COMPLETELY DECOMPOSABLE JACOBIAN VARIETY DATA

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This file contains data to supplement [2]. In that paper, we find numerous examples of curves from many different genera whose Jacobian varieties are completely decomposable, meaning they are isogenous to a product of elliptic curves. In the paper, we describe two techniques to find completely decomposable Jacobians. One uses the action of the automorphism group of the curve, and the other uses intermediate covers determined by subgroups of the automorphism group. See [2] for details.

Table 1 gives all examples we found using the group algebra method (including previously known genera). The decomposition is given as a list of numbers representing how many of each particular elliptic curve appear in the decomposition. In the table we also include the automorphism group as well as the signature for the action. When possible, we denote the group as an ordered pair where the first term is the order of the group, and the second term is the group identity number from Magma's database. If the order of the group exceeds the allowable sizes for these databases, we have labeled the group as a number (sometimes with a subscript). The number represents the order of the group. If the subscript itself is a number, then the group presentation may be found in data of Conder [1] where the subscript denotes which group of that order (and with the corresponding signature) in his data it is. If the subscript is a letter (or if there is no subscript at all), the presentation of the group may be found in Table 3.

In Table 2, we give all examples we found using the intermediate covers technique, and we use the same convention for labeling groups as in Table 1. In this table we also include the genus of the intermediate cover, the genus and automorphism group and signature for the larger curve, the subgroup size and number for the corresponding subgroup H (labeled as Magma does, with the convention of converting all groups to permutation groups), and the decomposition of the quotient curve. For ease of notation, we grouped all factors of the same dimension together, although they may not be in that order, nor correspond to the order of the decomposition of the high genus curve. For instance, if the decomposition were given as $E^2 \times E^4 \times E^2$, we would denote this as $2, 2, 4$.

Examples in genus > 101 which have automorphism groups that are too large to be listed in the GAP or Magma databases are presented in Table 3. We give the generators and relations to define the group. For genus ≤ 101, the groups may be found at [1].

References

[1] M. Conder, 'Group actions on surfaces', `https://www.math.auckland.ac.nz/~conder/`

[2] J. Paulhus and A. M. Rojas, 'Completely decomposable Jacobian varieties in new genera', *to appear.*

Table 1: Completely decomposable Jacobian varieties using the group algebra technique.

g	Automorphism Group	Signature	Jacobian Decomposition
11	(24, 14)	[0; 2, 2, 2, 2, 6]	1, 1, 1, 2, 2, 2
	(48, 48)	[0; 2, 2, 3, 4]	2, 3, 3, 3
	(48, 38)	[0; 2, 2, 2, 12]	1, 2, 2, 2, 4
	(96, 189)	[0; 2, 6, 8]	2, 2, 3, 4
	(96, 32)	[0; 2, 4, 24]	1, 2, 2, 2, 4
	(120, 34)	[0; 3, 4, 4]	5, 6
	(120, 34)	[0; 2, 6, 6]	5, 6
	(120, 36)	[0; 2, 4, 12]	1, 2, 8
	(160, 85)	[0; 2, 4, 8]	1, 2, 8
	(240, 189)	[0; 2, 4, 6]	5, 6
13	(32, 27)	[0; 2, 4, 4, 4]	1, 2, 2, 2, 2, 2, 2
	(32, 27)	[0; 2, 2, 2, 2, 4]	1, 1, 1, 2, 2, 2, 2
	(32, 34)		same as above
	(32, 46)		1, 1, 1, 1, 1, 2, 2, 2, 2
	(36, 13)	[0; 2, 2, 6, 6]	1, 2, 2, 2, 2, 2, 2
	(36, 13)	[0; 2, 2, 2, 2, 3]	same as above
	(48, 49)	[0; 6, 6, 6]	1, 1, 1, 1, 3, 3, 3
	(48, 50)	[0; 2, 3, 3, 3]	1, 3, 3, 3, 3
	(48, 48)	[0; 2, 2, 4, 4]	same as above
	(48, 48)	[0; 2, 2, 3, 6]	2, 2, 3, 3, 3
	(48, 38)	[0; 2, 2, 2, 2, 2]	1, 1, 1, 2, 2, 2, 4
	(48, 51)		1, 1, 1, 1, 1, 2, 2, 2, 2
	(64, 32)	[0; 4, 4, 8]	1, 4, 4, 4
	(64, 134)	[0; 2, 2, 2, 8]	1, 2, 2, 4, 4
	(64, 150)		same as above
	(72, 45)	[0; 4, 4, 6]	1, 4, 4, 4
	(72, 44)	[0; 3, 6, 6]	1, 1, 2, 3, 6
	(72, 21)	[0; 2, 12, 12]	1, 2, 2, 4, 4
	(72, 43)	[0; 2, 2, 3, 3]	2, 2, 3, 6
	(72, 23)	[0; 2, 2, 2, 6]	1, 2, 2, 4, 4
	(72, 46)		1, 2, 2, 2, 2, 4
	(72, 46)		1, 2, 2, 4, 4
	(96, 70)	[0; 3, 4, 6]	1, 6, 6
	(96, 197)	[0; 2, 6, 12]	1, 1, 2, 3, 6
	(96, 89)	[0; 2, 2, 2, 4]	1, 2, 2, 4, 4
	(96, 187)		1, 3, 3, 6
	(96, 226)		1, 3, 3, 3, 3
	(120, 35)	[0; 2, 5, 10]	4, 4, 5
	(128, 71)	[0; 2, 4, 16]	1, 2, 2, 8
	(144, 184)	[0; 3, 3, 6]	1, 3, 9
	(144, 190)	[0; 2, 6, 6]	1, 1, 2, 3, 6
	(144, 115)	[0; 2, 4, 12]	1, 4, 4, 4
	(144, 183)	[0; 2, 2, 2, 3]	2, 2, 3, 6
	(288, 1024)	[0; 2, 3, 12]	1, 3, 9
	(360, 121)	[0; 2, 3, 10]	5, 8
14	(1092,25)	0; 2, 3, 7]	14
15	(48, 48)	[0; 2, 2, 4, 6]	1, 2, 3, 3, 3, 3
	(144, 109)	[0; 2, 4, 18]	3, 6, 6
	(168, 42)	[0; 3, 4, 4]	7, 8
	(336, 208)	[0; 2, 4, 6]	7, 8
	(504, 156)	[0; 2, 3, 9]	7, 8
16	(36, 13)	[0; 2, 2, 2, 2, 2, 6]	$1, 1, \underbrace{2, \ldots, 2}_{7}$
	(72, 40)	[0; 4, 6, 6]	4, 4, 4, 4,
	(108, 26)	[0; 2, 6, 18]	1, 1, 2, 6, 6
	(120, 34)	[0; 3, 4, 6]	5, 5, 6
17	(64, 138)	[0; 2, 2, 4, 4]	1, 2, 2, 2, 2, 4, 4
	(64, 134)	[0; 2, 2, 2, 2, 2]	1, 1, 1, 2, 2, 2, 4, 4
	(64, 138)		1, 1, 1, 2, 2, 2, 4, 4
	(64, 202)		1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 2
	(64, 211)		same as above
	(64, 215)		1, 1, 1, 1, 1, 2, 2, 4, 4
	(64, 216)		same as above
	(64, 226)		1, 1, 1, 1, 1, 2, 2, 2, 2, 4
	(64, 241)		1, 1, 1, 1, 1, 4, 4, 4
	(64, 254)		1, 1, 1, 1, 1, 2, 2, 4, 4
	(96, 195)	[0; 4, 4, 6]	2, 3, 3, 3, 6
	(96, 70)	[0; 3, 6, 6]	1, 1, 3, 6, 6
	(96, 72)		same as above
	(96, 227)	[0; 2, 2, 3, 3]	2, 3, 3, 3, 6
	(96, 147)	[0; 2, 2, 2, 6]	1, 2, 2, 2, 2, 4, 4
	(96, 195)		1, 2, 2, 3, 3, 6
	(96, 226)		1, 2, 2, 3, 3, 3, 3
	(128, 327)	[0; 2, 2, 2, 4]	1, 2, 2, 4, 4, 4
	(128, 330)		same as above
	(128, 453)		1, 4, 4, 4, 4
	(128, 738)		1, 2, 2, 2, 2, 4, 4

