)
74	$2^{1+4} : S_3$	192	261630	121 (2), 128, 122 (2), 129, 116, 149 (3), 182 (4)	33 (2), 45
75	$D_8 \times 2 : 2 : S_3$	192	523260	119, 123, 118, 150 (3), 173 (4)	34
76	$2 \times 4 : 2 : 2 : S_3$	192	261630	124 (2), 115, 147 (3), 183 (4)	39 (2), 49
77	$2^4 : 3 : 2 : 2$	192	87210	115 (3), 148, 184 (4)	40, 49 (3)
78	$2^3 \cdot 2 : 2 : 2 : 3$	192	43605	148, 184 (8), 185 (12)	40, 46 (3), 50 (3), 51
79	$D_8 \cdot 4 : S_3$	192	261630	128, 127, 130, 151 (3), 186 (4)	45
80	$2^{1+4} : S_3$	192	261630	126, 131 (2), 132, 128, 133 (2), 152 (3), 187 (4)	45
81	$2^{1+4} : 6$	192	261630	132, 116, 130, 149, 176 (4)	45
82	$2^{1+4} : S_3$	192	261630	127, 129, 132, 150 (3), 177 (4)	45
83	$Q_8 \cdot 4 : S_3$	192	261630	129, 126, 130, 153 (3), 188 (4)	45
84	$A_5 \times 3$	180	279072	166, 200 (5), 236 (6), 266 (10)	12, 27, 53
85	$19 : 3 \cdot 3$	171	293760	167, 318 (19)	11 (2), 55
86	$3^3 \cdot S_3$	162	310080	134, 168, 169 (3)	41, 56
87	$3 \times 9 : S_3$	162	103360	134, 170 (3), 171 (9)	42, 56 (3)
88	$3 \times 9 : S_3$	162	310080	134, 170, 172 (3)	42, 56
89	$2^4 : 5 : 2$	160	104652	135, 208 (5), 315 (16)	32, 43, 58 (3)

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
90	$2^{1+4} : 5$	160	156978	209, 316 (16)	57
91	$2^2 : S_3 \times S_3$	144	697680	136, 137, 141, 173 (3), 182 (3), 198 (4)	14, 16
92	$3 : S_3 \cdot 2 \cdot 2 : 2$	144	697680	140, 138, 139, 276 (9)	23, 44
93	$A_4 \times 2 \times 2 : 3$	144	174420	179, 184 (2), 180, 200 (8)	40 (2), 59, 60, 61
94	$D_{34} \cdot 2 \cdot 2$	136	369360	142, 321 (17)	3 (2), 62
95	$D_{34} \cdot 2 \cdot 2$	136	369360	142, 322 (17)	13, 62
96	$D_{34} \cdot 2 \times 2$	136	369360	143, 144, 142, 323 (17)	62
97	$2^{1+4} : 4$	128	392445	154, 155, 145	38 (2), 63
98	$2^{1+4} \cdot 2^2$	128	392445	156, 157 (2), 149 (2), 151 (2), 150 (2), 153 (2), 145, 152 (2), 158	45 (2), 63
99	$2^{1+4} : 2^2$	128	130815	148, 159 (3), 145 (3)	46, 48, 63 (3)
100	$2^{1+4} \cdot 2^2$	128	392445	147 (2), 158, 146 (2), 155, 148	47, 49 (2), 50, 63
101	$2 \times 8 \cdot 2 : 2 : 2$	128	130815	148, 154 (3), 156 (3)	51, 52, 63 (3)
102	$D_8 \cdot 2^2 : 2 \cdot 2$	128	392445	155, 159, 156	63
103	$2^{1+4} \cdot 4$	128	392445	154, 159, 158	63
104	$D_{10} \cdot 2 \times S_3$	120	837216	160, 164, 165, 195 (3), 242 (5)	3, 7
105	$A_5 \times 2$	120	418608	161, 246 (5), 260 (6), 304 (10)	4, 21, 65
106	$A_5 : 2$	120	837216	166, 247 (5), 262 (6), 305 (10)	22, 36, 53
107	$A_5 : 2$	120	837216	162, 248 (5), 262 (6), 305 (10)	22
108	$19 : 3 : 2$	114	293760	167, 196, 338 (19)	55
109	$3^2 : S_3 \cdot 2$	108	232560	169, 199, 306 (9)	27, 28, 67, 68, 69
110	$3^2 : S_3 \cdot 2$	108	465120	169, 201, 307 (9)	29, 69
