Generalized ovals, 2.5-dimensional additive codes, and multispreads

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Abstract

We present constructions and bounds for additive codes over a finite field in terms of their geometric counterpart, i.e. projective systems. It is known that the maximum number of $(l-1)$-spaces in $\mathrm{PG}(2,q)$, such that no hyperplane contains three, is given by q^l+1 if q is odd. Those geometric objects are called generalized ovals. We show that cardinality q^l+2 is possible if we decrease the dimension a bit. We completely determine the minimum possible lengths of additive codes over $\mathbb{F}_9$ of dimension 2.5 and give improved constructions for other small parameters. As an application, we consider multispreads in $\mathrm{PG}(4,q)$, in particular, completing the characterization of parameters of $\mathbb{F}_4$-linear 64-ary one-weight codes.

Keywords: additive code, projective system, generalized oval, multispread, one-weight code, two-weight code

1 Introduction

An additive code C is a subset of $\mathcal{R}^n$ that is closed under addition, where $\mathcal{R}$ is some mathematical structure that allows addition like e.g. a ring, a field, or an additive group. Here we will always assume that $\mathcal{R}$ is a field and that the distances between the codewords, i.e. the elements of C, are measured by

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the Hamming metric. In computer science additive codes are studied as a subclass of general block codes, containing linear codes, that has better algorithmic properties. In [14] folded Reed–Solomon codes were introduced with the property that they admit much better list-decoding algorithms than the original Guruswami–Sudan algorithm [15]. Another subclass of additive codes allowing improved decoding algorithms, see e.g. [29], and also obtained by some folding (or grouping) construction is given by so-called multiplicity codes [16, 25]. There is some renewed interest in additive codes due to applications in the construction of quantum codes, see e.g. [6, 7, 11, 21]. Also, for classical codes additive codes are interesting since they can have better parameters than linear codes, see e.g. [13]. It is well known that additive codes over $\mathbb{F}_4$ can geometrically be described by multisets of lines in a projective space over $\mathbb{F}_2$, see e.g. [4]. In general, additive codes are in one-to-one correspondence to multisets of subspaces in projective spaces, see [2], which generalizes the well-known relation between linear codes and multisets of points. Here we will mainly use the geometric language.

A classical geometric result considers the maximum number of points in a projective plane over $\mathbb{F}_q$ such that every line contains at most two of them. For odd field sizes q the maximum number is given by $q+1$ and the geometric objects are called ovals. For even q size $q+2$ is possible, and the geometric objects are called hyperovals. Via the subfield construction we also obtain sets of subspaces, no more than two contained in a hyperplane, with those cardinalities. For odd q we can slightly improve the construction, see e.g. Proposition 1 and Proposition 3.

For linear codes, it is a classical and important problem to determine the minimum possible length n for each minimum Hamming distance d, given the field size q and the dimension k. Due to the Griesmer bound and the Solomon–Stiffler construction, this is a finite problem for each pair of parameters q and k. So far it has been completely solved for $k \le 8$ when $q = 2$, for $k \le 5$ when $q = 3$, for $k \le 4$ when $q = 4$, for $k \le 3$ when $q \le 9$, and for all $k \le 2$. For additive codes there is also a Griesmer type bound, see [2, Theorem 12], which can always be attained with equality if the minimum distance d is sufficiently large [19]. Here we determine the minimum lengths of $5/2$-dimensional additive codes over $\mathbb{F}_9$ for all minimum distances, see Theorem 4. For $5/2$-dimensional additive codes over $\mathbb{F}_{16}$ and $\mathbb{F}_{25}$ we give partial results.

For each prime power q there exists a line spread in $\mathrm{PG}(3, q)$, i.e. a set of lines such that each point is contained in exactly one element. The notion of t-spreads has been generalized to multispreads [18]. Here we are e.g. interested in sets of q^3+1 planes and q^2+1 lines in $\mathrm{PG}(4, q)$ such that each point is either contained in $q+1$ planes and no line or, alternatively, in one plane and one line. For $q = 3$ we classify all such systems and for $q = 4, 5$ we give partial results. In coding theoretic terms multispreads correspond to additive one-weight codes.

The remaining part of this paper is structured as follows. In Section 2 we introduce the necessary preliminaries. Our results on oval-like structures, i.e., no more than two subspaces contained in a hyperplane are presented in Section 3. In Section 4 we use prescribed automorphisms and integer linear programming to obtain improved constructions for additive codes with small parameters. Multispreads are treated in Section 5. For the mentioned oval-like structure we give an alternative construction in Appendix A, which is a rare example of a non-computational construction of a code with prescribed automorphism group. List of multispreads with new parameters are listed in Appendix B. Explicit representations for the 5/2-dimensional additive codes over $\mathbb{F}_{16}$ and $\mathbb{F}_{25}$ mentioned in Theorem 5 and Theorem 6 are listed in Appendix D and Appendix C, respectively.

2 Preliminaries

Let $\mathbb{F}_q$ denote the finite field with q elements, where $q = p^l$ is a prime power and the prime is called the characteristic of $\mathbb{F}_q$. An additive code C of length n over the alphabet $\mathcal{A} = \mathbb{F}_{q'}$ is a subset of $\mathbb{F}_{q'}^n$ such that $u + v \in C$ for all $u, v \in C$. It turns out that each code C that is additive over $\mathbb{F}_{q'}$ is linear over some subfield $\mathbb{F}_q \le \mathbb{F}_{q'}$, i.e., $\alpha u + \beta v \in C$ for all $u, v \in C$ and all $\alpha, \beta \in \mathbb{F}_q$ [1, 2]. So, we use the notation $[n, r/h, d]_q^h$ for an additive code C that is linear over $\mathbb{F}_q$ and has length n, minimum distance d, alphabet $\mathcal{A} = \mathbb{F}_{q^h}$, and size q^r, where $r \in \mathbb{N}$. We also call $k = r/h \in \mathbb{Q}$ the dimension of C, so that $\#C = \#\mathcal{A}^k$ and an $[n, k, d]_q^1$ additive code is an $[n, k, d]_q$ linear code. Note that k can be fractional. An $[n, k, d]_q$ linear code C can be defined as the rowspace of a $k \times n$ matrix with entries in $\mathbb{F}_q$, called a generator matrix for C. Similarly, an $[n, r/h, d]_q^h$ additive code C can be defined as the $\mathbb{F}_q$-space spanned by the rows of an $r \times n$ matrix G with entries in $\mathbb{F}_{q^h}$, again called a *generator matrix* for C. Let $\mathcal{B}$ be a basis for $\mathbb{F}_{q^h}$ over $\mathbb{F}_q$ and write out the elements of G over the basis $\mathcal{B}$ to obtain an $r \times nh$ matrix $\widetilde{G}$ with entries from $\mathbb{F}_q$. Here we assume that the columns of $\widetilde{G}$ are grouped together into n groups of h columns and say that $\widetilde{G}$ is a subfield generator matrix for C.

Let $\mathrm{PG}(v-1, q)$ denote the projective geometry over $\mathbb{F}_q^v$. While we will use the geometric language, we will use the algebraic dimension for subspaces, i.e., points are 1-dimensional, lines are 2-dimensional, planes are 3-dimensional, solids are 4-dimensional, and hyperplanes are $(v-1)$-dimensional subspaces. In general, a t-space is a t-dimensional subspace. By $[t]_q := \frac{q^t-1}{q-1}$ we denote the number of points of a t-space. Given a generator matrix G of a linear $[n, k, d]_q$ code, the columns of G span 1-dimensional subspaces, i.e. points in $\mathrm{PG}(k-1, q)$ (allowing the 0-dimensional space as a degenerated case or forbidding zero columns in G). This induces the well-known correspondence between linear codes and multisets of points in projective spaces, see e.g. [10]. More precisely, a minimum distance d of the code relates to the geometric property that at most $n - d$ elements are contained in a hyperplane. Similarly, the groups of h subsequent columns in a subfield generator matrix $\widetilde{G}$ span subspaces of dimension at most h such that at most $n - d$ elements are contained in each hyperplane, if the additive code has length n and minimum distance d. By $\mathcal{X}_G(C)$ we define the multiset of the n subspaces spanned by the n blocks of h

columns of $\widetilde{G}$ in this way. We say that C is faithful if all elements of $\mathcal{X}_G(C)$ have dimension h and unfaithful otherwise. This is indeed a property of the code C and does not depend on the choice of a generator matrix G or the choice of a basis $\mathcal{B}$, see e.g. [2], so that we also write $\mathcal{X}(C)$. We remark that a linear code C, i.e. an additive code with $h = 1$ is unfaithful iff an arbitrary generator matrix for C contains a column consisting entirely of zeroes.

Example 1. *Writing $\mathbb{F}_4 \simeq \mathbb{F}_2[\omega]/\left(\omega^2+\omega+1\right)$, we can start with the generator matrix of a linear $[5,2,4]_4$ code, interprete it as the generator matrix of an additive code and use the basis $\mathcal{B}$ to obtain the example*

$$\begin{pmatrix} 0 & 1 & 1 & 1 & 1 \\ 1 & 0 & 1 & \omega & \omega^2 \end{pmatrix} \to \begin{pmatrix} 0 & 1 & 1 & 1 & 1 \\ 0 & \omega & \omega & \omega & \omega \\ 1 & 0 & 1 & \omega & \omega^2 \\ \omega & 0 & \omega & \omega^2 & 1 \end{pmatrix} \to \begin{pmatrix} 00 & 10 & 10 & 10 & 10 \\ 00 & 01 & 01 & 01 & 01 \\ 10 & 00 & 10 & 01 & 11 \\ 01 & 00 & 01 & 11 & 10 \end{pmatrix}.$$

The first matrix is a generator matrix of a $[5,2,4]_4$ code, which geometrically is the set of all five points in $\mathrm{PG}(1,4)$. The second matrix is a generator matrix of a $[5,4/2,4]_2^2$ (additive) code, which is linear over $\mathbb{F}_4$ by construction (called subfield construction). The third matrix is the corresponding subfield generator matrix, where the five pairs of columns span lines, i.e. we geometrically have a line spread of $\mathrm{PG}(3,2)$.

Definition 1. *A projective $h-(n,r,s)_q$ system is a multiset $\mathcal{S}$ of n subspaces of $\mathrm{PG}(r-1,q)$ of dimension at most h such that each hyperplane contains at most s elements of $\mathcal{S}$ and some hyperplane contains exactly s elements of $\mathcal{S}$. We say that $\mathcal{S}$ is faithful if all elements have dimension h. A projective $h-(n,r,s)_q$ system $\mathcal{S}$ is a projective $h-(n,r,s,\mu)_q$ system if each point is contained in at most μ elements from $\mathcal{S}$ and there is some point that is contained in exactly μ elements from $\mathcal{S}$.*

Note that the elements of $\mathcal{S}$ span the entire ambient space $\mathrm{PG}(r-1,q)$ iff $s < n$. If $\mathcal{S}$ is a projective $h-(n,r,s)_q$ system that is not faithful, then we can easily construct a projective $h-(n,r,\le s)_q$ system $\mathcal{S}'$ by replacing each element $S \in \mathcal{S}$ with dimension smaller than h by an arbitrary h-space containing S.

Definition 2. *By $n_q(r,h;s)$ we denote the maximum number n such that a projective $h-(n,r,s)_q$ system exists.*

From the subfield construction we conclude $n_q(rh,h;s) \ge n_{q^h}(r,1;s)$. In general, projective $h-(n,r,s)_q$ systems (with $s < n$) are in one-to-one correspondence to additive codes:

Theorem 1. *([2, Theorem 5]) If C is an additive $[n,r/h,d]_q^h$ code with generator matrix G, then $\mathcal{X}_G(C)$ is a projective $h-(n,r,n-d)_q$ system $\mathcal{S}$, and conversely, each projective $h-(n,r,s)_q$ system $\mathcal{S}$ defines an additive $[n,r/h,n-s]_q^h$ code C.*

We have that C is faithful iff $\mathcal{S}$ is faithful. Whenever the specific choice of a generator matrix G or a subfield generator matrix $\widetilde{G}$ is irrelevant, we write $\mathcal{S} = \mathcal{X}(C)$ or $C = \mathcal{X}^{-1}(\mathcal{S})$. Unfaithful projective systems can arise by projection. If we e.g. start with the faithful projective $2-(5,4;1)_2$ system from Example 1, then projection through an arbitrary point yields an unfaithful projective $2-(5,3;1)_2$ system consisting of four lines and one point (obtained from the line containing the projection point). So clearly, we have $n_q(r,h;s) \ge n_q(r',h;s)$ for all $r \le r'$.

Definition 3.

$$\overline{n}_q(r,h;s) := n_{q^h}(\lceil r/h \rceil, 1; s) \tag{1}$$

In words, $\overline{n}_q(r,h;s)$ is the size of the largest projective $h-(n,r,s)_q$ system that we can obtain starting from a linear code over $\mathbb{F}_{q^h}$ interpreted as a multiset of points via the subfield construction by an iterative application of projection. Whenever $\overline{n}_q(r,h;s) < n_q(r,h;s)$ we say that additive codes outperform linear codes for the corresponding parameters, which is especially interesting if r/h is integral.

We can also utilize linear codes to obtain upper bounds for $n_q(r,h;s)$.

Definition 4. *For a faithful projective $h-(n,r,s)_q$ system $\mathcal{S}$ let $\mathcal{P}(\mathcal{S})$ denote the multiset of points that we obtain by replacing each element of $\mathcal{S}$ by its contained $[h]_q$ points.*

Lemma 1. *([19, Lemma 4]) Let $\mathcal{S}$ be a faithful projective $h-(n,r,s,\mu)_q$ system. Then $\mathcal{P}(\mathcal{S})$ is a faithful projective $1-(n',r,s',\mu)_q$ system, where $n' = n[h]_q$ and $s' = n \cdot [h-1]_q + s \cdot q^{h-1}$. Moreover, $C := \mathcal{X}^{-1}(\mathcal{P}(\mathcal{S}))$ is a q^{h-1}-divisible linear $[n',r,d']_q$ code C with maximum weight at most $n \cdot q^{h-1}$, where $d' = q^{h-1} \cdot (n-s)$.*

Here a linear code is called Δ-divisible if the weights of all codewords are divisible by Δ.

Definition 5. *The strong coding upper bound for $n_q(r,h;s)$ is the largest integer n such that a linear code with properties as specified in Lemma 1 exists. Ignoring the conditions on divisibility and the maximum weight, the maximum possible length n is called the weak coding upper bound.*

Example 2. *Since the existence of a $[84,8,40]_2$ code and the non-existence of a $[87,8,42]_2$ code are known, we obtain $n_2(8,2;8) \le 28$, i.e. the weak coding upper bound for $n_2(8,2;8)$ is 28.*

One specific lower bound for the length n of an $[n,k,d]_q$ code is the so-called Griesmer bound [12, 28]

$$n \ge \sum_{i=0}^{k-1} \left\lceil \frac{d}{q^i} \right\rceil =: g_q(k,d). \tag{2}$$

Interestingly enough, this bound can always be attained with equality if the minimum distance d is sufficiently large and a nice geometric construction was given by Solomon and Stiffler [28]. For additive codes we also have a Griesmer bound via the reformulation as a projective system $\mathcal{S}$ and Lemma 1 by only using the Griesmer bound for linear codes

$$\begin{aligned} n &\geq \left\lceil \frac{g_q\big(r, d\cdot q^{h-1}\big)}{[h]_q} \right\rceil = \left\lceil \frac{\sum\limits_{i=0}^{r-1} \left\lceil d\cdot q^{h-1-i}\right\rceil}{[h]_q} \right\rceil \\ &= d + \left\lceil \frac{\sum\limits_{i=1}^{r-h} \left\lceil \frac{d}{q^i} \right\rceil}{[h]_q} \right\rceil = d + \left\lceil \frac{g_q(r-h+1, d) - d}{[h]_q} \right\rceil, \end{aligned}$$

see e.g. [2, Theorem 12] or [19, Lemma 15]. Here we also speak of the Griesmer upper bound, which is 30 in our example since the Griesmer bound implies that no $[93, 8, 46]_2$ code exists but cannot rule out the existence of a $[90, 8, 44]_2$ code. One of the main results of [19] is that the mentioned Griesmer bound for additive codes can always be attained if the minimum distance d is sufficiently large. Thus, also the determination of $n_q(r, h; s)$ is a finite problem for each triple of parameters (q, r, h).

3 At most two subspaces in a hyperplane – generalized ovals

An oval in $\mathrm{PG}(2, q)$ is a set $\mathcal{O}$ of $q+1$ points such that no three points are on a line. If the field size q is odd, then each oval is a conic and each set of $q+2$ points does contain a line incident with at least three points [27]. This is different if q is even, where other constructions exist and cardinality $q + 2$ can indeed be reached, where the geometric object then is called hyperoval. Given an arbitrary set of points $\mathcal{S}$ in $\mathrm{PG}(2, q)$, a line that contains two points from $\mathcal{S}$ is called a secant and a line that contains exactly one point from $\mathcal{S}$ is called a tangent. Given an oval $\mathcal{O}$ in $\mathrm{PG}(2, q)$, where q is odd, each point in $\mathcal{O}$ is contained in q secants and a unique tangent. Applying the subfield construction to a hyperoval in $\mathrm{PG}\big(2, q^2\big)$, where q is even, gives a faithful projective $2-\big(q^2+2, 6, 2, 1\big)_q$ system $\mathcal{S}$. Projection through a point P then gives a projective $2-\big(q^2+2, 5, 2\big)_q$ system that is faithful iff P is not contained in one of the elements from $\mathcal{S}$. Arcs, ovals, and hyperovals were generalized by replacing their points with l-spaces and their maximum possible cardinality in $\mathrm{PG}(3l-1, q)$ can indeed be obtained by applying the subfield construction in $\mathrm{PG}\big(2, q^l\big)$ [30]. For the relation to (translation) generalised quadrangles we refer to [31, 32].

Starting from an oval in $\mathrm{PG}\big(2, q^2\big)$, applying the subfield construction and projection through a point, yields a projective $2-\big(q^2+1, 5, 2\big)_q$ system. The following result shows that we can improve upon that.

Proposition 1.

$$n_q(5,2;2) \ge q^2+2$$

Proof. W.l.o.g. we assume that q is odd, consider an oval $\mathcal{O}$ in $\mathrm{PG}\big(2,q^2\big)$, and fix some element $P \in \mathcal{O}$. Removing P from $\mathcal{O}$ and applying the subfield construction gives a faithful projective $2-\big(q^2,6,2,1\big)_q$ system $\mathcal{S}$. Denote the line in $\mathrm{PG}(5,q)$ that corresponds to P in $\mathrm{PG}\big(2,q^2\big)$ by L. Denote the unique tangent line of P in $\mathcal{O}$ by T and let S be the corresponding 4-space in $\mathrm{PG}(5,q)$. By construction S is disjoint to the lines in $\mathcal{S}$. Applying projection through an arbitrary point in L gives a faithful projective $2-\big(q^2,5,2,1\big)_q$ system $\mathcal{S}'$ whose elements are disjoint to a plane π. Denoting the image of L by Q we construct $\mathcal{S}''$ by adding two different lines incident with Q and π to $\mathcal{S}'$. To conclude that $\mathcal{S}''$ is a faithful projective $2-\big(q^2+2,5,2,2\big)_q$ system, it remains to check that every hyperplane contains at most 2 elements of $\mathcal{S}''$. So, if H is a hyperplane that contains π, then H cannot contain elements from $\mathcal{S}'$ and only contains the two additional lines in π. If H is a hyperplane that intersects π in a line, then it contains at most one of the two lines in π and it remains to show that it cannot contain two elements from $\mathcal{S}'$. To this end, we observe that any pair of lines in $\mathcal{S}'$ spans a solid that is disjoint to Q. □

We remark that it is known that for odd q an arc of size q in $\mathrm{PG}(2,q)$ can always be extended to an oval i.e. a conic [26, 27].

In order to obtain an upper bound for $m_q(5,2;2)$ we can mimic the argument for the maximum cardinality of arcs in $\mathrm{PG}(2,q)$.

Lemma 2. *We have $n_q(5,2;s) \le (s-1)(q^2+q+1)+1$ for each $s \ge 2$. If a projective system misses this number by less than q, then it has to be faithful and no two lines intersect in a point.*

Proof. Let $\mathcal{S}$ be a projective $2-(n,5,s)_q$ system. Assume that $L \in \mathcal{S}$ is an arbitrary 2-dimensional element. Projection through L yields a projective $2-(n-c,3,s-c)_q$ system $\mathcal{S}'$, where c denotes the multiplicity of L in $\mathcal{S}$. Since $n_q(3,2;s') = s' \cdot (q^2+q+1)$ we conclude the statement. If no element of $\mathcal{S}'$ has dimension 2 then we assume that L is spanned by two different arbitrary 1-dimensional elements in $\mathcal{S}$. Projection through L yields a projective $2-(n-c,3,s-c)_q$ system $\mathcal{S}''$, where c denotes the sum of the multiplicities of the points in L w.r.t. $\mathcal{S}$. Here we can proceed as before. Otherwise, we clearly have $\#\mathcal{S} \le s$.

For the second part we remark that each projective $2-(n',3,s')_q$ system satisfies $n' \le (q^2+q+1)s'-(q-1)$ if it is unfaithful or contains two lines that intersect in a point. □

So we e.g. have $n_q(5,2;2) \le q^2+q+2$ and each projective $2-(n,5,2,\mu)_q$ system with $n > q^2+2$ satisfies $\mu = 1$ and is faithful.

Lemma 3. *If $\mathcal{S}$ is a projective l-$(n, 2l+j, 2, \mu)_q$ system, $l \geq 2$, $j \geq 1$, that contains an $(l-i)$-space or two i-intersecting spaces, $i \in \{0, ..., l\}$, then*

$$n \leq ([l+j]_q - [i+j]_q)/[j]_q + 2 = \frac{q^j(q^l - q^i)}{q^j - 1} + 2. \tag{3}$$

In particular,

(i) $n_q(2l+j, l; 2) \leq [l+j]_q/[j]_q + 1$;

(ii) *if $n > ([l+j]_q - [j+1]_q)/[j]_q + 2$, then the system is faithful and $\mu = 1$.*

Proof. If the system is contains an $(l-i)$-space or two i-intersecting spaces, then there is a $(2l-i)$-space L' containing as subspaces two elements s, s' of $\mathcal{S}$. Considering an l-space L such that $s \subseteq L \subset L'$, we get that any element of $\mathcal{S} \setminus \{s\}$ lies in at least $[j]_q$ hyperplanes containing L. There are $[l+j]_q$ such hyperplanes, but $[i+j]_q$ of them are superspaces of S' and hence contain both s and s'. It follows that $|\mathcal{S} \setminus \{s, s'\}| \leq [l+j]_q - [i+j]_q$, which proves (3).

(i) and (ii) are special cases of (3) corresponding to $i = 0$ and $i = 1$, respectively. □

Corollary 1. $n_q(2l+1, l; 2) \leq \sum_{i=1}^{l} q^i + 2$. *Moreover, if an l-$(n, 2l+1, 2; \mu)_q$ system is unfaithful or $\mu > 1$, then $n \leq \sum_{i=2}^{l} q^i + 2$.*

More generally, we have the following.

Proposition 2. *If $\mathcal{S}$ is a projective l-$(n, sl+j, s, \mu)_q$ system, $l, s \geq 2$, $j \geq 0$, such that the span of some s of its elements has dimension at most $sl - i$, then* (3) *holds. In particular,*

$$n_q(sl+j, l; s) \leq [l+j]_q + s - 1.$$

Proof sketch. The proof is similar to that of Lemma 3. L' is a $(sl-i)$-space including s elements of $\mathcal{S}$; L is a $(s-1)l$-subspace of L' including $s-1$ elements of $\mathcal{S}$. □

We remark that the proof of Lemma 2 also shows that a hypothetical faithful projective $2 - \left(q^2+q+2, 5, 2\right)_q$ system $\mathcal{S}$ has the property that the number of lines per hyperplane is always even, i.e. all q^2+q+1 lines through an element of $\mathcal{S}$ contain a second (disjoint) line. Considering the q^2+q+1 hyperplanes through a line that is not contained in $\mathcal{S}$ gives the condition that $q^2+q+2 = q(q+1)+2$ is even, which is always satisfied – different as in the situation for arcs in $\mathrm{PG}(2, q)$. Note that the upper bound from Lemma 2 can be attained for $q = 2$. To this end, we remark that a vector space partition of type $3^1 2^{q^3}$ of $\mathrm{PG}(4, q)$, i.e. a faithful projective $2 - \left(q^3, 5, s, 1\right)_q$ system whose elements all are disjoint to some plane π, has the property that each hyperplane contains either no or q lines (depending on whether π is contained in the hyperplane or not), i.e. we have $s = q$. Such a partition can e.g. be constructed from lifted MRD codes.

Theorem 2. *If s contains a factor that is coprime to q, then we have $n_q(5,2;s) < (s-1)\cdot\left(q^2+q+1\right)+1$.*

Proof. Assume that $\mathcal{S}$ is a faithful projective $2-\left((s-1)(q^2+q+1)+1,5,2,\mu'\right)_q$ system. Due to Lemma 2 we have $\mu'=1$. Replacing each element of $\mathcal{S}$ by its contained $q+1$ points we obtain a faithful projective $1-((q+1)\cdot\#\mathcal{S},5,s,1)_q$ system $\mathcal{S}$, i.e. a set $\mathcal{M}$ of $(q+1)\cdot\left((s-1)(q^2+q+1)+1\right)$ points in $\mathrm{PG}(4,q)$ such that every hyperplane contains at most s elements from $\mathcal{M}$. Since each hyperplane H contains either s or no elements from $\mathcal{S}$, we see that H intersects $\mathcal{M}$ in $(s-1)\cdot\left(q^2+q+1\right)+1+sq$ or $(s-1)\cdot\left(q^2+q+1\right)+1$ points. In other words, the linear code corresponding to $\mathcal{M}$ is a projective $\left[(q+1)\cdot\left((s-1)(q^2+q+1)+1\right),5,\{w_1,w_2\}\right]_q$ code, where $w_1=w_2+sq$ and $w_2=q\cdot\left((s-1)(q^2+q+1)+1\right)$, i.e. a projective two-weight code. However, the difference of the occurring non-zero weights equals sq. Since it has to be a power of the characteristic of $\mathbb{F}_q$, see [8, Corollary 2], we obtain a contradiction if s contains a factor that is coprime to q. $\square$

So we e.g. have $n_q(5,2;2)<q^2+q+2$ for odd q. For $s=2$ the strongly regular graph corresponding to the utilized linear code has parameters $\left(q^5,k,\lambda,\mu\right)$, where $k=(q^2-1)\cdot\left(q^2+q+2\right)$, $\lambda=q^3+2q^2+q-2$, and $\mu=q^3+2q^2+3q+2$. Interestingly enough, the case for $q=3$ is marked as *open* at `https://aeb.win.tue.nl/graphs/srg/srgtab201-250.html`. For $q=4$ a strongly regular graph with parameters $(1024,330,98,110)$ indeed exists [24], even as linear codes, i.e. as a projective $[110,5,\{80,88\}]_4$ code [9] and as a projective $[330,10,\{160,176\}]_2$ code [22, 23]. We have computationally checked that none of the ten $[110,5,\{80,88\}]_4$ codes listed in [9, Appendix B] can be partitioned into 22 lines, when considered as a set of points in $\mathrm{PG}(4,4)$. An example showing $n_4(5,2;2)\ge 20=q^2+q$ is given by $\binom{101\omega^2\omega}{01\omega^2\omega 1}$, $\binom{10\omega\omega^2 1}{01\omega^2 1\omega}$, $\binom{100\omega^2 1}{01000}$, $\binom{10000}{01\omega^2 01}$, $\binom{10\omega^2\omega^2\omega}{01\omega^2\omega^2\omega}$, $\binom{10001}{01100}$, $\binom{10\omega 1\omega}{011\omega^2\omega}$, $\binom{10\omega^2 10}{011\omega 1}$, $\binom{10111}{0111\omega}$, $\binom{1001\omega}{01001}$, $\binom{1\omega^2 01\omega^2}{0011\omega}$, $\binom{1\omega 10\omega^2}{00011}$, $\binom{110\omega^2\omega}{001\omega^2 1}$, $\binom{100\omega\omega}{001\omega\omega}$, $\binom{01010}{00101}$, $\binom{1\omega^2 0\omega^2\omega}{00110}$, $\binom{1\omega\omega^2 0\omega^2}{00010}$, $\binom{010\omega^2\omega^2}{00100}$, $\binom{1001\omega^2}{001\omega 0}$, $\binom{110\omega\omega}{001\omega^2 0}$, where we identify $\mathbb{F}_4\cong\mathbb{F}_2[\omega]/\left(\omega^2+\omega+1\right)$. We have computationally checked that a hypothetical $2-(21,5;2)_4$ or a $2-(22,5;2)_4$ system cannot have a nontrivial automorphism group.

The case of field size $q=3$ can be solved exactly, i.e. we have $n_3(5,2;2)=12=q^2+q$. The inequivalent faithful projective $2-(n,5,2)_3$ systems can be easily enumerated. There are exactly six faithful projective $2-(12,5,2)_3$ systems and no faithful projective $2-(13,5,2)_3$ system. More precisely, we have verified the numbers stated in [2, Table 3, line $r=5$] and [2, Remark 27]. The number of unfaithful projective $2-(n,5,2)_3$ systems is given by $1,5,21,26,9,1,1$ for $n=4,\ldots,10$ and there is no unfaithful $2-(11,5,2)_3$ system. In principle, the multiset of points covered by a faithful projective system can admit several partitions. Interestingly enough, for our parameters all partitions are equivalent except for two cases for $n=10$, where trading switches eight lines. For more details on trades we refer e.g. to [17].

The construction in Proposition 1 can also be generalized to ovals in $\mathrm{PG}\left(2, q^l\right)$ for $l \geq 2$.

Proposition 3. *For $l \geq 2$ we have $n_q(\lfloor 2.5l \rfloor, l; 2) \geq q^l + 2$.*

Proof. W.l.o.g. we assume that q is odd and consider an oval $\mathcal{O}$ in $\mathrm{PG}(2, q^l)$ and fix some element $P \in \mathcal{O}$. Removing P from $\mathcal{O}$ and applying the subfield construction gives a faithful projective $l - \left(q^l, 3l, 2, 1\right)_q$ system $\mathcal{S}$. Denote the l-space in $\mathrm{PG}(3l-1, q)$ that corresponds to P in $\mathrm{PG}(2, q^l)$ by L. Denote the unique tangent line of P in $\mathcal{O}$ by T and let S be the corresponding $2l$-space in $\mathrm{PG}(3l-1, q)$. By construction S is disjoint to the l-spaces in $\mathcal{S}$. Applying projection through an arbitrary $\lceil l/2 \rceil$-space in L gives a faithful projective $l - \left(q^l, \lfloor 2.5l \rfloor, 2, 1\right)_q$ system $\mathcal{S}'$ whose elements are disjoint to an $(l+1)$-space π. Denoting the image of L by Q we construct $\mathcal{S}''$ by adding (to $\mathcal{S}'$) two different l-spaces including Q and spanning π (here we use that $2l \geq \dim(\pi) + \dim(Q)$, which comes from the number $\lceil l/2 \rceil$ of collapsed dimensions). To conclude that $\mathcal{S}''$ is a faithful projective $l - \left(q^l + 2, \lfloor 2.5l \rfloor, 2, 2\right)_q$ system, it remains to check that every hyperplane contains at most 2 elements of $\mathcal{S}''$. So, if H is a hyperplane that includes π, then H cannot contain elements from $\mathcal{S}'$ and only contains the two additional l-spaces in π. If H is a hyperplane that does not include the whole π, then it contains at most one of the two l-spaces in π and it remains to show that it cannot contain two elements from $\mathcal{S}'$ and one l-space in π. To this end, we observe that any pair of l-spaces in $\mathcal{S}'$ spans a $2l$-space that is disjoint to Q; hence, such two l-spaces and one of the two subspaces that include Q span the entire space and cannot lie in a hyperplane. $\square$

Theorem 3. *For odd q and $l \geq 2$ we have $n_q(2l+1, l; 2) < [l+1]_q + 1$.*

Proof. Assume that $\mathcal{S}$ is a faithful projective $l - ([l+1]_q + 1, 2l+1, 2, \mu')_q$ system. Due to Lemma 3 we have $\mu' = 1$. Replacing each element of $\mathcal{S}$ by its contained $[l]_q$ points we obtain a faithful projective $1 - ([l]_q \cdot \#\mathcal{S}, 2l+1, s, 1)_q$ system $\mathcal{S}$, i.e. a set $\mathcal{M}$ of $[l]_q \cdot ([l+1]_q + 1)$ points in $\mathrm{PG}(2l, q)$ such that every hyperplane contains at most s elements from $\mathcal{M}$. Since each hyperplane H contains either two or no elements from $\mathcal{S}$, we see that H intersects $\mathcal{M}$ in $([l+1]_q + 1) \cdot [l-1]_q + 2q^{l-1}$ or $([l+1]_q + 1) \cdot [l-1]_q$ points. In other words, the linear code corresponding to $\mathcal{M}$ is a projective two-weight code with weight difference $2q^{l-1}$. Since it has to be a power of the characteristic of $\mathbb{F}_q$, see [8, Corollary 2], we obtain a contradiction for odd q. $\square$

We remark that the statement also holds for $l = 1$, since for odd q there are no hyperovals.

Underlying our geometric constructions seems the following recipe: Start with a linear code of a large field and consider it as a multiset of points. After removing a point (or possibly several) we apply the subfield construction and project through some subspaces contained in the image of a removed point. Afterwards it is sometimes possible to add more subspaces than removed before. Of course this approach is not always successful. Starting from an ovoid over $\mathbb{F}_4$

we obtain $n_2(8,2;5) \ge 17$, which is tight. However, we also have $n_2(7,2;5) = 17$, see e.g. [19, Theorem 14], i.e. no improvement possible for these parameters. In the proof of the following construction the "removed" point is denoted as S_1. If we add it as the last column to a generator matrix of the corresponding linear code we get the generator matrix of the doubly-extended Reed–Solomon code – an s-arc of size $q^l + 1$ in geometrical terms, where s and l are parameters of our construction. The subspace S_2 is the analog of the tangent line through S_1. But now we need that the following generalization of the "tangent" property: any $s-1$ points of the arc are disjoint with S_2. For our situation we will present an algebraic proof.

Proposition 4. *For $l, s \ge 2$ we have $n_q(ls + \lfloor 0.5l \rfloor, l; s) \ge q^l + 2$.*

Proof. We start with the extended Reed–Solomon code $R(s)$ with the generator matrix

$$G_s = \begin{pmatrix} 1 & 1 & 1 & \dots & 1 \\ 0 & \alpha^1 & \alpha^2 & \dots & \alpha^{q^l-1} \\ 0 & \alpha^2 & \alpha^4 & \dots & \alpha^{2(q^l-1)} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ 0 & \alpha^{s-1} & \alpha^{2s-2} & \dots & \alpha^{(s-1)(q^l-1)} \\ 0 & \alpha^s & \alpha^{2s} & \dots & \alpha^{s(q^l-1)} \end{pmatrix},$$

where α is a primitive element of $\mathbb{F}_{q^l}$. It is a linear $\left[q^l, s+1, q^l - s\right]_{q^l}$ code. We consider the $(s+1)$-dimensional column space V_{s+1} of the matrix above; the columns are treated as points (1-dimensional subspaces) $a_0, \dots, a_{q^l-1}$ in this space.

We denote by S_i the i-dimensional subspace of the column space consisting of all columns with first $s+1-i$ zeros. We claim the following:

(*) *The span of any $s+1-i$ columns of G_s is an $(s+1-i)$-dimensional space disjoint with S_i, $i = 1, \dots, s$.* The claim follows from the non-zero determinant of the Vandermonde matrix formed by the upper $s+1-i$ positions of the chosen $s+1-i$ columns.

Now, we consider the $\mathbb{F}_{q^l}$-space V_{s+1} as an $(sl+l)$-dimensional $\mathbb{F}_q$-space, points $a_0, \dots, a_{q^l-1}$ as l-subspaces. Let π be projecting of V_{s+1} onto an $(sl + \lfloor l/2 \rfloor)$-dimensional $\mathbb{F}_q$-space such that $\dim_{\mathbb{F}_q} \pi(S_1) = \dim_{\mathbb{F}_q} S_1 - \lceil l/2 \rceil = \lfloor l/2 \rfloor$. We choose two arbitrary l-subspaces b, b' of $\pi(V_{s+1})$ such that $\pi(S_1) \subseteq b \cap b'$ and $b + b' = \pi(S_2)$ (we can do this because $\dim b + \dim b' = l + l \ge \lfloor l/2 \rfloor + \lfloor l/2 \rfloor + l = \dim \pi(S_1) + \dim \pi(S_2)$).

To complete the proof, we have to show that the l-subspaces $\pi(a_0)$, …, $\pi(a_{q^l-1})$, b, b' form a projective l-$(q^l+2, ls+l-1, s)_q$ system; that is, any $s+1$ of them span the space $\pi(V_{s+1})$.

a) Any $s+1$ of $a_0, \dots, a_{q^l-1}$ span V_{s+1}; therefore, any $s+1$ of $\pi(a_0)$, …, $\pi(a_{q^l-1})$ span $\pi(V_{s+1})$.

b) From (*), $i = 1$, any s of $\pi(a_0)$, …, $\pi(a_{q^l-1})$ span an sl-space disjoint with $\pi(S_1)$. Since $\pi(S_1) \subset b$, we have that b (similarly, b') and any s of $\pi(a_0)$, …, $\pi(a_{q^l-1})$ span an $sl + \lfloor l/2 \rfloor$-space, i.e., $\pi(V_{s+1})$.

c) Finally, from (*), $i = 2$, any $s-1$ of $\pi(a_0)$, …, $\pi(a_{q^l-1})$ span an $(s-1)l$-space disjoint with $\pi(S_2)$. Since $\pi(S_2) = b + b'$, we have that b, b', and any $s-1$ of $\pi(a_0)$, …, $\pi(a_{q^l-1})$ span an $(s-1)l + l + \lfloor l/2 \rfloor$-space, i.e., again $\pi(V_{s+1})$. □

4 Prescribing automorphisms and integer linear programming

The determination of $n_q(r, h; s)$ is a hard problem in general, since it is already for the special case $h = 1$, i.e. for linear codes. So, it makes sense to consider small parameters. For $h = 2$ and $r \le 2$ we technically have $n_q(r, 2; s) = \infty$ since we can take as many copies of the ambient space as elements, which are not contained in any hyperplane. In $PG(2, q)$ hyperplanes and lines coincide, so that $n_q(3, 2; s) = [3]_q \cdot s$, i.e. we can take each of the $[3]_q$ lines s times. Also the situation in $\mathrm{PG}(3, q)$ still allows a complete analytical solution, i.e. we have $n_q(4, 2; s) = \frac{[4]_q}{[2]_q} \cdot s = \left(q^2 + 1\right) \cdot s$, see [19, Theorem 8]. The determination of $n_2(5, 2; s)$, $n_2(6, 2; s)$ was completed in [3] and the determination of $n_2(7, 2; s)$ was completed in [20]. Here we complete the determination of $n_3(5, 2; s)$.

Projective systems can be easily formulated as feasible solutions of integer linear programs. As variables we use $x_S \in \mathbb{N}$ for each h-space in $\mathrm{PG}(r-1, q)$ (assuming a faithful projective system). The conditions are given by $\sum_{S \le H} x_S \le s$ for each hyperplane H. Since those ILPs are rather large even for small parameters q, r, and h, a common technique to reduce the problem size is to assume a subgroup of the automorphism group. Via this approach we can only obtain lower bounds for $n_q(r, h; s)$. In our subseqent lists of generator matrices for the subspaces of a projective system exponents mark orbit representatives and the value in the exponent is the orbit size.

Theorem 4. *We have*

- $n_3(5, 2; 13t) = 121t$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 1) = 121t - 10$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 2) = 121t - 20$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 3) = 121t - 30$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 4) = 121t - 40$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 5) = 121t - 50$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 6) = 121t - 60$ *for* $t \ge 1$*;*
- $n_3(5, 2; 13t - 7) = 121t - 67$ *for* $t \ge 1$*;*

- $n_3(5,2;13t-8) = 121t-77$ *for* $t \geq 1$*;*
- $n_3(5,2;13t-9) = 121t-87$ *for* $t \geq 1$*;*
- $n_3(5,2;13t-10) = 121t-94$ *for* $t \geq 1$*;*
- $n_3(5,2;13t-11) = 121t-104$ *for* $t \geq 2$ *and* $n_3(5,2;2) = 12$*;*
- $n_3(5,2;13t-12) = 121t-114$ *for* $t \geq 2$ *and* $n_3(5,2;1) = 1$.

Proof. Due to [19, Theorem 19] it remains to show the lower bounds $n_3(5,2;4) \geq 34$ and $n_3(5,2;5) \geq 44$. To this end, we have prescribed the cyclic group of order three generated by

$$\begin{pmatrix} 1 & 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

as an automorphism for the desired faithful $2-(n,5,s)_3$ systems and utilized an integer linear programming formulation. Explicit lists of lines are given as follows.

$n_3(5,2;4) \geq 34$: $\binom{00010}{00001}^1$, $\binom{10002}{00110}^3$, $\binom{11002}{00121}$, $\binom{12002}{00100}$, $\binom{10011}{00120}^3$, $\binom{11012}{00102}$, $\binom{12010}{00112}$, $\binom{10021}{00122}^3$, $\binom{11020}{00101}$, $\binom{12022}{00111}$, $\binom{10000}{01021}^3$, $\binom{10010}{01020}$, $\binom{10022}{01022}$, $\binom{10010}{01101}^3$, $\binom{10101}{01122}$, $\binom{10200}{01111}$, $\binom{10020}{01100}^3$, $\binom{10112}{01121}$, $\binom{10212}{01110}$, $\binom{10020}{01102}^3$, $\binom{10111}{01120}$, $\binom{10210}{01112}$, $\binom{10012}{01200}^3$, $\binom{10120}{01220}$, $\binom{10220}{01212}$, $\binom{10012}{01222}^3$, $\binom{10102}{01211}$, $\binom{10210}{01202}$, $\binom{10021}{01200}^3$, $\binom{10100}{01220}$, $\binom{10201}{01212}$, $\binom{10121}{01010}^3$, $\binom{10122}{01011}$, $\binom{10122}{01012}$.

$n_3(5,2;5) \geq 44$: $\binom{00100}{00010}^3$, $\binom{00100}{00012}$, $\binom{00102}{00011}$, $\binom{01010}{00001}^1$, $\binom{01020}{00001}^1$, $\binom{10010}{00101}^3$, $\binom{11011}{00111}$, $\binom{12012}{00122}$, $\binom{10020}{00101}^3$, $\binom{11022}{00111}$, $\binom{12021}{00122}$, $\binom{10000}{01000}^1$, $\binom{10012}{01001}^1$, $\binom{10021}{01002}^1$, $\binom{10001}{01110}^3$, $\binom{10101}{01100}$, $\binom{10210}{01121}$, $\binom{10002}{01120}^3$, $\binom{10111}{01112}$, $\binom{10200}{01102}$, $\binom{10011}{01101}^3$, $\binom{10102}{01122}$, $\binom{10201}{01111}$, $\binom{10020}{01101}^3$, $\binom{10110}{01122}$, $\binom{10211}{01111}$, $\binom{10021}{01102}^3$, $\binom{10112}{01120}$, $\binom{10211}{01112}$, $\binom{10001}{01210}^3$, $\binom{10100}{01201}$, $\binom{10222}{01221}$, $\binom{10002}{01220}^3$, $\binom{10120}{01212}$, $\binom{10202}{01200}$, $\binom{10010}{01202}^3$, $\binom{10122}{01222}$, $\binom{10220}{01211}$, $\binom{10012}{01201}^3$, $\binom{10122}{01221}$, $\binom{10221}{01210}$, $\binom{10022}{01202}^3$, $\binom{10102}{01222}$, $\binom{10201}{01211}$. □

Our next aim is to obtain bounds for $n_4(5,2;s)$ and $n_5(5,2;s)$. As mentioned before, the determination of $n_q(r,h;s)$ as a function of s is a finite problem since the Griesmer bound is always attained if s is sufficiently large, see [19]. In order to indicate the underlying constructions we have to introduce some notation. For each subspace S in $\mathrm{PG}(r-1,q)$ we denote its characteristic function by χ_S, i.e. we have $\chi_S(P) = 1$ if $P \leq S$ and $\chi_S(P) = 0$ otherwise.

Definition 6. *We say that a multiset of points* $\mathcal{M}$ *in* $\mathrm{PG}(r-1,q)$ *is* h*-partitionable if there exist* h*-spaces* $S_1,\dots,S_l$*, for some integer* l*, such that* $\mathcal{M} = \sum_{i=1}^{l} \chi_{S_i}$*, i.e.* $\mathcal{M}$ *can be partitioned into* h*-spaces.*

In order to describe Solomon–Stiffler type constructions we choose a chain of subspaces $S_1 \leq S_2 \leq \cdots \leq S_r$ in $\mathrm{PG}(r-1,q)$, where S_i has dimension i.

Definition 7. *We say that $\sum_{i=1}^{r} a_i[i]$ is h-partitonable over $\mathbb{F}_q$ if the multiset of points $\sum_{i=1}^{r} a_i \chi_{S_i}$ in $\mathrm{PG}(r-1,q)$ is h-partitionable, where $a_i \in \mathbb{Z}$ for all $1 \le i \le r$.*

So, we trivially have that [2] is 2-partitionable over $\mathbb{F}_q$ and the existence of line spreads in $\mathrm{PG}(3,q)$ implies that [4] is 2-partitionable over $\mathbb{F}_q$. Due to the number of points [5] is not 2-partitionable over $\mathbb{F}_q$ while $(q+1)\cdot[5]$ is. For the details of this and the other constructions mentioned in the two subsequent theorems we refer the reader to [19].

Theorem 5. *For $n_4(5,2;s)$ we have the bounds and exact values stated in Table 1.*

s	$n_4(5,2;s)$	s	$n_4(\ldots)$	s	$n_4(5,2;s)$	construction
1	$-$	22	354	$21t-20 \geq 22$	$341t-328$	$t \geq 4:\ (5t{-}4)\cdot[5]{-}3[4]{-}[3]$
2	$20^{\mathrm{ilp}} - 22^{\mathrm{L.2}}$	23	371	$21t-19 \geq 23$	$341t-311$	$t \geq 3:\ (5t{-}4)\cdot[5]{-}2[4]{-}[3]$
3	$39^{\mathrm{ilp}} - 42^{\mathrm{T.2}}$	24	388	$21t-18 \geq 24$	$341t-294$	$t \geq 2:\ (5t{-}4)\cdot[5]{-}[4]{-}[3]$
4	64	25	405	$21t-17 \geq 25$	$341t-277$	$t \geq 1:\ (5t{-}4)\cdot[5]{-}[3]$
5	$75^{\mathrm{ilp}} - 77$	26	418	$21t-16 \geq 26$	$341t-264$	$t \geq 4:\ (5t{-}3)\cdot[5]{-}3[4]{-}2[3]$
6	$90^{\mathrm{ilp}} - 94$	27	435	$21t-15 \geq 27$	$341t-247$	$t \geq 3:\ (5t{-}3)\cdot[5]{-}2[4]{-}2[3]$
7	$107^{\mathrm{ilp}} - 111$	28	452	$21t-14 \geq 28$	$341t-230$	$t \geq 2:\ (5t{-}3)\cdot[5]{-}[4]{-}2[3]$
8	128	29	469	$21t-13 \geq 29$	$341t-213$	$t \geq 1:\ (5t{-}3)\cdot[5]{-}2[3]$
9	141^{ilp}	30	482	$21t-12 \geq 30$	$341t-200$	$t \geq 4:\ (5t{-}2)\cdot[5]{-}3[4]{-}3[3]$
10	$156^{\mathrm{ilp}} - 158$	31	499	$21t-11 \geq 31$	$341t-183$	$t \geq 3:\ (5t{-}2)\cdot[5]{-}2[4]{-}3[3]$
11	175^{ilp}	32	516	$21t-10 \geq 32$	$341t-166$	$t \geq 2:\ (5t{-}2)\cdot[5]{-}[4]{-}3[3]$
12	192	33	533	$21t-9 \geq 33$	$341t-149$	$t \geq 1:\ (5t{-}2)\cdot[5]{-}3[3]$
13	205	34	546	$21t-8 \geq 34$	$341t-136$	$t \geq 4:\ 5t\cdot[5]{-}3[4]{-}4[3]$
14	222^{ilp}	35	563	$21t-7 \geq 35$	$341t-119$	$t \geq 3:\ 5t\cdot[5]{-}2[4]{-}4[3]$
15	239	36	580	$21t-6 \geq 36$	$341t-102$	$t \geq 2:\ 5t\cdot[5]{-}[4]{-}4[3]$
16	256	37	597	$21t-5 \geq 37$	$341t-85$	$t \geq 1:\ (5t{-}1)\cdot[5]{-}4[3]$
17	273	38	614	$21t-4 \geq 38$	$341t-68$	$t \geq 1:\ (5t{-}1)\cdot[5]+[2]{-}4[1]$
18	290^{ilp}	39	631	$21t-3 \geq 39$	$341t-51$	$t \geq 3:\ 5t\cdot[5]{-}3[4]$
19	307^{ilp}	40	648	$21t-2 \geq 40$	$341t-34$	$t \geq 2:\ 5t\cdot[5]{-}2[4]$
20	324	41	665	$21t-1 \geq 41$	$341t-17$	$t \geq 1:\ 5t\cdot[5]{-}[4]$
21	341	42	682	$21t \geq 42$	$341t$	$t \geq 1:\ 5t\cdot[5]$

Table 1: Bounds for $n_4(5,2;s)$.

