

$$d = 12$$

$$\Phi_{\mathbb{Q}}(12) \supseteq \left\{ \begin{array}{l} (2), (3), (4), (5), (6), (7), (8), (9), (10), (12), (13), (14), (15), (16), (18), (20), (21), (24), (26), (28), (30), (36), (37), (42) \\ , (2, 2), (2, 4), (2, 6), (2, 8), (2, 10), (2, 12), (2, 14), (2, 16), (2, 18), (2, 28), (2, 30), (2, 42), \\ (3, 3), (3, 6), (3, 9), (3, 12), (3, 15), (3, 21), (4, 4), (4, 8), (4, 12), (5, 5), (5, 10), (6, 6), (6, 12) \end{array} \right\}$$

$G$	$\Phi_{\mathbb{Q}}(12, G) \setminus \{G\} \supseteq$
()	$\left\{ \begin{array}{l} (2), (3), (4), (5), (6), (7), (8), (9), (10), (12), (13), (14), (15), (18), (21), (26), (30), (37), \\ (2, 2), (2, 4), (2, 6), (2, 10), (2, 14), (2, 18), (2, 28), (2, 30), (3, 3), (3, 6), (3, 9), (3, 15), (4, 4), (4, 12), (5, 5), (5, 10), (6, 6) \end{array} \right\}$
(2)	$\left\{ \begin{array}{l} (4), (6), (8), (10), (12), (14), (16), (18), (20), (24), (28), (36), (42), \\ (2, 2), (2, 4), (2, 6), (2, 8), (2, 10), (2, 12), (2, 14), (2, 16), (2, 18), (2, 28), (2, 42), (3, 6), (3, 12), (4, 4), (4, 8), (6, 6), (6, 12) \end{array} \right\}$
(3)	$\{(6), (9), (12), (15), (21), (24), (30), (2, 6), (2, 12), (2, 30), (3, 3), (3, 6), (3, 9), (3, 15), (3, 21), (4, 12), (6, 6)\}$
(4)	$\{(8), (12), (16), (24), (2, 4), (2, 8), (2, 12), (2, 16), (3, 12), (4, 4), (4, 8), (6, 12)\}$
(5)	$\{(10), (15), (20), (30), (2, 10), (2, 30), (3, 15), (5, 5), (5, 10)\}$
(6)	$\{(12), (18), (24), (36), (42), (2, 6), (2, 12), (2, 18), (2, 42), (3, 6), (3, 12), (6, 6), (6, 12)\}$
(7)	$\{(14), (28), (2, 14)\}$
(8)	$\{(16), (2, 8), (2, 16), (4, 8)\}$
(9)	$\{(18), (36), (2, 18), (3, 9)\}$
(10)	$\{(20), (2, 10)\}$
(12)	$\{(24), (2, 12), (3, 12), (6, 12)\}$
(2, 2)	$\{(2, 4), (2, 6), (2, 8), (2, 12), (2, 16), (4, 4), (4, 8), (6, 6), (6, 12)\}$
(2, 4)	$\{(2, 8), (2, 16), (4, 4), (4, 8)\}$
(2, 6)	$\{(2, 12), (6, 6), (6, 12)\}$
(2, 8)	$\{(2, 16), (4, 8)\}$

$$h_{\mathbb{Q}}(12) \geq 19 \quad \#\mathcal{H}_{\mathbb{Q}}(12) \geq 268 \quad N_{\mathbb{Q}}(12) \geq 18176$$

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
()	(2, 2), (2, 4)	392b1
()	(2, 14), (2, 28)	1922c1
()	(2), (4), (2, 2)	37a1