111	$D_{18} \times S_3$	108	930240	171, 168, 172, 202 (3), 197 (3)	56
112	$3 : S_3 : S_3$	108	465120	170 (2), 169, 198 (6), 202 (3)	56 (2), 68
113	$D_8 \cdot 2 : S_3$	96	1046520	187, 175, 177, 188, 186, 182, 176, 207 (3)	7, 45
114	$2^4 : S_3$	96	174420	180, 208 (3), 240 (12)	32, 59, 71 (3)
115	$2^4 : 3 : 2$	96	261630	179, 208, 246 (4)	43 (2), 59 (2), 72, 76, 77
116	$2^{1+4} : 3$	96	261630	185 (2), 189, 209, 249 (4)	46 (2), 70, 74, 81

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
117	$2^4 : S_3$	96	523260	180, 210 (3), 248 (4), 247 (8)	47 (2), 60, 71
118	$4^2 : S_3$	96	523260	181, 211 (3), 247 (4)	47, 75
119	$4^2 : S_3$	96	523260	181, 212 (3), 241 (4)	48, 75
120	$2^4 : S_3$	96	1046520	183, 184, 178, 210 (3), 250 (4)	49, 50, 60
121	$Q_8 \times 2 : S_3$	96	523260	190, 185, 191, 213 (3), 250 (4)	50, 74
122	$Q_8 \times 2 : S_3$	96	523260	192, 191, 185, 214 (3), 251 (4)	51, 74
123	$4^2 : 3 : 2$	96	523260	181, 215, 252 (4)	52, 75
124	$2^4 : S_3$	96	174420	179, 210 (3), 253 (12)	60 (3), 61, 76 (3)
125	$2^4 : 3 : 2$	96	523260	180, 210, 254 (4)	61, 71
126	$D_8 : 2 : S_3$	96	261630	189, 193 (2), 216 (3), 255 (4)	70, 80, 83
127	$D_8 : 2 \cdot S_3$	96	261630	189, 212 (3), 243 (4)	70, 79, 82
128	$D_8 : 2 : S_3$	96	261630	190, 192, 189, 217 (3), 256 (4)	74, 79, 80
129	$D_8 : 2 : S_3$	96	261630	191 (2), 189, 218 (3), 244 (4)	74, 82, 83
130	$Q_8 \cdot 12$	96	261630	189, 219, 257 (4)	79, 81, 83
131	$D_8 : 2 : S_3$	96	523260	192, 193, 194, 220 (3), 258 (4)	80
132	$2^{1+4} : 3$	96	261630	189, 194 (2), 221, 245 (4)	80, 81, 82
133	$D_8 : 2 : S_3$	96	523260	190, 193, 194, 222 (3), 242 (4)	80
134	$3 \times 9 : 3$	81	103360	238, 239 (3)	64, 86 (3), 87, 88 (3)
135	$2^4 : 5$	80	104652	277, 344 (16)	66, 89
136	$2 \times 6 : S_3$	72	697680	200, 241, 249 (3), 266 (4)	24, 27, 91
137	$A_4 \times S_3$	72	697680	200, 251, 252 (3), 267 (4)	26, 91
138	$3 : S_3 \cdot 2 \cdot 2$	72	697680	199, 322 (9)	35, 67, 92
139	$S_3 \times S_3 : 2$	72	697680	199, 202 (2), 324 (9)	36, 68, 92
140	M_9	72	232560	201 (2), 199, 325 (9)	37, 69, 92 (3)
141	$A_4 : S_3$	72	697680	200, 253 (6), 250 (3), 247 (3), 268 (4)	53 (2), 60 (2), 91
142	$D_{34} \cdot 2$	68	369360	203, 345 (17)	4 (2), 94, 95, 96
143	$D_{34} \cdot 2$	68	369360	203, 346 (17)	96
144	D_{68}	68	369360	204, 205, 203, 347 (17)	96
145	$2^{1+4} : 2$	64	392445	216 (2), 223, 224, 212 (2), 209	57 (2), 70 (2), 97, 98, 99

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
146	$8 : 2 : 2 : 2$	64	784890	208, 225, 226	58 (2), 72, 100
147	$2^{1+4} : 2$	64	784890	208, 227 (2), 210 (2), 225, 228	71 (2), 76, 100
