Example 1. (genus 2, rational 5-torsion point)

For non-zero $b \in \mathbb{Z}$

$$y^2 + ((4b-3)x^2 - (5b-1)x + b)y + x^5 = 0\,.$$

defines a nonsingular curve of genus 2 with a rational 5-torsion point $(0,0)$.

The 2-torsion polynomial has three rational factors

$$\begin{aligned} m_1(x) &= x-1, \\ m_2(x) &= 4x-1, \\ m_3(x) &= x^3-(4b^2-6b+1)x^2+(5b^2-b)x-b^2\,. \end{aligned}$$

$$\Lambda' = \begin{cases} \langle M_1,\ldots,M_k\rangle, & f(0)\neq \pm 1, \\ \langle M_1,\ldots,M_k,\mathbb{M}\rangle, & f(0)=\pm 1, d=2g+1, \\ \langle M_1,\ldots,M_k,2\mathbb{M}\rangle, & f(0)=\pm 1, d=2g+2, \end{cases}$$

$$\Lambda = \Lambda' \cap K_2(C;\mathbb{Z})$$

$\Lambda = \langle M_1, M_2, M_3, \mathbb{M}\rangle$ *for* $b=\pm 1$ *and* $\Lambda = \langle M_1, M_2\rangle$ *otherwise.*

TABLE 1. Genus 2 curves $y^2 + ((4b-3)x^2 - (5b-1)x + b)y + x^5 = 0$

b	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
-10	$2^2\cdot 3\cdot 5^2\cdot 7\cdot 11^2\cdot 1031$	$\langle M_1, M_2\rangle$	161973.28326750	$2^2\cdot 3\cdot 5^2\cdot 7$
-9	$3^3\cdot 23\cdot 8461$	$\langle M_1, M_2\rangle$	2647.35530780277	$2^2\cdot 3^2$
-8	$2^2\cdot 3\cdot 61\cdot 6113$	$\langle M_1, M_2\rangle$	2402.40716016213	$3\cdot 23/2$
-7	$3\cdot 7^2\cdot 53\cdot 4243$	$\langle M_1, M_2\rangle$	16142.83542365697	$13\cdot 19$
-6	$2^2\cdot 3^3\cdot 5\cdot 2797$	$\langle M_1, M_2\rangle$	1090.93388314409	$2\cdot 3^2$
-5	$3\cdot 5^2\cdot 37\cdot 1721$	$\langle M_1, M_2\rangle$	1602.46040140665	29
-4	$2^2\cdot 3\cdot 29\cdot 31^2$	$\langle M_1, M_2\rangle$	196.40102935124	2^2
-3	$3^3\cdot 7\cdot 463$	$\langle M_1, M_2\rangle$	41.79313813774	1
-2	$2^2\cdot 3\cdot 13\cdot 173$	$\langle M_1, M_2\rangle$	16.33803025572	$1/2$
-1	$3\cdot 5\cdot 37$	$\langle M_1, M_2, M_3, \mathbb{M}\rangle$ $_{41M_1+56M_2-44M_3=0}$	0.22831231664	1
1	$3\cdot 11^2$	$\langle M_1, M_2, M_3, \mathbb{M}\rangle$ $_{4M_1-26M_2+29M_3=0}$	0.12984963471	$1/2$
2	$2^2\cdot 3\cdot 13\cdot 19$	$\langle M_1, M_2\rangle$	1.90319317512	$1/2^2\cdot 5$
3	$3^3\cdot 47$	$\langle M_1, M_2\rangle$	0.62178975663	$1/2\cdot 3^3$
4	$2^2\cdot 3\cdot 5\cdot 7\cdot 223$	$\langle M_1, M_2\rangle$	42.90813731245	1
5	$3\cdot 5^2\cdot 43\cdot 569$	$\langle M_1, M_2\rangle$	802.87262799199	2^4
6	$2^2\cdot 3^3\cdot 17^2\cdot 67$	$\langle M_1, M_2\rangle$	1575.43548439888	$2^2\cdot 7$
7	$3\cdot 7^2\cdot 59\cdot 1987$	$\langle M_1, M_2\rangle$	6154.43484637855	$2^2\cdot 5^2$
8	$2^2\cdot 3\cdot 67\cdot 3167$	$\langle M_1, M_2\rangle$	1788.15229247201	3^3
9	$3^3\cdot 5\cdot 4733$	$\langle M_1, M_2\rangle$	281.80083335457	2^2
10	$2^2\cdot 3\cdot 5^2\cdot 23\cdot 83\cdot 293$	$\langle M_1, M_2\rangle$	85596.822531781	$2^7\cdot 3^2$