Proof. The upper bound $n_4(5,2;2) \le 22$ follows from Lemma 2, $n_4(5,2;3) \le 42$ follows from Theorem 2, and all other upper bounds follow from the Griesmer bound. We have that $5[5]$, $[4]$, $[2]$, $[5]-[3]$, $5[5]-[4]-4[2]$, $4[5]+[2]-4[1]$, and $[5]+4[1]$ are 2-partitionable over $\mathbb{F}_4$. These constructions imply that the expressions mentioned in the rightmost column of Table 1 are 2-partitionable over $\mathbb{F}_4$. For more details we refer to [19]. Here we only use those constructions for

$s \in \{4, 17, 20, 21\}$. In Section 3 we have stated an example showing $n_4(5, 2; 2) \geq 20$. Via integer linear programming computations we have found the following examples, referring to Section D in the appendix for explicit lists of generator matrices and used automorphism groups: $n_4(5, 2; 3) \geq 39$, $n_4(5, 2; 5) \geq 75$, $n_4(5, 2; 6) \geq 90$, $n_4(5, 2; 7) \geq 107$, $n_4(5, 2; 9) \geq 141$, $n_4(5, 2; 11) \geq 175$, $n_4(5, 2; 14) \geq 222$, $n_4(5, 2; 18) \geq 290$, and $n_4(5, 2; 19) \geq 307$. All other lower bounds follow from $n_q(5, 2; s_1 + s_2) \geq n_q(5, 2; s_1) + n_q(5, 2; s_2)$. $\square$

Theorem 6. *For $n_5(5, 2; s)$ we have the bounds and exact values stated in Table 2.*

Proof. The upper bounds $n_5(5, 2; 2) \leq 31$, $n_5(5, 2; 3) \leq 62$, $n_5(5, 2; 3) \leq 93$ follow from Theorem 2 and all other upper bounds follow from the Griesmer bound. We have that $6[5]$, $[4]$, $[2]$, $[5] - [3]$, $6[5] - [4] - 5[2]$, $6[5] + [2] - 5[1]$, and $[5] + 5[1]$ are 2-partitionable over $\mathbb{F}_5$. These constructions imply that the expressions mentioned in the rightmost column of Table 2 are 2-partitionable over $\mathbb{F}_5$. For more details we refer to [19]. Here we only use those constructions for $s \in \{5, 25, 26, 30, 31, 35, 60\}$. In Proposition 1 we have described a general construction showing $n_5(5, 2; 2) \geq 27$. Via integer linear programming computations we have found the following examples, referring to Section C in the appendix for explicit lists of generator matrices. Prescribing the cyclic group of order five generated by

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 1 & 0 & 0 \\ 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 \\ 0 & 0 & 0 & 0 & 1 \end{pmatrix}$$

yields $n_5(5, 2; 3) \geq 50$. The cyclic group of order eleven generated by

$$\begin{pmatrix} 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 1 & 2 & 4 & 1 & 1 \end{pmatrix}$$

gives $n_5(5, 2; 4) \geq 77$, $n_5(5, 2; 6) \geq 132$, $n_5(5, 2; 8) \geq 176$, and $n_5(5, 2; 14) \geq 330$. The cyclic group of order fifteen generated by

$$\begin{pmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 4 & 4 & 1 & 0 \\ 0 & 0 & 0 & 0 & 1 \\ 0 & 0 & 0 & 4 & 4 \end{pmatrix}$$

gives $n_5(5, 2; 7) \geq 157$, $n_5(5, 2; 11) \geq 260$, $n_5(5, 2; 16) \geq 391$, $n_5(5, 2; 17) \geq 412$, $n_5(5, 2; 21) \geq 521$, $n_5(5, 2; 22) \geq 542$, $n_5(5, 2; 37) \geq 927$, $n_5(5, 2; 39) \geq 969$, $n_5(5, 2; 44) \geq 1096$, $n_5(5, 2; 48) \geq 1203$, $n_5(5, 2; 49) \geq 1224$, $n_5(5, 2; 54) \geq 1354$,

$n_5(5,2;58) \geq 1458$, and $n_5(5,2;59) \geq 1484$. The non-commutative group of order fifty-five generated by

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 1 \\ 1 & 0 & 0 & 0 & 4 \\ 0 & 1 & 0 & 0 & 4 \\ 0 & 0 & 1 & 0 & 1 \\ 0 & 0 & 0 & 1 & 3 \end{pmatrix} \quad \text{and} \quad \begin{pmatrix} 0 & 0 & 2 & 1 & 0 \\ 2 & 1 & 3 & 3 & 4 \\ 3 & 3 & 2 & 2 & 3 \\ 2 & 2 & 0 & 0 & 4 \\ 0 & 0 & 0 & 0 & 2 \end{pmatrix}$$

gives $n_5(5,2;12) \geq 286$, $n_5(5,2;13) \geq 308$, and $n_5(5,2;24) \geq 594$. The cyclic group of order 71 generated by

$$\begin{pmatrix} 0 & 0 & 0 & 0 & 1 \\ 1 & 0 & 0 & 0 & 3 \\ 0 & 1 & 0 & 0 & 4 \\ 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 \end{pmatrix}$$

gives $n_5(5,2;23) \geq 568$. All other lower bounds follow from $n_q(5,2;s_1+s_2) \geq n_q(5,2;s_1) + n_q(5,2;s_2)$. $\square$

Bounds on the sizes of arcs in $\mathrm{PG}(2,25)$ can e.g. be found in [5].

We would like to remark that instead of searching projective systems directly using integer linear programming we can also search for linear codes or multisets of points associated to a projective system, see Lemma 1. As an example we state that

$$\left(\begin{array}{c}
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10110111111010100101001010010001010011110110101101010101010100111010101010110110100110010110101010101010101011011011
\end{array}\right)$$

is the generator matrix of a 4-divisible $[350,9,172]_2$ code with maximum weight

s	$n_5(5,2;s)$	s	$n_5(5,2;s)$	s	$n_5(5,2;s)$	construction
1	–	32	$792-802$	$31t-30\geq 63$	$781t-760$	$t\geq 5:$ $(6t{-}5)\cdot[5]{-}4[4]{-}[3]$
2	$27^{\mathrm{P.1}}-31^{\mathrm{T,2}}$	33	$818-828$	$31t-29\geq 64$	$781t-734$	$t\geq 4:$ $(6t{-}5)\cdot[5]{-}3[4]{-}[3]$
3	$50^{\mathrm{ilp}}-62^{\mathrm{T,2}}$	34	$844-854$	$31t-28\geq 65$	$781t-708$	$t\geq 3:$ $(6t{-}5)\cdot[5]{-}2[4]{-}[3]$
4	$77^{\mathrm{ilp}}-93^{\mathrm{T,2}}$	35	880	$31t-27\geq 35$	$781t-682$	$t\geq 2:$ $(6t{-}5)\cdot[5]{-}[4]{-}[3]$
5	125	36	906	$31t-26\geq 5$	$781t-656$	$t\geq 1:$ $(6t{-}5)\cdot[5]{-}[3]$
6	$132^{\mathrm{ilp}}-146$	37	927^{ilp}	$31t-25\geq 37$	$781t-635$	$t\geq 5:$ $(6t{-}4)\cdot[5]{-}4[4]{-}2[3]$
7	$157^{\mathrm{ilp}}-172$	38	$941-953$	$31t-24\geq 69$	$781t-609$	$t\geq 4:$ $(6t{-}4)\cdot[5]{-}3[4]{-}2[3]$
8	$176^{\mathrm{ilp}}-198$	39	$969^{\mathrm{ilp}}-979$	$31t-23\geq 70$	$781t-583$	$t\geq 3:$ $(6t{-}4)\cdot[5]{-}2[4]{-}2[3]$
9	$202-224$	40	1005	$31t-22\geq 40$	$781t-557$	$t\geq 2:$ $(6t{-}4)\cdot[5]{-}[4]{-}2[3]$
10	250	41	1031	$31t-21\geq 10$	$781t-531$	$t\geq 1:$ $(6t{-}4)\cdot[5]{-}2[3]$
11	$260^{\mathrm{ilp}}-271$	42	1052	$31t-20\geq 42$	$781t-510$	$t\geq 5:$ $(6t{-}3)\cdot[5]{-}4[4]{-}3[3]$
12	$286^{\mathrm{ilp}}-297$	43	$1067-1078$	$31t-19\geq 74$	$781t-484$	$t\geq 4:$ $(6t{-}3)\cdot[5]{-}3[4]{-}3[3]$
13	$308^{\mathrm{ilp}}-323$	44	$1096^{\mathrm{ilp}}-1104$	$31t-18\geq 75$	$781t-458$	$t\geq 3:$ $(6t{-}3)\cdot[5]{-}2[4]{-}3[3]$
14	$330^{\mathrm{ilp}}-349$	45	1130	$31t-17\geq 45$	$781t-432$	$t\geq 2:$ $(6t{-}3)\cdot[5]{-}[4]{-}3[3]$
15	375	46	1156	$31t-16\geq 15$	$781t-406$	$t\geq 1:$ $(6t{-}3)\cdot[5]{-}3[3]$
16	$391^{\mathrm{ilp}}-396$	47	1177	$31t-15\geq 47$	$781t-385$	$t\geq 5:$ $(6t{-}2)\cdot[5]{-}4[4]{-}4[3]$
17	$412^{\mathrm{ilp}}-422$	48	1203^{ilp}	$31t-14\geq 48$	$781t-359$	$t\geq 4:$ $(6t{-}2)\cdot[5]{-}3[4]{-}4[3]$
18	$433-448$	49	$1224^{\mathrm{ilp}}-1229$	$31t-13\geq 80$	$781t-333$	$t\geq 3:$ $(6t{-}2)\cdot[5]{-}2[4]{-}4[3]$
19	$455-474$	50	1255	$31t-12\geq 50$	$781t-307$	$t\geq 2:$ $(6t{-}2)\cdot[5]{-}[4]{-}4[3]$
20	500	51	1281	$31t-11\geq 20$	$781t-281$	$t\geq 1:$ $(6t{-}2)\cdot[5]{-}4[3]$
21	521^{ilp}	52	1302	$31t-10\geq 21$	$781t-260$	$t\geq 5:$ $(6t{-}1)\cdot[5]{-}4[4]{-}5[3]$
22	$542^{\mathrm{ilp}}-547$	53	1328	$31t-9\geq 53$	$781t-234$	$t\geq 4:$ $(6t{-}1)\cdot[5]{-}3[4]{-}5[3]$
23	$568^{\mathrm{ilp}}-573$	54	1354^{ilp}	$31t-8\geq 54$	$781t-208$	$t\geq 3:$ $(6t{-}1)\cdot[5]{-}2[4]{-}5[3]$
24	$594^{\mathrm{ilp}}-599$	55	1380	$31t-7\geq 55$	$781t-182$	$t\geq 2:$ $(6t{-}1)\cdot[5]{-}[4]{-}5[3]$
25	625	56	1406	$31t-6\geq 25$	$781t-156$	$t\geq 1:$ $(6t{-}1)\cdot[5]{-}5[3]$
26	651	57	1432	$31t-5\geq 26$	$781t-130$	$t\geq 1:$ $(6t{-}1)\cdot[5]{+}[2]{-}5[1]$
27	$667-677$	58	1458^{ilp}	$31t-4\geq 58$	$781t-104$	$t\geq 4:$ $6t\cdot[5]{-}4[4]$
28	$693-703$	59	1484^{ilp}	$31t-3\geq 59$	$781t-78$	$t\geq 3:$ $6t\cdot[5]{-}3[4]$
29	$719-729$	60	1510	$31t-2\geq 60$	$781t-52$	$t\geq 2:$ $6t\cdot[5]{-}2[4];$
30	755	61	1536	$31t-1\geq 30$	$781t-26$	$t\geq 1:$ $6t\cdot[5]{-}[4]$
31	781	62	1562	$31t\geq 31$	$781t$	$t\geq 1:$ $5t\cdot[5]$

Table 2: Bounds for $n_5(5,2;s)$.

200. It was found by prescribing a cyclic group of order five generated by

$$\begin{pmatrix}
1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0\\
0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0\\
0 & 1 & 1 & 1 & 1 & 0 & 0 & 0 & 0\\
0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0\\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0\\
0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1\\
0 & 0 & 0 & 0 & 0 & 1 & 1 & 1 & 1
\end{pmatrix}.$$

Since the corresponding multiset of points cannot be partitioned into planes, we still have $n_2(9, 3; 7) \in \{49, \ldots, 55\}$, see [19, Theorem 18]. However, if $n_2(9, 3; 7) = 49$, then the upper bound cannot be deduced from the strong coding upper bound. In principle the multiset of points $\mathcal{P}(\mathcal{S})$ of a projective system $\mathcal{S}$ may have a larger automorphism group than $\mathcal{S}$ itself.

5 Multispreads in $\mathbf{PG}(4, q)$

Multispreads are a special type of projective h-$(n, k, s)_q$ systems $\mathcal{S}$ (not necessarily faithful) that correspond to one-weight q^h-ary codes (to be exact, $\mathbb{F}_q$-linear one-weight $[n, k/h, n-s]_{q^h}$-codes), that is, having the property that every hyperplane includes exactly s spaces from $\mathcal{S}$. We will indicate this "exactly" by framing s with braces as follows: h-$(n, k, \{s\})_q$, Multispreads can be alternatively defined as follows.

Definition 8. *A collection $\mathcal{S}$ of subspaces of $\mathbb{F}^k$ of dimension h is called a $(\lambda, \mu)_q^{h,k}$-multispread if for every point (non-zero vector) v it holds*

$$\sum_{S\in\mathcal{S},\, v\in S} q^{h-\dim S} = \mu, \qquad \sum_{S\in\mathcal{S}} (q^{h-\dim S} - 1) = \lambda,$$

i.e., every nonzero vector is covered μ times and the all-zero vector is covered $\lambda + |\mathcal{S}|$ times, where a subspace S contributes $q^{h-\dim S}$ to the multiplicity of covering.

The parameters of the projective h-$(n, k, \{s\})_q$ system corresponding to a $(\lambda, \mu)_q^{h,k}$-multispread can be found from the following relations [18, Theorem 3]:

$$s = n - q^{k-h}\mu, \qquad (q^h - 1)s = (q^{k-h} - 1)\mu + \lambda.$$

As shown in [18], the natural necessary condition

$$\lambda \equiv -\mu(q^k - 1) \bmod q^h - 1$$

is sufficient for the existence of $(\lambda, \mu)_q^{h,k}$-multispreads for $h = 2$, $\mu \geq q$, which completely characterizes the parameters of $\mathbb{F}_q$-linear q^2-ary one-weight codes.

To show the same for $h = 3$ (which corresponds to $\mathbb{F}_q$-linear q^3-ary one-weight codes), it is sufficient, for a given prime power q, to find $q-1$ of $(\lambda,\mu)_q^{3,5}$ multispreads that correspond to projective 3-$(n, 5, \{2\})_q$-systems, starting with $n = (q^2+1) + (q^3+1)$ (q^2+1 2-spaces and q^3+1 3-spaces). The next four paragraphs show what we know for $q = 2, 3, 4, 5$.

***q* = 2**. Projective 3-$(5{+}9, 5, \{2\})_2$ systems ($(5,3)_2^{3,5}$-multispreads) were found and classified up to equivalence in [18, Appendix A.1]. The most symmetric are four multispreads with automorphism group of order 12 generated by

$$\begin{pmatrix} 1&0&0&0&0\\ 0&0&1&0&0\\ 0&1&1&0&0\\ 0&0&0&0&1\\ 0&0&0&1&1 \end{pmatrix}, \quad \begin{pmatrix} 1&0&0&0&0\\ 0&0&1&0&0\\ 0&1&0&0&0\\ 0&0&0&0&1\\ 0&0&0&1&0 \end{pmatrix}, \quad \begin{pmatrix} 1&0&0&0&0\\ 0&0&0&1&0\\ 0&0&0&0&1\\ 0&1&0&0&0\\ 0&0&1&0&0 \end{pmatrix}.$$

***q* = 3**. Projective 3-$(10{+}28, 5, \{2\})_3$ and 3-$(6{+}41, 5, \{2\})_3$ systems ($(20,4)_3^{3,5}$- and $(12,5)_3^{3,5}$-multispreads, respectively) were found in [18, Appendix A.1]. In the current work, we classify all projective 3-$(38, 5, \{2\})_3$ and systems up to equivalence. The search is rather straightforward. Firstly, by adding 2-spaces one-by-one and keeping only nonequivalent collections at each step, we find all nonequivalent faithful 2-$(n, 5, 2)_3$ for all n (repeating the results in [2], Table 3 ($r = 5$) and Remark 27). Then, we complete each of the 91720 2-$(10, 5, 2, 1)_3$ systems to a 3-$(10, 5, \{2\})$-system by adding $28 = 3^3$ 3-subspaces (some of them can coincide); at this step, we solve the corresponding exact covering problem (it happens that every 2-$(10, 5, 2, 1)_3$ system can be completed in such a way). Although the automorphism group orders of 2-$(10, 5, 2, 1)_3$ systems possess values 1 (91488 classes), 2 (169), 3 (40), 4 (2), 5 (15), 6 (4), 10 (1), 36 (1 class), a multispread can have only 1 (39857065 equivalence classes), 2 (1889), 3 (243), or 6 (15 classes) automorphisms. 14 of the last 15 multispreads have an automorphism of order 6 conjugate to A_2A_3; the remaining one has an automorphism group conjugate to $\langle A_3, A_2' \rangle \sim S_3$, where

$$A_2 = \begin{pmatrix} 2&0&0&0&0\\ 0&2&0&0&0\\ 0&0&1&0&0\\ 0&0&0&1&0\\ 0&0&0&0&1 \end{pmatrix}, \quad A_3 = \begin{pmatrix} 0&1&0&0&0\\ 2&2&0&0&0\\ 0&0&0&0&1\\ 0&0&1&0&0\\ 0&0&0&1&0 \end{pmatrix}, \quad A_2' = \begin{pmatrix} 0&2&0&0&0\\ 2&0&0&0&0\\ 0&0&0&1&0\\ 0&0&1&0&0\\ 0&0&0&0&1 \end{pmatrix}.$$

***q* = 4**. By prescribing different automorphism groups, we have found projective 3-$(17{+}65, 5, \{2\})_4$, 3-$(12{+}86, 5, \{2\})_4$, 3-$(7{+}107, 5, \{2\})_4$ systems (multispreads with parameters $(51,5)_4^{3,5}$, $(36,6)_4^{3,5}$, $(21,7)_4^{3,5}$, respectively), with the full automorphism group of order 120, 40, and 7, respectively (the basis matrices are listed in Appendix B). By [18, Section 7.2], this completes the characterization of the parameters of $(\lambda,\mu)_4^{3,k}$-multispreads and $\mathbb{F}_4$-linear 64-ary one-weight codes.

***q* = 5**. To complete the characterization of parameters of additive 5^3-ary one-weight codes, similarly to the case $q = 4$ considered above, it is sufficient to find projective 3-$(26{+}126, 5, \{2\})_5$, 3-$(20{+}157, 5, \{2\})_5$, 3-$(14{+}188, 5, \{2\})_5$, 3-$(8{+}219, 5, \{2\})_5$ systems ($(104,6)_5^{(3,5)}$-, $(80,7)_5^{(3,5)}$-, $(56,8)_5^{(3,5)}$-, $(32,9)_5^{(3,5)}$-multispreads. The last 3 types of systems are relatively easy to find. We first search for faithful 2-$(n,5,2,1)_5$ systems, $n = 8$, 14, 20, respectively, with the prescribed automorphism group of order six generated by

$$\begin{pmatrix} 0\,1 & 0\,0\,0 \\ 1\,4 & 0\,0\,0 \\ 0\,0 & 0\,1\,0 \\ 0\,0 & 1\,4\,0 \\ 0\,0 & 0\,0\,1 \end{pmatrix}, \qquad \begin{pmatrix} 0\,1 & 0\,0\,0 \\ 1\,0 & 0\,0\,0 \\ 0\,0 & 0\,1\,0 \\ 0\,0 & 1\,0\,0 \\ 0\,0 & 0\,0\,1 \end{pmatrix}.$$

In each case, one of the first several solutions is extendable to a required multispread (see examples in Appendix B). However, we have not succeeded in finding a projective 3-$(26{+}126,5,\{2\})_5$ system. By prescribing different automorphism groups of order at least 4, we have found thousands of faithful 2-$(26,5,2,1)_5$ system from only 4 equivalence classes. No one of them can be completed to a multispread. We conjecture that if a projective 3-$(26{+}126,5,\{2\})_5$ system exists, then it has at most 3 automorphisms. If it does not exist, then the following multispreads cannot be constructed recursively and should be considered separately:

- Next λ: a $(228,6)_5^{3,5}$-multispread (projective 3-$(57{+}96,5,3)_5$ system).
- Next k: a $(104,6)_5^{3,8}$-multispread (projective 3-$(26{+}18876,5,152)_5$ system).

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References

[1] Simeon Ball, Guillermo Gamboa, and Michel Lavrauw. On additive MDS codes over small fields. *Advances in Mathematics of Communications*, 17(4):828–844, 2023. doi:10.3934/amc.2021024.

[2] Simeon Ball, Michel Lavrauw, and Tabriz Popatia. Griesmer type bounds for additive codes over finite fields, integral and fractional MDS codes. *Designs, Codes and Cryptography*, 93(1):175–196, 2025. doi:10.1007/s10623-024-01519-2.

[3] Jürgen Bierbrauer, Stefano Marcugini, and Fernanda Pambianco. Optimal additive quaternary codes of low dimension. *IEEE Transactions on Information Theory*, 67(8):5116–5118, 2021. doi:10.1109/TIT.2021.3085577.

[4] Aart Blokhuis and Andries Evert Brouwer. Small additive quaternary codes. *European Journal of Combinatorics*, 25(2):161–167, 2004. doi:10.1016/S0195-6698(03)00096-9.

[5] Michael Braun. New lower bounds on the size of (n, r)-arcs in $\mathrm{PG}(2, q)$. *Journal of Combinatorial Designs*, 27(11):682–687, 2019. doi:10.1002/jcd.21672.

[6] Reza Dastbasteh and Petr Lisoněk. New quantum codes from self-dual codes over $\mathbb{F}_4$. *Designs, Codes and Cryptography*, 92(3):787–801, 2024. doi:10.1007/s10623-023-01306-5.

[7] Reza Dastbasteh and Khalil Shivji. Polynomial representation of additive cyclic codes and new quantum codes. *Advances in Mathematics of Communications*, 19(1):49–68, 2025. doi:10.3934/amc.2023036.

[8] Philippe Delsarte. Weights of linear codes and strongly regular normed spaces. *Discrete Mathematics*, 3(1-3):47–64, 1972. doi:10.1016/0012-365X(72)90024-6.

[9] Luis Armando Dissett. *Combinatorial and computational aspects of finite geometries.* PhD thesis, University of Toronto, 2000. URL: https://utoronto.scholaris.ca/items/be93448a-b88a-461a-877f-f2c9419310d8.

[10] Stefan Manev Dodunekov and Juriaan Simonis. Codes and projective multisets. *The Electronic Journal of Combinatorics*, 5:1–23, 1998. doi:10.37236/1375.

[11] Markus Grassl. Algebraic quantum codes: Linking quantum mechanics and discrete mathematics. *International Journal of Computer Mathematics: Computer Systems Theory*, 6(4):243–259, 2021. doi:10.1080/23799927.2020.1850530.

[12] James Hugo Griesmer. A bound for error-correcting codes. *IBM Journal of Research and Development*, 4(5):532–542, 1960. doi:10.1147/rd.45.0532.

[13] Chaofeng Guan, Ruihu Li, Yiting Liu, and Zhi Ma. Some quaternary additive codes outperform linear counterparts. *IEEE Transactions on Information Theory*, 69(11):7122–7131, 2023. doi:10.1109/TIT.2023.3288377.

[14] Venkatesan Guruswami and Atri Rudra. Explicit codes achieving list decoding capacity: Error-correction with optimal redundancy. *IEEE Transactions on Information Theory*, 54(1):135–150, 2008. doi:10.1109/TIT.2007.911222.

[15] Venkatesan Guruswami and Madhu Sudan. Improved decoding of Reed–Solomon and Algebraic-Geometry codes. *IEEE Transactions on Information Theory*, 45(6):1757–1767, 1999. doi:10.1109/18.782097.

[16] Swastik Kopparty, Shubhangi Saraf, and Sergey Yekhanin. High-rate codes with sublinear-time decoding. *Journal of the ACM*, 61(5):1–20, 2014. doi:10.1145/262941.

[17] Denis Stanislavovich Krotov. The minimum volume of subspace trades. *Discrete Mathematics*, 340(12):2723–2731, 2017. doi:10.1016/j.disc.2017.08.012.

[18] Denis Stanislavovich Krotov and Ivan Yur'evich Mogilnykh. Multispreads. *Finite Fields and their Applications*, 108:102675(1–25), 2025. doi:10.1016/j.ffa.2025.102675.

[19] Sascha Kurz. Additive codes attaining the Griesmer bound. *arXiv preprint 2412.14615*, 2024. URL: https://arxiv.org/abs/2412.14615.

[20] Sascha Kurz. Optimal additive quaternary codes of dimension 3.5. *arXiv preprint 2410.07650*, 2024. URL: https://arxiv.org/abs/2410.07650.

[21] Zhihao Li, Ruihu Li, Chaofeng Guan, Liangdong Lu, Hao Song, and Qiang Fu. Ternary quantum codes constructed from a class of quasi-twisted codes. *IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences*, 2024. doi:10.1587/transfun.2024EAP1055.

[22] Koji Momihara. Strongly regular Cayley graphs, skew Hadamard difference sets, and rationality of relative Gauss sums. *European Journal of Combinatorics*, 34(4):706–723, 2013. doi:10.1016/j.ejc.2012.10.006.

[23] Koji Momihara. Certain strongly regular Cayley graphs on $\mathbb{F}_2^{2(2s+1)}$ from cyclotomy. *Finite Fields and Their Applications*, 25:280–292, 2014. doi:10.1016/j.ffa.2013.10.006.

[24] John Polhill. Generalizations of partial difference sets from cyclotomy to nonelementary abelian p-groups. *The Electronic Journal of Combinatorics*, pages R125–R125, 2008. doi:10.37236/849.

[25] Michael Yur'evich Rosenbloom and Michael Anatol'evich Tsfasman. Codes for the m-metric. *Problems of Information Transmission*, 33(1):45–52, 1997. Translated from: *Problemy Peredachi Informatsii*, 33(1):55–63, 1997, in Russian, URL: https://www.mathnet.ru/eng/ppi359.

[26] Beniamino Segre. Curve razionali normali ek-archi negli spazi finiti. *Annali di Matematica Pura ed Applicata*, 39(1):357–379, 1955. doi:10.1007/BF02410779.

[27] Beniamino Segre. Ovals in a finite projective plane. *Canadian Journal of Mathematics*, 7:414–416, 1955. doi:10.4153/CJM-1955-045-x.

[28] Gustave Solomon and Jack Justin Stiffler. Algebraically punctured cyclic codes. *Information and Control*, 8(2):170–179, 1965. doi:10.1016/S0019-9958(65)90080-X.

[29] Itzhak Tamo. Tighter list-size bounds for list-decoding and recovery of folded Reed-Solomon and multiplicity codes. *IEEE Transactions on Information Theory*, 70(12):8659–8668, 2024. doi:10.1109/TIT.2024.3402171.

[30] Joseph Adolphe Thas. The m-dimensional projective space $S_m(M_n(\mathrm{GF}(q)))$ over the total matrix algebra $M_n(\mathrm{GF}(q))$ of the $n \times n$-matrices with elements in the Galois field $\mathrm{GF}(q)$. *Rendiconti di Matematica e delle sue Applicazioni*, 4(6):459–532, 1971. URL: https://cage.ugent.be/~jat/.

[31] Joseph Adolphe Thas. 4-gonal configurations. In *Finite geometric structures and their applications*, pages 249–263. Springer, 1973. doi:10.1007/978-3-642-10973-7_6.

[32] Joseph Adolphe Thas. Translation 4-gonal configurations. *Atti della Accademia Nazionale dei Lincei. Classe di Scienze Fisiche, Matematiche e Naturali. Rendiconti*, 56(3):303–314, 1974. URL: https://eudml.org/doc/293744.

A An alternative construction for sets of subspaces with at most two in each hyperplane

Here we give an alternative construction of projective $2\text{-}(q^2, 5, 2)_q$ systems, for the special case when the field size q is an odd prime. Although the construction gives systems (and codes) equivalent to those constructed in Section 3 in more general settings, the approach is completely different, and we believe it is of independent interests, as a rare example of a non-computational construction of a code with prescribed automorphism group. Based on this we give an alternative proof of Proposition 4 for the case $l = s = 2$.

For an odd prime q, we will construct a faithful $2\text{-}(q^2 + 2, 5, 2)_q$ system with a prescribed automorphism group generated by the following two matrices (only non-zero elements are shown, where α is a non-square in $\mathbb{F}_q$):

$$A = \begin{bmatrix} 1 & & 1 & & \\ & 1 & & 1 & \\ & & 1 & & 1 \\ & & & 1 & \\ & & & & 1 \end{bmatrix} \qquad A' = \begin{bmatrix} 1 & & & \alpha & \\ & 1 & 1 & & \\ & & 1 & & \\ & & & 1 & 1 \\ & & & & 1 \end{bmatrix} \tag{4}$$

These matrices commute and each of them has order q as a group element, which can be seen from the proof of the following lemma.

Lemma 4. *In* $\mathrm{PG}(4,q)$*, where* q *is an odd prime, consider* q^4 *lines with generator matrices of the form*

$$\begin{bmatrix} 1 & 0 & x & y & z \\ 0 & 1 & x' & y' & z' \end{bmatrix}, \qquad \textit{where} \quad x - y' = \frac{1}{2}, \quad y - \alpha x' = \frac{\alpha}{2}. \tag{5}$$

(i) *All these* q^4 *lines are disjoint to the* 3*-space*

$$S = \langle (0,0,0,0,1), (0,0,0,1,0), (0,0,1,0,0) \rangle.$$

(ii) *The set of these* q^4 *lines is partitioned into* q^2 *orbits under* $\langle A, A' \rangle$*, where each orbit is a faithful projective* 2-$(q^2,5,2,1)_q$ *system.*

(iii) *Moreover, the affine span of the generator matrices, in the form* (5)*, of each of the* q^2 *orbits coincides with the* 4*-dimensional affine space of all matrices defined by equations* (5)*.*

Proof. The action of A and A' on subspaces with generator matrix of the form in Equation (5) is the following:

$$A^i : \begin{bmatrix} 1 & 0 & x & y & z \\ 0 & 1 & x' & y' & z' \end{bmatrix} \to \begin{bmatrix} 1 & 0 & x+i & y & z + xi + \binom{i}{2} \\ 0 & 1 & x' & y'+i & z' + x'i \end{bmatrix}, \tag{6}$$

$$A'^j : \begin{bmatrix} 1 & 0 & x & y & z \\ 0 & 1 & x' & y' & z' \end{bmatrix} \to \begin{bmatrix} 1 & 0 & x & y+\alpha j & z + yj + \alpha\binom{j}{2} \\ 0 & 1 & x'+j & y' & z' + y'j \end{bmatrix}, \tag{7}$$

$$A^iA'^j : \begin{bmatrix} 1 & 0 & x & y & z \\ 0 & 1 & x' & y' & z' \end{bmatrix}$$
$$\to \begin{bmatrix} 1 & 0 & x+i & y+\alpha j & z + ix + jy + \underline{\binom{i}{2} + \alpha\binom{j}{2}} \\ 0 & 1 & x'+j & y'+i & z' + ix' + jy' + \underline{ij} \end{bmatrix}. \tag{8}$$

We start with two auxiliary statements.

(a) *If a line (to be exact, its generator matrix in form* (5)*) belongs the* 4*-dimensional affine subspace defined by equations* (5)*, then the same is true for all lines from its orbit.* Indeed, as we see from (8), the transform $A^iA'^j$ keeps the differences $x - y'$ and $y - \alpha x'$.

(b) *The span of the generator matrices in form* (5) *of the subspaces of an orbit (of one of subspaces in such form) is a* 4*-dimensional affine space.* From the argument in (a) we see that the dimension is at most 4. For a matrix M defined as in (5), the three matrices M, MA, and MA' generate a 2-dimensional affine space of matrices of form (8) without the underlined parts. The matrices MA^2 and MAA' have form (8) with nonzero underlined part and add two more dimensions. So, the affine span of M, MA, MA', MA^2, MAA' has dimension 4.

Next, we want to find x, y, z, x', y', z' such that all q^2 subspaces spanned by the last matrix for different i, j are mutually disjoint (actually, this condition holds automatically if the next one holds[1]) and, moreover, every hyperplane includes at most two of them (i.e., every three of them span the whole space).

The last condition is equivalent to the fact that the dual 3-subspaces $T^{\perp}_{i,j}$ generated by

$$M_{i,j} = \begin{bmatrix} x+i & x'+j & -1 & 0 & 0 \\ y+\alpha j & y'+i & 0 & -1 & 0 \\ z+ix+jy+\binom{i}{2}+\alpha\binom{j}{2} & z'+ix'+jy'+ij & 0 & 0 & -1 \end{bmatrix} \qquad (9)$$

covers each point with multiplicity 0, 1, or 2. It is sufficient to check that every point in $T^{\perp}_{0,0}$ belongs to at most one other $T^{\perp}_{i,j}$. Note that if $T^{\perp}_{0,0}$ and $T^{\perp}_{i,j}$ have a common vector $v = (v, v', u, u', u'')$, then it is the linear combination of the rows of each of $M_{0,0}$, $M_{i,j}$ with the same coefficients $-u$, $-u'$, $-u''$: $v = (-u, -u', -u'')M_{0,0} = (-u, -u', -u'')M_{i,j}$.

Clearly, the first or the second rows of $M_{0,0}$ and $M_{i,j}$, where $(i, j) \neq (0, 0)$, cannot coincide (recall that x, y, z, x', y', and z' are fixed). Let us check the case when a linear combination of the first two rows, with coefficients 1 and $k \neq 0$, coincides. We have

$$\left\{ \begin{array}{rcl} x+i+k(y+\alpha j) & = & x+ky \\ x'+j+k(y'+i) & = & x'+ky' \end{array} \right. ,$$

$$\left\{ \begin{array}{r} i + k\alpha j = 0 \\ ki + \quad j = 0 \end{array} \right. .$$

The last system has a non-zero solution only if $\alpha = k^{-2}$, which is impossible because α is not a square. Hence, the corresponding points are covered only once, for any x, y, x', y' (and, of course, for any z, z'). Linear combinations including the last row are considered differently because the system becomes non-linear in i, j. We consider only orbits with the representatives $x = -x' = \frac{1}{2}$, $y = y' = 0$, z and z' arbitrary. In particular,

$$M_{i,j} = \begin{bmatrix} \frac{1}{2}+i & -\frac{1}{2}+j & -1 & 0 & 0 \\ \alpha j & i & 0 & -1 & 0 \\ z+\frac{i}{2}+\binom{i}{2}+\alpha\binom{j}{2} & z'-\frac{i}{2}+ij & 0 & 0 & -1 \end{bmatrix}.$$

For these values, the linear combinations of the rows with coefficients k, l, 1 coincide for $M_{0,0}$ and $M_{i,j}$ if and only if

$$\left\{ \begin{array}{r} ki + l\alpha j + \frac{i}{2} + \binom{i}{2} + \alpha\binom{j}{2} = 0 \\ kj + li - \frac{i}{2} + ij = 0 \end{array} \right. ,$$

$$\left\{ \begin{array}{r} i^2 + 2ki + \alpha j^2 + 2L\alpha j = 0 \\ kj + Li + ij = 0 \end{array} \right. , \quad \text{where } L = l - \frac{1}{2}.$$

[1]If a line T from the system intersects with $T' = A^i A'^j T$, then it intersects with $T'' = A^{-i}A'^{-j}T$; among q^2+q+1 hyperplanes including T, $2q+2$ include T' or T''; the remaining $q^2 - q - 1$ hyperplanes include the remaining $q^2 - 3$ system lines, which means that some hyperplanes includes more that two system lines, a contradiction.

If $k = 0$ and $L = 0$, we have no non-zero solutions. If $k = 0$ and $L \neq 0$, then either $i = 0$ and we have two solutions for j (0 and $-2L$) or $j = -L$ and $i^2 - L^2\alpha = 0$, which has no solutions because α is not a square.

Similarly, if $k \neq 0$ and $L = 0$, then either $j = 0$ and we have two solutions for i (0 and $-2k$) or $i = -k$ and $\alpha j^2 = k^2$, which has no solutions because α is not a square.

If $k \neq 0$ and $L \neq 0$, we have

$$\begin{cases} (i+k)^2 + \alpha(j+L)^2 = k^2 + \alpha L^2 \\ (i+k)(j+l) = kL \end{cases},$$

$$\begin{cases} I^2 + \alpha J^2 = K^2 + \alpha \\ IJ = 1 \end{cases}, \quad \text{where } K = \frac{k}{L},\ I = \frac{i+k}{L},\ J = \frac{j+L}{L},$$

$$X^2 - (K^2 + \alpha)X + \alpha, \quad \text{where } X = I^2.$$

If the last quadratic equation in X has two solutions, then one of them is square and one non-square because their product is the non-square α. Hence, only one of them is resolvable in I, and we have only two solutions for (i, j). We know one of them is $(0, 0)$, and we can easily find the other.

We have proved that

(c) *for any z, z', the orbit of the line with generator matrix* $\begin{bmatrix} 1 & 0 & \frac{1}{2} & 0 & z \\ 0 & 1 & -\frac{1}{2} & 0 & z' \end{bmatrix}$ *is a faithful $2-(q^2, 5, 2, 1)_q$ system.*

From (8), it if easy to see that all these q^2 orbits are different. Combining claims (a), (b), (c) completes the proof. □

We remark that experiments with small q show that other orbits under $\langle A, A' \rangle$ do not give $2-(q^2, 5, 2)_q$ systems.

Theorem 7. *For any odd prime q, there is a faithful 2-$(q^2 + 2, 5, 2)_q$ system (and hence, an additive $[q^2 + 2, 2.5, q^2]_{q^2}$ code) invariant under the actions of A, A' defined in (4).*

Proof. We will add two more lines to the faithful projective $2-(q^2, 5, 2)_q$ system C constructed in Lemma 4. One of them is the 2-space D generated by $\left(\begin{smallmatrix} 0&0&0&1&0 \\ 0&0&0&0&1 \end{smallmatrix}\right)$. To ensure that we can add it, we need to check that every point from the dual space $D^\perp$, with basis $\left(\begin{smallmatrix} 1&0&0&0&0 \\ 0&1&0&0&0 \\ 0&0&1&0&0 \end{smallmatrix}\right)$, belongs to only one $T_{i,j}^\perp$. This is obvious from the basis matrix (9) of $T_{i,j}^\perp$. Moreover, this point can only be the first line of (9).

The same arguments work for the line D' generated by $\left(\begin{smallmatrix} 0&0&1&0&0 \\ 0&0&0&0&1 \end{smallmatrix}\right)$, with intersecting points of dual 3-subspaces coinciding with the second line of (9).

Since the common points of $D^\perp$ and $D'^\perp$ do not belong to any $T_{i,j}^\perp$, we can add both D and D' to get a faithful projective $2-(q^2+2, 5, 2)_q$ system. Finally, it is easy to see that $DA = DA' = D$ and $D'A = D'A' = D'$, i.e., adding D and D' keeps the system $\langle A, A' \rangle$-invariant. □

Remark 1. (i) Actually, there are $q+1$ $\langle A, A'\rangle$-invariant lines, D and q lines with basis matrix of the form $\left(\begin{smallmatrix}0&0&1&y&0\\0&0&0&0&1\end{smallmatrix}\right)$. So, any two of them can be chosen as the two added extra lines. Different choices can result in non-equivalent systems and additive codes. (ii) Since D and D' intersect, the resulting projective system does not have parameters $2-(q^2+2,5,2,1)_q$. However, by adding only one of them, we get a faithful projective $2-(q^2+1,5,2,1)_q$ system.

B Examples of multispreads

Here, we list examples of projective systems corresponding to one-weight codes with new parameters. The elements of $\mathbb{F}_4$ are denoted 0, 1, ω, $\upsilon=\omega^2$.

A projective 3-$(82,5,!2)_4$ system, i.e., a $(51,5)_4^{3,5}$-multispread: $\left(\begin{smallmatrix}1101\omega\\00110\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}1001\omega\\00100\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}0110\omega\\00010\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}1\omega000\\001\omega0\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}1\upsilon000\\001\upsilon0\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}100\omega1\\01000\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\omega\omega1\\01\omega\omega1\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10000\\01\omega01\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\upsilon\omega1\\01\omega\upsilon1\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}101\omega1\\01010\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10100\\01\omega11\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\omega\upsilon\upsilon\\010\omega0\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\omega00\\01\upsilon\omega\upsilon\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}101\upsilon\upsilon\\01\upsilon1\upsilon\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\upsilon00\\01\upsilon\upsilon\upsilon\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}100\upsilon\upsilon\\01\upsilon0\upsilon\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\upsilon\upsilon\upsilon\\010\upsilon0\end{smallmatrix}\right)$, $\begin{pmatrix}01\omega00\\00010\\00001\end{pmatrix}$, $\begin{pmatrix}10010\\010\omega1\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\0101\upsilon\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\omega\\01000\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1\omega00\upsilon\\0010\upsilon\\0001\omega\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\upsilon\upsilon\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\0100\omega\\001\omega1\end{pmatrix}$, $\begin{pmatrix}1010\omega\\0100\upsilon\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\010\upsilon\upsilon\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}10011\\010\omega\upsilon\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega0\\0100\upsilon\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10101\\01\upsilon0\omega\\00011\end{pmatrix}$, $\begin{pmatrix}10\upsilon0\upsilon\\0100\omega\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\010\omega1\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\upsilon1\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\omega\upsilon\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\upsilon\upsilon\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\0100\omega\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}10\upsilon01\\01\upsilon00\\00011\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\010\upsilon\upsilon\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\upsilon\omega\\00111\end{pmatrix}$, $\begin{pmatrix}10011\\010\upsilon\omega\\00101\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\upsilon1\\001\omega1\end{pmatrix}$, $\begin{pmatrix}10011\\0100\omega\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\upsilon\omega\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\01001\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\upsilon\omega\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega1\\01001\\00101\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\upsilon1\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}10001\\01\upsilon0\upsilon\\00011\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\01011\\00111\end{pmatrix}$, $\begin{pmatrix}100\omega0\\01011\\00101\end{pmatrix}$, $\begin{pmatrix}1001\omega\\01001\\0010\omega\end{pmatrix}$, $\begin{pmatrix}10\omega01\\01\upsilon01\\00011\end{pmatrix}$, $\begin{pmatrix}100\omega0\\01001\\00111\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\omega\omega\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\0101\omega\\001\omega1\end{pmatrix}$, $\begin{pmatrix}1\upsilon00\upsilon\\00101\\0001\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\0101\omega\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\0101\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\0100\upsilon\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}10010\\01011\\0010\omega\end{pmatrix}$, $\begin{pmatrix}10010\\0101\upsilon\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\upsilon1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\010\omega1\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\0100\upsilon\\0010\omega\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\00100\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10001\\010\omega\omega\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1100\upsilon\\0010\omega\\0001\omega\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\omega\upsilon\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega\upsilon\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}10010\\010\omega\omega\\00101\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega\omega\\00111\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\0100\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\omega0\\0101\omega\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\omega1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\0101\upsilon\\0010\omega\end{pmatrix}$, $\begin{pmatrix}10001\\01011\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\0101\omega\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10\omega0\upsilon\\01001\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10001\\0100\omega\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}10000\\01110\\00001\end{pmatrix}$, $\begin{pmatrix}10100\\01100\\00001\end{pmatrix}$, $\begin{pmatrix}10\omega\omega0\\011\upsilon0\\00001\end{pmatrix}$, $\begin{pmatrix}10\upsilon\omega0\\011\omega0\\00001\end{pmatrix}$.

A projective 3-$(98,5,!2)_4$ system, i.e., a $(36,6)_4^{3,5}$-multispread: $\left(\begin{smallmatrix}01\upsilon0\upsilon\\00010\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}110\upsilon\upsilon\\00110\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}100\upsilon\upsilon\\00100\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}1011\omega\\0111\omega\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10000\\0110\omega\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}1001\omega\\01000\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\upsilon\omega1\\01\omega\upsilon1\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}101\omega1\\01010\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10100\\01\omega11\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\omega\omega1\\010\omega0\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}10\omega00\\01\omega\omega1\end{smallmatrix}\right)$, $\left(\begin{smallmatrix}100\omega1\\01\omega01\end{smallmatrix}\right)$, $\begin{pmatrix}100\omega\omega\\010\omega1\\0011\omega\end{pmatrix}$, $\begin{pmatrix}10\upsilon01\\01\omega0\omega\\00011\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\01000\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\omega1\\0010\omega\end{pmatrix}$, $\begin{pmatrix}10001\\0110\omega\\00011\end{pmatrix}$, $\begin{pmatrix}1010\omega\\01001\\00011\end{pmatrix}$, $\begin{pmatrix}10\omega0\omega\\01\upsilon01\\00011\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\omega1\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\0100\upsilon\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}0100\omega\\00101\\00010\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\0101\omega\\00111\end{pmatrix}$, $\begin{pmatrix}10001\\0101\omega\\00111\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\0100\upsilon\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}1100\omega\\00101\\00011\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\0101\omega\\00111\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\0100\upsilon\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}10\omega01\\0100\upsilon\\0001\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\omega1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\omega0\\0101\omega\\00111\end{pmatrix}$, $\begin{pmatrix}100\omega1\\0100\upsilon\\0010\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\upsilon\upsilon\\00101\end{pmatrix}$, $\begin{pmatrix}1000\omega\\00100\\00010\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\0101\omega\\001\omega0\end{pmatrix}$, $\begin{pmatrix}100\omega1\\01000\\00111\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\0100\upsilon\\00101\end{pmatrix}$, $\begin{pmatrix}10\omega0\upsilon\\01\omega0\upsilon\\00011\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\01010\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\010\omega0\\0010\omega\end{pmatrix}$, $\begin{pmatrix}10011\\010\upsilon\upsilon\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega1\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1\upsilon0\omega0\\001\omega0\\00001\end{pmatrix}$, $\begin{pmatrix}1\omega0\omega0\\001\upsilon0\\00001\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\upsilon\upsilon\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega\upsilon\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}1\upsilon00\upsilon\\00101\\0001\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\01001\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\01011\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}10010\\010\omega\omega\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\upsilon\upsilon\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega0\\0100\omega\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\omega\\0101\upsilon\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}1\omega00\omega\\00101\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10001\\010\upsilon0\\0010\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\010\upsilon0\\0011\omega\end{pmatrix}$, $\begin{pmatrix}10\upsilon00\\01001\\0001\omega\end{pmatrix}$, $\begin{pmatrix}100\omega0\\010\upsilon0\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}10010\\010\upsilon0\\001\omega0\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\upsilon1\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}10\upsilon01\\0100\omega\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10000\\010\upsilon\omega\\00100\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\upsilon\omega\\001\omega0\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\010\upsilon1\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}10100\\01110\\00001\end{pmatrix}$, $\begin{pmatrix}10000\\01\upsilon00\\00001\end{pmatrix}$, $\begin{pmatrix}10\omega10\\011\upsilon0\\00001\end{pmatrix}$, $\begin{pmatrix}10\upsilon10\\011\omega0\\00001\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\omega\upsilon\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}10\omega0\upsilon\\01101\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10010\\010\upsilon\upsilon\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\0100\omega\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\01011\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\0101\upsilon\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}100\omega0\\010\upsilon\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\01001\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}10\upsilon0\omega\\01100\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\omega\omega\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\omega\\0100\omega\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}10001\\010\omega\omega\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\omega\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\0101\upsilon\\0010\omega\end{pmatrix}$, $\begin{pmatrix}100\omega0\\01011\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}10\upsilon0\upsilon\\01\upsilon01\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\omega\\01\omega01\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10011\\01001\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}100\omega0\\010\upsilon1\\0010\omega\end{pmatrix}$, $\begin{pmatrix}1010\upsilon\\01\omega0\upsilon\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10011\\010\upsilon1\\0011\omega\end{pmatrix}$, $\begin{pmatrix}10011\\010\omega\upsilon\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10101\\01\upsilon01\\0001\omega\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\omega\omega\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}10010\\01011\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}10011\\0101\upsilon\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\01001\\001\omega1\end{pmatrix}$, $\begin{pmatrix}10001\\010\upsilon1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\upsilon1\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\0100\omega\\0011\upsilon\end{pmatrix}$.

A projective 3-$(114,5,!2)_4$ system, i.e., a $(21,7)_4^{3,7}$-multispread, with pre-

scribed automorphism $\begin{bmatrix}00100\\10000\\01100\\00010\\00001\end{bmatrix}$: $\begin{pmatrix}010\omega\omega\\001\omega0\end{pmatrix}^7$, $\begin{pmatrix}100\omega0\\0010\omega\end{pmatrix}$, $\begin{pmatrix}1100\omega\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\omega0\end{pmatrix}$, $\begin{pmatrix}101\omega0\\0100\omega\end{pmatrix}$,
$\begin{pmatrix}100\omega\omega\\011\omega0\end{pmatrix}$, $\begin{pmatrix}1010\omega\\011\omega\omega\end{pmatrix}$, $\begin{pmatrix}01010\\00110\\00001\end{pmatrix}^7$, $\begin{pmatrix}10010\\00100\\00001\end{pmatrix}$, $\begin{pmatrix}11000\\00110\\00001\end{pmatrix}$, $\begin{pmatrix}10000\\01010\\00001\end{pmatrix}$, $\begin{pmatrix}10110\\01000\\00001\end{pmatrix}$, $\begin{pmatrix}10010\\01110\\00001\end{pmatrix}$, $\begin{pmatrix}10100\\01110\\00001\end{pmatrix}$,
$\begin{pmatrix}1\omega00\omega\\0010\upsilon\\00010\end{pmatrix}^7$, $\begin{pmatrix}10\omega01\\0100\upsilon\\00010\end{pmatrix}$, $\begin{pmatrix}10\upsilon01\\0110\upsilon\\00010\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\01\omega0\upsilon\\00010\end{pmatrix}$, $\begin{pmatrix}1010\upsilon\\01\omega00\\00010\end{pmatrix}$, $\begin{pmatrix}10\omega00\\01\omega0\upsilon\\00010\end{pmatrix}$, $\begin{pmatrix}10\omega01\\01\upsilon0\omega\\00010\end{pmatrix}$, $\begin{pmatrix}1\omega00\omega\\00101\\00011\end{pmatrix}^7$, $\begin{pmatrix}10\omega00\\01001\\00011\end{pmatrix}$,
$\begin{pmatrix}10\upsilon01\\01101\\00011\end{pmatrix}$, $\begin{pmatrix}10001\\01\omega00\\00011\end{pmatrix}$, $\begin{pmatrix}10101\\01\omega0\omega\\00011\end{pmatrix}$, $\begin{pmatrix}10\omega0\upsilon\\01\omega0\omega\\00011\end{pmatrix}$, $\begin{pmatrix}10\omega0\upsilon\\01\upsilon0\omega\\00011\end{pmatrix}$, $\begin{pmatrix}1\upsilon00\upsilon\\0010\upsilon\\0001\omega\end{pmatrix}^7$, $\begin{pmatrix}10\upsilon0\upsilon\\0100\upsilon\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10\omega01\\0110\upsilon\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10\upsilon00\\01\omega0\upsilon\\0001\omega\end{pmatrix}$,
$\begin{pmatrix}1000\upsilon\\01\upsilon01\\0001\omega\end{pmatrix}$, $\begin{pmatrix}1010\upsilon\\01\upsilon01\\0001\omega\end{pmatrix}$, $\begin{pmatrix}10\upsilon0\upsilon\\01\upsilon00\\0001\omega\end{pmatrix}$, $\begin{pmatrix}1\upsilon000\\0010\upsilon\\0001\upsilon\end{pmatrix}^7$, $\begin{pmatrix}10\upsilon01\\0100\upsilon\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10\omega00\\0110\upsilon\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10\upsilon0\upsilon\\01\omega00\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\01\upsilon0\omega\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}1010\upsilon\\01\upsilon0\upsilon\\0001\upsilon\end{pmatrix}$,
$\begin{pmatrix}10\upsilon0\omega\\01\upsilon01\\0001\upsilon\end{pmatrix}$, $\begin{pmatrix}10000\\01000\\00100\end{pmatrix}^1$, $\begin{pmatrix}10000\\01000\\00100\end{pmatrix}^1$, $\begin{pmatrix}100\upsilon0\\01000\\00101\end{pmatrix}^7$, $\begin{pmatrix}10001\\010\upsilon0\\00101\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\010\upsilon0\\00100\end{pmatrix}$, $\begin{pmatrix}10001\\01001\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\01001\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}10000\\010\upsilon1\\001\upsilon0\end{pmatrix}$,
$\begin{pmatrix}100\upsilon0\\010\upsilon1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\0100\upsilon\\0010\upsilon\end{pmatrix}^7$, $\begin{pmatrix}1000\upsilon\\010\upsilon\upsilon\\00100\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\upsilon0\\0010\upsilon\end{pmatrix}$, $\begin{pmatrix}10000\\0100\upsilon\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\01000\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\010\upsilon0\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\010\upsilon\upsilon\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}100\omega1\\0101\omega\\0010\omega\end{pmatrix}^7$,
$\begin{pmatrix}1000\omega\\010\omega1\\00110\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\upsilon\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}1001\omega\\010\omega\upsilon\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\010\upsilon1\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10010\\0100\omega\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\01010\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\0101\omega\\00101\end{pmatrix}^7$, $\begin{pmatrix}100\upsilon0\\010\omega\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}10001\\010\upsilon1\\0011\upsilon\end{pmatrix}$,
$\begin{pmatrix}1001\upsilon\\01001\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\0101\upsilon\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\omega\omega\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}1001\omega\\010\upsilon0\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\01011\\0010\omega\end{pmatrix}^7$, $\begin{pmatrix}100\upsilon0\\010\omega\upsilon\\00111\end{pmatrix}$, $\begin{pmatrix}1000\omega\\010\upsilon\omega\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\0100\omega\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\omega1\\0101\upsilon\\001\omega\upsilon\end{pmatrix}$,
$\begin{pmatrix}100\omega\upsilon\\010\omega1\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}10011\\010\upsilon0\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\omega0\\00101\end{pmatrix}^7$, $\begin{pmatrix}100\omega0\\0101\omega\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}100\upsilon\upsilon\\010\upsilon\omega\\0011\omega\end{pmatrix}$, $\begin{pmatrix}10001\\0101\upsilon\\001\omega1\end{pmatrix}$, $\begin{pmatrix}1001\omega\\010\upsilon\upsilon\\001\omega0\end{pmatrix}$, $\begin{pmatrix}100\omega1\\01001\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega1\\001\upsilon\upsilon\end{pmatrix}$,
$\begin{pmatrix}100\upsilon1\\010\omega1\\00100\end{pmatrix}^7$, $\begin{pmatrix}100\omega1\\01000\\00110\end{pmatrix}$, $\begin{pmatrix}10010\\010\omega1\\00110\end{pmatrix}$, $\begin{pmatrix}100\upsilon1\\01010\\001\omega1\end{pmatrix}$, $\begin{pmatrix}10000\\010\upsilon1\\001\omega1\end{pmatrix}$, $\begin{pmatrix}10010\\01010\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\omega1\\010\upsilon1\\001\upsilon1\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega\upsilon\\00100\end{pmatrix}^7$, $\begin{pmatrix}100\omega\upsilon\\01000\\00111\end{pmatrix}$,
$\begin{pmatrix}10011\\010\omega\upsilon\\00111\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\01011\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10000\\010\upsilon\omega\\001\omega\upsilon\end{pmatrix}$, $\begin{pmatrix}10011\\01011\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}100\omega\upsilon\\010\upsilon\omega\\001\upsilon\omega\end{pmatrix}$, $\begin{pmatrix}10011\\010\upsilon\upsilon\\0010\upsilon\end{pmatrix}^7$, $\begin{pmatrix}100\upsilon\upsilon\\0101\omega\\00111\end{pmatrix}$, $\begin{pmatrix}100\omega\omega\\010\omega1\\0011\omega\end{pmatrix}$, $\begin{pmatrix}100\upsilon0\\0100\upsilon\\001\omega1\end{pmatrix}$,
$\begin{pmatrix}100\omega1\\010\upsilon0\\001\omega\omega\end{pmatrix}$, $\begin{pmatrix}1000\upsilon\\01011\\001\upsilon0\end{pmatrix}$, $\begin{pmatrix}1001\omega\\010\omega\omega\\001\upsilon\upsilon\end{pmatrix}$, $\begin{pmatrix}100\omega0\\010\upsilon\omega\\00101\end{pmatrix}^7$, $\begin{pmatrix}100\upsilon\upsilon\\01001\\0011\upsilon\end{pmatrix}$, $\begin{pmatrix}1001\upsilon\\010\upsilon\upsilon\\0011\omega\end{pmatrix}$, $\begin{pmatrix}1001\omega\\0101\upsilon\\001\omega1\end{pmatrix}$, $\begin{pmatrix}100\upsilon\omega\\010\omega1\\001\omega0\end{pmatrix}$, $\begin{pmatrix}100\omega1\\0101\omega\\001\upsilon\omega\end{pmatrix}$,
$\begin{pmatrix}10001\\010\omega0\\001\upsilon\upsilon\end{pmatrix}$.