148	$2^3 \cdot 2 : 2 : 2$	64	43605	208 (6), 224 (9)	73, 77 (2), 78, 99 (3), 100 (9), 101 (3)
149	$2^{1+4} : 2$	64	261630	218 (3), 213 (3), 217 (3), 219, 209, 214 (3), 221	74 (3), 81, 98 (3)
150	$2^{1+4} : 2$	64	784890	215, 211, 229, 230, 221, 212, 218	75 (2), 82, 98
151	$D_8 \cdot (2 \times 4)$	64	784890	211, 231, 232, 233, 212, 219, 217	79, 98
152	$2^{1+4} : 2$	64	784890	228, 233, 222 (2), 234, 230, 220 (2), 216, 221, 207 (2), 206 (2), 217	80, 98
153	$Q_8 \cdot D_8$	64	784890	234, 231, 226, 229, 216, 219, 218	83, 98
154	$2 \times 8 \cdot 2 : 2$	64	392445	224, 232 (2)	97, 101, 103
155	$D_8 \times 2 \cdot 2 \cdot 2$	64	392445	224, 225 (2)	97, 100, 102
156	$D_8 \cdot 2^2 : 2$	64	392445	234 (2), 214 (2), 224, 232, 215	98, 101, 102
157	$D_8 \cdot D_8$	64	784890	229, 231, 214, 223, 230, 213, 233	98
158	$2^{1+4} \cdot 2$	64	392445	224, 213 (2), 211 (2), 226, 228	98, 100, 103
159	$Q_8 \times 2 \cdot 2 : 2$	64	392445	224, 223 (2)	99, 102, 103
160	$D_{10} \times S_3$	60	837216	237, 236, 235, 260 (3), 304 (5)	4, 15, 104
161	A_5	60	418608	308 (5), 317 (6), 339 (10)	8, 105
162	A_5	60	837216	309 (5), 315 (6), 340 (10)	11 (2), 32, 107
163	A_5	60	1674432	309 (5), 317 (6), 340 (10)	11
164	$15 : 2 \cdot 2$	60	837216	236, 261, 307 (5)	17, 104
165	$D_{10} \cdot S_3$	60	837216	236, 262 (3), 310 (5)	31 (2), 53 (2), 104
166	A_5	60	279072	311 (5), 315 (6), 340 (10)	32, 54, 84, 106 (3)
167	$19 : 3$	57	293760	263, 350 (19)	85, 108
168	$9 : S_3$	54	310080	239, 264 (9), 269 (3)	86, 111 (3)
169	$3^2 : S_3$	54	232560	238, 269, 266 (12)	86 (4), 109, 110 (2), 112 (2)

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
170	$3^2 : S_3$	54	310080	238, 268, 270 (3), 267 (9)	87, 88, 112 (3)
171	$3^2 \cdot S_3$	54	930240	239, 271, 270 (3)	87, 111
172	$9 \times S_3$	54	930240	239, 270, 265 (3)	88, 111
173	$2^3 : S_3$	48	2093040	247, 252, 241, 278 (3), 305 (4)	6, 36, 75, 91
174	$2^3 : S_3$	48	2093040	240, 254, 248, 279 (3), 305 (4)	6, 71
175	$D_8 : S_3$	48	1046520	243, 249, 255, 273 (3)	15, 70, 113
176	$Q_8 : 6$	48	1046520	257, 245, 249, 274	17, 81, 113
177	$Q_8 : S_3$	48	1046520	245, 243, 244, 276 (3)	44 (2), 82, 113
178	$2^3 \cdot S_3$	48	1046520	246, 280 (3), 310 (4)	65 (2), 72, 120
179	$2^4 : 3$	48	17442	277, 308 (20)	66 (6), 93 (10), 115 (15), 124 (10)
180	$2^4 : 3$	48	174420	277, 309 (12), 311 (8)	73 (2), 93, 114, 117 (3), 125 (3)
181	$4^2 : 3$	48	523260	281, 311 (4)	73, 118, 119, 123
182	$D_8 \times S_3$	48	1046520	251 (2), 256, 244, 249, 250 (2), 278 (3)	74, 91 (2), 113
183	$2^3 : S_3$	48	1046520	253 (2), 246, 282 (3), 312 (4)	76, 120
184	$A_4 \times 2 \times 2$	48	348840	246 (3), 277, 313 (4)	77, 78, 93, 120 (3)