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
	(128, 740)		1, 2, 2, 2, 2, 8
	(128, 743)		1, 2, 2, 2, 2, 4, 4
	(128, 753)		same as above
	(128, 922)		1, 2, 2, 4, 8
	(128, 928)		1, 2, 2, 4, 4, 4
	(128, 932)		1, 2, 2, 4, 8
	(168, 42)	[0; 3, 3, 7]	3, 6, 8
	(192, 1493)	[0; 3, 4, 4]	same as above
	(192, 201)	[0; 2, 6, 6]	3, 4, 4, 6
	(192, 1000)		1, 1, 3, 6, 6
	(192, 1002)		same as above
	(192, 1008)		1, 1, 3, 12
	(192, 33)	[0; 2, 4, 12]	1, 2, 2, 4, 8
	(192, 972)		1, 2, 2, 3, 3, 6
	(192, 988)		2, 3, 4, 8
	(192, 956)	[0; 2, 2, 2, 3]	2, 3, 6, 6
	(192, 1494)		3, 3, 3, 8
	(192, 1538)		2, 3, 3, 3, 6
	(256, 382)	[0; 2, 4, 8]	1, 2, 2, 4, 8
	(256, 390)		same as above
	(256, 396)		1, 2, 2, 4, 4, 4
	(256, 515)		1, 8, 8
	(336, 209)	[0; 2, 3, 14]	3, 6, 8
	(384, 5602)	[0; 2, 4, 6]	same as above
	(384, 5604)		same as above
	(384, 5657)		2, 3, 6, 6
	(384, 5677)		2, 3, 12
	(768, 1085341)	[0; 2, 3, 8]	same as above
	(1344, 814)	[0; 2, 3, 7]	3, 14
19	(54, 14)	[0; 2, 2, 2, 2, 3]	1, 2, 2, 2, 2, 2, 2, 2, 2, 2
	(72, 46)	[0; 2, 2, 2, 2, 2]	1, 1, 1, 2, 2, 2, 2, 4, 4
	(72, 49)		1, 1, 1, 2, 2, 2, 2, 2, 2, 2, 2
	(96, 189)	[0; 2, 2, 2, 8]	1, 2, 2, 3, 3, 4, 4
	(108, 39)	[0; 2, 2, 2, 6]	1, 2, 4, 4, 4, 4
	(120, 34)	[0; 4, 4, 5]	4, 4, 5, 6
	(144, 183)	[0; 2, 6, 12]	3, 4, 6, 6
	(144, 109)	[0; 2, 2, 2, 4]	1, 3, 3, 6, 6
	(144, 172)		1, 2, 4, 4, 4, 4
	(144, 186)		same as above
	(144, 189)		1, 3, 3, 6, 6
	(162, 11)	[0; 2, 6, 9]	1, 6, 6, 6
	(216, 156)	[0; 2, 4, 12]	1, 2, 8, 8
	(240, 189)	[0; 2, 4, 10]	4, 4, 5, 6
	(288, 430)	[0; 2, 4, 8]	1, 2, 8, 8
	(288, 841)		same as above
	(336, 209)	[0; 2, 4, 7]	3, 3, 6, 7
	(360, 118)	[0; 2, 5, 5]	9, 10
	(720, 766)	[0; 2, 4, 5]	9, 10
21	(96, 227)	[0; 2, 2, 3, 4]	3, 3, 3, 3, 3, 6
	(96, 144)	[0; 2, 2, 2, 12]	$1, \underbrace{2, \ldots, 2}_{6}, 4, 4$
	(192, 956)	[0; 2, 6, 8]	3, 6, 6, 6
	(192, 34)	[0; 2, 4, 24]	1, 2, 2, 4, 4, 8
	(240, 189)	[0; 2, 6, 6]	5, 5, 5, 6
	(240, 91)	[0; 2, 4, 12]	4, 5, 6, 6
	(480, 951)	[0; 2, 4, 6]	5, 6, 10
22	(256, 26)	[0; 2, 6, 6]	1, 1, 2, 6, 12
	(336, 208)	[0; 2, 4, 8]	7, 7, 8
	(1008, 881)	0; 2, 3, 8]	8, 14
	(504, 160)	[0; 2, 3, 12]	1, 3, 18
24	(120, 34)	[0; 4, 5, 6]	4, 4, 5, 5, 6
	(168, 42)	[0; 3, 4, 7]	3, 6, 7, 8
25	(576,1997)	[0; 2, 3, 12]	1, 2, 4, 6, 12
	(576,8270)		1, 2, 3, 4, 6, 9
	(320,1636)	[0; 2, 4, 10]	5, 5, 5, 5, 5
	(288,386)	[0; 2, 4, 12]	1, 4, 4, 4, 4, 8
	(256,511)	[0; 2, 4, 16]	1, 4, 4, 8, 8
	(144,65)	[0; 2, 12, 12]	1, 2, 2, 2, 2, 4, 4, 4, 4
	(144,136)	[0; 4, 4, 6]	1, 4, 4, 4, 4, 4, 4
	(288,847)	[0; 2, 2, 2, 3]	2, 2, 3, 4, 6, 8
	(192,300)	[0; 2, 2, 2, 4]	1, 2, 2, 4, 4, 4, 8
	(192,306)		same as above
	(192,1470)		1, 3, 3, 3, 3, 6, 6
	(192,1472)		1, 2, 3, 3, 3, 3, 4, 6
	(144,151)	[0; 2, 2, 2, 6]	1, 2, 2, 2, 2, 4, 4, 4, 4
	(144,154)		same as above
	(144,153)		$1, \underbrace{2, \ldots, 2}_{6}, 4, 4, 4$
	(144, 183)		1, 2, 3, 3, 4, 6, 6

