

A Method of Determining Divisibility with Any Natural Number

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Abstract: The paper deals with the problem of determining the divisibility criteria for any natural number. An algorithm is thus developed by which any natural number is associated with a vector for multiplying the digits of the given number and finally testing the divisibility by a considerably smaller number.

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1. Introduction

The problem of the divisibility of natural numbers is of great importance either for pure arithmetic or for applied theories such as cryptography.

Within the elementary courses of arithmetic, divisibility criteria are taught, such as those with 2,3,4,5,7,8,9,10,11,13,25,100,1000 etc. The problem with these criteria (very simple and easy to apply) is that they do not treat the phenomenon uniformly.

Thus, if at the criteria with 2, 5 or 10 (due to the decimal decomposition of the number) the problem is reduced to the investigation of its last digit, at those with 3 or with 9 it implies the sum of the digits. At the criteria of 7,11 or 13 the problem is already complicated.

However, there is, of course, the problem of determining divisibility criteria for other natural numbers (not necessarily prime numbers) which, especially in the case of very large numbers, can lead to infernal calculations.

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2. Determination Algorithm

Let $N = \overline{a_n a_{n-1} \dots a_1 a_0}$. We have $N = a_n 10^n + a_{n-1} 10^{n-1} + \dots + a_1 10 + a_0$.

Let also $p \in \mathbf{N}^*$ and $10^{p-1} < k < 10^p, k \in \mathbf{N}^*$.

We will define, in the following, a recurring string $(c_n)_{n \geq p}$ through:

$$c_p = k \left(1 + \left\lfloor \frac{10^p}{k} \right\rfloor \right) - 10^p \text{ where } [a] \text{ represents the whole part of } a \in \mathbf{R}.$$

$$\text{How } \frac{10^p}{k} - 1 < \left\lfloor \frac{10^p}{k} \right\rfloor \leq \frac{10^p}{k} \text{ follows: } k \left(1 + \frac{10^p}{k} - 1 \right) - 10^p < c_p \leq k \left(1 + \frac{10^p}{k} \right) - 10^p \Leftrightarrow 0 < c_p \leq k.$$

Denoting with M_k an arbitrary multiple of k , we have: $10^p = M_k - c_p$.

We define it now, by recurrence:

$$c_n = k \left(1 + \left\lfloor \frac{10c_{n-1}}{k} \right\rfloor \right) - 10c_{n-1}, n > p$$

As above, how $\frac{10c_{n-1}}{k} - 1 < \left\lfloor \frac{10c_{n-1}}{k} \right\rfloor \leq \frac{10c_{n-1}}{k}$ we obtain:

$$k \left(1 + \frac{10c_{n-1}}{k} - 1 \right) - 10c_{n-1} < c_n \leq k \left(1 + \frac{10c_{n-1}}{k} \right) - 10c_{n-1} \Leftrightarrow 0 < c_n \leq k$$

Because $c_n = M_k - 10c_{n-1}$ results for $n = p + 1$: $c_{p+1} = M_k - 10c_p = M_k + 10^{p+1}$ or other: $10^{p+1} = M_k + c_{p+1}$.

Let $P(n)$: $10^n = M_k + (-1)^{n-p+1} c_n, n \geq p$.

Since $P(p)$ is true, suppose that $P(n)$ is true. We have $c_{n+1} = M_k - 10c_n = M_k - 10(-1)^{n-p+1}(10^n + M_k) = M_k + (-1)^{n-p+2} 10^{n+1}$ therefore $P(n+1)$ is true. Thus, $10^n = M_k + (-1)^{n-p+1} c_n \forall n \geq p$.

Let's define the string now $(d_n), n \geq p$ such that: $d_n = \left(c_n - \frac{k}{2} \right) - \frac{k}{2} \text{sgn} \left(c_n - \frac{k}{2} \right)$.

The definition shows:

- $c_n < \frac{k}{2} \Rightarrow d_n = c_n > 0$
- $c_n \geq \frac{k}{2} \Rightarrow d_n = c_n - k \leq 0$

$$\text{Thus } d_n \in \left\{ -\left\lfloor \frac{k}{2} \right\rfloor, \dots, \left\lfloor \frac{k}{2} \right\rfloor \right\}.$$

From the above relationships, we have:

- $d_n > 0 \Rightarrow c_n = d_n$
- $d_n \leq 0 \Rightarrow c_n = d_n + k$

In both cases, $c_n = d_n + M_k$.

On the other hand, how $c_n \in \{1, \dots, k\} \forall n \geq p$ it follows that the string (c_n) is periodic.

So let's consider $c_q = c_r \Rightarrow d_q = \left(c_q - \frac{k}{2}\right) - \frac{k}{2} \operatorname{sgn}\left(c_q - \frac{k}{2}\right) = \left(c_r - \frac{k}{2}\right) - \frac{k}{2} \operatorname{sgn}\left(c_r - \frac{k}{2}\right) = d_r$ so the string (d_n) is also periodic.

If $c_q = k - c_r \Rightarrow d_q = \left(c_q - \frac{k}{2}\right) - \frac{k}{2} \operatorname{sgn}\left(c_q - \frac{k}{2}\right) = \left(k - c_r - \frac{k}{2}\right) - \frac{k}{2} \operatorname{sgn}\left(k - c_r - \frac{k}{2}\right) = \left(\frac{k}{2} - c_r\right) - \frac{k}{2} \operatorname{sgn}\left(\frac{k}{2} - c_r\right) = -d_r$.

Definition

We define the direct divisibility vector as $v_{\text{dir}}(k) = (d_p, \dots, d_r; d_{r+1}, \dots, d_s)$ if $d_{s+1} = d_{r+1}$ and the inverse divisibility vector as $v_{\text{inv}}(k) = (d_p, \dots, d_r; d_{r+1}, \dots, d_s)$ if $d_{s+1} = -d_{r+1}$.

Let $\gamma = s - r$ be the length of the periodic string.

In the case of the direct vector, we have: $d_m = d_{m - \gamma \lfloor \frac{m-r-1}{\gamma} \rfloor}$, $m \geq r+1$, and in the case of the inverse: $d_m = (-1)^{\lfloor \frac{m-r-1}{\gamma} \rfloor} d_{m - \gamma \lfloor \frac{m-r-1}{\gamma} \rfloor}$, $m \geq r+1$.

So we have:

$$N = \sum_{i=p}^n a_i 10^i + \overline{a_{p-1} \dots a_0} = \sum_{i=p}^n a_i (M_k + (-1)^{i-p+1} c_i) + \overline{a_{p-1} \dots a_0} = M_k + \sum_{i=p}^n (-1)^{i-p+1} a_i d_i + \overline{a_{p-1} \dots a_0} = M_k + \sum_{i=p}^r (-1)^{i-p+1} a_i d_i + \sum_{i=r+1}^n (-1)^{i-p+1} a_i d_i + \overline{a_{p-1} \dots a_0}.$$

We will add $a_{n+1} = 0, \dots, a_u = 0$ such that $u - r = M_\gamma$. We will assume, in order not to introduce additional notations, that n satisfies this condition.

If the vector is direct:

$$N = M_k + \sum_{i=p}^r (-1)^{i-p+1} a_i d_i + (-1)^p \sum_{j=1}^{\frac{n-r}{\gamma}} \sum_{h=r+1}^s (-1)^{(j-1)\gamma+h+1} a_{(j-1)\gamma+h} d_h + \overline{a_{p-1} \dots a_0}.$$

If the vector is inverse:

$$N = M_k + \sum_{i=p}^r (-1)^{i-p+1} a_i d_i + (-1)^p \sum_{j=1}^{\frac{n-r}{\gamma}} (-1)^{j+1} \sum_{h=r+1}^s (-1)^{(j-1)\gamma+h+1} a_{(j-1)\gamma+h} d_h + \overline{a_{p-1} \dots a_0}.$$

Thus:

- Calculate first (if appropriate): $\alpha_0 = \sum_{i=p}^r (-1)^{i-p+1} a_i d_i = -a_p d_p + a_{p+1} d_{p+1} - \dots + (-1)^{r-p+1} a_r d_r$

- It is then calculated:

$$\alpha_1 = (-1)^{r-p} (a_{r+1} d_{r+1} - a_{r+2} d_{r+2} + \dots + (-1)^{s-r+1} a_s d_s)$$

$$\alpha_2 = (-1)^{r+\gamma-p} (a_{s+1} d_{r+1} - a_{s+2} d_{r+2} + \dots + (-1)^{s-r+1} a_{2s-r} d_s)$$

$$\alpha_3 = (-1)^{r+2\gamma-p} (a_{2s-r+1} d_{r+1} - a_{s+2} d_{r+2} + \dots + (-1)^{s-r+1} a_{2s-r} d_s)$$

Finally:

- $N = M_k + \alpha_0 + (-1)^p \left(\alpha_1 + \alpha_2 + \dots + \alpha_{\frac{n-r}{\gamma}} \right) + \overline{a_{p-1} \dots a_0}$ – for the direct vector
- $N = M_k + \alpha_0 + (-1)^p \left(\alpha_1 - \alpha_2 + \dots + (-1)^{\frac{n-r}{\gamma}+1} \alpha_{\frac{n-r}{\gamma}} \right) + \overline{a_{p-1} \dots a_0}$ – for the inverse vector.

3 Application

Let $k=37$. We will consider $p=2$.

We have: $c_2 = 37 \left(1 + \left\lceil \frac{100}{37} \right\rceil \right) - 100 = 11 \Rightarrow d_2 = 11$

$$c_3 = 37 \left(1 + \left\lceil \frac{110}{37} \right\rceil \right) - 110 = 1 \Rightarrow d_3 = 1$$

$$c_4 = 37 \left(1 + \left\lceil \frac{10}{37} \right\rceil \right) - 10 = 27 \Rightarrow d_4 = -10$$

$$c_5 = 37 \left(1 + \left\lceil \frac{270}{37} \right\rceil \right) - 270 = 26 \Rightarrow d_5 = -11$$

$$c_6 = 37 \left(1 + \left\lceil \frac{260}{37} \right\rceil \right) - 260 = 36 \Rightarrow d_6 = -1$$

$$c_7 = 37 \left(1 + \left\lceil \frac{360}{37} \right\rceil \right) - 360 = 10 \Rightarrow d_7 = 10$$

$$c_8 = 37 \left(1 + \left\lceil \frac{100}{37} \right\rceil \right) - 100 = 11 \Rightarrow d_8 = 11$$

It is therefore observed that the string (c_n) is periodic (confirming, by the way, the theory), and the string (d_n) is inversely periodic, that is: $d_5 = -d_2$. Thus: $\gamma = 5 - 2 = 3$, $r = 1$, $s = 4$.

From the above, it follows that the periodicity vector is inverse and has the expression: $v_{inv}(37) = (0; 11, 1, -10)$

Thus:

$$N = M_k + \sum_{j=1}^{\frac{n-1}{3}} (-1)^{j+1} \sum_{h=2}^4 (-1)^{3(j-1)+h+1} a_{3(j-1)+h} d_h + \overline{a_1 a_0} =$$

$$M_k + \sum_{j=1}^{\frac{n-1}{3}} (-1)^{j+1} \sum_{h=2}^4 (-1)^{j+h} a_{3(j-1)+h} d_h + \overline{a_1 a_0} =$$

$$M_k - \sum_{j=1}^{\frac{n-1}{3}} \sum_{h=2}^4 (-1)^h a_{3(j-1)+h} d_h + \overline{a_1 a_0} =$$

$$M_k - \sum_{j=1}^{\frac{n-1}{3}} (a_{3(j-1)+2} d_2 - a_{3(j-1)+3} d_3 + a_{3(j-1)+4} d_4) + \overline{a_1 a_0} =$$

$$M_k - \sum_{j=1}^{\frac{n-1}{3}} (11a_{3(j-1)+2} - a_{3(j-1)+3} - 10a_{3(j-1)+4}) + \overline{a_1 a_0} =$$

$$M_k - (11a_2 - a_3 - 10a_4) - (11a_5 - a_6 - 10a_7) - \dots \\ - (11a_{n-2} - a_{n-1} - 10a_n) + \overline{a_1 a_0}$$

Specifically, either, for example: $N=94931877133$.

We have $N = M_k - (11 \cdot 1 - 7 - 10 \cdot 7) - (11 \cdot 8 - 1 - 10 \cdot 3) - (11 \cdot 9 - 4 - 10 \cdot 9) + 33 = M_k + 66 - 57 - 5 + 33 = M_k + 37$ so N is divided by 37.

4 Some Divisibility Criteria

- **The criterion with 11**

$p=2$, $v_{\text{dir}}(11)=(0;-1)$ deci $r=1, s=2, \gamma=s-r=1 \Rightarrow \alpha_1 = -a_2 d_2 = a_2$, $\alpha_2 = a_3 d_2 = -a_3$, $\alpha_3 = -a_4 d_2 = a_4$ etc. from where: $N = M_{11} + (a_2 - a_3 + \dots + (-1)^n a_n) + \overline{a_1 a_0}$

Consider, for example: $N=19487171$.

We have: $N = M_{11} + (1 - 7 + 8 - 4 + 9 - 1) + 71 = M_{11} + 6 + 71 = M_{11} + 77$ so $11 \mid N$

- **The criterion with 13**

$p=2$, $v_{\text{dir}}(13)=(0;4,-1,-3)$ deci $r=1, s=4, \gamma=3 \Rightarrow \alpha_1 = -(a_2 d_2 - a_3 d_3 + a_4 d_4) = -(4a_2 + a_3 - 3a_4)$, $\alpha_2 = (4a_5 + a_6 - 3a_7)$, $\alpha_3 = -(4a_8 + a_9 - 3a_{10})$ etc.

from where: $N = M_{13} - (4a_2 + a_3 - 3a_4) + (4a_5 + a_6 - 3a_7) - (4a_8 + a_9 - 3a_{10}) + \dots + \overline{a_1 a_0}$

Consider, for example: $N=62748517$.

We have: $N = M_{13} - (4 \cdot 5 + 8 - 3 \cdot 4) + (4 \cdot 7 + 2 - 3 \cdot 6) + 17 = M_{13} - 16 + 12 + 17 = M_{13} + 13$ so $13 \mid N$

- **The criterion with 17**

$p=2$, $v_{inv}(17)=(0;2,-3,-4,6,8,5,1,7)$ deci $r=1,s=9,\gamma=8 \Rightarrow \alpha_1=-(a_2d_2 - a_3d_3 + a_4d_4 - a_5d_5 + a_6d_6 - a_7d_7 + a_8d_8 - a_9d_9) = -(2a_2 + 3a_3 - 4a_4 - 6a_5 + 8a_6 - 5a_7 + a_8 - 7a_9)$, $\alpha_2=-(2a_{10} + 3a_{11} - 4a_{12} - 6a_{13} + 8a_{14} - 5a_{15} + a_{16} - 7a_{17})$ etc. from where:

$$N=M_{17} - (2a_2 + 3a_3 - 4a_4 - 6a_5 + 8a_6 - 5a_7 + a_8 - 7a_9) + (2a_{10} + 3a_{11} - 4a_{12} - 6a_{13} + 8a_{14} - 5a_{15} + a_{16} - 7a_{17}) - \dots + \overline{a_1a_0}$$

Consider, for example: $N=410338673$.

We have: $N=M_{17} - (2 \cdot 6 + 3 \cdot 8 - 4 \cdot 3 - 6 \cdot 3 + 8 \cdot 0 - 5 \cdot 1 + 4) + 73 = M_{17} - 5 + 73 = M_{17} + 68$ so $17 \mid N$.

- **The criterion with 9091**

$p=4$, $v_{dir}(9091)=(0;-909,-1,10,-100,1000)$ deci $r=3,s=8,\gamma=5 \Rightarrow$

$$\alpha_1=-(a_4d_4 - a_5d_5 + a_6d_6 - a_7d_7 + a_8d_8) = -(-909a_4 + a_5 + 10a_6 + 100a_7 + 1000a_8) =$$

$$(909a_4 - a_5 - 10a_6 - 100a_7 - 1000a_8), \alpha_2=-(909a_9 - a_{10} - 10a_{11} - 100a_{12} - 1000a_{13}) \text{ etc.}$$

from where: $N=M_{9091} + (909a_4 - a_5 - 10a_6 - 100a_7 - 1000a_8) - (909a_9 - a_{10} - 10a_{11} - 100a_{12} - 1000a_{13}) + \dots + \overline{a_3a_2a_1a_0}$

Consider, for example: $N=5131940403766329142131518731$.

We have: $N=M_{9091} + (909 \cdot 1 - 5 - 10 \cdot 1 - 100 \cdot 3 - 1000 \cdot 1) - (909 \cdot 2 - 4 - 10 \cdot 1 - 100 \cdot 9 - 1000 \cdot 2) + (909 \cdot 3 - 6 - 10 \cdot 6 - 100 \cdot 7 - 1000 \cdot 3) - (909 \cdot 0 - 4 - 10 \cdot 0 - 100 \cdot 4 - 1000 \cdot 9) + (909 \cdot 1 - 3 - 10 \cdot 1 - 100 \cdot 5 - 1000 \cdot 0) + 8731 = M_{9091} - 406 + 1096 - 1039 + 9404 + 396 + 8731 = M_{9091} + 18182$ so $9091 \mid N$.

5 References

Ioan C.A. (2019). *Mathematics. Revised edition*. Galati: Zigotto Publishing House.

Annex**Divisibility criteria with prime numbers between 11 and 999**

The divisibility criterion with 11

$$p=2, r=1, s=2, \square=1, v_{\text{dir}}=\square 0;-1 \square$$

The divisibility criterion with 13

$$p=2, r=1, s=4, \square=3, v_{\text{dir}}=\square 0;4,-1,-3 \square$$

The divisibility criterion with 17

$$p=2, r=1, s=9, \square=8, v_{\text{inv}}=\square 0;2,-3,-4,6,8,5,1,7 \square$$

The divisibility criterion with 19

$$p=2, r=1, s=10, \square=9, v_{\text{dir}}=\square 0;-5,-7,-6,3,8,-4,2,-1,-9 \square$$

The divisibility criterion with 23

$$p=2, r=1, s=12, \square=11, v_{\text{dir}}=\square 0;-8,11,5,-4,-6,-9,-2,-3,7,-1,10 \square$$

The divisibility criterion with 29

$$p=2, r=1, s=15, \square=14, v_{\text{inv}}=\square 0;-13,14,5,8,7,-12,4,-11,-6,2,9,-3,1,-10 \square$$

The divisibility criterion with 31

$$p=2, r=1, s=16, \square=15, v_{\text{inv}}=\square 0;-7,8,13,-6,-2,-11,-14,-15,-5,-12,-4,9,3,1,-10 \square$$

The divisibility criterion with 37

$$p=2, r=1, s=4, \square=3, v_{\text{inv}}=\square 0;11,1,-10 \square$$

The divisibility criterion with 41

$$p=2, r=1, s=6, \square=5, v_{\text{inv}}=\square 0;-18,16,4,1,-10 \square$$

The divisibility criterion with 43

$$p=2, r=1, s=22, \square=21,$$

$$v_{\text{inv}}=\square 0;-14,11,19,-18,8,6,-17,-2,20,15,-21,-5,7,16,12,9,-4,-3,-13,1,-10 \square$$

The divisibility criterion with 47

$$p=2, r=1, s=24, \square=23,$$

$$v_{\text{dir}}=\square 0;-6,13,11,-16,19,-2,20,-12,-21,22,15,-9,-4,-7,23,5,-3,-17,-18,-8,-14,-1,10 \square$$

The divisibility criterion with 53

$$p=2, r=1, s=14, \square=13, v_{\text{inv}}=\square 0;6,-7,17,-11,4,13,-24,-25,-15,-9,-16,1,-10 \square$$

The divisibility criterion with 59

$$p=2, r=1, s=30, \square=29,$$

$$v_{dir}=\square 0; 18, -3, -29, -5, -9, -28, -15, -27, -25, 14, -22, -16, -17, -7, 11, 8, -21, -26, 24, -4, -19, 13, -12$$

$$, 2, -20, 23, 6, -1, 10 \square$$

The divisibility criterion with 61

$$p=2, r=1, s=31, \square=30,$$

$$v_{inv}=\square 0; 22, 24, 4, 21, -27, 26, -16, -23, -14, 18, 3, -30, -5, -11, -12, -2, 20, -17, -13, 8, -19, 7, -9, 29,$$

$$15, -28, -25, 6, 1, -10 \square$$

The divisibility criterion with 67

$$p=2, r=1, s=34, \square=33,$$

$$v_{inv}=\square 0; -33, -5, -17, -31, -25, -18, -21, 9, -23, 29, -22, 19, 11, 24, 28, -12, -14, 6, 7, -3, 30, -32, -15, 16, -26, -8, 13, 4, 27, -2, 20, 1, -10 \square$$

The divisibility criterion with 71

$$p=2, r=1, s=36, \square=35,$$

$$v_{inv}=\square 0; -29, 6, 11, 32, 35, 5, 21, 3, -30, 16, -18, -33, -25, -34, -15, 8, -9, 19, 23, -17, 28, 4, 31, -26, -24, 27, 14, 2, -20, -13, -12, -22, 7, 1, -10 \square$$

The divisibility criterion with 73

$$p=2, r=1, s=5, \square=4, v_{inv}=\square 0; -27, -22, 1, -10 \square$$

The divisibility criterion with 79

$$p=2, r=1, s=14, \square=13, v_{inv}=\square 0; -21, -27, 33, -14, -18, 22, 17, -12, -38, -15, -8, 1, -10 \square$$

The divisibility criterion with 83

$$p=2, r=1, s=42, \square=41,$$

$$v_{inv}=\square 0; -17, 4, -40, -15, -16, -6, -23, -19, 24, 9, -7, -13, -36, 28, -31, -22, -29, 41, 5, 33, 2, -20, 34, -8, -3, 30, 32, 12, -37, 38, 35, -18, 14, 26, -11, 27, -21, -39, -25, 1, -10 \square$$

The divisibility criterion with 89

$$p=2, r=1, s=23, \square=22,$$

$$v_{inv}=\square 0; -11, 21, -32, -36, 4, -40, 44, 5, 39, -34, -16, -18, 2, -20, 22, -42, -25, -17, -8, -9, 1, -10 \square$$

The divisibility criterion with 97

$p=2, r=1, s=49, \square=48,$

$v_{inv}=\square 0; -3, 30, -9, -7, -27, -21, 16, 34, 48, 5, 47, 15, 44, 45, 35, 38, 8, 17, 24, -46, -25, -41, 22, -26, -31, 19, 4, -40, 12, -23, 36, 28, 11, -13, 33, -39, 2, -20, 6, 37, 18, 14, -43, 42, -32, 29, 1, -10 \square$

The divisibility criterion with 101

$p=3, r=1, s=3, \square=2, v_{inv}=\square 0; 10, 1 \square$

The divisibility criterion with 103

$p=3, r=1, s=18, \square=17,$
 $v_{dir}=\square 0; 30, 9, 13, -27, -39, -22, 14, -37, -42, 8, 23, -24, 34, -31, 1, -10, -3 \square$

The divisibility criterion with 107

$p=3, r=1, s=54, \square=53,$

$v_{inv}=\square 0; -37, 49, 45, -22, 6, 47, -42, -8, -27, -51, -25, 36, -39, -38, -48, 52, 15, -43, 2, -20, -14, 33, -9, -17, -44, 12, -13, 23, -16, 53, 5, -50, -35, 29, 31, 11, -3, 30, 21, 4, -40, -28, -41, -18, -34, 19, 24, -26, 46, -32, -1, 10, 7 \square$

The divisibility criterion with 109

$p=3, r=1, s=55, \square=54,$

$v_{inv}=\square 0; -19, -28, -47, 34, -13, 21, 8, 29, 37, -43, -6, -49, 54, 5, -50, -45, 14, -31, -17, -48, 44, -4, 40,$

$36, -33, 3, -30, -27, 52, 25, -32, -7, -39, -46, 24, -22, 2, -20, -18, -38, 53, 15, -41, -26, 42, 16, -51, -35, 23, -12, 11, -1, 10, 9 \square$

The divisibility criterion with 113

$p=3, r=1, s=57, \square=56,$

$v_{inv}=\square 0; 17, 56, 5, -50, 48, -28, 54, 25, -24, 14, -27, 44, 12, -7, -43, -22, -6, -53, -35, 11, 3, -30, -39, 51, 55, 15, -37, 31, 29, 49, -38, 41, 42, 32, 19, 36, -21, -16, 47, -18, -46, 8, 33, 9, 23, -4, 40, 52, 45, 2, -20, -26, 34, -1, 10, 13 \square$

The divisibility criterion with 127

$p=3, r=1, s=22, \square=21,$

$v_{dir}=\square 0; 16, -33, -51, 2, -20, -54, 32, 61, 25, 4, -40, 19, -63, -5, 50, 8, 47, 38, 1, -10, -27 \square$

The divisibility criterion with 131

$p=3, r=1, s=66, \square=65,$

$v_{dir} = \square 0; 48, 44, -47, -54, 16, -29, 28, -18, 49, 34, 53, -6, 60, 55, -26, -2, 20, 62, 35, 43, -37, -23, -32, 58, -56, 36, 33, 63, 25, 12, 11, 21, 52, 4, -40, 7, 61, 45, -57, 46, 64, 15, -19, 59, 65, 5, -50, -24, -22, -42, 27, -8, -51, -14, 9, 41, -17, 39, 3, -30, 38, 13, 1, -10, -31 \square$

The divisibility criterion with 137

$p=3, r=1, s=5, \square=4, v_{inv} = \square 0; -41, -1, 10, 37 \square$

The divisibility criterion with 139

$p=3, r=1, s=24, \square=23,$

$v_{dir} = \square 0; -27, -8, -59, 34, -62, 64, 55, 6, -60, 44, -23, -48, 63, 65, 45, -33, 52, 36, 57, -14, 1, -10, -39 \square$