185	$Q_8 : 6$	48	523260	259, 283, 313 (4)	78, 116, 121, 122
186	$8 : S_3$	48	1046520	257, 243, 256, 284 (3)	79, 113
187	$Q_8 : S_3$	48	1046520	258 (2), 242 (2), 255, 256, 245, 285 (3)	80, 113
188	D_{48}	48	1046520	257, 244, 255, 286 (3)	83, 113
189	$Q_8 \cdot 6$	48	261630	259, 287, 306 (4)	116, 126, 127, 128, 129, 130, 132
190	$Q_8 \cdot S_3$	48	261630	259, 288 (3), 310 (4)	121 (2), 128, 133 (2)
191	$Q_8 : S_3$	48	523260	259, 289 (3), 312 (4)	121, 122, 129
192	$Q_8 : S_3$	48	261630	259, 290 (3), 314 (4)	122 (2), 128, 131 (2)
193	$Q_8 : S_3$	48	523260	259, 291 (3), 304 (4)	126, 131, 133
194	$Q_8 \cdot 6$	48	523260	259, 292, 307 (4)	131, 132, 133
195	$D_{10} \cdot 2 \times 2$	40	2511648	262, 260, 261, 326 (5)	23, 38, 65, 104
196	D_{38}	38	293760	263, 352 (19)	108
197	D_{36}	36	2790720	265, 271, 264, 305 (3)	6, 111
198	$S_3 \times S_3$	36	2790720	267, 268, 266, 312 (3), 305 (3)	39, 53, 91, 112
199	$3 : S_3 \cdot 2$	36	232560	269, 345 (9)	54, 109, 138 (3), 139 (3), 140
200	$A_4 \times 3$	36	697680	311, 308 (2), 313, 319 (4)	84 (2), 93 (2), 136, 137, 141

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
201	$3 : S_3 \cdot 2$	36	465120	269, 346 (9)	110, 140
202	$S_3 \times S_3$	36	1395360	270 (2), 269, 305 (6)	111 (2), 112, 139
203	D_{34}	34	369360	272, 353 (17)	8 (2), 142, 143, 144
204	34	34	369360	272, 352	144
205	D_{34}	34	369360	272, 352 (17)	144
206	$D_8 : 2^2$	32	1569780	278, 275, 273, 293, 294, 279, 295	6 (2), 152
207	$D_8 \cdot 2^2$	32	1569780	286, 274, 273, 276, 285, 284, 278	23 (2), 113 (2), 152
208	$2 \times 4 : 2 : 2$	32	261630	277, 296 (3), 297 (3)	89 (2), 114 (2), 115, 146 (3), 147 (3), 148
209	2^{1+4}	32	26163	287 (10), 283 (5)	90 (6), 116 (10), 145 (15), 149 (10)
210	$D_8 \times 2 : 2$	32	523260	277, 282 (3), 280 (3)	117 (3), 120 (6), 124, 125, 147 (3)
211	$D_8 : 4$	32	784890	281, 298, 299	118 (2), 150, 151, 158
212	$D_8 : 4$	32	784890	281, 300, 287	119 (2), 127, 145, 150, 151
213	$Q_8 \cdot 2^2$	32	784890	298, 289 (2), 299, 288 (2), 283	121 (2), 149, 157, 158
214	$Q_8 : 2^2$	32	784890	301, 302, 290 (2), 289 (2), 283	122 (2), 149, 156, 157
215	$D_8 \times 2 : 2$	32	130815	301 (6), 281	123 (4), 150 (6), 156 (3)
216	$Q_8 : 2^2$	32	784890	296, 300, 273 (2), 291 (2), 287	126, 145, 152, 153
217	$D_8 \cdot 2^2$	32	784890	294, 302, 274, 298, 287, 288, 290	128, 149, 151, 152
218	$D_8 \cdot 2^2$	32	784890	294 (2), 299, 287, 289 (2), 301	129, 149, 150, 153
219	$D_8 \cdot 4$	32	261630	299 (3), 302 (3), 287	130, 149, 151 (3), 153 (3)
220	$D_8 : 2^2$	32	1569780	279, 295, 284, 286, 292, 290, 291	131, 152
221	2^{1+4}	32	261630	278 (6), 301 (3), 298 (3), 292 (2), 287	132, 149, 150 (3), 152 (3)