()	(2, 2), (2, 4), (2, 14)	1922e1
()	(4), (8), (4, 4)	648a1
()	(7), (2, 2), (2, 4)	1922c2
()	(2), (4), (5), (2, 10)	121d1
()	(2), (4), (7), (2, 2)	26b2
()	(2), (4), (7), (2, 14)	10816bk1
()	(2), (4), (13), (2, 2)	147b1
()	(2), (4), (37), (2, 2)	1225e1
()	(3), (6), (12), (6, 6)	486a1
()	(4), (7), (8), (4, 4)	338b1
()	(2), (4) <sup>2</sup> , (2, 2), (4, 4)	648c1
()	(2), (4), (5), (2, 2), (2, 10)	1369e1
()	(2), (4), (5), (10), (2, 2)	11a2
()	(2), (4), (13), (26), (2, 2)	2890d1
()	(3), (6), (12), (21), (6, 6)	108a2
()	(2), (3) <sup>2</sup> , (4), (2, 6), (3, 3)	300b2
()	(2), (3), (4), (9), (2, 18), (3, 9)	1728e3
()	(2), (4) <sup>2</sup> , (7), (2, 2), (4, 4)	338a1
()	(2), (4), (5) <sup>2</sup> , (10), (2, 10)	121d2
()	(2), (4), (5), (10), (2, 2), (2, 10)	75a2
()	(2), (4), (7), (14), (2, 2), (2, 14)	208d1
()	(3) <sup>2</sup> , (2, 2), (2, 4), (2, 6), (3, 3)	196a1
()	(3) <sup>2</sup> , (4), (8), (3, 3), (4, 12)	1296h1
()	(2), (3) <sup>2</sup> , (4), (6), (2, 2), (2, 6)	6627e1
()	(2), (3) <sup>2</sup> , (4), (6) <sup>2</sup> , (2, 2)	1210d1
()	(2), (3) <sup>2</sup> , (4), (9), (2, 6), (3, 9)	15552ch2
()	(2), (3) <sup>2</sup> , (4), (21), (2, 6), (3, 3)	225b2
()	(2), (3), (4), (6) <sup>2</sup> , (2, 2), (6, 6)	300a1
()	(2), (4), (5) <sup>2</sup> , (10) <sup>2</sup> , (2, 2)	18176b2
()	(2), (3) <sup>2</sup> , (4) <sup>2</sup> , (2, 6), (3, 3), (4, 12)	1296j1
()	(2), (3) <sup>2</sup> , (4), (5), (10), (2, 6), (3, 3)	1600v1
()	(2), (3) <sup>2</sup> , (4), (6), (2, 2), (2, 6), (3, 3)	44a2
()	(2), (3) <sup>2</sup> , (4), (6), (2, 2), (2, 6), (3, 9)	486c2
()	(2), (3) <sup>2</sup> , (4), (6), (2, 6), (3, 3), (6, 6)	361b2

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
()	(2), (3) <sup>2</sup> , (4), (6), (9), (2, 2), (2, 6)	121b1
()	(2), (3) <sup>2</sup> , (4), (7), (21), (2, 6), (3, 3)	441b2
()	(2), (3) <sup>2</sup> , (4), (9) <sup>2</sup> , (2, 6), (3, 3)	361b1
()	(2), (3) <sup>2</sup> , (4), (12), (2, 2), (3, 3), (4, 12)	162a2
()	(2), (3), (4), (6) <sup>2</sup> , (7), (2, 2), (6, 6)	1728f1
()	(2), (3), (4), (9), (18), (2, 2), (2, 18), (3, 9)	54a2
()	(2), (3), (6) <sup>2</sup> , (7), (12), (2, 2), (6, 6)	432b1