The divisibility criterion with 149

$p=3, r=1, s=75, \square=74,$

$v_{inv} = \square 0; 43, 17, -21, 61, -14, -9, -59, -6, 60, -4, 40, 47, -23, -68, -65, 54, 56, 36, -62, 24, 58, 16, -11, -39, -57, -26, -38, -67, 74, 5, -50, 53, 66, -64, 44, 7, -70, -45, 3, -30, 2, -20, 51, -63, 34, -42, -27, -28, -18, 31, -12, -29, -8, -69, -55, -46, 13, 19, -41, -37, 72, 25, 48, -33, 32, -22, 71, 35, -52, 73, 15, -1, 10, 49 \square$

The divisibility criterion with 151

$p=3, r=1, s=76, \square=75,$

$v_{inv} = \square 0; 57, 34, -38, -73, -25, -52, 67, -66, 56, 44, 13, 21, -59, -14, -11, -41, -43, -23, -72, -35, 48, -27, -32, 18, -29, -12, -31, 8, 71, 45, 3, -30, -2, 20, -49, 37, -68, -75, -5, 50, -47, 17, -19, 39, 63, -26, -42, -33, 28, 22, -69, -65, 46, -7, 70, 55, 54, 64, -36, 58, 24, 62, -16, 9, 61, -6, 60, 4, -40, -53, -74, -15, -1, 10,$

$51 \square$

The divisibility criterion with 157

$p=3, r=1, s=40, \square=39,$

$v_{dir} = \square 0; -58, -48, 9, 67, -42, -51, 39, -76, -25, -64, 12, 37, -56, -68, 52, -49, 19, -33, 16, -3, 30, 14, 17,$

$-13, -27, -44, -31, -4, 40, 71, 75, 35, -36, 46, 11, 47, 1, -10, -57 \square$

The divisibility criterion with 163

$p=3, r=1, s=82, \square=81,$

$v_{inv} = \square 0; -22, 57, -81, -5, 50, -11, -53, 41, 79, 25, 76, 55, -61, -42, -69, 38, -54, 51, -21, 47, 19, -27, -56, 71, -58, -72, 68, -28, -46, -29, -36, 34, -14, -23, 67, -18, 17, -7, 70, -48, -9, -73, 78, 35, -24, 77, 45, 39, -64, -12, -43, -59, -62, -32, -6, 60, 52, -31, -16, -3, 30, 26, 66, -8, 80, 15, 13, 33, -4, 40, -74, -75, -65, -2, 20, -37, 44, 49, -1, 10, 63 \square$

The divisibility criterion with 167

$p=3, r=1, s=84, \square=83,$

$v_{dir}=\square 0; 2, -20, 33, 4, -40, 66, 8, -80, -35, 16, 7, -70, 32, 14, 27, 64, 28, 54, -39, 56, -59, -78, -55, 49, 11, 57, -69, 22, -53, 29, 44, 61, 58, -79, -45, -51, 9, 77, 65, 18, -13, -37, 36, -26, -74, 72, -52, 19, -23, 63, 38, -46, -41, 76, 75, -82, -15, -17, 3, -30, -34, 6, -60, -68, 12, 47, 31, 24, -73, 62, 48, 21, -43, -71, 42, 81, 25, -83, -5, 50, 1, -10, -67 \square$

The divisibility criterion with 173

$p=3, r=1, s=44, \square=43,$

$v_{inv}=\square 0; 38, -34, -6, 60, -81, -55, 31, 36, -14, -33, -16, -13, -43, 84, 25, -77, 78, 85, 15, 23, -57, 51, 9, 83, 35, -4, 40, -54, 21, -37, 24, -67, -22, 47, 49, 29, 56, -41, 64, 52, -1, 10, 73 \square$

The divisibility criterion with 179

$p=3, r=1, s=90, \square=89,$

$v_{dir}=\square 0; 74, -24, 61, -73, 14, 39, -32, -38, 22, -41, 52, 17, 9, 89, 5, -50, -37, 12, 59, -53, -7, 70, 16, 19, -11, -69, -26, 81, 85, 45, 87, 25, -71, -6, 60, -63, -86, -35, -8, 80, -84, -55, 13, 49, 47, 67, 46, 77, -54, 3, -30, -58, 43, -72, 4, -40, 42, -62, 83, 65, 66, 56, -23, 51, 27, 88, 15, 29, 68, 36, -2, 20, -21, 31, 48, 57, -33, -28, -78, 64, 76, -44, 82, 75, -34, -18, 1, -10, -79 \square$

The divisibility criterion with 181

$p=3, r=1, s=91, \square=90,$

$v_{inv}=\square 0; 86, 45, -88, -25, 69, 34, 22, -39, 28, 82, 85, 55, -7, 70, 24, -59, 47, 73, -6, 60, -57, 27, -89, -15, -31, -52, -23, 49, 53, 13, 51, 33, 32, 42, -58, 37, -8, 80, -76, 36, 2, -20, 19, -9, 90, 5, -50, -43, 68, 44, -78, 56, -17, -11, -71, -14, -41, 48, 63, -87, -35, -12, -61, 67, 54, 3, -30, -62, 77, -46, -83, -75, 26, -79, 66, 64, 84, 65, 74, -16, -21, 29, 72, 4, -40, 38, -18, -1, 10, 81 \square$

The divisibility criterion with 191

$p=3, r=1, s=96, \square=95,$

$v_{inv}=\square 0; -45, 68, 84, -76, -4, 40, -18, -11, -81, 46, -78, 16, 31, 72, 44, -58, 7, -70, -64, 67, 94, 15, 41, -28, 89, 65, -77, 6, -60, 27, -79, 26, -69, -74, -24, 49, 83, -66, 87, 85, -86, -95, -5, 50, 73, 34, 42, -38, -2, 20, -9, 90, 55, 23, -39, 8, -80, 36, 22, -29, -92, -35, -32, -62, 47, -88, -75, -14, -51, -63, 57, 3, -30, -82, 56, 13, 61, -37, -12, -71, -54, -33, -52, -53, -43, 48, 93, 25, -59, 17, 21, -19, -1, 10, 91 \square$

The divisibility criterion with 193

$p=3, r=1, s=97, \square=96,$

$v_{inv}=\square 0; -35, -36, -26, 67, -91, -55, -29, -96, -5, 50, 79, -18, -13, -63, 51, 69, 82, -48, 94, 25, -57, -9, 90, 65, -71, -62, 41, -24, 47, -84, 68, 92, 45, -64, 61, -31, -76, -12, -73, -42, 3$

4,46,-74,-32,-66,81,-38,-6,60,-21,17,23,-37,-16,-33,-56,-19,-3,30,86,-88,-8
5,78,-8,80,-28,87,95,15,43,-44,54,39,-4,40,-14,-53,-49,-89,-75,-22,27,-77,-2
,20,-7,70,72,52,59,-11,-83,58,-1,10,93□

The divisibility criterion with 197

$p=3$, $r=1$, $s=50$, $\square=49$,

$v_{dir}=\square 0$; -15,-47,76,28,-83,42,-26,63,-39,-4,40,-6,60,-9,90,85,-62,29,-93,-55,
-41,16,37,24,-43,36,34,54,51,81,-22,23,-33,-64,49,-96,-25,53,61,-19,-7,70,88,
-92,-65,59,1,-10,-97□

The divisibility criterion with 199

$p=3$, $r=1$, $s=100$, $\square=99$,

$v_{inv}=\square 0$; -5,50,97,25,-51,-87,74,56,37,28,-81,14,59,7,-70,-96,-35,-48,82,-24,4
1,-12,-79,-6,60,-3,30,98,15,49,-92,-75,-46,62,-23,31,88,-84,44,-42,22,-21,11,
89,-94,-55,-47,72,76,36,38,18,19,9,-90,-95,-45,52,77,26,-61,13,69,-93,-65,53,
67,-73,-66,63,-33,-68,83,-34,-58,-17,-29,91,85,-54,-57,-27,71,86,-64,43,-32
,-78,-16,-39,-8,80,-4,40,-2,20,-1,10,99□

The divisibility criterion with 211

$p=3$, $r=1$, $s=16$, $\square=15$,
 $v_{dir}=\square 0$; 55,83,14,71,-77,-74,-104,-15,-61,-23,19,21,1,-10,100□

The divisibility criterion with 223

$p=3$, $r=1$, $s=112$, $\square=111$,

$v_{dir}=\square 0$; -108,-35,-96,68,-11,110,15,73,-61,-59,-79,-102,-95,58,89,2,-20,-23,
7,-70,31,-87,-22,-3,30,-77,101,105,65,19,33,-107,-45,4,-40,-46,14,83,62,49,-
44,-6,60,69,-21,-13,-93,38,66,9,-90,8,-80,-92,28,-57,-99,98,-88,-12,-103,-8
5,-42,-26,37,76,-91,18,43,16,63,39,56,109,25,-27,47,-24,17,53,-84,-52,74,-71,
41,36,86,32,-97,78,-111,-5,50,-54,94,-48,34,106,55,-104,-75,81,82,72,-51,64,
29,-67,1,-10,100□

The divisibility criterion with 227

$p=3$, $r=1$, $s=114$, $\square=113$,

$v_{inv}=\square 0$; -92,12,107,65,31,-83,-78,99,-82,-88,-28,53,-76,79,-109,-45,-4,40,54,
-86,-48,26,-33,103,105,85,58,101,-102,112,15,77,-89,-18,-47,16,67,11,-110,-
35,-104,-95,42,34,-113,-5,50,-46,6,-60,-81,-98,72,-39,-64,-41,-44,-14,-87,-
38,-74,59,91,-2,20,27,-43,-24,13,97,-62,-61,-71,29,-63,-51,56,-106,-75,69,-
9,90,8,-80,-108,-55,96,-52,66,21,17,57,111,25,-23,3,-30,73,-49,36,94,-32,93,-
22,-7,70,-19,-37,-84,-68,-1,10,-100□

The divisibility criterion with 229

$p=3, r=1, s=115, \square=114,$

$v_{inv}=\square 0; -84, -76, 73, -43, -28, 51, -52, 62, 67, 17, 59, 97, -54, 82, 96, -44, -18, -49, 32, -9$
 $1, -6, 60, 87, 46, -2, 20, 29, -61, -77, 83, 86, 56, -102, 104, 105, 95, -34, 111, 35, 108, 65, 37,$
 $88, 36, 98, -64, -47, 12, 109, 55, -92, 4, -40, -58, -107, -75, 63, 57, -112, -25, 21, 19, 39, 68$
 $, 7, -70, 13, 99, -74, 53, -72, 33, -101, 94, -24, 11, -110, -45, -8, 80, -113, -15, -79, 103, -$
 $114, -5, 50, -42, -38, -78, 93, -14, -89, -26, 31, -81, -106, -85, -66, -27, 41, 48, -22, -9, 9$
 $0, 16, 69, -3, 30, -71, 23, -1, 10, -100 \square$

The divisibility criterion with 233

$p=3, \quad \quad \quad r=1, \quad \quad \quad s=117,$
 $\square=116, v_{inv}=\square 0; -68, -19, -43, -36, -106, -105, -115, -15, -83, -102, 88, 52, -54, 74, -4$
 $1, -56, 94, -8, 80, -101,$

$78, -81, 111, 55, -84, -92, -12, -113, -35, -116, -5, 50, -34, 107, 95, -18, -53, 64, 59, 109,$
 $75, -51, 44, 26, -27, 37, 96, -28, 47, -4, 40, 66, 39, 76, -61, -89, -42, -46, -6, 60, 99, -58, 11$
 $4, 25, -17, -63, -69, -9, 90, 32, -87, -62, -79, 91, 22, 13, 103, -98, 48, -14, -93, -2, 20, 33, -$
 $97, 38, 86, 72, -21, -23, -3, 30, -67, -29, 57, -104, 108, 85, 82, 112, 45, 16, 73, -31, 77, -71,$
 $11, -110, -65, -49, 24, -7, 70, -1, 10, -100 \square$

The divisibility criterion with 239

$p=3, r=1, s=8, \square=7, v_{inv}=\square 0; -44, -38, -98, 24, -1, 10, -100 \square$

The divisibility criterion with 241

$p=3, \quad \quad \quad r=1, \quad \quad \quad s=16, \quad \quad \quad \square=15,$
 $v_{dir}=\square 0; -36, 119, 15, 91, 54, -58, 98, -16, -81, 87, 94, 24, 1, -10, 100 \square$

The divisibility criterion with 251

$p=3, r=1, s=26, \square=25,$

$v_{dir}=\square 0; 4, -40, -102, 16, 91, 94, 64, 113, 125, 5, -50, -2, 20, 51, -8, 80, -47, -32, 69, 63, 123$
 $, 25, 1, -10,$

$100 \square$

The divisibility criterion with 257

$p=3, r=1, s=129, \square=128,$

$v_{inv}=\square 0; 28, -23, -27, 13, 127, 15, 107, -42, -94, -88, 109, -62, 106, -32, 63, -116, -125, -$
 $35, 93, 98, 48, 34, -83, 59, -76, -11, 110, -72, -51, -4, 40, 114, -112, 92, 108, -52, 6, -60, 86$
 $, -89, 119, 95, 78, -9, 90, 128, 5, -50, -14, -117, -115, 122, 65, 121, 75, 21, 47, 44, 74, 31, -53$
 $, 16, 97, 58, -66, -111, 82, -49, -24, -17, -87, 99, 38, -123, -55, 36, -103, 2, -20, -57, 56, -$
 $46, -54, 26, -3, 30, -43, -84, 69, 81, -39, -124, -45,$

-64,126,25,7,-70,-71,-61,96,68,91,118,105,-22,-37,113,-102,-8,80,-29,33,-73,-41,-104,12,-120,-85,79,-19,-67,-101,-18,-77,-1,10,-100□

The divisibility criterion with 263

$p=3$, $r=1$, $s=132$, $\square=131$,

$v_{dir}=\square 0;52,6,-60,74,49,36,-97,-82,31,-47,-56,34,-77,-19,-73,-59,64,-114,88,-91,121,105,2,-20,-63,104,12,-120,-115,98,72,69,99,62,-94,-112,68,109,-38,117,-118,128,35,-87,81,-21,-53,4,-40,-126,-55,24,23,33,-67,-119,-125,-65,124,75,39,-127,-45,-76,-29,27,-7,70,89,-101,-42,-106,8,-80,11,-110,48,46,66,129,25,13,-130,-15,-113,78,9,-90,111,-58,54,-14,-123,-85,61,-84,51,16,103,22,43,96,92,-131,-5,50,26,3,-30,37,-107,18,83,-41,-116,108,-28,17,93,122,95,102,32,-57,44,86,-71,-79,1,-10,100□$

The divisibility criterion with 269

$p=3$, $r=1$, $s=135$, $\square=134$,

$v_{inv}=\square 0;76,47,68,127,75,57,-32,51,28,-11,110,-24,-29,21,59,-52,-18,-89,83,-23,-39,121,-134,-5,50,38,-111,34,-71,-97,-106,-16,-109,14,129,55,-12,120,-124,-105,-26,-9,90,-93,123,115,-74,-67,132,25,19,79,17,99,86,-53,-8,80,7,-70,-107,-6,60,-62,82,-13,130,45,88,-73,-77,-37,101,66,-122,-125,-95,-126,-85,43,108,-4,40,-131,-35,81,-3,30,-31,41,128,65,-112,44,98,96,116,-84,33,-61,72,87,-63,92,-113,54,-2,20,69,117,-94,133,15,119,-114,64,-102,-56,22,49,48,58,-42,-118,104,36,-91,103,46,78,27,-1,10,-100□$

The divisibility criterion with 271

$p=3$, $r=1$, $s=6$, $\square=5$, $v_{inv}=\square 0;84,-27,-1,10,-100□$

The divisibility criterion with 277

$p=3$, $r=1$, $s=70$, $\gamma=69$,

$v_{inv}=(0;108,28,-3,30,-23,-47,-84,9,-90,69,-136,-25,-27,-7,70,131,75,81,21,67,-116,52,34,-63,76,71,121,-102,-88,49,64,-86,29,-13,130,85,-19,-87,39,-113,22,57,-16,-117,62,-66,106,48,74,91,-79,-41,133,55,4,-40,123,-122,112,-12,120,-92,89,-59,36,-83,-1,10,-100)$

The divisibility criterion with 281

$p=3$, $r=1$, $s=15$, $\gamma=14$,
 $v_{inv}=(0;124,-116,36,-79,-53,-32,39,-109,-34,59,-28,-1,10,-100)$

The divisibility criterion with 283

$p=3$, $r=1$, $s=142$, $\gamma=141$,

$v_{inv}=(0;132,95,-101,-122,88,-31,27,13,-130,-115,18,103,102,112,12,-120,68,-114,8,-80,-49,-76,-89,41,-127,138,35,-67,104,92,-71,-139,-25,-33,47,96,-111,-22,-63,64,-74,-109,-42,137,45,116,-28,-3,30,-17,-113,-2,20,83,19,93,-81,-39,107,62,-54,-26,-23,-53,-36,77,79,59,-24,-43,-136,-55,-16,-123,98,-131,-105,-82,-29,7,-70,134,75,99,-141,-5,50,66,-94,91,-61,44,126,-128,-135,-65,84,9,-90,51,56,6,-60,34,-57,4,-40,117,-38,97,-121,78,69,-124,108,52,46,106,72,129,125,-118,48,86,-11,110,32,-37,87,-21,-73,-119,58,-14,140,15,133,85,-1,10,-100)$

The divisibility criterion with 293

$p=3, r=1, s=74, \gamma=73,$

$v_{dir}=(0;-121,38,-87,-9,90,-21,-83,-49,-96,81,69,-104,-132,-145,-15,-143,-35,57,16,133,135,115,22,73,-144,-25,-43,137,95,-71,124,-68,94,-61,24,53,56,26,33,-37,77,109,82,59,-4,40,-107,-102,141,55,36,-67,84,39,-97,91,-31,17,123,-58,-6,60,-14,140,65,-64,54,46,126,-88,1,-10,100)$

The divisibility criterion with 307

$p=3, r=1, s=154, \gamma=153,$

$v_{inv}=(0;-79,-131,82,101,-89,-31,3,-30,-7,70,-86,-61,-4,40,-93,9,-90,-21,-97,49,124,-12,120,28,27,37,-63,16,147,65,-36,53,84,81,111,118,48,134,-112,-108,-148,-55,-64,26,47,144,95,-29,-17,-137,142,115,78,141,125,-22,-87,-51,-104,119,38,-73,116,68,-66,46,-153,-5,50,114,88,41,-103,109,138,-152,-15,150,35,-43,123,-2,20,107,-149,-45,143,105,-129,62,-6,60,14,-140,-135,122,8,-80,-121,-18,-127,42,-113,-98,59,24,67,-56,-54,-74,126,-32,13,-130,72,-106,139,145,85,71,-96,39,-83,-91,-11,110,128,-52,-94,19,117,58,34,-33,23,77,151,25,57,44,-133,102,-99,69,-76,146,75,-136,132,-92,-1,10,-100)$

The divisibility criterion with 311

$p=3, r=1, s=156, \gamma=155,$

$v_{inv}=(0;-67,48,142,135,-106,127,-26,-51,-112,-124,-4,40,-89,-43,119,54,82,113,114,104,-107,137,-126,16,151,45,-139,146,95,-17,-141,-145,-105,117,74,-118,-64,18,131,-66,38,-69,68,-58,-42,109,154,15,-150,-55,-72,98,-47,-152,-35,39,-79,-143,-125,6,-60,-22,-91,-23,-81,-123,-14,140,155,5,-50,-122,-24,-71,88,53,92,13,-130,56,62,2,-20,-111,-134,96,-27,-41,99,-57,-52,-102,87,63,-80,133,-86,-73,108,-147,-85,-83,-103,97,-37,59,32,-9,90,33,-19,-121,-34,29,21,101,-77,148,75,-128,36,-49,-132,76,-138,136,-116,-84,-93,-3,30,11,-110,-144,-115,-94,7,-70,78,153,25,61,12,-120,-44,129,-46,149,65,-28,-31,-1,10,-100)$

The divisibility criterion with 313

$p=3, r=1, s=157, \gamma=156,$

$v_{inv}=(0;-61,-16,-153,-35,37,-57,-56,-66,34,-27,-43,117,82,119,62,6,-60,-26,-53,-96,21,103,-91,-29,-23,-83,-109,151,55,76,-134,88,59,36,-47,-156,-5,50,126,-8,80,139,-138,128,-28,-33,17,143,135,-98,41,-97,31,3,-30,-13,130,-48,-146,-105,111,142,145,115,102,-81,-129,38,-67,44,-127,18,133,-78,154,25,63,-4,40,-87,-69,64,-14,140,-148,-85,-89,-49,-136,108,-141,-155,-15,150,65,-24,-73,104,-101,71,-84,-99,51,116,92,19,123,22,93,9,-90,-39,77,-144,-125,-2,20,113,122,32,-7,70,-74,114,112,132,-68,54,86,79,149,75,-124,-12,120,52,106,-121,-42,107,-131,58,46,-147,-95,11,-110,-152,-45,137,-118,-72,94,-1,10,-100)$

The divisibility criterion with 317

$p=3, r=1, s=80, \gamma=79,$

$v_{inv}=(0;-49,-144,-145,-135,82,131,-42,103,-79,156,25,67,-36,43,-113,-138,112,148,105,-99,39,-73,96,-9,90,51,124,28,37,-53,-104,89,61,24,77,-136,92,31,7,-70,66,-26,-57,-64,6,-60,-34,23,87,81,141,-142,152,65,-16,-157,-15,150,85,101,-59,-44,123,38,-63,-4,40,-83,-121,-58,-54,-94,-11,110,-149,-95,-1,10,-100)$

The divisibility criterion with 331

$p=3, r=1, s=56, \gamma=55,$

$v_{dir}=(0;-7,70,-38,49,-159,-65,-12,120,124,84,153,125,74,-78,118,144,-116,-164,-15,150,155,105,-57,-92,-73,68,-18,-151,-145,126,64,22,111,-117,-154,-115,157,85,143,-106,67,-8,80,-138,56,102,-27,-61,-52,-142,96,33,1,-10,100)$

The divisibility criterion with 337

$p=3, r=1, s=169, \gamma=168,$

$v_{inv}=(0;11,-110,89,121,138,-32,-17,-167,-15,150,-152,-165,-35,13,-130,-48,143,-82,146,-112,109,-79,116,-149,142,-72,46,-123,-118,-168,-5,50,-163,-55,-124,-108,69,-16,160,85,161,75,-76,86,151,-162,-65,-24,-97,-41,73,-56,-114,129,58,94,71,-36,23,107,-59,-84,166,25,87,141,-62,-54,-134,-8,80,-126,-88,-131,-38,43,-93,-81,136,-12,120,148,-132,-28,-57,-104,29,47,-133,-18,-157,-115,139,-42,83,-156,-125,-98,-31,-27,-67,-4,40,-63,-44,103,-19,-147,122,128,68,-6,60,74,-66,-14,140,-52,-154,-145,102,-9,90,111,-99,-21,-127,-78,106,-49,153,155,135,-2,20,137,-22,-117,159,95,61,64,34,-3,30,37,-33,-7,70,-26,-77,96,51,164,45,-113,119,158,105,-39,53,144,-92,-91,-101,-1,10,-100)$

The divisibility criterion with 347

$p=3, r=1, s=174, \gamma=173,$

$v_{inv}=(0;41,-63,-64,-54,-154,152,-132,-68,-14,140,-12,120,-159,-145,62,74,-46,113,-89,-151,122,168,55,144,-52,173,5,-50,153,-142,32,27,77,-76,66,34,7,-70,6,-60,-94,-101,-31,-37,23,117,-129,-98,-61,-84,146,-72,26,87,171,25,97,71,-16,160,135,38,-33,-17,170,35,-3,30,47,-123,-158,-155,162,115,-109,49,-143,42,-73,36,-13,130,88,161,125,138,8,-80,106,-19,-157,-165,-85,156,-172,-15,150,-112,79,-96,-81,116,-119,149,-102,-21,-137,-18,-167,-65,-44,93,111,-69,-4,40,-53,-164,-95,-91,-131,-78,86,-166,-75,56,134,48,-133,-58,-114,99,51,-163,-105,9,-90,-141,22,127,118,-139,2,-20,-147,82,-126,-128,-108,39,-43,83,-136,-28,-67,-24,-107,29,57,124,148,-92,-121,169,45,-103,-11,110,-59,-104,-1,10,-100)$

The divisibility criterion with 349

$p=3, r=1, s=59, \gamma=58,$

$v_{inv}=(0;47,-121,163,115,-103,-17,170,45,-101,-37,21,139,6,-60,-98,-67,-28,-69,-8,80,-102,-27,-79,92,127,126,136,36,-11,110,-53,-168,-65,-48,131,86,-162,-125,-146,64,58,118,-133,-66,-38,31,39,-41,61,88,167,75,-52,171,35,-1,10,-100)$

The divisibility criterion with 353

$p=3, r=1, s=17, \gamma=16,$
 $v_{inv}=(0;59,116,-101,-49,137,42,-67,-36,7,-70,-6,60,106,-1,10,-100)$

The divisibility criterion with 359

$p=3, r=1, s=180, \gamma=179,$

$v_{inv}=(0;77,-52,161,-174,-55,-168,-115,73,-12,120,-123,153,-94,-137,-66,-58,-138,-56,-158,144,-4,40,-41,51,-151,74,-22,-139,-46,101,67,48,-121,133,106,17,-170,-95,-127,-166,-135,-86,142,16,-160,164,155,-114,63,88,-162,-175,-45,91,167,125,-173,-65,-68,-38,21,149,-54,-178,-15,150,-64,-78,62,98,97,107,7,-70,-18,-179,-5,50,-141,-26,-99,-87,152,-84,122,-143,-6,60,118,-103,-47,111,-33,-29,-69,-28,-79,72,-2,20,159,-154,104,37,-11,110,-23,-129,-146,24,119,-113,53,-171,-85,132,116,-83,112,-43,71,8,-80,82,-102,-57,-148,44,-81,92,157,-134,-96,-117,93,147,-34,-19,-169,-105,-27,-89,172,75,-32,-39,31,49,-131,-126,-176,-35,-9,90,177,25,109,-13,130,136,76,-42,61,108,-3,30,59,128,156,-124,163,165,145,-14,140,36,-1,10,-100)$