A projective 3-$(177,5,!2)_5$ system, i.e., a $(80,7)_5^{3,5}$-multispread, with prescribed automorphisms $\begin{bmatrix}10000\\00100\\04400\\00001\\00044\end{bmatrix}$, $\begin{bmatrix}10000\\00100\\01000\\00001\\00010\end{bmatrix}$: $\begin{pmatrix}01003\\00122\end{pmatrix}^2$, $\begin{pmatrix}01022\\00130\end{pmatrix}$, $\begin{pmatrix}10231\\01011\end{pmatrix}^6$, $\begin{pmatrix}10223\\01110\end{pmatrix}$, $\begin{pmatrix}10322\\01004\end{pmatrix}$,
$\begin{pmatrix}10330\\01101\end{pmatrix}$, $\begin{pmatrix}12013\\00111\end{pmatrix}$, $\begin{pmatrix}13022\\00140\end{pmatrix}$, $\begin{pmatrix}10243\\01024\end{pmatrix}^6$, $\begin{pmatrix}10214\\01123\end{pmatrix}$, $\begin{pmatrix}10324\\01031\end{pmatrix}$, $\begin{pmatrix}10332\\01132\end{pmatrix}$, $\begin{pmatrix}12034\\00142\end{pmatrix}$, $\begin{pmatrix}13042\\00113\end{pmatrix}$, $\begin{pmatrix}10311\\01310\end{pmatrix}^6$,
$\begin{pmatrix}10340\\01311\end{pmatrix}$, $\begin{pmatrix}10410\\01202\end{pmatrix}$, $\begin{pmatrix}10443\\01222\end{pmatrix}$, $\begin{pmatrix}10414\\01420\end{pmatrix}$, $\begin{pmatrix}10444\\01403\end{pmatrix}$, $\begin{pmatrix}10000\\00010\\00001\end{pmatrix}^1$, $\begin{pmatrix}10001\\00102\\00013\end{pmatrix}^3$, $\begin{pmatrix}10003\\01001\\00012\end{pmatrix}$, $\begin{pmatrix}10003\\01104\\00014\end{pmatrix}$, $\begin{pmatrix}10003\\01004\\00102\end{pmatrix}^3$,
$\begin{pmatrix}10022\\01011\\00111\end{pmatrix}$, $\begin{pmatrix}10030\\01020\\00140\end{pmatrix}$, $\begin{pmatrix}10004\\01001\\00103\end{pmatrix}^3$, $\begin{pmatrix}10011\\01044\\00144\end{pmatrix}$, $\begin{pmatrix}10040\\01030\\00110\end{pmatrix}$, $\begin{pmatrix}10002\\01001\\00130\end{pmatrix}^6$, $\begin{pmatrix}10002\\01032\\00122\end{pmatrix}$, $\begin{pmatrix}10020\\01003\\00110\end{pmatrix}$, $\begin{pmatrix}10020\\01022\\00123\end{pmatrix}$,
$\begin{pmatrix}10033\\01013\\00144\end{pmatrix}$, $\begin{pmatrix}10033\\01044\\00131\end{pmatrix}$, $\begin{pmatrix}10004\\01000\\00133\end{pmatrix}^6$, $\begin{pmatrix}10004\\01030\\00120\end{pmatrix}$, $\begin{pmatrix}10011\\01000\\00103\end{pmatrix}$, $\begin{pmatrix}10011\\01030\\00100\end{pmatrix}$, $\begin{pmatrix}10040\\01002\\00103\end{pmatrix}$, $\begin{pmatrix}10040\\01033\\00100\end{pmatrix}$, $\begin{pmatrix}10001\\01014\\00103\end{pmatrix}^3$,
$\begin{pmatrix}10010\\01030\\00141\end{pmatrix}$, $\begin{pmatrix}10044\\01021\\00112\end{pmatrix}$, $\begin{pmatrix}10004\\01014\\00103\end{pmatrix}^3$, $\begin{pmatrix}10011\\01021\\00112\end{pmatrix}$, $\begin{pmatrix}10040\\01030\\00141\end{pmatrix}$, $\begin{pmatrix}10000\\01014\\00112\end{pmatrix}^2$, $\begin{pmatrix}10000\\01021\\00141\end{pmatrix}$, $\begin{pmatrix}10002\\01010\\00124\end{pmatrix}^6$, $\begin{pmatrix}10002\\01034\\00132\end{pmatrix}$,
$\begin{pmatrix}10020\\01023\\00143\end{pmatrix}$, $\begin{pmatrix}10020\\01042\\00101\end{pmatrix}$, $\begin{pmatrix}10033\\01010\\00114\end{pmatrix}$, $\begin{pmatrix}10033\\01041\\00101\end{pmatrix}$, $\begin{pmatrix}10000\\01012\\00134\end{pmatrix}^2$, $\begin{pmatrix}10000\\01043\\00121\end{pmatrix}$, $\begin{pmatrix}10000\\01012\\00134\end{pmatrix}^2$, $\begin{pmatrix}10000\\01043\\00121\end{pmatrix}$, $\begin{pmatrix}10001\\01023\\00101\end{pmatrix}^3$,
$\begin{pmatrix}10010\\01010\\00132\end{pmatrix}$, $\begin{pmatrix}10044\\01042\\00124\end{pmatrix}$, $\begin{pmatrix}10002\\01020\\00110\end{pmatrix}^6$, $\begin{pmatrix}10002\\01033\\00144\end{pmatrix}$, $\begin{pmatrix}10020\\01001\\00102\end{pmatrix}$, $\begin{pmatrix}10020\\01044\\00133\end{pmatrix}$, $\begin{pmatrix}10033\\01002\\00102\end{pmatrix}$, $\begin{pmatrix}10033\\01020\\00120\end{pmatrix}$, $\begin{pmatrix}10004\\01022\\00120\end{pmatrix}^6$,
$\begin{pmatrix}10004\\01042\\00133\end{pmatrix}$, $\begin{pmatrix}10011\\01003\\00132\end{pmatrix}$, $\begin{pmatrix}10011\\01023\\00130\end{pmatrix}$, $\begin{pmatrix}10040\\01002\\00122\end{pmatrix}$, $\begin{pmatrix}10040\\01033\\00124\end{pmatrix}$, $\begin{pmatrix}10001\\01034\\00100\end{pmatrix}^3$, $\begin{pmatrix}10010\\01000\\00143\end{pmatrix}$, $\begin{pmatrix}10044\\01041\\00114\end{pmatrix}$, $\begin{pmatrix}10001\\01040\\00104\end{pmatrix}^3$,
$\begin{pmatrix}10010\\01040\\00104\end{pmatrix}$, $\begin{pmatrix}10044\\01040\\00104\end{pmatrix}$, $\begin{pmatrix}10003\\01041\\00102\end{pmatrix}^3$, $\begin{pmatrix}10022\\01034\\00143\end{pmatrix}$, $\begin{pmatrix}10030\\01020\\00114\end{pmatrix}$, $\begin{pmatrix}10013\\01000\\00112\end{pmatrix}^6$, $\begin{pmatrix}10024\\01014\\00141\end{pmatrix}$, $\begin{pmatrix}10023\\01021\\00100\end{pmatrix}$, $\begin{pmatrix}10032\\01000\\00112\end{pmatrix}$,
$\begin{pmatrix}10031\\01021\\00100\end{pmatrix}$, $\begin{pmatrix}10042\\01014\\00141\end{pmatrix}$, $\begin{pmatrix}10013\\01002\\00133\end{pmatrix}^6$, $\begin{pmatrix}10023\\01002\\00133\end{pmatrix}$, $\begin{pmatrix}10024\\01002\\00133\end{pmatrix}$, $\begin{pmatrix}10031\\01033\\00120\end{pmatrix}$, $\begin{pmatrix}10032\\01033\\00120\end{pmatrix}$, $\begin{pmatrix}10042\\01033\\00120\end{pmatrix}$, $\begin{pmatrix}10013\\01004\\00141\end{pmatrix}^6$,
$\begin{pmatrix}10023\\01001\\00111\end{pmatrix}$, $\begin{pmatrix}10024\\01021\\00144\end{pmatrix}$, $\begin{pmatrix}10032\\01011\\00110\end{pmatrix}$, $\begin{pmatrix}10031\\01014\\00140\end{pmatrix}$, $\begin{pmatrix}10042\\01044\\00112\end{pmatrix}$, $\begin{pmatrix}10014\\01012\\00101\end{pmatrix}^6$, $\begin{pmatrix}10012\\01032\\00134\end{pmatrix}$, $\begin{pmatrix}10021\\01043\\00123\end{pmatrix}$, $\begin{pmatrix}10034\\01010\\00131\end{pmatrix}$,

$\begin{pmatrix}10043\\01013\\00101\end{pmatrix}$, $\begin{pmatrix}10041\\01010\\00121\end{pmatrix}$, $\begin{pmatrix}10014\\01024\\00114\end{pmatrix}^6$, $\begin{pmatrix}10012\\01030\\00113\end{pmatrix}$, $\begin{pmatrix}10021\\01031\\00103\end{pmatrix}$, $\begin{pmatrix}10034\\01034\\00103\end{pmatrix}$, $\begin{pmatrix}10043\\01030\\00143\end{pmatrix}$, $\begin{pmatrix}10041\\01041\\00142\end{pmatrix}$, $\begin{pmatrix}10014\\01032\\00102\end{pmatrix}^6$,
$\begin{pmatrix}10012\\01041\\00131\end{pmatrix}$, $\begin{pmatrix}10021\\01013\\00114\end{pmatrix}$, $\begin{pmatrix}10034\\01020\\00143\end{pmatrix}$, $\begin{pmatrix}10041\\01020\\00123\end{pmatrix}$, $\begin{pmatrix}10043\\01034\\00102\end{pmatrix}$, $\begin{pmatrix}10013\\01032\\00142\end{pmatrix}^6$, $\begin{pmatrix}10024\\01031\\00132\end{pmatrix}$, $\begin{pmatrix}10023\\01042\\00131\end{pmatrix}$, $\begin{pmatrix}10032\\01013\\00124\end{pmatrix}$,
$\begin{pmatrix}10031\\01024\\00123\end{pmatrix}$, $\begin{pmatrix}10042\\01023\\00113\end{pmatrix}$, $\begin{pmatrix}10013\\01043\\00110\end{pmatrix}^6$, $\begin{pmatrix}10023\\01033\\00121\end{pmatrix}$, $\begin{pmatrix}10024\\01044\\00120\end{pmatrix}$, $\begin{pmatrix}10031\\01001\\00134\end{pmatrix}$, $\begin{pmatrix}10032\\01012\\00133\end{pmatrix}$, $\begin{pmatrix}10042\\01002\\00144\end{pmatrix}$, $\begin{pmatrix}10012\\01042\\00121\end{pmatrix}^6$,
$\begin{pmatrix}10014\\01043\\00131\end{pmatrix}$, $\begin{pmatrix}10021\\01012\\00124\end{pmatrix}$, $\begin{pmatrix}10034\\01032\\00132\end{pmatrix}$, $\begin{pmatrix}10041\\01013\\00134\end{pmatrix}$, $\begin{pmatrix}10043\\01023\\00123\end{pmatrix}$, $\begin{pmatrix}10013\\01040\\00121\end{pmatrix}^6$, $\begin{pmatrix}10023\\01010\\00104\end{pmatrix}$, $\begin{pmatrix}10024\\01043\\00101\end{pmatrix}$, $\begin{pmatrix}10031\\01012\\00104\end{pmatrix}$,
$\begin{pmatrix}10032\\01040\\00101\end{pmatrix}$, $\begin{pmatrix}10042\\01010\\00134\end{pmatrix}$, $\begin{pmatrix}10003\\01200\\00012\end{pmatrix}^3$, $\begin{pmatrix}10001\\01300\\00013\end{pmatrix}$, $\begin{pmatrix}10003\\01400\\00014\end{pmatrix}$, $\begin{pmatrix}10104\\01000\\00014\end{pmatrix}^6$, $\begin{pmatrix}10104\\01100\\00012\end{pmatrix}$, $\begin{pmatrix}10403\\01000\\00013\end{pmatrix}$, $\begin{pmatrix}10403\\01100\\00013\end{pmatrix}$,
$\begin{pmatrix}11004\\00100\\00014\end{pmatrix}$, $\begin{pmatrix}14004\\00100\\00012\end{pmatrix}$, $\begin{pmatrix}10110\\01040\\00001\end{pmatrix}^6$, $\begin{pmatrix}10140\\01140\\00001\end{pmatrix}$, $\begin{pmatrix}10400\\01001\\00011\end{pmatrix}$, $\begin{pmatrix}10400\\01104\\00010\end{pmatrix}$, $\begin{pmatrix}11001\\00104\\00010\end{pmatrix}$, $\begin{pmatrix}14000\\00104\\00011\end{pmatrix}$, $\begin{pmatrix}10102\\01204\\00010\end{pmatrix}^3$,
$\begin{pmatrix}10102\\01401\\00011\end{pmatrix}$, $\begin{pmatrix}10200\\01320\\00001\end{pmatrix}$, $\begin{pmatrix}10103\\01201\\00010\end{pmatrix}^3$, $\begin{pmatrix}10103\\01404\\00011\end{pmatrix}$, $\begin{pmatrix}10200\\01330\\00001\end{pmatrix}$, $\begin{pmatrix}10120\\01320\\00001\end{pmatrix}^6$, $\begin{pmatrix}10130\\01320\\00001\end{pmatrix}$, $\begin{pmatrix}10303\\01204\\00010\end{pmatrix}$, $\begin{pmatrix}10304\\01204\\00010\end{pmatrix}$,
$\begin{pmatrix}10303\\01401\\00011\end{pmatrix}$, $\begin{pmatrix}10304\\01401\\00011\end{pmatrix}$, $\begin{pmatrix}10203\\01203\\00014\end{pmatrix}^6$, $\begin{pmatrix}10204\\01204\\00013\end{pmatrix}$, $\begin{pmatrix}10203\\01402\\00012\end{pmatrix}$, $\begin{pmatrix}10204\\01401\\00013\end{pmatrix}$, $\begin{pmatrix}10400\\01301\\00012\end{pmatrix}$, $\begin{pmatrix}10400\\01304\\00014\end{pmatrix}$.

A projective 3-$(202,5,!2)_5$ system, i.e., a $(56,8)_5^{3,5}$-multispread: $\binom{01002}{00133}^2$, $\binom{01033}{00120}$, $\binom{10110}{01004}^6$, $\binom{10144}{01101}$, $\binom{10421}{01011}$, $\binom{10434}{01110}$, $\binom{11001}{00140}$, $\binom{14012}{00111}$, $\binom{10114}{01023}^6$, $\binom{10143}{01124}$, $\binom{10413}{01042}$, $\binom{10442}{01142}$, $\binom{11041}{00132}$, $\binom{14031}{00124}$, $\begin{pmatrix}10001\\00102\\00013\end{pmatrix}^3$, $\begin{pmatrix}10003\\01001\\00012\end{pmatrix}$, $\begin{pmatrix}10003\\01104\\00014\end{pmatrix}$, $\begin{pmatrix}10001\\00102\\00013\end{pmatrix}^3$, $\begin{pmatrix}10003\\01001\\00012\end{pmatrix}$, $\begin{pmatrix}10003\\01104\\00014\end{pmatrix}$, $\begin{pmatrix}10002\\01001\\00102\end{pmatrix}^6$,
$\begin{pmatrix}10002\\01002\\00102\end{pmatrix}$, $\begin{pmatrix}10020\\01020\\00110\end{pmatrix}$, $\begin{pmatrix}10020\\01020\\00120\end{pmatrix}$, $\begin{pmatrix}10033\\01033\\00144\end{pmatrix}$, $\begin{pmatrix}10033\\01044\\00133\end{pmatrix}$, $\begin{pmatrix}10002\\01000\\00112\end{pmatrix}^6$, $\begin{pmatrix}10002\\01014\\00141\end{pmatrix}$, $\begin{pmatrix}10020\\01014\\00141\end{pmatrix}$, $\begin{pmatrix}10020\\01021\\00100\end{pmatrix}$,
$\begin{pmatrix}10033\\01000\\00112\end{pmatrix}$, $\begin{pmatrix}10033\\01021\\00100\end{pmatrix}$, $\begin{pmatrix}10000\\01003\\00122\end{pmatrix}^2$, $\begin{pmatrix}10000\\01022\\00130\end{pmatrix}$, $\begin{pmatrix}10004\\01001\\00130\end{pmatrix}^6$, $\begin{pmatrix}10004\\01032\\00122\end{pmatrix}$, $\begin{pmatrix}10011\\01013\\00144\end{pmatrix}$, $\begin{pmatrix}10011\\01044\\00131\end{pmatrix}$, $\begin{pmatrix}10040\\01003\\00110\end{pmatrix}$,
$\begin{pmatrix}10040\\01022\\00123\end{pmatrix}$, $\begin{pmatrix}10002\\01001\\00142\end{pmatrix}^6$, $\begin{pmatrix}10002\\01041\\00113\end{pmatrix}$, $\begin{pmatrix}10020\\01024\\00110\end{pmatrix}$, $\begin{pmatrix}10020\\01031\\00114\end{pmatrix}$, $\begin{pmatrix}10033\\01034\\00144\end{pmatrix}$, $\begin{pmatrix}10033\\01044\\00143\end{pmatrix}$, $\begin{pmatrix}10001\\01014\\00103\end{pmatrix}^3$, $\begin{pmatrix}10010\\01030\\00141\end{pmatrix}$,
$\begin{pmatrix}10044\\01021\\00112\end{pmatrix}$, $\begin{pmatrix}10000\\01014\\00112\end{pmatrix}^2$, $\begin{pmatrix}10000\\01021\\00141\end{pmatrix}$, $\begin{pmatrix}10003\\01012\\00114\end{pmatrix}^6$, $\begin{pmatrix}10003\\01021\\00143\end{pmatrix}$, $\begin{pmatrix}10022\\01014\\00134\end{pmatrix}$, $\begin{pmatrix}10022\\01043\\00141\end{pmatrix}$, $\begin{pmatrix}10030\\01034\\00112\end{pmatrix}$, $\begin{pmatrix}10030\\01041\\00121\end{pmatrix}$,
$\begin{pmatrix}10000\\01013\\00123\end{pmatrix}^2$, $\begin{pmatrix}10000\\01032\\00131\end{pmatrix}$, $\begin{pmatrix}10002\\01010\\00122\end{pmatrix}^6$, $\begin{pmatrix}10002\\01031\\00130\end{pmatrix}$, $\begin{pmatrix}10020\\01003\\00113\end{pmatrix}$, $\begin{pmatrix}10020\\01022\\00101\end{pmatrix}$, $\begin{pmatrix}10033\\01010\\00142\end{pmatrix}$, $\begin{pmatrix}10033\\01024\\00101\end{pmatrix}$, $\begin{pmatrix}10003\\01011\\00133\end{pmatrix}^6$,
$\begin{pmatrix}10003\\01040\\00120\end{pmatrix}$, $\begin{pmatrix}10022\\01004\\00104\end{pmatrix}$, $\begin{pmatrix}10022\\01040\\00140\end{pmatrix}$, $\begin{pmatrix}10030\\01002\\00104\end{pmatrix}$, $\begin{pmatrix}10030\\01033\\00111\end{pmatrix}$, $\begin{pmatrix}10004\\01022\\00103\end{pmatrix}^3$, $\begin{pmatrix}10011\\01003\\00130\end{pmatrix}$, $\begin{pmatrix}10040\\01030\\00122\end{pmatrix}$, $\begin{pmatrix}10004\\01020\\00111\end{pmatrix}^6$,
$\begin{pmatrix}10004\\01032\\00140\end{pmatrix}$, $\begin{pmatrix}10011\\01013\\00102\end{pmatrix}$, $\begin{pmatrix}10011\\01020\\00131\end{pmatrix}$, $\begin{pmatrix}10040\\01004\\00123\end{pmatrix}$, $\begin{pmatrix}10040\\01011\\00102\end{pmatrix}$, $\begin{pmatrix}10001\\01022\\00121\end{pmatrix}^6$, $\begin{pmatrix}10001\\01041\\00134\end{pmatrix}$, $\begin{pmatrix}10010\\01012\\00122\end{pmatrix}$, $\begin{pmatrix}10010\\01043\\00114\end{pmatrix}$,
$\begin{pmatrix}10044\\01003\\00143\end{pmatrix}$, $\begin{pmatrix}10044\\01034\\00130\end{pmatrix}$, $\begin{pmatrix}10001\\01030\\00103\end{pmatrix}^3$, $\begin{pmatrix}10010\\01030\\00103\end{pmatrix}$, $\begin{pmatrix}10044\\01030\\00103\end{pmatrix}$, $\begin{pmatrix}10000\\01034\\00114\end{pmatrix}^2$, $\begin{pmatrix}10000\\01041\\00143\end{pmatrix}$, $\begin{pmatrix}10004\\01043\\00103\end{pmatrix}^3$, $\begin{pmatrix}10011\\01012\\00121\end{pmatrix}$,
$\begin{pmatrix}10040\\01030\\00134\end{pmatrix}$, $\begin{pmatrix}10013\\01000\\00123\end{pmatrix}^6$, $\begin{pmatrix}10024\\01013\\00142\end{pmatrix}$, $\begin{pmatrix}10023\\01031\\00100\end{pmatrix}$, $\begin{pmatrix}10032\\01000\\00113\end{pmatrix}$, $\begin{pmatrix}10031\\01032\\00100\end{pmatrix}$, $\begin{pmatrix}10042\\01024\\00131\end{pmatrix}$, $\begin{pmatrix}10014\\01000\\00121\end{pmatrix}^6$, $\begin{pmatrix}10012\\01014\\00100\end{pmatrix}$,
$\begin{pmatrix}10021\\01000\\00141\end{pmatrix}$, $\begin{pmatrix}10034\\01043\\00112\end{pmatrix}$, $\begin{pmatrix}10041\\01012\\00100\end{pmatrix}$, $\begin{pmatrix}10043\\01021\\00134\end{pmatrix}$, $\begin{pmatrix}10014\\01001\\00141\end{pmatrix}^6$, $\begin{pmatrix}10012\\01023\\00144\end{pmatrix}$, $\begin{pmatrix}10021\\01044\\00132\end{pmatrix}$, $\begin{pmatrix}10034\\01021\\00124\end{pmatrix}$, $\begin{pmatrix}10041\\01014\\00110\end{pmatrix}$,
$\begin{pmatrix}10043\\01042\\00112\end{pmatrix}$, $\begin{pmatrix}10013\\01010\\00110\end{pmatrix}^6$, $\begin{pmatrix}10023\\01003\\00101\end{pmatrix}$, $\begin{pmatrix}10024\\01044\\00122\end{pmatrix}$, $\begin{pmatrix}10031\\01001\\00101\end{pmatrix}$, $\begin{pmatrix}10032\\01010\\00130\end{pmatrix}$, $\begin{pmatrix}10042\\01022\\00144\end{pmatrix}$, $\begin{pmatrix}10014\\01010\\00114\end{pmatrix}^6$, $\begin{pmatrix}10012\\01042\\00101\end{pmatrix}$,
$\begin{pmatrix}10021\\01010\\00124\end{pmatrix}$, $\begin{pmatrix}10034\\01034\\00132\end{pmatrix}$, $\begin{pmatrix}10043\\01023\\00143\end{pmatrix}$, $\begin{pmatrix}10041\\01041\\00101\end{pmatrix}$, $\begin{pmatrix}10013\\01012\\00132\end{pmatrix}^6$, $\begin{pmatrix}10024\\01042\\00104\end{pmatrix}$, $\begin{pmatrix}10023\\01040\\00134\end{pmatrix}$, $\begin{pmatrix}10031\\01023\\00121\end{pmatrix}$, $\begin{pmatrix}10032\\01043\\00104\end{pmatrix}$,
$\begin{pmatrix}10042\\01040\\00124\end{pmatrix}$, $\begin{pmatrix}10014\\01024\\00104\end{pmatrix}^6$, $\begin{pmatrix}10012\\01031\\00113\end{pmatrix}$, $\begin{pmatrix}10021\\01031\\00113\end{pmatrix}$, $\begin{pmatrix}10034\\01040\\00142\end{pmatrix}$, $\begin{pmatrix}10043\\01024\\00104\end{pmatrix}$, $\begin{pmatrix}10041\\01040\\00142\end{pmatrix}$, $\begin{pmatrix}10013\\01020\\00114\end{pmatrix}^6$, $\begin{pmatrix}10024\\01034\\00143\end{pmatrix}$,
$\begin{pmatrix}10023\\01041\\00102\end{pmatrix}$, $\begin{pmatrix}10032\\01020\\00114\end{pmatrix}$, $\begin{pmatrix}10031\\01041\\00102\end{pmatrix}$, $\begin{pmatrix}10042\\01034\\00143\end{pmatrix}$, $\begin{pmatrix}10013\\01022\\00121\end{pmatrix}^6$, $\begin{pmatrix}10023\\01034\\00130\end{pmatrix}$, $\begin{pmatrix}10024\\01043\\00114\end{pmatrix}$, $\begin{pmatrix}10032\\01003\\00143\end{pmatrix}$, $\begin{pmatrix}10031\\01012\\00122\end{pmatrix}$,
$\begin{pmatrix}10042\\01041\\00134\end{pmatrix}$, $\begin{pmatrix}10013\\01030\\00101\end{pmatrix}^6$, $\begin{pmatrix}10023\\01013\\00103\end{pmatrix}$, $\begin{pmatrix}10024\\01010\\00123\end{pmatrix}$, $\begin{pmatrix}10031\\01010\\00103\end{pmatrix}$, $\begin{pmatrix}10032\\01030\\00131\end{pmatrix}$, $\begin{pmatrix}10042\\01032\\00101\end{pmatrix}$, $\begin{pmatrix}10013\\01044\\00141\end{pmatrix}^6$, $\begin{pmatrix}10023\\01002\\00110\end{pmatrix}$,
$\begin{pmatrix}10024\\01021\\00133\end{pmatrix}$, $\begin{pmatrix}10032\\01001\\00120\end{pmatrix}$, $\begin{pmatrix}10031\\01014\\00144\end{pmatrix}$, $\begin{pmatrix}10042\\01033\\00112\end{pmatrix}$, $\begin{pmatrix}10001\\01200\\00010\end{pmatrix}^6$, $\begin{pmatrix}10004\\01200\\00010\end{pmatrix}$, $\begin{pmatrix}10010\\01300\\00001\end{pmatrix}$, $\begin{pmatrix}10040\\01300\\00001\end{pmatrix}$, $\begin{pmatrix}10001\\01400\\00011\end{pmatrix}$,
$\begin{pmatrix}10004\\01400\\00011\end{pmatrix}$, $\begin{pmatrix}10100\\01203\\00011\end{pmatrix}^6$, $\begin{pmatrix}10130\\01230\\00001\end{pmatrix}$, $\begin{pmatrix}10100\\01402\\00010\end{pmatrix}$, $\begin{pmatrix}10120\\01430\\00001\end{pmatrix}$, $\begin{pmatrix}10204\\01301\\00011\end{pmatrix}$, $\begin{pmatrix}10204\\01304\\00010\end{pmatrix}$, $\begin{pmatrix}10100\\01320\\00001\end{pmatrix}^3$, $\begin{pmatrix}10301\\01204\\00010\end{pmatrix}$,

$$\begin{pmatrix}10301\\01401\\00011\end{pmatrix}, \begin{pmatrix}10100\\01340\\00001\end{pmatrix}^3, \begin{pmatrix}10302\\01203\\00010\end{pmatrix}, \begin{pmatrix}10302\\01402\\00011\end{pmatrix}, \begin{pmatrix}10201\\01000\\00012\end{pmatrix}^6, \begin{pmatrix}10201\\01100\\00014\end{pmatrix}, \begin{pmatrix}10301\\01000\\00012\end{pmatrix}, \begin{pmatrix}10301\\01100\\00014\end{pmatrix}, \begin{pmatrix}12002\\00100\\00013\end{pmatrix},$$
$$\begin{pmatrix}13002\\00100\\00013\end{pmatrix}, \begin{pmatrix}10203\\01003\\00013\end{pmatrix}^6, \begin{pmatrix}10203\\01102\\00013\end{pmatrix}, \begin{pmatrix}10302\\01004\\00014\end{pmatrix}, \begin{pmatrix}10302\\01101\\00012\end{pmatrix}, \begin{pmatrix}12004\\00104\\00012\end{pmatrix}, \begin{pmatrix}13002\\00104\\00014\end{pmatrix}, \begin{pmatrix}10201\\01201\\00010\end{pmatrix}^3, \begin{pmatrix}10201\\01404\\00011\end{pmatrix},$$
$$\begin{pmatrix}10400\\01330\\00001\end{pmatrix}, \begin{pmatrix}10202\\01202\\00010\end{pmatrix}^3, \begin{pmatrix}10202\\01403\\00011\end{pmatrix}, \begin{pmatrix}10400\\01310\\00001\end{pmatrix}, \begin{pmatrix}10303\\01301\\00014\end{pmatrix}^6, \begin{pmatrix}10303\\01304\\00012\end{pmatrix}, \begin{pmatrix}10402\\01202\\00014\end{pmatrix}, \begin{pmatrix}10403\\01201\\00013\end{pmatrix}, \begin{pmatrix}10402\\01403\\00012\end{pmatrix},$$
$$\begin{pmatrix}10403\\01404\\00013\end{pmatrix}.$$

A projective 3-$(227, 5, !2)_5$ system, i.e., a $(32, 9)_5^{3,5}$-multispread: $\binom{01013}{00123}^2$, $\binom{01032}{00131}$, $\binom{10141}{01212}^3$, $\binom{10112}{01414}$, $\binom{10201}{01313}$, $\binom{10302}{01334}^3$, $\binom{10432}{01231}$, $\binom{10424}{01432}$, $\begin{pmatrix}10003\\00100\\00013\end{pmatrix}^3$, $\begin{pmatrix}10004\\01000\\00012\end{pmatrix}$, $\begin{pmatrix}10004\\01100\\00014\end{pmatrix}$,
$$\begin{pmatrix}10004\\00100\\00013\end{pmatrix}^3, \begin{pmatrix}10002\\01000\\00012\end{pmatrix}, \begin{pmatrix}10002\\01100\\00014\end{pmatrix}, \begin{pmatrix}10002\\01001\\00103\end{pmatrix}^3, \begin{pmatrix}10020\\01030\\00110\end{pmatrix}, \begin{pmatrix}10033\\01044\\00144\end{pmatrix}, \begin{pmatrix}10002\\01004\\00102\end{pmatrix}^3, \begin{pmatrix}10020\\01020\\00140\end{pmatrix}, \begin{pmatrix}10033\\01011\\00111\end{pmatrix},$$
$$\begin{pmatrix}10001\\01002\\00110\end{pmatrix}^6, \begin{pmatrix}10001\\01014\\00144\end{pmatrix}, \begin{pmatrix}10010\\01001\\00120\end{pmatrix}, \begin{pmatrix}10010\\01044\\00141\end{pmatrix}, \begin{pmatrix}10044\\01021\\00133\end{pmatrix}, \begin{pmatrix}10044\\01033\\00112\end{pmatrix}, \begin{pmatrix}10000\\01003\\00122\end{pmatrix}^2, \begin{pmatrix}10000\\01022\\00130\end{pmatrix}, \begin{pmatrix}10003\\01001\\00130\end{pmatrix}^6,$$
$$\begin{pmatrix}10003\\01032\\00122\end{pmatrix}, \begin{pmatrix}10022\\01013\\00144\end{pmatrix}, \begin{pmatrix}10022\\01044\\00131\end{pmatrix}, \begin{pmatrix}10030\\01003\\00110\end{pmatrix}, \begin{pmatrix}10030\\01022\\00123\end{pmatrix}, \begin{pmatrix}10004\\01004\\00132\end{pmatrix}^6, \begin{pmatrix}10004\\01032\\00124\end{pmatrix}, \begin{pmatrix}10011\\01013\\00111\end{pmatrix}, \begin{pmatrix}10011\\01011\\00131\end{pmatrix},$$
$$\begin{pmatrix}10040\\01023\\00140\end{pmatrix}, \begin{pmatrix}10040\\01042\\00123\end{pmatrix}, \begin{pmatrix}10001\\01001\\00141\end{pmatrix}^6, \begin{pmatrix}10001\\01042\\00112\end{pmatrix}, \begin{pmatrix}10010\\01014\\00110\end{pmatrix}, \begin{pmatrix}10010\\01021\\00124\end{pmatrix}, \begin{pmatrix}10044\\01023\\00144\end{pmatrix}, \begin{pmatrix}10044\\01044\\00132\end{pmatrix}, \begin{pmatrix}10001\\01004\\00143\end{pmatrix}^6,$$
$$\begin{pmatrix}10001\\01042\\00114\end{pmatrix}, \begin{pmatrix}10010\\01034\\00140\end{pmatrix}, \begin{pmatrix}10010\\01041\\00124\end{pmatrix}, \begin{pmatrix}10044\\01011\\00132\end{pmatrix}, \begin{pmatrix}10044\\01023\\00111\end{pmatrix}, \begin{pmatrix}10000\\01010\\00101\end{pmatrix}^1, \begin{pmatrix}10000\\01014\\00114\end{pmatrix}^6, \begin{pmatrix}10000\\01021\\00113\end{pmatrix}, \begin{pmatrix}10000\\01024\\00143\end{pmatrix},$$
$$\begin{pmatrix}10000\\01031\\00112\end{pmatrix}, \begin{pmatrix}10000\\01034\\00142\end{pmatrix}, \begin{pmatrix}10000\\01041\\00141\end{pmatrix}, \begin{pmatrix}10002\\01014\\00113\end{pmatrix}^6, \begin{pmatrix}10002\\01020\\00142\end{pmatrix}, \begin{pmatrix}10020\\01024\\00102\end{pmatrix}, \begin{pmatrix}10020\\01031\\00141\end{pmatrix}, \begin{pmatrix}10033\\01021\\00102\end{pmatrix}, \begin{pmatrix}10033\\01020\\00112\end{pmatrix},$$
$$\begin{pmatrix}10004\\01011\\00133\end{pmatrix}^6, \begin{pmatrix}10004\\01040\\00120\end{pmatrix}, \begin{pmatrix}10011\\01004\\00104\end{pmatrix}, \begin{pmatrix}10011\\01040\\00140\end{pmatrix}, \begin{pmatrix}10040\\01002\\00104\end{pmatrix}, \begin{pmatrix}10040\\01033\\00111\end{pmatrix}, \begin{pmatrix}10002\\01021\\00100\end{pmatrix}^3, \begin{pmatrix}10020\\01000\\00112\end{pmatrix}, \begin{pmatrix}10033\\01014\\00141\end{pmatrix},$$
$$\begin{pmatrix}10001\\01022\\00121\end{pmatrix}^6, \begin{pmatrix}10001\\01041\\00134\end{pmatrix}, \begin{pmatrix}10010\\01012\\00122\end{pmatrix}, \begin{pmatrix}10010\\01043\\00114\end{pmatrix}, \begin{pmatrix}10044\\01003\\00143\end{pmatrix}, \begin{pmatrix}10044\\01034\\00130\end{pmatrix}, \begin{pmatrix}10004\\01020\\00122\end{pmatrix}^6, \begin{pmatrix}10004\\01042\\00130\end{pmatrix}, \begin{pmatrix}10011\\01023\\00102\end{pmatrix},$$
$$\begin{pmatrix}10011\\01020\\00132\end{pmatrix}, \begin{pmatrix}10040\\01003\\00124\end{pmatrix}, \begin{pmatrix}10040\\01022\\00102\end{pmatrix}, \begin{pmatrix}10003\\01033\\00102\end{pmatrix}^3, \begin{pmatrix}10022\\01002\\00120\end{pmatrix}, \begin{pmatrix}10030\\01020\\00133\end{pmatrix}, \begin{pmatrix}10003\\01031\\00111\end{pmatrix}^6, \begin{pmatrix}10003\\01042\\00140\end{pmatrix}, \begin{pmatrix}10022\\01024\\00132\end{pmatrix},$$
$$\begin{pmatrix}10022\\01023\\00142\end{pmatrix}, \begin{pmatrix}10030\\01004\\00124\end{pmatrix}, \begin{pmatrix}10030\\01011\\00113\end{pmatrix}, \begin{pmatrix}10001\\01041\\00102\end{pmatrix}^3, \begin{pmatrix}10010\\01020\\00114\end{pmatrix}, \begin{pmatrix}10044\\01034\\00143\end{pmatrix}, \begin{pmatrix}10003\\01040\\00104\end{pmatrix}^3, \begin{pmatrix}10022\\01040\\00104\end{pmatrix}, \begin{pmatrix}10030\\01040\\00104\end{pmatrix},$$
$$\begin{pmatrix}10012\\01002\\00103\end{pmatrix}^6, \begin{pmatrix}10014\\01030\\00100\end{pmatrix}, \begin{pmatrix}10021\\01030\\00120\end{pmatrix}, \begin{pmatrix}10034\\01000\\00133\end{pmatrix}, \begin{pmatrix}10041\\01000\\00103\end{pmatrix}, \begin{pmatrix}10043\\01033\\00100\end{pmatrix}, \begin{pmatrix}10012\\01001\\00114\end{pmatrix}^6, \begin{pmatrix}10014\\01034\\00111\end{pmatrix}, \begin{pmatrix}10021\\01041\\00110\end{pmatrix},$$
$$\begin{pmatrix}10034\\01004\\00144\end{pmatrix}, \begin{pmatrix}10041\\01011\\00143\end{pmatrix}, \begin{pmatrix}10043\\01044\\00140\end{pmatrix}, \begin{pmatrix}10013\\01000\\00111\end{pmatrix}^6, \begin{pmatrix}10024\\01004\\00101\end{pmatrix}, \begin{pmatrix}10023\\01010\\00100\end{pmatrix}, \begin{pmatrix}10032\\01000\\00101\end{pmatrix}, \begin{pmatrix}10031\\01011\\00100\end{pmatrix}, \begin{pmatrix}10042\\01010\\00140\end{pmatrix},$$
$$\begin{pmatrix}10012\\01001\\00132\end{pmatrix}^6, \begin{pmatrix}10014\\01042\\00103\end{pmatrix}, \begin{pmatrix}10021\\01023\\00110\end{pmatrix}, \begin{pmatrix}10034\\01030\\00144\end{pmatrix}, \begin{pmatrix}10041\\01030\\00124\end{pmatrix}, \begin{pmatrix}10043\\01044\\00103\end{pmatrix}, \begin{pmatrix}10012\\01011\\00101\end{pmatrix}^6, \begin{pmatrix}10014\\01010\\00141\end{pmatrix}, \begin{pmatrix}10021\\01010\\00111\end{pmatrix},$$
$$\begin{pmatrix}10034\\01021\\00140\end{pmatrix}, \begin{pmatrix}10043\\01004\\00112\end{pmatrix}, \begin{pmatrix}10041\\01014\\00101\end{pmatrix}, \begin{pmatrix}10013\\01012\\00134\end{pmatrix}^6, \begin{pmatrix}10023\\01012\\00134\end{pmatrix}, \begin{pmatrix}10024\\01012\\00134\end{pmatrix}, \begin{pmatrix}10031\\01043\\00121\end{pmatrix}, \begin{pmatrix}10032\\01043\\00121\end{pmatrix}, \begin{pmatrix}10042\\01043\\00121\end{pmatrix},$$
$$\begin{pmatrix}10014\\01014\\00143\end{pmatrix}^6, \begin{pmatrix}10012\\01022\\00112\end{pmatrix}, \begin{pmatrix}10021\\01021\\00122\end{pmatrix}, \begin{pmatrix}10034\\01041\\00130\end{pmatrix}, \begin{pmatrix}10043\\01003\\00114\end{pmatrix}, \begin{pmatrix}10041\\01034\\00141\end{pmatrix}, \begin{pmatrix}10014\\01021\\00101\end{pmatrix}^6, \begin{pmatrix}10012\\01020\\00141\end{pmatrix}, \begin{pmatrix}10021\\01014\\00102\end{pmatrix},$$
$$\begin{pmatrix}10034\\01010\\00102\end{pmatrix}, \begin{pmatrix}10041\\01010\\00112\end{pmatrix}, \begin{pmatrix}10043\\01020\\00101\end{pmatrix}, \begin{pmatrix}10013\\01023\\00121\end{pmatrix}^6, \begin{pmatrix}10024\\01043\\00104\end{pmatrix}, \begin{pmatrix}10023\\01040\\00124\end{pmatrix}, \begin{pmatrix}10031\\01012\\00132\end{pmatrix}, \begin{pmatrix}10032\\01042\\00104\end{pmatrix}, \begin{pmatrix}10042\\01040\\00134\end{pmatrix},$$
$$\begin{pmatrix}10012\\01031\\00121\end{pmatrix}^6, \begin{pmatrix}10014\\01043\\00130\end{pmatrix}, \begin{pmatrix}10021\\01012\\00113\end{pmatrix}, \begin{pmatrix}10034\\01022\\00142\end{pmatrix}, \begin{pmatrix}10041\\01003\\00134\end{pmatrix}, \begin{pmatrix}10043\\01024\\00122\end{pmatrix}, \begin{pmatrix}10013\\01033\\00143\end{pmatrix}^6, \begin{pmatrix}10023\\01014\\00120\end{pmatrix}, \begin{pmatrix}10024\\01041\\00112\end{pmatrix},$$
$$\begin{pmatrix}10032\\01002\\00141\end{pmatrix}, \begin{pmatrix}10031\\01034\\00133\end{pmatrix}, \begin{pmatrix}10042\\01021\\00114\end{pmatrix}, \begin{pmatrix}10013\\01041\\00103\end{pmatrix}^6, \begin{pmatrix}10024\\01030\\00104\end{pmatrix}, \begin{pmatrix}10023\\01040\\00143\end{pmatrix}, \begin{pmatrix}10032\\01034\\00104\end{pmatrix}, \begin{pmatrix}10031\\01030\\00114\end{pmatrix}, \begin{pmatrix}10042\\01040\\00103\end{pmatrix},$$
$$\begin{pmatrix}10013\\01044\\00113\end{pmatrix}^6, \begin{pmatrix}10023\\01022\\00110\end{pmatrix}, \begin{pmatrix}10024\\01024\\00130\end{pmatrix}, \begin{pmatrix}10032\\01001\\00122\end{pmatrix}, \begin{pmatrix}10031\\01031\\00144\end{pmatrix}, \begin{pmatrix}10042\\01003\\00142\end{pmatrix}, \begin{pmatrix}10002\\01202\\00011\end{pmatrix}^6, \begin{pmatrix}10030\\01220\\00001\end{pmatrix}, \begin{pmatrix}10003\\01301\\00010\end{pmatrix},$$
$$\begin{pmatrix}10003\\01304\\00011\end{pmatrix}, \begin{pmatrix}10002\\01403\\00010\end{pmatrix}, \begin{pmatrix}10020\\01420\\00001\end{pmatrix}, \begin{pmatrix}10100\\01002\\00010\end{pmatrix}^6, \begin{pmatrix}10100\\01103\\00011\end{pmatrix}, \begin{pmatrix}10403\\01003\\00010\end{pmatrix}, \begin{pmatrix}10403\\01102\\00011\end{pmatrix}, \begin{pmatrix}11000\\00120\\00001\end{pmatrix}, \begin{pmatrix}14030\\00130\\00001\end{pmatrix},$$
$$\begin{pmatrix}10102\\01001\\00014\end{pmatrix}^6, \begin{pmatrix}10102\\01104\\00012\end{pmatrix}, \begin{pmatrix}10401\\01002\\00013\end{pmatrix}, \begin{pmatrix}10401\\01103\\00013\end{pmatrix}, \begin{pmatrix}11002\\00101\\00014\end{pmatrix}, \begin{pmatrix}14003\\00101\\00012\end{pmatrix}, \begin{pmatrix}10104\\01200\\00012\end{pmatrix}^3, \begin{pmatrix}10104\\01400\\00014\end{pmatrix}, \begin{pmatrix}10203\\01300\\00013\end{pmatrix},$$
$$\begin{pmatrix}10101\\01300\\00013\end{pmatrix}^3, \begin{pmatrix}10303\\01200\\00012\end{pmatrix}, \begin{pmatrix}10303\\01400\\00014\end{pmatrix}, \begin{pmatrix}10100\\01320\\00001\end{pmatrix}^3, \begin{pmatrix}10301\\01204\\00010\end{pmatrix}, \begin{pmatrix}10301\\01401\\00011\end{pmatrix}, \begin{pmatrix}10202\\01000\\00011\end{pmatrix}^6, \begin{pmatrix}10202\\01100\\00010\end{pmatrix}, \begin{pmatrix}10330\\01000\\00001\end{pmatrix},$$

$\begin{pmatrix}10320\\01100\\00001\end{pmatrix}$, $\begin{pmatrix}12003\\00100\\00011\end{pmatrix}$, $\begin{pmatrix}13003\\00100\\00010\end{pmatrix}$, $\begin{pmatrix}10202\\01002\\00011\end{pmatrix}^6$, $\begin{pmatrix}10202\\01103\\00010\end{pmatrix}$, $\begin{pmatrix}10340\\01030\\00001\end{pmatrix}$, $\begin{pmatrix}10310\\01130\\00001\end{pmatrix}$, $\begin{pmatrix}12003\\00103\\00011\end{pmatrix}$, $\begin{pmatrix}13004\\00103\\00010\end{pmatrix}$,
$\begin{pmatrix}10203\\01202\\00012\end{pmatrix}^6$, $\begin{pmatrix}10204\\01203\\00012\end{pmatrix}$, $\begin{pmatrix}10203\\01403\\00014\end{pmatrix}$, $\begin{pmatrix}10204\\01402\\00014\end{pmatrix}$, $\begin{pmatrix}10402\\01302\\00013\end{pmatrix}$, $\begin{pmatrix}10402\\01303\\00013\end{pmatrix}$, $\begin{pmatrix}10304\\01300\\00013\end{pmatrix}^3$, $\begin{pmatrix}10402\\01200\\00012\end{pmatrix}$, $\begin{pmatrix}10402\\01400\\00014\end{pmatrix}$.

C Explicit lists of generator matrices for lower bounds for $n_5(5,2;s)$

In this section we explicitly list the generator matrices of the projective systems found by ILP computations.