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
	(128,387)	[0; 2, 2, 2, 8]	1, 2, 2, 4, 4, 4, 4
	(128,388)		same as above
	(128,734)		1, 2, 2, 2, 2, 4, 4, 4, 4
26	(660, 13)	[0; 2, 3, 11]	5, 10, 11
28	(1296,2889)	[0; 2, 3, 8]	2, 8, 18
	(648,703)	[0; 2, 3, 12]	8, 8, 12
	(648,262)		1, 3, 6, 18
	(432,248)	[0; 2, 3, 24]	1, 2, 3, 4, 6, 12
	(648,545)	[0; 2, 4, 6]	2, 4, 4, 6, 12
	(324,39)	[0; 2, 6, 6]	4, 6, 6, 6, 6
	(324,116)		1, 1, 2, 2, 4, 6, 12
	(324,124)	[0; 2, 2, 2, 3]	2, 2, 2, 4, 6, 6, 6
	(216,94)	[0; 2, 2, 2, 4]	1, 3, 6, 6, 6, 6
	(144,125)	[0; 2, 2, 2, 8]	1, 2, 3, 4, 4, 4, 4, 6
29	(240, 189)	[0; 2, 6, 10]	4, 4, 5, 5, 5, 6
	(336, 208)	[0; 2, 6, 6]	6, 7, 8, 8
	(672, 1254)	[0; 2, 4, 6]	6, 7, 8, 8
31	(144, 154)	[0; 2, 2, 2, 12]	$1, 2, 2, 2, \underbrace{4, \ldots, 4}_{6}$
	(336, 209)	[0; 2, 4, 14]	3, 6, 7, 7, 8
	(720, 767)	[0; 2, 4, 6]	5, 6, 8, 12
33	(1536,408544637)	[0; 2, 3, 8]	2, 3, 12, 16
	(768,1083524)	[0; 2, 3, 12]	1, 2, 6, 12, 12
	(768,1083527)		same as above
	(768,1083522)		same as above
	(768,1083520)		1, 2, 6, 24
	(768,1086051)	[0; 2, 4, 6]	3, 6, 12, 12
	(768,1085625)		2, 3, 4, 6, 6, 12
	(768,1086011)		2, 3, 6, 6, 8, 8
	(768,1086052)		3, 6, 8, 16
	(768,1085778)		2, 3, 4, 12, 12
	(512, 1822)	[0; 2, 4, 8]	1, 2, 2, 4, 8, 8, 8
	(512, 1838)		same as above
	(512, 1818)		1, 2, 2, 4, 8, 16
	(512, 1832)		same as above
	(512, 409)		1, 2, 2, 4, 4, 4, 8, 8
	(512, 1862)		same as above
	(512,1854)		1, 2, 2, 4, 4, 4, 16
	(384,5567)	[0; 2, 4, 12]	3, 6, 6, 6, 6, 6
	(384,5654)		1, 2, 2, 3, 3, 4, 4, 6, 8
	(384,5625)		1, 2, 2, 3, 3, 4, 6, 12
	(384,591)	[0; 2, 6, 6]	3, 6, 12, 12
	(384,18135)	[0; 3, 4, 4]	3, 6, 12, 12
	(192,955)	[0; 4, 4, 6]	3, 3, 3, 6, 6, 6, 6
	(384,18136)	[0; 2, 2, 2, 3]	3, 3, 3, 8, 8, 8
	(384,20090)		2, 3, 3, 3, 6, 8, 8
	(384,20086)		2, 3, 3, 3, 4, 6, 12
	(256,2918)	[0; 2, 2, 2, 4]	1, 2, 2, 2, 2, 4, 4, 4, 4, 8
	(256,2934)		same as above
	(256,3180)		same as above
	(256,6334)		same as above
	(256,2950)		$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{6}$
	(256,3288)		same as above
	(256,3292)		same as above
	(256,3324)		same as above
	(256,2968)		1, 2, 2, 2, 2, 4, 4, 8, 8
	(256,3200)		same as above
	(256,3206)		same as above
	(256,6329)		same as above
	(256,3196)		1, 2, 2, 2, 2, 8, 8, 8
	(256,5078)		$1, 2, 2, \underbrace{4, \ldots, 4}_{7}$
	(256,5082)		1, 2, 2, 4, 4, 4, 8, 8
	(256,5102)		same as above
	(256,6665)		same as above
	(256,5136)		1, 2, 2, 4, 4, 4, 4, 4, 8
	(192,1472)	[0; 2, 2, 2, 6]	1, 2, 2, 3, 3, 3, 3, 4, 6, 6
	(192,1488)		1, 2, 2, 2, 2, 3, 3, 3, 3, 6, 6
36	(336, 208)	[0; 2, 6, 8]	6, 7, 7, 8, 8
37	(1728,31096)	[0; 2, 3, 8]	2, 3, 8, 24
	(864,3988)	[0; 2, 3, 12]	1, 3, 6, 9, 18
	(648,706)	[0; 2, 3, 18]	1, 4, 4, 4, 6, 6, 12
	(576,8271)	[0; 2, 3, 24]	1, 2, 3, 4, 6, 9, 12
	(864,4670)	[0; 2, 4, 6]	2, 3, 4, 4, 12, 12
	(576,2035)	[0; 2, 4, 8]	1, 4, 8, 8, 8, 8
	(576,5046)		1, 2, 2, 8, 8, 16
	(480,951)	[0; 2, 4, 10]	4, 4, 5, 6, 8, 10

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
	(432,568)	[0; 2, 4, 12]	1, 2, 2, 8, 8, 8
	(432,749)	[0; 2, 6, 6]	1, 1, 2, 2, 3, 4, 6, 6, 12
	(432,542)		1, 1, 2, 3, 6, 6, 6, 6, 6
	(216,99)	[0; 3, 6, 6]	1, 1, 2, 3, 6, 6, 6, 6, 6
	(432,748)	[0; 2, 2, 2, 3]	2, 2, 2, 3, 4, 6, 6, 12
	(432,523)		2, 2, 3, 6, 6, 6, 12
	(288,739)	[0; 2, 2, 2, 4]	$1, 2, 2, \underbrace{4, \ldots, 4}_{8}$
	(288,1034)		1, 3, 3, 3, 3, 6, 6, 6, 6
	(288,835)		same as above
	(288,889)		$1, 2, 2, \underbrace{4, \ldots, 4}_{6}, 8$
	(288,890)		1, 2, 2, 4, 4, 4, 4, 8, 8
	(216,129)	[0; 2, 2, 2, 6]	$1, 2, 2, \underbrace{4, \ldots, 4}_{8}$
	(216,171)		same as above
	(216,162)		1, 2, 2, 2, 2, 4, 4, 4, 4, 8
	(192,1475)	[0; 2, 2, 2, 8]	1, 2, 2, 2, 2, 3, 3, 3, 3, 4, 4, 4, 4
41	(960, 5719)	[0; 2, 4, 6]	5, 6, 8, 10, 12
	(480, 1189)	[0; 2, 4, 12]	1, 2, 3, 3, 8, 12, 12
	(384, 5581)	[0; 2, 6, 8]	2, 2, 3, 4, 6, 6, 6, 12
43	(672, 1254)	[0; 2, 4, 8]	6, 7, 7, 7, 8, 8
46	(324, 69)	[0; 2, 6, 18]	$1, 1, 2, \underbrace{6, \ldots, 6}_{7}$
49	(1152, 155454)	[0; 2, 3, 12]	1, 3, 9, 18, 18
	(1008, 883)	[0; 2, 3, 14]	3, 6, 6, 8, 12, 14
	(1920, 240996)	[0; 2, 4, 5]	4, 10, 15, 20
	(1152, 157849)	[0; 2, 4, 6]	4, 6, 9, 12, 18
	(896, 19344)	[0; 2, 4, 7]	7, 7, 7, 7, 7, 14
	(576, 1962)	[0; 2, 4, 12]	$1, \underbrace{4, \ldots, 4}_{6}, 8, 8, 8$
	(512, 1834)	[0; 2, 4, 16]	1, 2, 2, 4, 8, 8, 8, 8, 8
	(512, 1858)		1, 2, 2, 4, 4, 4, 8, 8, 8, 8
	(512, 1826)		1, 2, 2, 4, 8, 8, 8, 8, 8
	(960, 11358)	[0; 2, 5, 5]	4, 10, 15, 20
	(576, 5562)	[0; 2, 6, 6]	1, 1, 2, 3, 6, 6, 6, 12, 12
	(576, 5566)		same as above
	(576, 8654)		4, 6, 9, 9, 9, 12
	(384, 5797)	[0; 2, 6, 12]	$1, 1, 2, 3, \underbrace{6, \ldots, 6}_{7}$
	(576, 8653)	[0; 2, 2, 2, 3]	2, 2, 3, 3, 6, 6, 9, 9, 9
	(576, 8660)		2, 2, 3, 3, 3, 6, 6, 6, 6, 12
	(384, 1706)	[0; 2, 2, 2, 4]	1, 2, 2, 4, 4, 4, 4, 4, 8, 8, 8
	(384, 17856)		$1, 3, 3, 3, 3, \underbrace{6, \ldots, 6}_{6}$
	(384, 17873)		1, 2, 2, 3, 3, 3, 3, 4, 4, 6, 6, 6, 6
	(288, 627)	[0; 2, 2, 2, 6]	$1, \underbrace{2, \ldots, 2}_{8}, \underbrace{4, \ldots, 4}_{8}$
	(288, 1028)		1, 2, 2, 3, 3, 3, 3, 4, 4, 6, 6, 6, 6
	(256, 3066)	[0; 2, 2, 2, 8]	$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{10}$
	(256, 3268)		same as above
	(256, 3314)		same as above
	(256, 3076)		$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{8}, 8$
50	(588, 37)	[0; 2, 6, 6]	1, 1, 6, 6, 12, 12, 12
55	(1296, 3490)	[0; 2, 4, 6]	3, 12, 12, 12, 16
	(432, 537)	[0; 2, 2, 2, 4]	$1, 3, 3, \underbrace{6, \ldots, 6}_{8}$
	(432, 741)		1, 2, 4, 4, 4, 4, 8, 8, 8, 8
	(288, 911)	[0; 2, 2, 2, 8]	$1, 2, 2, 3, 3, \underbrace{4, \ldots, 4}_{8}, 6, 6$
57	(1344, 11289)	[0; 2, 4, 6]	6, 7, 8, 8, 12, 16
61	(1440, 4605)	[0; 2, 4, 6]	2, 5, 6, 8, 8, 10, 10, 12
	(720, 767)	[0; 2, 6, 6]	5, 5, 5, 6, 8, 10, 10, 12
	(288, 629)	[0; 2, 2, 2, 12]	$1, \underbrace{2, \ldots, 2}_{6}, \underbrace{4, \ldots, 4}_{12}$
65	3072_1	[0; 2, 3, 8]	2, 3, 12, 24, 24
	(1920, 240995)	[0; 2, 3, 10]	5, 15, 15, 15, 15
	2560	[0; 2, 4, 5]	5, 10, 10, 20, 20
	1536_3	[0; 2, 4, 6]	3, 6, 8, 12, 12, 12, 12
	1536_5		same as above