The divisibility criterion with 367

$p=3, r=1, s=184, \gamma=183,$

$v_{dir}=(0;101,91,-176,-75,16,-160,132,148,-12,120,-99,-111,9,-90,166,175,85,-116,59,144,28,87,-136,-108,-21,-157,102,81,-76,26,107,31,57,164,-172,-115,49,-123,129,178,55,-183,-5,50,-133,-138,-88,146,8,-80,66,74,-6,60,134,128,-179$

, -45,83, -96, -141, -58, -154,72,14, -140, -68, -54,173,105,51, -143, -38,13, -130, -168, -155,82, -86,126, -159,122, -119,89, -156,92,181,25,117, -69, -44,73,4, -40,33,37, -3,30,67,64,94,161, -142, -48,113, -29, -77,36,7, -70, -34, -27, -97, -131, -158,112, -19, -177, -65, -84,106,41, -43,63,104,61,124, -139, -78,46, -93, -171, -125,149, -22, -147,2, -20, -167, -165,182,15, -150,32,47, -103, -71, -24, -127,169,145,18, -180, -35, -17,170,135,118, -79,56,174,95,151, -42,53, -163,162, -152,52, -153,62,114, -39,23,137,98,121, -109, -11,110,1, -10,100)

The divisibility criterion with 373

$p=3$, $r=1$, $s=94$, $\gamma=93$,

$v_{dir}=(0;119,-71,-36,-13,130,-181,-55,177,95,169,175,115,-31,-63,-116,41,-37,-3,30,73,16,-160,108,39,-17,170,165,-158,88,-134,-152,28,93,-184,-25,-123,111,9,-90,154,-48,107,49,-117,51,-137,-122,101,109,29,83,-84,94,179,75,-4,40,-27,-103,-89,144,52,-147,-22,-153,38,-7,70,46,-87,124,-121,91,-164,148,12,-120,81,-64,-106,-59,-156,68,66,86,-114,21,163,-138,-112,1,-10,100)$

The divisibility criterion with 379

$p=3$, $r=1$, $s=190$, $\gamma=189$,

$v_{dir}=(0;137,146,56,-181,-85,92,-162,104,97,167,-154,24,139,126,-123,93,-172,-175,-145,-66,-98,-157,54,-161,94,-182,-75,-8,80,-42,41,-31,-69,-68,-78,22,159,-74,-18,180,95,187,25,129,-153,14,-140,-116,23,149,26,119,-53,151,6,-60,-158,64,118,-43,51,-131,173,165,-134,-176,-135,-166,144,76,-2,20,179,105,87,-112,-17,170,-184,-55,171,185,45,-71,-48,101,127,-133,-186,-35,-29,-89,132,-183,-65,-108,-57,-188,-15,150,16,-160,84,-82,62,138,136,156,-44,61,148,36,19,189,5,-50,121,-73,-28,-99,-147,-46,81,-52,141,106,77,-12,120,-63,-128,143,86,-102,-117,33,49,-111,-27,-109,-47,91,-152,4,-40,21,169,-174,-155,34,39,-11,110,37,9,-90,142,96,177,125,-113,-7,70,58,178,115,-13,130,-163,114,-3,30,79,-32,-59,-168,164,-124,103,107,67,88,-122,83,-72,-38,1,-10,100)$

The divisibility criterion with 383

$p=3$, $r=1$, $s=192$, $\gamma=191$,

$v_{dir}=(0;149,42,-37,-13,130,-151,-22,-163,98,169,-158,48,-97,-179,-125,101,139,142,112,29,93,-164,108,69,76,6,-60,-166,128,-131,161,-78,14,-140,-132,171,-178,-135,-182,-95,184,75,16,-160,68,86,-94,174,175,165,-118,31,73,36,23,153,2,-20,-183,-85,84,-74,-26,-123,81,-44,57,-187,-45,67,96,189,25,133,-181,-105,-99,-159,58,186,55,-167,138,152,12,-120,51,-127,121,-61,-156,28,103,119,-41,27,113,19,-190,-15,150,32,63,136,172,-188,-35,-33,-53,147,62,146,72,46,-77,4,-40,17,-170,168,-148,-52,137,162,-88,114,9,-90,134,-191,-5,50,-117,21,173,185,65,116,-11,110,49,-107,-79,24,143,102,129,-141,-122,71,56,-177,-14$

5,-82,54,-157,38,3,-30,-83,64,126,-111,-39,7,-70,-66,-106,-89,124,-91,144,9
2,-154,8,-80,34,43,-47,87,-104,-109,-59,-176,-155,18,-180,-115,1,-10,100)

The divisibility criterion with 389

$p=3, r=1, s=195, \gamma=194,$

$v_{inv}=(0;167,-114,-27,-119,23,159,-34,-49,101,157,-14,140,156,-4,40,-11,110,6$
 $7,108,87,-92,142,136,-193,-15,150,56,-171,154,16,-160,44,-51,121,-43,41,-21$
 $, -179,-155,-6,60,178,165,-94,162,-64,-138,-176,-185,-95,172,-164,84,-62,-1$
 $58,24,149,66,118,-13,130,-133,163,-74,-38,-9,90,-122,53,-141,-146,-96,182,1$
 $25,-83,52,-131,143,126,-93,152,36,29,99,177,175,-194,-5,50,-111,-57,181,135,$
 $-183,-115,-17,170,-144,-116,-7,70,78,-2,20,189,55,-161,54,-151,-46,71,68,98$
 $,187,75,28,109,77,8,-80,22,169,-134,173,-174,184,105,117,-3,30,89,-112,-47,8$
 $1,-32,-69,-88,102,147,86,-82,42,-31,-79,12,-120,33,59,188,65,128,-113,-37,-$
 $19,190,45,-61,-168,124,-73,-48,91,-132,153,26,129,-123,63,148,76,18,-180,-1$
 $45,-106,-107,-97,192,25,139,166,-104,-127,103,137,186,85,-72,-58,191,35,39,$
 $-1,10,-100)$

The divisibility criterion with 397

$p=3, r=1, s=100, \gamma=99,$

$v_{inv}=(0;191,75,44,-43,33,67,124,-49,93,-136,169,-102,-171,122,-29,-107,-121,$
 $19,-190,-85,56,-163,42,-23,-167,82,-26,-137,179,195,35,47,-73,-64,-154,-48,$
 $83,-36,-37,-27,-127,79,4,-40,3,-30,-97,176,-172,132,-129,99,-196,-25,-147,$
 $-118,-11,110,91,-116,-31,-87,76,34,57,-173,142,168,-92,126,-69,-104,-151,-$
 $78,-14,140,188,105,141,178,-192,-65,-144,-148,-108,-111,-81,16,-160,12,-12$
 $0,9,-90,106,131,-119,-1,10,-100)$

The divisibility criterion with 401

$p=3, r=1, s=101, \gamma=100,$

$v_{inv}=(0;-198,-25,-151,-94,138,-177,166,-56,159,14,-140,197,35,51,-109,-113,$
 $-73,-72,-82,18,-180,196,45,-49,89,-88,78,22,181,195,55,-149,-114,-63,-172,1$
 $16,43,-29,-111,-93,128,-77,-32,-81,8,-80,-2,20,-200,-5,50,-99,188,125,-47,6$
 $9,112,83,-28,-121,7,-70,-102,-183,-175,146,144,164,-36,-41,9,-90,98,-178,17$
 $6,-156,-44,39,11,-110,-103,-173,126,-57,169,-86,58,-179,186,145,154,64,162,$
 $-16,160,4,-40,-1,10,-100)$

The divisibility criterion with 409

$p=3, r=1, s=103, \gamma=102,$

$v_{inv}=(0;-182,184,-204,-5,50,-91,92,-102,202,25,159,46,-51,101,-192,-125,23,1$
 $79,-154,-96,142,-193,-115,-77,-48,71,108,147,166,-24,-169,54,-131,83,-12,1$

20,27,139,-163,-6,60,-191,-135,123,-3,30,109,137,-143,203,15,-150,-136,133,
-103,-197,-75,-68,-138,153,106,167,-34,-69,-128,53,-121,-17,170,-64,-178,
144,196,85,-32,-89,72,98,-162,-16,160,36,49,-81,-8,80,18,-180,164,-4,40,9,-9
0,82,-2,20,-200,-45,41,-1,10,-100)

The divisibility criterion with 419

$p=3, r=1, s=210, \gamma=209,$

$v_{dir}=(0;-162,-56,141,-153,-146,203,65,188,-204,-55,131,-53,111,147,206,35,69$
,148,196,135,-93,92,-82,-18,180,-124,-17,170,-24,-179,114,117,87,-32,-99,15
2,156,116,97,-132,63,208,15,-150,-176,84,-2,20,-200,-95,112,137,-113,-127,1
3,-130,43,-11,110,157,106,197,125,7,-70,-138,123,27,149,186,-184,164,36,59,-
171,34,79,48,-61,191,185,-174,64,198,115,107,187,-194,-155,-126,3,-30,-119,
-67,-168,4,-40,-19,190,195,145,-193,-165,-26,-159,-86,22,199,105,207,25,16
9,-14,140,-143,173,-54,121,47,-51,91,-72,-118,-77,-68,-158,-96,122,37,49,-7
1,-128,23,189,205,45,-31,-109,-167,-6,60,-181,134,-83,-8,80,38,39,29,129,-3
3,-89,52,-101,172,-44,21,209,5,-50,81,28,139,-133,73,108,177,-94,102,-182,14
4,-183,154,136,-103,192,175,-74,-98,142,-163,-46,41,9,-90,62,-201,-85,12,-1
20,-57,151,166,16,-160,-76,-78,-58,161,66,178,-104,202,75,88,-42,1,-10,100)

The divisibility criterion with 421

$p=3, r=1, s=71, \gamma=70,$

$v_{inv}=(0;-158,-104,198,125,13,-130,37,51,-89,48,-59,169,-6,60,-179,106,203,75,$
92,-78,-62,199,115,113,133,-67,-172,36,61,-189,206,45,-29,-131,47,-49,69,15
2,164,44,-19,190,205,55,-129,27,151,174,-56,139,-127,7,-70,-142,157,114,123,
33,91,-68,-162,-64,-202,-85,8,-80,-42,-1,10,-100)

The divisibility criterion with 431

$p=3, r=1, s=216, \gamma=215,$

$v_{inv}=(0;-138,87,-8,80,62,-189,166,64,-209,-65,-212,-35,-81,-52,89,-28,-151,$
-214,-15,150,-207,-85,-12,120,93,-68,-182,96,-98,118,113,163,94,-78,-82,-4
2,-11,110,193,-206,-95,88,-18,180,-76,-102,158,144,-147,177,-46,29,141,-11
7,-123,-63,199,165,74,122,73,132,-27,-161,-114,-153,-194,-215,-5,50,-69,-1
72,-4,40,31,121,83,32,111,183,-106,198,175,-26,-171,-14,140,-107,208,75,112,
173,-6,60,-169,-34,-91,48,-49,59,-159,-134,47,-39,-41,-21,210,55,-119,-103
,168,44,-9,90,-38,-51,79,72,142,-127,-23,-201,-145,157,154,184,-116,-133,37
,61,-179,66,202,135,-57,139,-97,108,213,25,181,-86,-2,20,-200,-155,-174,16,
-160,-124,-53,99,-128,-13,130,-7,70,162,104,-178,56,-129,-3,30,131,-17,170,
24,191,-186,136,-67,-192,196,195,205,105,-188,156,164,84,22,211,45,-19,190,
-176,36,71,152,204,115,143,-137,77,92,-58,149,-197,-185,126,33,101,-148,187
, -146,167,54,-109,-203,-125,-43,-1,10,-100)

The divisibility criterion with 433

$p=3, r=1, s=217, \gamma=216,$

$v_{inv}=(0;-134,41,23,203,135,-51,77,96,-94,74,126,39,43,3,-30,-133,31,123,69,17$
 $6,-28,-153,-202,-145,151,-211,-55,117,129,9,-90,34,93,-64,207,95,-84,-26,-1$
 $73,-2,20,-200,-165,-82,-46,27,163,102,-154,-192,188,-148,181,-78,-86,-6,60,$
 $-167,-62,187,-138,81,56,-127,-29,-143,131,-11,110,199,175,-18,180,-68,-186$
 $,128,19,-190,168,52,-87,4,-40,-33,-103,164,92,-54,107,-204,-125,-49,57,-137$
 $,71,156,172,12,-120,-99,124,59,-157,-162,-112,-179,58,-147,171,22,213,35,83,$
 $36,73,136,-61,177,-38,-53,97,-104,174,-8,80,66,206,105,-184,108,-214,-25,-1$
 $83,98,-114,-159,-142,121,89,-24,-193,198,185,-118,-119,-109,-209,-75,-116,$
 $-139,91,-44,7,-70,-166,-72,-146,161,122,79,76,106,-194,208,85,16,-160,-132,$
 $21,-210,-65,-216,-5,50,-67,-196,-205,-115,-149,191,-178,48,-47,37,63,-197,$
 $-195,-215,-15,150,-201,-155,-182,88,-14,140,-101,144,-141,111,189,-158,-1$
 $52,-212,-45,17,-170,-32,-113,-169,-42,-13,130,-1,10,-100)$

The divisibility criterion with 439

$p=3, r=1, s=220, \gamma=219,$

$v_{inv}=(0;-122,-97,92,-42,-19,190,-144,123,87,8,-80,-78,-98,102,-142,103,-152,$
 $203,165,106,-182,64,-201,-185,94,-62,181,-54,101,-132,3,-30,-139,73,148,-1$
 $63,-126,-57,131,7,-70,-178,24,199,205,145,-133,13,-130,-17,170,56,-121,-10$
 $7,192,-164,-116,-157,-186,104,-162,-136,43,9,-90,22,219,5,-50,61,-171,-46,2$
 $1,-210,-95,72,158,176,-4,40,39,49,-51,71,168,76,118,137,-53,91,-32,-119,-12$
 $7,-47,31,129,27,169,66,218,15,-150,183,-74,-138,63,-191,154,216,35,89,-12,12$
 $0,117,147,-153,213,65,-211,-85,-28,-159,-166,-96,82,58,-141,93,-52,81,68,19$
 $8,215,45,-11,110,217,25,189,-134,23,209,105,-172,-36,-79,-88,2,-20,200,195,$
 $-194,184,-84,-38,-59,151,-193,174,16,-160,-156,-196,204,155,206,135,-33,-1$
 $09,212,75,128,37,69,188,-124,-77,-108,202,175,6,-60,161,146,-143,113,187,-1$
 $14,-177,14,-140,83,48,-41,-29,-149,173,26,179,-34,-99,112,197,-214,-55,111,$
 $207,125,67,208,115,167,86,18,-180,44,-1,10,-100)$

The divisibility criterion with 443

$p=3, r=1, s=222, \gamma=221,$

$v_{inv}=(0;-114,-189,118,149,-161,-162,-152,191,-138,51,-67,-216,-55,107,-184,$
 $68,206,155,-221,-5,50,-57,127,59,-147,141,-81,-76,-126,-69,-196,188,-108,1$
 $94,-168,-92,34,103,-144,111,219,25,193,-158,-192,148,-151,181,-38,-63,187,$
 $-98,94,-54,97,-84,-46,17,-170,-72,-166,-112,-209,-125,-79,-96,74,146,-131,$
 $-19,190,-128,-49,47,-27,-173,-42,-23,-213,-85,-36,-83,-56,117,159,182,-48,$
 $37,73,156,212,95,-64,197,-198,208,135,-21,210,115,179,-18,180,-28,-163,-142$
 $,91,-24,-203,-185,78,106,-174,-32,-123,-99,104,-154,211,105,-164,-132,-9,9$
 $0,-14,140,-71,-176,-12,120,129,39,53,-87,-16,160,172,52,-77,-116,-169,-82,-$

66,217,45,-7,70,186,-88,-6,60,-157,-202,-195,178,-8,80,86,26,183,-58,137,-41,-33,-113,-199,218,35,93,-44,-3,30,143,-101,124,89,-4,40,43,13,-130,-29,-153,201,205,165,122,109,-204,-175,-22,220,15,-150,171,62,-177,-2,20,-200,-215,-65,207,145,-121,-119,-139,61,-167,-102,134,-11,110,-214,-75,-136,31,133,-1,10,-100)

The divisibility criterion with 449

$p=3, r=1, s=17, \gamma=16,$

$v_{inv}=(0;-102,122,127,77,128,67,-221,-35,-99,92,-22,220,45,-1,10,-100)$

The divisibility criterion with 457

$p=3, r=1, s=77, \gamma=76,$

$v_{inv}=(0;-86,-54,83,84,74,174,88,34,117,201,-182,-8,80,114,-226,-25,-207,-215,-135,-21,210,185,-22,220,85,64,-183,2,-20,200,-172,-108,166,168,148,-109,176,68,-223,-55,93,-16,160,228,5,-50,43,27,187,-42,-37,-87,-44,-17,170,128,91,4,-40,-57,113,-216,-125,-121,-161,-218,-105,136,11,-110,186,-32,-137,-1,10,-100)$

The divisibility criterion with 461

$p=3, r=1, s=231, \gamma=230,$

$v_{inv}=(0;-78,-142,37,91,12,-120,-183,-14,140,-17,170,144,-57,109,-168,-164,-204,196,-116,-223,-75,-172,-124,-143,47,-9,90,22,-220,-105,128,103,-108,158,-197,126,123,153,-147,87,52,-59,129,93,-8,80,122,163,214,165,194,-96,38,81,112,-198,136,23,-230,-5,50,-39,-71,-212,-185,6,-60,139,-7,70,222,85,72,202,-176,-84,-82,-102,98,-58,119,193,-86,-62,159,-207,226,45,11,-110,178,64,-179,-54,79,132,63,-169,-154,157,-187,26,201,-166,-184,-4,40,61,-149,107,-148,97,-48,19,-190,56,-99,68,-219,-115,228,25,211,195,-106,138,3,-30,-161,227,35,111,-188,36,101,-88,-42,-41,-51,49,-29,-171,-134,-43,-31,-151,127,113,-208,-225,-55,89,32,141,-27,-191,66,-199,146,-77,-152,137,13,-130,-83,-92,-2,20,-200,156,-177,-74,-182,-24,-221,-95,28,181,34,121,173,114,-218,-125,-133,-53,69,-229,-15,150,-117,-213,-175,-94,18,-180,-44,-21,210,205,-206,216,145,-67,209,215,155,-167,-174,-104,118,203,-186,16,-160,217,135,33,131,73,192,-76,-162,-224,-65,189,-46,-1,10,-100)$

The divisibility criterion with 463

$p=3, r=1, s=78, \gamma=77,$

$v_{dir}=(0;-74,-186,8,-80,-126,-129,-99,64,-177,-82,-106,134,49,-27,-193,78,146,-71,-216,-155,161,-221,-105,124,149,-101,84,86,66,-197,118,209,225,65,-187,18,-180,-52,57,-107,144,-51,47,-7,70,226,55,-87,-56,97,-44,-23,230,15,-1$

50,111,-184,-12,120,189,-38,-83,-96,34,123,159,-201,158,-191,58,-117,-219,-125,-139,1,-10,100)

The divisibility criterion with 467

$p=3, r=1, s=234, \gamma=233,$

$v_{inv}=(0;-66,193,-62,153,-129,-111,176,108,-146,59,-123,-171,-158,179,78,154,-139,-11,110,-166,-208,212,215,185,18,-180,-68,213,205,-182,-48,13,-130,-101,76,174,128,121,191,-42,-47,3,-30,-167,-198,112,-186,-8,80,134,61,-143,29,177,98,-46,-7,70,-233,-5,50,-33,-137,-31,-157,169,178,88,54,-73,-204,172,148,-79,-144,39,77,164,228,55,-83,-104,106,-126,-141,9,-90,-34,-127,-131,-91,-24,-227,-65,183,38,87,64,-173,-138,-21,210,-232,-15,150,-99,56,-93,-4,40,67,-203,162,-219,-145,49,-23,230,35,117,231,25,217,165,218,155,-149,89,44,27,197,-102,86,74,194,-72,-214,-195,82,114,-206,192,-52,53,-63,163,-229,-45,-17,170,168,188,-12,120,201,-142,19,-190,32,147,-69,223,105,-116,226,75,184,28,187,-2,20,-200,132,81,124,161,-209,222,115,-216,-175,-118,-221,-125,-151,109,-156,159,-189,22,-220,-135,-51,43,37,97,-36,-107,136,41,57,-103,96,-26,-207,202,-152,119,211,225,85,84,94,-6,60,-133,-71,-224,-95,16,-160,199,-122,-181,-58,113,-196,92,14,-140,-1,10,-100)$

The divisibility criterion with 479

$p=3, r=1, s=240, \gamma=239,$

$v_{inv}=(0;-42,-59,111,-152,83,128,157,-133,-107,112,-162,183,86,98,-22,220,195,-34,-139,-47,-9,90,58,-101,52,-41,-69,211,-194,24,239,5,-50,21,-210,184,76,198,-64,161,-173,-186,-56,81,148,-43,-49,11,-110,142,17,-170,-216,-235,-45,-29,-189,-26,-219,-205,134,97,-12,120,237,25,229,105,-92,-38,-99,32,159,-153,93,28,199,-74,-218,-215,234,55,-71,231,85,108,-122,-217,-225,-145,13,-130,-137,-67,191,6,-60,121,227,125,187,46,19,-190,-16,160,-163,193,-14,140,37,109,-132,-117,212,-204,124,197,-54,61,-131,-127,-167,233,65,-171,-206,144,-3,30,179,126,177,146,-23,230,95,8,-80,-158,143,7,-70,221,185,66,-181,-106,102,-62,141,27,209,-174,-176,-156,123,207,-154,103,-72,-238,-15,150,-63,151,-73,-228,-115,192,-4,40,79,168,236,35,129,147,-33,-149,53,-51,31,169,226,135,87,88,78,178,136,77,188,36,119,-232,-75,-208,164,-203,114,-182,-96,2,-200,200,-84,-118,222,175,166,-223,-165,213,-214,224,155,-113,172,196,-44,-39,-89,-68,201,-94,-18,180,116,-202,104,-82,-138,-57,91,48,-1,10,-100)$

The divisibility criterion with 487

$p=3, r=1, s=244, \gamma=243,$

$v_{dir}=(0;-26,-227,-165,189,58,-93,-44,-47,-17,170,-239,-45,-37,-117,196,-12,120,-226,-175,-198,32,167,-209,142,41,77,204,-92,-54,53,-43,-57,83,144,21,-210,152,-59,103,-56,73,-243,-5,50,-13,130,161,-149,29,197,-22,220,235,85,12$

4,221,225,185,98,-6,60,-113,156,-99,16,-160,139,71,-223,-205,102,-46,-27,-2
 17,222,215,-202,72,-233,-105,76,214,-192,-28,-207,122,241,25,237,65,-163,16
 9,-229,-145,-11,110,-126,-201,62,-133,-131,-151,49,-3,30,187,78,194,8,-80,-
 174,-208,132,141,51,-23,230,135,111,-136,-101,36,127,191,38,107,-96,-14,140
 ,61,-123,-231,-125,-211,162,-159,129,171,238,55,-63,143,31,177,178,168,-219
 ,242,15,-150,39,97,4,-40,-87,-104,66,-173,-218,232,115,-176,-188,-68,193,18
 ,-180,-148,19,-190,-48,-7,70,-213,182,128,181,138,81,164,-179,-158,119,-21
 6,212,-172,-228,-155,89,84,134,121,-236,-75,-224,-195,2,-20,200,-52,33,157,
 -109,116,-186,-88,-94,-34,-147,9,-90,-74,-234,-95,-24,240,35,137,91,64,-15
 3,69,-203,82,154,-79,-184,-108,106,-86,-114,166,-199,42,67,-183,-118,206,-
 112,146,1,-10,100)

The divisibility criterion with 491

$p=3$, $r=1$, $s=246$, $\gamma=245$,

$v_{dir}=(0;-18,180,164,-167,197,-6,60,-109,108,-98,-2,20,-200,36,131,163,-157,9$
 $7,12,-120,218,-216,196,4,-40,-91,-72,229,165,-177,-194,-24,240,55,-59,99,-8$
 $,80,182,144,33,161,-137,-103,48,11,-110,118,-198,16,-160,127,203,-66,169,-2$
 $17,206,-96,-22,220,-236,-95,-32,-171,237,85,132,153,-57,79,192,44,51,-19,19$
 $0,64,-149,17,-170,227,185,114,-158,107,-88,-102,38,111,-128,-193,-34,-151,$
 $37,121,-228,-175,-214,176,204,-76,-222,-235,-105,68,-189,-74,-242,-35,-14$
 $1,-63,139,83,152,-47,-21,210,-136,-113,148,-7,70,-209,126,213,-166,187,94,4$
 $2,71,-219,226,195,14,-140,-73,239,65,-159,117,-188,-84,-142,-53,39,101,-28,$
 $-211,146,13,-130,-173,-234,-115,168,-207,106,-78,-202,56,-69,199,-26,-231,$
 $-145,-23,230,155,-77,-212,156,-87,-112,138,93,52,-29,-201,46,31,181,154,-6$
 $7,179,174,224,215,-186,-104,58,-89,-92,-62,129,183,134,133,143,43,61,-119,2$
 $08,-116,178,184,124,233,125,223,225,205,-86,-122,238,75,232,135,123,243,25,2$
 $41,45,41,81,172,244,15,-150,27,221,245,5,-50,9,-90,-82,-162,147,3,-30,-191,-$
 $54,49,1,-10,100)$