Example 2. (genus 2, rational 6-torsion point)

The curves given by

$$y^2 + (2x^3 - 4bx^2 - x + b)y + x^6 = 0\,, \qquad b \in \mathbb{N}$$

are of genus 2 and have a rational 6-torsion point $(0,0)$*. The 2-torsion polynomial has four factors*

$$\begin{aligned} m_1(x) &= x - b, \\ m_2(x) &= 2x - 1, \\ m_3(x) &= 2x + 1, \\ m_4(x) &= 4bx^2 + x - b\,, \end{aligned}$$

M_1, M_2, M_3, M_4 *in* $K_2^T(C)/\mathrm{torsion}$ *satisfy* $M_1+M_2+M_3-M_4=0$*.*

Table 2. Genus 2 curves $y^2 + (2x^3 - 4bx^2 - x + b)y + x^6 = 0$

b	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
1	$2^4{\cdot}3{\cdot}17$	$\langle M_1, M_2, M_3, 2\mathbb{M}\rangle$ $_{10M_1-2M_2+M_3=0}$	0.35283625317	$1/2^3$
2	$2^5{\cdot}3{\cdot}5^2{\cdot}13$	$\langle M_2, M_3\rangle$	22.9767849706	$1/2$
3	$2^4{\cdot}3^2{\cdot}5^2{\cdot}7{\cdot}29$	$\langle M_2, M_3\rangle$	347.644931187	$2{\cdot}3$
4	$2^5{\cdot}3{\cdot}7{\cdot}257$	$\langle M_2, M_3\rangle$	134.428839854	2
5	$2^4{\cdot}3{\cdot}5^2{\cdot}11{\cdot}401$	$\langle M_2, M_3\rangle$	2694.74551646	$2^2{\cdot}3^2$
6	$2^5{\cdot}3^2{\cdot}11{\cdot}13{\cdot}577$	$\langle M_2, M_3\rangle$	20021.3775652	$2{\cdot}3{\cdot}41$
8	$2^5{\cdot}3{\cdot}5^2{\cdot}17{\cdot}41$	$\langle M_2, M_3\rangle$	1106.79592308	$2^2{\cdot}3$
10	$2^5{\cdot}3{\cdot}5^2{\cdot}7{\cdot}19{\cdot}1601$	$\langle M_2, M_3\rangle$	416121.1462	$2^2{\cdot}3{\cdot}7^3$
12	$2^5{\cdot}3^2{\cdot}5^2{\cdot}23{\cdot}461$	$\langle M_2, M_3\rangle$	58663.7341258	$2^2{\cdot}3^3{\cdot}5$
13	$2^4{\cdot}3{\cdot}5^2{\cdot}13^2{\cdot}541$	$\langle M_2, M_3\rangle$	46380.28556	$2{\cdot}3^2{\cdot}23$
14	$2^5{\cdot}3{\cdot}7^2{\cdot}29{\cdot}3137$	$\langle M_2, M_3\rangle$	322837.4973	$2{\cdot}3{\cdot}467$

Example 3. (genus 3, rational 7-torsion point)

A special case is the two-parameter family

$$y^2 + ((4b-3)x^3 - (4a+5b-1)x^2 + (5a+b)x - a)y + x^7 = 0$$

of genus 3 curves with rational 7-torsion point $(0,0)$ *and two rational 2-torsion points with* x*-coordinates* 1 *and* $1/4$.