()	(2), (4), (5) <sup>2</sup> , (10) <sup>2</sup> , (2, 2), (2, 10)	99d2
()	(2), (4), (5), (10), (2, 2), (2, 10), (5, 5), (5, 10)	275b2
()	(3) <sup>2</sup> , (4), (8), (12), (3, 3), (4, 4), (4, 12)	162d2
()	(2), (3) <sup>2</sup> , (4), (5), (6) <sup>2</sup> , (10), (2, 2)	338d1
()	(2), (3) <sup>2</sup> , (4), (6), (7), (2, 2), (2, 6), (3, 3)	225a1
()	(2), (3) <sup>2</sup> , (4), (6), (9), (2, 2), (2, 6), (3, 9)	1734j1
()	(2), (3) <sup>2</sup> , (4), (6), (9), (2, 6), (3, 3), (6, 6)	1728e2
()	(2), (3) <sup>2</sup> , (4), (6), (21), (2, 2), (2, 6), (3, 3)	162c2
()	(2), (3) <sup>2</sup> , (4), (9) <sup>2</sup> , (21), (2, 6), (3, 3)	27a2
()	(2), (3) <sup>2</sup> , (6), (7), (12), (2, 2), (2, 6), (3, 3)	3600bd2
()	(2), (3) <sup>2</sup> , (4), (5), (6), (10), (2, 2), (2, 6), (3, 3)	400b3
()	(2), (3) <sup>2</sup> , (4), (6), (7) <sup>2</sup> , (2, 2), (2, 6), (3, 3)	441a1
()	(2), (3) <sup>2</sup> , (4), (6), (7), (21), (2, 2), (2, 6), (3, 3)	162b2
()	(2), (3) <sup>2</sup> , (4), (6), (9) <sup>2</sup> , (2, 2), (2, 6), (3, 3)	19a2
()	(2), (3) <sup>2</sup> , (4), (6), (15), (30), (2, 2), (2, 6), (3, 3)	50b3
()	(2), (3) <sup>2</sup> , (6), (7) <sup>2</sup> , (12), (2, 2), (2, 6), (3, 3)	7056bc2
()	(2), (3) <sup>2</sup> , (4), (5), (6), (10), (15), (2, 2), (2, 6), (3, 3)	50a2
()	(2), (3) <sup>2</sup> , (4), (5), (6), (15) <sup>2</sup> , (2, 10), (2, 30), (3, 3)	1600q1
()	(2), (3) <sup>2</sup> , (4), (5), (10), (15) <sup>2</sup> , (2, 6), (2, 30), (3, 3)	1600v3
()	(2), (3) <sup>2</sup> , (4), (6) <sup>2</sup> , (2, 2), (2, 6) <sup>2</sup> , (3, 3), (3, 6)	175b2
()	(2), (3) <sup>2</sup> , (4), (6), (7), (9) <sup>2</sup> , (2, 2), (2, 6), (3, 3)	432a2
()	(2), (3) <sup>2</sup> , (6), (7), (9) <sup>2</sup> , (12), (2, 2), (2, 6), (3, 3)	432a4
()	(2), (3) <sup>2</sup> , (4) <sup>2</sup> , (6), (12) <sup>2</sup> , (2, 2), (2, 6), (3, 3), (4, 4)	4050g2
()	(2), (3) <sup>2</sup> , (4), (6) <sup>2</sup> , (7), (9) <sup>2</sup> , (2, 2), (3, 3), (6, 6)	675a1
()	(2), (3) <sup>2</sup> , (4), (6) <sup>2</sup> , (9), (2, 2), (2, 6) <sup>2</sup> , (3, 3), (3, 6)	432e2