$n_5(5,2;3) \geq 50$: $\binom{10012}{01044}$, $\binom{10013}{01143}$, $\binom{10014}{01202}$, $\binom{10010}{01322}$, $\binom{10011}{01404}$, $\binom{10020}{01022}$, $\binom{10022}{01124}$,
$\binom{10024}{01231}$, $\binom{10021}{01304}$, $\binom{10023}{01434}$, $\binom{10040}{01020}$, $\binom{10044}{01122}$, $\binom{10043}{01234}$, $\binom{10042}{01302}$, $\binom{10041}{01432}$, $\binom{10102}{01000}$,
$\binom{10112}{01100}$, $\binom{10123}{01210}$, $\binom{10130}{01331}$, $\binom{10143}{01414}$, $\binom{10104}{01033}$, $\binom{10114}{01131}$, $\binom{10120}{01244}$, $\binom{10132}{01313}$, $\binom{10140}{01444}$,
$\binom{10144}{01024}$, $\binom{10103}{01121}$, $\binom{10113}{01233}$, $\binom{10124}{01301}$, $\binom{10131}{01431}$, $\binom{10201}{01003}$, $\binom{10221}{01103}$, $\binom{10243}{01213}$, $\binom{10212}{01334}$,
$\binom{10233}{01412}$, $\binom{10303}{01002}$, $\binom{10333}{01102}$, $\binom{10311}{01212}$, $\binom{10342}{01333}$, $\binom{10321}{01411}$, $\binom{10302}{01032}$, $\binom{10332}{01130}$, $\binom{10310}{01243}$,
$\binom{10341}{01312}$, $\binom{10320}{01443}$, $\binom{10323}{01031}$, $\binom{10300}{01134}$, $\binom{10330}{01242}$, $\binom{10313}{01311}$, $\binom{10344}{01442}$,

$n_5(5,2;4) \geq 77$: $\binom{01000}{00111}$, $\binom{12022}{00100}$, $\binom{01033}{00134}$, $\binom{12030}{00132}$, $\binom{01044}{00143}$, $\binom{12001}{00122}$, $\binom{10002}{00010}$,
$\binom{10410}{00001}$, $\binom{10031}{00140}$, $\binom{13400}{00014}$, $\binom{10043}{00141}$, $\binom{10431}{01022}$, $\binom{10434}{01041}$, $\binom{10000}{01110}$, $\binom{10024}{01102}$, $\binom{10132}{01332}$,
$\binom{10021}{01141}$, $\binom{10244}{01443}$, $\binom{10004}{01224}$, $\binom{10033}{01433}$, $\binom{10044}{01203}$, $\binom{10223}{01244}$, $\binom{10014}{01322}$, $\binom{10123}{01342}$, $\binom{10011}{01330}$,
$\binom{13040}{00133}$, $\binom{10003}{01440}$, $\binom{14000}{00144}$, $\binom{10030}{01403}$, $\binom{10140}{01003}$, $\binom{10322}{01410}$, $\binom{10113}{01011}$, $\binom{10141}{01213}$, $\binom{10143}{01014}$,
$\binom{10241}{01312}$, $\binom{10110}{01123}$, $\binom{10131}{01104}$, $\binom{10114}{01321}$, $\binom{10312}{01143}$, $\binom{10440}{01430}$, $\binom{10102}{01400}$, $\binom{10120}{01412}$, $\binom{10210}{01012}$,
$\binom{10222}{01021}$, $\binom{10422}{01323}$, $\binom{10233}{01024}$, $\binom{10221}{01324}$, $\binom{10243}{01043}$, $\binom{10324}{01420}$, $\binom{10204}{01103}$, $\binom{10201}{01240}$, $\binom{10203}{01120}$,
$\binom{14013}{00112}$, $\binom{13000}{00124}$, $\binom{10234}{01334}$, $\binom{10240}{01202}$, $\binom{10342}{01231}$, $\binom{10242}{01344}$, $\binom{10423}{01232}$, $\binom{10213}{01414}$, $\binom{10404}{01140}$,
$\binom{10331}{01142}$, $\binom{10341}{01201}$, $\binom{10333}{01242}$, $\binom{10403}{01343}$, $\binom{10304}{01300}$, $\binom{11011}{00130}$, $\binom{10314}{01302}$, $\binom{10334}{01304}$, $\binom{10330}{01340}$,
$\binom{10302}{01411}$, $\binom{10401}{01303}$, $\binom{11021}{00142}$, $\binom{11030}{00114}$, $\binom{10432}{01124}$, $\binom{10430}{01212}$, $\binom{13004}{00013}$,

$n_5(5,2;6) \geq 132$: $\binom{01032}{00101}$, $\binom{12004}{00133}$, $\binom{01032}{00111}$, $\binom{12003}{00131}$, $\binom{01042}{00120}$, $\binom{12201}{00012}$, $\binom{01043}{00141}$,
$\binom{12042}{00122}$, $\binom{01320}{00001}$, $\binom{12043}{00132}$, $\binom{10002}{00114}$, $\binom{10411}{01022}$, $\binom{10024}{00124}$, $\binom{10424}{01040}$, $\binom{10023}{00144}$, $\binom{10444}{01034}$,
$\binom{10044}{00121}$, $\binom{10401}{01011}$, $\binom{10102}{00011}$, $\binom{10441}{01013}$, $\binom{10012}{01014}$, $\binom{10414}{01203}$, $\binom{10030}{01004}$, $\binom{10310}{01003}$, $\binom{10042}{01012}$,
$\binom{10413}{01403}$, $\binom{10041}{01020}$, $\binom{13012}{00102}$, $\binom{10000}{01104}$, $\binom{10301}{01000}$, $\binom{10022}{01122}$, $\binom{10412}{01440}$, $\binom{10033}{01120}$, $\binom{14024}{00112}$,
$\binom{10043}{01123}$, $\binom{10301}{01442}$, $\binom{10013}{01242}$, $\binom{10021}{01212}$, $\binom{10341}{01244}$, $\binom{10020}{01222}$, $\binom{10223}{01002}$, $\binom{10032}{01221}$, $\binom{10410}{01314}$,
$\binom{10040}{01221}$, $\binom{10001}{01304}$, $\binom{10121}{01130}$, $\binom{10003}{01344}$, $\binom{10203}{01342}$, $\binom{10010}{01333}$, $\binom{10120}{01001}$, $\binom{10034}{01342}$, $\binom{10123}{01340}$,
$\binom{10002}{01413}$, $\binom{10411}{01141}$, $\binom{10003}{01433}$, $\binom{10323}{01412}$, $\binom{10014}{01434}$, $\binom{10011}{01444}$, $\binom{10142}{01140}$, $\binom{10031}{01441}$, $\binom{10232}{01414}$,
$\binom{10104}{01031}$, $\binom{10343}{01113}$, $\binom{10144}{01033}$, $\binom{10242}{01210}$, $\binom{10103}{01114}$, $\binom{10224}{01343}$, $\binom{13031}{00113}$, $\binom{10133}{01100}$, $\binom{14042}{00110}$,
$\binom{10141}{01103}$, $\binom{10100}{01214}$, $\binom{10320}{01010}$, $\binom{10104}{01233}$, $\binom{10200}{01201}$, $\binom{10114}{01224}$, $\binom{10140}{01241}$, $\binom{10101}{01320}$, $\binom{13003}{00132}$,
$\binom{14014}{00134}$, $\binom{10122}{01443}$, $\binom{10442}{01101}$, $\binom{10131}{01400}$, $\binom{13014}{00140}$, $\binom{10134}{01430}$, $\binom{11041}{00143}$, $\binom{10213}{01023}$, $\binom{10322}{01424}$,
$\binom{10233}{01030}$, $\binom{14000}{00103}$, $\binom{10202}{01144}$, $\binom{10421}{01243}$, $\binom{10222}{01131}$, $\binom{10422}{01301}$, $\binom{10243}{01111}$, $\binom{10242}{01132}$, $\binom{10423}{01411}$,
$\binom{10214}{01230}$, $\binom{11013}{00123}$, $\binom{10244}{01231}$, $\binom{10300}{01142}$, $\binom{10240}{01244}$, $\binom{10304}{01024}$, $\binom{10221}{01334}$, $\binom{10230}{01312}$, $\binom{10211}{01432}$,
$\binom{10331}{01202}$, $\binom{10420}{01200}$, $\binom{10234}{01444}$, $\binom{10241}{01404}$, $\binom{13041}{00100}$, $\binom{10303}{01041}$, $\binom{10313}{01124}$, $\binom{10320}{01110}$, $\binom{10342}{01423}$,
$\binom{10312}{01213}$, $\binom{10404}{01102}$, $\binom{10330}{01223}$, $\binom{10332}{01240}$, $\binom{10314}{01341}$, $\binom{10324}{01313}$, $\binom{10321}{01331}$, $\binom{10402}{01211}$, $\binom{10344}{01401}$,
$\binom{10403}{01121}$, $\binom{11023}{00104}$, $\binom{10433}{01324}$, $\binom{10431}{01303}$, $\binom{10432}{01332}$, $\binom{10430}{01410}$, $\binom{11101}{00014}$, $\binom{13200}{00010}$,

$n_5(5,2;7) \geq 157$: $\binom{00010}{00001}$, $\binom{00010}{00001}$, $\binom{01000}{00124}$, $\binom{01032}{00100}$, $\binom{01014}{00131}$, $\binom{01041}{00112}$, $\binom{01023}{00143}$,
$\binom{10030}{00103}$, $\binom{10003}{01123}$, $\binom{10030}{00110}$, $\binom{10003}{01144}$, $\binom{10030}{00122}$, $\binom{10003}{01110}$, $\binom{10030}{00134}$, $\binom{10003}{01131}$, $\binom{10030}{00141}$,
$\binom{10003}{01102}$, $\binom{10022}{01003}$, $\binom{10022}{01012}$, $\binom{10022}{01021}$, $\binom{10022}{01030}$, $\binom{10022}{01044}$, $\binom{10002}{01202}$, $\binom{10033}{01301}$, $\binom{10002}{01213}$,
$\binom{10033}{01331}$, $\binom{10002}{01224}$, $\binom{10033}{01311}$, $\binom{10002}{01230}$, $\binom{10033}{01341}$, $\binom{10002}{01241}$, $\binom{10033}{01321}$, $\binom{10020}{01412}$, $\binom{10020}{01410}$,
$\binom{10020}{01413}$, $\binom{10020}{01411}$, $\binom{10020}{01414}$, $\binom{10100}{01004}$, $\binom{14021}{00111}$, $\binom{10112}{01013}$, $\binom{14012}{00123}$, $\binom{10124}{01022}$, $\binom{14003}{00130}$,

$\binom{10131}{01031}$, $\binom{14044}{00142}$, $\binom{10143}{01040}$, $\binom{14030}{00104}$, $\binom{10104}{01140}$, $\binom{10412}{01041}$, $\binom{10111}{01111}$, $\binom{10400}{01000}$, $\binom{10123}{01132}$, $\binom{10443}{01014}$, $\binom{10130}{01103}$, $\binom{10431}{01023}$, $\binom{10142}{01124}$, $\binom{10424}{01032}$, $\binom{10102}{01210}$, $\binom{10230}{01342}$, $\binom{10114}{01243}$, $\binom{10204}{01332}$, $\binom{10121}{01221}$, $\binom{10223}{01322}$, $\binom{10133}{01204}$, $\binom{10242}{01312}$, $\binom{10140}{01232}$, $\binom{10211}{01302}$, $\binom{10100}{01320}$, $\binom{10301}{01441}$, $\binom{10112}{01310}$, $\binom{10332}{01443}$, $\binom{10124}{01300}$, $\binom{10313}{01440}$, $\binom{10131}{01340}$, $\binom{10344}{01442}$, $\binom{10143}{01330}$, $\binom{10320}{01444}$, $\binom{10104}{01430}$, $\binom{10111}{01432}$, $\binom{10123}{01434}$, $\binom{10130}{01431}$, $\binom{10142}{01433}$, $\binom{10204}{01013}$, $\binom{13022}{00123}$, $\binom{10211}{01040}$, $\binom{13013}{00104}$, $\binom{10223}{01022}$, $\binom{13004}{00130}$, $\binom{10230}{01004}$, $\binom{13040}{00111}$, $\binom{10242}{01031}$, $\binom{13031}{00142}$, $\binom{10202}{01101}$, $\binom{10300}{01001}$, $\binom{10214}{01114}$, $\binom{10343}{01033}$, $\binom{10221}{01122}$, $\binom{10331}{01010}$, $\binom{10233}{01130}$, $\binom{10324}{01042}$, $\binom{10240}{01143}$, $\binom{10312}{01024}$, $\binom{10201}{01224}$, $\binom{10431}{01311}$, $\binom{10213}{01213}$, $\binom{10400}{01331}$, $\binom{10220}{01202}$, $\binom{10424}{01301}$, $\binom{10232}{01241}$, $\binom{10443}{01321}$, $\binom{10244}{01230}$, $\binom{10412}{01341}$, $\binom{10203}{01413}$, $\binom{10210}{01414}$, $\binom{10222}{01410}$, $\binom{10234}{01411}$, $\binom{10241}{01412}$, $\binom{12002}{00144}$, $\binom{12043}{00113}$, $\binom{12034}{00132}$, $\binom{12020}{00101}$, $\binom{12011}{00120}$, $\binom{10304}{01100}$, $\binom{10311}{01142}$, $\binom{10323}{01134}$, $\binom{10330}{01121}$, $\binom{10342}{01113}$, $\binom{10301}{01222}$, $\binom{10313}{01233}$, $\binom{10320}{01244}$, $\binom{10332}{01200}$, $\binom{10344}{01211}$, $\binom{10302}{01340}$, $\binom{10434}{01442}$, $\binom{10314}{01320}$, $\binom{10410}{01441}$, $\binom{10321}{01300}$, $\binom{10441}{01440}$, $\binom{10333}{01330}$, $\binom{10422}{01444}$, $\binom{10340}{01310}$, $\binom{10403}{01443}$, $\binom{11040}{00100}$, $\binom{11031}{00143}$, $\binom{11022}{00131}$, $\binom{11013}{00124}$, $\binom{11004}{00112}$, $\binom{10403}{01134}$, $\binom{10410}{01113}$, $\binom{10422}{01142}$, $\binom{10434}{01121}$, $\binom{10441}{01100}$, $\binom{10401}{01211}$, $\binom{10413}{01233}$, $\binom{10420}{01200}$, $\binom{10432}{01222}$, $\binom{10444}{01244}$,

$n_5(5,2;8) \geq 176$: $\binom{01001}{00133}$, $\binom{14013}{00134}$, $\binom{01001}{00140}$, $\binom{14004}{00014}$, $\binom{01020}{00131}$, $\binom{14023}{00102}$, $\binom{01032}{00110}$, $\binom{14201}{00011}$, $\binom{01033}{00143}$, $\binom{14020}{00144}$, $\binom{01104}{00014}$, $\binom{14021}{00114}$, $\binom{01301}{00012}$, $\binom{14043}{00132}$, $\binom{10020}{00001}$, $\binom{10410}{01002}$, $\binom{10000}{00104}$, $\binom{10403}{01000}$, $\binom{10001}{00111}$, $\binom{10413}{01044}$, $\binom{10012}{00104}$, $\binom{10424}{01021}$, $\binom{10012}{00112}$, $\binom{10431}{01040}$, $\binom{10032}{00103}$, $\binom{10441}{01013}$, $\binom{10032}{00111}$, $\binom{10400}{01031}$, $\binom{10030}{00123}$, $\binom{10430}{01003}$, $\binom{10004}{01004}$, $\binom{10213}{01400}$, $\binom{10001}{01040}$, $\binom{10013}{01013}$, $\binom{10010}{01400}$, $\binom{10023}{01020}$, $\binom{11014}{00102}$, $\binom{10042}{01032}$, $\binom{10113}{01401}$, $\binom{10002}{01132}$, $\binom{10134}{01442}$, $\binom{10024}{01131}$, $\binom{10131}{01110}$, $\binom{10033}{01103}$, $\binom{10021}{01443}$, $\binom{10003}{01233}$, $\binom{10031}{01432}$, $\binom{10011}{01222}$, $\binom{10414}{01240}$, $\binom{10044}{01203}$, $\binom{10342}{01244}$, $\binom{10044}{01220}$, $\binom{13031}{00122}$, $\binom{10041}{01230}$, $\binom{10014}{01314}$, $\binom{10202}{01420}$, $\binom{10010}{01330}$, $\binom{10034}{01303}$, $\binom{10331}{01213}$, $\binom{10043}{01333}$, $\binom{10040}{01421}$, $\binom{10022}{01434}$, $\binom{10410}{01324}$, $\binom{10411}{01234}$, $\binom{10101}{01043}$, $\binom{10423}{01312}$, $\binom{10110}{01023}$, $\binom{10123}{01011}$, $\binom{10114}{01030}$, $\binom{13000}{00103}$, $\binom{10223}{01214}$, $\binom{10121}{01031}$, $\binom{10420}{01414}$, $\binom{10132}{01010}$, $\binom{12043}{00101}$, $\binom{10143}{01012}$, $\binom{10321}{01110}$, $\binom{10104}{01144}$, $\binom{10200}{01401}$, $\binom{10121}{01101}$, $\binom{10420}{01402}$, $\binom{10120}{01143}$, $\binom{10131}{01124}$, $\binom{10421}{01120}$, $\binom{10103}{01232}$, $\binom{10300}{01133}$, $\binom{10133}{01211}$, $\binom{10234}{01200}$, $\binom{10141}{01201}$, $\binom{10422}{01444}$, $\binom{10144}{01210}$, $\binom{13020}{00121}$, $\binom{10142}{01224}$, $\binom{10100}{01323}$, $\binom{10102}{01343}$, $\binom{10210}{01144}$, $\binom{10120}{01304}$, $\binom{10340}{01012}$, $\binom{10122}{01330}$, $\binom{12022}{00133}$, $\binom{10244}{01241}$, $\binom{10111}{01411}$, $\binom{10424}{01420}$, $\binom{10124}{01433}$, $\binom{10332}{01243}$, $\binom{10130}{01421}$, $\binom{10140}{01442}$, $\binom{10244}{01014}$, $\binom{10204}{01041}$, $\binom{10211}{01030}$, $\binom{10220}{01042}$, $\binom{10232}{01022}$, $\binom{10230}{01423}$, $\binom{10240}{01034}$, $\binom{10334}{01024}$, $\binom{10203}{01102}$, $\binom{10323}{01130}$, $\binom{10320}{01021}$, $\binom{10201}{01223}$, $\binom{10433}{01331}$, $\binom{10214}{01234}$, $\binom{10243}{01403}$, $\binom{13010}{00120}$, $\binom{10240}{01204}$, $\binom{10312}{01024}$, $\binom{10200}{01310}$, $\binom{10212}{01311}$, $\binom{10303}{01314}$, $\binom{10211}{01322}$, $\binom{10434}{01230}$, $\binom{10222}{01302}$, $\binom{10224}{01342}$, $\binom{10233}{01300}$, $\binom{11034}{00130}$, $\binom{10241}{01331}$, $\binom{10432}{01441}$, $\binom{12010}{00142}$, $\binom{11040}{00140}$, $\binom{10231}{01434}$, $\binom{10431}{01111}$, $\binom{10242}{01431}$, $\binom{10344}{01343}$, $\binom{10314}{01042}$, $\binom{10322}{01041}$, $\binom{10341}{01334}$, $\binom{10320}{01100}$, $\binom{10324}{01123}$, $\binom{10333}{01201}$, $\binom{11030}{00113}$, $\binom{10313}{01242}$, $\binom{10441}{01341}$, $\binom{10312}{01310}$, $\binom{12032}{00131}$, $\binom{10442}{01112}$, $\binom{10301}{01402}$, $\binom{10443}{01210}$, $\binom{10300}{01412}$, $\binom{10304}{01412}$, $\binom{10311}{01404}$, $\binom{10444}{01121}$, $\binom{10310}{01413}$, $\binom{10333}{01424}$, $\binom{10330}{01430}$, $\binom{11043}{00100}$, $\binom{10402}{01342}$, $\binom{10404}{01114}$, $\binom{10401}{01432}$, $\binom{10403}{01221}$, $\binom{13041}{00124}$, $\binom{13043}{00123}$, $\binom{11012}{00121}$, $\binom{10402}{01410}$, $\binom{12024}{00141}$, $\binom{13013}{00142}$, $\binom{13302}{00013}$, $\binom{11101}{00010}$,

$n_5(5,2;11) \geq 260$: $\binom{00102}{00012}$, $\binom{01104}{00013}$, $\binom{01002}{00014}$, $\binom{01003}{00141}$, $\binom{01030}{00122}$, $\binom{01012}{00103}$, $\binom{01044}{00134}$, $\binom{01021}{00110}$, $\binom{01200}{00011}$, $\binom{01300}{00010}$, $\binom{01440}{00001}$, $\binom{10001}{00012}$, $\binom{10002}{00013}$, $\binom{10001}{00014}$, $\binom{10002}{00012}$, $\binom{10004}{00013}$, $\binom{10002}{00014}$, $\binom{10003}{00013}$, $\binom{10004}{00014}$, $\binom{10004}{00012}$, $\binom{10103}{01004}$, $\binom{14043}{00111}$, $\binom{10101}{01024}$, $\binom{14012}{00113}$, $\binom{10110}{01013}$, $\binom{14034}{00123}$, $\binom{10113}{01033}$, $\binom{14003}{00120}$, $\binom{10122}{01022}$, $\binom{14020}{00130}$, $\binom{10120}{01042}$, $\binom{14044}{00132}$, $\binom{10132}{01001}$, $\binom{14030}{00144}$, $\binom{10134}{01031}$, $\binom{14011}{00142}$, $\binom{10144}{01010}$, $\binom{14021}{00101}$, $\binom{10141}{01040}$, $\binom{14002}{00104}$, $\binom{10104}{01103}$, $\binom{10444}{01023}$, $\binom{10102}{01113}$, $\binom{10410}{01022}$, $\binom{10111}{01124}$, $\binom{10432}{01032}$, $\binom{10114}{01134}$, $\binom{10403}{01031}$, $\binom{10121}{01100}$, $\binom{10441}{01040}$, $\binom{10123}{01140}$, $\binom{10420}{01041}$, $\binom{10130}{01111}$, $\binom{10413}{01000}$, $\binom{10133}{01121}$, $\binom{10434}{01004}$, $\binom{10142}{01132}$, $\binom{10401}{01014}$, $\binom{10140}{01142}$, $\binom{10422}{01013}$, $\binom{10102}{01203}$, $\binom{10222}{01334}$, $\binom{10104}{01210}$, $\binom{10213}{01342}$, $\binom{10114}{01231}$, $\binom{10241}{01324}$, $\binom{10111}{01243}$, $\binom{10232}{01332}$, $\binom{10121}{01214}$, $\binom{10210}{01314}$, $\binom{10123}{01221}$, $\binom{10201}{01322}$, $\binom{10130}{01204}$, $\binom{10220}{01312}$, $\binom{10133}{01242}$, $\binom{10234}{01304}$, $\binom{10140}{01220}$, $\binom{10203}{01344}$, $\binom{10142}{01232}$, $\binom{10244}{01302}$, $\binom{10100}{01300}$, $\binom{10300}{01440}$, $\binom{10103}{01300}$, $\binom{10322}{01440}$, $\binom{10110}{01340}$, $\binom{10303}{01442}$, $\binom{10112}{01340}$, $\binom{10331}{01442}$, $\binom{10122}{01330}$, $\binom{10334}{01444}$, $\binom{10124}{01330}$, $\binom{10312}{01444}$, $\binom{10131}{01320}$, $\binom{10343}{01441}$, $\binom{10134}{01320}$, $\binom{10310}{01441}$, $\binom{10141}{01310}$, $\binom{10341}{01443}$, $\binom{10143}{01310}$, $\binom{10324}{01443}$, $\binom{10101}{01424}$, $\binom{10100}{01431}$, $\binom{10113}{01421}$, $\binom{10112}{01433}$, $\binom{10120}{01423}$, $\binom{10124}{01430}$,

$\binom{10132}{01420}, \binom{10131}{01432}, \binom{10144}{01422}, \binom{10143}{01434}, \binom{10204}{01001}, \binom{13014}{00144}, \binom{10204}{01023}, \binom{13024}{00124}, \binom{10211}{01000},$
$\binom{13010}{00100}, \binom{10211}{01033}, \binom{13000}{00120}, \binom{10223}{01010}, \binom{13041}{00101}, \binom{10223}{01032}, \binom{13001}{00131}, \binom{10230}{01014}, \binom{13042}{00112},$
$\binom{10230}{01042}, \binom{13032}{00132}, \binom{10242}{01024}, \binom{13023}{00113}, \binom{10242}{01041}, \binom{13033}{00143}, \binom{10202}{01120}, \binom{10334}{01043}, \binom{10200}{01144},$
$\binom{10330}{01030}, \binom{10212}{01102}, \binom{10323}{01012}, \binom{10214}{01133}, \binom{10322}{01020}, \binom{10224}{01110}, \binom{10311}{01044}, \binom{10221}{01141}, \binom{10310}{01002},$
$\binom{10233}{01104}, \binom{10303}{01034}, \binom{10231}{01123}, \binom{10304}{01021}, \binom{10240}{01112}, \binom{10341}{01011}, \binom{10243}{01131}, \binom{10342}{01003}, \binom{10201}{01224},$
$\binom{10431}{01311}, \binom{10202}{01220}, \binom{10431}{01344}, \binom{10213}{01213}, \binom{10400}{01331}, \binom{10214}{01214}, \binom{10400}{01314}, \binom{10220}{01202}, \binom{10424}{01301},$
$\binom{10221}{01203}, \binom{10424}{01334}, \binom{10232}{01241}, \binom{10443}{01321}, \binom{10233}{01242}, \binom{10443}{01304}, \binom{10240}{01231}, \binom{10412}{01324}, \binom{10244}{01230},$
$\binom{10412}{01341}, \binom{10203}{01413}, \binom{10200}{01424}, \binom{10210}{01414}, \binom{10212}{01420}, \binom{10222}{01410}, \binom{10224}{01421}, \binom{10234}{01411}, \binom{10231}{01422},$
$\binom{10241}{01412}, \binom{10243}{01423}, \binom{12014}{00141}, \binom{12034}{00114}, \binom{12020}{00133}, \binom{12000}{00110}, \binom{12041}{00134}, \binom{12011}{00102}, \binom{12032}{00103},$
$\binom{12002}{00121}, \binom{12023}{00122}, \binom{12043}{00140}, \binom{10300}{01143}, \binom{10301}{01140}, \binom{10312}{01130}, \binom{10313}{01132}, \binom{10320}{01124}, \binom{10324}{01122},$
$\binom{10331}{01114}, \binom{10332}{01111}, \binom{10343}{01101}, \binom{10344}{01103}, \binom{10301}{01211}, \binom{10302}{01244}, \binom{10314}{01200}, \binom{10313}{01222}, \binom{10321}{01211},$
$\binom{10320}{01233}, \binom{10333}{01222}, \binom{10332}{01244}, \binom{10344}{01200}, \binom{10340}{01233}, \binom{10302}{01312}, \binom{10404}{01432}, \binom{10304}{01343}, \binom{10440}{01403},$
$\binom{10311}{01323}, \binom{10421}{01402}, \binom{10314}{01342}, \binom{10430}{01431}, \binom{10323}{01303}, \binom{10402}{01401}, \binom{10321}{01322}, \binom{10411}{01430}, \binom{10333}{01302},$
$\binom{10442}{01434}, \binom{10330}{01333}, \binom{10433}{01400}, \binom{10342}{01313}, \binom{10414}{01404}, \binom{10340}{01332}, \binom{10423}{01433}, \binom{11022}{00112}, \binom{11020}{00142},$
$\binom{11013}{00100}, \binom{11011}{00130}, \binom{11002}{00123}, \binom{11004}{00143}, \binom{11043}{00111}, \binom{11040}{00131}, \binom{11031}{00124}, \binom{11034}{00104}, \binom{10403}{01130},$
$\binom{10402}{01142}, \binom{10410}{01114}, \binom{10414}{01121}, \binom{10421}{01100}, \binom{10422}{01143}, \binom{10434}{01122}, \binom{10433}{01134}, \binom{10441}{01101}, \binom{10440}{01113},$
$\binom{10401}{01201}, \binom{10404}{01210}, \binom{10413}{01223}, \binom{10411}{01232}, \binom{10423}{01204}, \binom{10420}{01240}, \binom{10432}{01212}, \binom{10430}{01221}, \binom{10444}{01234},$
$\binom{10442}{01243},$

$n : 5(5,2;12) \geq 286$: $\binom{00110}{00001}, \binom{01100}{00013}, \binom{01004}{00120}, \binom{10041}{01201}, \binom{10224}{01444}, \binom{01021}{00121},$
$\binom{10214}{01214}, \binom{10334}{01330}, \binom{01034}{00101}, \binom{10344}{01012}, \binom{10004}{01441}, \binom{01034}{00133}, \binom{10344}{01331}, \binom{10221}{01113}, \binom{01032}{00144},$
$\binom{10323}{01440}, \binom{10441}{01331}, \binom{01041}{00120}, \binom{10411}{01201}, \binom{10440}{01223}, \binom{11003}{00130}, \binom{10002}{01003}, \binom{01202}{00014}, \binom{12023}{00143},$
$\binom{10222}{01334}, \binom{01300}{00010}, \binom{13001}{00101}, \binom{10443}{01114}, \binom{10000}{00011}, \binom{10001}{00124}, \binom{11031}{00131}, \binom{10003}{00131}, \binom{11044}{00133},$
$\binom{10014}{00112}, \binom{11023}{00113}, \binom{10024}{00100}, \binom{11043}{00102}, \binom{10024}{00104}, \binom{11040}{00103}, \binom{10021}{00132}, \binom{11304}{00014}, \binom{10043}{00114},$
$\binom{11034}{00110}, \binom{10103}{00010}, \binom{11002}{00122}, \binom{13022}{00132}, \binom{10003}{01011}, \binom{12014}{00133}, \binom{10013}{01013}, \binom{10044}{01141}, \binom{10022}{01012},$
$\binom{10413}{01430}, \binom{10020}{01022}, \binom{10331}{01011}, \binom{10034}{01023}, \binom{10333}{01432}, \binom{10031}{01043}, \binom{10040}{01224}, \binom{10040}{01042}, \binom{10201}{01221},$
$\binom{10001}{01132}, \binom{10013}{01111}, \binom{10423}{01212}, \binom{10010}{01124}, \binom{10212}{01420}, \binom{10011}{01131}, \binom{10021}{01120}, \binom{10130}{01210}, \binom{10030}{01104},$
$\binom{10212}{01000}, \binom{10012}{01204}, \binom{12044}{00123}, \binom{10014}{01212}, \binom{12030}{00144}, \binom{10304}{01332}, \binom{10020}{01203}, \binom{12031}{00104}, \binom{10142}{01200},$
$\binom{10021}{01222}, \binom{10432}{01413}, \binom{10023}{01222}, \binom{12043}{00141}, \binom{10431}{01410}, \binom{10031}{01204}, \binom{12044}{00124}, \binom{10300}{01414}, \binom{10032}{01220},$
$\binom{12024}{00140}, \binom{12010}{00142}, \binom{10430}{01041}, \binom{12041}{00100}, \binom{10304}{01123}, \binom{10002}{01303}, \binom{13002}{00011}, \binom{10004}{01313}, \binom{13100}{00012},$
$\binom{14044}{00134}, \binom{10003}{01321}, \binom{13201}{00010}, \binom{10010}{01313}, \binom{13034}{00102}, \binom{10234}{01403}, \binom{10034}{01302}, \binom{10442}{01323}, \binom{10030}{01322},$
$\binom{13023}{00103}, \binom{10102}{01110}, \binom{10042}{01320}, \binom{13040}{00134}, \binom{10311}{01114}, \binom{14400}{00012}, \binom{10012}{01441}, \binom{14030}{00123}, \binom{10023}{01431},$
$\binom{14043}{00141}, \binom{10401}{01440}, \binom{10032}{01412}, \binom{14032}{00140}, \binom{10114}{01102}, \binom{10033}{01431}, \binom{14033}{00111}, \binom{10042}{01420}, \binom{10324}{01101},$
$\binom{10043}{01422}, \binom{14031}{00121}, \binom{10320}{01104}, \binom{10041}{01443}, \binom{14020}{00142}, \binom{10242}{01234}, \binom{10101}{01024}, \binom{10243}{01013}, \binom{10330}{01030},$
$\binom{10122}{01031}, \binom{10310}{01223}, \binom{10403}{01342}, \binom{10120}{01044}, \binom{10440}{01202}, \binom{10122}{01044}, \binom{10131}{01020}, \binom{10201}{01311}, \binom{10332}{01341},$
$\binom{10133}{01021}, \binom{10214}{01332}, \binom{10334}{01340}, \binom{10144}{01000}, \binom{10402}{01030}, \binom{10144}{01001}, \binom{10404}{01033}, \binom{10141}{01014}, \binom{10142}{01412},$
$\binom{10143}{01343}, \binom{10104}{01103}, \binom{10310}{01002}, \binom{10242}{01122}, \binom{10104}{01130}, \binom{10314}{01042}, \binom{10431}{01143}, \binom{10113}{01123}, \binom{12004}{00122},$
$\binom{10112}{01131}, \binom{10123}{01101}, \binom{10330}{01231}, \binom{10240}{01001}, \binom{10131}{01122}, \binom{10410}{01311}, \binom{10240}{01433}, \binom{10132}{01140}, \binom{10133}{01324},$
$\binom{10311}{01310}, \binom{10141}{01144}, \binom{10244}{01242}, \binom{10100}{01221}, \binom{10414}{01402}, \binom{10111}{01211}, \binom{10130}{01224}, \binom{10140}{01303}, \binom{10134}{01241},$
$\binom{10223}{01404}, \binom{10414}{01024}, \binom{10142}{01240}, \binom{10111}{01420}, \binom{10221}{01212}, \binom{10100}{01314}, \binom{10323}{01043}, \binom{10114}{01324}, \binom{10421}{01143},$
$\binom{10110}{01342}, \binom{10112}{01344}, \binom{10121}{01333}, \binom{10203}{01210}, \binom{10202}{01042}, \binom{10131}{01330}, \binom{10421}{01311}, \binom{10322}{01301}, \binom{10333}{01404},$
$\binom{10444}{01040}, \binom{10200}{01230}, \binom{10101}{01400}, \binom{10231}{01134}, \binom{10104}{01421}, \binom{10110}{01422}, \binom{10124}{01403}, \binom{10223}{01244}, \binom{10120}{01411},$
$\binom{10311}{01202}, \binom{10121}{01442}, \binom{10422}{01322}, \binom{10132}{01434}, \binom{10232}{01444}, \binom{10140}{01400}, \binom{10404}{01404}, \binom{10424}{01010}, \binom{10140}{01432},$
$\binom{10200}{01031}, \binom{10204}{01030}, \binom{10302}{01023}, \binom{10434}{01221}, \binom{10211}{01022}, \binom{10331}{01423}, \binom{10213}{01040}, \binom{10233}{01004}, \binom{10230}{01043},$
$\binom{10432}{01401}, \binom{10433}{01020}, \binom{10210}{01120}, \binom{10400}{01300}, \binom{10213}{01140}, \binom{10234}{01103}, \binom{10301}{01002}, \binom{10234}{01141}, \binom{10302}{01102},$
$\binom{10321}{01331}, \binom{10424}{01232}, \binom{10423}{01333}, \binom{10410}{01132}, \binom{10220}{01230}, \binom{10220}{01243}, \binom{10242}{01214}, \binom{10204}{01304}, \binom{10441}{01213},$

$\binom{10243}{01410}$, $\binom{10203}{01314}$, $\binom{10241}{01411}$, $\binom{10202}{01341}$, $\binom{10433}{01010}$, $\binom{10412}{01321}$, $\binom{10231}{01304}$, $\binom{10303}{01430}$, $\binom{10441}{01414}$,
$\binom{10232}{01312}$, $\binom{10241}{01343}$, $\binom{10340}{01233}$, $\binom{10221}{01423}$, $\binom{10313}{01132}$, $\binom{14023}{00101}$, $\binom{10401}{01422}$, $\binom{10342}{01233}$, $\binom{10342}{01241}$,
$\binom{10302}{01032}$, $\binom{10312}{01014}$, $\binom{10420}{01402}$, $\binom{10322}{01012}$, $\binom{10422}{01224}$, $\binom{10303}{01144}$, $\binom{10430}{01014}$, $\binom{10340}{01100}$, $\binom{10412}{01003}$,
$\binom{10332}{01203}$, $\binom{10314}{01234}$, $\binom{10433}{01232}$, $\binom{10320}{01240}$, $\binom{10341}{01213}$, $\binom{10343}{01242}$, $\binom{10303}{01312}$, $\binom{10304}{01344}$, $\binom{10343}{01442}$,
$\binom{13044}{00143}$, $\binom{10300}{01424}$, $\binom{10301}{01424}$, $\binom{10312}{01413}$, $\binom{10434}{01110}$, $\binom{10413}{01033}$, $\binom{10411}{01200}$, $\binom{10403}{01112}$, $\binom{10400}{01141}$,
$\binom{10443}{01133}$

$n_5(5,2;13) \geq 308$: $\binom{00110}{00001}$, $\binom{00110}{00001}$, $\binom{00110}{00001}$, $\binom{01100}{00013}$, $\binom{01100}{00013}$, $\binom{01100}{00013}$, $\binom{10000}{00011}$,
$\binom{10000}{00011}$, $\binom{10000}{00011}$, $\binom{11003}{00130}$, $\binom{11003}{00130}$, $\binom{11003}{00130}$, $\binom{10002}{01003}$, $\binom{10002}{01003}$, $\binom{10002}{01003}$, $\binom{13022}{00132}$,
$\binom{13022}{00132}$, $\binom{13022}{00132}$, $\binom{10034}{01302}$, $\binom{10034}{01302}$, $\binom{10034}{01302}$, $\binom{10442}{01323}$, $\binom{10442}{01323}$, $\binom{10442}{01323}$, $\binom{10210}{01120}$,
$\binom{10210}{01120}$, $\binom{10210}{01120}$, $\binom{10400}{01300}$, $\binom{10400}{01300}$, $\binom{10400}{01300}$, $\binom{10443}{01133}$, $\binom{10443}{01133}$, $\binom{10443}{01133}$, $\binom{01014}{00101}$,
$\binom{10142}{01012}$, $\binom{10111}{01334}$, $\binom{01010}{00142}$, $\binom{10100}{01424}$, $\binom{10224}{01004}$, $\binom{01033}{00103}$, $\binom{10331}{01033}$, $\binom{10001}{01442}$, $\binom{01030}{00123}$,
$\binom{10302}{01230}$, $\binom{10114}{01002}$, $\binom{01044}{00101}$, $\binom{10440}{01012}$, $\binom{10223}{01222}$, $\binom{01040}{00140}$, $\binom{10403}{01403}$, $\binom{10004}{01220}$, $\binom{01403}{00014}$,
$\binom{14034}{00143}$, $\binom{10114}{01442}$, $\binom{10001}{00140}$, $\binom{11012}{00131}$, $\binom{10012}{00134}$, $\binom{11030}{00104}$, $\binom{10030}{00103}$, $\binom{11031}{00143}$, $\binom{10032}{00131}$,
$\binom{11022}{00122}$, $\binom{10041}{00133}$, $\binom{11013}{00142}$, $\binom{10203}{00010}$, $\binom{11002}{00100}$, $\binom{10303}{00010}$, $\binom{11002}{00144}$, $\binom{10003}{01024}$, $\binom{10003}{01032}$,
$\binom{14032}{00133}$, $\binom{10013}{01011}$, $\binom{10040}{01140}$, $\binom{10021}{01004}$, $\binom{10042}{01303}$, $\binom{10030}{01043}$, $\binom{10043}{01224}$, $\binom{10032}{01041}$, $\binom{10043}{01223}$,
$\binom{10042}{01001}$, $\binom{10411}{01014}$, $\binom{10014}{01114}$, $\binom{10423}{01213}$, $\binom{10013}{01143}$, $\binom{10344}{01341}$, $\binom{10020}{01143}$, $\binom{10420}{01422}$, $\binom{10041}{01124}$,
$\binom{10340}{01131}$, $\binom{10214}{01213}$, $\binom{12204}{00012}$, $\binom{13030}{00134}$, $\binom{10004}{01242}$, $\binom{12403}{00012}$, $\binom{10012}{01223}$, $\binom{12042}{00123}$, $\binom{10140}{01044}$,
$\binom{10012}{01233}$, $\binom{12020}{00123}$, $\binom{10431}{01203}$, $\binom{10023}{01214}$, $\binom{12004}{00141}$, $\binom{10013}{01333}$, $\binom{10024}{01234}$, $\binom{12032}{00120}$, $\binom{10303}{01041}$,
$\binom{10031}{01202}$, $\binom{12023}{00124}$, $\binom{10301}{01413}$, $\binom{12041}{00121}$, $\binom{10300}{01124}$, $\binom{12004}{00121}$, $\binom{10302}{01122}$, $\binom{10010}{01304}$, $\binom{13043}{00102}$,
$\binom{10441}{01241}$, $\binom{13040}{00131}$, $\binom{10311}{01324}$, $\binom{10024}{01301}$, $\binom{13014}{00120}$, $\binom{10440}{01404}$, $\binom{10024}{01333}$, $\binom{13023}{00120}$, $\binom{10102}{01242}$,
$\binom{10444}{01031}$, $\binom{10040}{01321}$, $\binom{13011}{00100}$, $\binom{10310}{01112}$, $\binom{10043}{01322}$, $\binom{13032}{00121}$, $\binom{10314}{01110}$, $\binom{10001}{01414}$, $\binom{14102}{00014}$,
$\binom{14402}{00014}$, $\binom{10010}{01402}$, $\binom{14021}{00102}$, $\binom{10324}{01313}$, $\binom{10014}{01401}$, $\binom{14013}{00144}$, $\binom{10320}{01311}$, $\binom{10020}{01410}$, $\binom{14002}{00104}$,
$\binom{10110}{01232}$, $\binom{10023}{01411}$, $\binom{14023}{00141}$, $\binom{10112}{01234}$, $\binom{10021}{01440}$, $\binom{10322}{01023}$, $\binom{10031}{01423}$, $\binom{14043}{00124}$, $\binom{10242}{01022}$,
$\binom{10102}{01022}$, $\binom{10222}{01021}$, $\binom{10114}{01010}$, $\binom{10100}{01143}$, $\binom{10112}{01030}$, $\binom{10110}{01042}$, $\binom{10424}{01101}$, $\binom{10122}{01001}$, $\binom{10141}{01104}$,
$\binom{10130}{01031}$, $\binom{10310}{01303}$, $\binom{10143}{01032}$, $\binom{10130}{01032}$, $\binom{10323}{01303}$, $\binom{10140}{01030}$, $\binom{10121}{01420}$, $\binom{10143}{01340}$, $\binom{10302}{01404}$,
$\binom{10323}{01433}$, $\binom{10212}{01222}$, $\binom{10103}{01122}$, $\binom{10242}{01034}$, $\binom{10120}{01243}$, $\binom{10431}{01000}$, $\binom{10432}{01434}$, $\binom{10111}{01123}$, $\binom{10120}{01114}$,
$\binom{10121}{01104}$, $\binom{10330}{01210}$, $\binom{10244}{01000}$, $\binom{10124}{01101}$, $\binom{10322}{01244}$, $\binom{10241}{01001}$, $\binom{10444}{01202}$, $\binom{10311}{01432}$, $\binom{10123}{01130}$,
$\binom{10120}{01231}$, $\binom{10131}{01101}$, $\binom{10200}{01311}$, $\binom{10133}{01412}$, $\binom{10144}{01114}$, $\binom{10200}{01441}$, $\binom{10122}{01310}$, $\binom{10101}{01221}$, $\binom{10241}{01013}$,
$\binom{10410}{01400}$, $\binom{10103}{01230}$, $\binom{10342}{01034}$, $\binom{10343}{01020}$, $\binom{10430}{01021}$, $\binom{10220}{01144}$, $\binom{10123}{01211}$, $\binom{10204}{01231}$, $\binom{10412}{01334}$,
$\binom{10414}{01202}$, $\binom{10133}{01224}$, $\binom{10132}{01332}$, $\binom{10134}{01233}$, $\binom{10204}{01340}$, $\binom{10412}{01210}$, $\binom{10144}{01214}$, $\binom{10313}{01441}$, $\binom{10104}{01333}$,
$\binom{10140}{01243}$, $\binom{10132}{01404}$, $\binom{10222}{01212}$, $\binom{10104}{01313}$, $\binom{10324}{01043}$, $\binom{10312}{01042}$, $\binom{10102}{01344}$, $\binom{10434}{01021}$, $\binom{10110}{01343}$,
$\binom{10111}{01342}$, $\binom{10113}{01341}$, $\binom{12042}{00122}$, $\binom{10131}{01320}$, $\binom{10413}{01324}$, $\binom{10211}{01433}$, $\binom{10101}{01422}$, $\binom{10231}{01013}$, $\binom{10103}{01431}$,
$\binom{10340}{01034}$, $\binom{10423}{01440}$, $\binom{10301}{01320}$, $\binom{10404}{01332}$, $\binom{10130}{01424}$, $\binom{10422}{01203}$, $\binom{10134}{01430}$, $\binom{10230}{01442}$, $\binom{10142}{01444}$,
$\binom{10311}{01420}$, $\binom{10232}{01201}$, $\binom{10214}{01111}$, $\binom{10434}{01421}$, $\binom{10233}{01043}$, $\binom{10432}{01443}$, $\binom{10331}{01123}$, $\binom{10344}{01212}$, $\binom{10341}{01321}$,
$\binom{10341}{01103}$, $\binom{10230}{01141}$, $\binom{10402}{01402}$, $\binom{10232}{01141}$, $\binom{10422}{01232}$, $\binom{10201}{01240}$, $\binom{10221}{01432}$, $\binom{10214}{01200}$, $\binom{10410}{01321}$,
$\binom{10421}{01330}$, $\binom{10212}{01230}$, $\binom{10234}{01313}$, $\binom{10402}{01111}$, $\binom{10242}{01414}$, $\binom{10233}{01214}$, $\binom{10314}{01443}$, $\binom{10201}{01312}$, $\binom{10240}{01413}$,
$\binom{10202}{01314}$, $\binom{10240}{01410}$, $\binom{10441}{01023}$, $\binom{10212}{01320}$, $\binom{10211}{01330}$, $\binom{10221}{01322}$, $\binom{10433}{01132}$, $\binom{10342}{01011}$, $\binom{10234}{01331}$,
$\binom{10243}{01301}$, $\binom{10203}{01410}$, $\binom{10414}{01002}$, $\binom{10213}{01432}$, $\binom{10224}{01423}$, $\binom{10401}{01132}$, $\binom{10321}{01401}$, $\binom{10300}{01204}$, $\binom{10334}{01204}$,
$\binom{10300}{01212}$, $\binom{10312}{01020}$, $\binom{10332}{01040}$, $\binom{10424}{01240}$, $\binom{10333}{01314}$, $\binom{10421}{01224}$, $\binom{10403}{01144}$, $\binom{10332}{01131}$, $\binom{10344}{01304}$,
$\binom{10304}{01112}$, $\binom{10322}{01411}$, $\binom{10334}{01200}$, $\binom{14033}{00143}$, $\binom{10404}{01102}$, $\binom{10304}{01310}$, $\binom{10444}{01434}$, $\binom{10341}{01431}$, $\binom{10420}{01024}$,
$\binom{10402}{01112}$, $\binom{10413}{01201}$, $\binom{10414}{01201}$, $\binom{10430}{01343}$,

$n_5(5,2;14) \geq 330$: $\binom{01004}{00101}$, $\binom{12031}{00110}$, $\binom{01011}{00101}$, $\binom{12012}{00141}$, $\binom{01013}{00121}$, $\binom{12043}{00120}$, $\binom{01020}{00113}$,
$\binom{12030}{00102}$, $\binom{01024}{00144}$, $\binom{12040}{00143}$, $\binom{01033}{00104}$, $\binom{12034}{00133}$, $\binom{01031}{00122}$, $\binom{12014}{00122}$, $\binom{01040}{00114}$, $\binom{12004}{00104}$,
$\binom{01043}{00132}$, $\binom{12002}{00112}$, $\binom{10003}{00112}$, $\binom{10422}{01011}$, $\binom{10003}{00114}$, $\binom{10444}{01033}$, $\binom{10001}{00133}$, $\binom{10424}{01034}$, $\binom{10004}{00142}$,
$\binom{10434}{01032}$, $\binom{10010}{00134}$, $\binom{10401}{01001}$, $\binom{10014}{00134}$, $\binom{10422}{01043}$, $\binom{10021}{00100}$, $\binom{13403}{00010}$, $\binom{10024}{00111}$, $\binom{10401}{01013}$,

$\binom{10020}{00122}$, $\binom{10443}{01002}$, $\binom{10024}{00121}$, $\binom{10400}{01014}$, $\binom{10040}{00121}$, $\binom{10420}{01004}$, $\binom{10044}{00124}$, $\binom{10420}{01042}$, $\binom{10012}{01014}$, $\binom{10414}{01203}$, $\binom{10013}{01034}$, $\binom{10213}{01300}$, $\binom{10012}{01041}$, $\binom{10414}{01303}$, $\binom{10021}{01024}$, $\binom{10111}{01104}$, $\binom{10031}{01020}$, $\binom{13011}{00102}$, $\binom{10042}{01002}$, $\binom{10413}{01404}$, $\binom{10040}{01010}$, $\binom{10042}{01034}$, $\binom{10413}{01200}$, $\binom{10002}{01143}$, $\binom{10411}{01114}$, $\binom{10004}{01140}$, $\binom{11020}{00114}$, $\binom{10020}{01122}$, $\binom{10243}{01002}$, $\binom{10023}{01124}$, $\binom{10243}{01333}$, $\binom{10023}{01131}$, $\binom{10133}{01223}$, $\binom{10032}{01111}$, $\binom{10410}{01331}$, $\binom{10034}{01110}$, $\binom{11024}{00111}$, $\binom{10034}{01111}$, $\binom{10304}{01114}$, $\binom{10033}{01121}$, $\binom{10134}{01222}$, $\binom{10033}{01144}$, $\binom{10242}{01330}$, $\binom{10042}{01110}$, $\binom{10041}{01141}$, $\binom{10240}{01440}$, $\binom{10014}{01233}$, $\binom{10223}{01242}$, $\binom{10011}{01244}$, $\binom{10102}{01120}$, $\binom{10021}{01240}$, $\binom{13032}{00124}$, $\binom{10031}{01204}$, $\binom{10100}{01123}$, $\binom{10033}{01232}$, $\binom{10040}{01203}$, $\binom{10103}{01004}$, $\binom{10044}{01224}$, $\binom{10030}{01432}$, $\binom{10002}{01314}$, $\binom{10411}{01212}$, $\binom{10000}{01322}$, $\binom{10202}{01000}$, $\binom{10002}{01332}$, $\binom{10411}{01422}$, $\binom{10001}{01344}$, $\binom{10124}{01134}$, $\binom{10011}{01342}$, $\binom{10330}{01214}$, $\binom{10020}{01301}$, $\binom{10032}{01303}$, $\binom{10410}{01133}$, $\binom{10032}{01343}$, $\binom{10410}{01132}$, $\binom{10041}{01301}$, $\binom{10203}{01424}$, $\binom{10000}{01404}$, $\binom{10321}{01000}$, $\binom{10001}{01443}$, $\binom{10012}{01424}$, $\binom{10414}{01230}$, $\binom{10013}{01444}$, $\binom{10231}{01323}$, $\binom{10022}{01420}$, $\binom{10022}{01431}$, $\binom{10412}{01321}$, $\binom{10031}{01401}$, $\binom{10230}{01413}$, $\binom{10234}{01003}$, $\binom{10030}{01444}$, $\binom{10321}{01003}$, $\binom{10044}{01402}$, $\binom{10143}{01324}$, $\binom{10043}{01412}$, $\binom{10043}{01442}$, $\binom{10241}{01310}$, $\binom{10102}{01023}$, $\binom{10441}{01112}$, $\binom{10103}{01021}$, $\binom{10140}{01214}$, $\binom{10100}{01041}$, $\binom{10110}{01010}$, $\binom{10111}{01022}$, $\binom{10342}{01210}$, $\binom{10114}{01044}$, $\binom{10133}{01022}$, $\binom{10101}{01102}$, $\binom{10331}{01230}$, $\binom{10114}{01121}$, $\binom{10332}{01123}$, $\binom{10112}{01140}$, $\binom{10122}{01103}$, $\binom{10442}{01122}$, $\binom{10121}{01143}$, $\binom{10123}{01144}$, $\binom{10224}{01344}$, $\binom{10142}{01131}$, $\binom{10443}{01343}$, $\binom{10104}{01212}$, $\binom{10133}{01323}$, $\binom{10104}{01232}$, $\binom{10132}{01324}$, $\binom{10112}{01223}$, $\binom{10444}{01133}$, $\binom{10122}{01221}$, $\binom{10442}{01323}$, $\binom{10122}{01224}$, $\binom{10442}{01201}$, $\binom{10130}{01210}$, $\binom{10130}{01212}$, $\binom{10203}{01013}$, $\binom{10323}{01441}$, $\binom{10134}{01324}$, $\binom{10144}{01204}$, $\binom{10322}{01014}$, $\binom{10140}{01241}$, $\binom{10101}{01340}$, $\binom{13000}{00134}$, $\binom{10120}{01304}$, $\binom{10312}{01012}$, $\binom{10124}{01310}$, $\binom{11030}{00131}$, $\binom{10123}{01320}$, $\binom{14012}{00132}$, $\binom{10121}{01333}$, $\binom{10132}{01302}$, $\binom{10440}{01433}$, $\binom{10440}{01222}$, $\binom{10313}{01431}$, $\binom{10131}{01342}$, $\binom{10311}{01221}$, $\binom{10234}{01300}$, $\binom{10141}{01332}$, $\binom{10310}{01220}$, $\binom{10101}{01434}$, $\binom{10102}{01442}$, $\binom{10441}{01421}$, $\binom{10113}{01404}$, $\binom{10214}{01331}$, $\binom{10114}{01443}$, $\binom{10211}{01244}$, $\binom{10120}{01422}$, $\binom{10213}{01012}$, $\binom{10124}{01422}$, $\binom{10131}{01400}$, $\binom{13014}{00140}$, $\binom{10131}{01401}$, $\binom{10210}{01423}$, $\binom{10141}{01411}$, $\binom{10211}{01423}$, $\binom{10142}{01432}$, $\binom{10443}{01421}$, $\binom{10320}{01424}$, $\binom{10203}{01031}$, $\binom{10213}{01041}$, $\binom{10220}{01223}$, $\binom{10233}{01030}$, $\binom{14000}{00103}$, $\binom{10234}{01042}$, $\binom{10240}{01031}$, $\binom{10244}{01044}$, $\binom{10200}{01101}$, $\binom{10201}{01102}$, $\binom{10311}{01240}$, $\binom{10201}{01113}$, $\binom{10200}{01130}$, $\binom{10201}{01142}$, $\binom{10312}{01243}$, $\binom{10214}{01101}$, $\binom{10314}{01131}$, $\binom{10212}{01134}$, $\binom{10424}{01242}$, $\binom{10223}{01103}$, $\binom{10312}{01412}$, $\binom{10233}{01130}$, $\binom{14010}{00113}$, $\binom{10243}{01111}$, $\binom{10241}{01124}$, $\binom{10204}{01234}$, $\binom{10212}{01210}$, $\binom{10224}{01201}$, $\binom{10302}{01142}$, $\binom{10232}{01240}$, $\binom{10244}{01231}$, $\binom{10300}{01142}$, $\binom{10242}{01243}$, $\binom{10423}{01143}$, $\binom{10204}{01311}$, $\binom{10340}{01101}$, $\binom{14033}{00130}$, $\binom{10341}{01104}$, $\binom{10220}{01333}$, $\binom{11023}{00130}$, $\binom{13011}{00131}$, $\binom{10340}{01441}$, $\binom{10242}{01341}$, $\binom{10423}{01311}$, $\binom{10202}{01403}$, $\binom{10421}{01110}$, $\binom{10204}{01402}$, $\binom{10210}{01414}$, $\binom{10333}{01021}$, $\binom{10231}{01440}$, $\binom{13023}{00144}$, $\binom{10244}{01420}$, $\binom{11034}{00142}$, $\binom{10404}{01430}$, $\binom{10310}{01032}$, $\binom{13043}{00100}$, $\binom{10402}{01234}$, $\binom{10323}{01030}$, $\binom{14023}{00103}$, $\binom{10334}{01033}$, $\binom{10330}{01040}$, $\binom{10332}{01042}$, $\binom{10400}{01434}$, $\binom{10343}{01040}$, $\binom{14023}{00104}$, $\binom{10401}{01421}$, $\binom{10341}{01144}$, $\binom{10324}{01112}$, $\binom{10400}{01140}$, $\binom{10313}{01233}$, $\binom{10331}{01413}$, $\binom{13011}{00124}$, $\binom{10404}{01100}$, $\binom{10322}{01211}$, $\binom{10402}{01340}$, $\binom{13012}{00123}$, $\binom{10342}{01220}$, $\binom{10303}{01300}$, $\binom{14001}{00130}$, $\binom{10303}{01312}$, $\binom{10304}{01321}$, $\binom{10300}{01334}$, $\binom{10313}{01302}$, $\binom{10314}{01313}$, $\binom{10310}{01322}$, $\binom{10333}{01313}$, $\binom{10324}{01402}$, $\binom{10343}{01312}$, $\binom{10344}{01334}$, $\binom{10343}{01343}$, $\binom{10324}{01400}$, $\binom{10304}{01410}$, $\binom{11022}{00141}$, $\binom{10404}{01440}$, $\binom{10314}{01444}$, $\binom{11024}{00140}$, $\binom{10323}{01433}$, $\binom{10432}{01340}$, $\binom{10432}{01141}$, $\binom{11031}{00110}$, $\binom{13014}{00111}$, $\binom{10433}{01121}$, $\binom{10430}{01320}$, $\binom{10433}{01432}$, $\binom{10431}{01231}$, $\binom{14013}{00120}$, $\binom{11043}{00123}$, $\binom{10433}{01304}$, $\binom{10434}{01332}$, $\binom{11014}{00143}$, $\binom{11010}{00144}$, $\binom{11010}{00001}$, $\binom{14102}{00013}$, $\binom{11300}{00014}$, $\binom{13003}{00011}$, $\binom{11101}{00014}$, $\binom{13103}{00011}$, $\binom{14302}{00012}$, $\binom{14004}{00010}$, $\binom{13303}{00013}$, $\binom{14040}{00001}$, $\binom{14201}{00012}$, $\binom{14204}{00013}$,