$$t(x) = -x^7 + ((4b-3)x^3 - (4a+5b-1)x^2 + (5a+b)x + a)^2/4 = -\frac{1}{4} m_1(x) m_2(x) m_3(x)$$

$$\begin{aligned} m_1(x) &= x - 1, \\ m_2(x) &= 4x - 1, \\ m_3(x) &= x^5 - (4b^2-6b+1)x^4 + (5b^2+8ab-2b-6a)x^3 \\ &\qquad - (b^2+10ab+4a^2-2a)x^2 + (5a^2+2ab)x - a^2 . \end{aligned}$$

For $a = \pm 1$ *we get* $\Lambda = \langle M_1, M_2, M_3, \mathbb{M} \rangle \subseteq K_2(C;\mathbb{Z})$.
If $a=1, b=3$ *we have*

$$m_3(x) = m_{3,1}(x) m_{3,2}(x) = (x^2-3x+1)(x^3-16x^2+8x-1)$$

so $\Lambda = \langle M_1, M_2, M_{3,1}, M_{3,2}, \mathbb{M} \rangle \subseteq K_2(C;\mathbb{Z})$ *and we expect a linear dependency.*

TABLE 3. Genus 3 curves $y^2 + ((4b-3)x^3 - (4a+5b-1)x^2 + (5a+b)x - a)y + x^7 = 0$

a, b	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
$-1,-6$	$3\cdot5\cdot13\cdot62773$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	157.32845991763	$2\cdot3$
$-1,-5$	$2\cdot3\cdot5\cdot34543$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	13.71462235524	1
$-1,-4$	$3^3\cdot7^2\cdot73$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	0.99948043865	$1/2\cdot3$
$-1,-2$	$3\cdot19\cdot1051$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	0.68841617093	$1/2\cdot7$
$-1,0$	$3\cdot5\cdot7\cdot997$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	1.30028297707	$1/2\cdot3$
$-1,1$	$2\cdot3\cdot43\cdot599$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	1.85769147358	$1/2$
$-1,2$	$3^3\cdot17\cdot199$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	0.95009772023	$1/2\cdot3\cdot5$
$-1,3$	$2\cdot3\cdot7^2\cdot59\cdot599$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	117.81139857649	2^2
$1,0$	$3\cdot29^2\cdot71$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	1.91931648711	$1/3$
$1,2$	$3\cdot13\cdot971$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	0.41650834991	$1/19$
$1,3$	$2\cdot3\cdot5^2\cdot229$	$\langle M_1, M_2, M_{3,1}, M_{3,2}, \mathbb{M} \rangle$ $36M_1-111M_2-41M_{3,1}+71M_{3,2}=0$	0.33653518886	1
$1,4$	$3^2\cdot7877$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	0.84449758753	$2/3\cdot5$
$1,5$	$2\cdot3\cdot11\cdot44071$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	39.13475965835	2
$1,6$	$3\cdot5^2\cdot19\cdot46273$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	631.40978672220	$2^2\cdot5$
$1,7$	$2\cdot3^2\cdot479\cdot2011$	$\langle M_1, M_2, M_3, \mathbb{M} \rangle$	170.28405530696	2^2

Example 4. (genus 4 and 5)

For $g = 4$ and $g = 5$ a computer search gives some examples of curves of the form

$$y^2 + f(x)y + x^{10} = 0$$

with $f(x)$ of degree 5 and

$$y^2 + f(x)y + x^{12} = 0$$

with $f(x)$ of degree 6 respectively, where $4t(x) = -4x^{10} + f(x)^2$ (resp. $-4x^{12} + f(x)^2$) has g factors in $\mathbb{Z}[x]$ with constant term ± 1. $(0, 0)$ is a point of order 10 (resp. 12). In all cases, $\Lambda \subseteq K_2(C; \mathbb{Z})$ has rank g.