222	$D_8 \cdot 2^2$	32	1569780	293, 276, 285, 275, 291, 292, 288	133, 152
223	$Q_8 \times 2 \cdot 2$	32	392445	300 (2), 283	145, 157 (2), 159 (2)
224	$2 \times 4 : 2 : 2$	32	392445	297 (4), 296, 281, 283	145, 148, 154, 155, 156, 158, 159
225	$D_8 \times 2 \cdot 2$	32	784890	280 (2), 296	146, 147, 155
226	$8 : 2 : 2$	32	392445	296, 299 (2)	146 (2), 153 (2), 158

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
227	$D_8 \times 2 \cdot 2$	32	1569780	280, 297, 282	147
228	2^{1+4}	32	392445	282 (4), 285 (4), 298 (2), 279 (4), 296	147 (2), 152 (2), 158
229	$8 : 2 : 2$	32	784890	301, 300, 299	150, 153, 157
230	$Q_8 : 2^2$	32	784890	301, 276 (2), 300, 298, 295 (2)	150, 152, 157
231	$2 \times 8 \cdot 2$	32	784890	300, 299, 302	151, 153, 157
232	$4^2 \cdot 2$	32	392445	281, 302 (2)	151 (2), 154 (2), 156
233	$D_8 \cdot 4$	32	784890	300, 275 (2), 302, 284 (2), 298	151, 152, 157
234	$D_8 : 2^2$	32	784890	296, 301, 286 (2), 293 (2), 302	152, 153, 156
235	D_{30}	30	837216	303, 317 (3), 339 (5)	8, 160
236	$15 : 2$	30	837216	303, 315, 341 (5)	43 (2), 84 (2), 160, 164, 165
237	$S_3 \times 5$	30	837216	303, 316 (3), 339	160
238	3^3	27	25840	319 (12), 320	134 (4), 169 (9), 170 (12)
239	3×9	27	310080	318 (3), 320	134, 168, 171 (3), 172 (3)
240	$2^2 : S_3$	24	2093040	309, 327 (3), 340 (4)	13, 114, 174
241	$2^2 : S_3$	24	697680	311, 328 (3), 340 (4)	13 (3), 54, 119 (3), 136, 173 (3)
242	$S_3 \times 4$	24	2093040	307, 310, 304, 326 (3)	65 (2), 104 (2), 133, 187
243	$4 \cdot S_3$	24	1046520	306, 322 (3)	67 (2), 127, 175, 177, 186
244	D_{24}	24	1046520	306, 312 (2), 324 (3)	68 (2), 129, 177, 182, 188
245	$Q_8 \times 3$	24	1046520	307 (2), 306, 325	69 (2), 132, 176, 177, 187
246	$A_4 \times 2$	24	1046520	308, 329, 341 (4)	105 (2), 115, 178, 183, 184
247	$2^2 : S_3$	24	2093040	311, 330 (3), 342 (4)	106 (2), 117 (2), 118, 141, 173
248	$2^2 : S_3$	24	2093040	309, 331 (3), 342 (4)	107 (2), 117, 174
249	$D_8 \times 3$	24	1046520	306, 313 (2), 328	116, 136 (2), 175, 176, 182
250	$2^2 : S_3$	24	2093040	310, 312, 313, 330 (3)	120 (2), 121, 141, 182
251	$S_3 \times 2^2$	24	697680	312 (3), 314 (3), 313, 332 (3)	122 (3), 137, 182 (3)
252	$A_4 \times 2$	24	2093040	311, 332, 338 (4)	123, 137, 173
253	$2^2 : S_3$	24	2093040	308, 330 (3), 343 (4)	124, 141 (2), 183

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
254	$A_4 \times 2$	24	2093040	309, 333, 338 (4)	125, 174
255	D_{24}	24	1046520	304 (2), 306, 327 (3)	126, 175, 187, 188
256	$S_3 \times 4$	24	1046520	306, 310, 314, 323 (3)	128, 182, 186, 187
257	24	24	1046520	306, 334	130, 176, 186, 188