$n_5(5,2;16) \geq 391$: $\binom{01001}{00120}$, $\binom{01004}{00144}$, $\binom{01001}{00142}$, $\binom{01024}{00144}$, $\binom{01024}{00111}$, $\binom{01010}{00104}$, $\binom{01033}{00101}$, $\binom{01013}{00101}$, $\binom{01033}{00123}$, $\binom{01010}{00132}$, $\binom{01022}{00113}$, $\binom{01042}{00130}$, $\binom{01042}{00113}$, $\binom{01031}{00120}$, $\binom{01040}{00132}$, $\binom{10000}{00012}$, $\binom{10000}{00013}$, $\binom{10000}{00014}$, $\binom{10001}{00012}$, $\binom{10002}{00013}$, $\binom{10001}{00013}$, $\binom{10003}{00014}$, $\binom{10001}{00014}$, $\binom{10002}{00012}$, $\binom{10004}{00013}$, $\binom{10002}{00014}$, $\binom{10003}{00012}$, $\binom{10003}{00013}$, $\binom{10004}{00014}$, $\binom{10004}{00012}$, $\binom{10101}{01000}$, $\binom{14004}{00100}$, $\binom{10100}{01011}$, $\binom{14000}{00140}$, $\binom{10103}{01020}$, $\binom{14034}{00102}$, $\binom{10113}{01014}$, $\binom{14040}{00112}$, $\binom{10112}{01020}$, $\binom{14041}{00102}$, $\binom{10110}{01034}$, $\binom{14020}{00114}$, $\binom{10120}{01023}$, $\binom{14031}{00124}$, $\binom{10124}{01034}$, $\binom{14032}{00114}$, $\binom{10122}{01043}$, $\binom{14011}{00121}$, $\binom{10134}{01002}$, $\binom{14002}{00133}$, $\binom{10132}{01032}$, $\binom{14022}{00131}$, $\binom{10131}{01043}$, $\binom{14023}{00121}$, $\binom{10143}{01002}$, $\binom{14014}{00133}$, $\binom{10141}{01011}$, $\binom{14043}{00140}$, $\binom{10144}{01041}$, $\binom{14013}{00143}$, $\binom{10102}{01124}$, $\binom{10420}{01032}$, $\binom{10103}{01143}$, $\binom{10401}{01024}$, $\binom{10104}{01144}$, $\binom{10401}{01030}$, $\binom{10110}{01114}$, $\binom{10444}{01033}$, $\binom{10111}{01110}$, $\binom{10444}{01044}$, $\binom{10114}{01140}$, $\binom{10413}{01041}$, $\binom{10121}{01111}$, $\binom{10401}{01000}$, $\binom{10122}{01130}$, $\binom{10432}{01042}$, $\binom{10123}{01131}$, $\binom{10432}{01003}$, $\binom{10130}{01102}$, $\binom{10420}{01012}$, $\binom{10134}{01101}$, $\binom{10420}{01001}$, $\binom{10133}{01132}$, $\binom{10444}{01014}$, $\binom{10140}{01103}$, $\binom{10432}{01023}$, $\binom{10141}{01122}$, $\binom{10413}{01010}$, $\binom{10142}{01123}$, $\binom{10413}{01021}$, $\binom{10104}{01203}$, $\binom{10200}{01334}$, $\binom{10100}{01213}$, $\binom{10241}{01331}$, $\binom{10101}{01223}$, $\binom{10232}{01333}$, $\binom{10113}{01201}$, $\binom{10201}{01323}$, $\binom{10111}{01231}$, $\binom{10224}{01324}$, $\binom{10112}{01241}$, $\binom{10210}{01321}$, $\binom{10123}{01214}$, $\binom{10243}{01314}$, $\binom{10124}{01224}$, $\binom{10234}{01311}$,

$\binom{10120}{01234}$, $\binom{10220}{01313}$, $\binom{10131}{01202}$, $\binom{10203}{01301}$, $\binom{10132}{01212}$, $\binom{10244}{01303}$, $\binom{10130}{01242}$, $\binom{10212}{01304}$, $\binom{10142}{01220}$,
$\binom{10231}{01344}$, $\binom{10143}{01230}$, $\binom{10222}{01341}$, $\binom{10144}{01240}$, $\binom{10213}{01343}$, $\binom{10100}{01300}$, $\binom{10300}{01440}$, $\binom{10103}{01302}$, $\binom{10311}{01434}$,
$\binom{10102}{01310}$, $\binom{10331}{01443}$, $\binom{10114}{01300}$, $\binom{10312}{01440}$, $\binom{10110}{01342}$, $\binom{10342}{01431}$, $\binom{10112}{01340}$, $\binom{10331}{01442}$, $\binom{10122}{01332}$,
$\binom{10323}{01433}$, $\binom{10124}{01330}$, $\binom{10312}{01444}$, $\binom{10121}{01340}$, $\binom{10343}{01442}$, $\binom{10131}{01320}$, $\binom{10343}{01441}$, $\binom{10134}{01322}$, $\binom{10304}{01430}$,
$\binom{10133}{01330}$, $\binom{10324}{01444}$, $\binom{10141}{01312}$, $\binom{10330}{01432}$, $\binom{10143}{01310}$, $\binom{10324}{01443}$, $\binom{10140}{01320}$, $\binom{10300}{01441}$, $\binom{10101}{01400}$,
$\binom{10104}{01410}$, $\binom{10102}{01420}$, $\binom{10113}{01402}$, $\binom{10111}{01412}$, $\binom{10114}{01422}$, $\binom{10120}{01404}$, $\binom{10123}{01414}$, $\binom{10121}{01424}$, $\binom{10132}{01401}$,
$\binom{10130}{01411}$, $\binom{10133}{01421}$, $\binom{10144}{01403}$, $\binom{10142}{01413}$, $\binom{10140}{01423}$, $\binom{10204}{01012}$, $\binom{13044}{00134}$, $\binom{10204}{01023}$, $\binom{13024}{00124}$,
$\binom{10204}{01044}$, $\binom{13001}{00110}$, $\binom{10211}{01000}$, $\binom{13010}{00100}$, $\binom{10211}{01021}$, $\binom{13042}{00141}$, $\binom{10211}{01044}$, $\binom{13030}{00110}$, $\binom{10223}{01003}$,
$\binom{13033}{00122}$, $\binom{10223}{01021}$, $\binom{13021}{00141}$, $\binom{10223}{01032}$, $\binom{13001}{00131}$, $\binom{10230}{01003}$, $\binom{13012}{00122}$, $\binom{10230}{01014}$, $\binom{13042}{00112}$,
$\binom{10230}{01030}$, $\binom{13024}{00103}$, $\binom{10242}{01012}$, $\binom{13010}{00134}$, $\binom{10242}{01030}$, $\binom{13003}{00103}$, $\binom{10242}{01041}$, $\binom{13033}{00143}$, $\binom{10200}{01104}$,
$\binom{10333}{01034}$, $\binom{10212}{01112}$, $\binom{10321}{01011}$, $\binom{10224}{01120}$, $\binom{10314}{01043}$, $\binom{10231}{01133}$, $\binom{10302}{01020}$, $\binom{10243}{01141}$, $\binom{10340}{01002}$,
$\binom{10201}{01213}$, $\binom{10421}{01331}$, $\binom{10202}{01212}$, $\binom{10404}{01303}$, $\binom{10202}{01244}$, $\binom{10423}{01310}$, $\binom{10213}{01202}$, $\binom{10440}{01301}$, $\binom{10214}{01201}$,
$\binom{10423}{01323}$, $\binom{10214}{01233}$, $\binom{10442}{01330}$, $\binom{10221}{01222}$, $\binom{10411}{01300}$, $\binom{10220}{01241}$, $\binom{10414}{01321}$, $\binom{10221}{01240}$, $\binom{10442}{01343}$,
$\binom{10233}{01211}$, $\binom{10430}{01320}$, $\binom{10232}{01230}$, $\binom{10433}{01341}$, $\binom{10233}{01234}$, $\binom{10411}{01313}$, $\binom{10240}{01200}$, $\binom{10404}{01340}$, $\binom{10240}{01223}$,
$\binom{10430}{01333}$, $\binom{10244}{01224}$, $\binom{10402}{01311}$, $\binom{10200}{01401}$, $\binom{10201}{01414}$, $\binom{10202}{01441}$, $\binom{10212}{01402}$, $\binom{10213}{01410}$, $\binom{10214}{01442}$,
$\binom{10224}{01403}$, $\binom{10220}{01411}$, $\binom{10221}{01443}$, $\binom{10231}{01404}$, $\binom{10232}{01412}$, $\binom{10233}{01444}$, $\binom{10243}{01400}$, $\binom{10244}{01413}$, $\binom{10240}{01440}$,
$\binom{12014}{00102}$, $\binom{12000}{00121}$, $\binom{12041}{00140}$, $\binom{12032}{00114}$, $\binom{12023}{00133}$, $\binom{10301}{01131}$, $\binom{10301}{01140}$, $\binom{10303}{01144}$, $\binom{10313}{01123}$,
$\binom{10310}{01131}$, $\binom{10313}{01132}$, $\binom{10320}{01110}$, $\binom{10320}{01124}$, $\binom{10322}{01123}$, $\binom{10332}{01102}$, $\binom{10332}{01111}$, $\binom{10334}{01110}$, $\binom{10341}{01102}$,
$\binom{10344}{01103}$, $\binom{10344}{01144}$, $\binom{10300}{01211}$, $\binom{10303}{01232}$, $\binom{10302}{01244}$, $\binom{10314}{01200}$, $\binom{10312}{01222}$, $\binom{10310}{01243}$, $\binom{10322}{01204}$,
$\binom{10321}{01211}$, $\binom{10324}{01233}$, $\binom{10334}{01210}$, $\binom{10333}{01222}$, $\binom{10331}{01244}$, $\binom{10343}{01200}$, $\binom{10341}{01221}$, $\binom{10340}{01233}$, $\binom{10301}{01303}$,
$\binom{10422}{01401}$, $\binom{10302}{01334}$, $\binom{10424}{01422}$, $\binom{10303}{01330}$, $\binom{10424}{01444}$, $\binom{10310}{01310}$, $\binom{10400}{01443}$, $\binom{10314}{01314}$, $\binom{10400}{01421}$,
$\binom{10313}{01333}$, $\binom{10403}{01400}$, $\binom{10320}{01313}$, $\binom{10434}{01404}$, $\binom{10321}{01344}$, $\binom{10431}{01420}$, $\binom{10322}{01340}$, $\binom{10431}{01442}$, $\binom{10333}{01324}$,
$\binom{10412}{01424}$, $\binom{10334}{01320}$, $\binom{10412}{01441}$, $\binom{10332}{01343}$, $\binom{10410}{01403}$, $\binom{10340}{01304}$, $\binom{10443}{01423}$, $\binom{10341}{01300}$, $\binom{10443}{01440}$,
$\binom{10344}{01323}$, $\binom{10441}{01402}$, $\binom{11034}{00100}$, $\binom{11021}{00113}$, $\binom{11031}{00103}$, $\binom{11012}{00101}$, $\binom{11022}{00141}$, $\binom{11020}{00143}$, $\binom{11003}{00144}$,
$\binom{11013}{00134}$, $\binom{11011}{00131}$, $\binom{11004}{00122}$, $\binom{11002}{00124}$, $\binom{11044}{00132}$, $\binom{11043}{00112}$, $\binom{11030}{00120}$, $\binom{11040}{00110}$, $\binom{10404}{01111}$,
$\binom{10402}{01133}$, $\binom{10400}{01141}$, $\binom{10414}{01112}$, $\binom{10412}{01120}$, $\binom{10411}{01140}$, $\binom{10424}{01104}$, $\binom{10423}{01124}$, $\binom{10421}{01141}$, $\binom{10430}{01103}$,
$\binom{10433}{01120}$, $\binom{10431}{01133}$, $\binom{10440}{01104}$, $\binom{10443}{01112}$, $\binom{10442}{01132}$, $\binom{10403}{01200}$, $\binom{10403}{01201}$, $\binom{10402}{01214}$, $\binom{10410}{01222}$,
$\binom{10410}{01223}$, $\binom{10414}{01231}$, $\binom{10421}{01203}$, $\binom{10422}{01240}$, $\binom{10422}{01244}$, $\binom{10434}{01211}$, $\binom{10434}{01212}$, $\binom{10433}{01220}$, $\binom{10441}{01233}$,
$\binom{10441}{01234}$, $\binom{10440}{01242}$, $\binom{00010}{00001}$, $\binom{10203}{01134}$, $\binom{12030}{00104}$, $\binom{12044}{00130}$, $\binom{12012}{00142}$, $\binom{12003}{00111}$, $\binom{10304}{01031}$,
$\binom{10210}{01142}$, $\binom{10342}{01013}$, $\binom{10234}{01113}$, $\binom{10323}{01022}$, $\binom{10222}{01100}$, $\binom{10241}{01121}$, $\binom{10311}{01004}$, $\binom{10330}{01040}$, $\binom{12021}{00123}$,
$\binom{10203}{01134}$, $\binom{12030}{00104}$, $\binom{12044}{00130}$, $\binom{12012}{00142}$, $\binom{12003}{00111}$, $\binom{10304}{01031}$, $\binom{10210}{01142}$, $\binom{10342}{01013}$, $\binom{10234}{01113}$,
$\binom{10323}{01022}$, $\binom{10222}{01100}$, $\binom{10241}{01121}$, $\binom{10311}{01004}$, $\binom{10330}{01040}$, $\binom{12021}{00123}$,

$n_5(5,2;17) \geq 412$: $\binom{00104}{00012}$, $\binom{01100}{00013}$, $\binom{01004}{00014}$, $\binom{01001}{00113}$, $\binom{01033}{00144}$, $\binom{01003}{00141}$, $\binom{01030}{00122}$,
$\binom{01012}{00103}$, $\binom{01044}{00134}$, $\binom{01010}{00120}$, $\binom{01042}{00101}$, $\binom{01021}{00110}$, $\binom{01024}{00132}$, $\binom{01203}{00011}$, $\binom{01304}{00010}$, $\binom{01420}{00001}$,
$\binom{10001}{00011}$, $\binom{10004}{00010}$, $\binom{10003}{00013}$, $\binom{10004}{00014}$, $\binom{10010}{00001}$, $\binom{10004}{00012}$, $\binom{10003}{01204}$, $\binom{10022}{01312}$, $\binom{10003}{01210}$,
$\binom{10022}{01342}$, $\binom{10003}{01221}$, $\binom{10022}{01322}$, $\binom{10003}{01232}$, $\binom{10022}{01302}$, $\binom{10003}{01243}$, $\binom{10022}{01332}$, $\binom{10033}{01204}$, $\binom{10020}{01312}$,
$\binom{10033}{01210}$, $\binom{10020}{01342}$, $\binom{10033}{01221}$, $\binom{10020}{01322}$, $\binom{10033}{01232}$, $\binom{10020}{01302}$, $\binom{10033}{01243}$, $\binom{10020}{01332}$, $\binom{10002}{01434}$,
$\binom{10030}{01434}$, $\binom{10002}{01432}$, $\binom{10030}{01432}$, $\binom{10002}{01430}$, $\binom{10030}{01430}$, $\binom{10002}{01433}$, $\binom{10030}{01433}$, $\binom{10002}{01431}$, $\binom{10030}{01431}$,
$\binom{10102}{01002}$, $\binom{14021}{00133}$, $\binom{10100}{01014}$, $\binom{14022}{00112}$, $\binom{10103}{01041}$, $\binom{14020}{00143}$, $\binom{10110}{01000}$, $\binom{14011}{00100}$, $\binom{10114}{01011}$,
$\binom{14012}{00140}$, $\binom{10112}{01023}$, $\binom{14013}{00124}$, $\binom{10122}{01014}$, $\binom{14002}{00112}$, $\binom{10121}{01020}$, $\binom{14003}{00102}$, $\binom{10124}{01032}$, $\binom{14004}{00131}$,
$\binom{10134}{01023}$, $\binom{14043}{00124}$, $\binom{10133}{01034}$, $\binom{14044}{00114}$, $\binom{10131}{01041}$, $\binom{14040}{00143}$, $\binom{10143}{01000}$, $\binom{14031}{00100}$, $\binom{10141}{01032}$,
$\binom{14034}{00131}$, $\binom{10140}{01043}$, $\binom{14030}{00121}$, $\binom{10104}{01144}$, $\binom{10401}{01030}$, $\binom{10111}{01110}$, $\binom{10444}{01044}$, $\binom{10123}{01131}$, $\binom{10432}{01003}$,
$\binom{10130}{01102}$, $\binom{10420}{01012}$, $\binom{10142}{01123}$, $\binom{10413}{01021}$, $\binom{10104}{01212}$, $\binom{10224}{01303}$, $\binom{10103}{01221}$, $\binom{10204}{01322}$, $\binom{10100}{01233}$,
$\binom{10240}{01330}$, $\binom{10110}{01204}$, $\binom{10223}{01312}$, $\binom{10112}{01211}$, $\binom{10214}{01320}$, $\binom{10111}{01240}$, $\binom{10243}{01343}$, $\binom{10123}{01223}$, $\binom{10212}{01333}$,
$\binom{10122}{01232}$, $\binom{10242}{01302}$, $\binom{10124}{01244}$, $\binom{10233}{01310}$, $\binom{10130}{01201}$, $\binom{10231}{01323}$, $\binom{10134}{01210}$, $\binom{10211}{01342}$, $\binom{10131}{01222}$,

$\binom{10202}{01300}$, $\binom{10143}{01200}$, $\binom{10221}{01340}$, $\binom{10142}{01234}$, $\binom{10200}{01313}$, $\binom{10141}{01243}$, $\binom{10230}{01332}$, $\binom{10100}{01320}$, $\binom{10301}{01441}$,
$\binom{10102}{01331}$, $\binom{10304}{01411}$, $\binom{10101}{01340}$, $\binom{10341}{01442}$, $\binom{10112}{01310}$, $\binom{10332}{01443}$, $\binom{10114}{01321}$, $\binom{10330}{01413}$, $\binom{10113}{01330}$,
$\binom{10322}{01444}$, $\binom{10124}{01300}$, $\binom{10313}{01440}$, $\binom{10121}{01311}$, $\binom{10311}{01410}$, $\binom{10120}{01320}$, $\binom{10303}{01441}$, $\binom{10133}{01301}$, $\binom{10342}{01412}$,
$\binom{10132}{01310}$, $\binom{10334}{01443}$, $\binom{10131}{01340}$, $\binom{10344}{01442}$, $\binom{10144}{01300}$, $\binom{10310}{01440}$, $\binom{10143}{01330}$, $\binom{10320}{01444}$, $\binom{10140}{01341}$,
$\binom{10323}{01414}$, $\binom{10104}{01400}$, $\binom{10103}{01432}$, $\binom{10102}{01444}$, $\binom{10111}{01402}$, $\binom{10110}{01434}$, $\binom{10114}{01441}$, $\binom{10123}{01404}$, $\binom{10122}{01431}$,
$\binom{10121}{01443}$, $\binom{10130}{01401}$, $\binom{10134}{01433}$, $\binom{10133}{01440}$, $\binom{10142}{01403}$, $\binom{10141}{01430}$, $\binom{10140}{01442}$, $\binom{10204}{01010}$, $\binom{13033}{00101}$,
$\binom{10204}{01012}$, $\binom{13044}{00134}$, $\binom{10203}{01043}$, $\binom{13034}{00121}$, $\binom{10210}{01020}$, $\binom{13020}{00102}$, $\binom{10211}{01042}$, $\binom{13024}{00132}$, $\binom{10211}{01044}$,
$\binom{13030}{00110}$, $\binom{10222}{01002}$, $\binom{13011}{00133}$, $\binom{10223}{01021}$, $\binom{13021}{00141}$, $\binom{10223}{01024}$, $\binom{13010}{00113}$, $\binom{10230}{01001}$, $\binom{13001}{00144}$,
$\binom{10230}{01003}$, $\binom{13012}{00122}$, $\binom{10234}{01034}$, $\binom{13002}{00114}$, $\binom{10241}{01011}$, $\binom{13043}{00140}$, $\binom{10242}{01030}$, $\binom{13003}{00103}$, $\binom{10242}{01033}$,
$\binom{13042}{00120}$, $\binom{10201}{01124}$, $\binom{10323}{01032}$, $\binom{10201}{01133}$, $\binom{10304}{01020}$, $\binom{10203}{01130}$, $\binom{10321}{01042}$, $\binom{10213}{01132}$, $\binom{10311}{01014}$,
$\binom{10210}{01143}$, $\binom{10314}{01024}$, $\binom{10213}{01141}$, $\binom{10342}{01002}$, $\binom{10220}{01104}$, $\binom{10330}{01034}$, $\binom{10222}{01101}$, $\binom{10302}{01001}$, $\binom{10220}{01140}$,
$\binom{10304}{01041}$, $\binom{10232}{01103}$, $\binom{10342}{01023}$, $\binom{10232}{01112}$, $\binom{10323}{01011}$, $\binom{10234}{01114}$, $\binom{10340}{01033}$, $\binom{10244}{01111}$, $\binom{10330}{01000}$,
$\binom{10241}{01122}$, $\binom{10333}{01010}$, $\binom{10244}{01120}$, $\binom{10311}{01043}$, $\binom{10201}{01203}$, $\binom{10422}{01334}$, $\binom{10213}{01242}$, $\binom{10441}{01304}$, $\binom{10220}{01231}$,
$\binom{10410}{01324}$, $\binom{10232}{01220}$, $\binom{10434}{01344}$, $\binom{10244}{01214}$, $\binom{10403}{01314}$, $\binom{10203}{01422}$, $\binom{10210}{01423}$, $\binom{10222}{01424}$, $\binom{10234}{01420}$,
$\binom{10241}{01421}$, $\binom{12030}{00144}$, $\binom{12042}{00102}$, $\binom{12010}{00143}$, $\binom{12001}{00112}$, $\binom{12021}{00113}$, $\binom{12033}{00121}$, $\binom{12024}{00140}$, $\binom{12042}{00131}$,
$\binom{12012}{00132}$, $\binom{12033}{00100}$, $\binom{12003}{00101}$, $\binom{12010}{00114}$, $\binom{12001}{00133}$, $\binom{12024}{00124}$, $\binom{12044}{00120}$, $\binom{10302}{01112}$, $\binom{10301}{01122}$,
$\binom{10303}{01144}$, $\binom{10314}{01104}$, $\binom{10313}{01114}$, $\binom{10310}{01131}$, $\binom{10320}{01101}$, $\binom{10322}{01123}$, $\binom{10321}{01141}$, $\binom{10334}{01110}$, $\binom{10333}{01133}$,
$\binom{10332}{01143}$, $\binom{10341}{01102}$, $\binom{10340}{01120}$, $\binom{10344}{01130}$, $\binom{10300}{01202}$, $\binom{10301}{01222}$, $\binom{10303}{01244}$, $\binom{10310}{01200}$, $\binom{10312}{01213}$,
$\binom{10313}{01233}$, $\binom{10322}{01211}$, $\binom{10324}{01224}$, $\binom{10320}{01244}$, $\binom{10332}{01200}$, $\binom{10334}{01222}$, $\binom{10331}{01230}$, $\binom{10344}{01211}$, $\binom{10341}{01233}$,
$\binom{10343}{01241}$, $\binom{10302}{01301}$, $\binom{10444}{01412}$, $\binom{10300}{01332}$, $\binom{10424}{01433}$, $\binom{10300}{01334}$, $\binom{10441}{01422}$, $\binom{10312}{01312}$, $\binom{10400}{01432}$,
$\binom{10312}{01314}$, $\binom{10422}{01421}$, $\binom{10314}{01331}$, $\binom{10420}{01411}$, $\binom{10321}{01311}$, $\binom{10401}{01410}$, $\binom{10324}{01342}$, $\binom{10431}{01431}$, $\binom{10324}{01344}$,
$\binom{10403}{01420}$, $\binom{10331}{01322}$, $\binom{10412}{01430}$, $\binom{10331}{01324}$, $\binom{10434}{01424}$, $\binom{10333}{01341}$, $\binom{10432}{01414}$, $\binom{10343}{01302}$, $\binom{10443}{01434}$,
$\binom{10343}{01304}$, $\binom{10410}{01423}$, $\binom{10340}{01321}$, $\binom{10413}{01413}$, $\binom{11031}{00103}$, $\binom{11022}{00141}$, $\binom{11013}{00134}$, $\binom{11004}{00122}$, $\binom{11040}{00110}$,
$\binom{10403}{01104}$, $\binom{10402}{01124}$, $\binom{10404}{01124}$, $\binom{10411}{01103}$, $\binom{10414}{01103}$, $\binom{10410}{01133}$, $\binom{10422}{01112}$, $\binom{10421}{01132}$, $\binom{10423}{01132}$,
$\binom{10430}{01111}$, $\binom{10433}{01111}$, $\binom{10434}{01141}$, $\binom{10441}{01120}$, $\binom{10440}{01140}$, $\binom{10442}{01140}$, $\binom{10401}{01203}$, $\binom{10400}{01213}$, $\binom{10400}{01232}$,
$\binom{10412}{01204}$, $\binom{10413}{01220}$, $\binom{10412}{01230}$, $\binom{10424}{01202}$, $\binom{10424}{01221}$, $\binom{10420}{01242}$, $\binom{10432}{01214}$, $\binom{10431}{01224}$, $\binom{10431}{01243}$,
$\binom{10443}{01210}$, $\binom{10444}{01231}$, $\binom{10443}{01241}$, $\binom{10101}{01113}$, $\binom{10243}{01212}$, $\binom{10442}{01303}$, $\binom{10224}{01234}$, $\binom{10212}{01240}$, $\binom{10430}{01343}$,
$\binom{10404}{01313}$, $\binom{10231}{01223}$, $\binom{10423}{01333}$, $\binom{10202}{01404}$, $\binom{10214}{01400}$, $\binom{10221}{01401}$, $\binom{10233}{01402}$, $\binom{10200}{01201}$, $\binom{10411}{01323}$,
$\binom{10421}{01022}$, $\binom{10113}{01134}$, $\binom{10132}{01121}$, $\binom{10440}{01004}$, $\binom{10144}{01142}$, $\binom{10433}{01013}$, $\binom{10414}{01031}$, $\binom{10120}{01100}$, $\binom{10402}{01040}$,
$\binom{11024}{00104}$, $\binom{11042}{00123}$, $\binom{11033}{00111}$, $\binom{11001}{00130}$, $\binom{11010}{00142}$, $\binom{10240}{01403}$, $\binom{10101}{01113}$, $\binom{10243}{01212}$, $\binom{10442}{01303}$,
$\binom{10224}{01234}$, $\binom{10212}{01240}$, $\binom{10430}{01343}$, $\binom{10404}{01313}$, $\binom{10231}{01223}$, $\binom{10423}{01333}$, $\binom{10202}{01404}$, $\binom{10214}{01400}$, $\binom{10221}{01401}$,
$\binom{10233}{01402}$, $\binom{10200}{01201}$, $\binom{10411}{01323}$, $\binom{10421}{01022}$, $\binom{10113}{01134}$, $\binom{10132}{01121}$, $\binom{10440}{01004}$, $\binom{10144}{01142}$, $\binom{10433}{01013}$,
$\binom{10414}{01031}$, $\binom{10120}{01100}$, $\binom{10402}{01040}$, $\binom{11024}{00104}$, $\binom{11042}{00123}$, $\binom{11033}{00111}$, $\binom{11001}{00130}$, $\binom{11010}{00142}$, $\binom{10240}{01403}$,

$n_5(5,2;21) \geq 521$: $\binom{01000}{00124}$, $\binom{01032}{00100}$, $\binom{01004}{00130}$, $\binom{01031}{00111}$, $\binom{01014}{00131}$, $\binom{01041}{00112}$, $\binom{01013}{00142}$,
$\binom{01040}{00123}$, $\binom{01022}{00104}$, $\binom{01023}{00143}$, $\binom{10000}{00001}$, $\binom{10000}{00011}$, $\binom{10000}{00010}$, $\binom{10000}{00012}$, $\binom{10000}{00013}$, $\binom{10000}{00014}$,
$\binom{10001}{00010}$, $\binom{10040}{00001}$, $\binom{10001}{00011}$, $\binom{10004}{00010}$, $\binom{10001}{00012}$, $\binom{10002}{00013}$, $\binom{10001}{00013}$, $\binom{10003}{00014}$, $\binom{10001}{00014}$,
$\binom{10003}{00012}$, $\binom{10003}{00013}$, $\binom{10004}{00014}$, $\binom{10010}{00001}$, $\binom{10004}{00011}$, $\binom{10004}{00012}$, $\binom{10100}{01003}$, $\binom{14032}{00122}$, $\binom{10101}{01021}$,
$\binom{14040}{00141}$, $\binom{10112}{01012}$, $\binom{14023}{00134}$, $\binom{10113}{01030}$, $\binom{14031}{00103}$, $\binom{10124}{01021}$, $\binom{14014}{00141}$, $\binom{10120}{01044}$, $\binom{14022}{00110}$,
$\binom{10132}{01003}$, $\binom{14013}{00122}$, $\binom{10131}{01030}$, $\binom{14000}{00103}$, $\binom{10144}{01012}$, $\binom{14004}{00134}$, $\binom{10143}{01044}$, $\binom{14041}{00110}$, $\binom{10102}{01103}$,
$\binom{10411}{01023}$, $\binom{10103}{01110}$, $\binom{10421}{01044}$, $\binom{10102}{01122}$, $\binom{10403}{01010}$, $\binom{10101}{01143}$, $\binom{10423}{01024}$, $\binom{10113}{01114}$, $\binom{10411}{01033}$,
$\binom{10114}{01124}$, $\binom{10404}{01032}$, $\binom{10110}{01131}$, $\binom{10414}{01003}$, $\binom{10114}{01143}$, $\binom{10441}{01024}$, $\binom{10122}{01102}$, $\binom{10402}{01012}$, $\binom{10121}{01114}$,
$\binom{10434}{01033}$, $\binom{10120}{01130}$, $\binom{10404}{01042}$, $\binom{10121}{01140}$, $\binom{10442}{01041}$, $\binom{10132}{01101}$, $\binom{10442}{01001}$, $\binom{10133}{01111}$, $\binom{10430}{01000}$,
$\binom{10134}{01123}$, $\binom{10440}{01021}$, $\binom{10133}{01130}$, $\binom{10422}{01042}$, $\binom{10140}{01101}$, $\binom{10410}{01001}$, $\binom{10144}{01122}$, $\binom{10430}{01010}$, $\binom{10140}{01132}$,
$\binom{10423}{01014}$, $\binom{10141}{01144}$, $\binom{10433}{01030}$, $\binom{10103}{01200}$, $\binom{10222}{01340}$, $\binom{10104}{01220}$, $\binom{10210}{01344}$, $\binom{10101}{01231}$, $\binom{10223}{01324}$,
$\binom{10104}{01240}$, $\binom{10214}{01343}$, $\binom{10111}{01203}$, $\binom{10234}{01334}$, $\binom{10113}{01214}$, $\binom{10242}{01314}$, $\binom{10111}{01223}$, $\binom{10233}{01333}$, $\binom{10110}{01233}$,

$$\binom{10241}{01330}, \binom{10123}{01201}, \binom{10202}{01323}, \binom{10122}{01211}, \binom{10210}{01320}, \binom{10123}{01231}, \binom{10203}{01324}, \binom{10120}{01242}, \binom{10211}{01304},$$
$$\binom{10130}{01214}, \binom{10222}{01314}, \binom{10132}{01220}, \binom{10230}{01344}, \binom{10130}{01234}, \binom{10221}{01313}, \binom{10134}{01244}, \binom{10234}{01310}, \binom{10144}{01203},$$
$$\binom{10204}{01334}, \binom{10142}{01212}, \binom{10240}{01303}, \binom{10141}{01222}, \binom{10203}{01300}, \binom{10142}{01242}, \binom{10241}{01304}, \binom{10100}{01301}, \binom{10322}{01412},$$
$$\binom{10102}{01304}, \binom{10311}{01423}, \binom{10103}{01330}, \binom{10321}{01444}, \binom{10104}{01331}, \binom{10332}{01411}, \binom{10110}{01320}, \binom{10302}{01441}, \binom{10111}{01321},$$
$$\binom{10313}{01413}, \binom{10112}{01341}, \binom{10303}{01414}, \binom{10114}{01344}, \binom{10342}{01420}, \binom{10122}{01310}, \binom{10333}{01443}, \binom{10123}{01311}, \binom{10344}{01410},$$
$$\binom{10121}{01334}, \binom{10323}{01422}, \binom{10124}{01331}, \binom{10334}{01411}, \binom{10130}{01301}, \binom{10320}{01412}, \binom{10134}{01300}, \binom{10314}{01440}, \binom{10131}{01321},$$
$$\binom{10310}{01413}, \binom{10133}{01324}, \binom{10304}{01424}, \binom{10140}{01314}, \binom{10330}{01421}, \binom{10143}{01311}, \binom{10341}{01410}, \binom{10141}{01340}, \binom{10340}{01442},$$
$$\binom{10142}{01341}, \binom{10301}{01414}, \binom{10102}{01402}, \binom{10101}{01423}, \binom{10104}{01423}, \binom{10103}{01441}, \binom{10114}{01404}, \binom{10111}{01420}, \binom{10113}{01420},$$
$$\binom{10110}{01443}, \binom{10121}{01401}, \binom{10120}{01422}, \binom{10123}{01422}, \binom{10122}{01440}, \binom{10133}{01403}, \binom{10130}{01424}, \binom{10132}{01424}, \binom{10134}{01442},$$
$$\binom{10140}{01400}, \binom{10142}{01421}, \binom{10144}{01421}, \binom{10141}{01444}, \binom{10201}{01033}, \binom{13004}{00120}, \binom{10200}{01040}, \binom{13023}{00104}, \binom{10213}{01010},$$
$$\binom{13040}{00101}, \binom{10212}{01022}, \binom{13014}{00130}, \binom{10224}{01004}, \binom{13000}{00111}, \binom{10220}{01042}, \binom{13031}{00132}, \binom{10232}{01024}, \binom{13022}{00113},$$
$$\binom{10231}{01031}, \binom{13041}{00142}, \binom{10244}{01001}, \binom{13013}{00144}, \binom{10243}{01013}, \binom{13032}{00123}, \binom{10200}{01102}, \binom{10344}{01012}, \binom{10201}{01112},$$
$$\binom{10331}{01011}, \binom{10203}{01112}, \binom{10314}{01011}, \binom{10204}{01122}, \binom{10301}{01010}, \binom{10212}{01110}, \binom{10332}{01044}, \binom{10210}{01120}, \binom{10302}{01043},$$
$$\binom{10213}{01120}, \binom{10324}{01043}, \binom{10211}{01130}, \binom{10344}{01042}, \binom{10224}{01123}, \binom{10320}{01021}, \binom{10220}{01133}, \binom{10312}{01020}, \binom{10222}{01133},$$
$$\binom{10340}{01020}, \binom{10223}{01143}, \binom{10332}{01024}, \binom{10230}{01101}, \binom{10320}{01001}, \binom{10231}{01131}, \binom{10313}{01003}, \binom{10232}{01141}, \binom{10300}{01002},$$
$$\binom{10234}{01141}, \binom{10333}{01002}, \binom{10241}{01104}, \binom{10321}{01034}, \binom{10244}{01104}, \binom{10343}{01034}, \binom{10242}{01114}, \binom{10313}{01033}, \binom{10243}{01144},$$
$$\binom{10301}{01030}, \binom{10200}{01221}, \binom{10414}{01322}, \binom{10201}{01221}, \binom{10403}{01322}, \binom{10204}{01230}, \binom{10413}{01341}, \binom{10202}{01241}, \binom{10440}{01321},$$
$$\binom{10212}{01210}, \binom{10433}{01342}, \binom{10213}{01210}, \binom{10422}{01342}, \binom{10211}{01224}, \binom{10432}{01311}, \binom{10214}{01230}, \binom{10414}{01341}, \binom{10220}{01204},$$
$$\binom{10441}{01312}, \binom{10224}{01204}, \binom{10402}{01312}, \binom{10223}{01213}, \binom{10401}{01331}, \binom{10221}{01224}, \binom{10433}{01311}, \binom{10230}{01202}, \binom{10420}{01301},$$
$$\binom{10233}{01213}, \binom{10402}{01331}, \binom{10231}{01243}, \binom{10421}{01332}, \binom{10232}{01243}, \binom{10410}{01332}, \binom{10240}{01202}, \binom{10421}{01301}, \binom{10243}{01232},$$
$$\binom{10440}{01302}, \binom{10244}{01232}, \binom{10434}{01302}, \binom{10242}{01241}, \binom{10444}{01321}, \binom{10200}{01410}, \binom{10204}{01414}, \binom{10201}{01432}, \binom{10203}{01433},$$
$$\binom{10211}{01410}, \binom{10212}{01411}, \binom{10210}{01434}, \binom{10213}{01433}, \binom{10223}{01411}, \binom{10224}{01412}, \binom{10220}{01434}, \binom{10222}{01430}, \binom{10230}{01412},$$
$$\binom{10231}{01413}, \binom{10232}{01430}, \binom{10234}{01431}, \binom{10242}{01413}, \binom{10243}{01414}, \binom{10241}{01432}, \binom{10244}{01431}, \binom{12024}{00133}, \binom{12022}{00101},$$
$$\binom{12023}{00103}, \binom{12021}{00121}, \binom{12014}{00122}, \binom{12012}{00140}, \binom{12010}{00102}, \binom{12013}{00120}, \binom{12004}{00144}, \binom{12000}{00141}, \binom{12003}{00114},$$
$$\binom{12001}{00121}, \binom{12044}{00133}, \binom{12042}{00140}, \binom{12040}{00113}, \binom{12041}{00110}, \binom{12032}{00134}, \binom{12030}{00102}, \binom{12033}{00114}, \binom{12031}{00132},$$
$$\binom{10300}{01100}, \binom{10304}{01101}, \binom{10311}{01143}, \binom{10312}{01142}, \binom{10323}{01130}, \binom{10324}{01134}, \binom{10330}{01122}, \binom{10331}{01121}, \binom{10342}{01114},$$
$$\binom{10343}{01113}, \binom{10303}{01202}, \binom{10302}{01214}, \binom{10301}{01230}, \binom{10302}{01233}, \binom{10310}{01213}, \binom{10314}{01220}, \binom{10313}{01241}, \binom{10314}{01244},$$
$$\binom{10320}{01202}, \binom{10321}{01200}, \binom{10322}{01224}, \binom{10321}{01231}, \binom{10332}{01213}, \binom{10333}{01211}, \binom{10334}{01230}, \binom{10333}{01242}, \binom{10340}{01203},$$
$$\binom{10340}{01222}, \binom{10344}{01224}, \binom{10341}{01241}, \binom{10303}{01310}, \binom{10421}{01443}, \binom{10303}{01313}, \binom{10404}{01404}, \binom{10304}{01330}, \binom{10413}{01444},$$
$$\binom{10304}{01342}, \binom{10434}{01431}, \binom{10311}{01310}, \binom{10444}{01443}, \binom{10311}{01322}, \binom{10410}{01430}, \binom{10310}{01340}, \binom{10402}{01442}, \binom{10310}{01343},$$
$$\binom{10430}{01403}, \binom{10323}{01302}, \binom{10441}{01434}, \binom{10322}{01320}, \binom{10433}{01441}, \binom{10322}{01323}, \binom{10411}{01402}, \binom{10323}{01340}, \binom{10420}{01442},$$
$$\binom{10334}{01300}, \binom{10414}{01440}, \binom{10334}{01303}, \binom{10442}{01401}, \binom{10330}{01320}, \binom{10401}{01441}, \binom{10330}{01332}, \binom{10422}{01433}, \binom{10342}{01300},$$
$$\binom{10432}{01440}, \binom{10342}{01312}, \binom{10403}{01432}, \binom{10341}{01330}, \binom{10440}{01444}, \binom{10341}{01333}, \binom{10423}{01400}, \binom{11044}{00134}, \binom{11011}{00101},$$
$$\binom{11020}{00131}, \binom{11024}{00132}, \binom{11002}{00144}, \binom{11030}{00122}, \binom{11011}{00124}, \binom{11010}{00120}, \binom{11002}{00112}, \binom{11001}{00113}, \binom{11021}{00110},$$
$$\binom{11043}{00132}, \binom{11043}{00100}, \binom{11042}{00101}, \binom{11012}{00103}, \binom{11034}{00120}, \binom{11033}{00144}, \binom{11003}{00141}, \binom{11020}{00113}, \binom{11034}{00143},$$
$$\binom{10404}{01102}, \binom{10400}{01123}, \binom{10412}{01102}, \binom{10411}{01131}, \binom{10423}{01110}, \binom{10424}{01131}, \binom{10431}{01110}, \binom{10430}{01144}, \binom{10442}{01123},$$
$$\binom{10443}{01144}, \binom{10400}{01201}, \binom{10401}{01222}, \binom{10401}{01233}, \binom{10403}{01243}, \binom{10413}{01200}, \binom{10410}{01210}, \binom{10412}{01223}, \binom{10413}{01244},$$
$$\binom{10420}{01211}, \binom{10420}{01222}, \binom{10422}{01232}, \binom{10424}{01240}, \binom{10434}{01204}, \binom{10431}{01212}, \binom{10432}{01233}, \binom{10432}{01244}, \binom{10444}{01200},$$
$$\binom{10444}{01211}, \binom{10441}{01221}, \binom{10443}{01234}, \binom{10331}{01140}, \binom{10324}{01103}, \binom{10400}{01100}, \binom{10412}{01134}, \binom{10424}{01113}, \binom{10431}{01142},$$
$$\binom{10300}{01124}, \binom{10312}{01111}, \binom{10233}{01014}, \binom{10202}{01023}, \binom{13041}{00124}, \binom{10214}{01000}, \binom{13032}{00100}, \binom{10221}{01032}, \binom{13023}{00131},$$
$$\binom{10100}{01040}, \binom{14014}{00104}, \binom{10112}{01004}, \binom{14000}{00111}, \binom{10131}{01022}, \binom{10124}{01013}, \binom{14041}{00123}, \binom{14032}{00130}, \binom{10143}{01031},$$
$$\binom{01002}{00102}, \binom{01034}{00133}, \binom{01011}{00114}, \binom{01020}{00121}, \binom{01043}{00140}, \binom{14023}{00142}, \binom{13014}{00112}, \binom{10240}{01041}, \binom{13000}{00143},$$
$$\binom{10343}{01132}, \binom{10443}{01121}, \binom{10331}{01140}, \binom{10324}{01103}, \binom{10400}{01100}, \binom{10412}{01134}, \binom{10424}{01113}, \binom{10431}{01142}, \binom{10300}{01124},$$
$$\binom{10312}{01111}, \binom{10233}{01014}, \binom{10202}{01023}, \binom{13041}{00124}, \binom{10214}{01000}, \binom{13032}{00100}, \binom{10221}{01032}, \binom{13023}{00131}, \binom{10100}{01040},$$
$$\binom{14014}{00104}, \binom{10112}{01004}, \binom{14000}{00111}, \binom{10131}{01022}, \binom{10124}{01013}, \binom{14041}{00123}, \binom{14032}{00130}, \binom{10143}{01031}, \binom{01002}{00102},$$
$$\binom{01034}{00133}, \binom{01011}{00114}, \binom{01020}{00121}, \binom{01043}{00140}, \binom{14023}{00142}, \binom{13014}{00112}, \binom{10240}{01041}, \binom{13000}{00143}, \binom{10343}{01132},$$