TABLE 4. Genus 4 curves $y^2 + f(x)y + x^{10} = 0$

$f(x)$	Conductor	$L^*(0)$	$L^*(0)/R(\Lambda)$
$2x^5+2x^4+x^3+x^2-3x-1$	$2^{11}\cdot 5^3\cdot 19\cdot 29$	35.85879769	$1/2$
$2x^5+2x^4+2x^3-3x^2-2x+1$	$2^{11}\cdot 3^2\cdot 17\cdot 59$	5.336928011	$1/2$
$2x^5+3x^4-3x^3-2x^2-x-1$	$2^3\cdot 3^3\cdot 5\cdot 19\cdot 331$	1.865694255	$1/2^2\cdot 3$
$2x^5+3x^4-x^3-4x^2-3x+1$	$2^3\cdot 3^4\cdot 5\cdot 7\cdot 20759$	126.4283012	1
$2x^5+3x^4+x^3-3x-1$	$2^4\cdot 3^3\cdot 7\cdot 11\cdot 4793$	41.29358643	$1/2$
$2x^5+4x^4-3x^3-2x+1$	$2^4\cdot 5^3\cdot 7\cdot 11\cdot 103$	3.546483598	$1/2^3$
$2x^5+4x^4-x^3-3x^2-3x-1$	$2^{10}\cdot 3\cdot 7\cdot 1051$	6.484247251	$1/2^3$
$2x^5+4x^4-x^3-3x^2-x+1$	$2^{12}\cdot 3^6\cdot 13$	11.50901911	$1/2^2$
$2x^5+4x^4+3x^3-5x^2-5x-1$	$2^{12}\cdot 3\cdot 5\cdot 19\cdot 79$	27.69939565	$1/2$
$2x^5+4x^4+3x^3+3x^2-x-1$	$2^{12}\cdot 3\cdot 5^2\cdot 23\cdot 43$	89.28895569	1
$2x^5+4x^4+5x^3+2x^2+2x+1$	$2^4\cdot 3^3\cdot 7^2\cdot 379$	2.157167657	$1/2^4$

TABLE 5. Genus 5 curves $y^2 + f(x)y + x^{12} = 0$

$f(x)$	Conductor	$L^*(0)$	$L^*(0)/R(\Lambda)$
$2x^6+2x^5-4x^4-3x^3-2x^2+4x-1$	$2^8\cdot 3^4\cdot 5\cdot 7\cdot 11\cdot 19$	0.97906446422637	$1/2^2\cdot 3^3$
$2x^6+4x^5-5x^4-3x^3+2x^2-x-1$	$2^7\cdot 3^2\cdot 5^2\cdot 107\cdot 139$	2.86707608488323	$1/2^2\cdot 3$
$2x^6+6x^5-5x^3-3x^2+x+1$	$2^{16}\cdot 3^2\cdot 5\cdot 13^2$	3.21518014215484	$1/2^2\cdot 3$
$2x^6+2x^5+2x^4-x^3-3x^2-3x-1$	$2^{16}\cdot 3\cdot 5^3\cdot 31$	4.04748393920751	$1/2^3\cdot 3$
$2x^6+2x^5+x^3-3x^2-x+1$	$2^{16}\cdot 3^4\cdot 5\cdot 181$	28.41118880946	$1/3$

Example 5. (arbitrary genus) *Consider a curve of the form*

$$y^2 + \Big(2x^{g+1} + \prod_{j=1}^{g}(v_j x + 1)\Big)\, y + x^{2g+2} = 0\,,$$

where $0 < v_1 < \cdots < v_g$ are distinct non-zero integers, and we are assuming that the 2-torsion polynomial $t(x)$ has no multiple roots. Then $t(x)$ has at least $g+1$ factors in $\mathbb{Z}[x]$,

$$v_1 x + 1,\ v_2 x + 1, \ldots, v_g x + 1,\ 4x^{g+1} + \prod_{j=1}^{g}(v_j x + 1)\,.$$

TABLE 6. Curves $y^2 + (2x^3 + (v_1x+1)(v_2x+1))y + x^6 = 0$ (genus 2)