The divisibility criterion with 499

$p=3$, $r=1$, $s=250$, $\gamma=249$,

$v_{dir}=(0;-2,20,-200,4,-40,-99,-8,80,198,16,-160,103,-32,-179,-206,64,-141,-87$
 $, -128,-217,174,-243,-65,151,-13,130,197,26,239,105,-52,21,-210,104,-42,-79,$
 $-208,84,158,-83,-168,183,166,-163,133,167,-173,233,165,-153,33,169,-193,-6$
 $6,161,-113,132,177,226,235,145,47,29,209,-94,-58,81,188,116,-162,123,-232,-$
 $175,-246,-35,-149,-7,70,-201,14,-140,-97,-28,-219,194,56,-61,111,-112,122,$
 $-222,224,-244,-55,51,-11,110,-102,22,-220,204,-44,-59,91,88,118,-182,-176,$
 $-236,-135,-147,-27,-229,-205,54,-41,-89,-108,82,178,216,-164,143,67,-171,2$
 $13,-134,-157,73,-231,-185,-146,-37,-129,-207,74,-241,-85,-148,-17,170,-20$
 $3,34,159,-93,-68,181,186,136,137,127,227,225,245,45,49,9,-90,-98,-18,180,196$
 $,36,139,107,-72,221,-214,144,57,-71,211,-114,142,77,228,215,-154,43,69,-191,$

-86,-138,-117,172,-223,234,155,-53,31,189,106,-62,121,-212,124,-242,-75,-248,-15,150,-3,30,199,6,-60,101,-12,120,-202,24,-240,-95,-48,-19,190,96,38,119,-192,-76,-238,-115,152,-23,230,195,46,39,109,-92,-78,-218,184,156,-63,131,187,126,237,125,247,25,249,5,-50,1,-10,100)

The divisibility criterion with 503

$p=3, r=1, s=252, \gamma=251,$

$v_{dir}=(0;6,-60,97,36,143,79,216,-148,-29,-213,118,-174,231,205,-38,-123,224,-228,-235,-165,141,99,16,-160,91,96,46,43,73,-227,-245,-65,147,39,113,-124,234,175,-241,-105,44,63,-127,-239,-125,244,75,-247,-45,-53,27,233,185,162,-111,104,-34,-163,121,-204,28,223,-218,168,-171,201,2,-20,200,12,-120,194,72,-217,158,-71,207,-58,77,236,155,-41,-93,-76,-246,-55,47,33,173,-221,198,32,183,182,192,92,86,146,49,13,-130,-209,78,226,-248,-35,-153,21,-210,88,126,249,25,-250,-15,150,9,-90,-106,54,-37,-133,-179,-222,208,-68,177,242,95,56,-57,67,-167,161,-101,4,-40,-103,24,-240,-115,144,69,-187,-142,-89,-116,154,-31,-193,-82,-186,-152,11,-110,94,66,-157,61,-107,64,-137,-139,-119,184,172,-211,98,26,243,85,156,-51,7,-70,197,42,83,176,-251,-5,50,3,-30,-203,18,-180,-212,108,-74,237,145,59,-87,-136,-149,-19,190,112,-114,134,169,-181,-202,8,-80,-206,48,23,-230,-215,138,129,219,-178,-232,-195,-62,117,-164,131,199,22,-220,188,132,189,122,-214,128,229,225,-238,-135,-159,81,196,52,-17,170,-191,-102,14,-140,-109,84,166,-151,1,-10,100)$

The divisibility criterion with 509

$p=3, r=1, s=255, \gamma=254,$

$v_{inv}=(0;18,-180,-236,-185,-186,-176,233,215,-114,122,-202,-16,160,-73,221,-174,213,-94,-78,-238,-165,123,-212,84,178,-253,-15,150,27,239,155,-23,230,245,95,68,-171,183,206,-24,240,145,77,248,65,-141,-117,152,7,-70,191,126,-242,-125,232,225,-214,104,-22,220,-164,113,-112,102,-2,20,-200,-36,-149,-37,-139,-137,-157,43,79,228,-244,-105,32,189,146,67,-161,83,188,156,-33,-179,-246,-85,-168,153,-3,30,209,-54,31,199,46,49,19,-190,-136,-167,143,97,48,29,219,-154,13,-130,-227,234,205,-14,140,127,-252,-25,250,45,59,-81,-208,44,69,-181,-226,224,-204,4,-40,-109,72,-211,74,-231,-235,-195,-86,-158,53,-21,210,-64,131,217,-134,-187,-166,133,197,66,-151,-17,170,-173,203,6,-60,91,108,-62,111,-92,-98,-38,-129,-237,-175,223,-194,-96,-58,71,-201,-26,-249,-55,41,99,28,229,-254,-5,50,9,-90,-118,162,-93,-88,-138,-147,-57,61,-101,-8,80,218,-144,-87,-148,-47,-39,-119,172,-193,-106,42,89,128,247,75,-241,-135,-177,243,115,-132,-207,34,169,-163,103,-12,120,-182,-216,124,-222,184,196,76,-251,-35,-159,63,-121,192,116,-142,-107,52,-11,110,-82,-198,-56,51,-1,100)$

The divisibility criterion with 521

$p=3, r=1, s=27, \gamma=26,$

$v_{inv}=(0;42,101,32,201,74,-219,106,-18,180,-237,-235,-255,-55,29,231,-226,176$
 $,-197,-114,98,62,-99,-52,-1,10,-100)$

The divisibility criterion with 523

$p=3, r=1, s=262, \gamma=261,$

$v_{inv}=(0;46,63,-107,24,-240,-215,58,-57,47,53,-7,70,-177,201,82,226,-168,111,-$
 $64,117,-124,194,152,49,33,193,162,-51,-13,130,-254,-75,227,-178,211,-18,180$
 $,-231,218,-88,-166,91,136,209,2,-20,200,92,126,-214,48,43,93,116,-114,94,106$
 $,-14,140,169,-121,164,-71,187,222,-128,234,-248,-135,-219,98,66,-137,-199,$
 $-102,-26,260,15,-150,-69,167,-101,-36,-163,61,-87,-176,191,182,-251,-105,4$
 $,-40,-123,184,252,95,96,86,186,232,-228,188,212,-28,-243,-185,-242,-195,-1$
 $42,-149,-79,-256,-55,27,253,85,196,132,249,125,-204,-52,-3,30,223,-138,-18$
 $9,-202,-72,197,122,-174,171,-141,-159,21,-210,8,-80,-246,-155,-19,190,192,$
 $172,-151,-59,67,-147,-99,-56,37,153,39,133,239,225,-158,11,-110,54,-17,170,$
 $-131,-259,-25,250,115,-104,-6,60,-77,247,145,119,-144,-129,244,175,-181,24$
 $1,205,42,103,16,-160,31,213,-38,-143,-139,-179,221,-118,134,229,-198,-112,$
 $74,-217,78,-257,-45,-73,207,22,-220,108,-34,-183,261,5,-50,-23,230,-208,-1$
 $2,120,-154,-29,-233,238,235,-258,-35,-173,161,-41,-113,84,206,32,203,62,-9$
 $7,-76,237,245,165,-81,-236,-255,-65,127,-224,148,89,156,9,-90,-146,-109,44,$
 $83,216,-68,157,-1,10,-100)$

The divisibility criterion with 541

$p=3, r=1, s=271, \gamma=270,$

$v_{inv}=(0;82,262,85,232,-156,-63,89,192,244,265,55,-9,90,182,-197,-194,-224,76,$
 $-219,26,-260,-105,-32,-221,46,81,-269,-15,150,123,-148,-143,-193,-234,176,$
 $-137,-253,-175,127,-188,257,135,-268,-25,250,205,114,-58,39,151,113,-48,-6$
 $1,69,-149,-133,248,225,-86,-222,56,-19,190,264,65,-109,8,-80,259,115,-68,13$
 $9,233,-166,37,171,-87,-212,-44,-101,-72,179,-167,47,71,-169,67,-129,208,84,$
 $242,-256,-145,-173,107,12,-120,118,-98,-102,-62,79,-249,-215,-14,140,223,-$
 $66,119,-108,-2,20,-200,-164,17,-170,77,-229,126,-178,157,53,11,-110,18,-18$
 $0,177,-147,-153,-93,-152,-103,-52,-21,210,64,-99,-92,-162,-3,30,241,-246,-$
 $245,-255,-155,-73,189,-267,-35,-191,-254,-165,27,-270,-5,50,41,131,-228,11$
 $6,-78,239,-226,96,122,-138,-243,266,45,91,172,-97,-112,38,161,13,-130,218,-$
 $16,160,23,-230,136,263,75,-209,-74,199,174,-117,88,202,144,183,-207,-94,-14$
 $2,-203,-134,258,125,-168,57,-29,-251,-195,-214,-24,240,-236,196,204,124,-1$
 $58,-43,-111,28,261,95,132,-238,216,4,-40,-141,-213,-34,-201,-154,-83,-252,$
 $-185,227,-106,-22,220,-36,-181,187,-247,-235,186,-237,206,104,42,121,-128,$
 $198,184,-217,6,-60,59,-49,-51,-31,-231,146,163,-7,70,-159,-33,-211,-54,-1,$
 $10,-100)$

The divisibility criterion with 547

$p=3, r=1, s=92, \gamma=91,$

$v_{inv}=(0;94,154,101,84,254,195,238,-192,-268,-55,3,-30,-247,-265,-85,-244,252,215,38,167,-29,-257,-165,9,-90,-194,-248,-255,-185,209,98,114,-46,-87,-224,52,27,-270,-35,-197,-218,-8,80,-253,-205,-138,-261,-125,156,81,-263,-105,-44,-107,-24,240,-212,-68,133,-236,172,-79,243,-242,232,-132,226,-72,173,-89,-204,-148,-161,-31,-237,182,-179,149,151,131,-216,-28,-267,-65,103,64,-93,-164,-1,10,-100)$

The divisibility criterion with 557

$p=3, r=1, s=140, \gamma=139,$

$v_{dir}=(0;114,-26,260,185,-179,119,-76,203,198,248,-252,-265,-135,236,-132,206,168,-9,90,214,88,234,-112,6,-60,43,127,-156,-111,-4,40,157,101,104,74,-183,159,81,-253,-255,-235,122,-106,-54,-17,170,-29,-267,-115,36,197,258,205,178,-109,-24,240,-172,49,67,-113,16,-160,-71,153,141,261,175,-79,233,-102,-94,-174,69,-133,216,68,-123,116,-46,-97,-144,-231,82,-263,-155,-121,96,154,131,-196,-268,-105,-64,83,-273,-55,-7,70,-143,-241,182,-149,-181,139,-276,-25,250,-272,-65,93,184,-169,19,-190,229,-62,63,-73,173,-59,33,227,-42,-137,256,225,-22,220,28,277,15,-150,-171,39,167,1,-10,100)$

The divisibility criterion with 563

$p=3, r=1, s=282, \gamma=281,$

$v_{inv}=(0;126,-134,214,112,6,-60,37,193,-241,158,109,36,203,222,32,243,-178,91,216,92,206,192,-231,58,-17,170,-11,110,26,-260,-215,-102,-106,-66,97,156,129,-164,-49,-73,167,19,-190,211,142,269,125,-124,114,-14,140,-274,-75,187,-181,121,-84,277,45,113,-4,40,163,59,-27,270,115,-24,240,-148,-209,-162,-69,127,-144,-249,238,-128,154,149,199,262,195,-261,-205,-202,-232,68,-117,44,123,-104,-86,-266,-155,-139,264,175,-61,47,93,196,-271,-105,-76,197,-281,-5,50,63,-67,107,56,3,-30,-263,-185,161,79,-227,18,-180,111,16,-160,-89,-236,108,46,103,96,166,29,273,85,276,55,13,-130,174,-51,-53,-33,-233,78,-217,-82,257,245,-198,-272,-95,-176,71,-147,-219,-62,57,-7,70,-137,244,-188,191,-221,-42,-143,-259,-225,-2,20,-200,-252,268,135,-224,-12,120,-74,177,-81,247,-218,-72,157,119,-64,77,-207,-182,131,-184,151,179,-101,-116,34,223,22,-220,-52,-43,-133,204,212,132,-194,251,-258,-235,98,146,229,-38,-183,141,279,25,-250,248,-228,28,-280,-15,150,189,-201,-242,168,9,-90,-226,8,-80,237,-118,54,23,-230,48,83,-267,-145,-239,138,-254,-275,-65,87,256,255,265,165,39,173,-41,-153,-159,-99,-136,234,-88,-246,208,172,-31,-253,278,35,213,122,-94,-186,171,-21,210,152,169,-1,10,-100)$

The divisibility criterion with 569

$p=3, r=1, s=143, \gamma=142,$

$v_{inv}=(0;138,-242,144,267,175,-43,-139,252,-244,164,67,-101,-128,142,-282,-25,250,-224,-36,-209,-186,153,177,-63,61,-41,-159,-117,32,249,-214,-136,222,56,9,-90,-238,104,98,158,127,-132,182,-113,-8,80,-231,34,229,-14,140,-262,-225,-26,260,245,-174,33,239,-114,2,-20,200,276,85,-281,-35,-219,-86,-278,-65,81,-241,134,-202,-256,284,5,-50,-69,121,-72,151,197,-263,-215,-126,122,-82,251,-234,64,-71,141,-272,-125,112,18,-180,93,208,196,-253,254,-264,-205,-226,-16,160,107,68,-111,-28,280,45,119,-52,-49,-79,221,66,-91,-228,4,-40,-169,-17,170,7,-70,131,-172,13,-130,162,87,268,165,57,-1,10,-100)$

The divisibility criterion with 571

$p=3, r=1, s=286, \gamma=285,$

$v_{dir}=(0;142,-278,-75,179,-77,199,-277,-85,279,65,-79,219,94,202,264,215,134,-198,267,185,-137,228,4,-40,-171,-3,30,271,145,263,225,34,231,-26,260,255,-266,-195,237,-86,-282,-35,-221,-74,169,23,-230,16,-160,-113,-12,120,-58,9,-90,-242,136,-218,-104,-102,-122,78,-209,-194,227,14,-140,258,275,105,92,22,64,-69,119,-48,-91,-232,36,211,174,-27,270,155,163,83,-259,-265,-205,-234,56,11,-110,-42,-151,-203,-254,256,-276,-95,-192,207,214,144,273,125,-108,-62,49,81,-239,106,82,-249,206,224,44,131,-168,-33,-241,126,-118,38,191,-197,257,285,5,-50,-71,139,-248,196,-247,186,-147,-243,146,253,-246,176,-47,-101,-132,178,-67,99,152,193,-217,-114,-2,20,-200,-284,-15,150,213,154,173,-17,170,13,-130,158,133,-188,167,43,141,-268,-175,37,201,274,115,-8,80,-229,6,-60,29,281,45,121,-68,109,52,51,61,-39,-181,97,172,-7,70,-129,148,233,-46,-111,-32,-251,226,24,-240,116,-18,180,-87,-272,-135,208,204,244,-156,-153,-183,117,-28,280,55,21,-210,-184,127,-128,138,-238,96,182,-107,-72,149,223,54,31,261,245,-166,-53,-41,-161,-103,-112,-22,220,84,-269,-165,-63,59,-19,190,-187,157,143,283,25,-250,216,124,-98,-162,-93,-212,-164,-73,159,123,-88,-262,-235,66,-89,-252,236,-76,189,-177,57,1,-10,100)$

The divisibility criterion with 577

$p=3, r=1, s=289, \gamma=288,$

$v_{inv}=(0;154,191,-179,59,-13,130,-146,-271,-175,19,-190,169,41,167,61,-33,-247,162,111,44,137,-216,-148,-251,202,288,5,-50,-77,193,-199,259,-282,-65,73,-153,-201,279,95,204,268,205,258,-272,-165,-81,233,-22,220,108,74,-163,-101,-144,286,25,-250,192,-189,159,141,-256,252,-212,-188,149,241,-102,-134,186,-129,136,-206,-248,172,11,-110,-54,-37,-207,-238,72,-143,276,125,-96,-194,209,218,128,-126,106,94,214,168,51,67,-93,-224,-68,103,124,-86,283,55,27,-270,-185,119,-36,-217,-138,226,48,97,184,-109,-64,63,-53,-47,-107,-84,263,255,-242,112,34,237,-62,43,147,261,275,135,-196,229,18,-180,69,-113,-24,240,-92,-234,32,257,-262,-265,-235,42,157,161,121,-56,-17,170,31,267,215,158,$

151,221,98,174,-9,90,254,-232,12,-120,46,117,-16,160,131,-156,-171,-21,210,208,228,28,-280,-85,273,155,181,-79,213,178,-49,-87,-284,-45,-127,116,-6,60,-23,230,8,-80,223,78,-203,-278,-105,-104,-114,-14,140,-246,152,211,198,-249,182,-89,-264,-245,142,-266,-225,-58,3,-30,-277,-115,-4,40,177,-39,-187,139,-236,52,57,7,-70,123,-76,183,-99,-164,-91,-244,132,-166,-71,133,-176,29,287,15,-150,-231,2,-20,200,-269,-195,219,118,-26,260,285,35,227,38,197,-239,82,-243,122,-66,83,-253,222,88,274,145,281,75,-173,-1,10,-100)

The divisibility criterion with 587

$p=3$, $r=1$, $s=294$, $\gamma=293$,

$v_{inv}=(0;174,21,-210,-248,132,-146,286,75,-163,-131,136,-186,99,184,-79,203,-269,-245,102,154,221,138,-206,-288,-55,-37,-217,-178,19,-190,139,-216,-188,119,-16,160,161,151,251,-162,-141,236,-12,120,-26,260,-252,172,41,177,-9,90,274,195,-189,129,-116,-14,140,-226,-88,293,5,-50,-87,283,105,124,-66,73,-143,256,-212,-228,-68,93,244,-92,-254,192,-159,-171,-51,-77,183,-69,103,144,-266,-275,-185,89,284,95,224,108,94,234,8,-80,213,218,168,81,-223,-118,6,-60,13,-130,126,-86,273,205,-289,-45,-137,196,-199,229,58,7,-70,113,44,147,291,25,-250,152,241,-62,33,257,-222,-128,106,114,34,247,-122,46,127,-96,-214,-208,-268,-255,202,-259,242,-72,133,-156,-201,249,-142,246,-112,-54,-47,-117,-4,40,187,-109,-84,253,-182,59,-3,30,287,65,-63,43,157,191,-149,-271,-225,-98,-194,179,-29,290,35,237,-22,220,148,281,125,-76,173,31,277,165,111,64,-53,-57,-17,170,61,-23,230,48,107,104,134,-166,-101,-164,-121,36,227,78,-193,169,71,-123,56,27,-270,-235,2,-20,200,-239,42,167,91,264,-292,-15,150,261,-262,272,215,198,-219,-158,-181,49,97,204,-279,-145,276,175,11,-110,-74,153,231,38,207,278,155,211,238,-32,-267,-265,-285,-85,263,-282,-115,-24,240,-52,-67,83,-243,82,-233,-18,180,-39,-197,209,258,-232,-28,280,135,-176,-1,10,-100)$

The divisibility criterion with 593

$p=3$, $r=1$, $s=297$, $\gamma=296$,

$v_{inv}=(0;186,-81,217,202,-241,38,213,242,-48,-113,-56,-33,-263,258,-208,-292,-45,-143,244,-68,87,-277,-195,171,69,-97,-216,-212,-252,148,-294,-25,250,-128,94,246,-88,287,95,236,12,-120,14,-140,214,232,52,73,-137,184,-61,17,-170,-79,197,-191,131,-124,54,53,63,-37,-223,-142,234,32,273,235,22,-220,-172,-59,-3,30,293,35,243,-58,-13,130,-114,-46,-133,144,-254,168,99,196,-181,31,283,135,-164,-139,204,-261,238,-8,80,-207,291,55,43,163,149,289,75,-157,-209,-282,-145,264,-268,-285,-115,-36,-233,-42,-173,-49,-103,-156,-219,-182,41,183,-51,-83,237,2,-20,200,-221,-162,-159,-189,111,76,-167,-109,-96,-226,-112,-66,67,-77,177,9,-90,-286,-105,-136,174,39,203,-251,138,-194,161,169,89,296,5,-50,-93,-256,188,-101,-176,-19,190,-121,24,-240,28,-280,-165,-129,104,146,-274,-225,-122,34,253,-158,-199,211,262,-248,108,106,126,-74,$

147,-284,-125,64,-47,-123,44,153,249,-118,-6,60,-7,70,-107,-116,-26,260,-2
28,-92,-266,288,85,-257,198,-201,231,62,-27,270,265,-278,-185,71,-117,-16,
160,179,-11,110,86,-267,-295,-15,150,279,175,29,-290,-65,57,23,-230,-72,12
7,-84,247,-98,-206,281,155,229,82,-227,-102,-166,-119,4,-40,-193,151,269,2
75,215,222,152,259,-218,-192,141,-224,-132,134,-154,-239,18,-180,21,-210,-
272,-245,78,-187,91,276,205,-271,-255,178,-1,10,-100)

The divisibility criterion with 599

$p=3, r=1, s=300, \gamma=299,$

$v_{inv}=(0;198,-183,33,269,-294,-55,-49,-109,-108,-118,-18,180,-3,30,299,5,-50,$
 $-99,-208,283,165,147,-272,-275,-245,54,59,9,-90,-298,-15,150,297,25,-250,1$
 $04,158,217,226,136,-162,-177,-27,270,295,45,149,-292,-75,151,287,125,-52,-7$
 $9,191,-113,-68,81,-211,-286,-135,152,277,225,146,-262,224,156,237,26,-260,2$
 $04,-243,34,259,-194,143,-232,-76,161,187,-73,131,-112,-78,181,-13,130,-102$
 $, -178,-17,170,97,228,116,38,219,206,-263,234,56,39,209,-293,-65,51,89,-291,-$
 $85,251,-114,-58,-19,190,-103,-168,-117,-28,280,195,-153,-267,274,255,-154,$
 $-257,174,57,29,-290,-95,-248,84,-241,14,-140,202,-223,-166,-137,172,77,-17$
 $1,-87,271,285,145,-252,124,-42,-179,-7,70,-101,-188,83,-231,-86,261,-214,-$
 $256,164,157,227,126,-62,21,-210,-296,-35,-249,94,258,-184,43,169,107,128,-8$
 $2,221,186,-63,31,289,105,148,-282,-175,-47,-129,92,278,215,246,-64,41,189,-$
 $93,-268,284,155,247,-74,141,-212,-276,-235,-46,-139,192,-123,32,279,205,-2$
 $53,134,-142,222,176,37,229,106,138,-182,23,-230,-96,-238,-16,160,197,-173,$
 $-67,71,-111,-88,281,185,-53,-69,91,288,115,48,119,8,-80,201,-213,-266,264,-$
 $244,44,159,207,-273,-265,254,-144,242,-24,240,-4,40,199,-193,133,-132,122,$
 $-22,220,196,-163,-167,-127,72,-121,12,-120,2,-20,200,-203,233,66,-61,11,-1$
 $10,-98,-218,-216,-236,-36,-239,-6,60,-1,10,-100)$

The divisibility criterion with 601

$p=3, r=1, s=151, \gamma=150,$

$v_{inv}=(0;202,-217,-234,-64,39,211,294,65,-49,-111,-92,-282,-185,47,131,-108,$
 $-122,18,-180,-3,30,-300,-5,50,101,192,-117,-32,-281,-195,147,-268,276,245,$
 $-46,-141,208,-277,-235,-54,-61,9,-90,299,15,-150,298,25,-250,96,242,-16,16$
 $0,203,-227,-134,138,-178,-23,230,104,162,183,-27,270,-296,-45,-151,-293,-7$
 $5,149,-288,-125,48,121,-8,80,-199,187,-67,69,-89,289,115,52,81,-209,287,135,$
 $-148,278,225,154,263,-226,-144,238,24,-240,-4,40,201,-207,267,-266,256,-15$
 $6,-243,26,-260,196,-157,-233,-74,139,-188,77,-169,-113,-72,119,12,-120,-2,$
 $20,-200,197,-167,-133,128,-78,179,13,-130,98,222,184,-37,-231,-94,-262,216$
 $,244,-36,-241,6,-60,-1,10,-100)$

The divisibility criterion with 607

$p=3, r=1, s=102, \gamma=101,$

$v_{dir}=(0;214,288,155,271,-282,-215,-278,-255,122,-6,60,7,-70,93,284,195,-129,76,-153,-291,-125,36,247,-42,-187,49,117,44,167,151,-296,-75,143,-216,-268,252,-92,-294,-95,-264,212,-299,-45,-157,-251,82,-213,-298,-55,-57,-37,-237,-58,-27,270,-272,292,115,64,-33,-277,-265,222,208,-259,162,201,-189,69,-83,223,198,-159,-231,-118,-34,-267,242,8,-80,193,-109,-124,26,-260,172,101,204,-219,-238,-48,-127,56,47,137,-156,-261,182,1,-10,100)$

The divisibility criterion with 613

$p=3, r=1, s=52, \gamma=51,$

$v_{inv}=(0;226,192,-81,197,-131,84,-227,-182,-19,190,-61,-3,30,-300,-65,37,243,22,-220,-252,68,-67,57,43,183,9,-90,287,195,-111,-116,-66,47,143,-204,201,-171,-129,64,-27,270,-248,28,-280,-265,198,-141,184,-1,10,-100)$

The divisibility criterion with 617

$p=3, r=1, s=45, \gamma=44,$

$v_{inv}=(0;234,128,-46,-157,-281,-275,282,265,-182,-31,-307,-15,150,-266,192,-69,73,-113,-104,-194,89,-273,262,-152,286,225,218,288,205,-199,139,-156,-291,-175,-101,-224,-228,-188,29,-290,-185,-1,10,-100)$