$\binom{10443}{01121}$,

$n_5(5,2;22) \geq 542$: $\binom{01002}{00102}$, $\binom{01034}{00133}$, $\binom{01003}{00141}$, $\binom{01030}{00122}$, $\binom{01012}{00103}$, $\binom{01044}{00134}$, $\binom{01011}{00114}$,
$\binom{01043}{00140}$, $\binom{01021}{00110}$, $\binom{01020}{00121}$, $\binom{10014}{01203}$, $\binom{10012}{01334}$, $\binom{10014}{01214}$, $\binom{10012}{01314}$, $\binom{10014}{01220}$, $\binom{10012}{01344}$,
$\binom{10014}{01231}$, $\binom{10012}{01324}$, $\binom{10014}{01242}$, $\binom{10012}{01304}$, $\binom{10043}{01200}$, $\binom{10021}{01340}$, $\binom{10043}{01211}$, $\binom{10021}{01320}$, $\binom{10043}{01222}$,
$\binom{10021}{01300}$, $\binom{10043}{01233}$, $\binom{10021}{01330}$, $\binom{10043}{01244}$, $\binom{10021}{01310}$, $\binom{10034}{01423}$, $\binom{10034}{01421}$, $\binom{10034}{01424}$, $\binom{10034}{01422}$,
$\binom{10034}{01420}$, $\binom{10041}{01440}$, $\binom{10041}{01443}$, $\binom{10041}{01441}$, $\binom{10041}{01444}$, $\binom{10041}{01442}$, $\binom{10101}{01003}$, $\binom{14021}{00122}$, $\binom{10103}{01032}$,
$\binom{14013}{00131}$, $\binom{10113}{01012}$, $\binom{14012}{00134}$, $\binom{10110}{01041}$, $\binom{14004}{00143}$, $\binom{10122}{01000}$, $\binom{14040}{00100}$, $\binom{10120}{01021}$, $\binom{14003}{00141}$,
$\binom{10134}{01014}$, $\binom{14031}{00112}$, $\binom{10132}{01030}$, $\binom{14044}{00103}$, $\binom{10141}{01023}$, $\binom{14022}{00124}$, $\binom{10144}{01044}$, $\binom{14030}{00110}$, $\binom{10101}{01111}$,
$\binom{10404}{01000}$, $\binom{10103}{01113}$, $\binom{10404}{01022}$, $\binom{10101}{01124}$, $\binom{10431}{01032}$, $\binom{10101}{01142}$, $\binom{10412}{01013}$, $\binom{10113}{01113}$, $\binom{10400}{01022}$,
$\binom{10110}{01134}$, $\binom{10442}{01031}$, $\binom{10113}{01132}$, $\binom{10442}{01014}$, $\binom{10113}{01140}$, $\binom{10424}{01041}$, $\binom{10120}{01103}$, $\binom{10430}{01023}$, $\binom{10122}{01100}$,
$\binom{10430}{01040}$, $\binom{10120}{01111}$, $\binom{10412}{01000}$, $\binom{10120}{01134}$, $\binom{10443}{01031}$, $\binom{10132}{01100}$, $\binom{10431}{01040}$, $\binom{10132}{01124}$, $\binom{10423}{01032}$,
$\binom{10134}{01121}$, $\binom{10423}{01004}$, $\binom{10132}{01132}$, $\binom{10400}{01014}$, $\binom{10144}{01103}$, $\binom{10443}{01023}$, $\binom{10144}{01121}$, $\binom{10424}{01004}$, $\binom{10141}{01142}$,
$\binom{10411}{01013}$, $\binom{10144}{01140}$, $\binom{10411}{01041}$, $\binom{10102}{01201}$, $\binom{10211}{01323}$, $\binom{10102}{01222}$, $\binom{10243}{01300}$, $\binom{10114}{01200}$, $\binom{10212}{01340}$,
$\binom{10114}{01234}$, $\binom{10230}{01313}$, $\binom{10121}{01212}$, $\binom{10204}{01303}$, $\binom{10121}{01233}$, $\binom{10231}{01330}$, $\binom{10133}{01211}$, $\binom{10200}{01320}$, $\binom{10133}{01240}$,
$\binom{10223}{01343}$, $\binom{10140}{01223}$, $\binom{10242}{01333}$, $\binom{10140}{01244}$, $\binom{10224}{01310}$, $\binom{10103}{01313}$, $\binom{10331}{01404}$, $\binom{10103}{01343}$, $\binom{10330}{01403}$,
$\binom{10110}{01303}$, $\binom{10312}{01401}$, $\binom{10110}{01333}$, $\binom{10311}{01400}$, $\binom{10122}{01323}$, $\binom{10342}{01402}$, $\binom{10122}{01343}$, $\binom{10343}{01403}$, $\binom{10134}{01313}$,
$\binom{10323}{01404}$, $\binom{10134}{01333}$, $\binom{10324}{01400}$, $\binom{10141}{01303}$, $\binom{10304}{01401}$, $\binom{10141}{01323}$, $\binom{10300}{01402}$, $\binom{10102}{01400}$, $\binom{10102}{01441}$,
$\binom{10114}{01402}$, $\binom{10114}{01443}$, $\binom{10121}{01404}$, $\binom{10121}{01440}$, $\binom{10133}{01401}$, $\binom{10133}{01442}$, $\binom{10140}{01403}$, $\binom{10140}{01444}$, $\binom{10201}{01002}$,
$\binom{13020}{00133}$, $\binom{10201}{01003}$, $\binom{13003}{00122}$, $\binom{10201}{01004}$, $\binom{13031}{00111}$, $\binom{10202}{01022}$, $\binom{13013}{00130}$, $\binom{10214}{01004}$, $\binom{13004}{00111}$,
$\binom{10213}{01030}$, $\binom{13044}{00103}$, $\binom{10213}{01031}$, $\binom{13022}{00142}$, $\binom{10213}{01034}$, $\binom{13011}{00114}$, $\binom{10220}{01011}$, $\binom{13002}{00140}$, $\binom{10220}{01012}$,
$\binom{13030}{00134}$, $\binom{10220}{01013}$, $\binom{13013}{00123}$, $\binom{10221}{01031}$, $\binom{13040}{00142}$, $\binom{10233}{01013}$, $\binom{13031}{00123}$, $\binom{10232}{01040}$, $\binom{13004}{00104}$,
$\binom{10232}{01043}$, $\binom{13043}{00121}$, $\binom{10232}{01044}$, $\binom{13021}{00110}$, $\binom{10244}{01020}$, $\binom{13034}{00102}$, $\binom{10244}{01021}$, $\binom{13012}{00141}$, $\binom{10244}{01022}$,
$\binom{13040}{00130}$, $\binom{10240}{01040}$, $\binom{13022}{00104}$, $\binom{10202}{01111}$, $\binom{10303}{01000}$, $\binom{10200}{01122}$, $\binom{10340}{01010}$, $\binom{10204}{01123}$, $\binom{10323}{01021}$,
$\binom{10203}{01130}$, $\binom{10321}{01042}$, $\binom{10214}{01124}$, $\binom{10341}{01032}$, $\binom{10211}{01131}$, $\binom{10311}{01003}$, $\binom{10212}{01130}$, $\binom{10333}{01042}$, $\binom{10210}{01143}$,
$\binom{10314}{01024}$, $\binom{10222}{01101}$, $\binom{10302}{01001}$, $\binom{10221}{01132}$, $\binom{10334}{01014}$, $\binom{10223}{01144}$, $\binom{10304}{01030}$, $\binom{10224}{01143}$, $\binom{10321}{01024}$,
$\binom{10230}{01102}$, $\binom{10342}{01012}$, $\binom{10231}{01101}$, $\binom{10314}{01001}$, $\binom{10234}{01114}$, $\binom{10340}{01033}$, $\binom{10233}{01140}$, $\binom{10322}{01041}$, $\binom{10240}{01103}$,
$\binom{10310}{01023}$, $\binom{10242}{01110}$, $\binom{10330}{01044}$, $\binom{10243}{01114}$, $\binom{10302}{01033}$, $\binom{10241}{01122}$, $\binom{10333}{01010}$, $\binom{10202}{01210}$, $\binom{10432}{01342}$,
$\binom{10201}{01224}$, $\binom{10431}{01311}$, $\binom{10214}{01204}$, $\binom{10401}{01312}$, $\binom{10213}{01213}$, $\binom{10400}{01331}$, $\binom{10220}{01202}$, $\binom{10424}{01301}$, $\binom{10221}{01243}$,
$\binom{10420}{01332}$, $\binom{10233}{01232}$, $\binom{10444}{01302}$, $\binom{10232}{01241}$, $\binom{10443}{01321}$, $\binom{10240}{01221}$, $\binom{10413}{01322}$, $\binom{10244}{01230}$, $\binom{10412}{01341}$,
$\binom{10203}{01413}$, $\binom{10202}{01432}$, $\binom{10210}{01414}$, $\binom{10214}{01433}$, $\binom{10222}{01410}$, $\binom{10221}{01434}$, $\binom{10234}{01411}$, $\binom{10233}{01430}$, $\binom{10241}{01412}$,
$\binom{10240}{01431}$, $\binom{12030}{00144}$, $\binom{12002}{00100}$, $\binom{12023}{00120}$, $\binom{12040}{00103}$, $\binom{12031}{00122}$, $\binom{12014}{00144}$, $\binom{12043}{00124}$, $\binom{12021}{00113}$,
$\binom{12000}{00113}$, $\binom{12022}{00141}$, $\binom{12012}{00132}$, $\binom{12034}{00143}$, $\binom{12003}{00101}$, $\binom{12020}{00112}$, $\binom{12013}{00110}$, $\binom{12041}{00132}$, $\binom{12032}{00101}$,
$\binom{12004}{00134}$, $\binom{12044}{00120}$, $\binom{12011}{00131}$, $\binom{10304}{01113}$, $\binom{10302}{01120}$, $\binom{10303}{01131}$, $\binom{10304}{01142}$, $\binom{10311}{01100}$, $\binom{10314}{01112}$,
$\binom{10310}{01123}$, $\binom{10311}{01134}$, $\binom{10321}{01104}$, $\binom{10322}{01110}$, $\binom{10323}{01121}$, $\binom{10323}{01142}$, $\binom{10334}{01102}$, $\binom{10330}{01113}$, $\binom{10330}{01134}$,
$\binom{10333}{01141}$, $\binom{10342}{01100}$, $\binom{10342}{01121}$, $\binom{10340}{01133}$, $\binom{10341}{01144}$, $\binom{10302}{01201}$, $\binom{10301}{01234}$, $\binom{10314}{01212}$, $\binom{10313}{01240}$,
$\binom{10320}{01201}$, $\binom{10321}{01223}$, $\binom{10332}{01212}$, $\binom{10333}{01234}$, $\binom{10344}{01223}$, $\binom{10340}{01240}$, $\binom{10300}{01320}$, $\binom{10403}{01441}$, $\binom{10300}{01322}$,
$\binom{10420}{01430}$, $\binom{10300}{01344}$, $\binom{10440}{01420}$, $\binom{10301}{01344}$, $\binom{10434}{01420}$, $\binom{10312}{01300}$, $\binom{10434}{01440}$, $\binom{10312}{01302}$, $\binom{10401}{01434}$,
$\binom{10312}{01324}$, $\binom{10421}{01424}$, $\binom{10313}{01324}$, $\binom{10410}{01424}$, $\binom{10320}{01304}$, $\binom{10441}{01423}$, $\binom{10324}{01304}$, $\binom{10402}{01423}$, $\binom{10324}{01330}$,
$\binom{10410}{01444}$, $\binom{10324}{01332}$, $\binom{10432}{01433}$, $\binom{10331}{01310}$, $\binom{10441}{01443}$, $\binom{10331}{01312}$, $\binom{10413}{01432}$, $\binom{10331}{01334}$, $\binom{10433}{01422}$,
$\binom{10332}{01334}$, $\binom{10422}{01422}$, $\binom{10343}{01314}$, $\binom{10414}{01421}$, $\binom{10344}{01314}$, $\binom{10403}{01421}$, $\binom{10343}{01340}$, $\binom{10422}{01442}$, $\binom{10343}{01342}$,
$\binom{10444}{01431}$, $\binom{11001}{00100}$, $\binom{11033}{00112}$, $\binom{11010}{00130}$, $\binom{11021}{00130}$, $\binom{11024}{00100}$, $\binom{11012}{00123}$, $\binom{11001}{00123}$, $\binom{11042}{00143}$,
$\binom{11003}{00111}$, $\binom{11042}{00111}$, $\binom{11033}{00131}$, $\binom{11010}{00143}$, $\binom{11024}{00124}$, $\binom{11001}{00131}$, $\binom{11044}{00104}$, $\binom{11033}{00104}$, $\binom{11010}{00112}$,
$\binom{11042}{00124}$, $\binom{11030}{00142}$, $\binom{11024}{00142}$, $\binom{10403}{01144}$, $\binom{10404}{01140}$, $\binom{10410}{01123}$, $\binom{10411}{01124}$, $\binom{10422}{01102}$, $\binom{10423}{01103}$,
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$\binom{10414}{01214}$, $\binom{10410}{01244}$, $\binom{10412}{01242}$, $\binom{10422}{01211}$, $\binom{10424}{01214}$, $\binom{10421}{01231}$, $\binom{10423}{01232}$, $\binom{10430}{01204}$, $\binom{10433}{01203}$,

$\binom{10431}{01231}$, $\binom{10434}{01233}$, $\binom{10441}{01200}$, $\binom{10443}{01203}$, $\binom{10440}{01220}$, $\binom{10442}{01221}$, $\binom{10123}{01011}$, $\binom{14024}{00140}$, $\binom{10104}{01043}$,
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$\binom{10440}{01311}$, $\binom{10242}{01213}$, $\binom{10203}{01412}$, $\binom{10414}{01331}$, $\binom{10241}{01411}$, $\binom{10234}{01410}$, $\binom{10222}{01414}$, $\binom{10210}{01413}$, $\binom{10421}{01341}$,
$\binom{10100}{01432}$, $\binom{10301}{01203}$, $\binom{10344}{01242}$, $\binom{10332}{01231}$, $\binom{10320}{01220}$, $\binom{10444}{01133}$, $\binom{10420}{01120}$, $\binom{10432}{01104}$, $\binom{10401}{01112}$,
$\binom{10413}{01141}$, $\binom{10313}{01214}$, $\binom{10224}{01322}$, $\binom{10124}{01243}$, $\binom{10200}{01332}$, $\binom{10112}{01210}$, $\binom{10231}{01342}$, $\binom{10104}{01344}$, $\binom{10341}{01420}$,
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$\binom{10111}{01002}$, $\binom{14033}{00133}$, $\binom{01001}{00113}$, $\binom{01033}{00144}$, $\binom{01010}{00120}$, $\binom{01042}{00101}$, $\binom{01024}{00132}$, $\binom{10001}{00012}$, $\binom{10002}{00013}$,
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$n_5(5,2;23) \geq 568$: $\binom{00101}{00012}$, $\binom{01014}{00120}$, $\binom{00102}{00012}$, $\binom{01024}{00120}$, $\binom{00104}{00011}$, $\binom{01044}{00110}$, $\binom{01030}{00001}$,
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$\binom{11023}{00114}$, $\binom{10041}{01121}$, $\binom{11034}{00144}$, $\binom{10043}{01130}$, $\binom{11040}{00124}$, $\binom{10000}{01224}$, $\binom{12240}{00001}$, $\binom{10001}{01243}$, $\binom{12403}{00011}$,
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$\binom{10110}{01333}$, $\binom{10112}{01332}$, $\binom{10124}{01314}$, $\binom{10122}{01324}$, $\binom{10122}{01334}$, $\binom{10230}{01220}$, $\binom{10131}{01303}$, $\binom{10133}{01303}$, $\binom{10140}{01330}$,
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$\binom{10314}{01102}$, $\binom{10220}{01314}$, $\binom{10344}{01102}$, $\binom{10224}{01321}$, $\binom{10404}{01122}$, $\binom{10220}{01331}$, $\binom{10221}{01342}$, $\binom{10232}{01301}$, $\binom{10334}{01412}$,
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$\binom{12013}{00120}$, $\binom{12033}{00110}$, $\binom{12044}{00110}$,

$n_5(5,2;24) \geq 594$: $\binom{00110}{00001}$, $\binom{00110}{00001}$, $\binom{00110}{00001}$, $\binom{00110}{00001}$, $\binom{01100}{00013}$, $\binom{01100}{00013}$, $\binom{01100}{00013}$,
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$\binom{10230}{01101}, \binom{10320}{01001}, \binom{10232}{01103}, \binom{10342}{01023}, \binom{10231}{01120}, \binom{10343}{01043}, \binom{10233}{01121}, \binom{10343}{01004}, \binom{10231}{01130},$
$\binom{10341}{01042}, \binom{10232}{01143}, \binom{10344}{01024}, \binom{10233}{01144}, \binom{10300}{01030}, \binom{10240}{01102}, \binom{10343}{01012}, \binom{10244}{01101}, \binom{10332}{01001},$
$\binom{10242}{01114}, \binom{10313}{01033}, \binom{10244}{01111}, \binom{10330}{01000}, \binom{10240}{01134}, \binom{10331}{01031}, \binom{10243}{01133}, \binom{10331}{01020}, \binom{10243}{01143},$
$\binom{10334}{01024}, \binom{10202}{01231}, \binom{10441}{01324}, \binom{10204}{01243}, \binom{10440}{01332}, \binom{10214}{01220}, \binom{10410}{01344}, \binom{10211}{01232}, \binom{10414}{01302},$
$\binom{10221}{01214}, \binom{10434}{01314}, \binom{10223}{01221}, \binom{10433}{01322}, \binom{10233}{01203}, \binom{10403}{01334}, \binom{10230}{01210}, \binom{10402}{01342}, \binom{10242}{01204},$
$\binom{10421}{01312}, \binom{10240}{01242}, \binom{10422}{01304}, \binom{10202}{01423}, \binom{10204}{01432}, \binom{10214}{01424}, \binom{10211}{01433}, \binom{10221}{01420}, \binom{10223}{01434},$
$\binom{10233}{01421}, \binom{10230}{01430}, \binom{10240}{01422}, \binom{10242}{01431}, \binom{12000}{00140}, \binom{12022}{00101}, \binom{12000}{00101}, \binom{12020}{00130}, \binom{12034}{00103},$
$\binom{12010}{00132}, \binom{12010}{00143}, \binom{12020}{00122}, \binom{12001}{00112}, \binom{12001}{00101}, \binom{12041}{00120}, \binom{12041}{00114}, \binom{12013}{00120}, \binom{12011}{00104},$
$\binom{12004}{00144}, \binom{12032}{00144}, \binom{12032}{00133}, \binom{12002}{00123}, \binom{12011}{00141}, \binom{12042}{00120}, \binom{12042}{00131}, \binom{12033}{00100}, \binom{12033}{00144},$
$\binom{12023}{00102}, \binom{12040}{00113}, \binom{12023}{00113}, \binom{12043}{00142}, \binom{12002}{00110}, \binom{12034}{00111}, \binom{12043}{00134}, \binom{12024}{00124}, \binom{12024}{00113},$
$\binom{12014}{00132}, \binom{12014}{00121}, \binom{12031}{00132}, \binom{10300}{01114}, \binom{10304}{01113}, \binom{10301}{01122}, \binom{10301}{01140}, \binom{10302}{01144}, \binom{10311}{01100},$
$\binom{10312}{01101}, \binom{10313}{01114}, \binom{10313}{01132}, \binom{10314}{01131}, \binom{10320}{01101}, \binom{10320}{01124}, \binom{10321}{01123}, \binom{10323}{01142}, \binom{10324}{01143},$
$\binom{10332}{01111}, \binom{10333}{01110}, \binom{10330}{01134}, \binom{10331}{01130}, \binom{10332}{01143}, \binom{10340}{01102}, \binom{10344}{01103}, \binom{10342}{01121}, \binom{10343}{01122},$
$\binom{10344}{01130}, \binom{10301}{01204}, \binom{10302}{01202}, \binom{10303}{01201}, \binom{10303}{01212}, \binom{10304}{01213}, \binom{10303}{01244}, \binom{10310}{01200}, \binom{10310}{01212},$
$\binom{10313}{01210}, \binom{10314}{01213}, \binom{10310}{01223}, \binom{10311}{01224}, \binom{10322}{01211}, \binom{10320}{01221}, \binom{10321}{01224}, \binom{10322}{01223}, \binom{10322}{01234},$
$\binom{10323}{01230}, \binom{10334}{01222}, \binom{10332}{01232}, \binom{10333}{01230}, \binom{10334}{01234}, \binom{10330}{01241}, \binom{10334}{01240}, \binom{10341}{01201}, \binom{10342}{01202},$
$\binom{10341}{01233}, \binom{10340}{01241}, \binom{10341}{01240}, \binom{10344}{01243}, \binom{10303}{01301}, \binom{10433}{01412}, \binom{10300}{01312}, \binom{10421}{01432}, \binom{10301}{01334},$
$\binom{10430}{01422}, \binom{10303}{01331}, \binom{10430}{01411}, \binom{10310}{01311}, \binom{10411}{01410}, \binom{10313}{01314}, \binom{10411}{01421}, \binom{10310}{01331}, \binom{10414}{01411},$
$\binom{10312}{01342}, \binom{10402}{01431}, \binom{10322}{01311}, \binom{10440}{01410}, \binom{10324}{01322}, \binom{10433}{01430}, \binom{10320}{01344}, \binom{10442}{01420}, \binom{10322}{01341},$
$\binom{10442}{01414}, \binom{10331}{01302}, \binom{10414}{01434}, \binom{10332}{01324}, \binom{10423}{01424}, \binom{10334}{01321}, \binom{10423}{01413}, \binom{10334}{01341}, \binom{10421}{01414},$
$\binom{10341}{01301}, \binom{10404}{01412}, \binom{10344}{01304}, \binom{10404}{01423}, \binom{10341}{01321}, \binom{10402}{01413}, \binom{10343}{01332}, \binom{10440}{01433}, \binom{11034}{00133},$
$\binom{11034}{00122}, \binom{11020}{00121}, \binom{11020}{00110}, \binom{11011}{00114}, \binom{11011}{00103}, \binom{11002}{00141}, \binom{11002}{00102}, \binom{11043}{00140}, \binom{11043}{00134},$
$\binom{10402}{01103}, \binom{10403}{01102}, \binom{10403}{01103}, \binom{10401}{01114}, \binom{10402}{01133}, \binom{10402}{01140}, \binom{10403}{01140}, \binom{10414}{01112}, \binom{10410}{01124},$
$\binom{10414}{01124}, \binom{10410}{01131}, \binom{10410}{01132}, \binom{10414}{01132}, \binom{10413}{01143}, \binom{10421}{01103}, \binom{10422}{01103}, \binom{10421}{01111}, \binom{10422}{01110},$
$\binom{10422}{01111}, \binom{10420}{01122}, \binom{10421}{01141}, \binom{10432}{01101}, \binom{10433}{01120}, \binom{10433}{01132}, \binom{10434}{01132}, \binom{10433}{01140}, \binom{10434}{01140},$
$\binom{10434}{01144}, \binom{10440}{01104}, \binom{10440}{01111}, \binom{10441}{01111}, \binom{10440}{01124}, \binom{10441}{01123}, \binom{10441}{01124}, \binom{10444}{01130}, \binom{10403}{01204},$
$\binom{10401}{01213}, \binom{10404}{01231}, \binom{10403}{01241}, \binom{10411}{01203}, \binom{10410}{01213}, \binom{10410}{01221}, \binom{10413}{01230}, \binom{10420}{01202}, \binom{10423}{01220},$
$\binom{10422}{01230}, \binom{10422}{01243}, \binom{10434}{01202}, \binom{10434}{01210}, \binom{10432}{01224}, \binom{10430}{01242}, \binom{10442}{01214}, \binom{10441}{01224}, \binom{10441}{01232},$
$\binom{10444}{01241}, \binom{11001}{00014}, \binom{14002}{00014}, \binom{12000}{00014}, \binom{13002}{00014}, \binom{10104}{01144}, \binom{10401}{01030}, \binom{10111}{01110}, \binom{10130}{01102},$
$\binom{10420}{01012}, \binom{10444}{01044}, \binom{10123}{01131}, \binom{10100}{01211}, \binom{10230}{01320}, \binom{10102}{01222}, \binom{10243}{01300}, \binom{10142}{01123}, \binom{10413}{01021},$
$\binom{10112}{01244}, \binom{10204}{01310}, \binom{10124}{01222}, \binom{10223}{01300}, \binom{10121}{01233}, \binom{10131}{01200}, \binom{10241}{01011}, \binom{13043}{00140}, \binom{10234}{01034},$
$\binom{10232}{01214}, \binom{10424}{01314}, \binom{10234}{01221}, \binom{10423}{01322}, \binom{10213}{01231}, \binom{10431}{01324}, \binom{10210}{01243}, \binom{10430}{01332}, \binom{10203}{01204},$
$\binom{10411}{01312}, \binom{10201}{01242}, \binom{10220}{01220}, \binom{10400}{01344}, \binom{10412}{01304}, \binom{10222}{01232}, \binom{10244}{01203}, \binom{10443}{01334}, \binom{10241}{01210},$
$\binom{10442}{01342}, \binom{10222}{01434}, \binom{10232}{01421}, \binom{10244}{01422}, \binom{10241}{01431}, \binom{10234}{01430}, \binom{10201}{01423}, \binom{10220}{01420}, \binom{10213}{01424},$

$\binom{10210}{01433}$, $\binom{10203}{01432}$, $\binom{10404}{01302}$, $\binom{13002}{00114}$, $\binom{10242}{01340}$, $\binom{10133}{01211}$, $\binom{10200}{01320}$, $\binom{10231}{01330}$, $\binom{10114}{01200}$,
$\binom{10212}{01340}$, $\binom{10143}{01233}$, $\binom{10211}{01330}$, $\binom{10140}{01244}$, $\binom{10224}{01310}$, $\binom{10203}{01043}$, $\binom{10210}{01020}$, $\binom{13020}{00102}$, $\binom{10222}{01002}$,
$\binom{13011}{00133}$, $\binom{13034}{00121}$, $\binom{10100}{01441}$, $\binom{10102}{01441}$, $\binom{10112}{01443}$, $\binom{10121}{01440}$, $\binom{10124}{01440}$, $\binom{10131}{01442}$, $\binom{10133}{01442}$,
$\binom{10302}{01112}$, $\binom{10321}{01141}$, $\binom{10333}{01133}$, $\binom{10314}{01104}$, $\binom{10311}{01334}$, $\binom{10431}{01422}$, $\binom{10323}{01314}$, $\binom{10412}{01421}$, $\binom{10330}{01344}$,
$\binom{11013}{00134}$, $\binom{10443}{01420}$, $\binom{10342}{01324}$, $\binom{10424}{01424}$, $\binom{11040}{00110}$, $\binom{11031}{00103}$, $\binom{11022}{00141}$, $\binom{11004}{00122}$, $\binom{10340}{01120}$,
$\binom{10304}{01304}$, $\binom{10400}{01423}$, $\binom{10140}{01444}$, $\binom{10143}{01444}$, $\binom{10114}{01443}$, $\binom{10400}{01203}$, $\binom{10443}{01231}$, $\binom{10431}{01214}$, $\binom{10424}{01242}$,
$\binom{10412}{01220}$, $\binom{10432}{01003}$, $\binom{10104}{01144}$, $\binom{10401}{01030}$, $\binom{10111}{01110}$, $\binom{10130}{01102}$, $\binom{10420}{01012}$, $\binom{10444}{01044}$, $\binom{10123}{01131}$,
$\binom{10100}{01211}$, $\binom{10230}{01320}$, $\binom{10102}{01222}$, $\binom{10243}{01300}$, $\binom{10142}{01123}$, $\binom{10413}{01021}$, $\binom{10112}{01244}$, $\binom{10204}{01310}$, $\binom{10124}{01222}$,
$\binom{10223}{01300}$, $\binom{10121}{01233}$, $\binom{10131}{01200}$, $\binom{10241}{01011}$, $\binom{13043}{00140}$, $\binom{10234}{01034}$, $\binom{10232}{01214}$, $\binom{10424}{01314}$, $\binom{10234}{01221}$,
$\binom{10423}{01322}$, $\binom{10213}{01231}$, $\binom{10431}{01324}$, $\binom{10210}{01243}$, $\binom{10430}{01332}$, $\binom{10203}{01204}$, $\binom{10411}{01312}$, $\binom{10201}{01242}$, $\binom{10220}{01220}$,
$\binom{10400}{01344}$, $\binom{10412}{01304}$, $\binom{10222}{01232}$, $\binom{10244}{01203}$, $\binom{10443}{01334}$, $\binom{10241}{01210}$, $\binom{10442}{01342}$, $\binom{10222}{01434}$, $\binom{10232}{01421}$,
$\binom{10244}{01422}$, $\binom{10241}{01431}$, $\binom{10234}{01430}$, $\binom{10201}{01423}$, $\binom{10220}{01420}$, $\binom{10213}{01424}$, $\binom{10210}{01433}$, $\binom{10203}{01432}$, $\binom{10404}{01302}$,
$\binom{13002}{00114}$, $\binom{10242}{01340}$, $\binom{10133}{01211}$, $\binom{10200}{01320}$, $\binom{10231}{01330}$, $\binom{10114}{01200}$, $\binom{10212}{01340}$, $\binom{10143}{01233}$, $\binom{10211}{01330}$,
$\binom{10140}{01244}$, $\binom{10224}{01310}$, $\binom{10203}{01043}$, $\binom{10210}{01020}$, $\binom{13020}{00102}$, $\binom{10222}{01002}$, $\binom{13011}{00133}$, $\binom{13034}{00121}$, $\binom{10100}{01441}$,
$\binom{10102}{01441}$, $\binom{10112}{01443}$, $\binom{10121}{01440}$, $\binom{10124}{01440}$, $\binom{10131}{01442}$, $\binom{10133}{01442}$, $\binom{10302}{01112}$, $\binom{10321}{01141}$, $\binom{10333}{01133}$,
$\binom{10314}{01104}$, $\binom{10311}{01334}$, $\binom{10431}{01422}$, $\binom{10323}{01314}$, $\binom{10412}{01421}$, $\binom{10330}{01344}$, $\binom{11013}{00134}$, $\binom{10443}{01420}$, $\binom{10342}{01324}$,
$\binom{10424}{01424}$, $\binom{11040}{00110}$, $\binom{11031}{00103}$, $\binom{11022}{00141}$, $\binom{11004}{00122}$, $\binom{10340}{01120}$, $\binom{10304}{01304}$, $\binom{10400}{01423}$, $\binom{10140}{01444}$,
$\binom{10143}{01444}$, $\binom{10114}{01443}$, $\binom{10400}{01203}$, $\binom{10443}{01231}$, $\binom{10431}{01214}$, $\binom{10424}{01242}$, $\binom{10412}{01220}$, $\binom{10432}{01003}$, $\binom{11031}{00111}$,
$\binom{11040}{00123}$, $\binom{11022}{00104}$, $\binom{11013}{00142}$, $\binom{11004}{00130}$, $\binom{10111}{01142}$, $\binom{10413}{01013}$, $\binom{10123}{01113}$, $\binom{10401}{01022}$, $\binom{10130}{01134}$,
$\binom{10444}{01031}$, $\binom{10142}{01100}$, $\binom{10432}{01040}$, $\binom{10104}{01121}$, $\binom{10420}{01004}$, $\binom{11031}{00111}$, $\binom{11040}{00123}$, $\binom{11022}{00104}$, $\binom{11013}{00142}$,
$\binom{11004}{00130}$, $\binom{10111}{01142}$, $\binom{10413}{01013}$, $\binom{10123}{01113}$, $\binom{10401}{01022}$, $\binom{10130}{01134}$, $\binom{10444}{01031}$, $\binom{10142}{01100}$, $\binom{10432}{01040}$,
$\binom{10104}{01121}$, $\binom{10420}{01004}$, $\binom{11031}{00111}$, $\binom{11040}{00123}$, $\binom{11022}{00104}$, $\binom{11013}{00142}$, $\binom{11004}{00130}$, $\binom{10111}{01142}$, $\binom{10413}{01013}$,
$\binom{10123}{01113}$, $\binom{10401}{01022}$, $\binom{10130}{01134}$, $\binom{10444}{01031}$, $\binom{10142}{01100}$, $\binom{10432}{01040}$, $\binom{10104}{01121}$, $\binom{10420}{01004}$, $\binom{01201}{00011}$,
$\binom{01303}{00010}$, $\binom{01400}{00001}$, $\binom{01201}{00011}$, $\binom{01303}{00010}$, $\binom{01400}{00001}$, $\binom{01201}{00011}$, $\binom{01303}{00010}$, $\binom{01400}{00001}$, $\binom{01201}{00011}$,
$\binom{01303}{00010}$, $\binom{01400}{00001}$,

$n_5(5,2;39) \ge 969$: $\binom{01001}{00101}$, $\binom{01012}{00144}$, $\binom{01002}{00102}$, $\binom{01002}{00102}$, $\binom{01002}{00102}$, $\binom{01034}{00133}$, $\binom{01034}{00133}$,
$\binom{01034}{00133}$, $\binom{01001}{00134}$, $\binom{01042}{00144}$, $\binom{01003}{00132}$, $\binom{01042}{00122}$, $\binom{01010}{00113}$, $\binom{01021}{00101}$, $\binom{01011}{00114}$, $\binom{01011}{00114}$,
$\binom{01011}{00114}$, $\binom{01043}{00140}$, $\binom{01043}{00140}$, $\binom{01043}{00140}$, $\binom{01010}{00141}$, $\binom{01024}{00103}$, $\binom{01020}{00121}$, $\binom{01020}{00121}$, $\binom{01020}{00121}$,
$\binom{01024}{00120}$, $\binom{01030}{00113}$, $\binom{01033}{00110}$, $\binom{01033}{00132}$, $\binom{01044}{00120}$, $\binom{01203}{00011}$, $\binom{01304}{00010}$, $\binom{01420}{00001}$, $\binom{10000}{00012}$,
$\binom{10000}{00013}$, $\binom{10000}{00014}$, $\binom{10013}{00104}$, $\binom{10023}{01134}$, $\binom{10013}{00111}$, $\binom{10023}{01100}$, $\binom{10013}{00123}$, $\binom{10023}{01121}$, $\binom{10013}{00130}$,
$\binom{10023}{01142}$, $\binom{10013}{00142}$, $\binom{10023}{01113}$, $\binom{10020}{00100}$, $\binom{10002}{01140}$, $\binom{10021}{00103}$, $\binom{10041}{01123}$, $\binom{10020}{00112}$, $\binom{10002}{01111}$,
$\binom{10021}{00110}$, $\binom{10041}{01144}$, $\binom{10020}{00124}$, $\binom{10002}{01132}$, $\binom{10021}{00122}$, $\binom{10041}{01110}$, $\binom{10020}{00131}$, $\binom{10002}{01103}$, $\binom{10021}{00134}$,
$\binom{10041}{01131}$, $\binom{10020}{00143}$, $\binom{10002}{01124}$, $\binom{10021}{00141}$, $\binom{10041}{01102}$, $\binom{10030}{00103}$, $\binom{10003}{01123}$, $\binom{10032}{00103}$, $\binom{10031}{01123}$,
$\binom{10034}{00103}$, $\binom{10014}{01123}$, $\binom{10030}{00110}$, $\binom{10003}{01144}$, $\binom{10032}{00110}$, $\binom{10031}{01144}$, $\binom{10034}{00110}$, $\binom{10014}{01144}$, $\binom{10030}{00122}$,
$\binom{10003}{01110}$, $\binom{10032}{00122}$, $\binom{10031}{01110}$, $\binom{10034}{00122}$, $\binom{10014}{01110}$, $\binom{10030}{00134}$, $\binom{10003}{01131}$, $\binom{10032}{00134}$, $\binom{10031}{01131}$,
$\binom{10034}{00134}$, $\binom{10014}{01131}$, $\binom{10030}{00141}$, $\binom{10003}{01102}$, $\binom{10032}{00141}$, $\binom{10031}{01102}$, $\binom{10034}{00141}$, $\binom{10014}{01102}$, $\binom{10100}{00012}$,
$\binom{14402}{00013}$, $\binom{10204}{00012}$, $\binom{13302}{00013}$, $\binom{10303}{00012}$, $\binom{10303}{00012}$, $\binom{12202}{00013}$, $\binom{12202}{00013}$, $\binom{10012}{01003}$, $\binom{10012}{01012}$,
$\binom{10012}{01021}$, $\binom{10012}{01030}$, $\binom{10012}{01044}$, $\binom{10022}{01003}$, $\binom{10024}{01004}$, $\binom{10022}{01012}$, $\binom{10024}{01013}$, $\binom{10022}{01021}$, $\binom{10024}{01022}$,
$\binom{10022}{01030}$, $\binom{10024}{01031}$, $\binom{10022}{01044}$, $\binom{10024}{01040}$, $\binom{10033}{01000}$, $\binom{10033}{01014}$, $\binom{10033}{01023}$, $\binom{10033}{01032}$, $\binom{10033}{01041}$,
$\binom{10042}{01003}$, $\binom{10043}{01003}$, $\binom{10042}{01012}$, $\binom{10043}{01012}$, $\binom{10042}{01021}$, $\binom{10043}{01021}$, $\binom{10042}{01030}$, $\binom{10043}{01030}$, $\binom{10042}{01044}$,
$\binom{10043}{01044}$, $\binom{10001}{01204}$, $\binom{10044}{01312}$, $\binom{10001}{01210}$, $\binom{10044}{01342}$, $\binom{10001}{01221}$, $\binom{10044}{01322}$, $\binom{10001}{01232}$, $\binom{10044}{01302}$,
$\binom{10001}{01243}$, $\binom{10044}{01332}$, $\binom{10040}{01203}$, $\binom{10004}{01334}$, $\binom{10040}{01214}$, $\binom{10004}{01314}$, $\binom{10040}{01220}$, $\binom{10004}{01344}$, $\binom{10040}{01231}$,
$\binom{10004}{01324}$, $\binom{10040}{01242}$, $\binom{10004}{01304}$, $\binom{10011}{01423}$, $\binom{10011}{01421}$, $\binom{10011}{01424}$, $\binom{10011}{01422}$, $\binom{10011}{01420}$, $\binom{10010}{01434}$,
$\binom{10010}{01432}$, $\binom{10010}{01430}$, $\binom{10010}{01433}$, $\binom{10010}{01431}$, $\binom{10100}{01000}$, $\binom{14010}{00100}$, $\binom{10100}{01004}$, $\binom{14021}{00111}$, $\binom{10101}{01002}$,
$\binom{14032}{00133}$, $\binom{10101}{01012}$, $\binom{14033}{00134}$, $\binom{10102}{01031}$, $\binom{14030}{00142}$, $\binom{10101}{01041}$, $\binom{14042}{00143}$, $\binom{10102}{01044}$, $\binom{14003}{00110}$,

$\binom{10113}{01000}, \binom{14033}{00100}, \binom{10114}{01003}, \binom{14044}{00122}, \binom{10112}{01013}, \binom{14012}{00123}, \binom{10112}{01014}, \binom{14001}{00112}, \binom{10113}{01011},$

$\binom{14023}{00140}, \binom{10113}{01021}, \binom{14024}{00141}, \binom{10114}{01040}, \binom{14021}{00104}, \binom{10121}{01004}, \binom{14012}{00111}, \binom{10120}{01014}, \binom{14024}{00112},$

$\binom{10121}{01012}, \binom{14030}{00134}, \binom{10120}{01020}, \binom{14014}{00102}, \binom{10124}{01022}, \binom{14003}{00130}, \binom{10124}{01023}, \binom{14042}{00124}, \binom{10120}{01030},$

$\binom{14010}{00103}, \binom{10133}{01013}, \binom{14003}{00123}, \binom{10132}{01023}, \binom{14010}{00124}, \binom{10133}{01021}, \binom{14021}{00141}, \binom{10131}{01031}, \binom{14044}{00142},$

$\binom{10131}{01032}, \binom{14033}{00131}, \binom{10132}{01034}, \binom{14000}{00114}, \binom{10132}{01044}, \binom{14001}{00110}, \binom{10144}{01003}, \binom{14042}{00122}, \binom{10140}{01022},$

$\binom{14044}{00130}, \binom{10140}{01030}, \binom{14012}{00103}, \binom{10144}{01032}, \binom{14001}{00131}, \binom{10143}{01040}, \binom{14030}{00104}, \binom{10143}{01041}, \binom{14024}{00143},$

$\binom{10144}{01043}, \binom{14041}{00121}, \binom{10101}{01102}, \binom{10411}{01012}, \binom{10100}{01141}, \binom{10412}{01002}, \binom{10101}{01141}, \binom{10401}{01002}, \binom{10102}{01142},$

$\binom{10401}{01013}, \binom{10102}{01143}, \binom{10412}{01024}, \binom{10104}{01140}, \binom{10104}{01140}, \binom{10412}{01041}, \binom{10412}{01041}, \binom{10111}{01111}, \binom{10111}{01111},$

$\binom{10400}{01000}, \binom{10400}{01000}, \binom{10112}{01112}, \binom{10400}{01011}, \binom{10113}{01112}, \binom{10444}{01011}, \binom{10114}{01113}, \binom{10444}{01022}, \binom{10114}{01114},$

$\binom{10400}{01033}, \binom{10113}{01123}, \binom{10404}{01021}, \binom{10120}{01133}, \binom{10432}{01020}, \binom{10121}{01130}, \binom{10443}{01042}, \binom{10121}{01134}, \binom{10432}{01031},$

$\binom{10123}{01132}, \binom{10123}{01132}, \binom{10443}{01014}, \binom{10443}{01014}, \binom{10124}{01133}, \binom{10443}{01020}, \binom{10120}{01144}, \binom{10442}{01030}, \binom{10130}{01103},$

$\binom{10130}{01103}, \binom{10431}{01023}, \binom{10431}{01023}, \binom{10131}{01104}, \binom{10431}{01034}, \binom{10132}{01104}, \binom{10420}{01034}, \binom{10133}{01100}, \binom{10420}{01040},$

$\binom{10133}{01101}, \binom{10431}{01001}, \binom{10132}{01110}, \binom{10430}{01044}, \binom{10140}{01121}, \binom{10413}{01004}, \binom{10140}{01122}, \binom{10424}{01010}, \binom{10142}{01124},$

$\binom{10142}{01124}, \binom{10424}{01032}, \binom{10424}{01032}, \binom{10143}{01120}, \binom{10424}{01043}, \binom{10144}{01120}, \binom{10413}{01043}, \binom{10144}{01131}, \binom{10423}{01003},$

$\binom{10100}{01203}, \binom{10244}{01334}, \binom{10104}{01212}, \binom{10224}{01303}, \binom{10103}{01221}, \binom{10103}{01221}, \binom{10103}{01221}, \binom{10103}{01221}, \binom{10204}{01322},$

$\binom{10204}{01322}, \binom{10204}{01322}, \binom{10204}{01322}, \binom{10104}{01233}, \binom{10201}{01330}, \binom{10110}{01204}, \binom{10110}{01204}, \binom{10110}{01204}, \binom{10110}{01204},$

$\binom{10223}{01312}, \binom{10223}{01312}, \binom{10223}{01312}, \binom{10223}{01312}, \binom{10111}{01211}, \binom{10220}{01320}, \binom{10112}{01231}, \binom{10213}{01324}, \binom{10111}{01240},$

$\binom{10243}{01343}, \binom{10124}{01214}, \binom{10232}{01314}, \binom{10123}{01223}, \binom{10212}{01333}, \binom{10122}{01232}, \binom{10122}{01232}, \binom{10122}{01232}, \binom{10122}{01232},$

$\binom{10242}{01302}, \binom{10242}{01302}, \binom{10242}{01302}, \binom{10242}{01302}, \binom{10123}{01244}, \binom{10244}{01310}, \binom{10130}{01201}, \binom{10231}{01323}, \binom{10134}{01210},$

$\binom{10134}{01210}, \binom{10134}{01210}, \binom{10134}{01210}, \binom{10211}{01342}, \binom{10211}{01342}, \binom{10211}{01342}, \binom{10211}{01342}, \binom{10130}{01222}, \binom{10213}{01300},$

$\binom{10131}{01242}, \binom{10201}{01304}, \binom{10142}{01200}, \binom{10232}{01340}, \binom{10143}{01220}, \binom{10220}{01344}, \binom{10142}{01234}, \binom{10200}{01313}, \binom{10141}{01243},$

$\binom{10141}{01243}, \binom{10141}{01243}, \binom{10141}{01243}, \binom{10230}{01332}, \binom{10230}{01332}, \binom{10230}{01332}, \binom{10230}{01332}, \binom{10102}{01300}, \binom{10333}{01440},$

$\binom{10101}{01324}, \binom{10323}{01424}, \binom{10102}{01321}, \binom{10301}{01413}, \binom{10102}{01324}, \binom{10312}{01424}, \binom{10104}{01331}, \binom{10332}{01411}, \binom{10113}{01314},$

$\binom{10304}{01421}, \binom{10114}{01311}, \binom{10332}{01410}, \binom{10114}{01314}, \binom{10343}{01421}, \binom{10111}{01321}, \binom{10313}{01413}, \binom{10114}{01340}, \binom{10314}{01442},$

$\binom{10120}{01304}, \binom{10330}{01423}, \binom{10121}{01301}, \binom{10313}{01412}, \binom{10121}{01304}, \binom{10324}{01423}, \binom{10123}{01311}, \binom{10344}{01410}, \binom{10121}{01330},$

$\binom{10340}{01444}, \binom{10130}{01301}, \binom{10320}{01412}, \binom{10133}{01320}, \binom{10321}{01441}, \binom{10132}{01344}, \binom{10311}{01420}, \binom{10133}{01341}, \binom{10344}{01414},$

$\binom{10133}{01344}, \binom{10300}{01420}, \binom{10140}{01310}, \binom{10302}{01443}, \binom{10140}{01331}, \binom{10320}{01411}, \binom{10140}{01334}, \binom{10331}{01422}, \binom{10144}{01334},$

$\binom{10342}{01422}, \binom{10142}{01341}, \binom{10301}{01414}, \binom{10104}{01400}, \binom{10100}{01423}, \binom{10103}{01432}, \binom{10103}{01432}, \binom{10103}{01432}, \binom{10103}{01432},$

$\binom{10104}{01441}, \binom{10111}{01402}, \binom{10112}{01420}, \binom{10110}{01434}, \binom{10110}{01434}, \binom{10110}{01434}, \binom{10110}{01434}, \binom{10111}{01443}, \binom{10123}{01404},$

$\binom{10124}{01422}, \binom{10122}{01431}, \binom{10122}{01431}, \binom{10122}{01431}, \binom{10122}{01431}, \binom{10123}{01440}, \binom{10130}{01401}, \binom{10131}{01424}, \binom{10134}{01433},$

$\binom{10134}{01433}, \binom{10134}{01433}, \binom{10134}{01433}, \binom{10130}{01442}, \binom{10142}{01403}, \binom{10143}{01421}, \binom{10141}{01430}, \binom{10141}{01430}, \binom{10141}{01430},$

$\binom{10141}{01430}, \binom{10142}{01444}, \binom{10203}{01001}, \binom{10203}{01001}, \binom{13020}{00144}, \binom{13020}{00144}, \binom{10200}{01024}, \binom{13041}{00113}, \binom{10202}{01040},$

$\binom{13001}{00104}, \binom{10202}{01041}, \binom{13034}{00143}, \binom{10202}{01043}, \binom{13040}{00121}, \binom{10203}{01040}, \binom{13040}{00104}, \binom{10212}{01001}, \binom{13032}{00144},$

$\binom{10210}{01022}, \binom{13031}{00130}, \binom{10214}{01020}, \binom{13031}{00102}, \binom{10214}{01022}, \binom{13042}{00130}, \binom{10214}{01023}, \binom{13020}{00124}, \binom{10210}{01033},$

$\binom{10210}{01033}, \binom{13011}{00120}, \binom{13011}{00120}, \binom{10221}{01000}, \binom{13011}{00100}, \binom{10221}{01002}, \binom{13022}{00133}, \binom{10221}{01004}, \binom{13033}{00111},$

$\binom{10222}{01004}, \binom{13022}{00111}, \binom{10222}{01010}, \binom{10222}{01010}, \binom{13002}{00101}, \binom{13002}{00101}, \binom{10224}{01033}, \binom{13023}{00120}, \binom{10231}{01010},$

$\binom{13014}{00101}, \binom{10233}{01031}, \binom{13024}{00142}, \binom{10233}{01032}, \binom{13002}{00131}, \binom{10233}{01034}, \binom{13013}{00114}, \binom{10234}{01031}, \binom{13013}{00142},$

$\binom{10234}{01042}, \binom{10234}{01042}, \binom{13043}{00132}, \binom{13043}{00132}, \binom{10240}{01011}, \binom{13004}{00140}, \binom{10240}{01013}, \binom{13010}{00123}, \binom{10240}{01014},$

$\binom{13043}{00112}, \binom{10241}{01013}, \binom{13004}{00123}, \binom{10241}{01024}, \binom{10241}{01024}, \binom{13034}{00113}, \binom{13034}{00113}, \binom{10243}{01042}, \binom{13000}{00132},$

$\binom{10201}{01103}, \binom{10300}{01023}, \binom{10202}{01112}, \binom{10320}{01011}, \binom{10203}{01111}, \binom{10342}{01000}, \binom{10200}{01121}, \binom{10200}{01121}, \binom{10323}{01004},$

$\binom{10323}{01004}, \binom{10203}{01130}, \binom{10203}{01130}, \binom{10321}{01042}, \binom{10321}{01042}, \binom{10213}{01111}, \binom{10343}{01000}, \binom{10210}{01124}, \binom{10330}{01032},$

$\binom{10214}{01120}, \binom{10313}{01043}, \binom{10212}{01134}, \binom{10212}{01134}, \binom{10311}{01031}, \binom{10311}{01031}, \binom{10210}{01143}, \binom{10210}{01143}, \binom{10314}{01024},$

$\binom{10314}{01024}, \binom{10222}{01101}, \binom{10222}{01101}, \binom{10302}{01001}, \binom{10302}{01001}, \binom{10220}{01124}, \binom{10331}{01032}, \binom{10221}{01133}, \binom{10301}{01020},$

$\binom{10222}{01132}, \binom{10323}{01014}, \binom{10224}{01142}, \binom{10224}{01142}, \binom{10304}{01013}, \binom{10304}{01013}, \binom{10231}{01100}, \binom{10231}{01100}, \binom{10342}{01040},$

$\binom{10342}{01040}, \binom{10234}{01114}, \binom{10234}{01114}, \binom{10340}{01033}, \binom{10340}{01033}, \binom{10232}{01132}, \binom{10324}{01014}, \binom{10233}{01141}, \binom{10344}{01002},$

$\binom{10234}{01140}, \binom{10311}{01041}, \binom{10240}{01104}, \binom{10332}{01034}, \binom{10241}{01103}, \binom{10304}{01023}, \binom{10243}{01113}, \binom{10243}{01113}, \binom{10330}{01022},$

$\binom{10330}{01022}$, $\binom{10241}{01122}$, $\binom{10241}{01122}$, $\binom{10333}{01010}$, $\binom{10333}{01010}$, $\binom{10244}{01140}$, $\binom{10312}{01041}$, $\binom{10200}{01202}$, $\binom{10422}{01301}$,
$\binom{10201}{01213}$, $\binom{10421}{01331}$, $\binom{10202}{01210}$, $\binom{10432}{01342}$, $\binom{10200}{01243}$, $\binom{10434}{01332}$, $\binom{10201}{01244}$, $\binom{10434}{01310}$, $\binom{10203}{01244}$,
$\binom{10412}{01310}$, $\binom{10213}{01202}$, $\binom{10440}{01301}$, $\binom{10214}{01204}$, $\binom{10401}{01312}$, $\binom{10210}{01233}$, $\binom{10431}{01330}$, $\binom{10212}{01232}$, $\binom{10403}{01302}$,
$\binom{10213}{01233}$, $\binom{10403}{01330}$, $\binom{10212}{01241}$, $\binom{10441}{01321}$, $\binom{10220}{01222}$, $\binom{10422}{01300}$, $\binom{10222}{01222}$, $\binom{10400}{01300}$, $\binom{10224}{01221}$,
$\binom{10422}{01322}$, $\binom{10224}{01230}$, $\binom{10410}{01341}$, $\binom{10220}{01241}$, $\binom{10414}{01321}$, $\binom{10221}{01243}$, $\binom{10420}{01332}$, $\binom{10231}{01210}$, $\binom{10441}{01342}$,
$\binom{10232}{01211}$, $\binom{10441}{01320}$, $\binom{10234}{01211}$, $\binom{10424}{01320}$, $\binom{10231}{01224}$, $\binom{10434}{01311}$, $\binom{10232}{01230}$, $\binom{10433}{01341}$, $\binom{10233}{01232}$,
$\binom{10444}{01302}$, $\binom{10241}{01200}$, $\binom{10443}{01340}$, $\binom{10243}{01204}$, $\binom{10410}{01312}$, $\binom{10244}{01200}$, $\binom{10410}{01340}$, $\binom{10243}{01213}$, $\binom{10403}{01331}$,
$\binom{10240}{01221}$, $\binom{10413}{01322}$, $\binom{10244}{01224}$, $\binom{10402}{01311}$, $\binom{10201}{01411}$, $\binom{10201}{01414}$, $\binom{10202}{01431}$, $\binom{10202}{01432}$, $\binom{10200}{01440}$,
$\binom{10204}{01442}$, $\binom{10213}{01410}$, $\binom{10213}{01412}$, $\binom{10214}{01432}$, $\binom{10214}{01433}$, $\binom{10211}{01443}$, $\binom{10212}{01441}$, $\binom{10220}{01411}$, $\binom{10220}{01413}$,
$\binom{10221}{01433}$, $\binom{10221}{01434}$, $\binom{10223}{01444}$, $\binom{10224}{01442}$, $\binom{10232}{01412}$, $\binom{10232}{01414}$, $\binom{10233}{01430}$, $\binom{10233}{01434}$, $\binom{10230}{01440}$,
$\binom{10231}{01443}$, $\binom{10244}{01410}$, $\binom{10244}{01413}$, $\binom{10240}{01430}$, $\binom{10240}{01431}$, $\binom{10242}{01441}$, $\binom{10243}{01444}$, $\binom{12030}{00144}$, $\binom{12030}{00144}$,
$\binom{12000}{00123}$, $\binom{12000}{00123}$, $\binom{12042}{00124}$, $\binom{12020}{00102}$, $\binom{12003}{00124}$, $\binom{12021}{00113}$, $\binom{12021}{00113}$, $\binom{12041}{00142}$, $\binom{12041}{00142}$,
$\binom{12044}{00143}$, $\binom{12033}{00143}$, $\binom{12011}{00121}$, $\binom{12032}{00111}$, $\binom{12032}{00111}$, $\binom{12002}{00140}$, $\binom{12030}{00112}$, $\binom{12024}{00112}$, $\binom{12012}{00132}$,
$\binom{12012}{00132}$, $\binom{12003}{00101}$, $\binom{12003}{00101}$, $\binom{12023}{00130}$, $\binom{12023}{00130}$, $\binom{12021}{00131}$, $\binom{12010}{00131}$, $\binom{12043}{00114}$, $\binom{12012}{00100}$,
$\binom{12001}{00100}$, $\binom{12034}{00133}$, $\binom{12044}{00120}$, $\binom{12044}{00120}$, $\binom{12014}{00104}$, $\binom{12014}{00104}$, $\binom{10304}{01104}$, $\binom{10300}{01114}$, $\binom{10301}{01121}$,
$\binom{10302}{01130}$, $\binom{10302}{01130}$, $\binom{10302}{01132}$, $\binom{10304}{01134}$, $\binom{10312}{01101}$, $\binom{10313}{01113}$, $\binom{10311}{01121}$, $\binom{10314}{01122}$, $\binom{10314}{01122}$,
$\binom{10314}{01124}$, $\binom{10311}{01141}$, $\binom{10320}{01100}$, $\binom{10321}{01111}$, $\binom{10321}{01114}$, $\binom{10321}{01114}$, $\binom{10323}{01113}$, $\binom{10323}{01133}$, $\binom{10324}{01143}$,
$\binom{10330}{01100}$, $\binom{10333}{01101}$, $\binom{10333}{01101}$, $\binom{10333}{01103}$, $\binom{10330}{01120}$, $\binom{10331}{01130}$, $\binom{10332}{01142}$, $\binom{10342}{01112}$, $\binom{10343}{01122}$,
$\binom{10344}{01134}$, $\binom{10340}{01140}$, $\binom{10340}{01143}$, $\binom{10340}{01143}$, $\binom{10342}{01142}$, $\binom{10303}{01203}$, $\binom{10303}{01213}$, $\binom{10303}{01222}$, $\binom{10301}{01230}$,
$\binom{10301}{01242}$, $\binom{10313}{01203}$, $\binom{10310}{01214}$, $\binom{10310}{01224}$, $\binom{10310}{01233}$, $\binom{10313}{01241}$, $\binom{10320}{01202}$, $\binom{10320}{01214}$, $\binom{10322}{01220}$,
$\binom{10322}{01230}$, $\binom{10322}{01244}$, $\binom{10334}{01200}$, $\binom{10332}{01213}$, $\binom{10332}{01220}$, $\binom{10334}{01231}$, $\binom{10334}{01241}$, $\binom{10341}{01202}$, $\binom{10341}{01211}$,
$\binom{10344}{01224}$, $\binom{10344}{01231}$, $\binom{10341}{01242}$, $\binom{10303}{01303}$, $\binom{10400}{01401}$, $\binom{10300}{01310}$, $\binom{10300}{01310}$, $\binom{10300}{01310}$, $\binom{10404}{01443}$,
$\binom{10404}{01443}$, $\binom{10404}{01443}$, $\binom{10304}{01311}$, $\binom{10421}{01410}$, $\binom{10300}{01333}$, $\binom{10430}{01400}$, $\binom{10302}{01341}$, $\binom{10440}{01414}$, $\binom{10312}{01313}$,
$\binom{10411}{01404}$, $\binom{10314}{01321}$, $\binom{10421}{01413}$, $\binom{10310}{01333}$, $\binom{10431}{01400}$, $\binom{10311}{01341}$, $\binom{10402}{01414}$, $\binom{10312}{01340}$, $\binom{10312}{01340}$,
$\binom{10312}{01340}$, $\binom{10430}{01442}$, $\binom{10430}{01442}$, $\binom{10430}{01442}$, $\binom{10321}{01301}$, $\binom{10402}{01412}$, $\binom{10322}{01313}$, $\binom{10412}{01404}$, $\binom{10323}{01321}$,
$\binom{10433}{01413}$, $\binom{10324}{01320}$, $\binom{10324}{01320}$, $\binom{10324}{01320}$, $\binom{10411}{01441}$, $\binom{10411}{01441}$, $\binom{10411}{01441}$, $\binom{10324}{01343}$, $\binom{10442}{01403}$,
$\binom{10330}{01301}$, $\binom{10414}{01412}$, $\binom{10331}{01300}$, $\binom{10331}{01300}$, $\binom{10331}{01300}$, $\binom{10442}{01440}$, $\binom{10442}{01440}$, $\binom{10442}{01440}$, $\binom{10331}{01323}$,
$\binom{10423}{01402}$, $\binom{10333}{01331}$, $\binom{10433}{01411}$, $\binom{10334}{01343}$, $\binom{10443}{01403}$, $\binom{10343}{01303}$, $\binom{10404}{01401}$, $\binom{10340}{01311}$, $\binom{10414}{01410}$,
$\binom{10341}{01323}$, $\binom{10424}{01402}$, $\binom{10342}{01331}$, $\binom{10440}{01411}$, $\binom{10343}{01330}$, $\binom{10343}{01330}$, $\binom{10343}{01330}$, $\binom{10423}{01444}$, $\binom{10423}{01444}$,
$\binom{10423}{01444}$, $\binom{11040}{00100}$, $\binom{11040}{00100}$, $\binom{11001}{00133}$, $\binom{11000}{00140}$, $\binom{11011}{00123}$, $\binom{11010}{00141}$, $\binom{11020}{00120}$, $\binom{11041}{00133}$,
$\binom{11002}{00111}$, $\binom{11001}{00134}$, $\binom{11011}{00113}$, $\binom{11031}{00143}$, $\binom{11031}{00143}$, $\binom{11042}{00121}$, $\binom{11042}{00122}$, $\binom{11002}{00101}$, $\binom{11033}{00114}$,
$\binom{11022}{00131}$, $\binom{11022}{00131}$, $\binom{11043}{00104}$, $\binom{11032}{00121}$, $\binom{11043}{00144}$, $\binom{11013}{00124}$, $\binom{11013}{00124}$, $\binom{11024}{00102}$, $\binom{11023}{00114}$,
$\binom{11034}{00142}$, $\binom{11033}{00110}$, $\binom{11004}{00112}$, $\binom{11004}{00112}$, $\binom{11010}{00140}$, $\binom{11014}{00102}$, $\binom{11020}{00130}$, $\binom{11024}{00103}$, $\binom{11034}{00132}$,
$\binom{10403}{01113}$, $\binom{10401}{01123}$, $\binom{10400}{01133}$, $\binom{10401}{01132}$, $\binom{10403}{01131}$, $\binom{10403}{01134}$, $\binom{10401}{01140}$, $\binom{10413}{01102}$, $\binom{10410}{01110}$,
$\binom{10410}{01113}$, $\binom{10412}{01112}$, $\binom{10413}{01111}$, $\binom{10413}{01124}$, $\binom{10410}{01142}$, $\binom{10420}{01103}$, $\binom{10422}{01121}$, $\binom{10420}{01131}$, $\binom{10420}{01140}$,
$\binom{10422}{01142}$, $\binom{10422}{01144}$, $\binom{10424}{01141}$, $\binom{10434}{01100}$, $\binom{10432}{01110}$, $\binom{10431}{01120}$, $\binom{10432}{01124}$, $\binom{10434}{01121}$, $\binom{10434}{01123}$,
$\binom{10432}{01132}$, $\binom{10441}{01100}$, $\binom{10441}{01102}$, $\binom{10443}{01104}$, $\binom{10444}{01103}$, $\binom{10444}{01111}$, $\binom{10441}{01134}$, $\binom{10444}{01144}$, $\binom{10402}{01213}$,
$\binom{10404}{01212}$, $\binom{10404}{01224}$, $\binom{10402}{01233}$, $\binom{10402}{01233}$, $\binom{10402}{01233}$, $\binom{10403}{01240}$, $\binom{10414}{01200}$, $\binom{10414}{01200}$, $\binom{10414}{01200}$,
$\binom{10410}{01212}$, $\binom{10411}{01234}$, $\binom{10414}{01230}$, $\binom{10411}{01241}$, $\binom{10421}{01202}$, $\binom{10423}{01201}$, $\binom{10423}{01213}$, $\binom{10421}{01222}$, $\binom{10421}{01222}$,
$\binom{10421}{01222}$, $\binom{10422}{01234}$, $\binom{10434}{01201}$, $\binom{10430}{01223}$, $\binom{10433}{01224}$, $\binom{10430}{01230}$, $\binom{10433}{01244}$, $\binom{10433}{01244}$, $\binom{10433}{01244}$,
$\binom{10442}{01202}$, $\binom{10440}{01211}$, $\binom{10440}{01211}$, $\binom{10440}{01211}$, $\binom{10441}{01223}$, $\binom{10440}{01241}$, $\binom{10442}{01240}$, $\binom{11000}{00014}$, $\binom{11202}{00011}$,
$\binom{13403}{00010}$, $\binom{11410}{00001}$, $\binom{12004}{00014}$, $\binom{12103}{00010}$, $\binom{14130}{00001}$, $\binom{13003}{00014}$, $\binom{13003}{00014}$, $\binom{14302}{00011}$,