v	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
$9, 10$	$2^3\cdot3\cdot5\cdot5261$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	275.183140339336	$2^2\cdot3$
$8, 10$	$2^6\cdot5\cdot2221$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	417.499914032374	13
$2, 11$	$2^3\cdot3\cdot11\cdot6053$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	689.050402379536	$3\cdot7$
$5, 12$	$2^3\cdot3\cdot5^2\cdot7^2\cdot61$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	860.242245920864	$2\cdot3^2$
$2, 12$	$2^6\cdot3\cdot5\cdot2341$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1267.775571888346	$2^2\cdot3^2$
$7, 15$	$2\cdot3\cdot5^2\cdot7^2\cdot313$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1075.913430726619	$2\cdot3^2$
$8, 17$	$2\cdot3\cdot17\cdot23321$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1201.189781491657	$2\cdot3^2$
$5, 10$	$2^3\cdot5^2\cdot59\cdot263$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1440.017545464245	$2^2\cdot3^2$
$4, 10$	$2^6\cdot3\cdot5\cdot17\cdot197$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1562.214360456082	$2^3\cdot5$
$6, 10$	$2^6\cdot3\cdot5\cdot3797$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	1888.148590577887	$2^4\cdot3$
$4, 13$	$2^3\cdot3\cdot11\cdot13^2\cdot89$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	2048.440414253531	$2\cdot3\cdot7$
$8, 16$	$2^6\cdot109\cdot601$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	2029.415672068518	2^5
$4, 14$	$2^6\cdot5\cdot7^2\cdot373$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	3298.078842289480	2^6
$6, 12$	$2^6\cdot3^5\cdot431$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	3779.698402282094	$2\cdot3\cdot13$
$4, 11$	$2^4\cdot7\cdot11\cdot23\cdot239$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	3065.942241509888	$2^3\cdot3^2$
$3, 10$	$2^3\cdot3\cdot5\cdot7^2\cdot1307$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	3909.737148728376	$2^2\cdot3^3$
$7, 10$	$2^3\cdot3\cdot5^2\cdot7\cdot43\cdot59$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	4653.068964642799	$2\cdot3^2\cdot7$
$5, 13$	$2^5\cdot5\cdot13\cdot31\cdot263$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	8592.680376054557	$2^3\cdot3\cdot7$
$7, 16$	$2^5\cdot3\cdot7^2\cdot4493$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	11344.672982180578	$2^2\cdot3^2\cdot5$
$5, 11$	$2^3\cdot3\cdot5\cdot11\cdot26573$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	16672.060582310110	$2\cdot3^3\cdot7$
$6, 14$	$2^6\cdot3\cdot7\cdot41\cdot677$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	20507.523505991035	$2^4\cdot23$
$7, 14$	$2^3\cdot7^2\cdot117541$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	20242.092778779142	$2^3\cdot3^2\cdot5$
$3, 13$	$2^3\cdot3\cdot5^2\cdot13\cdot6553$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	20094.811949554845	$2\cdot3^2\cdot5^2$
$6, 16$	$2^6\cdot3\cdot5\cdot73\cdot773$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	26721.552091088677	$2^4\cdot3^3$
$6, 15$	$2^3\cdot3^5\cdot5\cdot59\cdot101$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	28628.778269858470	$2\cdot3^5$
$5, 14$	$2^3\cdot3\cdot5\cdot7\cdot95621$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	32866.799798423930	$2\cdot3\cdot101$
$5, 15$	$2^3\cdot3\cdot5^2\cdot29\cdot4673$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	41114.005206032957	$2^4\cdot3^2\cdot5$
$8, 18$	$2^6\cdot3\cdot5^2\cdot73\cdot353$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	59468.612113790229	$2^2\cdot3\cdot71$
$6, 13$	$2^3\cdot3\cdot7^2\cdot13\cdot17\cdot619$	$\langle M_1, M_2, 2\mathbb{M}\rangle$	81849.542063836685	$2\cdot3^3\cdot29$

Table 7. Curves $y^2 + (2x^4+(v_1x+1)(v_2x+1)(v_3x+1))y + x^8 = 0$ (genus 3)