()	(2), (3) <sup>2</sup> , (6) <sup>2</sup> , (7), (9) <sup>2</sup> , (12), (2, 2), (3, 3), (6, 6)	432a1
()	(2), (3) <sup>2</sup> , (4), (5), (6), (10), (15), (30), (2, 2), (2, 6), (2, 10), (3, 15)	450d1
()	(2), (3) <sup>2</sup> , (4), (5), (6), (10), (15) <sup>2</sup> , (30), (2, 2), (2, 6), (2, 10), (3, 3)	400b1
()	(2), (3) <sup>2</sup> , (4), (5), (6), (10), (15) <sup>2</sup> , (30), (2, 2), (2, 6), (2, 10), (3, 3), (3, 15)	50a4
(2)	(2, 2), (2, 4)	200b1

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(2)	(4), (2, 2)	46a1
(2)	(4), (2, 10)	450a3
(2)	(4), (2, 2), (2, 4)	128a1
(2)	(4), (2, 2), (2, 10)	1014c2
(2)	(4), (2, 2), (2, 14)	784h2
(2)	(4), (10), (2, 2)	66c3
(2)	(8), (2, 2), (2, 4)	294f1
(2)	$(4)^2$ , (2, 2), (2, 4)	120b1
(2)	$(4)^2$ , (2, 2), (4, 4)	320a4
(2)	(4), (6), (2, 2), (2, 6)	726a1
(2)	(4), (6), (2, 6), (6, 6)	80b1
(2)	(4), $(6)^2$ , (2, 2)	726a2
(2)	(4), (8), (2, 2), (2, 8)	45a1
(2)	(4), (10), (2, 2), (2, 10)	150b3
(2)	(4), (14), (2, 2), (2, 14)	441d2
(2)	(4), (16), (2, 2), (2, 16)	3150bk1
(2)	$(8)^2$ , (2, 2), (4, 8)	2880r6
(2)	(10), (20), (2, 2), (2, 10)	450a4
(2)	(4), (2, 2), (2, 4), (2, 14), (2, 28)	49a1
(2)	$(4)^2$ , (2, 2), $(2, 4)^2$	33a4
(2)	$(4)^2$ , (8), (2, 2), (2, 4)	33a2
(2)	$(4)^2$ , (8), (2, 2), (4, 4)	64a4
(2)	(4), (6), (2, 6), (2, 12), (6, 6)	1040g2
(2)	(4), (6), (12), (2, 6), (6, 6)	84a3
(2)	(4), (6), (14), (2, 6), (6, 6)	144a4
(2)	(4), (8), (2, 2), (2, 4), (2, 8)	144b1
(2)	(4), (8), (16), (2, 2), (2, 8)	63a1
(2)	(4), (14), (2, 2), (2, 4), (2, 14)	441d1
(2)	(4), (14), (28), (2, 2), (2, 14)	49a2
(2)	$(6)^2$ , (18), (2, 2), (2, 4)	256a1
(2)	$(4)^2$ , (8), (2, 2), $(2, 4)^2$	17a3
(2)	$(4)^2$ , $(8)^2$ , (2, 2), (2, 4)	45a3
(2)	$(4)^2$ , (12), (2, 6), (2, 12), (6, 12)	450g1
(2)	(4), (6), (2, 2), $(2, 6)^2$ , (6, 6)	80b3
(2)	(4), (6), (2, 6), $(2, 18)^2$ , (6, 6)	98a1
(2)	(4), $(6)^2$ , (2, 2), (2, 6), (6, 6)	336a1
(2)	(4), (6), (12), (2, 6), (2, 42), (6, 6)	36a3

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(2)	(4), (8) <sup>2</sup> , (2, 2), (2, 4), (2, 8)	24a6
(2)	(4), (8) <sup>3</sup> , (2, 2), (2, 8)	45a6
(2)	(4), (8), (16) <sup>2</sup> , (2, 2), (2, 8)	75b1