258	D_{24}	24	2093040	307, 314, 304, 331 (3)	131, 187
259	$Q_8 : 3$	24	261630	335, 341 (4)	185 (2), 189, 190, 191 (2), 192, 193 (2), 194 (2)
260	D_{20}	20	2511648	316, 315, 317, 348 (5)	11 (2), 35, 57, 105, 160, 195
261	$D_{10} \cdot 2$	20	837216	315, 346 (5)	37, 164, 195 (3)
262	$D_{10} \cdot 2$	20	2511648	315, 346 (5)	58 (2), 106 (2), 107 (2), 165, 195
263	19	19	293760	354	167, 196
264	D_{18}	18	2790720	318, 340 (3)	11 (2), 13, 168, 197
265	18	18	2790720	318, 338	55 (2), 172, 197
266	$S_3 \times 3$	18	2790720	319, 340, 341 (3)	59, 84, 136, 169, 198
267	$S_3 \times 3$	18	2790720	319, 343, 338 (3)	61, 137, 170, 198
268	$3 : S_3$	18	310080	319, 342 (3), 343 (9)	141 (9), 170, 198 (9)
269	$3 : S_3$	18	232560	320, 340 (12)	168 (4), 169, 199, 201 (2), 202 (6)
270	$S_3 \times 3$	18	930240	320, 342, 338 (3)	170, 171 (3), 172, 202 (3)
271	D_{18}	18	930240	318, 342 (3)	171, 197 (3)
272	17	17	369360	354	203, 204, 205
273	D_{16}	16	1569780	327, 322, 328	13 (2), 35 (2), 175 (2), 206, 207, 216
274	$Q_8 : 2$	16	261630	328, 334, 325	37 (4), 176 (4), 207 (6), 217 (3)
275	2×8	16	1569780	321, 323, 322	62 (4), 206, 222, 233
276	$D_8 \cdot 2$	16	1569780	324, 325, 322	92 (4), 177 (2), 207, 222, 230
277	2^4	16	17442	329 (15)	135 (6), 179, 180 (10), 184 (20), 208 (15), 210 (30)
278	$D_8 \times 2$	16	1569780	330 (2), 323, 332 (2), 324, 328	173 (4), 182 (2), 206, 207, 221
279	$D_8 \times 2$	16	1569780	331 (2), 323, 333 (2), 336, 327	174 (4), 206, 220, 228
280	$2 \times 4 : 2$	16	1569780	329, 326 (2)	178 (2), 210, 225, 227
281	4^2	16	130815	337 (3)	181 (4), 211 (6), 212 (6), 215, 224 (3), 232 (3)

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
282	$D_8 \times 2$	16	1569780	331 (2), 333, 326, 329, 330 (2)	183 (2), 210, 227, 228
283	$Q_8 \times 2$	16	130815	335 (4), 337 (3)	185 (4), 209, 213 (6), 214 (6), 223 (3), 224 (3)
284	$8 : 2$	16	1569780	323, 334, 322	186 (2), 207, 220, 233
285	$D_8 : 2$	16	1569780	327, 325, 326 (2), 331 (2), 323	187 (2), 207, 222, 228
286	D_{16}	16	1569780	327, 334, 324	188 (2), 207, 220, 234
287	$D_8 : 2$	16	261630	337 (3), 328 (3), 335	189, 209, 212 (3), 216 (3), 217 (3), 218 (3), 219, 221
288	Q_{16}	16	784890	325, 321, 335	190, 213 (2), 217, 222 (2)
289	$Q_8 : 2$	16	1569780	336, 321, 335	191, 213, 214, 218
290	$Q_8 : 2$	16	784890	336, 334, 335	192, 214 (2), 217, 220 (2)
291	$Q_8 : 2$	16	1569780	327, 322, 335	193, 216, 220, 222
292	$D_8 : 2$	16	523260	323 (3), 324 (3), 335	194, 220 (3), 221, 222 (3)
293	D_{16}	16	1569780	327, 324, 321	206, 222, 234
294	D_{16}	16	784890	328, 321, 336	206 (2), 217, 218 (2)
295	D_{16}	16	1569780	324, 322, 336	206, 220, 230
