

## THE SUBGROUP LATTICE OF $M_{11}$

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
1	$M_{11}$	7920	1	2 (11), 3 (12), 5 (55), 6 (66), 13 (165)	
2	$M_{10}$	720	11	4, 7 (10), 19 (36), 22 (45)	1
3	$L_2(11)$	660	12	10 (11), 11 (11), 12 (12), 23 (55)	1
4	$A_6$	360	11	11 (12), 14 (10), 17 (30)	2
5	$M_9 : 2$	144	55	8, 7, 9, 22 (9)	1
6	$S_5$	120	66	10, 17 (5), 19 (6), 23 (10)	1
7	$M_9$	72	55	14 (2), 15, 28 (9)	2 (2), 5
8	$3 : S_3 \cdot 2 \cdot 2$	72	55	15, 29 (9)	5
9	$3 : S_3 \cdot 2 : 2$	72	55	16 (2), 15, 30 (9)	5
10	$A_5$	60	66	24 (5), 26 (6), 31 (10)	3 (2), 6
11	$A_5$	60	132	24 (5), 26 (6), 32 (10)	3, 4
12	$11 : 5$	55	144	25, 34 (11)	3
13	$Q_8 : S_3$	48	165	18, 22 (3), 23 (4)	1
14	$3 : S_3 \cdot 2$	36	110	20, 35 (9)	4, 7
15	$3 : S_3 \cdot 2$	36	55	20, 35 (9)	7, 8, 9
16	$S_3 \times S_3$	36	110	20, 21 (2), 23 (6)	9
17	$2^2 : S_3$	24	330	24, 30 (3), 32 (4)	4, 6
18	$Q_8 : 3$	24	165	28, 33 (4)	13
19	$D_{10} \cdot 2$	20	396	26, 35 (5)	2, 6
20	$3 : S_3$	18	55	27, 32 (12)	14 (2), 15, 16 (2)
21	$S_3 \times 3$	18	220	27, 31, 33 (3)	16
22	$Q_8 : 2$	16	495	30, 29, 28	2, 5, 13
23	$D_{12}$	12	660	32, 33, 31, 36 (3)	3, 6, 13, 16
24	$A_4$	12	330	36, 37 (4)	10, 11 (2), 17
25	11	11	144	39	12
26	$D_{10}$	10	396	34, 38 (5)	10, 11 (2), 19
27	$3^2$	9	55	37 (4)	20, 21 (4)
28	$Q_8$	8	165	35 (3)	7 (3), 18, 22 (3)
29	8	8	495	35	8, 22

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Nr.	Structure	Order	Length	Maximal Subgroups	Minimal Overgroups
30	$D_8$	8	495	36 (2), 35	9, 17 (2), 22
31	$S_3$	6	220	37, 38 (3)	10 (3), 21, 23 (3)
32	$S_3$	6	660	37, 38 (3)	11 (2), 17 (2), 20, 23
33	6	6	660	37, 38	18, 21, 23
34	5	5	396	39	12 (4), 26
35	4	4	495	38	14 (2), 15, 19 (4), 28, 29, 30
36	$2^2$	4	330	38 (3)	23 (6), 24, 30 (3)
37	3	3	220	39	24 (6), 27, 31, 32 (3), 33 (3)
38	2	2	165	39	26 (12), 31 (4), 32 (12), 33 (4), 35 (3), 36 (6)
39	1	1	1		25 (144), 34 (396), 37 (220), 38 (165)

TABLE 1. Subgroup lattice of  $M_{11}$ 

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