(2)	(4), (12), (2, 2), (2, 6), (2, 12), (6, 12)	450g3
(2)	(4), (14), (28), (2, 2), (2, 4), (2, 14)	784h1
(2)	(6) <sup>2</sup> , (12), (2, 2), (2, 6), (6, 6)	2352t1
(2)	(4) <sup>2</sup> , (8) <sup>2</sup> , (2, 2), (2, 4) <sup>2</sup>	63a6
(2)	(4), (6) <sup>2</sup> , (2, 2), (2, 6) <sup>2</sup> , (3, 6)	112c3
(2)	(4), (6) <sup>2</sup> , (2, 2), (2, 6), (2, 14), (6, 6)	576a1
(2)	(4), (6) <sup>2</sup> , (12), (2, 2), (2, 6), (6, 6)	2352t3
(2)	(4), (6), (14), (2, 2), (2, 6) <sup>2</sup> , (6, 6)	144a2
(2)	(4), (8) <sup>3</sup> , (16), (2, 2), (2, 8)	75b6
(2)	(4), (8) <sup>2</sup> , (16), (2, 2), (2, 4), (2, 8)	510e7
(2)	(4), (8), (16) <sup>2</sup> , (2, 2), (2, 4), (2, 8)	1470k3
(2)	(4), (14), (28), (2, 2), (2, 4), (2, 14), (2, 28)	49a3
(2)	(6) <sup>2</sup> , (12), (2, 2), (2, 6) <sup>2</sup> , (3, 6)	80b2
(2)	(6) <sup>2</sup> , (12), (2, 2), (2, 6), (2, 14), (6, 6)	144a3
(2)	(4) <sup>2</sup> , (6), (12) <sup>2</sup> , (2, 6), (2, 12), (6, 6)	1470b7
(2)	(4) <sup>2</sup> , (8) <sup>3</sup> , (2, 2), (2, 4) <sup>2</sup>	15a5
(2)	(4) <sup>2</sup> , (8) <sup>4</sup> , (2, 2), (2, 4)	630c6
(2)	(4) <sup>2</sup> , (8) <sup>4</sup> , (2, 2), (4, 4)	4410r6
(2)	(4), (6), (2, 2), (2, 4), (2, 6) <sup>2</sup> , (2, 12), (6, 6)	1040g4
(2)	(4), (6) <sup>2</sup> , (2, 2), (2, 4), (2, 6) <sup>2</sup> , (3, 6)	320c2
(2)	(4), (6) <sup>2</sup> , (12), (2, 2), (2, 6) <sup>2</sup> , (3, 6)	80b4
(2)	(4), (6) <sup>2</sup> , (12), (2, 2), (2, 6), (2, 14), (6, 6)	144a1
(2)	(4), (6) <sup>2</sup> , (14), (2, 2), (2, 6) <sup>2</sup> , (3, 6)	576a2
(2)	(4), (6), (12) <sup>2</sup> , (2, 2), (2, 6), (2, 12), (3, 12)	240b3
(2)	(4), (8) <sup>2</sup> , (16) <sup>2</sup> , (2, 2), (2, 4), (2, 8)	1680p1
(2)	(4) <sup>2</sup> , (6), (12) <sup>2</sup> , (2, 6), (2, 12) <sup>2</sup> , (6, 6)	960o7
(2)	(4), (6) <sup>2</sup> , (12), (2, 2), (2, 6) <sup>2</sup> , (3, 6), (6, 6)	20a3
(2)	(4), (6), (8), (12) <sup>2</sup> , (2, 2), (2, 6), (2, 12), (3, 12)	960e3
(2)	(4), (6), (12) <sup>2</sup> , (2, 2), (2, 4), (2, 6), (2, 12), (3, 12)	720j3
(2)	(4), (6), (12) <sup>2</sup> , (2, 2), (2, 6), (2, 12), (3, 12), (6, 12)	30a3