296	$D_8 \times 2$	16	392445	327 (4), 329 (2), 337	208 (2), 216 (2), 224, 225 (2), 226, 228, 234 (2)
297	$2 \times 4 : 2$	16	784890	329, 337 (2)	208, 224 (2), 227 (2)
298	$D_8 : 2$	16	784890	330 (2), 323 (2), 337, 325, 336	211, 213, 217, 221, 228, 230, 233
299	$8 : 2$	16	784890	337, 321 (2)	211, 213, 218, 219, 226, 229, 231
300	$8 : 2$	16	784890	337, 322 (2)	212, 216, 223, 229, 230, 231, 233
301	$D_8 \times 2$	16	784890	332 (2), 324 (2), 336 (2), 337	214, 215, 218, 221, 229, 230, 234
302	2×8	16	784890	321, 337, 334	214, 217, 219, 231, 232, 233, 234
303	15	15	837216	344, 351	66 (2), 235, 236, 237
304	D_{12}	12	2093040	341, 339 (2), 348 (3)	105 (2), 160 (2), 193, 242, 255, 258
305	D_{12}	12	8372160	338, 342, 340, 347 (3)	106, 107, 173, 174, 197, 198, 202

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
306	12	12	1046520	341, 345	109 (2), 189, 243, 244, 245, 249, 255, 256, 257
307	12	12	2093040	341, 346	110 (2), 164 (2), 194, 242, 245, 258
308	A_4	12	348840	349, 351 (4)	161 (6), 179, 200 (4), 246 (3), 253 (6)
309	A_4	12	2093040	348, 350 (4)	162 (2), 163 (4), 180, 240, 248, 254
310	Q_{12}	12	1046520	341, 346 (3)	165 (4), 178 (4), 190, 242 (2), 250 (2), 256
311	A_4	12	697680	349, 350 (4)	166 (2), 180 (2), 181 (3), 200, 241, 247 (3), 252 (3)
312	D_{12}	12	2093040	343 (2), 341, 347 (3)	183 (2), 191, 198 (4), 244, 250, 251
313	2×6	12	697680	341 (3), 349	184 (2), 185 (3), 200, 249 (3), 250 (3), 251
314	D_{12}	12	1046520	343 (2), 341, 347 (3)	192, 251 (2), 256, 258 (2)
315	D_{10}	10	837216	344, 353 (5)	89 (2), 162 (6), 166 (2), 236, 260 (3), 261, 262 (3)
316	10	10	2511648	344, 353	90, 237, 260
317	D_{10}	10	2511648	344, 353 (5)	161, 163 (4), 235, 260
318	9	9	930240	350	85 (6), 239, 264 (3), 265 (3), 271
319	3^2	9	310080	351 (3), 350	200 (9), 238, 266 (9), 267 (9), 268
320	3^2	9	25840	350 (4)	238, 239 (12), 269 (9), 270 (36)
321	8	8	784890	345	94 (8), 275 (2), 288, 289 (2), 293 (2), 294, 299 (2), 302
322	8	8	1569780	345	95 (4), 138 (4), 243 (2), 273, 275, 276, 284, 291, 295, 300
323	2×4	8	1569780	345, 346, 347	96 (4), 256 (2), 275, 278, 279, 284, 285, 292, 298
324	D_8	8	1569780	347 (2), 345	139 (4), 244 (2), 276, 278, 286, 292, 293, 295, 301

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
325	Q_8	8	261630	345, 346 (2)	140 (8), 245 (4), 274, 276 (6), 285 (6), 288 (3), 298 (3)
326	2×4	8	1569780	346 (2), 348	195 (8), 242 (4), 280 (2), 282, 285 (2)
327	D_8	8	1569780	348 (2), 345	240 (4), 255 (2), 273, 279, 285, 286, 291, 293, 296
328	D_8	8	261630	349 (2), 345	241 (8), 249 (4), 273 (6), 274, 278 (6), 287 (3), 294 (3)
329	2^3	8	261630	348 (6), 349	246 (4), 277, 280 (6), 282 (6), 296 (3), 297 (3)