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
	1536_4		$2, 3, 6, 6, 12, 12, 24$
	1536_7		same as above
	1536_6		$2, 3, 6, 6, 12, 12, 12, 12$
	1536_9		$2, 3, 6, 6, 8, 8, 8, 24$
	1536_{10}		$2, 3, 6, 6, 8, 8, 16, 16$
	1024_6	$[0; 2, 4, 8]$	$1, 2, 2, 4, 8, 8, 8, 16, 16$
	1024_8		same as above
	1024_{15}		same as above
	1024_7		$1, 2, 2, 4, 4, 4, 8, 8, 8, 8, 16$
	1024_{10}		same as above
	1024_{11}		same as above
	$(768, 1085995)$	$[0; 2, 4, 12]$	$1, 2, 2, 3, 3, 4, 6, 8, 12, 12, 12$
	$(1280, 1116310)$	$[0; 2, 5, 5]$	$5, 10, 10, 20, 20$
	$(768, 1083691)$	$[0; 2, 6, 6]$	$1, 1, 3, \underbrace{6, \ldots, 6}_{6}, 12, 12$
	$(768, 1083794)$		$1, 1, 3, 6, 6, 12, 12, 12, 12$
	$(768, 1083785)$		same as above
	$(768, 1083783)$		same as above
	$(960, 11357)$	$[0; 3, 3, 5]$	$5, 15, 15, 15, 15$
	$(768, 1090018)$	$[0; 2, 2, 2, 3]$	$2, 3, 3, 3, 6, \underbrace{8, \ldots, 8}_{6}$
	$(768, 1090002)$		$2, 3, 3, 3, 4, 4, 6, 8, 8, 12, 12$
	$(768, 1090071)$		$2, 3, 3, 3, 6, 6, 6, 6, 6, 12, 12$
	$(512, 9905)$	$[0; 2, 2, 2, 4]$	$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{10}, 8, 8$
	$(512, 9981)$		same as above
	$(512, 10393)$		same as above
	$(512, 49991)$		same as above
	$(512, 51582)$		same as above
	$(512, 11841)$		$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{6}, 8, 8, 8, 8$
	$(512, 50000)$		same as above
	$(512, 50165)$		same as above
	$(512, 51325)$		same as above
	$(512, 51576)$		same as above
	$(512, 60359)$		$1, 2, 2, 2, 2, 4, 4, 4, 4, 8, 8, 8, 8, 8$
	$(512, 60371)$		
	$(384, 18072)$	$[0; 2, 2, 2, 6]$	$1, 2, 2, 2, 2, 3, 3, 3, 3, 4, 4, \underbrace{6, \ldots, 6}_{6}$
73	$(1728, 46270)$	$[0; 2, 4, 6]$	$2, 3, 4, 4, 4, 8, 8, 12, 12, 16$
	$(1152, 6750)$	$[0; 2, 4, 8]$	$1, 4, 4, 8, 8, 8, 8, 16, 16$
	$(1152, 5806)$		$1, 2, 2, 4, 8, 8, 8, 8, 16, 16$
	$(864, 2695)$	$[0; 2, 4, 12]$	$1, 2, 2, 4, \underbrace{8, \ldots, 8}_{8}$
	$(864, 4668)$		$1, 2, 3, 3, 8, 8, 12, 12, 12, 12$
	$(648, 294)$	$[0; 2, 6, 9]$	$1, \underbrace{6, \ldots, 6}_{12}$
	$(576, 4322)$	$[0; 2, 2, 2, 4]$	$1, 2, 2, \underbrace{4, \ldots, 4}_{9}, 8, 8, 8, 8$
	$(576, 4328)$		same as above
	$(576, 5412)$		$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{8}, 8, 8, 8, 8$
	$(576, 8458)$		$1, 2, 3, 3, 3, 3, 4, 4, 4, 4, 6, 6, 6, 6, 6, 12$
	$(432, 682)$	$[0; 2, 2, 2, 6]$	$1, 2, 2, 2, 2, \underbrace{4, \ldots, 4}_{16}$
	$(432, 746)$		$1, 2, 3, 3, 4, 4, 4, 4, \underbrace{6, \ldots, 6}_{8}$
81	$(1152, 157853)$	$[0; 2, 4, 9]$	$\underbrace{9, \ldots, 9}_{9}$
82	3888_2	$[0; 2, 3, 8]$	$2, 8, 8, 16, 24, 24$
	$(1944, 2319)$	$[0; 2, 4, 6]$	$2, 4, 4, 12, 12, 12, 12, 24$
	$(1296, 3522)$	$[0; 2, 4, 8]$	$2, 8, 8, 8, 8, 16, 16, 16$
	$(972, 427)$	$[0; 2, 6, 6]$	$1, 1, 2, 2, 4, 6, 6, 12, 12, 12, 12, 12$
	$(972, 474)$	$[0; 2, 2, 2, 3]$	$2, 2, 2, 4, \underbrace{6, \ldots, 6}_{6}, 12, 12, 12$
	$(648, 725)$	$[0; 2, 2, 2, 4]$	$2, \underbrace{4, \ldots, 4}_{8}, \underbrace{8, \ldots, 8}_{6}$
85	4032_1	$[0; 2, 3, 8]$	$8, 14, 18, 21, 24$
	2016_1	$[0; 2, 4, 6]$	$6, 7, 8, 8, 12, 14, 14, 16$
	$(1344, 11289)$	$[0; 2, 4, 8]$	$6, 7, 7, 7, 8, 8, 12, 14, 16$