The divisibility criterion with 619

$p=3, r=1, s=310, \gamma=309,$

$v_{dir}=(0;238,96,278,-304,-55,-69,71,-91,291,185,7,-70,81,-191,53,89,-271,234,136,-122,-18,180,57,49,129,-52,-99,-248,4,-40,-219,-286,-235,-126,22,-220,-276,284,255,-74,121,28,-280,-295,-145,212,-263,154,-302,-75,131,-72,101,228,196,-103,-208,223,246,16,-160,-257,94,298,115,88,-261,134,-102,-218,-296,-135,112,118,58,39,229,186,-3,30,-300,-95,-288,-215,293,165,207,-213,273,-254,64,-21,210,-243,-46,-159,-267,194,-83,211,-253,54,79,-171,-147,232,156,297,125,-12,120,38,239,86,-241,-66,41,209,-233,-146,222,256,-84,221,266,-184,-17,170,157,287,225,226,216,-303,-65,31,309,5,-50,-119,-48,-139,152,-282,-275,274,-264,164,217,306,35,269,-214,283,265,-174,-117,-68,61,9,-90,281,285,245,26,-260,124,-2,20,-200,143,-192,63,-11,110,138,-142,182,37,249,-14,140,-162,-237,-106,-178,-77,151,-272,244,36,259,-114,-98,-258,104,198,-123,-8,80,-181,-47,-149,252,-44,-179,-67,51,109,148,-242,-56,-59,-29,290,195,-93,-308,-15,150,-262,144,-202,163,227,206,-203,173,127,-32,-299,-105,-188,23,-230,-176,-97,-268,204,-183,-27,270,-224,-236,-116,-78,161,247,6,-60,-19,190,-43,-189,33,289,205,-193,73,-111,-128,42,199,-133,92,-301,-85,231,166,197,-113,-108,-158,-277,294,155,307,25,-250,24,-240,-76,141,-172,-137,132,-82,201,-153,292,175,107,168,177,87,-251,34,279,305,45,169,167,187,-13,130,-62,1,-10,100)$

The divisibility criterion with 631

$$p=3, r=1, s=316, \gamma=315,$$

$v_{inv}=(0;262,-96,-302,-135,88,-249,-34,-291,-245,-74,109,172,173,163,263,-106,-202,127,-8,80,-169,-203,137,-108,-182,-73,99,272,-196,67,-39,-241,-114,-122,-42,-211,217,-277,246,64,-9,90,-269,166,233,194,-47,-161,-283,306,95,312,35,281,-286,-295,-205,157,-308,-75,119,72,-89,259,-66,29,-290,-255,26,-260,76,-129,28,-280,276,-236,-164,-253,6,-60,-31,310,55,81,-179,-103,-232,-204,147,-208,187,23,-230,-224,-284,-315,-5,50,131,-48,-151,248,44,191,-17,170,193,-37,-261,86,-229,-234,-184,-53,-101,-252,-4,40,231,214,-247,-54,-91,279,-266,136,-98,-282,296,195,-57,-61,-21,210,-207,177,123,32,311,45,181,83,-199,97,292,235,174,153,-268,156,-298,-175,-143,168,213,-237,-154,278,-256,36,271,-186,-33,-301,-145,188,13,-130,38,251,14,-140,138,-118,-82,189,3,-30,300,155,-288,-275,226,264,-116,-102,-242,-104,-222,-304,-115,-112,-142,158,313,25,-250,-24,240,124,22,-220,307,85,-219,297,185,43,201,-117,-92,289,265,-126,-2,20,-200,107,192,-27,270,-176,-133,68,-49,-141,148,-218,287,285,305,105,212,-227,-254,16,-160,-293,-225,-274,216,-267,146,-198,87,-239,-134,78,-149,228,244,84,-209,197,-77,139,-128,18,-180,-93,299,165,243,94,-309,-65,19,-190,7,-70,69,-59,-41,-221,-314,-15,150,-238,-144,178,113,132,-58,-51,-121,-52,-111,-152,258,-56,-71,79,-159,-303,-125,-12,120,62,11,-110,-162,-273,206,-167,-223,-294,-215,257,-46,-171,-183,-63,-1,10,-100)$

The divisibility criterion with 641

$$p=3, r=1, s=17, \gamma=16,$$

$v_{inv}=(0;282,-256,-4,40,241,154,-258,16,-160,318,25,-250,-64,-1,10,-100)$

The divisibility criterion with 643

$$p=3, r=1, s=108, \gamma=107,$$

$v_{inv}=(0;286,-288,308,135,-64,-3,30,-300,-215,221,-281,238,192,9,-90,257,2,-20,200,-71,7,-27,270,-128,-6,60,43,213,-201,81,-167,-259,18,-180,-129,4,-40,-243,-142,134,-54,-103,-256,-12,120,86,-217,241,162,309,125,36,283,-258,8,-80,157,-284,268,-108,-206,131,-24,240,172,209,-161,-319,-25,250,72,-77,127,16,-160,314,75,-107,-216,231,262,-48,-163,-299,-225,321,5,-50,-143,144,-154,254,32,-320,-15,150,-214,211,-181,-119,-96,317,45,193,-1,10,-100)$

The divisibility criterion with 647

$$p=3, r=1, s=324, \gamma=323,$$

$v_{dir}=(0;294,295,285,-262,32,-320,-35,-297,-265,62,27,-270,112,174,201,-69,43,217,-229,-298,-255,-38,-267,82,-173,-211,169,251,78,-133,36,287,-282,232,$

268,-92,273,-142,126,34,307,165,291,-322,-15,150,-206,119,104,254,48,167,27
 1,-122,-74,93,-283,242,168,261,-22,220,-259,2,-20,200,-59,-57,-77,123,64,7,
 -70,53,117,124,54,107,224,-299,-245,-138,86,-213,189,51,137,-76,113,164,301
 ,225,-309,-145,156,-266,72,-73,83,-183,-111,-184,-101,-284,252,68,-33,-317
 ,-65,3,-30,300,235,238,208,-139,96,-313,-105,-244,-148,186,81,-163,-311,-1
 25,-44,-207,129,4,-40,-247,-118,-114,-154,246,128,14,-140,106,234,248,108,
 214,-199,49,157,-276,172,221,-269,102,274,-152,226,-319,-45,-197,29,-290,3
 12,115,144,-146,166,281,-222,279,-202,79,-143,136,-66,13,-130,6,-60,-47,-1
 77,-171,-231,-278,192,21,-210,159,-296,-275,162,321,25,-250,-88,233,258,8,
 -80,153,-236,-228,-308,-155,256,28,-280,212,-179,-151,216,-219,249,98,314,
 95,-303,-205,109,204,-99,-304,-195,9,-90,253,58,67,-23,230,288,-292,-315,-
 85,203,-89,243,158,-286,272,-132,26,-260,12,-120,-94,293,305,185,91,-263,42
 ,227,318,55,97,-323,-5,50,147,-176,-181,-131,16,-160,306,175,191,31,-310,-1
 35,56,87,-223,289,-302,-215,209,-149,196,-19,190,41,237,218,-239,-198,39,25
 7,18,-180,-141,116,134,-46,-187,-71,63,17,-170,-241,-178,-161,316,75,-103,
 -264,52,127,24,-240,-188,-61,-37,-277,182,121,84,-193,-11,110,194,1,-10,10
 0)

The divisibility criterion with 653

$p=3, r=1, s=164, \gamma=163,$

$v_{dir}=(0;306,205,-91,257,42,233,282,-208,121,96,-307,-195,-9,90,-247,-142,114$
 $,166,299,275,-138,74,-87,217,-211,151,-204,81,-157,264,-28,280,-188,-79,13$
 $7,-64,-13,130,6,-60,-53,-123,-76,107,236,252,92,-267,58,73,-77,117,136,-54,$
 $-113,-176,-199,31,-310,-165,-309,-175,-209,131,-4,40,253,82,-167,-289,278,$
 $-168,-279,178,179,169,269,-78,127,36,293,-318,-85,197,-11,110,206,-101,-29$
 $6,-305,-215,191,49,163,-324,-25,250,112,186,99,316,105,256,52,133,-24,240,2$
 $12,-161,304,225,-291,298,285,-238,-232,-292,308,185,109,216,-201,51,143,-1$
 $24,-66,7,-70,47,183,129,16,-160,294,325,15,-150,194,19,-190,-59,-63,-23,230$
 $,312,145,-144,134,-34,-313,-135,44,213,-171,-249,-122,-86,207,-111,-196,1,$
 $-10,100)$

The divisibility criterion with 659

$p=3, r=1, s=330, \gamma=329,$

$v_{dir}=(0;318,115,168,297,325,45,209,-113,-188,-97,311,185,127,48,179,187,107,2$
 $48,156,-242,-216,183,147,-152,202,-43,-229,313,165,327,25,-250,-136,42,239,$
 $246,176,217,-193,-47,-189,-87,211,-133,12,-120,-118,-138,62,39,269,-54,-11$
 $9,-128,-38,-279,154,-222,243,206,-83,171,267,-34,-319,-105,-268,44,219,-21$
 $3,153,-212,143,-112,-198,3,-30,300,295,-314,-155,232,316,135,-32,320,95,-2$
 $91,274,-104,-278,144,-122,-98,321,85,-191,-67,11,-110,-218,203,-53,-129,-2$
 $8,280,-164,322,75,-91,251,126,58,79,-131,-8,80,-141,92,-261,-26,260,36,299,3$
 $05,245,186,117,148,-162,302,275,-114,-178,-197,-7,70,-41,-249,-146,142,-10$

2,-298,-315,-145,132,-2,20,-200,23,-230,323,65,9,-90,241,226,-283,194,37,28
 9,-254,-96,301,285,-214,163,-312,-175,-227,293,-294,304,255,86,-201,33,329
 ,5,-50,-159,272,-84,181,167,307,225,-273,94,-281,174,237,266,-24,240,236,27
 6,-124,-78,121,108,238,256,76,-101,-308,-215,173,247,166,317,125,68,-21,210
 ,-123,-88,221,-233,-306,-235,-286,224,-263,-6,60,59,69,-31,310,195,27,-270,
 64,19,-190,-77,111,208,-103,-288,244,196,17,-170,-277,134,-22,220,-223,253
 ,106,258,56,99,328,15,-150,182,157,-252,-116,-158,262,16,-160,282,-184,-137
 ,52,139,-72,61,49,169,287,-234,-296,324,55,109,228,-303,-265,14,-140,82,-16
 1,292,-284,204,-63,-29,290,-264,4,-40,-259,-46,-199,13,-130,-18,180,177,20
 7,-93,271,-74,81,-151,192,57,89,-231,-326,-35,-309,-205,73,-71,51,149,-172,
 -257,-66,1,-10,100)

The divisibility criterion with 661

$p=3, r=1, s=111, \gamma=110,$

$v_{inv}=(0;322,85,-189,-93,269,-46,-201,27,-270,56,101,312,185,133,-8,80,-139,6$
 $8,-19,190,83,-169,-293,286,-216,177,213,-147,148,-158,258,64,21,-210,117,15$
 $2,-198,-3,30,-300,-305,-255,-94,279,-146,138,-58,-81,149,-168,-303,-275,1$
 $06,262,24,-240,-244,-204,57,91,-249,-154,218,-197,-13,130,22,-220,217,-187$
 $, -113,-192,-63,-31,310,205,-67,9,-90,239,254,104,282,-176,-223,247,174,243,$
 $214,-157,248,164,-318,-125,-72,59,71,-49,-171,-273,86,-199,7,-70,39,271,-6$
 $6,-1,10,-100)$

The divisibility criterion with 673

$p=3, r=1, s=113, \gamma=112,$

$v_{inv}=(0;-327,-95,277,-78,107,276,-68,7,-70,27,-270,8,-80,127,76,-87,197,49,18$
 $3,189,129,56,113,216,-141,64,33,-330,-65,-23,230,-281,118,166,-314,-225,231$
 $, -291,218,-161,264,52,153,-184,-179,-229,271,-18,180,219,-171,-309,-275,58$
 $,93,-257,-122,-126,-86,187,149,-144,94,-267,-22,220,-181,-209,71,-37,-303,$
 $-335,-15,150,-154,194,79,-117,-176,-259,-102,-326,-105,-296,268,12,-120,-$
 $146,114,206,-41,-263,-62,-53,-143,84,-167,324,125,96,-287,178,239,302,-328$
 $, -85,177,249,202,-1,10,-100)$

The divisibility criterion with 677

$p=3, r=1, s=170, \gamma=169,$

$v_{dir}=(0;-323,-155,196,71,-33,330,85,-173,-301,302,-312,-265,-58,-97,293,-22$
 $2,189,141,-56,-117,-184,-191,-121,-144,86,-183,-201,-21,210,-69,13,-130,-$
 $54,-137,16,-160,246,248,228,-249,-218,149,-136,6,-60,-77,93,-253,-178,-251$
 $, -198,-51,-167,316,225,-219,159,-236,329,95,-273,22,-220,169,-336,-25,250,$
 $208,-49,-187,-161,256,148,-126,-94,263,78,-103,-324,-145,96,-283,122,134,1$
 $4,-140,46,217,-139,36,317,215,-119,-164,286,-152,166,-306,-325,-135,-4,40,$

$v_{inv}=(0;-299,186,243,-327,-235,247,334,165,-248,-324,-265,-154,138,22,-220,$
 $97,-269,-114,-262,-184,-263,-174,338,125,152,-118,-222,117,232,-217,67,31,$
 $-310,296,-156,158,-178,-323,-275,-54,-161,208,23,-230,197,133,72,-19,190,2$
 $03,73,-29,290,-96,259,214,-37,-331,-195,-153,128,122,182,283,-26,260,204,63$
 $,71,-9,90,-199,-113,-272,-84,139,12,-120,-202,-83,129,112,282,-16,160,-198,$
 $-123,-172,318,325,255,254,264,164,-238,277,34,-340,-105,349,15,-150,98,-27$
 $9,-14,140,2,-20,200,103,-329,-215,47,231,-207,-33,330,205,53,171,-308,276,4$
 $4,261,194,163,-228,177,333,175,-348,-25,250,304,-236,257,234,-237,267,134,6$
 $2,81,-109,-312,316,345,55,151,-108,-322,-285,46,241,-307,266,144,-38,-321,$
 $-295,146,-58,-121,-192,-183,-273,-74,39,311,-306,256,244,-337,-135,-52,-1$
 $81,-293,126,142,-18,180,303,-226,157,-168,278,24,-240,297,-166,258,224,-13$
 $7,-32,320,305,-246,-344,-65,-51,-191,-193,-173,328,225,-147,68,21,-210,-3,$
 $30,-300,196,143,-28,280,4,-40,-301,206,43,271,94,-239,287,-66,-41,-291,106,$
 $342,85,-149,88,-179,-313,326,245,-347,-35,350,5,-50,-201,-93,229,-187,-233$
 $,227,-167,268,124,162,-218,77,-69,-11,110,302,-216,57,131,92,-219,87,-169,2$
 $88,-76,59,111,292,-116,-242,317,335,155,-148,78,-79,89,-189,-213,27,-270,-$
 $104,339,115,252,284,-36,-341,-95,249,314,-336,-145,48,221,-107,-332,-185,-$
 $253,-274,-64,-61,-91,209,13,-130,-102,319,315,-346,-45,-251,-294,136,42,28$
 $1,-6,60,101,-309,286,-56,-141,8,-80,99,-289,86,-159,188,223,-127,-132,-82,1$
 $19,212,-17,170,-298,176,343,75,-49,-211,7,-70,-1,10,-100)$

The divisibility criterion with 709

$p=3, r=1, s=355, \gamma=354,$

$v_{inv}=(0;-291,74,-31,310,-264,-196,-167,252,316,-324,-305,214,-13,130,118,23$
 $8,-253,-306,224,-113,-288,44,269,146,-42,-289,54,169,-272,-116,-258,-256,-$
 $276,-76,51,199,137,48,229,-163,212,7,-70,-9,90,-191,-217,43,279,46,249,346,8$
 $5,-141,-8,80,-91,201,117,248,-353,-15,150,-82,111,308,-244,313,-294,104,-3$
 $31,-235,223,-103,321,335,195,177,-352,-25,250,336,185,277,66,49,219,-63,-79$
 $,81,-101,301,-174,322,325,295,-114,-278,-56,-149,72,-11,110,318,-344,-105,$
 $341,135,68,29,-290,64,69,19,-190,-227,143,-12,120,218,-53,-179,-337,-175,3$
 $32,225,-123,-188,-247,343,115,268,156,-142,2,-20,200,127,148,-62,-89,181,31$
 $7,-334,-205,-77,61,99,-281,-26,260,236,-233,203,97,-261,-226,133,88,-171,2$
 $92,-84,131,108,338,165,-232,193,197,157,-152,102,-311,274,96,-251,-326,-28$
 $5,14,-140,-18,180,327,275,86,-151,92,-211,-17,170,-282,-16,160,-182,-307,2$
 $34,-213,3,-30,300,-164,222,-93,221,-83,121,208,47,239,-263,-206,-67,-39,-3$
 $19,354,5,-50,-209,-37,-339,-155,132,98,-271,-126,-158,162,-202,-107,-348,$
 $-65,-59,-119,-228,153,-112,-298,144,-22,220,-73,21,-210,-27,270,136,58,129$
 $,128,138,38,329,255,286,-24,240,-273,-106,351,35,-350,-45,-259,-246,333,215$
 $, -23,230,-173,312,-284,4,-40,-309,254,296,-124,-178,-347,-75,41,299,-154,1$
 $22,198,147,-52,-189,-237,243,-303,194,187,257,266,176,-342,-125,-168,262,2$
 $16,-33,330,245,-323,-315,314,-304,204,87,-161,192,207,57,139,28,-280,-36,-$

349,-55,-159,172,-302,184,287,-34,340,145,-32,320,345,95,-241,283,6,-60,-109,-328,-265,-186,-267,-166,242,-293,94,-231,183,297,-

134,-78,71,-1,10,-100)

The divisibility criterion with 719

$p=3, r=1, s=360, \gamma=359,$

$v_{inv}=(0;-281,-66,-59,-129,-148,42,299,-114,-298,104,-321,334,255,326,335,245,-293,54,179,-352,-75,31,-310,224,-83,111,328,315,-274,-136,-78,61,109,348,115,288,-4,40,319,-314,264,236,-203,-127,-168,242,-263,-246,303,-154,102,-301,134,98,-261,-266,-216,3,-30,300,-124,-198,-177,332,275,126,178,-342,-175,312,-244,283,46,259,286,16,-160,162,-182,-337,-225,93,-211,-47,-249,333,265,226,-103,311,-234,183,327,325,345,145,-12,120,238,-223,73,-11,110,338,215,7,-70,-19,190,257,306,-184,-317,294,-64,-79,71,9,-90,181,347,125,188,277,106,-341,-185,-307,194,217,-13,130,138,58,139,48,239,-233,173,-292,44,279,86,-141,-28,280,76,-41,-309,214,17,-170,262,256,316,-284,-36,-359,-5,50,219,-33,330,295,-74,21,-210,-57,-149,52,199,167,-232,163,-192,-237,213,27,-270,-176,322,-344,-155,112,318,-304,164,-202,-137,-68,-39,-329,-305,174,-302,144,-2,20,-200,-157,132,118,258,296,-84,121,228,-123,-208,-77,51,209,67,49,229,-133,-108,-358,-15,150,-62,-99,271,166,-222,63,89,-171,272,156,-122,-218,23,-230,143,8,-80,81,-91,191,247,-313,254,336,235,-193,-227,113,308,-204,-117,-268,-196,-197,-187,-287,-6,60,119,248,-323,354,55,169,-252,-356,-35,350,95,-231,153,-92,201,147,-32,320,-324,-355,-45,-269,-186,-297,94,-221,53,189,267,206,97,-251,353,65,69,29,-290,24,-240,243,-273,-146,22,-220,43,289,-14,140,38,339,205,107,-351,-85,131,128,158,-142,-18,180,357,25,-250,343,165,-212,-37,-349,-105,331,285,26,-260,-276,-116,-278,-96,241,-253,-346,-135,-88,161,-172,282,56,159,-152,82,-101,291,-34,340,195,207,87,-151,72,-1,10,-100)$

The divisibility criterion with 727

$p=3, r=1, s=364, \gamma=363,$

$v_{dir}=(0;-273,-178,326,-352,-115,-304,132,134,114,314,-232,139,64,87,-143,-244,240,-219,9,-90,173,-276,-148,26,-260,-308,172,-266,-248,299,-82,93,-203,-151,56,167,-216,-21,210,81,-83,103,-303,122,234,-159,136,94,-213,-51,-217,-11,110,354,95,-223,49,237,-189,-291,2,-20,200,181,-356,-75,23,-230,119,264,268,228,-99,263,278,128,174,-286,-48,-247,289,18,-180,346,175,-296,52,207,111,344,195,231,-129,-164,186,321,-302,112,334,295,-42,-307,162,-166,206,121,244,-259,-318,272,188,301,-102,293,-22,220,-19,190,281,98,-253,349,145,4,-40,-327,362,15,-150,46,267,238,-199,-191,-271,-198,-201,-171,256,348,155,-96,233,-149,36,-360,-35,350,135,104,-313,222,-39,-337,-265,-258,-328,-355,-85,123,224,-59,-137,-84,113,324,-332,-315,242,-239,209,91,-183,-351,-12$

5,-204,-141,-44,-287,-38,-347,-165,196,221,-29,290,8,-80,73,-3,30,-300,92,
 -193,-251,329,345,185,331,325,-342,-215,-31,310,-192,-261,-298,72,7,-70,-2
 7,270,208,101,-283,-78,53,197,211,71,17,-170,246,-279,-118,-274,-168,226,-
 79,63,97,-243,249,-309,182,361,25,-250,319,-282,-88,153,-76,33,-330,-335,-
 285,-58,-147,16,-160,146,-6,60,127,184,341,225,-69,-37,-357,-65,-77,43,297,
 -62,-107,343,205,131,144,14,-140,-54,-187,-311,202,161,-156,106,-333,-305,
 142,34,-340,-235,169,-236,179,-336,-275,-158,126,194,241,-229,109,-363,-5,
 50,227,-89,163,-176,306,-152,66,67,57,157,-116,-294,32,-320,292,-12,120,254
 ,-359,-45,-277,-138,-74,13,-130,-154,86,-133,-124,-214,-41,-317,262,288,2
 8,-280,-108,353,105,-323,322,-312,212,61,117,284,68,47,257,338,255,358,55,1
 77,-316,252,-339,-245,269,218,1,-10,100)

The divisibility criterion with 733

$p=3, r=1, s=62, \gamma=61,$

$v_{inv}=(0;-267,-262,-312,188,319,-258,-352,-145,-16,160,-134,-126,-206,-139,$
 $-76,27,-270,-232,121,256,-361,-55,-183,364,25,-250,301,-78,47,263,302,-88,$
 $147,-4,40,333,335,315,-218,-19,190,299,-58,-153,64,93,-197,-229,91,-177,30$
 $4,-108,347,195,249,-291,-22,220,-1,10,-100)$

The divisibility criterion with 739

$p=3, r=1, s=124, \gamma=123,$

$v_{dir}=(0;-261,-346,-235,133,148,-2,20,-200,-217,-47,-269,-266,-296,4,-40,-33$
 $9,-305,94,-201,-207,-147,-8,80,-61,-129,-188,-337,-325,294,16,-160,122,258$
 $,-363,-65,-89,151,-32,320,-244,223,-13,130,178,-302,64,99,-251,293,26,-260,$
 $-356,-135,-128,-198,-237,153,-52,-219,-27,270,256,-343,-265,-306,104,-30$
 $1,54,199,227,-53,-209,-127,-208,-137,-108,341,285,106,-321,254,-323,274,21$
 $6,57,169,-212,-97,231,-93,191,307,-114,-338,-315,194,277,186,357,125,228,-6$
 $3,-109,351,185,367,25,-250,283,126,218,37,369,5,-50,-239,173,-252,303,-74,1,$
 $-10,100)$

The divisibility criterion with 743

$p=3, r=1, s=372, \gamma=371,$

$v_{dir}=(0;-257,341,305,-78,37,-370,-15,150,-14,140,86,-117,-316,188,349,225,-2$
 $1,210,129,196,269,282,152,-34,340,315,-178,294,32,-320,228,-51,-233,101,-26$
 $7,-302,48,263,342,295,22,-220,-29,290,72,23,-230,71,33,-330,328,-308,108,-3$
 $37,-345,-265,-322,248,-251,281,162,-134,-146,-26,260,-371,-5,50,243,-201,-$
 $219,-39,-353,-185,364,75,-7,70,43,313,-158,94,-197,-259,361,105,-307,98,-2$
 $37,141,76,-17,170,-214,-89,147,16,-160,114,346,255,-321,238,-151,24,-240,17$
 $1,-224,11,-110,357,145,36,-360,-115,-336,-355,-165,164,-154,54,203,199,239$
 $,-161,124,246,-231,81,-67,-73,-13,130,186,369,25,-250,271,262,352,195,279,1$