(2)	(4), (6), (12) <sup>2</sup> , (24), (2, 2), (2, 6), (2, 12), (3, 12)	960o3
(2)	(4), (6), (18), (2, 2), (2, 6) <sup>2</sup> , (2, 18) <sup>2</sup> , (6, 6)	98a5
(2)	(6) <sup>2</sup> , (12), (2, 2), (2, 6) <sup>2</sup> , (3, 6), (3, 12), (6, 6)	84a4
(2)	(4), (6) <sup>2</sup> , (18) <sup>2</sup> , (2, 2), (2, 6) <sup>2</sup> , (2, 18), (3, 6)	112c1

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(2)	$(6)^2, (12), (42), (2, 2), (2, 6)^2, (3, 6), (3, 12), (6, 6)$	36a4
(2)	$(4)^2, (6), (12)^2, (2, 2), (2, 4), (2, 6)^2, (2, 12), (6, 6)$	1470b4
(2)	$(4)^2, (6), (12)^3, (2, 2), (2, 4), (2, 6), (2, 12), (3, 12)$	240b1
(2)	$(4), (6)^2, (12), (2, 2), (2, 4), (2, 6)^2, (2, 12), (3, 6), (6, 6)$	130a4
(2)	$(4), (6)^2, (12), (18)^2, (2, 2), (2, 6)^2, (2, 18), (3, 6)$	98a6
(2)	$(6)^2, (12), (18)^2, (36), (2, 2), (2, 6)^2, (2, 18), (3, 6)$	98a2
(2)	$(4)^2, (6)^2, (12)^3, (2, 2), (2, 4), (2, 6)^2, (3, 12)$	240b4
(2)	$(4)^2, (6), (8), (12)^3, (2, 2), (2, 4), (2, 6), (2, 12), (3, 12)$	960e1
(2)	$(4)^2, (6), (12)^3, (2, 2), (2, 4)^2, (2, 6), (2, 12), (3, 12)$	720j1
(2)	$(4)^2, (6)^2, (12)^4, (2, 2), (2, 4), (2, 6)^2, (3, 6)$	240b5
(2)	$(4)^2, (6), (8), (12)^3, (24), (2, 2), (2, 4), (2, 6), (2, 12), (3, 12)$	960o1
(2)	$(4)^2, (6), (12)^2, (2, 2), (2, 4)^2, (2, 6)^2, (2, 12)^2, (6, 6)$	960o4
(2)	$(4), (6)^2, (12), (18)^2, (2, 2), (2, 6)^2, (2, 18)^2, (3, 6), (6, 6)$	14a3
(2)	$(4)^2, (6)^2, (8), (12)^4, (2, 2), (2, 4), (2, 6)^2, (3, 6)$	150c5
(2)	$(4)^2, (6)^2, (12)^4, (2, 2), (2, 4)^2, (2, 6)^2, (3, 6)$	150c4
(2)	$(4)^2, (6)^2, (12)^4, (2, 2), (2, 4), (2, 6)^2, (2, 12), (3, 6), (3, 12)^2, (6, 6)$	30a7
(2)	$(4)^2, (6)^2, (8), (12)^4, (24), (2, 2), (2, 4), (2, 6)^2, (2, 12), (3, 6), (3, 12)^2, (6, 6)$	90c5
(2)	$(4)^2, (6)^2, (12)^4, (2, 2), (2, 4)^2, (2, 6)^2, (2, 12)^2, (3, 6), (3, 12)^2, (6, 6)$	90c4
(3)	$(2, 6), (2, 12), (3, 3)$	196b1
(3)	$(6), (12), (6, 6)$	300b1
(3)	$(6), (12), (2, 6), (3, 3)$	44a1
(3)	$(6), (12), (21), (6, 6)$	108a1
(3)	$(12), (24), (3, 3), (4, 12)$	162d1
(3)	$(6), (9), (12), (2, 6), (3, 9)$	486f1
(3)	$(6), (12), (21), (2, 6), (3, 3)$	162b1
(3)	$(6), (9)^2, (12), (2, 6), (3, 3)$	19a3
(3)	$(6), (12), (2, 6), (3, 3), (3, 6), (6, 6)$	19a1