v	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
$2,4,6$	$2^8{\cdot}3^3{\cdot}13$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1.237888702787	$1/2^7$
$1,3,4$	$2^8{\cdot}3^2{\cdot}7^2$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1.319632692018	$1/2^6$
$1,2,4$	$2^6{\cdot}3^3{\cdot}67$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1.326260789773	$1/2^5$
$1,2,3$	$2^6{\cdot}3^3{\cdot}73$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1.360553792128	$1/2^4$
$1,5,6$	$2^8{\cdot}3^3{\cdot}5^3$	$\langle M_1,M_2,M_3,M_4,2\mathbb{M}\rangle$ $M_1+M_2+11M_3-12M_4=0$	9.556528296211	$1/2$
$1,3,5$	$2^6{\cdot}3^3{\cdot}5{\cdot}179$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	15.763316182605	$1/2^3$
$3,4,7$	$2^8{\cdot}3^2{\cdot}7{\cdot}113$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	21.282782316338	$1/2^3$
$1,2,5$	$2^8{\cdot}3^3{\cdot}5{\cdot}53$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	18.574599809025	$1/2^2$
$2,6,8$	$2^{14}{\cdot}3^2{\cdot}17$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	41.533490724724	$1/2^3$
$2,3,5$	$2^6{\cdot}3^2{\cdot}5^3{\cdot}89$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	72.152711581916	1
$1,2,6$	$2^6{\cdot}3^3{\cdot}5^3{\cdot}43$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	105.836805455409	1
$1,3,6$	$2^6{\cdot}3^2{\cdot}5{\cdot}47{\cdot}73$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	98.432671578138	$1/2$
$2,3,6$	$2^6{\cdot}3^2{\cdot}7^2{\cdot}373$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	113.826557165808	1
$1,3,7$	$2^6{\cdot}3^2{\cdot}7{\cdot}2837$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	137.788942178887	1
$1,4,6$	$2^6{\cdot}3^2{\cdot}5{\cdot}5669$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	198.333924314685	$3/2$
$1,2,9$	$2^7{\cdot}3^3{\cdot}7{\cdot}883$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	206.791570180633	1
$3,4,8$	$2^5{\cdot}3^3{\cdot}5{\cdot}7^2{\cdot}101$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	219.415523333470	1
$4,5,9$	$2^8{\cdot}3^3{\cdot}5^3{\cdot}29$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	278.222780993318	1
$2,4,10$	$2^{11}{\cdot}3^3{\cdot}5{\cdot}101$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	375.379161057633	1
$1,2,8$	$2^6{\cdot}3^3{\cdot}7{\cdot}29{\cdot}103$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	429.330911878658	$5/2$
$1,4,9$	$2^7{\cdot}3^2{\cdot}5{\cdot}9281$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	554.543543287698	2
$1,3,9$	$2^6{\cdot}3^2{\cdot}137437$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	831.548080326194	2^2
$1,5,8$	$2^7{\cdot}3^3{\cdot}5{\cdot}7{\cdot}659$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	798.968120685204	3
$1,4,7$	$2^8{\cdot}3^2{\cdot}7{\cdot}5879$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	930.405544167007	5
$1,2,7$	$2^6{\cdot}3^3{\cdot}5{\cdot}7{\cdot}1999$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1105.646745724194	2^3
$1,3,8$	$2^7{\cdot}3^3{\cdot}5^3{\cdot}7{\cdot}41$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1395.300068143365	2^3
$1,4,8$	$2^5{\cdot}3^3{\cdot}7{\cdot}21773$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	1402.036187242234	$2{\cdot}3$
$2,4,8$	$2^{11}{\cdot}3^3{\cdot}4093$	$\langle M_1,M_2,M_3,2\mathbb{M}\rangle$	3341.033608754311	$2^2{\cdot}3$

Table 8. Curves $y^2 + (2x^5+(v_1x+1)\cdots(v_4x+1))y + x^{10} = 0$ (genus 4)

v	Conductor	Λ	$L^*(0)$	$L^*(0)/R(\Lambda)$
$1,2,3,4$	$2^9{\cdot}3^2{\cdot}17{\cdot}113$	$\langle M_1,M_2,M_3,M_4,2\mathbb{M}\rangle$	2.497987723694	$1/2^5{\cdot}5$
$2,3,4,6$	$2^8{\cdot}3^2{\cdot}80251$	$\langle M_1,M_2,M_3,M_4,2\mathbb{M}\rangle$	45.006091920102	$1/2^5$
$1,2,3,5$	$2^9{\cdot}3^2{\cdot}5{\cdot}10007$	$\langle M_1,M_2,M_3,M_4,2\mathbb{M}\rangle$	68.192003860287	$1/2^3$