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
91	$(432, 686)$	$[0; 2, 2, 2, 12]$	$1, 2, 2, 2, \underbrace{4, \ldots, 4}_{21}$
97	2304_1	$[0; 2, 3, 12]$	$1, 2, 3, 4, 6, 6, 9, 12, 18, 18, 18$
	2304_2		$1, 2, 4, 6, 12, 12, 12, 24, 24$
	3840_1	$[0; 2, 4, 5]$	$4, 10, 15, 20, 24, 24$
	$(1152, 157665)$	$[0; 2, 2, 2, 3]$	$2, 2, 3, 3, 3, 6, 6, 6, 6, 8, 8, 8, 8, 12, 16$
109	$(1296, 2945)$	$[0; 2, 6, 6]$	$1, 1, 2, 2, 3, 4, \underbrace{6, \ldots, 6}_{6}, 12, 12, 12, 12, 12$
	2592_A	$[0; 2, 4, 6]$	$2, 3, 12, 12, 12, 12, 16, 16, 24$
	$(1296, 3498)$	$[0; 2, 4, 12]$	$1, 4, 4, 4, \underbrace{8, \ldots, 8}_{8}, 16, 16$
	2592_B	$[0; 2, 3, 12]$	$1, 3, 6, 9, 18, 18, 18, 18, 18$
	$(1296, 2940)$	$[0; 2, 2, 2, 3]$	$2, 2, 2, 3, 4, \underbrace{6, \ldots, 6}_{8}, 12, 12, 12, 12$
121	2880	$[0; 2, 4, 6]$	$3, 5, 6, 8, 12, 12, 12, 15, 15, 15, 18$
129	3072_A	$[0; 2, 4, 6]$	$2, 3, 4, 6, 6, \underbrace{12, \ldots, 12}_{7}, 24$
	3072_B		$2, 3, 6, 6, 8, 8, \underbrace{12, \ldots, 12}_{6}, 24$
	3072_C		same as above
	3072_D		$2, 3, 6, 6, 8, 8, 12, 12, 24, 24, 24$
	3072_E		$3, 6, 8, 12, 12, 12, 12, 16, 24, 24$
	5120	$[0; 2, 4, 5]$	$4, 5, 10, 10, 20, 20, 20, 20, 20$
	6144	$[0; 2, 3, 8]$	$2, 3, 12, 16, 24, 24, 48$
			$2, 3, 12, 12, 12, 16, 24, 24, 24$
			$2, 3, 12, 24, 24, 32, 32$
	2048	$[0; 2, 4, 8]$	$1, 2, 2, 4, 4, 4, \underbrace{8, \ldots, 8}_{8}, 16, 16, 16$
			$1, 2, 2, 4, 4, 4, 8, 8, 8, 8, 16, 16, 16, 16, 16$
			$1, 2, 2, 4, 8, 8, 8, \underbrace{16, \ldots, 16}_{6}$
			$1, 2, 2, 4, \underbrace{8, \ldots, 8}_{7}, 16, 16, 16, 16$
	3072_F	$[0; 2, 3, 12]$	$1, 2, 6, \underbrace{12, \ldots, 12}_{6}, 24, 24$
	3072_G		$1, 2, 6, 12, 12, 24, 24, 24, 24$
	3072_H		same as above
	10752	$[0; 2, 3, 7]$	$3, 14, 14, 42, 56$
	1536	$[0; 2, 2, 2, 3]$	$2, 3, 3, 3, 6, 6, 6, 6, 6, 8, 8, \underbrace{12, \ldots, 12}_{6}$
145	$(1728, 13293)$	$[0; 2, 6, 6]$	$1, 1, 2, 3, \underbrace{6, \ldots, 6}_{7}, \underbrace{12, \ldots, 12}_{8}$
	$(1728, 13285)$		same as above
	$(1728, 32233)$		$1, 1, 2, 2, 3, 4, 6, 6, 6, 6, \underbrace{12, \ldots, 12}_{9}$
	3456	$[0; 2, 4, 6]$	$2, 3, 4, 4, 6, 6, 12, 12, 12, 12, 24, 24, 24$
	6912	$[0; 2, 3, 8]$	$2, 3, 8, 12, 24, 24, 24, 48$
	$(1728, 46256)$	$[0; 2, 4, 12]$	$1, 2, 2, 3, 3, 6, 8, 8, 8, 8, \underbrace{12, \ldots, 12}_{8}$
	2304	$[0; 2, 4, 8]$	$1, 2, 2, 4, 8, 8, 8, 8, 8, \underbrace{16, \ldots, 16}_{6}$
	$(1728, 46119)$	$[0; 2, 2, 2, 2, 3]$	$2, 2, 3, 3, 3, \underbrace{6, \ldots, 6}_{8}, \underbrace{12, \ldots, 12}_{7}$
	$(1728, 47900)$		$2, 2, 2, 3, 3, 3, 4, \underbrace{6, \ldots, 6}_{7}, \underbrace{12, \ldots, 12}_{7}$
163	2592_A	$[0; 2, 4, 8]$	$1, 2, \underbrace{8, \ldots, 8}_{8}, \underbrace{16, \ldots, 16}_{6}$
	2592_B		$1, 2, 8, 8, 8, 8, \underbrace{16, \ldots, 16}_{8}$
193	5760	$[0; 2, 3, 10]$	$5, 8, 15, 15, 15, 15, 30, 30, 30, 30$
	2304	$[0; 2, 2, 2, 3]$	$2, 2, 3, 3, 3, 6, 6, 6, 6, \underbrace{8, \ldots, 8}_{12}, 12, 16, 16, 16$
244	11664	$[0; 2, 3, 8]$	$2, 8, 8, 16, 24, 24, 36, 36, 36, 54$
257	12288_A	$[0; 2, 3, 8]$	$2, 3, 12, \underbrace{24, \ldots, 24}_{6}, 48, 48$
	12288_B		$2, 3, 12, 16, 16, 24, 24, 32, 32, 48, 48$

Table 1: (continued)

g	Automorphism Group	Signature	Jacobian Decomposition
	3072	$[0; 2, 6, 6]$	$1, 1, 3, \underbrace{6, \ldots, 6}_{6}, \underbrace{12, \ldots, 12}_{18}$
325	15552	$[0; 2, 3, 8]$	$2, 3, 8, 8, 16, \underbrace{24, \ldots, 24}_{6}, 48, 48, 48$
	3888	$[0; 2, 6, 6]$	$1, 1, 2, 2, 3, 4, \underbrace{6, \ldots, 6}_{10}, \underbrace{12, \ldots, 12}_{21}$
433	5184	$[0; 2, 6, 6]$	$1, 1, 2, 2, 3, 4, \underbrace{6, \ldots, 6}_{8}, \underbrace{12, \ldots, 12}_{31}$

Table 2: Completely decomposable Jacobian varieties using the intermediate cover technique.