(3)	$(6), (12), (3, 3), (3, 9), (3, 21), (6, 6)$	27a1
(3)	$(6), (12)^2, (2, 6), (3, 3), (4, 12)$	162a1
(3)	$(6), (12), (15), (30), (2, 6), (3, 3)$	50a1
(3)	$(6), (12), (21)^2, (2, 6), (3, 3)$	441b1
(3)	$(6), (9)^2, (12), (21), (2, 6), (3, 3)$	27a4
(3)	$(6), (9), (12), (3, 3), (3, 9), (3, 21), (6, 6)$	27a3
(3)	$(6), (12), (2, 6), (3, 3), (3, 6), (3, 9), (6, 6)$	54a1
(3)	$(6), (9), (12), (2, 6), (3, 3), (3, 6), (3, 9), (6, 6)$	54b1
(3)	$(6), (12), (15), (30), (2, 6), (2, 30), (3, 3), (3, 15)$	50a3
(4)	$(2, 4), (2, 8)$	64a3

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(4)	(8), (2, 4)	33a3
(4)	(8), (2, 8)	192c6
(4)	(8), (4, 4)	40a4
(4)	(8), (2, 4), (2, 8)	17a4
(4)	(8), (2, 4), (4, 4)	17a1
(4)	(8), (2, 8), (2, 16)	1470k1
(4)	$(8)^2$ , (2, 4), (2, 8)	24a3
(4)	$(8)^2$ , (2, 8), (4, 8)	240d6
(4)	(8), (12), (2, 12), (6, 12)	150c3
(4)	$(8)^2$ , (16), (2, 4), (2, 8)	21a4
(4)	$(8)^2$ , (2, 4), $(2, 8)^2$ , (4, 4)	195a6
(4)	$(8)^2$ , $(16)^2$ , (2, 4), (2, 8)	15a7
(4)	(8), (12), (2, 4), $(2, 12)^2$ , (6, 12)	150c1
(4)	$(8)^2$ , $(16)^3$ , (2, 4), (2, 8)	1230f4
(4)	(8), $(12)^2$ , (2, 4), $(2, 12)^2$ , (3, 12)	720j5
(4)	$(12)^2$ , (24), (2, 4), $(2, 12)^2$ , (3, 12)	960o8
(4)	$(8)^2$ , $(16)^2$ , (2, 4), $(2, 8)^2$ , (4, 4)	210e6
(4)	(8), $(12)^2$ , (24), (2, 4), $(2, 12)^2$ , (3, 12)	960o5
(4)	(8), $(12)^2$ , (24), (2, 4), $(2, 12)^2$ , (3, 12), (6, 12)	90c1
(5)	(10), (20), (2, 10)	11a3
(5)	(10), (20), (2, 10), (5, 5), (5, 10)	11a1
(5)	(10), $(15)^2$ , (20), (30), (2, 10), (2, 30), (3, 15)	50b1
(6)	(12), (2, 6), (6, 6)	84a1
(6)	(12), (2, 6), (2, 42), (6, 6)	36a1
(6)	(12), (2, 6), (3, 6), (6, 6)	14a1
(6)	(12), (2, 6), (2, 12), (3, 6), (6, 6)	130a2
(6)	(12), (2, 6), (3, 6), (3, 12), (6, 6)	84a2
(6)	$(12)^2$ , (2, 6), (2, 12), (3, 12), (6, 12)	30a1
(6)	(12), (42), (2, 6), (3, 6), (3, 12), (6, 6)	36a2
(6)	$(12)^2$ , (2, 6), (2, 12), (3, 6), $(3, 12)^2$ , (6, 6)	30a4
(6)	$(12)^2$ , (2, 6), $(2, 12)^2$ , (3, 6), $(3, 12)^2$ , (6, 6)	90c7
(6)	$(12)^2$ , (24), (2, 6), (2, 12), (3, 6), $(3, 12)^2$ , (6, 6)	90c8
(6)	(12), $(18)^2$ , (36), (2, 6), $(2, 18)^2$ , (3, 6), (6, 6)	14a4