82,-334,368,35,-350,-215,-79,47,273,242,-191,-319,218,49,253,-301,38,363,85
 ,-107,327,-298,8,-80,57,173,-244,211,119,296,12,-120,-286,-112,-366,-55,-1
 93,-299,18,-180,314,-168,194,289,82,-77,27,-270,-272,-252,291,62,123,256,-
 331,338,335,365,65,93,-187,-359,-125,-236,131,176,-274,-232,91,-167,184,-3
 54,-175,264,332,-348,-235,121,276,212,109,-347,-245,221,19,-190,-329,318,-
 208,-149,4,-40,-343,-285,-122,-266,-312,148,6,-60,-143,-56,-183,344,275,22
 2,9,-90,157,-84,97,-227,41,333,-358,-135,-136,-126,-226,31,-310,128,206,16
 9,-204,-189,-339,-325,278,192,309,-118,-306,88,-137,-116,-326,288,92,-177,
 284,132,166,-174,254,-311,138,106,-317,198,249,-261,-362,-95,207,159,-104,
 297,2,-20,200,229,-61,-133,-156,74,3,-30,300,-28,280,172,-234,111,-367,-45,
 -293,-42,-323,258,-351,-205,-179,304,-68,-63,-113,-356,-155,64,103,-287,-
 102,277,202,209,139,96,-217,-59,-153,44,303,-58,-163,144,46,283,142,66,83,-
 87,127,216,69,53,213,99,-247,241,-181,324,-268,-292,-52,-223,1,-10,100)

The divisibility criterion with 751

$p=3, r=1, s=126, \gamma=125,$

$v_{inv}=(0;-249,237,-117,-332,316,-156,58,171,-208,-173,228,-27,270,304,-36,36$
 $0,155,-48,-271,-294,-64,-111,359,165,-148,-22,220,53,221,43,321,-206,-193,$
 $-323,226,-7,70,51,241,-157,68,71,41,341,345,305,-46,-291,-94,189,363,125,25$
 $2,-267,-334,336,-356,-195,-303,26,-260,347,285,154,-38,-371,-45,-301,6,-60$
 $, -151,8,-80,49,261,-357,-185,348,275,254,-287,-134,-162,118,322,-216,-93,1$
 $79,-288,-124,-262,367,85,-99,239,-137,-132,-182,318,-176,258,-327,266,344,$
 $315,-146,-42,-331,306,-56,-191,-343,-325,246,-207,-183,328,-276,-244,187,$
 $-368,-75,-1,10,-100)$

The divisibility criterion with 757

$p=3, r=1, s=28, \gamma=27,$

$v_{inv}=(0;-243,159,-76,3,-30,300,28,-280,-228,9,-90,143,84,-83,73,27,-270,-328$
 $,252,-249,$

219,81,-53,-227,-1,10,-100)

The divisibility criterion with 761

$p=3, r=1, s=191, \gamma=190,$

$v_{inv}=(0;-239,107,-309,46,301,34,-340,356,245,-167,148,42,341,-366,-145,-72,-$
 $41,-351,-295,-94,179,-268,-364,-165,128,242,-137,-152,-2,20,-200,-283,-21$
 $4,-143,-92,159,-68,-81,49,271,334,-296,-84,79,-29,290,144,82,-59,-171,188,-$
 $358,-225,-33,330,-256,277,274,304,4,-40,-361,-195,-333,286,184,-318,136,16$
 $2,-98,219,93,-169,168,-158,58,181,-288,-164,118,342,-376,-45,-311,66,101,-$
 $249,207,213,153,-8,80,-39,-371,-95,189,-368,-125,-272,-324,196,323,-186,33$
 $8,-336,316,-116,-362,-185,328,-236,77,-9,90,-139,-132,-202,-263,347,335,-3$

06,16,-160,78,-19,190,-378,-25,250,-217,-113,369,115,372,85,-89,129,232,-3
7,370,105,-289,-154,18,-180,278,264,-357,-235,67,91,-149,-32,320,-156,38,-
380,-5,50,261,-327,226,23,-230,17,-170,178,-258,297,74,21,-210,-183,308,-3
6,360,205,233,-47,-291,-134,-182,298,64,121,312,-76,-1,10,-100)

The divisibility criterion with 769

$p=3$, $r=1$, $s=97$, $\gamma=96$,

$v_{inv}=(0;-231,3,-30,300,76,9,-90,131,228,27,-270,-376,-85,81,-41,-359,-255,24$
 $3,-123,-308,4,-40,-369,-155,12,-120,-338,304,36,-360,-245,143,108,-311,34,$
 $-340,324,-164,102,-251,203,277,306,16,-160,62,149,48,289,186,-322,144,98,-2$
 $11,-197,-337,294,136,178,-242,113,-361,-235,43,339,-314,64,129,248,-173,19$
 $2,-382,-25,250,-193,-377,-75,-19,190,-362,-225,-57,-199,-317,94,-171,172,$
 $-182,282,256,-253,223,77,-1,10,-100)$

The divisibility criterion with 773

$p=3$, $r=1$, $s=194$, $\gamma=193$,

$v_{inv}=(0;-227,-49,-283,-262,301,82,-47,-303,-62,-153,-16,160,-54,-233,11,-1$
 $10,327,-178,234,-21,210,219,129,256,-241,91,-137,-176,214,179,-244,121,336,$
 $-268,361,255,-231,-9,90,-127,-276,-332,228,39,383,35,-350,-365,-215,-169,1$
 $44,106,-287,-222,-99,217,149,56,213,189,-344,348,385,15,-150,-46,-313,38,-$
 $380,-65,-123,-316,68,93,-157,24,-240,81,-37,370,165,-104,267,-351,-355,-31$
 $5,58,193,-384,-25,250,-181,264,-321,118,366,205,269,-371,-155,4,-40,-373,-$
 $135,-196,-359,-275,-342,328,-188,334,-248,161,-64,-133,-216,-159,44,333,-$
 $238,61,163,-84,67,103,-257,251,-191,364,225,69,83,-57,-203,-289,-202,-299,$
 $-102,247,-151,-36,360,265,-331,218,139,156,-14,140,146,86,-87,97,-197,-349$
 $, -375,-115,377,95,-177,224,79,-17,170,-154,-6,60,173,-184,294,152,26,-260,2$
 $81,282,272,372,145,96,-187,324,-148,-66,-113,357,295,142,126,286,232,-1,10,$
 $-100)$

The divisibility criterion with 787

$p=3$, $r=1$, $s=394$, $\gamma=393$,

$v_{inv}=(0;-213,-231,-51,-277,-378,-155,-24,240,-39,390,35,-350,352,-372,-215,$
 $-211,-251,149,84,-53,-257,209,271,-349,342,-272,359,345,-302,-128,-294,-2$
 $08,-281,-338,232,41,377,165,-76,-27,270,-339,242,-59,-197,-391,-25,250,-13$
 $9,-184,266,-299,-158,6,-60,-187,296,188,-306,-88,93,-143,-144,-134,-234,-$
 $21,210,261,-249,129,284,308,68,107,-283,-318,32,-320,52,267,-309,-58,-207,$
 $-291,-238,19,-190,326,-112,333,-182,246,-99,203,331,-162,46,327,-122,-354,$
 $392,15,-150,-74,-47,-317,22,-220,-161,36,-360,-335,202,341,-262,259,-229,-$
 $71,-77,-17,170,-126,-314,-8,80,-13,130,274,-379,-145,-124,-334,192,-346,31$
 $2,28,-280,-348,332,-172,146,114,-353,382,115,-363,-305,-98,193,-356,-375,-$

185,276,388,55,237,-9,90,-113,343,-282,-328,132,254,-179,216,201,351,-362,-315,2,-20,200,361,325,-102,233,31,-310,-48,-307,-78,-7,70,87,-83,43,357,365,285,298,168,-106,273,-369,-245,89,-103,243,-69,-97,183,-256,199,371,225,111,-323,82,-33,330,-152,-54,-247,109,-303,-118,393,5,-50,-287,-278,-368,-255,189,-316,12,-120,-374,-195,376,175,-176,186,-286,-288,-268,319,-42,-367,-265,289,258,-219,-171,136,214,221,151,64,147,104,-253,169,-116,373,205,311,38,-380,-135,-224,-121,-364,-295,-198,-381,-125,-324,92,-133,-244,79,-3,30,-300,-148,-94,153,44,347,-322,72,67,117,-383,-105,263,-269,329,-142,-154,-34,340,-252,159,-16,160,-26,260,-239,29,-290,-248,119,384,95,-163,56,227,91,-123,-344,292,228,81,-23,230,61,177,-196,386,75,37,-370,-235,-11,110,-313,-18,180,-226,-101,223,131,264,-279,-358,-355,-385,-85,63,157,4,-40,-387,-65,-137,-204,-321,62,167,-96,173,-156,-14,140,174,-166,86,-73,-57,-217,-191,336,-212,-241,49,297,178,-206,-301,-138,-194,366,275,-389,-45,-337,222,141,164,-66,-127,-304,-108,293,218,181,-236,-1,10,-100)

The divisibility criterion with 797

$p=3, r=1, s=200, \gamma=199,$

$v_{inv}=(0;-203,-361,-375,-235,-41,-387,-115,353,-342,232,71,87,-73,-67,-127,-324,52,277,-379,-195,356,-372,-265,259,-199,396,25,-250,109,-293,-258,189,-296,-228,-111,313,58,217,221,181,-216,-231,-81,13,-130,-294,-248,89,-93,133,264,-249,99,-193,336,-172,126,334,-152,-74,-57,-227,-121,-384,-145,-144,-154,-54,-257,179,-196,366,325,-62,-177,176,-166,66,137,224,151,84,-43,-367,-315,-38,380,185,-256,169,-96,163,-36,360,385,135,244,-49,-307,-118,383,155,44,357,-382,-165,56,237,21,-210,-291,-278,389,95,-153,-64,-157,-24,240,-9,90,-103,233,61,187,-276,369,295,238,11,-110,303,158,14,-140,-194,346,-272,329,-102,223,161,-16,160,-6,60,197,-376,-225,-141,-184,246,-69,-107,273,-339,202,371,275,-359,-395,-35,350,-312,-68,-117,373,255,-159,-4,40,397,15,-150,-94,143,164,-46,-337,182,-226,-131,-284,-348,292,268,-289,-298,-208,-311,-78,-17,170,-106,263,-239,-1,10,-100)$

The divisibility criterion with 809

$p=3, r=1, s=102, \gamma=101,$

$v_{dir}=(0;-191,292,316,76,49,319,46,349,-254,113,-321,-26,260,-173,112,-311,-126,-358,344,-204,-387,-175,132,298,256,-133,-288,-356,324,-4,40,-400,-45,-359,354,-304,-196,342,-184,222,207,357,-334,104,-231,-117,361,-374,-305,-186,242,7,-70,-109,281,-383,-215,-277,343,-194,322,16,-160,-18,180,-182,202,-402,-25,250,-73,-79,-19,190,-282,393,115,-341,174,-122,-398,-65,-159,-28,280,-373,-315,-86,51,299,246,-33,330,-64,-169,72,89,-81,1,-10,100)$

The divisibility criterion with 811

$p=3, r=1, s=406, \gamma=405,$

$v_{dir}=(0;-189,268,-247,37,-370,-355,306,184,-218,-253,97,-159,-32,320,44,371,$
 $345,-206,-373,-325,6,-60,-211,-323,-14,140,222,213,303,214,293,314,104,-22$
 $9,-143,-192,298,264,-207,-363,386,195,-328,36,-360,356,-316,-84,29,-290,-3$
 $44,196,-338,136,262,-187,248,-47,-341,166,-38,380,255,-117,359,-346,216,27$
 $3,-297,-274,307,174,-118,369,365,405,5,-50,-311,-134,-282,387,185,-228,-15$
 $3,-92,109,-279,357,-326,16,-160,-22,220,233,103,-219,-243,-3,30,-300,-244,$
 $7,-70,-111,299,254,-107,259,-157,-52,-291,-334,96,-149,-132,-302,-224,-19$
 $3,308,164,-18,180,-178,158,42,391,145,172,-98,169,-68,-131,-312,-124,-382,$
 $-235,-83,19,-190,278,-347,226,173,-108,269,-257,137,252,-87,59,221,223,203,$
 $403,25,-250,67,141,212,313,114,-329,46,351,-266,227,163,-8,80,11,-110,289,3$
 $54,-296,-284,-404,-15,150,122,402,35,-350,256,-127,-352,276,-327,26,-260,1$
 $67,-48,-331,66,151,112,-309,-154,-82,9,-90,89,-79,-21,210,333,-86,49,321,34$
 $, -340,156,62,191,-288,-364,396,95,-139,-232,-113,319,54,271,-277,337,-126,$
 $-362,376,295,294,304,204,393,125,372,335,-106,249,-57,-241,-23,230,133,292,$
 $324,4,-40,400,55,261,-177,148,142,202,-398,-75,-61,-201,388,175,-128,-342,$
 $176,-138,-242,-13,130,322,24,-240,-33,330,-56,-251,77,41,401,45,361,-366,-$
 $395,-105,239,43,381,245,-17,170,-78,-31,310,144,182,-198,358,-336,116,-349,$
 $246,-27,270,-267,237,63,181,-188,258,-147,-152,-102,209,343,-186,238,53,28$
 $1,-377,-285,-394,-115,339,-146,-162,-2,20,-200,378,275,-317,-74,-71,-101,$
 $199,-368,-375,-305,-194,318,64,171,-88,69,121,-399,-65,-161,-12,120,-389,-$
 $165,28,-280,367,385,205,383,225,183,-208,-353,286,384,215,283,-397,-85,39,-$
 $390,-155,-72,-91,99,-179,168,-58,-231,-123,-392,-135,-272,287,374,315,94,-$
 $129,-332,76,51,301,234,93,-119,379,265,-217,-263,197,-348,236,73,81,1,-10,1$
 $00)$

The divisibility criterion with 821

$p=3, r=1, s=411, \gamma=410,$

$v_{inv}=(0;-179,148,162,22,-220,-263,167,-28,280,-337,86,-39,390,205,-408,-25,2$
 $50,-37,370,405,55,271,-247,7,-70,-121,389,215,313,154,102,-199,348,-196,318$
 $,104,-219,-273,267,-207,-393,-175,108,-259,127,372,385,255,-87,49,331,-26,$
 $260,-137,-272,257,-107,249,-27,270,-237,-93,109,-269,227,193,-288,-404,-6$
 $5,-171,68,141,232,143,212,343,-146,-182,178,-138,-262,157,72,101,-189,248,-$
 $17,170,-58,-241,-53,-291,-374,-365,366,-376,-345,166,-18,180,-158,-62,-20$
 $1,368,-396,-145,-192,278,-317,-114,319,94,-119,369,-406,-45,-371,-395,-15$
 $5,-92,99,-169,48,341,-126,-382,-285,387,235,113,-309,-194,298,304,244,23,-$
 $230,-163,-12,120,-379,-315,-134,-302,-264,177,-128,-362,336,-76,-61,-211,$
 $-353,246,3,-30,300,284,-377,-335,66,161,32,-320,-84,19,-190,258,-117,349,-$
 $206,-403,-75,-71,-111,289,394,165,-8,80,21,-210,-363,346,-176,118,-359,306$
 $,224,223,233,133,312,164,2,-20,200,-358,296,324,44,381,295,334,-56,-261,147,$
 $172,-78,-41,410,5,-50,-321,-74,-81,-11,110,-279,327,14,-140,-242,-43,-391,$
 $-195,308,204,-398,-125,-392,-185,208,383,275,-287,407,35,-350,216,303,254,$

-77,-51,-311,-174,98,-159,-52,-301,-274,277,-307,-214,-323,-54,-281,347,-186,218,283,-367,386,245,13,-130,-342,136,282,-357,286,-397,-135,-292,-364,356,-276,297,314,144,202,-378,-325,-34,340,-116,339,-106,239,73,91,-89,69,131,332,-36,360,-316,-124,-402,-85,29,-290,-384,-265,187,-228,-183,188,-238,-83,9,-90,79,31,-310,-184,198,-338,96,-139,-252,57,251,-47,-351,226,203,-388,-225,-213,-333,46,361,-326,-24,240,63,191,-268,217,293,354,-256,97,-149,-152,-122,399,115,-329,6,-60,-221,-253,67,151,132,322,64,181,-168,38,-380,-305,-234,-123,409,15,-150,-142,-222,-243,-33,330,-16,160,42,401,95,-129,-352,236,103,-209,-373,-375,-355,266,-197,328,4,-40,400,105,-229,-173,88,-59,-231,-153,-112,299,294,344,-156,-82,-1,10,-100)

The divisibility criterion with 823

$p=3, r=1, s=412, \gamma=411,$

$v_{dir}=(0;-177,124,406,55,273,-261,141,236,109,-267,201,-364,348,-188,234,129,356,-268,211,359,-298,-312,-172,74,83,-7,70,123,-407,-45,-373,-385,-265,181,-164,-6,60,223,239,79,33,-330,8,-80,-23,230,169,-44,-383,-285,381,305,242,49,333,-38,380,315,142,226,209,379,325,42,403,85,-27,270,-231,-159,-56,-263,161,36,-360,308,212,349,-198,334,-48,-343,138,266,-191,264,-171,64,183,-184,194,-294,-352,228,189,-244,-29,290,392,195,-304,-252,51,313,162,26,-260,131,336,-68,-143,-216,-309,-202,374,375,365,-358,288,-411,-5,50,323,62,203,-384,-275,281,-341,118,-357,278,-311,-182,174,-94,117,-347,178,-134,-306,-232,-149,-156,-86,37,-370,408,35,-350,208,389,225,219,279,-321,-82,-3,30,-300,-292,-372,-395,-165,4,-40,400,115,-327,-22,220,269,-221,-259,121,-387,-245,-19,190,-254,71,113,-307,-222,-249,21,-210,-369,398,135,296,332,-282,280,-331,18,-180,154,106,-237,-99,167,-24,240,69,133,316,132,326,32,-320,-92,97,-147,-176,114,-317,-122,397,145,196,-314,-152,-126,-386,-255,81,13,-130,-346,168,-34,340,-108,257,-101,187,-224,-229,-179,144,206,409,25,-250,31,-310,-192,274,-271,241,59,233,139,256,-91,87,-47,-353,238,89,-67,-153,-116,337,-78,-43,-393,-185,204,-394,-175,104,-217,-299,-302,-272,251,-41,410,15,-150,-146,-186,214,329,2,-20,200,-354,248,-11,110,-277,301,282,-351,218,289,402,95,-127,-376,-355,258,-111,287,-401,-105,227,199,-344,148,166,-14,140,246,9,-90,77,53,293,362,-328,-12,120,-377,-345,158,66,163,16,-160,-46,-363,338,-88,57,253,-61,-213,-339,98,-157,-76,-63,-193,284,-371,-405,-65,-173,84,-17,170,-54,-283,361,-318,-112,297,322,72,103,-207,-399,-125,-396,-155,-96,137,276,-291,-382,-295,-342,128,366,-368,388,235,119,-367,378,335,-58,-243,-39,390,215,319,102,-197,324,52,303,262,-151,-136,-286,391,205,-404,-75,-73,-93,107,-247,1,-10,100)$

The divisibility criterion with 827

$p=3, r=1, s=414, \gamma=413,$

$v_{inv}=(0;-173,76,67,157,84,-13,130,354,-232,-161,-44,-387,-265,169,-36,360,-$
 $292,-388,-255,69,137,284,-359,282,-339,82,7,-70,-127,-384,-295,-358,272,-2$
 $39,-91,83,-3,30,-300,-308,-228,-201,356,-252,39,-390,-235,-131,-344,132,33$
 $4,-32,320,108,-253,49,337,-62,-207,-411,-25,250,-19,190,-246,-21,210,381,3$
 $25,58,247,11,-110,273,-249,9,-90,73,97,-143,-224,-241,-71,-117,343,-122,39$
 $3,205,-396,-175,96,-133,-324,-68,-147,-184,186,-206,406,75,77,57,257,-89,6$
 $3,197,-316,-148,-174,86,-33,330,8,-80,-27,270,-219,-291,-398,-155,-104,213$
 $,351,-202,366,-352,212,361,-302,-288,399,145,204,-386,-275,269,-209,-391,-$
 $225,-231,-171,56,267,-189,236,121,-383,-305,-258,99,-163,-24,240,81,17,-17$
 $0,46,367,-362,312,188,-226,-221,-271,229,191,-256,79,37,-370,392,215,331,-2$
 $,20,-200,346,-152,-134,-314,-168,26,-260,119,-363,322,88,-53,-297,-338,72,$
 $107,-243,-51,-317,-138,-274,259,-109,263,-149,-164,-14,140,254,-59,-237,-$
 $111,283,-349,182,-166,6,-60,-227,-211,-371,402,115,-323,-78,-47,-357,262,-$
 $139,-264,159,64,187,-216,-321,-98,153,124,-413,-5,50,327,38,-380,-335,42,4$
 $07,65,177,-116,333,-22,220,281,-329,-18,180,-146,-194,286,-379,-345,142,23$
 $4,141,244,41,-410,-35,350,-192,266,-179,136,294,368,-372,412,15,-150,-154,$
 $-114,313,178,-126,-394,-195,296,348,-172,66,167,-16,160,54,287,-389,-245,-$
 $31,310,208,401,125,404,95,-123,403,105,-223,-251,29,-290,-408,-55,-277,289,$
 $-409,-45,-377,-365,342,-112,293,378,355,-242,-61,-217,-311,-198,326,48,34$
 $7,-162,-34,340,-92,93,-103,203,-376,-375,-385,-285,369,-382,-315,-158,-74$
 $, -87,43,397,165,4,-40,400,135,304,268,-199,336,-52,-307,-238,-101,183,-176,$
 $106,-233,-151,-144,-214,-341,102,-193,276,-279,309,218,301,298,328,28,-28$
 $0,319,118,-353,222,261,-129,-364,332,-12,120,-373,-405,-85,23,-230,-181,15$
 $6,94,-113,303,278,-299,-318,-128,-374,-395,-185,196,-306,-248,-1,10,-100)$

The divisibility criterion with 829

$p=3, r=1, s=139, \gamma=138,$

$v_{inv}=(0;-171,52,309,226,227,217,317,146,198,-322,-96,131,348,-164,-18,180,-1$
 $42,-238,-107,241,77,59,239,97,-141,-248,-7,70,129,368,-364,324,76,69,139,26$
 $8,-193,272,-233,-157,-88,51,319,126,398,165,8,-80,-29,290,-413,-15,150,158,$
 $78,49,339,-74,-89,61,219,297,346,-144,-218,-307,-246,-27,270,-213,-357,254$
 $, -53,-299,-326,-56,-269,203,-372,404,105,-221,-277,283,-343,114,-311,-206,$
 $402,125,408,65,179,-132,-338,64,189,-232,-167,12,-120,371,-394,-205,392,22$
 $5,237,117,-341,94,-111,281,-323,-86,31,-310,-216,-327,-46,-369,374,405,95,$
 $-121,381,335,-34,340,-84,11,-110,271,-223,-257,83,-1,10,-100)$

The divisibility criterion with 839

$p=3, r=1, s=420, \gamma=419,$

$v_{inv}=(0;-161,-68,-159,-88,41,-410,-95,111,-271,193,-252,3,-30,300,356,-204,$
 $362,-264,123,-391,-285,333,26,-260,83,9,-90,61,229,227,247,47,369,-334,-16,$
 $160,78,59,249,27,-270,183,-152,-158,-98,141,268,-163,-48,-359,234,177,-92,$

81,29,-290,383,365,-294,-416,-35,350,-144,-238,-137,-308,-276,243,87,-31,3
 10,256,-43,-409,-105,211,407,125,-411,-85,11,-110,261,-93,91,-71,-129,-388
 ,-315,-206,382,375,-394,-255,33,-330,-56,-279,273,-213,-387,-325,-106,221,
 307,286,-343,74,99,-151,-168,2,-20,200,-322,-136,-318,-176,82,19,-190,222,
 297,386,335,6,-60,-239,-127,-408,-115,311,246,57,269,-173,52,319,166,18,-18
 0,122,-381,-385,-345,94,-101,171,-32,320,156,118,-341,54,299,366,-304,-316
 ,-196,282,-303,-326,-96,121,-371,354,-184,162,58,259,-73,-109,251,7,-70,-1
 39,-288,363,-274,223,287,-353,174,-62,-219,-327,-86,21,-210,-417,-25,250,1
 7,-170,22,-220,-317,-186,182,-142,-258,63,209,-412,-75,-89,51,329,66,179,-
 112,281,-293,413,65,189,-212,-397,-225,-267,153,148,198,-302,-336,4,-40,40
 0,195,-272,203,-352,164,38,-380,-395,-245,-67,-169,12,-120,361,-254,23,-23
 0,-217,-347,114,-301,-346,104,-201,332,36,-360,244,77,69,149,188,-202,342,
 -64,-199,312,236,157,108,-241,-107,231,207,-392,-275,233,187,-192,242,97,-
 131,-368,324,116,-321,-146,-218,-337,14,-140,-278,263,-113,291,-393,-265,
 133,348,-124,401,185,-172,42,419,5,-50,-339,34,-340,44,399,205,-372,364,-28
 4,323,126,418,15,-150,-178,102,-181,132,358,-224,-277,253,-13,130,378,415,4
 5,389,305,306,296,396,235,167,8,-80,-39,390,295,406,135,328,76,79,49,349,-13
 4,-338,24,-240,-117,331,46,379,405,145,228,237,147,208,-402,-175,72,119,-35
 1,154,138,298,376,-404,-155,-128,-398,-215,-367,314,216,357,-214,-377,414,
 55,289,-373,374,-384,-355,194,-262,103,-191,232,197,-292,403,165,28,-280,2
 83,-313,-226,-257,53,309,266,-143,-248,-37,370,-344,84,-1,10,-100)