g	Large g	Automorphism Group	Signature	Subgroup No., Order	Jacobian Decomposition
12	49	$(288, 627)$	$[0; 2, 2, 2, 6]$	28, 4	$\underbrace{1, \ldots, 1}_{6}, 2, 2, 2$
				29, 4	1, 1, 1, 1, 2, 2, 2, 2
14	145	$(1728, 46119)$	$[0; 2, 2, 2, 3]$	168, 8	$\underbrace{1, \ldots, 1}_{11}, 3$
18	73	$(1152, 5806)$	$[0; 2, 4, 8]$	32, 4	2, 2, 2, 4, 4, 4
				35, 4	1, 1, 2, 2, 2, 2, 4, 4
				38, 4	1, 1, 2, 2, 4, 4, 4
	145	$(1728, 46119)$	$[0; 2, 2, 2, 3]$	152, 8	$\underbrace{1, \ldots, 1}_{11}, 2, 2, 3$
20	82	3888_2	$[0; 2, 3, 8]$	13, 4	2, 2, 4, 6, 6
21	129	1536	$[0; 2, 2, 2, 3]$	128, 6	$\underbrace{1, \ldots, 1}_{7}, \underbrace{2, \ldots, 2}_{7}$
22	193	2304	$[0; 2, 2, 2, 3]$	132, 8	$\underbrace{1, \ldots, 1}_{7}, \underbrace{2, \ldots, 2}_{6}, 3$
23	49	$(256, 3066)$	$[0; 2, 2, 2, 8]$	9, 2	$1, 1, 1, \underbrace{2, \ldots, 2}_{10}$
24	49	$(288, 627)$	$[0; 2, 2, 2, 6]$	8, 2	$\underbrace{1, \ldots, 1}_{8}, \underbrace{2, \ldots, 2}_{8}$
26	109	$(1296, 2940)$	$[0; 2, 2, 2, 3]$	22, 4	$\underbrace{1, \ldots, 1}_{7}, 2, 2, 2, 2, 2, 3, 3, 3$
27	55	$(432, 537)$	$[0; 2, 2, 2, 4]$	6, 2	$1, 2, \underbrace{3, \ldots, 3}_{8}$
		$(288, 911)$	$[0; 2, 2, 2, 8]$	6, 2	$1, 1, 1, \underbrace{2, \ldots, 2}_{9}, 3, 3$
29	97	$(1152, 157665)$	$[0; 2, 2, 2, 3]$	13, 3	$1, 1, 1, \underbrace{2, \ldots, 2}_{8}, 4, 6$
30	61	$(720, 767)$	$[0; 2, 6, 6]$	5, 2	2, 2, 3, 3, 4, 5, 5, 6
32	97	2304_6	$[0; 2, 3, 12]$	10, 3	2, 2, 4, 4, 4, 8, 8
33	193	2304	$[0; 2, 2, 2, 3]$	74, 6	$\underbrace{1, \ldots, 1}_{7}, \underbrace{2, \ldots, 2}_{13}$
34	73	$(432, 682)$	$[0; 2, 2, 2, 6]$	5, 2	$1, 1, \underbrace{2, \ldots, 2}_{16}$
35	73	$(1152, 5806)$	$[0; 2, 4, 8]$	10, 2	1, 2, 4, 4, 4, 4, 8, 8
	145	$(1728, 46119)$	$[0; 2, 2, 2, 3]$	54, 4	$\underbrace{1, \ldots, 1}_{10}, 2, 2, 2, 3, 4, 4, 4, 4$
39	81	$(1152, 157853)$	$[0; 2, 4, 9]$	9, 2	$\underbrace{4, \ldots, 4}_{6}, 5, 5, 5$
40	82	$(972, 474)$	$[0; 2, 2, 2, 3]$	4, 2	$1, 1, \underbrace{2, 3, \ldots, 3}_{6}, 6, 6, 6$
41	129	1536	$[0; 2, 2, 2, 3]$	15, 3	$1, 1, 1, \underbrace{2, \ldots, 2}_{7}, \underbrace{4, \ldots, 4}_{6}$
42	129	3072_F	$[0; 2, 3, 12]$	11, 3	$2, \underbrace{4, \ldots, 4}_{6}, 8, 8$
		3072_B		5, 3	2, 4, 4, 8, 8, 8, 8
43	193	2304	$[0; 2, 2, 2, 3]$	34, 4	1, 1, 1, 1, 2, 2, 2, 3, 4, 4, 4, 4, 6, 8
44	91	$(432, 686)$	$[0; 2, 2, 2, 12]$	7, 2	$1, 1, \underbrace{2, \cdots, 2}_{21}$
45	91	$(432, 686)$	$[0; 2, 2, 2, 12]$	8, 2	$1, 1, 1, \underbrace{2, \cdots, 2}_{21}$
46	109	$(1296, 2940)$	$[0; 2, 2, 2, 3]$	3, 2	$1, 1, 1, \underbrace{2, \cdots, 2}_{8}, 3, 6, 6, 6, 6$
47	97	3840_1	$[0; 2, 4, 5]$	5, 2	2, 4, 7, 10, 12, 12
		$(1152, 157665)$	$[0; 2, 2, 2, 3]$	10, 2	1, 1, 1, 1, 1, 3, 3, 3, 3, 4, 4, 4, 4, 6, 8
48	145	$(1728, 13293)$	$[0; 2, 6, 6]$	12, 3	$1, 1, \underbrace{2, \cdots, 2}_{7}, \underbrace{4, \ldots, 4}_{8}$
		$(1728, 13285)$		14, 3	same as above
51	101	$(800, 980)$	$[0; 2, 8, 8]$	5, 2	$1, 2, \underbrace{4, \ldots, 4}_{12}$
		2400_1	$[0; 3, 3, 4]$	3, 2	3, 12, 12, 12, 12

Table 2: (continued)

g	Large g	Automorphism Group	Signature	Subgroup No., Order	Jacobian Decomposition
		$(800, 464)$	$[0; 4, 4, 4]$	6, 2	$1, 1, 1, \underbrace{4, \ldots, 4}_{12}$
52	109	2592_A	$[0; 2, 4, 6]$	7, 2	$1, 1, 5, 5, 6, 6, 8, 8, 12$
	109	$(1296, 2940)$	$[0; 2, 2, 2, 3]$	5, 2	$1, 1, 1, 2, 2, \underbrace{3, \ldots, 3}_{7}, 6, 6, 6, 6$
53	109	$(1296, 2945)$	$[0; 2, 6, 6]$	8, 2	$1, 1, 1, 2, \underbrace{3, \ldots, 3}_{6}, 6, 6, 6, 6, 6$
	109	$(1296, 2940)$	$[0; 2, 2, 2, 3]$	6, 2	$1, 1, 1, 2, \underbrace{3, \ldots, 3}_{8}, 6, 6, 6, 6$
54	109	$(1296, 3498)$	$[0; 2, 4, 12]$	6, 2	$2, 2, 2, \underbrace{4, \ldots, 4}_{8}, 8, 8$
57	193	2304	$[0; 2, 2, 2, 3]$	15, 3	$1, 1, 1, \underbrace{2, \ldots, 2}_{16}, 4, 6, 6, 6$
58	244	11664	$[0; 2, 3, 8]$	14, 4	$2,\ 2,\ 4,\ 6,\ 6,\ 8,\ 8,\ 8,\ 14$
62	257	12288_B	$[0; 2, 3, 8]$	35, 4	$2,\ 4,\ 4,\ 6,\ 6,\ 8,\ 8,\ 12{,}12$
		12288_A		46, 4	$2, \underbrace{6, \ldots, 6}_{6}, 12, 12$
63	129	3072_C	$[0; 2, 4, 8]$	7, 2	$1, 1, 1, 2, 2, 4, 4, 4, 4, 8, 8, 8, 8, 8$
		3072_D		5, 2	$1, 2, 4, 4, 4, \underbrace{8, \ldots, 8}_{6}$
		3072_D		6, 2	$1, 1, 1, 4, 4, 4, \underbrace{8, \ldots, 8}_{6}$
	193	5760	$[0; 2, 3, 10]$	9, 3	$1, 2, 5, 5, 5, 5, 10, 10, 10, 10$
64	325	3888	$[0; 2, 6, 6]$	28, 4	$1, \underbrace{3, \ldots, 3}_{21}$
67	145	$(1728, 32233)$	$[0; 2, 6, 6]$	6, 2	$1, 1, 2, 3, 3, 3, \underbrace{6, \ldots, 6}_{9}$
	145	$(1728, 46119)$	$[0; 2, 2, 2, 3]$	11, 2	$1, 1, 1, 1, 1, 2, 2, 2, 2, 3, 3, 3, 3, \underbrace{6, \ldots, 6}_{7}$
69	145	$(1728, 13285)$	$[0; 2, 6, 6]$	9, 2	$1, 1, 2, 2, 3, 3, 3, 3, 3, \underbrace{6, \ldots, 6}_{8}$
		$(1728, 32233)$		9, 2	$1, 1, 1, 2, 2, 2, 3, 3, \underbrace{6, \ldots, 6}_{9}$
	145	$(1728, 46119)$	$[0; 2, 2, 2, 3]$	12, 2	$1, 1, 1, 1, 2, \underbrace{3, \ldots, 3}_{7}, \underbrace{6, \ldots, 6}_{7}$
71	145	$(1728, 13293)$	$[0; 2, 6, 6]$	8, 2	$1, 1, \underbrace{3, \ldots, 3}_{7}, \underbrace{6, \ldots, 6}_{8}$
		$(1728, 13285)$		8, 2	same as above
72	325	15552	$[0; 2, 3, 8]$	22, 4	$1, 1, 4, \underbrace{5, \ldots, 5}_{6}, 12, 12, 12$
79	163	2592_D	$[0; 2, 4, 8]$	6, 2	$1, 3, 3, 4, 4, \underbrace{8, \ldots, 8}_{8}$
80	163	2592_C	$[0; 2, 4, 8]$	5, 2	$\underbrace{4, \ldots, 4}_{8}, \underbrace{8, \ldots, 8}_{6}$
		2592_D		5, 2	$4, 4, 4, 4, \underbrace{8, \ldots, 8}_{8}$
89	193	5760	$[0; 2, 3, 10]$	3, 2	$4, 5, 5, 5, 10, 15, 15, 15, 15$
93	193	2304	$[0; 2, 2, 2, 3]$	11, 2	$1, 1, 1, 1, 2, 3, 3, 3, \underbrace{4, \ldots, 4}_{12}, 6, 8, 8, 8$
95	193	2304	$[0; 2, 2, 2, 3]$	12, 2	$1, 1, 1, 1, 1, 1, 3, 3, 3, 3, \underbrace{4, \ldots, 4}_{12}, 6, 8, 8, 8$
103	433	5184	$[0; 2, 6, 6]$	32, 4	$1, 1, 1, 1, \underbrace{2, \ldots, 2}_{27}, 3, 3, 3, 3, 3, 6, 6, 6, 6, 6$
105	433	5184	$[0; 2, 6, 6]$	35, 4	$1, 1, 1, \underbrace{2, \ldots, 2}_{27}, \underbrace{3, \ldots, 3}_{6}, 6, 6, 6, 6, 6$
				49, 4	$\underbrace{1, \ldots 1}_{8}, \underbrace{2, \ldots, 2}_{18}, 3, \underbrace{4, \ldots, 4}_{13}, 6$
106	325	15522	$[0; 2, 3, 8]$	14, 3	$1, 2, 2, 5, \underbrace{8, \ldots, 8}_{6}, 16, 16, 16$
107	433	5184	$[0; 2, 6, 6]$	38, 4	$\underbrace{1, \ldots 1}_{8}, \underbrace{2, \ldots, 2}_{19}, 3, \underbrace{4, \ldots, 4}_{13}, 6$

