

TABLE 1. Maps from E_{C_2} to $F_{C_2,i}$; $x \mapsto u_i^2 x + r_i$ and $y \mapsto u_i^3 y + u_i^2 s_i x + w_i$.

i	u_i	r_i	s_i	w_i
1	2	4	2	8
2	1	b	b	a
3	2	8	2	16
4	1	$-a$	1	$2d$
5	1	$16(b^2d - a^2)$	2	$8(b^2d - a^2)$
6	2	$\frac{b^2d - a^2}{8}$	2	$\frac{b^2d - a^2}{4}$
7	1	$d^2 - a$	$2d$	$2d$
8	1	$\frac{b^2}{2}$	bd	b^4
9	1	$\frac{ab^2d}{2} - a$	$-bd - a$	b
10	1	$\frac{3b^2}{2}$	b	$b^3 + b^2$
11	1	$\frac{b^2}{2}$	b	$b^4 + b^2$
12	1	$a + 2$	$3a^2 + 12a + 12$	4
13	1	a	2	$4b$
14	1	a	2	$4b - 16d + 8$
15	1	$-a$	4	$2b$
16	1	$\frac{abd}{4} - a - b$	4	$abd - 2b$
17	1	$b^2 - a$	$bd - a$	b
18	1	$\frac{bda}{2} - a$	$-bd - a$	b
19	1	$\frac{abd}{2} - a$	$-bd - a$	$b(d - 1)$
20	1	$abd - a$	$-bd - a$	$2b$
21	1	$\frac{abd}{2} - a$	$-bd - a$	$2b$
22	2	$\frac{(b^2d - a^2)^2}{2048}$	2	$\frac{3(b^2d - a^2)^2}{1024}$
23	1	9	3	9
24	1	$3b^2d + a^2$	$\frac{3b^2d + a^2}{p}$	$(3b^2d + a^2)p$
25	1	$-a$	a	ab^2
26	1	$b^2d - a^2$	$\frac{b^2d - a^2}{p}$	$(b^2d - a^2)p$

TABLE 2. Local data at $p = 2$ given in terms of $v_2(c_4)$, $v_2(c_6)$, and $v_2(\Delta)$.

Néron Type	c_2	$v_2(c_4)$	$v_2(c_6)$	$v_2(\Delta)$	Max Step in Tate's Algorithm	f_2
II	1	≥ 4	5	4	5	4
		4	≥ 6	6	4	6
		4	6	7		7
		≥ 5	6	6		6
III	2	4	5	4	5	3
		5	5	4	4	3
		4	≥ 6	6	4	5
		5	7	8		7
		5	≥ 8	9		8
IV	1 or 3	4	5	4	5	2
		≥ 6	5	4	5	2
I_0^*	1 or 2	4	6	8	8	4
		≥ 6	7	8	8	4
		4	6	9		5
		≥ 6	8	10		6
I_1^*	2 or 4	4	6	8	8	3
		6	7	8	7	3
I_2^*	2 or 4	4	6	10	9	4
		6	≥ 9	12	7	6
		6	9	13		7
I_3^*	2 or 4	4	6	11	10	4
		6	≥ 9	12	7	5
$I_{n(n \geq 4)}^*$	2 or 4	4	6	$8 + n$		4
		6	9	$10 + n$		6
IV*	1 or 3	4	6	8	8	2
		≥ 7	7	8	8	2
III*	2	4	6	10	9	3
		7	9	12		5
		7	10	14		7
		7	≥ 11	15		8
II*	1	4	6	11	10	3
		≥ 8	9	12		4
		≥ 8	10	14		6

TABLE 3. Local data at $p \geq 3$ given in terms of $v_p(c_4)$, $v_p(c_6)$, and $v_p(\Delta)$.

Néron Type	c_p	p	$v_p(c_4)$	$v_p(c_6)$	$v_p(\Delta)$	Additional Condition	f_p
II	1	3	≥ 2	3	3	$(\frac{c_6}{27})^2 + 2 \not\equiv \frac{c_4}{3} \pmod{9}$	3
			2	4	3		3
			2	3	4		4
			≥ 3	4	5		5
			≥ 5	≥ 1	1	2	2
III	2	3	≥ 2	3	3	$(\frac{c_6}{27})^2 + 2 \equiv \frac{c_4}{3} \pmod{9}$	2
			2	≥ 5	3		2
			≥ 5	1	≥ 2	3	2
IV	1 or 3	3	2	3	5		3
			3	5	6		4
			≥ 4	5	7		5
			≥ 5	≥ 2	2	4	2
I_0^*	1, 2, or 4	3	2	3	6		2
			3	≥ 6	6		2
			≥ 5	2	≥ 3	6	2
			≥ 2	3	6	2	
$I_{n(n>0)}^*$	2 or 4	$p \geq 3$	2	3	$6 + n$		2
IV*	1 or 3	3	≥ 4	6	9	$(\frac{c_6}{36})^2 + 2 \not\equiv \frac{c_4}{27} \pmod{9}$	3
			4	7	9		3
			4	6	10		4
			≥ 5	7	11		5
			≥ 5	≥ 3	4	8	2
II*	2	3	≥ 4	6	9	$(\frac{c_6}{36})^2 + 2 \equiv \frac{c_4}{27} \pmod{9}$	2
			4	≥ 8	9		2
			≥ 5	3	≥ 5	9	2
II*	1	3	4	6	11		3
			5	8	12		4
			≥ 6	8	13		5
			≥ 5	≥ 4	5	10	2