The divisibility criterion with 853

$p=3, r=1, s=214, \gamma=213,$

$v_{inv}=(0;-147,-236,-199,284,-281,251,49,363,-218,-379,378,-368,268,-121,357,$
 $-158,-126,407,195,-244,-119,337,42,-420,-65,-203,324,172,-14,140,306,352,-$
 $108,227,289,-331,-102,167,36,-360,188,-174,34,-340,-12,120,-347,58,273,-17$
 $1,4,-40,400,265,-91,57,283,-271,151,196,-254,-19,190,-194,234,219,369,-278,$
 $221,349,-78,-73,-123,377,-358,168,26,-260,41,-410,-165,-56,-293,371,-298,4$
 $21,55,303,382,-408,-185,144,266,-101,157,136,346,-48,-373,318,232,239,169,1$
 $6,-160,-106,207,-364,228,279,-231,-249,-69,-163,-76,-93,77,83,23,-230,-259$
 $,31,-310,-312,-292,361,-198,274,-181,104,-187,164,66,193,-224,-319,-222,-3$
 $39,-22,220,359,-178,74,113,-277,211,-404,-225,-309,-322,-192,214,419,75,10$
 $3,-177,64,213,-424,-25,250,59,263,-71,-143,-276,201,-304,-372,308,332,92,-$
 $67,-183,124,-387,-395,-315,-262,61,243,129,416,105,-197,264,-81,-43,-423,-$
 $35,350,-88,27,-270,141,296,-401,-255,-9,90,-47,-383,418,85,3,-30,300,412,14$
 $5,256,-1,10,-100)$

The divisibility criterion with 857

$p=3, r=1, s=429, \gamma=428,$

$v_{inv}=(0;-143,-284,269,-119,333,98,-123,373,-302,-408,-205,336,68,177,-56,-2$
 $97,399,295,-379,362,-192,206,-346,32,-320,-228,-291,339,38,-380,372,-292,3$
 $49,-62,-237,-201,296,-389,-395,-335,-78,-77,-87,13,-130,-414,-145,-264,69$
 $,167,44,417,115,-293,359,-162,-94,83,27,-270,129,424,45,407,215,421,75,107,-$
 $213,416,125,-393,-355,122,-363,202,-306,-368,252,51,347,-42,420,85,7,-70,-$
 $157,-144,-274,169,24,-240,-171,-4,40,-400,-285,279,-219,-381,382,-392,-36$
 $5,222,351,-82,-37,370,-272,149,224,331,118,-323,-198,266,-89,33,-330,-128,$
 $423,55,307,358,-152,-194,226,311,318,248,91,-53,-327,-158,-134,-374,312,30$
 $8,348,-52,-337,-58,-277,199,-276,189,-176,46,397,315,278,-209,376,-332,-10$
 $8,223,341,18,-180,86,-3,30,-300,-428,-5,50,357,-142,-294,369,-262,49,367,-2$
 $42,-151,-204,326,168,34,-340,-28,280,-229,-281,239,181,-96,103,-173,16,-16$
 $0,-114,283,-259,19,-190,186,-146,-254,-31,310,328,148,234,231,261,-39,390,3$
 $85,-422,-65,-207,356,-132,-394,-345,22,-220,-371,282,-249,-81,-47,-387,-4$
 $15,-135,-364,212,-406,-225,-321,-218,-391,-375,322,208,-366,232,251,61,24$
 $7,101,-153,-184,126,-403,-255,-21,210,-386,-425,-35,350,-72,-137,-344,12,$
 $-120,343,-2,20,-200,286,-289,319,238,191,-196,246,111,-253,-41,410,185,-13$
 $6,-354,112,-263,59,267,-99,133,384,-412,-165,-64,-217,-401,-275,179,-76,-9$
 $7,113,-273,159,124,-383,402,265,-79,-67,-187,156,154,174,-26,260,-29,290,-$
 $329,-138,-334,-88,23,-230,-271,139,324,188,-166,-54,-317,-258,9,-90,43,427$
 $,15,-150,-214,426,25,-250,-71,-147,-244,-131,-404,-245,-121,353,-102,163,8$
 $4,17,-170,-14,140,314,288,-309,-338,-48,-377,342,8,-80,-57,-287,299,-419,-$
 $95,93,-73,-127,413,155,164,74,117,-313,-298,409,195,-236,-211,396,325,178,-$
 $66,-197,256,11,-110,243,141,304,388,405,235,221,361,-182,106,-203,316,268,-$
 $109,233,241,161,104,-183,116,-303,-398,-305,-378,352,-92,63,227,301,418,10$
 $5,-193,216,411,175,-36,360,-172,6,-60,-257,-1,10,-100)$

The divisibility criterion with 859

$p=3,$ $r=1,$ $s=14,$ $\gamma=13,$
 $v_{dir}=(0;-141,-308,-356,124,-381,374,-304,-396,-335,-86,1,-10,100)$

The divisibility criterion with 863

$p=3, r=1, s=432, \gamma=431,$

$v_{dir}=(0;-137,-356,108,-217,-419,-125,387,-418,-135,-376,308,372,-268,91,-4$
 $7,-393,-385,398,335,102,-157,-156,-166,-66,-203,304,412,195,-224,-349,38,-$
 $380,348,-28,280,-211,384,-388,428,35,-350,48,383,-378,328,172,6,-60,-263,41$
 $, -410,-215,424,75,113,-267,81,53,333,122,-357,118,-317,-282,231,279,-201,28$
 $4,-251,-79,-73,-133,-396,-355,98,-117,307,382,-368,228,309,362,-168,-46,-4$
 $03,-285,261,-21,210,-374,288,-291,321,242,169,36,-360,148,246,129,-427,-45,$
 $-413,-185,124,-377,318,272,-131,-416,-155,-176,34,-340,-52,-343,-22,220,3$
 $89,425,65,213,-404,-275,161,116,-297,381,-358,128,-417,-145,-276,171,16,-1$
 $60,-126,397,345,2,-20,200,-274,151,216,429,25,-250,-89,27,-270,111,-247,-1$

19,327,182,-94,77,93,-67,-193,204,-314,-312,-332,-132,-406,-255,-39,390,415,165,76,103,-167,-56,-303,-422,-95,87,-7,70,163,96,-97,107,-207,344,12,-120,337,82,43,-430,-15,150,226,329,162,106,-197,244,149,236,229,299,-401,-305,-402,-295,361,-158,-146,-266,71,153,196,-234,-249,-99,127,-407,-245,-139,-336,-92,57,293,-341,-42,420,115,-287,281,-221,-379,338,72,143,296,-371,258,9,-90,37,-370,248,109,-227,-319,-262,31,-310,-352,68,183,-104,177,-44,-423,-85,-13,130,426,55,313,322,232,269,-101,147,256,29,-290,311,342,32,-320,-252,-69,-173,4,-40,400,315,302,-431,-5,50,363,-178,54,323,222,369,-238,-209,364,-188,154,186,-134,-386,408,235,239,199,-264,51,353,-78,-83,-33,330,152,206,-334,-112,257,19,-190,174,-14,140,326,192,-194,214,-414,-175,24,-240,-189,164,86,3,-30,300,-411,-205,324,212,-394,-375,298,-391,-405,-265,61,253,59,273,-141,-316,-292,331,142,306,392,395,365,-198,254,49,373,-278,191,-184,114,-277,181,-84,-23,230,289,-301,421,105,-187,144,286,-271,121,-347,18,-180,74,123,-367,218,409,225,339,62,243,159,136,366,-208,354,-88,17,-170,-26,260,-11,110,-237,-219,-399,-325,-202,294,-351,58,283,-241,-179,64,223,359,-138,-346,8,-80,-63,-233,-259,1,-10,100)

The divisibility criterion with 877

$p=3, r=1, s=220, \gamma=219,$

$v_{dir}=(0;-123,353,-22,220,431,75,127,-393,422,165,104,-163,-124,363,-122,343,78,97,-93,53,347,38,-380,292,-289,259,41,-410,-285,219,-436,-25,250,131,-433,-55,-327,-238,-251,-121,333,178,-26,260,31,-310,-408,-305,419,195,-196,206,-306,429,95,-73,-147,-284,209,-336,-148,-274,109,-213,376,-252,-111,233,301,-379,282,-189,136,394,-432,-65,-227,-361,102,-143,-324,-268,49,387,-362,112,-243,-201,256,71,167,84,37,-370,192,-166,-94,63,247,161,144,314,368,-172,-34,340,108,-203,276,-129,413,255,81,67,207,-316,-348,-28,280,-169,-64,-237,-261,-21,210,-346,-48,-397,-415,-235,-281,179,-36,360,-92,43,-430,-85,-27,270,-69,-187,116,-283,199,-236,-271,79,87,7,-70,-177,16,-160,-154,-214,386,-352,12,-120,323,278,-149,-264,9,-90,23,-230,-331,-198,226,371,-202,266,-29,290,-269,59,287,-239,-241,-221,-421,-175,-4,40,-400,-385,342,88,-3,30,-300,369,-182,66,217,-416,-225,-381,302,-389,382,-312,-388,372,-212,366,-152,-234,-291,279,-159,-164,-114,263,1,-10,100)$

The divisibility criterion with 881

$p=3, r=1, s=221, \gamma=220,$

$v_{inv}=(0;-119,309,434,65,231,333,194,-178,18,-180,38,-380,276,-117,289,-247,-173,-32,320,324,284,-197,208,-318,-344,-84,-41,410,305,-407,-335,-174,-22,220,-438,-25,250,143,332,204,-278,137,392,-396,436,45,431,95,-69,-191,148,282,-177,8,-80,-81,-71,-171,-52,-361,86,21,-210,338,144,322,304,-397,-435,-55,-331,-214,378,-256,-83,-51,-371,186,-98,99,-109,209,-328,-244,-203,268,-37,370,-176,-2,20,-200,238,263,13,-130,419,215,-388,356,-36,360,-76,-121,$

329,234,303,-387,346,64,241,233,313,394,-416,-245,-193,168,82,61,271,-67,-2
 11,348,44,-440,-5,50,381,-286,217,-408,-325,-274,97,-89,9,-90,19,-190,138,3
 82,-296,317,354,-16,160,162,142,342,104,-159,-172,-42,420,205,-288,237,273,
 -87,-11,110,-219,428,125,-369,166,102,-139,-372,196,-198,218,-418,-225,-3
 93,406,345,74,141,352,4,-40,400,405,355,-26,260,43,-430,-105,169,72,161,152,
 242,223,413,275,-107,189,-128,399,415,255,93,-49,-391,386,-336,-164,-122,3
 39,134,422,185,-88,-1,10,-100)

The divisibility criterion with 883

$p=3$, $r=1$, $s=442$, $\gamma=441$,

$v_{inv}=(0;-117,287,-221,-439,-25,250,149,276,-111,227,379,-258,-69,-193,164,1$
 $26,-377,238,269,-41,410,315,382,-288,231,339,142,346,72,163,136,406,355,-18$
 $,180,-34,340,132,-437,-45,-433,-85,-33,330,232,329,242,229,359,-58,-303,38$
 $1,-278,131,-427,-145,-316,-372,188,-114,257,79,93,-47,-413,-285,201,-244,-$
 $209,324,292,-271,61,273,-81,-73,-153,-236,-289,241,239,259,59,293,-281,161,$
 $156,206,-294,291,-261,-39,390,-368,148,286,-211,344,92,-37,370,-168,-86,-2$
 $3,230,349,42,-420,-215,384,-308,431,105,-167,-96,77,113,-247,-179,24,-240,$
 $-249,-159,-176,-6,60,283,-181,44,-440,-15,150,266,-11,110,-217,404,375,-21$
 $8,414,275,-101,127,-387,338,152,246,189,-124,357,-38,380,-268,31,-310,-432,$
 $-95,67,213,-364,108,-197,204,-274,91,-27,270,-51,-373,198,-214,374,-208,31$
 $4,392,-388,348,52,363,-98,97,-87,-13,130,-417,-245,-199,224,409,325,282,-1$
 $71,-56,-323,-302,371,-178,14,-140,-366,128,-397,438,35,-350,-32,320,332,21$
 $2,-354,8,-80,-83,-53,-353,-2,20,-200,234,309,-441,-5,50,383,-298,331,222,42$
 $9,125,-367,138,386,-328,-252,-129,407,345,82,63,253,119,-307,421,205,-284,1$
 $91,-144,-326,-272,71,173,36,-360,68,203,-264,-9,90,-17,170,66,223,419,225,3$
 $99,425,165,116,-277,121,-327,-262,-29,290,-251,-139,-376,228,369,-158,-18$
 $6,94,-57,-313,-402,-395,418,235,299,-341,-122,337,162,146,306,-411,-305,40$
 $1,405,365,-118,297,-321,-322,-312,-412,-295,301,-361,78,103,-147,-296,311,$
 $422,195,-184,74,143,336,172,46,423,185,-84,-43,430,115,-267,21,-210,334,192$
 $, -154,-226,-389,358,-48,-403,-385,318,352,12,-120,317,362,-88,-3,30,-300,3$
 $51,22,-220,434,75,133,436,55,333,202,-254,-109,207,-304,391,-378,248,169,76$
 $,123,-347,-62,-263,-19,190,-134,-426,-155,-216,394,-408,-335,-182,54,343,1$
 $02,-137,-396,428,135,416,255,99,-107,187,-104,157,196,-194,174,26,-260,-49,$
 $-393,398,435,65,233,319,342,112,-237,-279,141,356,-28,280,-151,-256,-89,7,$
 $-70,-183,64,243,219,-424,-175,-16,160,166,106,-177,4,-40,400,415,265,-1,10,$
 $-100)$

The divisibility criterion with 887

$p=3$, $r=1$, $s=444$, $\gamma=443$,

$v_{dir}=(0;-113,243,231,351,38,-380,252,141,364,-92,33,-330,-248,-181,36,-360,5$
 $2,367,-122,333,218,-406,-375,202,-246,-201,236,301,-349,-58,-307,409,345,9$

8,-93,43,-430,-135,-424,-195,176,14,-140,-374,192,-146,-314,-408,-355,2,-20,200,-226,-401,-425,-185,76,127,-383,282,-159,-184,66,227,391,-362,72,167,104,-153,-244,-221,436,75,137,404,395,-402,-415,-285,189,-116,273,-69,-197,196,-186,86,27,-270,39,-390,352,28,-280,139,384,-292,259,71,177,4,-40,400,435,85,37,-370,152,254,121,-323,-318,-368,132,-433,-105,163,144,334,208,-306,399,-442,-15,150,274,-79,-97,83,57,317,378,-232,-341,-138,-394,392,-372,172,54,347,78,107,-183,56,327,278,-119,303,-369,142,354,8,-80,-87,-17,170,74,147,304,-379,242,241,251,151,264,21,-210,326,288,-219,416,275,-89,3,-30,300,-339,-158,-194,166,114,-253,-131,423,205,-276,99,-103,143,344,108,-193,156,214,-366,112,-233,-331,-238,-281,149,284,-179,16,-160,-174,-34,340,148,294,-279,129,-403,-405,-385,302,-359,42,-420,-235,-311,-438,-55,-337,-178,6,-60,-287,209,-316,-388,332,228,381,-262,-41,410,335,198,-206,286,-199,216,-386,312,428,155,224,421,225,411,325,298,-319,-358,32,-320,-348,-68,-207,296,-299,329,258,81,77,117,-283,169,84,47,417,265,11,-110,213,-356,12,-120,313,418,255,111,-223,-431,-125,363,-82,-67,-217,396,-412,-315,-398,432,115,-263,-31,310,-439,-45,-437,-65,-237,-291,249,171,64,247,191,-136,-414,-295,289,-229,-371,162,154,234,321,338,168,94,-53,-357,22,-220,426,175,24,-240,-261,-51,-377,222,441,25,-250,-161,-164,-134,-434,-95,63,257,91,-23,230,361,-62,-267,9,-90,13,-130,413,305,-389,342,128,-393,382,-272,59,297,-309,429,145,324,308,-419,-245,-211,336,188,-106,173,44,-440,-35,350,48,407,365,-102,133,-443,-5,50,387,-322,-328,-268,19,-190,126,-373,182,-46,-427,-165,-124,353,18,-180,26,-260,-61,-277,109,-203,256,101,-123,343,118,-293,269,-29,290,-239,-271,49,397,-422,-215,376,-212,346,88,7,-70,-187,96,-73,-157,-204,266,1,-10,100)

The divisibility criterion with 907

$p=3, r=1, s=152, \gamma=151,$

$v_{inv}=(0;-93,23,-230,-421,-325,-378,152,294,-219,376,-132,413,405,-422,-315,429,245,271,11,-110,193,-116,253,191,-96,53,377,-142,-394,312,-399,362,8,-80,-107,163,184,-26,260,121,-303,309,-369,62,287,-149,-324,-388,252,201,-196,146,354,88,27,-270,-21,210,-286,139,424,295,-229,-431,-225,436,175,64,267,51,397,-342,-208,266,61,297,-249,-231,-411,-425,-285,129,-383,202,-206,246,261,111,-203,216,-346,-168,-134,433,205,-236,-361,-18,180,14,-140,-414,-395,322,408,-452,-15,150,314,-419,-345,-178,-34,340,228,441,125,-343,-198,166,154,274,-19,190,-86,-47,-437,-165,-164,-174,-74,-167,-144,-374,112,-213,316,-439,-145,-364,12,-120,293,-209,276,-39,390,-272,-1,10,-100)$

The divisibility criterion with 911

$p=3, r=1, s=456, \gamma=455,$

$v_{inv}=(0;-89,-21,210,-278,47,441,145,372,-76,-151,-312,387,-226,438,175,72,191,-88,-31,310,-367,26,-260,-133,419,365,-6,60,311,-377,126,-349,-154,-282,$

87,41,-410,-455,-5,50,411,445,105,-139,-432,-235,-383,186,-38,380,-156,-26
 2,-113,219,-368,36,-360,-44,440,155,272,13,-130,389,-246,-273,-3,30,-300,2
 67,63,281,-77,-141,-412,-435,-205,228,453,25,-250,-233,-403,386,-216,338,2
 64,93,-19,190,-78,-131,399,-346,-184,18,-180,-22,220,-378,136,-449,-65,-26
 1,-123,319,454,15,-150,-322,-424,-315,417,385,-206,238,353,114,-229,-443,-
 125,339,254,193,-108,169,132,-409,446,95,-39,390,-256,-173,-92,9,-90,-11,1
 10,-189,68,231,423,325,394,-296,227,-448,-75,-161,-212,298,-247,-263,-103,
 119,-279,57,341,234,393,-286,127,-359,-54,-371,66,251,223,-408,436,195,-12
 8,369,-46,-451,-45,450,55,361,34,-340,-244,-293,197,-148,-342,-224,418,375
 ,-106,149,332,324,404,-396,316,-427,-285,117,-259,-143,-392,276,-27,270,33
 ,-330,-344,-204,218,-358,-64,-271,-23,230,433,225,-428,-275,17,-170,-122,3
 09,-357,-74,-171,-112,209,-268,-53,-381,166,162,202,-198,158,242,313,-397,
 326,384,-196,138,442,135,-439,-165,-172,-102,109,-179,-32,320,444,115,-23
 9,-343,-214,318,-447,-85,-61,-301,277,-37,370,-56,-351,-134,429,265,83,81,
 101,-99,79,121,-299,257,163,192,-98,69,221,-388,236,373,-86,-51,-401,366,-
 16,160,222,-398,336,284,-107,159,232,413,425,305,-317,437,185,-28,280,-67,-
 241,-323,-414,-415,-405,406,-416,-395,306,-327,-374,96,-49,-421,-345,-19
 4,118,-269,-43,430,255,183,-8,80,111,-199,168,142,402,-376,116,-249,-243,-
 303,297,-237,-363,-14,140,422,335,294,-207,248,253,203,-208,258,153,292,-1
 87,48,431,245,283,-97,59,321,434,215,-328,-364,-4,40,-400,356,84,71,201,-18
 8,58,331,334,304,-307,337,274,-7,70,211,-288,147,352,124,-329,-354,-104,129
 ,-379,146,362,24,-240,-333,-314,407,-426,-295,217,-348,-164,-182,-2,20,-20
 0,178,42,-420,-355,-94,29,-290,167,152,302,-287,137,452,35,-350,-144,-382,
 176,62,291,-177,-52,-391,266,73,181,12,-120,289,-157,-252,-213,308,-347,-1
 74,-82,-91,-1,10,-100)

The divisibility criterion with 919

$p=3$, $r=1$, $s=460$, $\gamma=459$,

$v_{inv}=(0;-81,-109,171,128,-361,-66,-259,-167,-168,-158,-258,-177,-68,-239,-$
 $367,-6,60,319,-433,-265,-107,151,328,396,-284,83,89,29,-290,143,408,-404,36$
 $4,36,-360,-76,-159,-248,-277,13,-130,381,-134,421,385,-174,-98,61,309,-333$
 $,-346,-216,322,456,35,-350,-176,-78,-139,-448,-115,231,447,125,-331,-366,-$
 $16,160,238,377,-94,21,-210,262,137,-451,-85,-69,-229,452,75,169,148,358,96,$
 $-41,410,-424,-355,-126,341,266,97,-51,-409,414,455,45,-450,-95,31,-310,343$
 $,246,297,-213,292,-163,-208,242,337,306,-303,273,27,-270,-57,-349,-186,22,$
 $-220,362,56,359,86,59,329,386,-184,2,-20,200,-162,-218,342,256,197,-132,401$
 $,-334,-336,-316,403,-354,-136,441,185,-12,120,-281,53,389,-214,302,-263,-1$
 $27,351,166,178,58,339,286,-103,111,-191,72,199,-152,-318,423,365,26,-260,-1$
 $57,-268,-77,-149,-348,-196,122,-301,253,227,-432,-275,-7,70,219,-352,-156,$
 $-278,23,-230,-457,-25,250,257,187,-32,320,-443,-165,-188,42,-420,-395,274,$
 $17,-170,-138,-458,-15,150,338,296,-203,192,-82,-99,71,209,-252,-237,-387,1$

94,-102,101,-91,-9,90,19,-190,62,299,-233,-427,-325,-426,-335,-326,-416,-435,-245,-307,313,-373,54,379,-114,221,-372,44,-440,-195,112,-201,172,118,-261,-147,-368,4,-40,400,-324,-436,-235,-407,394,-264,-117,251,247,287,-113,211,-272,-37,370,-24,240,357,106,-141,-428,-315,393,-254,-217,332,356,116,-241,-347,-206,222,-382,144,398,-304,283,-73,-189,52,399,-314,383,-154,-298,223,-392,244,317,-413,454,55,369,-14,140,438,215,-312,363,46,459,5,-50,-419,-405,374,-64,-279,33,-330,-376,84,79,129,-371,34,-340,-276,3,-30,300,-243,-327,-406,384,-164,-198,142,418,415,445,145,388,-204,202,-182,-18,180,38,-380,124,-321,453,65,269,67,249,267,87,49,429,305,-293,173,108,-161,-228,442,175,88,39,-390,224,-402,344,236,397,-294,183,8,-80,-119,271,47,449,105,-131,391,-234,-417,-425,-345,-226,422,375,-74,-179,-48,-439,-205,212,-282,63,289,-133,411,-434,-255,-207,232,437,225,-412,444,155,288,-123,311,-353,-146,-378,104,-121,291,-153,-308,323,446,135,-431,-285,93,-11,110,-181,-28,280,-43,430,295,-193,92,-1,10,-100)

The divisibility criterion with 929

$p=3, r=1, s=233, \gamma=232,$

$v_{inv}=(0;-71,-219,332,396,-244,-347,-246,-327,-446,-185,-8,80,129,-361,-106,131,-381,94,-11,110,-171,-148,-378,64,289,-103,101,-81,-119,261,177,88,49,439,255,237,417,-454,-105,121,-281,23,-230,442,225,-392,204,-182,-38,380,-84,-89,-39,390,-184,-18,180,58,349,226,-402,304,-253,-257,-217,312,-333,-386,144,418,-464,-5,50,429,355,166,198,-122,291,-123,301,-223,372,-4,40,-400,284,-53,-399,274,47,459,55,379,-74,-189,32,-320,413,-414,424,405,-334,-376,44,-440,-245,-337,-346,-256,-227,412,-404,324,-453,-115,221,-352,-196,102,-91,-19,190,-42,420,445,195,-92,-9,90,29,-290,113,-201,152,338,336,356,156,298,-193,72,209,-232,462,25,-250,-287,83,99,-61,-319,403,-314,353,186,-2,20,-200,142,438,265,137,-441,-235,-437,-275,-37,370,16,-160,-258,-207,212,-262,-167,-188,22,-220,342,296,-173,-128,351,206,-202,162,238,407,-354,-176,-98,51,419,455,95,-21,210,-242,-367,-46,460,45,-450,-145,-408,364,76,169,168,178,78,149,368,36,-360,-116,231,-452,-125,321,-423,-415,$

$434,305,-263,-157,-288,93,-1,10,-100)$

The divisibility criterion with 937

$p=3, r=1, s=469, \gamma=468,$

$v_{inv}=(0;-63,-307,259,221,-336,-388,132,-383,82,117,-233,456,125,-313,319,-379,42,-420,452,165,224,-366,-88,-57,-367,-78,-157,-304,229,-416,412,-372,-28,280,11,-110,163,244,371,38,-380,52,417,-422,-465,-35,350,248,331,438,305,-239,-421,462,65,287,-59,-347,-278,-31,310,-289,79,147,404,-292,109,-153,-344,-308,269,121,-273,-81,-127,333,418,-432,-365,-98,43,-430,-385,102,-83,-107,133,-393,182,54,397,-222,346,288,-69,-247,-341,-338,-368,-68,-257,-$