Table 2: (continued)

g	Large g	Automorphism Group	Signature	Subgroup No., Order	Jacobian Decomposition
				39, 4	$\underbrace{1,\dots 1}_{10},\underbrace{2,\dots,2}_{18},3,\underbrace{4,\dots,4}_{13},6$
				50, 4	$\underbrace{1,\dots 1}_{5},\underbrace{2,\dots,2}_{27},\underbrace{3,\dots,3}_{6},\underbrace{6,\dots,6}_{5}$
118	244	11664	$[0;2,3,8]$	2, 2	$4,4,8,12,12,16,16,16,30$
				3, 2	$1,3,3,8,11,11,18,18,18,27$
125	257	12288_A	$[0;2,3,8]$	5, 2	$1,4,\underbrace{12,\dots,12}_{6},24,24$
		12288_B		6, 2	$1,4,8,8,12,12,16,16,24,24$
				7, 2	$1,1,5,8,8,11,11,16,16,24,24$
142	433	5184	$[0;2,6,6]$	17, 3	$1,1,\underbrace{2,\dots,2}_{8},\underbrace{4,\dots,4}_{31}$
154	325	15552	$[0;2,3,8]$	4, 2	$1,1,3,3,8,\underbrace{11,\dots,11}_{6},24,24,24$
161	325	15552	$[0;2,3,8]$	5, 2	$1,4,4,8,\underbrace{12,\dots,12}_{6},24,24,24$
199	433	5184	$[0;2,6,6]$	5, 2	$1,1,2,3,3,3,\underbrace{6,\dots,6}_{31}$
211	433	5184	$[0;2,6,6]$	7, 2	$1,1,2,\underbrace{3,\dots,3}_{7},\underbrace{6,\dots,6}_{31}$
213	433	5184	$[0;2,6,6]$	9, 2	$1,1,1,2,2,2,\underbrace{3,\dots,3}_{6},\underbrace{6,\dots,6}_{31}$
217	433	5184	$[0;2,6,6]$	2, 2	$1,1,2,2,2,2,3,,\underbrace{4,\dots,4}_{27},\underbrace{6,\dots,6}_{6},12,12,12,12,12$
		5184		3, 2	$1,1,1,\underbrace{2,\dots,2}_{8},\underbrace{4,\dots,4}_{19},6,\underbrace{8,\dots,8}_{13},12$
		5184		6, 2	$1,1,2,\underbrace{3,\dots,3}_{7},\underbrace{6,\dots,6}_{32}$
		5184		8, 2	$1,1,2,2,\underbrace{3,\dots,3}_{7},4,\underbrace{6,\dots,6}_{31}$
		5184		10, 2	$1,1,1,2,\underbrace{3,\dots,3}_{6},4,4,\underbrace{6,\dots,6}_{31}$

TABLE 3. Generators and relations for groups from the paper with order not found in the Magma or GAP database.

