

$$d = 9$$

$$\Phi_{\mathbb{Q}}(9) \supseteq \{(2), (3), (4), (6), (7), (9), (10), (12), (13), (14), (18), (19), (21), (26), (27), (28), (36), (42), (2, 2), (2, 6), (2, 14), (2, 18)\}$$

| G | $\Phi_{\mathbb{Q}}(9, G) \setminus \{G\} \supseteq$ |
|--------|---|
| () | $\{(2), (3), (4), (6), (7), (9), (12), (13), (14), (19), (21), (26), (28), (2, 2), (2, 6), (2, 14)\}$ |
| (2) | $\{(6), (14)\}$ |
| (3) | $\{(6), (9), (12), (18), (21), (27), (42), (2, 6), (2, 18)\}$ |
| (4) | $\{(12)\}$ |
| (5) | $\{(10)\}$ |
| (6) | $\{(18)\}$ |
| (7) | $\{(14)\}$ |
| (8) | $\{\}$ |
| (9) | $\{(18), (27)\}$ |
| (10) | $\{\}$ |
| (12) | $\{(36)\}$ |
| (2, 2) | $\{(2, 6)\}$ |
| (2, 4) | $\{\}$ |
| (2, 6) | $\{(2, 18)\}$ |
| (2, 8) | $\{\}$ |

$$h_{\mathbb{Q}}(9) \geq 6 \quad \#\mathcal{H}_{\mathbb{Q}}(9) \geq 34 \quad N_{\mathbb{Q}}(9) \geq 3969$$

| G | $\mathcal{H}_{\mathbb{Q}}(9, E)$ | Label |
|--------|----------------------------------|---------|
| () | (2) | 11a2 |
| () | (2, 2) | 196a1 |
| () | (2, 14) | 1922c1 |
| () | (4) | 338b2 |
| () | (6) | 108a2 |
| () | (2), (7) | 2450ba1 |
| () | (2), (19) | 361a1 |
| () | (2), (3), (6) | 19a2 |
| () | (2), (7), (14) | 294a1 |
| () | (2), (13), (26) | 147b1 |
| () | (3), (2, 2), (2, 6) | 196b2 |
| () | (3), (4), (12) | 162d2 |
| () | (4), (7), (28) | 338b1 |
| () | (7), (2, 2), (2, 14) | 3969a1 |
| () | (2), (3), (6), (9) | 54b2 |
| () | (2), (3), (6), (7), (14), (21) | 162b2 |
| (2) | (6) | 14a3 |
| (2) | (14) | 49a3 |
| (3) | (2, 6), (2, 18) | 196b1 |
| (3) | (6), (9) | 19a1 |
| (3) | (6), (18) | 108a1 |
| (3) | (9), (2, 6) | 324a1 |
| (3) | (9), (12) | 162d1 |
| (3) | (6), (9), (18) | 19a3 |
| (3) | (6), (9), (18), (27) | 27a4 |
| (3) | (6), (9), (21), (42) | 162b1 |
| (4) | (12) | 90c1 |
| (5) | (10) | 11a1 |
| (6) | (18) | 14a1 |
| (7) | (14) | 26b1 |
| (9) | (18), (27) | 54b3 |
| (12) | (36) | 90c3 |
| (2, 2) | (2, 6) | 30a6 |
| (2, 6) | (2, 18) | 30a2 |