330	D_8	8	1569780	349, 347, 346	247 (4), 250 (4), 253 (4), 278 (2), 282 (2), 298
331	D_8	8	3139560	348, 347, 346	248 (2), 258 (2), 279, 282, 285
332	2^3	8	523260	347 (6), 349	251 (4), 252 (4), 278 (6), 301 (3)
333	2^3	8	523260	347 (6), 348	254 (4), 279 (6), 282 (3)
334	8	8	261630	345	257 (4), 274, 284 (6), 286 (6), 290 (3), 302 (3)
335	Q_8	8	261630	345 (3)	259, 283 (2), 287, 288 (3), 289 (6), 290 (3), 291 (6), 292 (2)
336	D_8	8	784890	347 (2), 345	279 (2), 289 (2), 290, 294, 295 (2), 298, 301 (2)
337	2×4	8	392445	345 (2), 349	281, 283, 287 (2), 296, 297 (4), 298 (2), 299 (2), 300 (2), 301 (2), 302 (2)
338	6	6	2790720	350, 352	108 (2), 252 (3), 254 (3), 265, 267 (3), 270, 305 (3)
339	S_3	6	837216	351, 353 (3)	161 (5), 235 (5), 237, 304 (5)
340	S_3	6	2790720	350, 353 (3)	162 (3), 163 (6), 166, 240 (3), 241, 264 (3), 266, 269, 305 (3)

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<i>continued from previous page</i>					
Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
341	6	6	1046520	351, 353	236 (4), 246 (4), 259, 266 (8), 304 (2), 306, 307 (2), 310, 312 (2), 313 (2), 314
342	S_3	6	930240	350, 352 (3)	247 (9), 248 (9), 268, 270, 271 (3), 305 (9)
343	S_3	6	697680	351, 352 (3)	253 (12), 267 (4), 268 (4), 312 (6), 314 (3)
344	5	5	837216	354	135 (2), 303, 315, 316 (3), 317 (3)
345	4	4	261630	353	142 (24), 199 (8), 306 (4), 321 (3), 322 (6), 323 (6), 324 (6), 325, 327 (6), 328, 334, 335 (3), 336 (3), 337 (3)
346	4	4	523260	353	143 (12), 201 (8), 261 (8), 262 (24), 307 (4), 310 (6), 323 (3), 325, 326 (6), 330 (3), 331 (6)
347	2^2	4	1569780	353, 352 (2)	144 (4), 305 (16), 312 (4), 314 (2), 323, 324 (2), 330, 331 (2), 332 (2), 333 (2), 336
348	2^2	4	523260	353 (3)	260 (24), 304 (12), 309 (4), 326 (3), 327 (6), 329 (3), 331 (6), 333
349	2^2	4	43605	353 (3)	308 (8), 311 (16), 313 (16), 328 (12), 329 (6), 330 (36), 332 (12), 337 (9)
350	3	3	103360	354	167 (54), 309 (81), 311 (27), 318 (9), 319 (3), 320, 338 (27), 340 (27), 342 (9)
351	3	3	23256	354	303 (36), 308 (60), 319 (40), 339 (36), 341 (45), 343 (30)
352	2	2	20520	354	196 (272), 204 (18), 205 (306), 338 (136), 342 (136), 343 (102), 347 (153)
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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
353	2	2	26163	354	203 (240), 315 (160), 316 (96), 317 (480), 339 (96), 340 (320), 341 (40), 345 (10), 346 (20), 347 (60), 348 (60), 349 (5)
354	1	1	1		263 (293760), 272 (369360), 344 (837216), 350 (103360), 351 (23256), 352 (20520), 353 (26163)

TABLE 1. Subgroup lattice of $J_3 : 2$

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