(7)	(14), (28), (2, 14)	26b1
(8)	(16), (2, 8)	21a3
(8)	(16), (2, 8), (2, 16)	1230f1
(8)	(16), (2, 8), (4, 8)	15a4

$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(8)	$(16)^2, (2, 8), (2, 16)$	210e1
(9)	$(18), (36), (2, 18), (3, 9)$	54b3
(10)	$(20), (2, 10)$	66c1
(12)	$(24), (2, 12), (3, 12), (6, 12)$	90c3
(2, 2)	$(2, 4), (4, 4)$	64a1
(2, 2)	$(2, 4)^3$	33a1
(2, 2)	$(2, 4)^2, (2, 8)$	63a2
(2, 2)	$(2, 4)^2, (4, 4)$	17a2
(2, 2)	$(2, 4)^2, (4, 8)$	1200j4
(2, 2)	$(2, 4), (2, 8), (4, 8)$	75b3
(2, 2)	$(2, 4)^3, (2, 8)$	45a5
(2, 2)	$(2, 4)^3, (4, 4)$	231a3
(2, 2)	$(2, 4)^2, (2, 8), (2, 16)$	75b2
(2, 2)	$(2, 4)^2, (2, 8), (4, 4)$	40a1
(2, 2)	$(2, 4)^2, (2, 8), (4, 8)$	510e5
(2, 2)	$(2, 4)^3, (2, 8)^2$	45a2
(2, 2)	$(2, 4)^3, (2, 8), (4, 4)$	21a2
(2, 2)	$(2, 4)^2, (2, 6), (2, 12), (6, 12)$	960o6
(2, 2)	$(2, 4)^2, (2, 8)^2, (4, 4)$	75b5
(2, 2)	$(2, 4)^3, (2, 6)^2, (6, 6)$	1050a2
(2, 2)	$(2, 4)^3, (2, 8)^2, (4, 4)$	42a3
(2, 2)	$(2, 4)^2, (2, 6)^2, (2, 12), (6, 6)$	240b6
(2, 2)	$(2, 4)^2, (2, 6)^2, (2, 12), (6, 12)$	1470b2
(2, 2)	$(2, 4)^2, (2, 8)^3, (4, 4)$	294c2
(2, 2)	$(2, 4), (2, 6)^2, (2, 12)^2, (6, 6)$	14400bo6
(2, 2)	$(2, 4)^3, (2, 6)^2, (2, 12), (6, 6)$	240b2
(2, 2)	$(2, 4)^3, (2, 6), (2, 12)^2, (6, 12)$	960o2
(2, 2)	$(2, 4)^3, (2, 8)^3, (4, 4)$	15a2
(2, 2)	$(2, 4)^2, (2, 6)^2, (2, 12)^2, (6, 6)$	450g2
(2, 2)	$(2, 4)^2, (2, 8)^4, (4, 4)$	6720cd4
(2, 2)	$(2, 4)^3, (2, 6)^2, (2, 12)^2, (6, 6)$	1470m2
(2, 2)	$(2, 4)^3, (2, 8)^4, (4, 4)$	210e5
(2, 2)	$(2, 4)^2, (2, 6)^2, (2, 12)^3, (6, 6)$	720j6
(2, 2)	$(2, 4), (2, 6)^2, (2, 12)^4, (6, 6)$	150c6
(2, 2)	$(2, 4)^3, (2, 6)^2, (2, 12)^3, (6, 6)$	210a6
(2, 2)	$(2, 4)^2, (2, 6)^2, (2, 12)^3, (6, 6), (6, 12)$	30a6
(2, 2)	$(2, 4)^3, (2, 6)^2, (2, 12)^4, (6, 6)$	150c2



$G$	$\mathcal{H}_{\mathbb{Q}}(12, E)$	Label
(2, 2)	$(2, 4)^3, (2, 6)^2, (2, 12)^4, (6, 6), (6, 12)$	90c2
(2, 4)	$(2, 8)^2, (4, 4)$	21a1
(2, 4)	$(2, 8)^2, (4, 8)$	1230f2
(2, 4)	$(2, 8), (4, 4), (4, 8)$	15a1
(2, 4)	$(2, 8)^2, (2, 16), (4, 4)$	15a3
(2, 4)	$(2, 8)^2, (4, 4), (4, 8)$	210e3
(2, 6)	$(2, 12)^3, (6, 6)$	210a2
(2, 6)	$(2, 12)^3, (6, 6), (6, 12)$	30a2
(2, 8)	$(2, 16)^2, (4, 8)$	210e2