$n_5(5,2;44) \ge 1096$: $\binom{01001}{00104}$, $\binom{01040}{00144}$, $\binom{01004}{00101}$, $\binom{01040}{00111}$, $\binom{01000}{00112}$, $\binom{01011}{00100}$,
$\binom{01000}{00124}$, $\binom{01032}{00100}$, $\binom{01004}{00123}$, $\binom{01010}{00111}$, $\binom{01004}{00130}$, $\binom{01031}{00111}$, $\binom{01000}{00140}$, $\binom{01041}{00100}$, $\binom{01002}{00143}$,
$\binom{01041}{00133}$, $\binom{01014}{00102}$, $\binom{01013}{00113}$, $\binom{01014}{00124}$, $\binom{01020}{00112}$, $\binom{01013}{00130}$, $\binom{01024}{00123}$, $\binom{01014}{00131}$, $\binom{01041}{00112}$,

$\binom{01013}{00142}, \binom{01040}{00123}, \binom{01022}{00104}, \binom{01023}{00114}, \binom{01022}{00120}, \binom{01023}{00131}, \binom{01034}{00124}, \binom{01022}{00142}, \binom{01033}{00130},$
$\binom{01023}{00143}, \binom{01031}{00104}, \binom{01042}{00142}, \binom{01032}{00121}, \binom{01031}{00132}, \binom{01032}{00143}, \binom{01043}{00131}, \binom{10000}{00001}, \binom{10000}{00001},$
$\binom{10000}{00011}, \binom{10000}{00011}, \binom{10000}{00010}, \binom{10000}{00010}, \binom{10000}{00012}, \binom{10000}{00013}, \binom{10000}{00014}, \binom{10001}{00012}, \binom{10002}{00013},$
$\binom{10001}{00014}, \binom{10002}{00010}, \binom{10030}{00001}, \binom{10002}{00011}, \binom{10003}{00010}, \binom{10002}{00012}, \binom{10002}{00012}, \binom{10004}{00013}, \binom{10004}{00013},$
$\binom{10002}{00014}, \binom{10002}{00014}, \binom{10020}{00001}, \binom{10003}{00011}, \binom{10021}{00104}, \binom{10041}{01134}, \binom{10021}{00111}, \binom{10041}{01100}, \binom{10021}{00123},$
$\binom{10041}{01121}, \binom{10021}{00130}, \binom{10041}{01142}, \binom{10021}{00142}, \binom{10041}{01113}, \binom{10031}{00102}, \binom{10042}{01112}, \binom{10034}{00100}, \binom{10014}{01140},$
$\binom{10031}{00114}, \binom{10042}{01133}, \binom{10034}{00112}, \binom{10014}{01111}, \binom{10031}{00121}, \binom{10042}{01104}, \binom{10034}{00124}, \binom{10014}{01132}, \binom{10031}{00133},$
$\binom{10042}{01120}, \binom{10034}{00131}, \binom{10014}{01103}, \binom{10031}{00140}, \binom{10042}{01141}, \binom{10034}{00143}, \binom{10014}{01124}, \binom{10203}{00012}, \binom{10203}{00012},$
$\binom{13300}{00013}, \binom{13300}{00013}, \binom{10301}{00012}, \binom{10301}{00012}, \binom{12203}{00013}, \binom{12203}{00013}, \binom{10012}{01000}, \binom{10012}{01014}, \binom{10012}{01023},$
$\binom{10012}{01032}, \binom{10012}{01041}, \binom{10032}{01002}, \binom{10032}{01011}, \binom{10032}{01020}, \binom{10032}{01034}, \binom{10032}{01043}, \binom{10043}{01004}, \binom{10043}{01013},$
$\binom{10043}{01022}, \binom{10043}{01031}, \binom{10043}{01040}, \binom{10022}{01200}, \binom{10030}{01340}, \binom{10023}{01201}, \binom{10024}{01323}, \binom{10022}{01211}, \binom{10030}{01320},$
$\binom{10023}{01212}, \binom{10024}{01303}, \binom{10022}{01222}, \binom{10030}{01300}, \binom{10023}{01223}, \binom{10024}{01333}, \binom{10022}{01233}, \binom{10030}{01330}, \binom{10023}{01234},$
$\binom{10024}{01313}, \binom{10022}{01244}, \binom{10030}{01310}, \binom{10023}{01240}, \binom{10024}{01343}, \binom{10040}{01204}, \binom{10004}{01312}, \binom{10044}{01201}, \binom{10010}{01323},$
$\binom{10040}{01210}, \binom{10004}{01342}, \binom{10044}{01212}, \binom{10010}{01303}, \binom{10040}{01221}, \binom{10004}{01322}, \binom{10044}{01223}, \binom{10010}{01333}, \binom{10040}{01232},$
$\binom{10004}{01302}, \binom{10044}{01234}, \binom{10010}{01313}, \binom{10040}{01243}, \binom{10004}{01332}, \binom{10044}{01240}, \binom{10010}{01343}, \binom{10011}{01434}, \binom{10011}{01432},$
$\binom{10011}{01430}, \binom{10011}{01433}, \binom{10011}{01431}, \binom{10001}{01401}, \binom{10001}{01404}, \binom{10001}{01402}, \binom{10001}{01400}, \binom{10001}{01403}, \binom{10013}{01401},$
$\binom{10013}{01404}, \binom{10013}{01402}, \binom{10013}{01400}, \binom{10013}{01403}, \binom{10003}{01440}, \binom{10003}{01443}, \binom{10003}{01441}, \binom{10003}{01444}, \binom{10003}{01442},$
$\binom{10104}{01030}, \binom{10104}{01030}, \binom{10104}{01030}, \binom{14024}{00103}, \binom{14024}{00103}, \binom{14024}{00103}, \binom{10104}{01032}, \binom{14002}{00131}, \binom{10104}{01043},$
$\binom{14042}{00121}, \binom{10111}{01002}, \binom{14033}{00133}, \binom{10111}{01041}, \binom{14043}{00143}, \binom{10111}{01044}, \binom{10111}{01044}, \binom{10111}{01044}, \binom{14010}{00110},$
$\binom{14010}{00110}, \binom{14010}{00110}, \binom{10123}{01000}, \binom{14034}{00100}, \binom{10123}{01003}, \binom{10123}{01003}, \binom{10123}{01003}, \binom{14001}{00122}, \binom{14001}{00122},$
$\binom{14001}{00122}, \binom{10123}{01011}, \binom{14024}{00140}, \binom{10130}{01012}, \binom{10130}{01012}, \binom{10130}{01012}, \binom{14042}{00134}, \binom{14042}{00134}, \binom{14042}{00134},$
$\binom{10130}{01014}, \binom{14020}{00112}, \binom{10130}{01020}, \binom{14010}{00102}, \binom{10142}{01021}, \binom{10142}{01021}, \binom{10142}{01021}, \binom{14033}{00141}, \binom{14033}{00141},$
$\binom{14033}{00141}, \binom{10142}{01023}, \binom{14011}{00124}, \binom{10142}{01034}, \binom{14001}{00114}, \binom{10100}{01114}, \binom{10100}{01114}, \binom{10443}{01033}, \binom{10443}{01033},$
$\binom{10101}{01120}, \binom{10101}{01120}, \binom{10101}{01120}, \binom{10101}{01120}, \binom{10442}{01043}, \binom{10442}{01043}, \binom{10442}{01043}, \binom{10442}{01043}, \binom{10102}{01131},$
$\binom{10441}{01003}, \binom{10104}{01130}, \binom{10413}{01042}, \binom{10111}{01101}, \binom{10401}{01001}, \binom{10114}{01102}, \binom{10434}{01012}, \binom{10112}{01130}, \binom{10112}{01130},$
$\binom{10431}{01042}, \binom{10431}{01042}, \binom{10113}{01141}, \binom{10113}{01141}, \binom{10113}{01141}, \binom{10113}{01141}, \binom{10430}{01002}, \binom{10430}{01002}, \binom{10430}{01002},$
$\binom{10430}{01002}, \binom{10124}{01101}, \binom{10124}{01101}, \binom{10424}{01001}, \binom{10424}{01001}, \binom{10120}{01112}, \binom{10120}{01112}, \binom{10120}{01112}, \binom{10120}{01112},$
$\binom{10423}{01011}, \binom{10423}{01011}, \binom{10423}{01011}, \binom{10423}{01011}, \binom{10121}{01123}, \binom{10422}{01021}, \binom{10123}{01122}, \binom{10444}{01010}, \binom{10131}{01122},$
$\binom{10131}{01122}, \binom{10412}{01010}, \binom{10412}{01010}, \binom{10132}{01133}, \binom{10132}{01133}, \binom{10132}{01133}, \binom{10132}{01133}, \binom{10411}{01020}, \binom{10411}{01020},$
$\binom{10411}{01020}, \binom{10411}{01020}, \binom{10130}{01143}, \binom{10432}{01024}, \binom{10133}{01144}, \binom{10410}{01030}, \binom{10144}{01104}, \binom{10144}{01104}, \binom{10144}{01104},$
$\binom{10144}{01104}, \binom{10404}{01034}, \binom{10404}{01034}, \binom{10404}{01034}, \binom{10404}{01034}, \binom{10140}{01110}, \binom{10403}{01044}, \binom{10142}{01114}, \binom{10420}{01033},$
$\binom{10143}{01143}, \binom{10143}{01143}, \binom{10400}{01024}, \binom{10400}{01024}, \binom{10102}{01211}, \binom{10213}{01320}, \binom{10104}{01212}, \binom{10224}{01303}, \binom{10100}{01224},$
$\binom{10100}{01224}, \binom{10221}{01311}, \binom{10221}{01311}, \binom{10100}{01232}, \binom{10212}{01302}, \binom{10103}{01234}, \binom{10240}{01313}, \binom{10101}{01244}, \binom{10214}{01310},$
$\binom{10103}{01242}, \binom{10231}{01304}, \binom{10112}{01202}, \binom{10112}{01202}, \binom{10240}{01301}, \binom{10240}{01301}, \binom{10110}{01212}, \binom{10214}{01303}, \binom{10112}{01210},$
$\binom{10231}{01342}, \binom{10110}{01220}, \binom{10200}{01344}, \binom{10113}{01222}, \binom{10233}{01300}, \binom{10111}{01240}, \binom{10243}{01343}, \binom{10114}{01244}, \binom{10232}{01310},$
$\binom{10120}{01200}, \binom{10202}{01340}, \binom{10122}{01203}, \binom{10224}{01334}, \binom{10121}{01222}, \binom{10201}{01300}, \binom{10123}{01223}, \binom{10212}{01333}, \binom{10124}{01230},$
$\binom{10124}{01230}, \binom{10214}{01341}, \binom{10214}{01341}, \binom{10122}{01240}, \binom{10233}{01343}, \binom{10124}{01243}, \binom{10200}{01332}, \binom{10130}{01201}, \binom{10231}{01323},$
$\binom{10133}{01200}, \binom{10220}{01340}, \binom{10131}{01213}, \binom{10131}{01213}, \binom{10233}{01331}, \binom{10233}{01331}, \binom{10131}{01221}, \binom{10224}{01322}, \binom{10134}{01223},$
$\binom{10202}{01333}, \binom{10132}{01233}, \binom{10221}{01330}, \binom{10134}{01231}, \binom{10243}{01324}, \binom{10141}{01201}, \binom{10221}{01323}, \binom{10143}{01204}, \binom{10243}{01312},$
$\binom{10141}{01214}, \binom{10212}{01314}, \binom{10144}{01211}, \binom{10240}{01320}, \binom{10140}{01233}, \binom{10244}{01330}, \binom{10142}{01234}, \binom{10200}{01313}, \binom{10143}{01241},$
$\binom{10143}{01241}, \binom{10202}{01321}, \binom{10202}{01321}, \binom{10102}{01304}, \binom{10102}{01304}, \binom{10102}{01304}, \binom{10102}{01304}, \binom{10102}{01304}, \binom{10311}{01423},$
$\binom{10311}{01423}, \binom{10311}{01423}, \binom{10311}{01423}, \binom{10311}{01423}, \binom{10103}{01312}, \binom{10103}{01312}, \binom{10103}{01312}, \binom{10314}{01432}, \binom{10314}{01432},$
$\binom{10314}{01432}, \binom{10110}{01302}, \binom{10110}{01302}, \binom{10110}{01302}, \binom{10340}{01434}, \binom{10340}{01434}, \binom{10340}{01434}, \binom{10114}{01344}, \binom{10114}{01344},$
$\binom{10114}{01344}, \binom{10114}{01344}, \binom{10114}{01344}, \binom{10342}{01420}, \binom{10342}{01420}, \binom{10342}{01420}, \binom{10342}{01420}, \binom{10342}{01420}, \binom{10121}{01334},$
$\binom{10121}{01334}, \binom{10121}{01334}, \binom{10121}{01334}, \binom{10121}{01334}, \binom{10323}{01422}, \binom{10323}{01422}, \binom{10323}{01422}, \binom{10323}{01422}, \binom{10323}{01422},$
$\binom{10122}{01342}, \binom{10122}{01342}, \binom{10122}{01342}, \binom{10321}{01431}, \binom{10321}{01431}, \binom{10321}{01431}, \binom{10133}{01324}, \binom{10133}{01324}, \binom{10133}{01324},$

$\binom{10133}{01324}, \binom{10133}{01324}, \binom{10304}{01424}, \binom{10304}{01424}, \binom{10304}{01424}, \binom{10304}{01424}, \binom{10304}{01424}, \binom{10134}{01332}, \binom{10134}{01332},$
$\binom{10134}{01332}, \binom{10302}{01433}, \binom{10302}{01433}, \binom{10302}{01433}, \binom{10140}{01314}, \binom{10140}{01314}, \binom{10140}{01314}, \binom{10140}{01314}, \binom{10140}{01314},$
$\binom{10330}{01421}, \binom{10330}{01421}, \binom{10330}{01421}, \binom{10330}{01421}, \binom{10330}{01421}, \binom{10141}{01322}, \binom{10141}{01322}, \binom{10141}{01322}, \binom{10333}{01430},$
$\binom{10333}{01430}, \binom{10333}{01430}, \binom{10103}{01400}, \binom{10104}{01400}, \binom{10100}{01414}, \binom{10100}{01414}, \binom{10103}{01423}, \binom{10100}{01432}, \binom{10101}{01441},$
$\binom{10101}{01442}, \binom{10110}{01402}, \binom{10111}{01402}, \binom{10112}{01411}, \binom{10112}{01411}, \binom{10110}{01420}, \binom{10112}{01434}, \binom{10113}{01443}, \binom{10113}{01444},$
$\binom{10122}{01404}, \binom{10123}{01404}, \binom{10124}{01413}, \binom{10124}{01413}, \binom{10122}{01422}, \binom{10124}{01431}, \binom{10120}{01440}, \binom{10120}{01441}, \binom{10130}{01401},$
$\binom{10134}{01401}, \binom{10131}{01410}, \binom{10131}{01410}, \binom{10134}{01424}, \binom{10131}{01433}, \binom{10132}{01442}, \binom{10132}{01443}, \binom{10141}{01403}, \binom{10142}{01403},$
$\binom{10143}{01412}, \binom{10143}{01412}, \binom{10141}{01421}, \binom{10143}{01430}, \binom{10144}{01440}, \binom{10144}{01444}, \binom{10204}{01002}, \binom{13042}{00133}, \binom{10204}{01014},$
$\binom{10204}{01014}, \binom{10204}{01014}, \binom{13000}{00112}, \binom{13000}{00112}, \binom{13000}{00112}, \binom{10200}{01022}, \binom{13030}{00130}, \binom{10201}{01024}, \binom{10201}{01024},$
$\binom{13030}{00113}, \binom{13030}{00113}, \binom{10204}{01022}, \binom{13041}{00130}, \binom{10211}{01004}, \binom{13032}{00111}, \binom{10212}{01004}, \binom{13021}{00111}, \binom{10213}{01001},$
$\binom{10213}{01001}, \binom{13021}{00144}, \binom{13021}{00144}, \binom{10211}{01034}, \binom{13033}{00114}, \binom{10211}{01041}, \binom{10211}{01041}, \binom{10211}{01041}, \binom{13041}{00143},$
$\binom{13041}{00143}, \binom{13041}{00143}, \binom{10223}{01011}, \binom{13024}{00140}, \binom{10223}{01023}, \binom{10223}{01023}, \binom{10223}{01023}, \binom{13032}{00124}, \binom{13032}{00124},$
$\binom{13032}{00124}, \binom{10220}{01033}, \binom{10220}{01033}, \binom{13012}{00120}, \binom{13012}{00120}, \binom{10223}{01031}, \binom{13023}{00142}, \binom{10224}{01031}, \binom{13012}{00142},$
$\binom{10230}{01000}, \binom{10230}{01000}, \binom{10230}{01000}, \binom{13023}{00100}, \binom{13023}{00100}, \binom{13023}{00100}, \binom{10230}{01013}, \binom{13014}{00123}, \binom{10231}{01013},$
$\binom{13003}{00123}, \binom{10232}{01010}, \binom{10232}{01010}, \binom{13003}{00101}, \binom{13003}{00101}, \binom{10230}{01043}, \binom{13010}{00121}, \binom{10242}{01020}, \binom{13001}{00102},$
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$\binom{10302}{01030}, \binom{10204}{01144}, \binom{10341}{01030}, \binom{10210}{01102}, \binom{10340}{01012}, \binom{10211}{01102}, \binom{10334}{01012}, \binom{10210}{01110}, \binom{10304}{01044},$
$\binom{10213}{01114}, \binom{10304}{01033}, \binom{10212}{01122}, \binom{10324}{01010}, \binom{10214}{01121}, \binom{10330}{01004}, \binom{10210}{01131}, \binom{10322}{01003}, \binom{10214}{01142},$
$\binom{10303}{01013}, \binom{10221}{01100}, \binom{10341}{01040}, \binom{10222}{01110}, \binom{10333}{01044}, \binom{10223}{01110}, \binom{10322}{01044}, \binom{10220}{01122}, \binom{10342}{01010},$
$\binom{10222}{01123}, \binom{10342}{01021}, \binom{10221}{01134}, \binom{10323}{01031}, \binom{10224}{01130}, \binom{10312}{01042}, \binom{10222}{01144}, \binom{10310}{01030}, \binom{10234}{01102},$
$\binom{10303}{01012}, \binom{10233}{01113}, \binom{10334}{01022}, \binom{10230}{01123}, \binom{10310}{01021}, \binom{10234}{01123}, \binom{10321}{01021}, \binom{10232}{01130}, \binom{10330}{01042},$
$\binom{10234}{01131}, \binom{10330}{01003}, \binom{10231}{01143}, \binom{10300}{01024}, \binom{10233}{01142}, \binom{10311}{01013}, \binom{10240}{01100}, \binom{10304}{01040}, \binom{10243}{01101},$
$\binom{10343}{01001}, \binom{10241}{01110}, \binom{10341}{01044}, \binom{10240}{01121}, \binom{10322}{01004}, \binom{10241}{01131}, \binom{10314}{01003}, \binom{10242}{01131}, \binom{10303}{01003},$
$\binom{10241}{01144}, \binom{10323}{01030}, \binom{10244}{01143}, \binom{10323}{01024}, \binom{10201}{01212}, \binom{10410}{01303}, \binom{10202}{01210}, \binom{10432}{01342}, \binom{10200}{01224},$
$\binom{10442}{01311}, \binom{10203}{01224}, \binom{10414}{01311}, \binom{10201}{01240}, \binom{10440}{01343}, \binom{10201}{01242}, \binom{10412}{01304}, \binom{10203}{01244}, \binom{10412}{01310},$
$\binom{10204}{01241}, \binom{10423}{01321}, \binom{10213}{01201}, \binom{10434}{01323}, \binom{10214}{01204}, \binom{10401}{01312}, \binom{10210}{01213}, \binom{10433}{01331}, \binom{10212}{01213},$
$\binom{10411}{01331}, \binom{10210}{01233}, \binom{10431}{01330}, \binom{10211}{01230}, \binom{10442}{01341}, \binom{10213}{01231}, \binom{10431}{01324}, \binom{10213}{01234}, \binom{10414}{01313},$
$\binom{10222}{01202}, \binom{10402}{01301}, \binom{10224}{01202}, \binom{10430}{01301}, \binom{10220}{01220}, \binom{10400}{01344}, \binom{10220}{01223}, \binom{10433}{01333}, \binom{10222}{01222},$
$\binom{10400}{01300}, \binom{10223}{01224}, \binom{10411}{01311}, \binom{10220}{01240}, \binom{10403}{01343}, \binom{10221}{01243}, \binom{10420}{01332}, \binom{10230}{01213}, \binom{10430}{01331},$
$\binom{10232}{01212}, \binom{10402}{01303}, \binom{10232}{01214}, \binom{10424}{01314}, \binom{10234}{01211}, \binom{10424}{01320}, \binom{10232}{01234}, \binom{10422}{01313}, \binom{10233}{01232},$
$\binom{10444}{01302}, \binom{10231}{01241}, \binom{10404}{01321}, \binom{10234}{01241}, \binom{10421}{01321}, \binom{10241}{01200}, \binom{10443}{01340}, \binom{10242}{01202}, \binom{10404}{01301},$
$\binom{10244}{01201}, \binom{10421}{01323}, \binom{10244}{01203}, \binom{10443}{01334}, \binom{10240}{01221}, \binom{10413}{01322}, \binom{10244}{01223}, \binom{10441}{01333}, \binom{10241}{01230},$
$\binom{10440}{01341}, \binom{10243}{01230}, \binom{10423}{01341}, \binom{10202}{01402}, \binom{10203}{01404}, \binom{10200}{01414}, \binom{10201}{01413}, \binom{10204}{01411}, \binom{10201}{01423},$
$\binom{10202}{01432}, \binom{10200}{01440}, \binom{10210}{01400}, \binom{10214}{01403}, \binom{10211}{01412}, \binom{10212}{01410}, \binom{10213}{01414}, \binom{10213}{01424}, \binom{10214}{01433},$
$\binom{10212}{01441}, \binom{10221}{01404}, \binom{10222}{01401}, \binom{10220}{01410}, \binom{10223}{01413}, \binom{10224}{01411}, \binom{10220}{01420}, \binom{10221}{01434}, \binom{10224}{01442},$
$\binom{10233}{01400}, \binom{10234}{01402}, \binom{10230}{01414}, \binom{10231}{01412}, \binom{10232}{01411}, \binom{10232}{01421}, \binom{10233}{01430}, \binom{10231}{01443}, \binom{10240}{01401},$
$\binom{10241}{01403}, \binom{10242}{01410}, \binom{10243}{01413}, \binom{10244}{01412}, \binom{10244}{01422}, \binom{10240}{01431}, \binom{10243}{01444}, \binom{12013}{00122}, \binom{12044}{00134},$
$\binom{12011}{00123}, \binom{12014}{00113}, \binom{12012}{00103}, \binom{12001}{00120}, \binom{12043}{00104}, \binom{12021}{00110}, \binom{12042}{00144}, \binom{12003}{00122}, \binom{12012}{00134},$
$\binom{12034}{00123}, \binom{12004}{00141}, \binom{12030}{00103}, \binom{12002}{00142}, \binom{12000}{00132}, \binom{12021}{00122}, \binom{12043}{00111}, \binom{12041}{00101}, \binom{12044}{00141},$
$\binom{12033}{00113}, \binom{12003}{00103}, \binom{12020}{00142}, \binom{12040}{00110}, \binom{12044}{00122}, \binom{12011}{00111}, \binom{12031}{00134}, \binom{12012}{00141}, \binom{12034}{00130},$
$\binom{12032}{00120}, \binom{12024}{00132}, \binom{12030}{00110}, \binom{12023}{00144}, \binom{12021}{00134}, \binom{12010}{00101}, \binom{12030}{00141}, \binom{12002}{00130}, \binom{12022}{00103},$
$\binom{12020}{00104}, \binom{12003}{00110}, \binom{10301}{01104}, \binom{10300}{01111}, \binom{10300}{01111}, \binom{10300}{01111}, \binom{10303}{01122}, \binom{10303}{01122}, \binom{10300}{01134},$
$\binom{10303}{01142}, \binom{10312}{01103}, \binom{10312}{01103}, \binom{10312}{01103}, \binom{10310}{01114}, \binom{10310}{01114}, \binom{10312}{01121}, \binom{10310}{01134}, \binom{10313}{01141},$
$\binom{10322}{01101}, \binom{10322}{01101}, \binom{10324}{01113}, \binom{10322}{01121}, \binom{10320}{01133}, \binom{10324}{01140}, \binom{10324}{01140}, \binom{10324}{01140}, \binom{10331}{01100},$

$\binom{10334}{01113}$, $\binom{10332}{01120}$, $\binom{10331}{01132}$, $\binom{10331}{01132}$, $\binom{10331}{01132}$, $\binom{10334}{01143}$, $\binom{10334}{01143}$, $\binom{10341}{01100}$, $\binom{10344}{01112}$,
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$\binom{10302}{01214}$, $\binom{10302}{01214}$, $\binom{10300}{01221}$, $\binom{10300}{01221}$, $\binom{10300}{01221}$, $\binom{10314}{01220}$, $\binom{10314}{01220}$, $\binom{10314}{01220}$, $\binom{10314}{01220}$,
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$\binom{10343}{01210}$, $\binom{10303}{01303}$, $\binom{10400}{01401}$, $\binom{10301}{01314}$, $\binom{10432}{01421}$, $\binom{10300}{01322}$, $\binom{10420}{01430}$, $\binom{10301}{01330}$, $\binom{10301}{01330}$,
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$\binom{10344}{01301}$, $\binom{10421}{01412}$, $\binom{10421}{01412}$, $\binom{10341}{01323}$, $\binom{10424}{01402}$, $\binom{10344}{01334}$, $\binom{10401}{01422}$, $\binom{10343}{01342}$, $\binom{10444}{01431}$,
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$\binom{11010}{00133}$, $\binom{11020}{00134}$, $\binom{11013}{00113}$, $\binom{11000}{00132}$, $\binom{11000}{00132}$, $\binom{11011}{00122}$, $\binom{11004}{00101}$, $\binom{11041}{00120}$, $\binom{11041}{00120}$,
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$\binom{10421}{01124}$, $\binom{10432}{01104}$, $\binom{10433}{01103}$, $\binom{10432}{01131}$, $\binom{10432}{01131}$, $\binom{10432}{01131}$, $\binom{10444}{01110}$, $\binom{10444}{01110}$, $\binom{10444}{01110}$,
$\binom{10440}{01132}$, $\binom{10444}{01133}$, $\binom{10400}{01202}$, $\binom{10400}{01202}$, $\binom{10402}{01203}$, $\binom{10403}{01200}$, $\binom{10404}{01212}$, $\binom{10402}{01244}$, $\binom{10402}{01244}$,
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$\binom{10433}{01200}$, $\binom{10433}{01200}$, $\binom{10431}{01213}$, $\binom{10431}{01213}$, $\binom{10433}{01214}$, $\binom{10434}{01211}$, $\binom{10430}{01223}$, $\binom{10440}{01222}$, $\binom{10440}{01222}$,
$\binom{10442}{01221}$, $\binom{10440}{01231}$, $\binom{10441}{01233}$, $\binom{10443}{01230}$, $\binom{10443}{01230}$, $\binom{10442}{01240}$, $\binom{12003}{00014}$, $\binom{12003}{00014}$, $\binom{13001}{00014}$,
$\binom{13001}{00014}$,

$n_5(5,2;48) \ \geq \ 1203$: $\binom{00101}{00012}$, $\binom{01101}{00013}$, $\binom{01001}{00014}$, $\binom{01000}{00100}$, $\binom{01040}{00100}$, $\binom{01001}{00101}$,
$\binom{01012}{00144}$, $\binom{01003}{00104}$, $\binom{01012}{00122}$, $\binom{01004}{00103}$, $\binom{01012}{00111}$, $\binom{01000}{00111}$, $\binom{01003}{00110}$, $\binom{01022}{00122}$, $\binom{01004}{00112}$,
$\binom{01001}{00134}$, $\binom{01042}{00144}$, $\binom{01003}{00132}$, $\binom{01042}{00122}$, $\binom{01010}{00113}$, $\binom{01021}{00101}$, $\binom{01021}{00134}$, $\binom{01013}{00110}$, $\binom{01021}{00123}$,
$\binom{01014}{00112}$, $\binom{01031}{00134}$, $\binom{01013}{00124}$, $\binom{01014}{00123}$, $\binom{01010}{00141}$, $\binom{01024}{00103}$, $\binom{01030}{00141}$, $\binom{01030}{00130}$, $\binom{01023}{00124}$,
$\binom{01024}{00120}$, $\binom{01030}{00113}$, $\binom{01040}{00141}$, $\binom{01022}{00131}$, $\binom{01023}{00130}$, $\binom{01033}{00110}$, $\binom{01044}{00103}$, $\binom{01044}{00142}$, $\binom{01032}{00131}$,
$\binom{01033}{00132}$, $\binom{01044}{00120}$, $\binom{01031}{00143}$, $\binom{01032}{00142}$, $\binom{01041}{00104}$, $\binom{01041}{00143}$, $\binom{10000}{00001}$, $\binom{10000}{00011}$, $\binom{10000}{00010}$,
$\binom{10000}{00012}$, $\binom{10000}{00012}$, $\binom{10000}{00013}$, $\binom{10000}{00013}$, $\binom{10000}{00014}$, $\binom{10000}{00014}$, $\binom{10001}{00011}$, $\binom{10004}{00010}$, $\binom{10001}{00013}$,
$\binom{10003}{00014}$, $\binom{10002}{00012}$, $\binom{10004}{00013}$, $\binom{10002}{00014}$, $\binom{10003}{00012}$, $\binom{10010}{00001}$, $\binom{10023}{00101}$, $\binom{10024}{01101}$, $\binom{10023}{00113}$,
$\binom{10024}{01122}$, $\binom{10023}{00120}$, $\binom{10024}{01143}$, $\binom{10023}{00132}$, $\binom{10024}{01114}$, $\binom{10023}{00144}$, $\binom{10024}{01130}$, $\binom{10043}{00102}$, $\binom{10021}{01112}$,
$\binom{10043}{00114}$, $\binom{10021}{01133}$, $\binom{10043}{00121}$, $\binom{10021}{01104}$, $\binom{10043}{00133}$, $\binom{10021}{01120}$, $\binom{10043}{00140}$, $\binom{10021}{01141}$, $\binom{10104}{00012}$,
$\binom{14400}{00013}$, $\binom{10203}{00012}$, $\binom{13300}{00013}$, $\binom{10303}{00012}$, $\binom{12202}{00013}$, $\binom{10401}{00012}$, $\binom{11100}{00013}$, $\binom{10013}{01001}$, $\binom{10013}{01010}$,
$\binom{10013}{01024}$, $\binom{10013}{01033}$, $\binom{10013}{01042}$, $\binom{10041}{01002}$, $\binom{10041}{01011}$, $\binom{10041}{01020}$, $\binom{10041}{01034}$, $\binom{10041}{01043}$, $\binom{10002}{01204}$,
$\binom{10033}{01312}$, $\binom{10003}{01204}$, $\binom{10022}{01312}$, $\binom{10002}{01210}$, $\binom{10033}{01342}$, $\binom{10003}{01210}$, $\binom{10022}{01342}$, $\binom{10002}{01221}$, $\binom{10033}{01322}$,
$\binom{10003}{01221}$, $\binom{10022}{01322}$, $\binom{10002}{01232}$, $\binom{10033}{01302}$, $\binom{10003}{01232}$, $\binom{10022}{01302}$, $\binom{10002}{01243}$, $\binom{10033}{01332}$, $\binom{10003}{01243}$,
$\binom{10022}{01332}$, $\binom{10011}{01203}$, $\binom{10040}{01334}$, $\binom{10011}{01214}$, $\binom{10040}{01314}$, $\binom{10011}{01220}$, $\binom{10040}{01344}$, $\binom{10011}{01231}$, $\binom{10040}{01324}$,
$\binom{10011}{01242}$, $\binom{10040}{01304}$, $\binom{10042}{01203}$, $\binom{10032}{01334}$, $\binom{10044}{01201}$, $\binom{10010}{01323}$, $\binom{10042}{01214}$, $\binom{10032}{01314}$, $\binom{10044}{01212}$,
$\binom{10010}{01303}$, $\binom{10042}{01220}$, $\binom{10032}{01344}$, $\binom{10044}{01223}$, $\binom{10010}{01333}$, $\binom{10042}{01231}$, $\binom{10032}{01324}$, $\binom{10044}{01234}$, $\binom{10010}{01313}$,

$\binom{10042}{01242}, \binom{10032}{01304}, \binom{10044}{01240}, \binom{10010}{01343}, \binom{10001}{01401}, \binom{10001}{01404}, \binom{10001}{01402}, \binom{10001}{01400}, \binom{10001}{01403},$
$\binom{10030}{01434}, \binom{10030}{01432}, \binom{10030}{01430}, \binom{10030}{01433}, \binom{10030}{01431}, \binom{10031}{01423}, \binom{10020}{01434}, \binom{10031}{01421}, \binom{10020}{01432},$
$\binom{10031}{01424}, \binom{10020}{01430}, \binom{10031}{01422}, \binom{10020}{01433}, \binom{10031}{01420}, \binom{10020}{01431}, \binom{10004}{01423}, \binom{10004}{01421}, \binom{10004}{01424},$
$\binom{10004}{01422}, \binom{10004}{01420}, \binom{10101}{01003}, \binom{14021}{00122}, \binom{10102}{01011}, \binom{14033}{00140}, \binom{10100}{01024}, \binom{10100}{01024}, \binom{14023}{00113},$
$\binom{14023}{00113}, \binom{10103}{01023}, \binom{14001}{00124}, \binom{10100}{01032}, \binom{14041}{00131}, \binom{10104}{01030}, \binom{14024}{00103}, \binom{10102}{01044}, \binom{10102}{01044},$
$\binom{14003}{00110}, \binom{14003}{00110}, \binom{10114}{01003}, \binom{10114}{01003}, \binom{14044}{00122}, \binom{14044}{00122}, \binom{10113}{01012}, \binom{14012}{00134}, \binom{10114}{01020},$
$\binom{14024}{00102}, \binom{10110}{01032}, \binom{14042}{00131}, \binom{10112}{01033}, \binom{10112}{01033}, \binom{14014}{00120}, \binom{14014}{00120}, \binom{10111}{01044}, \binom{14010}{00110},$
$\binom{10112}{01041}, \binom{14032}{00143}, \binom{10123}{01003}, \binom{14001}{00122}, \binom{10124}{01000}, \binom{14023}{00100}, \binom{10121}{01012}, \binom{10121}{01012}, \binom{14030}{00134},$
$\binom{14030}{00134}, \binom{10120}{01021}, \binom{14003}{00141}, \binom{10121}{01034}, \binom{14010}{00114}, \binom{10122}{01041}, \binom{14033}{00143}, \binom{10124}{01042}, \binom{10124}{01042},$
$\binom{14000}{00132}, \binom{14000}{00132}, \binom{10131}{01001}, \binom{10131}{01001}, \binom{14041}{00144}, \binom{14041}{00144}, \binom{10134}{01000}, \binom{14024}{00100}, \binom{10130}{01012},$
$\binom{14042}{00134}, \binom{10131}{01014}, \binom{14014}{00112}, \binom{10133}{01021}, \binom{10133}{01021}, \binom{14021}{00141}, \binom{14021}{00141}, \binom{10132}{01030}, \binom{14044}{00103},$
$\binom{10133}{01043}, \binom{14001}{00121}, \binom{10140}{01002}, \binom{14042}{00133}, \binom{10141}{01014}, \binom{14010}{00112}, \binom{10143}{01010}, \binom{10143}{01010}, \binom{14032}{00101},$
$\binom{14032}{00101}, \binom{10142}{01021}, \binom{14033}{00141}, \binom{10143}{01023}, \binom{14000}{00124}, \binom{10140}{01030}, \binom{10140}{01030}, \binom{14012}{00103}, \binom{14012}{00103},$
$\binom{10144}{01044}, \binom{14030}{00110}, \binom{10104}{01112}, \binom{10432}{01011}, \binom{10104}{01113}, \binom{10443}{01022}, \binom{10104}{01121}, \binom{10420}{01004}, \binom{10102}{01131},$
$\binom{10102}{01131}, \binom{10441}{01003}, \binom{10441}{01003}, \binom{10102}{01132}, \binom{10402}{01014}, \binom{10102}{01142}, \binom{10401}{01013}, \binom{10114}{01102}, \binom{10114}{01102},$
$\binom{10434}{01012}, \binom{10434}{01012}, \binom{10114}{01103}, \binom{10440}{01023}, \binom{10114}{01113}, \binom{10444}{01022}, \binom{10111}{01133}, \binom{10420}{01020}, \binom{10111}{01134},$
$\binom{10431}{01031}, \binom{10111}{01142}, \binom{10413}{01013}, \binom{10123}{01100}, \binom{10424}{01040}, \binom{10123}{01104}, \binom{10413}{01034}, \binom{10123}{01113}, \binom{10401}{01022},$
$\binom{10121}{01123}, \binom{10121}{01123}, \binom{10422}{01021}, \binom{10422}{01021}, \binom{10121}{01124}, \binom{10433}{01032}, \binom{10121}{01134}, \binom{10432}{01031}, \binom{10133}{01100},$
$\binom{10420}{01040}, \binom{10130}{01120}, \binom{10401}{01043}, \binom{10130}{01121}, \binom{10412}{01004}, \binom{10130}{01134}, \binom{10444}{01031}, \binom{10133}{01140}, \binom{10421}{01041},$
$\binom{10133}{01144}, \binom{10133}{01144}, \binom{10410}{01030}, \binom{10410}{01030}, \binom{10142}{01100}, \binom{10432}{01040}, \binom{10140}{01110}, \binom{10140}{01110}, \binom{10403}{01044},$
$\binom{10403}{01044}, \binom{10140}{01111}, \binom{10414}{01000}, \binom{10140}{01121}, \binom{10413}{01004}, \binom{10142}{01141}, \binom{10444}{01002}, \binom{10142}{01142}, \binom{10400}{01013},$
$\binom{10104}{01213}, \binom{10104}{01213}, \binom{10202}{01331}, \binom{10202}{01331}, \binom{10102}{01223}, \binom{10221}{01333}, \binom{10103}{01221}, \binom{10204}{01322}, \binom{10104}{01221},$
$\binom{10243}{01322}, \binom{10101}{01231}, \binom{10223}{01324}, \binom{10103}{01230}, \binom{10103}{01230}, \binom{10103}{01230}, \binom{10223}{01341}, \binom{10223}{01341}, \binom{10223}{01341},$
$\binom{10110}{01204}, \binom{10223}{01312}, \binom{10111}{01204}, \binom{10212}{01312}, \binom{10114}{01201}, \binom{10240}{01323}, \binom{10110}{01213}, \binom{10110}{01213}, \binom{10110}{01213},$
$\binom{10242}{01331}, \binom{10242}{01331}, \binom{10242}{01331}, \binom{10113}{01214}, \binom{10242}{01314}, \binom{10111}{01241}, \binom{10111}{01241}, \binom{10221}{01321}, \binom{10221}{01321},$
$\binom{10123}{01224}, \binom{10123}{01224}, \binom{10240}{01311}, \binom{10240}{01311}, \binom{10121}{01234}, \binom{10214}{01313}, \binom{10122}{01232}, \binom{10242}{01302}, \binom{10123}{01232},$
$\binom{10231}{01302}, \binom{10120}{01242}, \binom{10211}{01304}, \binom{10122}{01241}, \binom{10122}{01241}, \binom{10122}{01241}, \binom{10211}{01321}, \binom{10211}{01321}, \binom{10211}{01321},$
$\binom{10130}{01202}, \binom{10130}{01202}, \binom{10214}{01301}, \binom{10214}{01301}, \binom{10130}{01210}, \binom{10200}{01342}, \binom{10133}{01212}, \binom{10233}{01303}, \binom{10134}{01210},$
$\binom{10211}{01342}, \binom{10132}{01220}, \binom{10230}{01344}, \binom{10134}{01224}, \binom{10134}{01224}, \binom{10134}{01224}, \binom{10230}{01311}, \binom{10230}{01311}, \binom{10230}{01311},$
$\binom{10141}{01202}, \binom{10141}{01202}, \binom{10141}{01202}, \binom{10204}{01301}, \binom{10204}{01301}, \binom{10204}{01301}, \binom{10144}{01203}, \binom{10204}{01334}, \binom{10142}{01230},$
$\binom{10142}{01230}, \binom{10233}{01341}, \binom{10233}{01341}, \binom{10140}{01240}, \binom{10202}{01343}, \binom{10141}{01243}, \binom{10230}{01332}, \binom{10142}{01243}, \binom{10224}{01332},$
$\binom{10101}{01301}, \binom{10101}{01301}, \binom{10311}{01412}, \binom{10311}{01412}, \binom{10103}{01311}, \binom{10342}{01410}, \binom{10100}{01320}, \binom{10100}{01320}, \binom{10301}{01441},$
$\binom{10301}{01441}, \binom{10103}{01322}, \binom{10103}{01322}, \binom{10312}{01430}, \binom{10312}{01430}, \binom{10101}{01333}, \binom{10304}{01400}, \binom{10110}{01301}, \binom{10323}{01412},$
$\binom{10110}{01312}, \binom{10110}{01312}, \binom{10343}{01432}, \binom{10343}{01432}, \binom{10112}{01310}, \binom{10112}{01310}, \binom{10332}{01443}, \binom{10332}{01443}, \binom{10113}{01323},$
$\binom{10330}{01402}, \binom{10113}{01341}, \binom{10113}{01341}, \binom{10342}{01414}, \binom{10342}{01414}, \binom{10122}{01302}, \binom{10122}{01302}, \binom{10324}{01434}, \binom{10324}{01434},$
$\binom{10124}{01300}, \binom{10124}{01300}, \binom{10313}{01440}, \binom{10313}{01440}, \binom{10120}{01313}, \binom{10311}{01404}, \binom{10120}{01331}, \binom{10120}{01331}, \binom{10323}{01411},$
$\binom{10323}{01411}, \binom{10122}{01341}, \binom{10304}{01414}, \binom{10132}{01303}, \binom{10342}{01401}, \binom{10132}{01321}, \binom{10132}{01321}, \binom{10304}{01413}, \binom{10304}{01413},$
$\binom{10134}{01331}, \binom{10330}{01411}, \binom{10131}{01340}, \binom{10131}{01340}, \binom{10344}{01442}, \binom{10344}{01442}, \binom{10134}{01342}, \binom{10134}{01342}, \binom{10300}{01431},$
$\binom{10300}{01431}, \binom{10144}{01311}, \binom{10144}{01311}, \binom{10330}{01410}, \binom{10330}{01410}, \binom{10141}{01321}, \binom{10311}{01413}, \binom{10141}{01332}, \binom{10141}{01332},$
$\binom{10331}{01433}, \binom{10331}{01433}, \binom{10143}{01330}, \binom{10143}{01330}, \binom{10320}{01444}, \binom{10320}{01444}, \binom{10144}{01343}, \binom{10323}{01403}, \binom{10104}{01403},$
$\binom{10100}{01412}, \binom{10100}{01412}, \binom{10100}{01412}, \binom{10101}{01412}, \binom{10101}{01412}, \binom{10101}{01423}, \binom{10101}{01430}, \binom{10103}{01432}, \binom{10111}{01400},$
$\binom{10112}{01414}, \binom{10112}{01414}, \binom{10112}{01414}, \binom{10113}{01414}, \binom{10113}{01414}, \binom{10113}{01420}, \binom{10110}{01434}, \binom{10113}{01432}, \binom{10123}{01402},$
$\binom{10120}{01411}, \binom{10120}{01411}, \binom{10124}{01411}, \binom{10124}{01411}, \binom{10124}{01411}, \binom{10120}{01422}, \binom{10120}{01434}, \binom{10122}{01431}, \binom{10130}{01404},$
$\binom{10131}{01413}, \binom{10131}{01413}, \binom{10131}{01413}, \binom{10132}{01413}, \binom{10132}{01413}, \binom{10132}{01424}, \binom{10132}{01431}, \binom{10134}{01433}, \binom{10142}{01401},$
$\binom{10143}{01410}, \binom{10143}{01410}, \binom{10143}{01410}, \binom{10144}{01410}, \binom{10144}{01410}, \binom{10144}{01421}, \binom{10141}{01430}, \binom{10144}{01433}, \binom{10202}{01000},$
$\binom{13003}{00100}, \binom{10203}{01001}, \binom{10203}{01001}, \binom{13020}{00144}, \binom{13020}{00144}, \binom{10204}{01004}, \binom{13003}{00111}, \binom{10201}{01020}, \binom{10201}{01020},$