g	Size	Group
109	2592_A	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, xzy^{-1}zyxy^{-1}z^{-1}yz^{-1}, xzyz^{-1}xz^2y^{-2}z^{-3}yz^{-1}y^2z^{-2}xy^{-1}z^{-2}xy^{-1}z^{-2}\rangle$
109	2592_B	$\langle x,y,z \mid x^2, y^3, z^{-1}y^{-1}x, z^{12}, yxz^3yxz^2y^{-1}z^{-1}xz^3, xzyxz^2yxzyxzyz^{-1}xzyxzyxzy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-2}xy^{-1}z^{-1}\rangle$
121	2880	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, (xz^2y)^4, y^{-1}zy^{-1}zy^{-1}z^{-3}yz^{-1}yz^{-1}xz^2\rangle$
129	10752	$\langle x,y,z \mid x^2, y^3, z^7, z^{-1}y^{-1}x, zyxzyxzy^{-1}z^2yxzyxy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}x, xz^2yz^{-1}xz^2yz^{-1}xz^2yz^{-1}xz^2yxy^{-1}z^2y^{-1}z^{-2}xzy^{-1}z^{-2}\rangle$
129	6144_A	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, zyxz^2yz^{-1}xzyz^{-1}xzyxzyxz^4yz^{-2}x, xzy^{-1}z^{-3}xzyxz^3yxzyxyz^{-1}xzy^{-1}z^{-3}\rangle$
129	6144_B	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, zyz^{-1}xzy^{-1}z^{-2}xz^2yxyxzy^{-1}z^{-2}xz, xzy^{-1}z^{-3}xzyxz^3yxzyxyz^{-1}xzy^{-1}z^{-3}\rangle$
129	6144_C	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, xzyxzyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}, xzy^{-1}z^{-3}xzyxz^3yxzyxyz^{-1}xzy^{-1}z^{-3}\rangle$
129	5120	$\langle x,y,z \mid x^2, y^4, z^5, z^{-1}y^{-1}x, xzy^{-1}z^2yz^{-1}yz^{-1}xzy^{-1}zy^{-1}z^{-2}yz^{-1}, z^{-1}yz^{-1}yz^{-1}yz^{-1}yz^{-1}xz^2y^{-1}z^{-2}yz^{-1}y\rangle$
129	3072_A	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, (xz^2y)^4, xzyxzy^{-1}zy^{-1}zy^{-1}z^{-1}xy^{-1}z^{-1}yz^{-1}y, yxz^2yz^{-1}yxy^{-1}z^{-2}xy^{-1}z^{-2}yxz\rangle$
129	3072_B	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, (z^{-1}yz^{-1})^4, (xz^2y)^4\rangle$
129	3072_C	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, yxzy^{-1}zyxy^{-1}zy^{-1}z^{-1}yz^{-2}, xzyxzy^{-1}zy^{-1}zy^{-1}z^{-1}xy^{-1}z^{-1}yz^{-1}y, z^{-1}yz^{-1}yz^{-1}yxy^{-2}z^{-1}yz^{-1}yz^{-1}yz^{-1}y\rangle$
129	3072_D	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, xzy^{-1}zy^{-1}z^{-3}y^2xy^{-1}zy^{-1}z^{-2}, yz^{-2}yz^{-1}yxy^{-1}zy^{-1}z^{-1}yz^{-1}yz^{-1}, yxzyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}xz\rangle$
129	3072_E	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, xzyxzy^{-1}zy^{-1}zy^{-1}z^{-1}xy^{-1}z^{-1}yz^{-1}y, z^2yxzyxy^{-1}z^{-2}xy^{-1}z^{-1}xy^{-1}z^{-1}x, (z^{-2}xz^2yz^{-1}y)^2\rangle$
129	3072_F	$\langle x,y,z \mid x^2, y^3, z^{-1}y^{-1}x, z^{12}, yz^{-1}xzyz^{-2}xzyxy^{-1}zy^{-1}z^{-3}xz, xzyxzyxzyxzyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}\rangle$
129	3072_G	$\langle x,y,z \mid x^2, y^3, z^{-1}y^{-1}x, z^{12}, yz^{-1}xzyz^{-2}xzyxy^{-1}zy^{-1}z^{-3}xz, z^2yz^{-1}xzyxzyxzyxzyxy^{-1}z^{-2}xzy^{-1}z^{-1}x\rangle$
129	3072_H	$\langle x,y,z \mid x^2, y^3, z^{-1}y^{-1}x, z^{12}, xz^3yz^{-2}xz^2y^{-1}z^{-3}\rangle$
129	2048_A	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^3y^{-1}zy^{-1}z^4yz^{-1}, (z^{-1}yz^{-1})^4, z^{-1}yz^{-1}yz^{-1}yxy^{-2}z^{-1}yz^{-1}yz^{-1}yz^{-1}y\rangle$
129	2048_B	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, zyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}x, yxzy^{-1}zyxy^{-1}zy^{-1}z^{-1}yz^{-2}, z^{-1}xzyz^{-1}xzy^{-1}z^{-1}xy^{-1}z^{-1}yz^{-1}y\rangle$
129	2048_C	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xzyz^{-1}yxy^{-1}z^{-1}xy^{-1}z^{-1}yz^{-1}\rangle$
129	2048_D	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^3y^{-1}zy^{-1}z^4yz^{-1}, (z^{-1}yz^{-1})^4, yz^{-1}yz^{-1}yz^{-1}yxy^{-2}z^{-1}yz^{-1}xzy^{-1}z^2\rangle$
129	2048_E	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^2yz^{-1}xzy^{-1}z^{-2}, yxzy^{-1}zyxy^{-1}zy^{-1}z^{-1}yz^{-2}\rangle$
129	2048_F	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^2yz^{-1}xzy^{-1}z^{-2}, zyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}x, z^{-1}yz^{-3}yxy^2z^{-1}yz^{-3}yz^{-1}y\rangle$
129	1536	$\langle x,y,z,w \mid x^2, y^2, z^2, w^3, zyxw^{-1}, (xy)^4, (xz)^6, yzxzxzyw^{-1}xzxw, zywxwxwxzxw^{-1}xw^{-1}xw^{-1}y\rangle$
145	6912	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, xzyxzyxzyz^{-1}yz^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}, (yz^{-1}xzy^{-1}z^{-2}xz^2)^2, yz^{-1}xz^2yxz^2yxz^2yxz^2yxzyz^{-1}xy^{-1}z^{-2}xy^{-1}z^{-2}xz\rangle$
145	3456	$\langle x,y,z \mid x^2, y^4, z^6, z^{-1}y^{-1}x, (z^{-1}yz^{-1})^4, xzyxzy^{-1}z^{-2}xy^{-1}z^{-1}xz^2yz^{-1}, z^{-1}yz^{-1}xzy^{-1}zy^{-1}zy^{-1}zy^{-1}z^{-2}yz^{-1}y\rangle$
145	2304	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^2yz^{-1}xzy^{-1}z^{-2}, zyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}x, yxy^{-1}z^{-1}xz^2y^{-1}zy^2z^{-1}yz^{-2}xy^{-1}z^{-2}\rangle$
163	2592_C	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, xz^2yz^{-1}xzy^{-1}z^{-2}, yz^{-1}yz^{-1}yxy^2z^{-1}yz^{-1}yz^{-1}, zyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}x\rangle$
163	2592_D	$\langle x,y,z \mid x^2, y^4, z^8, z^{-1}y^{-1}x, yz^{-1}yz^{-1}yxy^2z^{-1}yz^{-1}yz^{-1}, y^{-1}z^{-4}yxy^{-1}z^4yx, (z^{-1}yz^{-1})^4\rangle$
193	5760	$\langle x,y,z \mid x^2, y^3, z^{10}, z^{-1}y^{-1}x, xz^2yz^{-1}xzy^{-1}z^{-2}xzy^{-1}z^{-2}, yz^{-1}xz^4yz^{-1}xy^{-1}z^{-1}xy^{-1}z^{-2}xz^4yz^{-1}xy^{-1}z^{-1}xz, z^2y^{-1}z^{-4}xzyz^{-1}xz^2yxzyxz^{-1}xzy^{-1}z^{-3}x\rangle$
193	2304	$\langle x,y,z,w \mid x^2, y^2, z^2, w^3, zyxw^{-1}, (xz)^6, ywxzxzyw^{-1}xw^{-1}xw, (yw^{-1})^6, (xwyw^{-1}yw^{-1})^2, xyxyxzxyw^{-1}zxyxywy\rangle$
244	11664	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, zyxzyxzyxy^{-1}z^{-1}xy^{-1}z^{-1}xy^{-1}z^{-1}x, z^2yxz^2yxz^2yxz^2yxy^{-1}xy^{-1}z^{-1}xzy^{-1}z^{-1}x\rangle$
257	12288_A	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, yxzyxzyxzy^{-1}zy^{-1}z^{-1}xy^{-1}z^{-1}xz, z^2yz^{-1}xz^2yz^{-1}xzy^{-1}z^{-2}xzy^{-1}z^{-2}x, z^3yxz^2y^{-1}z^3y^{-1}z^{-3}xzyz^{-1}xzyxzxzy^{-1}z^{-2}xy^{-1}z^{-3}x\rangle$
257	12288_B	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, yxz^2yz^{-1}xzyz^{-1}xzyxzy^{-1}z^{-2}xy^{-1}z^{-2}xz\rangle$
325	15552	$\langle x,y,z \mid x^2, y^3, z^8, z^{-1}y^{-1}x, zyxzyxzyxz^2xzy^{-1}z^{-1}xy^{-1}z^{-1}x, z^2yxzyz^{-3}xzyxz^2y^{-2}z^{-1}xzy^{-1}z^{-2}x, zyz^{-2}xz^2yz^{-2}xz^2yz^{-2}yz^{-3}xz^3yz^{-1}xz^3yz^{-3}yz^{-2}xz\rangle$
325	3888	$\langle x,y,z \mid x^2, y^6, z^6, z^{-1}y^{-1}x, (xz^2y^2)^2, (yz^{-2}yz^{-1}y)^2, xzy^2z^{-1}y^2z^{-1}y^2z^{-1}yxy^{-}1z^{-1}yz^{-1}y, xzyxy^{-1}z^{-3}yxy^{-1}z^{-1}xz^2yz^{-2}yz^{-1}\rangle$
433	5184	$\langle x,y,z \mid x^2, y^6, z^6, z^{-1}y^{-1}x, (xz^2y^2)^2, (yz^{-2}yz^{-1}y)^2, xy^{-1}zy^2z^{-1}yxy^{-2}z^{-1}yxy^{-1}zy^{-2}z^{-1}y\rangle$