241,-401,262,191,-36,360,148,394,-192,46,-460,-85,-87,-67,-267,-141,-464,-45,450,185,24,-240,-411,362,128,-343,-318,369,58,357,178,94,-3,30,-300,189,-16,160,274,71,227,-396,212,-246,-351,-238,-431,-375,2,-20,200,-126,323,-419,442,265,161,264,171,164,234,-466,-25,250,311,-299,179,84,97,-33,330,448,205,-176,-114,203,-156,-314,329,458,105,-113,193,-56,-377,22,-220,326,-449,-195,76,177,104,-103,93,7,-70,-237,-441,-275,-61,-327,459,95,-13,130,-363,-118,243,381,-62,-317,359,158,294,-129,353,218,-306,249,321,-399,242,391,-162,-254,-271,-101,73,207,-196,86,77,167,204,-166,-214,266,151,364,108,-143,-444,-245,-361,-138,443,255,261,201,-136,423,455,135,-413,382,-72,-217,296,-149,-384,92,17,-170,-174,-134,403,-282,9,-90,-37,370,48,457,115,-213,256,251,301,-199,116,-223,356,188,-6,60,337,378,-32,320,-389,142,454,145,424,445,235,461,75,187,4,-40,400,-252,-291,99,-53,-407,322,-409,342,328,468,5,-50,-437,-315,339,358,168,194,-66,-277,-41,410,-352,-228,406,-312,309,-279,-21,210,-226,386,-112,183,44,-440,-285,39,-390,152,354,208,-206,186,14,-140,463,55,387,-122,283,-19,190,-26,260,211,-236,-451,-175,-124,303,-219,316,-349,-258,-231,436,325,-439,-295,139,-453,-155,-324,429,395,-202,146,414,-392,172,154,334,408,-332,-428,-405,302,-209,216,-286,49,447,215,-276,-51,-427,-415,402,-272,-91,-27,270,111,-173,-144,-434,-345,-298,169,184,34,-340,-348,-268,-131,373,18,-180,-74,-197,96,-23,230,-426,-425,-435,-335,-398,232,-446,-225,376,-12,120,-263,-181,-64,-297,159,284,-29,290,-89,-47,-467,-15,150,374,8,-80,-137,433,355,198,-106,123,-293,119,-253,-281,-1,10,-100)

The divisibility criterion with 941

$p=3$, $r=1$, $s=471$, $\gamma=470$,

$v_{inv}=(0;-59,-351,-254,-283,7,-70,-241,-413,366,104,-99,49,451,195,-68,-261,-213,248,343,334,424,465,55,391,-146,-422,456,145,432,385,-86,-81,-131,369,74,201,-128,339,374,24,-240,-423,466,45,-450,-205,168,202,-138,439,315,-327,447,235,-468,-25,250,323,-407,306,-237,-453,-175,-132,379,-26,260,223,-348,-284,17,-170,-182,-62,-321,387,-106,119,-249,-333,-434,-365,-114,199,-108,139,-449,-215,268,143,452,185,32,-320,377,-6,60,341,354,224,-358,-184,-42,420,-436,-345,-314,317,-347,-294,117,-229,408,-316,337,394,-176,-122,279,33,-330,-464,-65,-291,87,71,231,-428,-425,-455,-155,-332,-444,-265,-173,-152,-362,-144,-442,-285,27,-270,-123,289,-67,-271,-113,189,-8,80,141,-469,-15,150,382,-56,-381,46,-460,-105,109,-149,-392,156,322,-397,206,-178,-102,79,151,372,44,-440,-305,227,-388,116,-219,308,-257,-253,-293,107,-129,349,274,83,111,-169,-192,38,-380,36,-360,-164,-242,-403,266,163,252,303,-207,188,2,-20,200,-118,239,433,375,14,-140,459,115,-209,208,-198,98,-39,390,-136,419,-426,-445,-255,-273,-93,-11,110,-159,-292,97,-29,290,-77,-171,-172,-162,-262,-203,148,402,-256,-263,-193,48,461,95,-9,90,41,-410,336,404,-276,-63,-311,287,-47,470,5,-50,-441,-295,127,-329,467,35,-350,-264,-183,$

-52,-421,446,245,373,34,-340,-364,-124,299,-167,-212,238,443,275,73,211,-2
 28,398,-216,278,43,-430,-405,286,-37,370,64,301,-187,-12,120,-259,-233,448
 ,225,-368,-84,-101,69,251,313,-307,247,353,234,-458,-125,309,-267,-153,-35
 2,-244,-383,66,281,13,-130,359,174,142,462,85,91,31,-310,277,53,411,-346,-3
 04,217,-288,57,371,54,401,-246,-363,-134,399,-226,378,-16,160,282,3,-30,300
 ,-177,-112,179,92,21,-210,218,-298,157,312,-297,147,412,-356,-204,158,302,
 -197,88,61,331,454,165,232,-438,-325,427,435,355,214,-258,-243,-393,166,22
 2,-338,-384,76,181,72,221,-328,457,135,-409,326,-437,-335,-414,376,4,-40,4
 00,-236,-463,-75,-191,28,-280,-23,230,-418,416,-396,196,-78,-161,-272,-10
 3,89,51,431,395,-186,-22,220,-318,357,194,-58,-361,-154,-342,-344,-324,417
 ,-406,296,-137,429,415,-386,96,-19,190,-18,180,82,121,-269,-133,389,-126,3
 19,-367,-94,-1,10,-100)

The divisibility criterion with 947

$p=3, r=1, s=474, \gamma=473,$

$v_{inv}=(0;-53,-417,382,-32,320,-359,-198,86,87,77,177,124,-293,89,57,377,18,-1$
 $80,-94,-7,70,247,371,78,167,224,-346,-328,439,345,338,408,-292,79,157,324,-$
 $399,202,-126,313,-289,49,457,165,244,401,-222,326,-419,402,-232,426,-472,-$
 $15,150,394,-152,-374,-48,-467,-65,-297,129,-343,-358,-208,186,34,-340,-38$
 $8,92,27,-270,-141,463,105,-103,83,117,-223,336,428,455,185,44,-440,-335,-43$
 $8,-355,-238,-461,-125,303,-189,-4,40,-400,212,-226,366,128,-333,-458,-155,$
 $-344,-348,-308,239,451,225,-356,-228,386,-72,-227,376,28,-280,-41,410,-31$
 $2,279,51,437,365,138,-433,-405,262,221,-316,319,-349,-298,139,-443,-305,20$
 $9,-196,66,287,-29,290,-59,-357,-218,286,-19,190,-6,60,347,318,-339,-398,19$
 $2,-26,260,241,431,425,-462,-115,203,-136,413,-342,-368,-108,133,-383,42,-4$
 $20,412,-332,-468,-55,-397,182,74,207,-176,-134,393,-142,473,5,-50,-447,-26$
 $5,-191,16,-160,-294,99,-43,430,435,385,-62,-327,429,445,285,-9,90,47,-470,-$
 $35,350,288,-39,390,-112,173,164,254,301,-169,-204,146,434,395,-162,-274,-1$
 $01,63,317,-329,449,245,391,-122,273,111,-163,-264,-201,116,-213,236,-466,-$
 $75,-197,76,187,24,-240,-441,-325,409,-302,179,104,-93,-17,170,194,-46,460,$
 $135,-403,242,421,-422,432,415,-362,-168,-214,246,381,-22,220,-306,219,-29$
 $6,119,-243,-411,322,-379,2,-20,200,-106,113,-183,-64,-307,229,-396,172,174$
 $,154,354,248,361,178,114,-193,36,-360,-188,-14,140,-453,-205,156,334,448,25$
 $5,291,-69,-257,-271,-131,363,158,314,-299,149,404,-252,-321,369,98,-33,330$
 $, -459,-145,-444,-295,109,-143,-464,-95,3,-30,300,-159,-304,199,-96,13,-13$
 $0,353,258,261,231,-416,372,68,267,171,184,54,407,-282,-21,210,-206,166,234,$
 $-446,-275,-91,-37,370,88,67,277,71,237,471,25,-250,-341,-378,-8,80,147,424,$
 $-452,-215,256,281,31,-310,259,251,331,-469,-45,450,235,-456,-175,-144,-45$
 $4,-195,56,387,-82,-127,323,-389,102,-73,-217,276,81,137,-423,442,315,-309,$
 $249,351,278,61,337,418,-392,132,-373,-58,-367,-118,233,-436,-375,-38,380,-$
 $12,120,-253,-311,269,151,384,-52,-427,-465,-85,-97,23,-230,406,-272,-121,2$

63,211,-216,266,181,84,107,-123,283,11,-110,153,364,148,414,-352,-268,-161,-284,-1,10,-100)

The divisibility criterion with 953

$p=3, r=1, s=477, \gamma=476,$

$v_{inv}=(0;-47,470,65,303,-171,-196,54,413,-318,321,-351,-302,161,296,-101,57,383,-18,180,106,-107,117,-217,264,219,-284,-19,190,6,-60,-353,-282,-39,390,-88,-73,-223,324,-381,-2,20,-200,94,13,-130,347,342,392,-108,127,-317,311,-251,-349,-322,361,202,-114,187,36,-360,-212,214,-234,434,425,-438,-385,38,-380,-12,120,-247,-389,78,173,176,146,446,305,-191,4,-40,400,-188,-26,260,259,269,169,216,-254,-319,331,-451,-255,-309,231,-404,228,-374,-72,-233,424,-428,468,85,103,-77,-183,-76,-193,24,-240,-459,-175,-156,-346,-352,-292,61,343,382,-8,80,153,376,52,433,435,415,-338,-432,-445,-315,291,-51,-443,-335,-462,-145,-456,-205,144,466,105,-97,17,-170,-206,154,366,152,386,-48,-473,-35,350,312,-261,-249,-369,-122,267,189,16,-160,-306,201,-104,87,83,123,-277,-89,-63,-323,371,102,-67,-283,-29,290,-41,410,-288,21,-210,194,-34,340,412,-308,221,-304,181,96,-7,70,253,329,-431,-455,-215,244,419,-378,-32,320,-341,-402,208,-174,-166,-246,-399,178,126,-307,211,-204,134,-387,58,373,82,133,-377,-42,420,-388,68,273,129,-337,-442,-345,-362,-192,14,-140,447,295,-91,-43,430,465,115,-197,64,313,-271,-149,-416,348,332,-461,-155,-356,-252,-339,-422,408,-268,-179,-116,207,-164,-266,-199,84,113,-177,-136,407,-258,-279,-69,-263,-229,384,-28,280,59,363,182,86,93,23,-230,394,-128,327,-411,298,-121,257,289,-31,310,-241,-449,-275,-109,137,-417,358,232,-414,328,-421,398,-168,-226,354,272,139,-437,-395,138,-427,458,185,56,393,-118,227,-364,-172,-186,-46,460,165,256,299,-131,357,242,439,375,62,333,-471,-55,-403,218,-274,-119,237,-464,-125,297,-111,157,336,452,245,409,-278,-79,-163,-276,-99,37,-370,-112,167,236,-454,-225,344,372,92,33,-330,441,355,262,239,469,75,203,-124,287,-11,110,-147,-436,-405,238,-474,-25,250,359,222,-314,281,49,463,135,-397,158,326,-401,198,-74,-213,224,-334,-472,-45,450,265,209,-184,-66,-293,71,243,429,475,15,-150,-406,248,379,22,-220,294,-81,-143,-476,-5,50,453,235,-444,-325,391,-98,27,-270,-159,-316,301,-151,-396,148,426,-448,-285,-9,90,53,423,-418,368,132,-367,-142,467,95,3,-30,300,-141,457,195,-44,440,365,162,286,-1,10,-100)$

The divisibility criterion with 967

$p=3, r=1, s=162, \gamma=161,$

$v_{dir}=(0;-33,330,-399,122,-253,-371,-158,-354,-328,379,78,187,64,327,-369,-178,-154,-394,72,247,431,-442,-415,282,81,157,364,228,-346,-408,212,-186,-74,-227,336,-459,-245,-451,-325,349,378,88,87,97,-3,30,-300,99,-23,230,-366,-208,146,47$

4,95,17,-170,-234,406,-192,-14,140,-433,462,215,-216,226,-326,359,278,121,
 -243,-471,-125,283,71,257,331,-409,222,-286,-41,410,-232,386,8,-80,-167,-2
 64,-261,-291,9,-90,-67,-297,69,277,131,-343,-438,-455,-285,-51,-457,-265,
 -251,-391,42,-420,332,-419,322,-319,289,11,-110,133,-363,-238,446,375,118,
 -213,196,-26,260,301,-109,123,-263,-271,-191,-24,240,-466,-175,-184,-94,-
 27,270,201,-76,-207,136,-393,62,347,398,-112,153,404,-172,-214,206,-126,29
 3,-29,290,1,-10,100)

The divisibility criterion with 971

$p=3$, $r=1$, $s=486$, $\gamma=485$,

$v_{dir}=(0;-29,290,13,-130,329,-377,-114,169,252,393,-46,460,255,363,254,373,15$
 $4,402,-136,389,-6,60,371,174,202,-78,-191,-32,320,-287,-43,430,-416,276,15$
 $3,412,-236,418,-296,47,-470,-155,-392,36,-360,-284,-73,-241,468,175,192,22$
 $, -220,258,333,-417,286,53,441,445,405,-166,-282,-93,-41,410,-216,218,-238,$
 $438,475,105,-79,-181,-132,349,394,-56,-411,226,-318,267,243,483,25,-250,-4$
 $13,246,453,325,-337,457,285,63,341,474,115,-179,-152,-422,336,-447,-385,-3$
 $4,340,484,15,-150,-442,-435,466,195,-8,80,171,232,-378,-104,69,281,103,-59,$
 $-381,-74,-231,368,204,-98,9,-90,-71,-261,-303,117,-199,48,-480,-55,-421,3$
 $26,-347,-414,256,353,354,344,444,415,-266,-253,-383,-54,-431,426,-376,-12$
 $4,269,223,-288,-33,330,-387,-14,140,-429,406,-176,-182,-122,249,423,-346,-$
 $424,356,324,-327,357,314,-227,328,-367,-214,198,-38,380,84,131,-339,477,85,$
 $121,-239,448,375,134,-369,-194,-2,20,-200,58,391,-26,260,313,-217,228,-338$
 $,467,185,92,51,461,245,463,225,-308,167,272,193,12,-120,229,-348,-404,156,3$
 $82,64,331,-397,86,111,-139,419,-306,147,472,135,-379,-94,-31,310,-187,-72,$
 $-251,-403,146,482,35,-350,-384,-44,440,455,305,-137,399,-106,89,81,161,332,$
 $-407,186,82,151,432,-436,476,95,21,-210,158,362,264,273,183,112,-149,-452,-$
 $335,437,485,5,-50,-471,-145,479,65,321,-297,57,401,-126,289,23,-230,358,304$
 $, -127,299,-77,-201,68,291,3,-30,300,-87,-101,39,-390,16,-160,-342,-464,-21$
 $5,208,-138,409,-206,118,-209,148,462,235,-408,196,-18,180,142,-449,-365,-2$
 $34,398,-96,-11,110,-129,319,-277,-143,459,265,263,283,83,141,-439,-465,-20$
 $5,108,-109,119,-219,248,433,-446,-395,66,311,-197,28,-280,-113,159,352,364,$
 $244,473,125,-279,-123,259,323,-317,257,343,454,315,-237,428,-396,76,211,-1$
 $68,-262,-293,17,-170,-242,478,75,221,-268,-233,388,4,-40,400,-116,189,52,4$
 $51,345,434,-456,-295,37,-370,-184,-102,49,481,45,-450,-355,-334,427,-386,-$
 $24,240,-458,-275,-163,-312,207,-128,309,-177,-172,-222,278,133,-359,-294,$
 $27,-270,-213,188,62,351,374,144,-469,-165,-292,7,-70,-271,-203,88,91,61,36$
 $1,274,173,212,-178,-162,-322,307,-157,-372,-164,-302,107,-99,19,-190,-42,4$
 $20,-316,247,443,425,-366,-224,298,-67,-301,97,1,-10,100)$

The divisibility criterion with 977

$p=3$, $r=1$, $s=489$, $\gamma=488$,

$v_{inv}=(0;-23,230,-346,-448,-405,142,-443,-455,-335,419,-282,-111,133,-353,-378,-128,303,$

$-99,13,-130,323,-299,59,387,38,-380,-108,103,-53,-447,-415,242,-466,-225,296,-29,290,31,-310,169,264,291,21,-210,146,-483,-55,-427,362,288,51,467,215,-196,6,-60,-377,-138,403,-122,243,-476,-125,273,201,-56,-417,262,311,-179,-164,-314,209,-136,383,78,197,-16,160,354,368,228,-326,329,-359,-318,249,441,475,135,-373,-178,-174,-214,186,94,37,-370,-208,126,-283,-101,33,-330,369,218,-226,306,-129,313,-199,36,-360,-308,149,464,245,481,75,227,-316,229,-336,429,-382,-88,-97,-7,70,277,161,344,468,205,-96,-17,170,254,391,-2,20,-200,46,-460,-285,-81,-167,-284,-91,-67,-307,139,-413,222,-266,-271,-221,256,371,198,-26,260,331,-379,-118,203,-76,-217,216,-206,106,-83,-147,-484,-45,450,385,58,397,-62,-357,-338,449,395,-42,420,-292,-11,110,-123,253,401,-102,43,-430,392,-12,120,-223,276,171,244,-486,-25,250,431,-402,112,-143,453,355,358,328,-349,-418,272,211,-156,-394,32,-320,269,241,-456,-325,319,-259,-341,479,95,27,-270,-231,356,348,428,-372,-188,-74,-237,416,-252,-411,202,-66,-317,239,-436,452,365,258,351,398,-72,-257,-361,-298,49,487,15,-150,-454,-345,-458,-305,119,-213,176,194,14,-140,423,-322,289,41,-410,192,34,-340,469,195,4,-40,400,-92,-57,-407,162,334,-409,182,134,-363,-278,-151,-444,-445,-435,442,465,235,-396,52,457,315,-219,236,-406,152,434,-432,412,-212,166,294,-9,90,77,207,-116,183,124,-263,-301,79,187,84,137,-393,22,-220,246,471,175,204,-86,-117,193,24,-240,446,425,-342,-488,-5,50,477,115,-173,-224,286,71,267,261,321,-279,-141,433,-422,312,-189,-64,-337,439,-482,-65,-327,339,-459,-295,19,-190,-54,-437,462,265,281,121,-233,376,148,474,145,-473,-155,-404,132,-343,-478,-105,73,247,461,275,181,144,-463,-255,-381,-98,3,-30,300,-69,-287,-61,-367,-238,426,-352,-388,-28,280,131,-333,399,-82,-157,-384,-68,-297,39,-390,-8,80,177,184,114,-163,-324,309,-159,-364,-268,-251,-421,302,-89,-87,-107,93,47,-470,-185,-104,63,347,438,-472,-165,-304,109,-113,153,424,-332,389,18,-180,-154,-414,232,-366,-248,-451,-375,-158,-374,-168,-274,-191,-44,440,485,35,-350,-408,172,234,-386,-48$

$,480,85,127,-293,-1,10,-100)$

The divisibility criterion with 983

$p=3, r=1, s=492, \gamma=491,$

$v_{dir}=(0;-17,170,266,289,59,393,2,-20,200,-34,340,-451,-405,118,-197,4,-40,400,-68,-303,81,173,236,-394,8,-80,-183,-136,377,162,346,472,195,16,-160,-366,-272,-229,324,-291,-39,390,32,-320,251,439,-458,-335,401,-78,-203,64,343,-481,-105,67,313,-181,-156,-406,128,-297,21,-210,134,-357,-362,-312,171,256,389,42,-420,268,269,259,359,342,-471,-205,84,143,-447,-445,-465,-265,-299,41,-410,168,286,89,93,53,453,385,82,163,336,-411,178,186,106,-77,-213,164,326,-311,161,356,372,212,-154,-426,328,-331,361,322,-271,-239,424,-308,1$

31,-327,321,-261,-339,441,-478,-135,367,262,329,-341,461,305,-101,27,-270,
 -249,-459,-325,301,-61,-373,-202,54,443,485,65,333,-381,-122,237,-404,108,
 -97,-13,130,-317,221,-244,474,175,216,-194,-26,260,349,442,-488,-35,350,43
 2,-388,-52,-463,-285,-99,7,-70,-283,-119,207,-104,57,413,-198,14,-140,417,
 -238,414,-208,114,-157,-396,28,-280,-149,-476,-155,-416,228,-314,191,56,4
 23,-298,31,-310,151,456,355,382,112,-137,387,62,363,302,-71,-273,-219,224,-
 274,-209,124,-257,-379,-142,437,-438,448,435,-418,248,469,225,-284,-109,1
 07,-87,-113,147,-487,-45,450,415,-218,214,-174,-226,294,9,-90,-83,-153,-43
 6,428,-348,-452,-395,18,-180,-166,-306,111,-127,287,79,193,36,-360,-332,37
 1,222,-254,-409,158,386,72,263,319,-241,444,475,165,316,-211,144,-457,-345,
 -482,-95,-33,330,-351,-422,288,69,293,19,-190,-66,-323,281,139,-407,138,-3
 97,38,-380,-132,337,-421,278,169,276,189,76,223,-264,-309,141,-427,338,-43
 1,378,152,446,455,365,282,129,-307,121,-227,304,-91,-73,-253,-419,258,369,2
 42,-454,-375,-182,-146,477,145,-467,-245,484,75,233,-364,-292,-29,290,49,-
 490,-15,150,466,255,399,-58,-403,98,3,-30,300,-51,-473,-185,-116,177,196,6,
 -60,-383,-102,37,-370,-232,354,392,12,-120,217,-204,74,243,-464,-275,-199,
 24,-240,434,-408,148,486,55,433,-398,48,-480,-115,167,296,-11,110,-117,187,
 96,23,-230,334,-391,-22,220,-234,374,192,46,-460,-315,201,-44,440,-468,-23
 5,384,92,63,353,402,-88,-103,47,-470,-215,184,126,-277,-179,-176,-206,94,4
 3,-430,368,252,429,-358,-352,-412,188,86,123,-247,-479,-125,267,279,159,37
 6,172,246,489,25,-250,-449,-425,318,-231,344,-491,-5,50,483,85,133,-347,-4
 62,-295,1,-10,100)

The divisibility criterion with 991

$p=3, r=1, s=496, \gamma=495,$

$v_{inv}=(0;-9,90,91,81,181,172,262,353,434,-376,-204,58,411,-146,469,265,323,-2$
 $57,-403,66,331,-337,397,-6,60,391,54,451,445,-486,-95,-41,410,-136,369,274,$
 $233,-348,-484,-115,159,392,44,-440,436,-396,-4,40,-400,36,-360,-364,-324,2$
 $67,303,-57,-421,246,-478,-175,-232,338,-407,106,-69,-301,37,-370,-264,-33$
 $3,357,394,24,-240,418,-216,178,202,-38,380,164,342,-447,-485,-105,59,401,-4$
 $6,460,355,414,-176,-222,238,-398,16,-160,-382,-144,449,465,305,-77,-221,22$
 $8,-298,7,-70,-291,-63,-361,-354,-424,276,213,-148,489,65,341,-437,406,-96,$
 $-31,310,-127,279,183,152,462,335,-377,-194,-42,420,-236,378,184,142,-429,3$
 $26,-287,-103,39,-390,-64,-351,-454,-415,186,122,-229,308,-107,79,201,-28,2$
 $80,173,252,453,425,-286,-113,139,-399,26,-260,-373,-234,358,384,124,-249,-$
 $483,-125,259,383,134,-349,-474,-215,168,302,-47,470,255,423,-266,-313,157,$
 $412,-156,-422,256,413,-166,-322,247,-488,-75,-241,428,-316,187,112,-129,2$
 $99,-17,170,282,153,452,435,-386,-104,49,-490,-55,-441,446,495,5,-50,-491,-$
 $45,450,455,405,-86,-131,319,-217,188,102,-29,290,73,261,363,334,-367,-294,-$
 $33,330,-327,297,3,-30,300,-27,270,273,243,-448,-475,-205,68,311,-137,379,17$
 $4,242,-438,416,-196,-22,220,-218,198,2,-20,200,-18,180,182,162,362,344,-467$

, -285, -123, 239, -408, 116, -169, -292, -53, -461, -345, 477, 185, 132, -329, 317, -197, -12, 120, -209, 108, -89, -101, 19, -190, -82, -171, -272, -253, -443, 466, 295, 23, -230, 318, -207, 88, 111, -119, 199, -8, 80, 191, 72, 271, 263, 343, -457, -385, -114, 149, 492, 35, -350, -464, -315, 177, 212, -138, 389, 74, 251, 463, 325, -277, -203, 48, -480, -155, -43, 2, 356, 404, -76, -231, 328, -307, 97, 21, -210, 118, -189, -92, -71, -281, -163, -352, -44, 4, 476, 195, 32, -320, 227, -288, -93, -61, -381, -154, -442, 456, 395, 14, -140, 409, -126, 269, 283, 143, -439, 426, -296, -13, 130, -309, 117, -179, -192, -62, -371, -254, -433, 3, 66, 304, -67, -321, 237, -388, -84, -151, -472, -235, 368, 284, 133, -339, 417, -206, 78, 2, 11, -128, 289, 83, 161, 372, 244, -458, -375, -214, 158, 402, -56, -431, 346, -487, -85, -1, 41, 419, -226, 278, 193, 52, 471, 245, -468, -275, -223, 248, 493, 25, -250, -473, -225, 26, 8, 293, 43, -430, 336, -387, -94, -51, -481, -145, 459, 365, 314, -167, -312, 147, -479, -1, 65, -332, 347, 494, 15, -150, -482, -135, 359, 374, 224, -258, -393, -34, 340, -427, 306, -87, -121, 219, -208, 98, 11, -110, 109, -99, -1, 10, -100)

The divisibility criterion with 997

$p=3$, $r=1$, $s=84$, $\gamma=83$,

$v_{dir}=(0; -3, 30, -300, 9, -90, -97, -27, 270, 291, 81, 187, 124, -243, 436, -372, -268, -311, 119, -193, -64, -357, -418, 192, 74, 257, 421, -222, 226, -266, -331, 319, -199, -4, 40, -4, 00, 12, -120, 203, -36, 360, 388, 108, -83, -167, -324, 249, -496, -25, 250, 491, 75, 247, -476, -225, 256, 431, -322, 229, -296, -31, 310, -109, 93, 67, 327, -279, -201, 16, -160, -3, 94, -48, 480, 185, 144, -443, 442, -432, 332, -329, 299, 1, -10, 100)$