$$\binom{13013}{00102}, \binom{13013}{00102}, \binom{10203}{01023}, \binom{13030}{00124}, \binom{10202}{01042}, \binom{13012}{00132}, \binom{10210}{01000}, \binom{13021}{00100}, \binom{10213}{01002},$$
$$\binom{10213}{01002}, \binom{13004}{00133}, \binom{13004}{00133}, \binom{10214}{01024}, \binom{13003}{00113}, \binom{10210}{01033}, \binom{10210}{01033}, \binom{13011}{00120}, \binom{13011}{00120},$$
$$\binom{10211}{01031}, \binom{13044}{00142}, \binom{10214}{01032}, \binom{13044}{00131}, \binom{10221}{01001}, \binom{13044}{00144}, \binom{10221}{01014}, \binom{13030}{00112}, \binom{10222}{01010},$$
$$\binom{10222}{01010}, \binom{13002}{00101}, \binom{13002}{00101}, \binom{10223}{01013}, \binom{13030}{00123}, \binom{10220}{01034}, \binom{10220}{01034}, \binom{13040}{00114}, \binom{13040}{00114},$$
$$\binom{10222}{01032}, \binom{13012}{00131}, \binom{10232}{01011}, \binom{10232}{01011}, \binom{13031}{00140}, \binom{13031}{00140}, \binom{10234}{01014}, \binom{13003}{00112}, \binom{10233}{01033},$$
$$\binom{13030}{00120}, \binom{10230}{01040}, \binom{13021}{00104}, \binom{10233}{01041}, \binom{13021}{00143}, \binom{10234}{01042}, \binom{10234}{01042}, \binom{13043}{00132}, \binom{13043}{00132},$$
$$\binom{10240}{01010}, \binom{13021}{00101}, \binom{10240}{01023}, \binom{13012}{00124}, \binom{10241}{01024}, \binom{10241}{01024}, \binom{13034}{00113}, \binom{13034}{00113}, \binom{10242}{01022},$$
$$\binom{13012}{00130}, \binom{10241}{01041}, \binom{13044}{00143}, \binom{10244}{01043}, \binom{10244}{01043}, \binom{13022}{00121}, \binom{13022}{00121}, \binom{10201}{01103}, \binom{10201}{01103},$$
$$\binom{10300}{01023}, \binom{10300}{01023}, \binom{10203}{01100}, \binom{10322}{01040}, \binom{10200}{01112}, \binom{10342}{01011}, \binom{10204}{01120}, \binom{10204}{01120}, \binom{10312}{01043},$$
$$\binom{10312}{01043}, \binom{10202}{01134}, \binom{10310}{01031}, \binom{10200}{01142}, \binom{10341}{01013}, \binom{10203}{01141}, \binom{10341}{01002}, \binom{10210}{01104}, \binom{10334}{01034},$$
$$\binom{10212}{01100}, \binom{10334}{01040}, \binom{10210}{01113}, \binom{10310}{01022}, \binom{10213}{01111}, \binom{10213}{01111}, \binom{10343}{01000}, \binom{10343}{01000}, \binom{10212}{01120},$$
$$\binom{10330}{01043}, \binom{10211}{01133}, \binom{10211}{01133}, \binom{10300}{01020}, \binom{10300}{01020}, \binom{10214}{01142}, \binom{10303}{01013}, \binom{10221}{01100}, \binom{10341}{01040},$$
$$\binom{10222}{01112}, \binom{10322}{01011}, \binom{10224}{01113}, \binom{10322}{01022}, \binom{10220}{01124}, \binom{10220}{01124}, \binom{10331}{01032}, \binom{10331}{01032}, \binom{10222}{01121},$$
$$\binom{10303}{01004}, \binom{10224}{01133}, \binom{10323}{01020}, \binom{10223}{01141}, \binom{10223}{01141}, \binom{10343}{01002}, \binom{10343}{01002}, \binom{10230}{01104}, \binom{10230}{01104},$$
$$\binom{10331}{01034}, \binom{10331}{01034}, \binom{10233}{01113}, \binom{10334}{01022}, \binom{10231}{01121}, \binom{10310}{01004}, \binom{10234}{01120}, \binom{10310}{01043}, \binom{10232}{01132},$$
$$\binom{10232}{01132}, \binom{10324}{01014}, \binom{10324}{01014}, \binom{10234}{01134}, \binom{10341}{01031}, \binom{10231}{01141}, \binom{10311}{01002}, \binom{10243}{01104}, \binom{10304}{01034},$$
$$\binom{10242}{01112}, \binom{10242}{01112}, \binom{10324}{01011}, \binom{10324}{01011}, \binom{10240}{01121}, \binom{10322}{01004}, \binom{10241}{01133}, \binom{10303}{01020}, \binom{10243}{01134},$$
$$\binom{10303}{01031}, \binom{10241}{01142}, \binom{10334}{01013}, \binom{10244}{01140}, \binom{10244}{01140}, \binom{10312}{01041}, \binom{10312}{01041}, \binom{10200}{01203}, \binom{10200}{01203},$$
$$\binom{10433}{01334}, \binom{10433}{01334}, \binom{10201}{01200}, \binom{10444}{01340}, \binom{10202}{01211}, \binom{10443}{01320}, \binom{10203}{01212}, \binom{10443}{01303}, \binom{10203}{01213},$$
$$\binom{10404}{01331}, \binom{10201}{01233}, \binom{10424}{01330}, \binom{10200}{01240}, \binom{10401}{01343}, \binom{10210}{01201}, \binom{10412}{01323}, \binom{10210}{01202}, \binom{10423}{01301},$$
$$\binom{10214}{01200}, \binom{10412}{01340}, \binom{10213}{01222}, \binom{10443}{01300}, \binom{10212}{01234}, \binom{10420}{01313}, \binom{10212}{01242}, \binom{10212}{01242}, \binom{10402}{01304},$$
$$\binom{10402}{01304}, \binom{10213}{01244}, \binom{10413}{01310}, \binom{10220}{01211}, \binom{10412}{01320}, \binom{10224}{01223}, \binom{10444}{01333}, \binom{10220}{01233}, \binom{10432}{01330},$$
$$\binom{10224}{01231}, \binom{10224}{01231}, \binom{10421}{01324}, \binom{10421}{01324}, \binom{10221}{01244}, \binom{10431}{01310}, \binom{10222}{01240}, \binom{10431}{01343}, \binom{10222}{01241},$$
$$\binom{10442}{01321}, \binom{10232}{01200}, \binom{10431}{01340}, \binom{10231}{01212}, \binom{10413}{01303}, \binom{10231}{01220}, \binom{10231}{01220}, \binom{10440}{01344}, \binom{10440}{01344},$$
$$\binom{10232}{01222}, \binom{10401}{01300}, \binom{10233}{01233}, \binom{10400}{01330}, \binom{10234}{01230}, \binom{10411}{01341}, \binom{10234}{01234}, \binom{10400}{01313}, \binom{10243}{01201},$$
$$\binom{10432}{01323}, \binom{10243}{01214}, \binom{10243}{01214}, \binom{10414}{01314}, \binom{10414}{01314}, \binom{10244}{01211}, \binom{10420}{01320}, \binom{10240}{01222}, \binom{10424}{01300},$$
$$\binom{10241}{01223}, \binom{10424}{01333}, \binom{10241}{01224}, \binom{10430}{01311}, \binom{10244}{01244}, \binom{10400}{01310}, \binom{10200}{01400}, \binom{10203}{01400}, \binom{10202}{01412},$$
$$\binom{10200}{01423}, \binom{10200}{01423}, \binom{10201}{01441}, \binom{10201}{01444}, \binom{10202}{01443}, \binom{10210}{01401}, \binom{10212}{01401}, \binom{10214}{01413}, \binom{10212}{01424},$$
$$\binom{10212}{01424}, \binom{10213}{01440}, \binom{10213}{01442}, \binom{10214}{01444}, \binom{10222}{01402}, \binom{10224}{01402}, \binom{10221}{01414}, \binom{10224}{01420}, \binom{10224}{01420},$$
$$\binom{10220}{01441}, \binom{10220}{01443}, \binom{10221}{01440}, \binom{10231}{01403}, \binom{10234}{01403}, \binom{10233}{01410}, \binom{10231}{01421}, \binom{10231}{01421}, \binom{10232}{01442},$$
$$\binom{10232}{01444}, \binom{10233}{01441}, \binom{10241}{01404}, \binom{10243}{01404}, \binom{10240}{01411}, \binom{10243}{01422}, \binom{10243}{01422}, \binom{10240}{01442}, \binom{10244}{01440},$$
$$\binom{10244}{01443}, \binom{12030}{00111}, \binom{12011}{00123}, \binom{12031}{00102}, \binom{12031}{00102}, \binom{12042}{00124}, \binom{12042}{00124}, \binom{12003}{00102}, \binom{12023}{00142},$$
$$\binom{12023}{00114}, \binom{12014}{00111}, \binom{12014}{00133}, \binom{12021}{00130}, \binom{12002}{00142}, \binom{12044}{00121}, \binom{12033}{00143}, \binom{12033}{00143}, \binom{12022}{00121},$$
$$\binom{12022}{00121}, \binom{12043}{00111}, \binom{12030}{00140}, \binom{12013}{00140}, \binom{12013}{00140}, \binom{12024}{00112}, \binom{12024}{00112}, \binom{12000}{00130}, \binom{12000}{00102},$$
$$\binom{12012}{00104}, \binom{12003}{00123}, \binom{12034}{00130}, \binom{12010}{00131}, \binom{12010}{00131}, \binom{12004}{00114}, \binom{12004}{00114}, \binom{12021}{00114}, \binom{12041}{00121},$$
$$\binom{12041}{00104}, \binom{12012}{00133}, \binom{12001}{00100}, \binom{12001}{00100}, \binom{12040}{00133}, \binom{12040}{00133}, \binom{12032}{00123}, \binom{12032}{00140}, \binom{12044}{00142},$$
$$\binom{12020}{00104}, \binom{10303}{01111}, \binom{10303}{01121}, \binom{10302}{01130}, \binom{10302}{01130}, \binom{10303}{01132}, \binom{10304}{01133}, \binom{10304}{01133}, \binom{10303}{01143},$$
$$\binom{10310}{01103}, \binom{10310}{01113}, \binom{10310}{01124}, \binom{10311}{01120}, \binom{10311}{01120}, \binom{10314}{01122}, \binom{10314}{01122}, \binom{10310}{01130}, \binom{10322}{01100},$$
$$\binom{10321}{01114}, \binom{10321}{01114}, \binom{10322}{01111}, \binom{10323}{01112}, \binom{10323}{01112}, \binom{10322}{01122}, \binom{10322}{01140}, \binom{10330}{01104}, \binom{10330}{01104},$$
$$\binom{10333}{01101}, \binom{10333}{01101}, \binom{10334}{01103}, \binom{10334}{01114}, \binom{10334}{01132}, \binom{10334}{01142}, \binom{10341}{01101}, \binom{10341}{01124}, \binom{10341}{01134},$$
$$\binom{10340}{01143}, \binom{10340}{01143}, \binom{10341}{01140}, \binom{10342}{01141}, \binom{10342}{01141}, \binom{10302}{01210}, \binom{10302}{01210}, \binom{10304}{01213}, \binom{10301}{01222},$$
$$\binom{10301}{01222}, \binom{10304}{01234}, \binom{10301}{01241}, \binom{10301}{01241}, \binom{10313}{01202}, \binom{10313}{01202}, \binom{10311}{01224}, \binom{10314}{01221}, \binom{10314}{01221},$$
$$\binom{10313}{01233}, \binom{10313}{01233}, \binom{10311}{01240}, \binom{10323}{01201}, \binom{10320}{01213}, \binom{10320}{01213}, \binom{10321}{01232}, \binom{10321}{01232}, \binom{10323}{01230},$$
$$\binom{10320}{01244}, \binom{10320}{01244}, \binom{10332}{01200}, \binom{10332}{01200}, \binom{10330}{01212}, \binom{10332}{01224}, \binom{10332}{01224}, \binom{10330}{01241}, \binom{10333}{01243},$$
$$\binom{10333}{01243}, \binom{10340}{01204}, \binom{10340}{01204}, \binom{10342}{01202}, \binom{10344}{01211}, \binom{10344}{01211}, \binom{10342}{01223}, \binom{10344}{01230}, \binom{10344}{01230},$$
$$\binom{10301}{01303}, \binom{10422}{01401}, \binom{10301}{01310}, \binom{10443}{01443}, \binom{10302}{01312}, \binom{10302}{01312}, \binom{10302}{01312}, \binom{10302}{01312}, \binom{10404}{01432},$$

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$\binom{10312}{01324}$, $\binom{10312}{01324}$, $\binom{10312}{01324}$, $\binom{10421}{01424}$, $\binom{10421}{01424}$, $\binom{10421}{01424}$, $\binom{10313}{01333}$, $\binom{10403}{01400}$, $\binom{10313}{01340}$,
$\binom{10424}{01442}$, $\binom{10314}{01342}$, $\binom{10314}{01342}$, $\binom{10314}{01342}$, $\binom{10314}{01342}$, $\binom{10430}{01431}$, $\binom{10430}{01431}$, $\binom{10430}{01431}$, $\binom{10430}{01431}$,
$\binom{10324}{01304}$, $\binom{10324}{01304}$, $\binom{10324}{01304}$, $\binom{10402}{01423}$, $\binom{10402}{01423}$, $\binom{10402}{01423}$, $\binom{10320}{01313}$, $\binom{10434}{01404}$, $\binom{10320}{01320}$,
$\binom{10400}{01441}$, $\binom{10321}{01322}$, $\binom{10321}{01322}$, $\binom{10321}{01322}$, $\binom{10321}{01322}$, $\binom{10411}{01430}$, $\binom{10411}{01430}$, $\binom{10411}{01430}$, $\binom{10411}{01430}$,
$\binom{10332}{01300}$, $\binom{10431}{01440}$, $\binom{10333}{01302}$, $\binom{10333}{01302}$, $\binom{10333}{01302}$, $\binom{10333}{01302}$, $\binom{10442}{01434}$, $\binom{10442}{01434}$, $\binom{10442}{01434}$,
$\binom{10442}{01434}$, $\binom{10331}{01334}$, $\binom{10331}{01334}$, $\binom{10331}{01334}$, $\binom{10433}{01422}$, $\binom{10433}{01422}$, $\binom{10433}{01422}$, $\binom{10332}{01343}$, $\binom{10410}{01403}$,
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$\binom{11043}{00104}$, $\binom{11043}{00143}$, $\binom{11004}{00104}$, $\binom{11031}{00140}$, $\binom{11020}{00134}$, $\binom{11020}{00134}$, $\binom{11040}{00142}$, $\binom{11034}{00142}$, $\binom{11034}{00131}$,
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$\binom{10400}{01132}$, $\binom{10401}{01133}$, $\binom{10401}{01144}$, $\binom{10403}{01144}$, $\binom{10412}{01111}$, $\binom{10413}{01112}$, $\binom{10410}{01123}$, $\binom{10413}{01123}$, $\binom{10413}{01140}$,
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$\binom{10434}{01131}$, $\binom{10443}{01103}$, $\binom{10444}{01104}$, $\binom{10441}{01110}$, $\binom{10444}{01110}$, $\binom{10444}{01132}$, $\binom{10403}{01201}$, $\binom{10400}{01211}$, $\binom{10410}{01223}$,
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$\binom{11200}{00011}$, $\binom{13400}{00010}$, $\binom{11202}{00011}$, $\binom{13403}{00010}$, $\binom{11410}{00001}$, $\binom{11440}{00001}$, $\binom{12003}{00014}$, $\binom{13003}{00014}$, $\binom{10400}{01114}$,
$\binom{10400}{01114}$, $\binom{10403}{01131}$, $\binom{10403}{01131}$, $\binom{10410}{01110}$, $\binom{10410}{01110}$, $\binom{10412}{01143}$, $\binom{10412}{01143}$, $\binom{10424}{01122}$, $\binom{10424}{01122}$,
$\binom{10422}{01144}$, $\binom{10422}{01144}$, $\binom{10431}{01101}$, $\binom{10431}{01101}$, $\binom{10434}{01123}$, $\binom{10434}{01123}$, $\binom{10441}{01102}$, $\binom{10441}{01102}$, $\binom{10443}{01130}$,
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$\binom{11430}{00001}$, $\binom{11204}{00011}$, $\binom{11204}{00011}$, $\binom{11204}{00011}$, $\binom{13401}{00010}$, $\binom{13401}{00010}$, $\binom{13401}{00010}$, $\binom{10404}{01210}$, $\binom{10404}{01210}$,
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$n_5(5,2;54) \geq 1354$: $\binom{01000}{00102}$, $\binom{01012}{00100}$, $\binom{01002}{00102}$, $\binom{01034}{00133}$, $\binom{01002}{00122}$, $\binom{01032}{00133}$,
$\binom{01003}{00141}$, $\binom{01030}{00122}$, $\binom{01003}{00143}$, $\binom{01011}{00134}$, $\binom{01012}{00103}$, $\binom{01044}{00134}$, $\binom{01011}{00114}$, $\binom{01043}{00140}$, $\binom{01014}{00114}$,
$\binom{01021}{00112}$, $\binom{01041}{00140}$, $\binom{01021}{00110}$, $\binom{01020}{00141}$, $\binom{01020}{00121}$, $\binom{01023}{00121}$, $\binom{01030}{00124}$, $\binom{01034}{00103}$, $\binom{01044}{00131}$,
$\binom{01043}{00110}$, $\binom{01201}{00011}$, $\binom{01303}{00010}$, $\binom{01202}{00011}$, $\binom{01202}{00011}$, $\binom{01301}{00010}$, $\binom{01301}{00010}$, $\binom{01410}{00001}$, $\binom{01410}{00001}$,
$\binom{01400}{00001}$, $\binom{10000}{00001}$, $\binom{10000}{00001}$, $\binom{10000}{00011}$, $\binom{10000}{00011}$, $\binom{10000}{00010}$, $\binom{10000}{00010}$, $\binom{10000}{00012}$, $\binom{10000}{00013}$,
$\binom{10000}{00014}$, $\binom{10012}{00103}$, $\binom{10034}{01123}$, $\binom{10012}{00110}$, $\binom{10034}{01144}$, $\binom{10012}{00122}$, $\binom{10034}{01110}$, $\binom{10012}{00134}$, $\binom{10034}{01131}$,
$\binom{10012}{00141}$, $\binom{10034}{01102}$, $\binom{10021}{00101}$, $\binom{10041}{01101}$, $\binom{10021}{00103}$, $\binom{10041}{01123}$, $\binom{10024}{00104}$, $\binom{10013}{01134}$, $\binom{10021}{00110}$,
$\binom{10041}{01144}$, $\binom{10021}{00113}$, $\binom{10041}{01122}$, $\binom{10024}{00111}$, $\binom{10013}{01100}$, $\binom{10021}{00120}$, $\binom{10041}{01143}$, $\binom{10021}{00122}$, $\binom{10041}{01110}$,
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$\binom{10042}{01110}$, $\binom{10033}{00122}$, $\binom{10033}{00122}$, $\binom{10020}{01110}$, $\binom{10020}{01110}$, $\binom{10031}{00134}$, $\binom{10042}{01131}$, $\binom{10033}{00134}$, $\binom{10033}{00134}$,
$\binom{10020}{01131}$, $\binom{10020}{01131}$, $\binom{10031}{00141}$, $\binom{10042}{01102}$, $\binom{10033}{00141}$, $\binom{10033}{00141}$, $\binom{10020}{01102}$, $\binom{10020}{01102}$, $\binom{10042}{00101}$,
$\binom{10032}{01101}$, $\binom{10042}{00113}$, $\binom{10032}{01122}$, $\binom{10042}{00120}$, $\binom{10032}{01143}$, $\binom{10042}{00132}$, $\binom{10032}{01114}$, $\binom{10042}{00144}$, $\binom{10032}{01130}$,
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$\binom{10002}{01044}$, $\binom{10002}{01044}$, $\binom{10014}{01003}$, $\binom{10014}{01012}$, $\binom{10014}{01021}$, $\binom{10014}{01030}$, $\binom{10014}{01044}$, $\binom{10023}{01004}$, $\binom{10023}{01013}$,
$\binom{10023}{01022}$, $\binom{10023}{01031}$, $\binom{10023}{01040}$, $\binom{10031}{01001}$, $\binom{10032}{01003}$, $\binom{10031}{01010}$, $\binom{10032}{01012}$, $\binom{10031}{01024}$, $\binom{10032}{01021}$,
$\binom{10031}{01033}$, $\binom{10032}{01030}$, $\binom{10031}{01042}$, $\binom{10032}{01044}$, $\binom{10043}{01001}$, $\binom{10043}{01003}$, $\binom{10043}{01010}$, $\binom{10043}{01012}$, $\binom{10043}{01021}$,
$\binom{10043}{01024}$, $\binom{10043}{01030}$, $\binom{10043}{01033}$, $\binom{10043}{01042}$, $\binom{10043}{01044}$, $\binom{10001}{01203}$, $\binom{10044}{01334}$, $\binom{10001}{01214}$, $\binom{10044}{01314}$,

$\binom{10001}{01220}, \binom{10044}{01344}, \binom{10001}{01231}, \binom{10044}{01324}, \binom{10001}{01242}, \binom{10044}{01304}, \binom{10014}{01201}, \binom{10012}{01323}, \binom{10014}{01212},$
$\binom{10012}{01303}, \binom{10014}{01223}, \binom{10012}{01333}, \binom{10014}{01234}, \binom{10012}{01313}, \binom{10014}{01240}, \binom{10012}{01343}, \binom{10022}{01200}, \binom{10022}{01200},$
$\binom{10030}{01340}, \binom{10030}{01340}, \binom{10024}{01202}, \binom{10013}{01301}, \binom{10022}{01211}, \binom{10022}{01211}, \binom{10030}{01320}, \binom{10030}{01320}, \binom{10024}{01213},$
$\binom{10013}{01331}, \binom{10022}{01222}, \binom{10022}{01222}, \binom{10030}{01300}, \binom{10030}{01300}, \binom{10024}{01224}, \binom{10013}{01311}, \binom{10022}{01233}, \binom{10022}{01233},$
$\binom{10030}{01330}, \binom{10030}{01330}, \binom{10024}{01230}, \binom{10013}{01341}, \binom{10022}{01244}, \binom{10022}{01244}, \binom{10030}{01310}, \binom{10030}{01310}, \binom{10024}{01241},$
$\binom{10013}{01321}, \binom{10040}{01201}, \binom{10004}{01323}, \binom{10040}{01203}, \binom{10004}{01334}, \binom{10044}{01201}, \binom{10010}{01323}, \binom{10040}{01212}, \binom{10004}{01303},$
$\binom{10040}{01214}, \binom{10004}{01314}, \binom{10044}{01212}, \binom{10010}{01303}, \binom{10040}{01220}, \binom{10004}{01344}, \binom{10040}{01223}, \binom{10004}{01333}, \binom{10044}{01223},$
$\binom{10010}{01333}, \binom{10040}{01231}, \binom{10004}{01324}, \binom{10040}{01234}, \binom{10004}{01313}, \binom{10044}{01234}, \binom{10010}{01313}, \binom{10040}{01240}, \binom{10004}{01343},$
$\binom{10040}{01242}, \binom{10004}{01304}, \binom{10044}{01240}, \binom{10010}{01343}, \binom{10011}{01401}, \binom{10011}{01423}, \binom{10011}{01404}, \binom{10011}{01421}, \binom{10011}{01402},$
$\binom{10011}{01424}, \binom{10011}{01400}, \binom{10011}{01422}, \binom{10011}{01403}, \binom{10011}{01420}, \binom{10001}{01401}, \binom{10034}{01401}, \binom{10023}{01412}, \binom{10001}{01404},$
$\binom{10034}{01404}, \binom{10023}{01410}, \binom{10001}{01402}, \binom{10034}{01402}, \binom{10023}{01413}, \binom{10001}{01400}, \binom{10034}{01400}, \binom{10023}{01411}, \binom{10001}{01403},$
$\binom{10034}{01403}, \binom{10023}{01414}, \binom{10003}{01440}, \binom{10003}{01440}, \binom{10003}{01443}, \binom{10003}{01443}, \binom{10003}{01441}, \binom{10003}{01441}, \binom{10003}{01444},$
$\binom{10003}{01444}, \binom{10003}{01442}, \binom{10003}{01442}, \binom{10010}{01423}, \binom{10010}{01421}, \binom{10010}{01424}, \binom{10010}{01422}, \binom{10010}{01420}, \binom{10102}{01010},$
$\binom{10102}{01010}, \binom{14044}{00101}, \binom{14044}{00101}, \binom{10104}{01022}, \binom{14001}{00130}, \binom{10101}{01030}, \binom{10101}{01030}, \binom{14002}{00103}, \binom{14002}{00103},$
$\binom{10104}{01032}, \binom{14002}{00131}, \binom{10104}{01040}, \binom{10104}{01040}, \binom{14020}{00104}, \binom{14020}{00104}, \binom{10104}{01041}, \binom{10104}{01041}, \binom{14014}{00143},$
$\binom{14014}{00143}, \binom{10111}{01000}, \binom{10111}{01000}, \binom{14000}{00100}, \binom{14000}{00100}, \binom{10111}{01004}, \binom{10111}{01004}, \binom{14011}{00111}, \binom{14011}{00111},$
$\binom{10114}{01024}, \binom{10114}{01024}, \binom{14030}{00113}, \binom{14030}{00113}, \binom{10111}{01031}, \binom{14042}{00142}, \binom{10111}{01041}, \binom{14043}{00143}, \binom{10113}{01044},$
$\binom{10113}{01044}, \binom{14043}{00110}, \binom{14043}{00110}, \binom{10120}{01003}, \binom{10120}{01003}, \binom{14034}{00122}, \binom{14034}{00122}, \binom{10123}{01000}, \binom{14034}{00100},$
$\binom{10123}{01013}, \binom{10123}{01013}, \binom{14002}{00123}, \binom{14002}{00123}, \binom{10123}{01014}, \binom{10123}{01014}, \binom{14041}{00112}, \binom{14041}{00112}, \binom{10121}{01033},$
$\binom{10121}{01033}, \binom{14021}{00120}, \binom{14021}{00120}, \binom{10123}{01040}, \binom{14033}{00104}, \binom{10130}{01004}, \binom{14024}{00111}, \binom{10130}{01014}, \binom{14020}{00112},$
$\binom{10132}{01012}, \binom{10132}{01012}, \binom{14020}{00134}, \binom{14020}{00134}, \binom{10130}{01022}, \binom{10130}{01022}, \binom{14043}{00130}, \binom{14043}{00130}, \binom{10130}{01023},$
$\binom{10130}{01023}, \binom{14032}{00124}, \binom{14032}{00124}, \binom{10133}{01042}, \binom{10133}{01042}, \binom{14012}{00132}, \binom{14012}{00132}, \binom{10140}{01001}, \binom{10140}{01001},$
$\binom{14003}{00144}, \binom{14003}{00144}, \binom{10142}{01013}, \binom{14010}{00123}, \binom{10142}{01023}, \binom{14011}{00124}, \binom{10144}{01021}, \binom{10144}{01021}, \binom{14011}{00141},$
$\binom{14011}{00141}, \binom{10142}{01031}, \binom{10142}{01031}, \binom{14034}{00142}, \binom{14034}{00142}, \binom{10142}{01032}, \binom{10142}{01032}, \binom{14023}{00131}, \binom{14023}{00131},$
$\binom{10102}{01104}, \binom{10422}{01034}, \binom{10100}{01114}, \binom{10100}{01114}, \binom{10100}{01114}, \binom{10443}{01033}, \binom{10443}{01033}, \binom{10443}{01033}, \binom{10100}{01120},$
$\binom{10403}{01043}, \binom{10100}{01132}, \binom{10424}{01014}, \binom{10104}{01144}, \binom{10401}{01030}, \binom{10112}{01103}, \binom{10412}{01023}, \binom{10111}{01110}, \binom{10444}{01044},$
$\binom{10114}{01120}, \binom{10410}{01043}, \binom{10112}{01130}, \binom{10112}{01130}, \binom{10112}{01130}, \binom{10431}{01042}, \binom{10431}{01042}, \binom{10431}{01042}, \binom{10112}{01141},$
$\binom{10441}{01002}, \binom{10124}{01101}, \binom{10124}{01101}, \binom{10124}{01101}, \binom{10424}{01001}, \binom{10424}{01001}, \binom{10424}{01001}, \binom{10124}{01112}, \binom{10434}{01011},$
$\binom{10124}{01124}, \binom{10400}{01032}, \binom{10123}{01131}, \binom{10432}{01003}, \binom{10121}{01141}, \binom{10403}{01002}, \binom{10130}{01102}, \binom{10420}{01012}, \binom{10133}{01112},$
$\binom{10441}{01011}, \binom{10131}{01122}, \binom{10131}{01122}, \binom{10131}{01122}, \binom{10412}{01010}, \binom{10412}{01010}, \binom{10412}{01010}, \binom{10131}{01133}, \binom{10422}{01020},$
$\binom{10131}{01140}, \binom{10443}{01041}, \binom{10143}{01104}, \binom{10410}{01034}, \binom{10143}{01111}, \binom{10431}{01000}, \binom{10142}{01123}, \binom{10413}{01021}, \binom{10140}{01133},$
$\binom{10434}{01020}, \binom{10143}{01143}, \binom{10143}{01143}, \binom{10143}{01143}, \binom{10400}{01024}, \binom{10400}{01024}, \binom{10400}{01024}, \binom{10103}{01210}, \binom{10103}{01210},$
$\binom{10224}{01342}, \binom{10224}{01342}, \binom{10101}{01223}, \binom{10232}{01333}, \binom{10104}{01234}, \binom{10234}{01313}, \binom{10103}{01244}, \binom{10103}{01244}, \binom{10103}{01244},$
$\binom{10103}{01244}, \binom{10103}{01244}, \binom{10242}{01310}, \binom{10242}{01310}, \binom{10242}{01310}, \binom{10242}{01310}, \binom{10242}{01310}, \binom{10113}{01201}, \binom{10201}{01323},$
$\binom{10111}{01212}, \binom{10203}{01303}, \binom{10110}{01222}, \binom{10110}{01222}, \binom{10110}{01222}, \binom{10110}{01222}, \binom{10110}{01222}, \binom{10211}{01300}, \binom{10211}{01300},$
$\binom{10211}{01300}, \binom{10211}{01300}, \binom{10211}{01300}, \binom{10110}{01243}, \binom{10110}{01243}, \binom{10243}{01332}, \binom{10243}{01332}, \binom{10122}{01200}, \binom{10122}{01200},$
$\binom{10122}{01200}, \binom{10122}{01200}, \binom{10122}{01200}, \binom{10230}{01340}, \binom{10230}{01340}, \binom{10230}{01340}, \binom{10230}{01340}, \binom{10230}{01340}, \binom{10122}{01221},$
$\binom{10122}{01221}, \binom{10212}{01322}, \binom{10212}{01322}, \binom{10120}{01234}, \binom{10220}{01313}, \binom{10123}{01240}, \binom{10222}{01343}, \binom{10134}{01204}, \binom{10134}{01204},$
$\binom{10231}{01312}, \binom{10231}{01312}, \binom{10132}{01212}, \binom{10244}{01303}, \binom{10130}{01223}, \binom{10241}{01333}, \binom{10134}{01233}, \binom{10134}{01233}, \binom{10134}{01233},$
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$n_5(5,2;59) \geq 1484$: $\binom{01000}{00101}$, $\binom{01001}{00100}$, $\binom{01001}{00144}$, $\binom{01002}{00102}$, $\binom{01034}{00133}$, $\binom{01001}{00113}$,
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$\binom{01300}{00010}$, $\binom{01202}{00011}$, $\binom{01301}{00010}$, $\binom{01204}{00011}$, $\binom{01302}{00010}$, $\binom{01440}{00001}$, $\binom{01410}{00001}$, $\binom{01430}{00001}$, $\binom{10000}{00001}$,
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$\binom{10003}{01430}, \binom{10003}{01433}, \binom{10003}{01431}, \binom{10004}{01401}, \binom{10004}{01401}, \binom{10004}{01404}, \binom{10004}{01404}, \binom{10004}{01402}, \binom{10004}{01402},$
$\binom{10004}{01400}, \binom{10004}{01400}, \binom{10004}{01403}, \binom{10004}{01403}, \binom{10103}{01012}, \binom{14011}{00134}, \binom{10102}{01023}, \binom{10102}{01023}, \binom{10102}{01023},$
$\binom{10102}{01023}, \binom{10102}{01023}, \binom{10102}{01023}, \binom{14012}{00124}, \binom{14012}{00124}, \binom{14012}{00124}, \binom{14012}{00124}, \binom{14012}{00124}, \binom{14012}{00124},$
$\binom{10102}{01042}, \binom{10102}{01042}, \binom{10102}{01042}, \binom{14020}{00132}, \binom{14020}{00132}, \binom{14020}{00132}, \binom{10114}{01001}, \binom{10114}{01001}, \binom{10114}{01001},$
$\binom{14011}{00144}, \binom{14011}{00144}, \binom{14011}{00144}, \binom{10110}{01021}, \binom{14002}{00141}, \binom{10114}{01032}, \binom{10114}{01032}, \binom{10114}{01032}, \binom{10114}{01032},$
$\binom{10114}{01032}, \binom{10114}{01032}, \binom{14003}{00131}, \binom{14003}{00131}, \binom{14003}{00131}, \binom{14003}{00131}, \binom{14003}{00131}, \binom{14003}{00131}, \binom{10121}{01010},$
$\binom{10121}{01010}, \binom{10121}{01010}, \binom{14002}{00101}, \binom{14002}{00101}, \binom{14002}{00101}, \binom{10122}{01030}, \binom{14043}{00103}, \binom{10121}{01041}, \binom{10121}{01041},$
$\binom{10121}{01041}, \binom{10121}{01041}, \binom{10121}{01041}, \binom{10121}{01041}, \binom{14044}{00143}, \binom{14044}{00143}, \binom{14044}{00143}, \binom{14044}{00143}, \binom{14044}{00143},$
$\binom{14044}{00143}, \binom{10133}{01000}, \binom{10133}{01000}, \binom{10133}{01000}, \binom{10133}{01000}, \binom{10133}{01000}, \binom{10133}{01000}, \binom{14030}{00100}, \binom{14030}{00100},$
$\binom{14030}{00100}, \binom{14030}{00100}, \binom{14030}{00100}, \binom{14030}{00100}, \binom{10133}{01024}, \binom{10133}{01024}, \binom{10133}{01024}, \binom{14043}{00113}, \binom{14043}{00113},$
$\binom{14043}{00113}, \binom{10134}{01044}, \binom{14034}{00110}, \binom{10141}{01003}, \binom{14020}{00122}, \binom{10140}{01014}, \binom{10140}{01014}, \binom{10140}{01014}, \binom{10140}{01014},$
$\binom{10140}{01014}, \binom{10140}{01014}, \binom{14021}{00112}, \binom{14021}{00112}, \binom{14021}{00112}, \binom{14021}{00112}, \binom{14021}{00112}, \binom{14021}{00112}, \binom{10140}{01033},$
$\binom{10140}{01033}, \binom{10140}{01033}, \binom{14034}{00120}, \binom{14034}{00120}, \binom{14034}{00120}, \binom{10100}{01100}, \binom{10100}{01100}, \binom{10100}{01100}, \binom{10100}{01100},$
$\binom{10100}{01100}, \binom{10400}{01040}, \binom{10400}{01040}, \binom{10400}{01040}, \binom{10400}{01040}, \binom{10400}{01040}, \binom{10104}{01110}, \binom{10410}{01044}, \binom{10103}{01140},$
$\binom{10103}{01140}, \binom{10103}{01140}, \binom{10103}{01140}, \binom{10423}{01041}, \binom{10423}{01041}, \binom{10423}{01041}, \binom{10423}{01041}, \binom{10110}{01111}, \binom{10110}{01111},$
$\binom{10110}{01111}, \binom{10110}{01111}, \binom{10411}{01000}, \binom{10411}{01000}, \binom{10411}{01000}, \binom{10411}{01000}, \binom{10112}{01121}, \binom{10112}{01121}, \binom{10112}{01121},$
$\binom{10112}{01121}, \binom{10112}{01121}, \binom{10443}{01004}, \binom{10443}{01004}, \binom{10443}{01004}, \binom{10443}{01004}, \binom{10443}{01004}, \binom{10111}{01131}, \binom{10403}{01003},$
$\binom{10123}{01102}, \binom{10441}{01012}, \binom{10122}{01132}, \binom{10122}{01132}, \binom{10122}{01132}, \binom{10122}{01132}, \binom{10404}{01014}, \binom{10404}{01014}, \binom{10404}{01014},$
$\binom{10404}{01014}, \binom{10124}{01142}, \binom{10124}{01142}, \binom{10124}{01142}, \binom{10124}{01142}, \binom{10124}{01142}, \binom{10431}{01013}, \binom{10431}{01013}, \binom{10431}{01013},$
$\binom{10431}{01013}, \binom{10431}{01013}, \binom{10134}{01103}, \binom{10134}{01103}, \binom{10134}{01103}, \binom{10134}{01103}, \binom{10442}{01023}, \binom{10442}{01023}, \binom{10442}{01023},$
$\binom{10442}{01023}, \binom{10131}{01113}, \binom{10131}{01113}, \binom{10131}{01113}, \binom{10131}{01113}, \binom{10131}{01113}, \binom{10424}{01022}, \binom{10424}{01022}, \binom{10424}{01022},$
$\binom{10424}{01022}, \binom{10424}{01022}, \binom{10130}{01123}, \binom{10434}{01021}, \binom{10141}{01124}, \binom{10141}{01124}, \binom{10141}{01124}, \binom{10141}{01124}, \binom{10430}{01032},$
$\binom{10430}{01032}, \binom{10430}{01032}, \binom{10430}{01032}, \binom{10143}{01134}, \binom{10143}{01134}, \binom{10143}{01134}, \binom{10143}{01134}, \binom{10143}{01134}, \binom{10412}{01031},$
$\binom{10412}{01031}, \binom{10412}{01031}, \binom{10412}{01031}, \binom{10412}{01031}, \binom{10142}{01144}, \binom{10422}{01030}, \binom{10103}{01203}, \binom{10211}{01334}, \binom{10100}{01211},$
$\binom{10230}{01320}, \binom{10103}{01213}, \binom{10213}{01331}, \binom{10101}{01231}, \binom{10101}{01231}, \binom{10101}{01231}, \binom{10223}{01324}, \binom{10223}{01324}, \binom{10223}{01324},$
$\binom{10102}{01234}, \binom{10102}{01234}, \binom{10201}{01313}, \binom{10201}{01313}, \binom{10104}{01241}, \binom{10104}{01241}, \binom{10242}{01321}, \binom{10242}{01321}, \binom{10113}{01214},$
$\binom{10113}{01214}, \binom{10113}{01214}, \binom{10242}{01314}, \binom{10242}{01314}, \binom{10242}{01314}, \binom{10114}{01212}, \binom{10114}{01212}, \binom{10220}{01303}, \binom{10220}{01303},$
$\binom{10111}{01224}, \binom{10111}{01224}, \binom{10211}{01311}, \binom{10211}{01311}, \binom{10110}{01231}, \binom{10230}{01324}, \binom{10110}{01241}, \binom{10232}{01321}, \binom{10112}{01244},$
$\binom{10204}{01310}, \binom{10123}{01202}, \binom{10123}{01202}, \binom{10230}{01301}, \binom{10230}{01301}, \binom{10122}{01214}, \binom{10204}{01314}, \binom{10122}{01224}, \binom{10201}{01311},$
$\binom{10124}{01222}, \binom{10223}{01300}, \binom{10120}{01242}, \binom{10120}{01242}, \binom{10120}{01242}, \binom{10211}{01304}, \binom{10211}{01304}, \binom{10211}{01304}, \binom{10121}{01240},$
$\binom{10121}{01240}, \binom{10244}{01343}, \binom{10244}{01343}, \binom{10131}{01200}, \binom{10242}{01340}, \binom{10134}{01202}, \binom{10220}{01301}, \binom{10132}{01220}, \binom{10132}{01220},$
$\binom{10132}{01220}, \binom{10230}{01344}, \binom{10230}{01344}, \binom{10230}{01344}, \binom{10133}{01223}, \binom{10133}{01223}, \binom{10213}{01333}, \binom{10213}{01333}, \binom{10130}{01230},$
$\binom{10130}{01230}, \binom{10204}{01341}, \binom{10204}{01341}, \binom{10134}{01242}, \binom{10223}{01304}, \binom{10140}{01201}, \binom{10140}{01201}, \binom{10232}{01323}, \binom{10232}{01323},$
$\binom{10144}{01203}, \binom{10144}{01203}, \binom{10144}{01203}, \binom{10204}{01334}, \binom{10204}{01334}, \binom{10204}{01334}, \binom{10142}{01213}, \binom{10142}{01213}, \binom{10223}{01331},$
$\binom{10223}{01331}, \binom{10141}{01220}, \binom{10242}{01344}, \binom{10141}{01230}, \binom{10244}{01341}, \binom{10143}{01233}, \binom{10211}{01330}, \binom{10102}{01301}, \binom{10300}{01412},$
$\binom{10101}{01322}, \binom{10101}{01322}, \binom{10334}{01430}, \binom{10334}{01430}, \binom{10101}{01323}, \binom{10101}{01323}, \binom{10101}{01323}, \binom{10101}{01323}, \binom{10301}{01402},$
$\binom{10301}{01402}, \binom{10301}{01402}, \binom{10301}{01402}, \binom{10104}{01320}, \binom{10312}{01441}, \binom{10104}{01321}, \binom{10104}{01321}, \binom{10334}{01413}, \binom{10334}{01413},$

$$\binom{10111}{01310}, \binom{10343}{01443}, \binom{10111}{01311}, \binom{10111}{01311}, \binom{10310}{01410}, \binom{10310}{01410}, \binom{10113}{01312}, \binom{10113}{01312}, \binom{10310}{01432},$$
$$\binom{10310}{01432}, \binom{10113}{01313}, \binom{10113}{01313}, \binom{10113}{01313}, \binom{10113}{01313}, \binom{10332}{01404}, \binom{10332}{01404}, \binom{10332}{01404}, \binom{10332}{01404},$$
$$\binom{10114}{01341}, \binom{10331}{01414}, \binom{10120}{01302}, \binom{10120}{01302}, \binom{10341}{01434}, \binom{10341}{01434}, \binom{10120}{01303}, \binom{10120}{01303}, \binom{10120}{01303},$$
$$\binom{10120}{01303}, \binom{10313}{01401}, \binom{10313}{01401}, \binom{10313}{01401}, \binom{10313}{01401}, \binom{10123}{01300}, \binom{10324}{01440}, \binom{10123}{01301}, \binom{10123}{01301},$$
$$\binom{10341}{01412}, \binom{10341}{01412}, \binom{10121}{01331}, \binom{10312}{01411}, \binom{10133}{01321}, \binom{10343}{01413}, \binom{10130}{01340}, \binom{10300}{01442}, \binom{10130}{01341},$$
$$\binom{10130}{01341}, \binom{10322}{01414}, \binom{10322}{01414}, \binom{10132}{01342}, \binom{10132}{01342}, \binom{10322}{01431}, \binom{10322}{01431}, \binom{10132}{01343}, \binom{10132}{01343},$$
$$\binom{10132}{01343}, \binom{10132}{01343}, \binom{10344}{01403}, \binom{10344}{01403}, \binom{10344}{01403}, \binom{10344}{01403}, \binom{10140}{01311}, \binom{10324}{01410}, \binom{10142}{01330},$$
$$\binom{10331}{01444}, \binom{10142}{01331}, \binom{10142}{01331}, \binom{10303}{01411}, \binom{10303}{01411}, \binom{10144}{01332}, \binom{10144}{01332}, \binom{10303}{01433}, \binom{10303}{01433},$$
$$\binom{10144}{01333}, \binom{10144}{01333}, \binom{10144}{01333}, \binom{10144}{01333}, \binom{10320}{01400}, \binom{10320}{01400}, \binom{10320}{01400}, \binom{10320}{01400}, \binom{10100}{01402},$$
$$\binom{10100}{01402}, \binom{10103}{01414}, \binom{10104}{01414}, \binom{10104}{01414}, \binom{10101}{01423}, \binom{10101}{01423}, \binom{10101}{01423}, \binom{10104}{01422}, \binom{10100}{01441},$$
$$\binom{10112}{01404}, \binom{10112}{01404}, \binom{10110}{01411}, \binom{10111}{01411}, \binom{10111}{01411}, \binom{10111}{01424}, \binom{10113}{01420}, \binom{10113}{01420}, \binom{10113}{01420},$$
$$\binom{10112}{01443}, \binom{10124}{01401}, \binom{10124}{01401}, \binom{10122}{01413}, \binom{10123}{01413}, \binom{10123}{01413}, \binom{10120}{01422}, \binom{10120}{01422}, \binom{10120}{01422},$$
$$\binom{10123}{01421}, \binom{10124}{01440}, \binom{10131}{01403}, \binom{10131}{01403}, \binom{10130}{01410}, \binom{10130}{01410}, \binom{10134}{01410}, \binom{10130}{01423}, \binom{10132}{01424},$$
$$\binom{10132}{01424}, \binom{10132}{01424}, \binom{10131}{01442}, \binom{10143}{01400}, \binom{10143}{01400}, \binom{10141}{01412}, \binom{10142}{01412}, \binom{10142}{01412}, \binom{10142}{01420},$$
$$\binom{10144}{01421}, \binom{10144}{01421}, \binom{10144}{01421}, \binom{10143}{01444}, \binom{10203}{01001}, \binom{13020}{00144}, \binom{10202}{01010}, \binom{10202}{01010}, \binom{13000}{00101},$$
$$\binom{13000}{00101}, \binom{10202}{01021}, \binom{10202}{01021}, \binom{10202}{01021}, \binom{13030}{00141}, \binom{13030}{00141}, \binom{13030}{00141}, \binom{10214}{01003}, \binom{10214}{01003},$$
$$\binom{10214}{01003}, \binom{13021}{00122}, \binom{13021}{00122}, \binom{13021}{00122}, \binom{10210}{01033}, \binom{13011}{00120}, \binom{10214}{01042}, \binom{10214}{01042}, \binom{13041}{00132},$$
$$\binom{13041}{00132}, \binom{10222}{01010}, \binom{13002}{00101}, \binom{10221}{01024}, \binom{10221}{01024}, \binom{13032}{00113}, \binom{13032}{00113}, \binom{10221}{01030}, \binom{10221}{01030},$$
$$\binom{10221}{01030}, \binom{13012}{00103}, \binom{13012}{00103}, \binom{13012}{00103}, \binom{10233}{01001}, \binom{10233}{01001}, \binom{13023}{00144}, \binom{13023}{00144}, \binom{10233}{01012},$$
$$\binom{10233}{01012}, \binom{10233}{01012}, \binom{13003}{00134}, \binom{13003}{00134}, \binom{13003}{00134}, \binom{10234}{01042}, \binom{13043}{00132}, \binom{10241}{01024}, \binom{13034}{00113},$$
$$\binom{10240}{01033}, \binom{10240}{01033}, \binom{13014}{00120}, \binom{13014}{00120}, \binom{10240}{01044}, \binom{10240}{01044}, \binom{10240}{01044}, \binom{13044}{00110}, \binom{13044}{00110},$$
$$\binom{13044}{00110}, \binom{10203}{01104}, \binom{10203}{01104}, \binom{10203}{01104}, \binom{10300}{01034}, \binom{10300}{01034}, \binom{10300}{01034}, \binom{10201}{01133}, \binom{10201}{01133},$$
$$\binom{10201}{01133}, \binom{10201}{01133}, \binom{10304}{01020}, \binom{10304}{01020}, \binom{10304}{01020}, \binom{10304}{01020}, \binom{10201}{01134}, \binom{10321}{01031}, \binom{10203}{01142},$$
$$\binom{10203}{01142}, \binom{10203}{01142}, \binom{10313}{01013}, \binom{10313}{01013}, \binom{10313}{01013}, \binom{10210}{01100}, \binom{10210}{01100}, \binom{10210}{01100}, \binom{10301}{01040},$$
$$\binom{10301}{01040}, \binom{10301}{01040}, \binom{10210}{01112}, \binom{10210}{01112}, \binom{10210}{01112}, \binom{10343}{01011}, \binom{10343}{01011}, \binom{10343}{01011}, \binom{10213}{01141},$$
$$\binom{10213}{01141}, \binom{10213}{01141}, \binom{10213}{01141}, \binom{10342}{01002}, \binom{10342}{01002}, \binom{10342}{01002}, \binom{10342}{01002}, \binom{10213}{01142}, \binom{10314}{01013},$$
$$\binom{10220}{01100}, \binom{10302}{01040}, \binom{10220}{01104}, \binom{10220}{01104}, \binom{10220}{01104}, \binom{10220}{01104}, \binom{10330}{01034}, \binom{10330}{01034}, \binom{10330}{01034},$$
$$\binom{10330}{01034}, \binom{10222}{01113}, \binom{10222}{01113}, \binom{10222}{01113}, \binom{10344}{01022}, \binom{10344}{01022}, \binom{10344}{01022}, \binom{10222}{01120}, \binom{10222}{01120},$$
$$\binom{10222}{01120}, \binom{10331}{01043}, \binom{10331}{01043}, \binom{10331}{01043}, \binom{10232}{01112}, \binom{10232}{01112}, \binom{10232}{01112}, \binom{10232}{01112}, \binom{10323}{01011},$$
$$\binom{10323}{01011}, \binom{10323}{01011}, \binom{10323}{01011}, \binom{10232}{01113}, \binom{10340}{01022}, \binom{10234}{01121}, \binom{10234}{01121}, \binom{10234}{01121}, \binom{10332}{01004},$$
$$\binom{10332}{01004}, \binom{10332}{01004}, \binom{10234}{01133}, \binom{10234}{01133}, \binom{10234}{01133}, \binom{10324}{01020}, \binom{10324}{01020}, \binom{10324}{01020}, \binom{10244}{01120},$$
$$\binom{10244}{01120}, \binom{10244}{01120}, \binom{10244}{01120}, \binom{10311}{01043}, \binom{10311}{01043}, \binom{10311}{01043}, \binom{10311}{01043}, \binom{10244}{01121}, \binom{10333}{01004},$$
$$\binom{10241}{01134}, \binom{10241}{01134}, \binom{10241}{01134}, \binom{10320}{01031}, \binom{10320}{01031}, \binom{10320}{01031}, \binom{10241}{01141}, \binom{10241}{01141}, \binom{10241}{01141},$$
$$\binom{10312}{01002}, \binom{10312}{01002}, \binom{10312}{01002}, \binom{10201}{01204}, \binom{10433}{01312}, \binom{10200}{01211}, \binom{10200}{01211}, \binom{10200}{01211}, \binom{10200}{01211},$$
$$\binom{10200}{01211}, \binom{10410}{01320}, \binom{10410}{01320}, \binom{10410}{01320}, \binom{10410}{01320}, \binom{10410}{01320}, \binom{10202}{01210}, \binom{10432}{01342}, \binom{10204}{01211},$$
$$\binom{10421}{01320}, \binom{10204}{01231}, \binom{10204}{01231}, \binom{10424}{01324}, \binom{10424}{01324}, \binom{10211}{01200}, \binom{10440}{01340}, \binom{10212}{01200}, \binom{10212}{01200},$$
$$\binom{10212}{01200}, \binom{10212}{01200}, \binom{10212}{01200}, \binom{10434}{01340}, \binom{10434}{01340}, \binom{10434}{01340}, \binom{10434}{01340}, \binom{10434}{01340}, \binom{10214}{01204},$$
$$\binom{10401}{01312}, \binom{10211}{01220}, \binom{10211}{01220}, \binom{10443}{01344}, \binom{10443}{01344}, \binom{10213}{01243}, \binom{10402}{01332}, \binom{10223}{01214}, \binom{10223}{01214},$$
$$\binom{10412}{01314}, \binom{10412}{01314}, \binom{10220}{01232}, \binom{10421}{01302}, \binom{10221}{01243}, \binom{10420}{01332}, \binom{10223}{01244}, \binom{10414}{01310}, \binom{10224}{01244},$$
$$\binom{10224}{01244}, \binom{10224}{01244}, \binom{10224}{01244}, \binom{10224}{01244}, \binom{10403}{01310}, \binom{10403}{01310}, \binom{10403}{01310}, \binom{10403}{01310}, \binom{10403}{01310},$$
$$\binom{10230}{01203}, \binom{10230}{01203}, \binom{10431}{01334}, \binom{10431}{01334}, \binom{10232}{01221}, \binom{10440}{01322}, \binom{10230}{01233}, \binom{10433}{01330}, \binom{10231}{01233},$$
$$\binom{10231}{01233}, \binom{10231}{01233}, \binom{10231}{01233}, \binom{10231}{01233}, \binom{10422}{01330}, \binom{10422}{01330}, \binom{10422}{01330}, \binom{10422}{01330}, \binom{10422}{01330},$$
$$\binom{10233}{01232}, \binom{10444}{01302}, \binom{10244}{01210}, \binom{10414}{01342}, \binom{10240}{01221}, \binom{10413}{01322}, \binom{10242}{01222}, \binom{10402}{01300}, \binom{10243}{01222},$$
$$\binom{10243}{01222}, \binom{10243}{01222}, \binom{10243}{01222}, \binom{10243}{01222}, \binom{10441}{01300}, \binom{10441}{01300}, \binom{10441}{01300}, \binom{10441}{01300}, \binom{10441}{01300},$$
$$\binom{10242}{01242}, \binom{10242}{01242}, \binom{10400}{01304}, \binom{10400}{01304}, \binom{10203}{01421}, \binom{10203}{01421}, \binom{10202}{01432}, \binom{10202}{01434}, \binom{10200}{01441},$$
$$\binom{10200}{01441}, \binom{10200}{01441}, \binom{10200}{01441}, \binom{10200}{01441}, \binom{10202}{01442}, \binom{10210}{01422}, \binom{10210}{01422}, \binom{10214}{01430}, \binom{10214}{01433},$$

$\binom{10212}{01442}, \binom{10212}{01442}, \binom{10212}{01442}, \binom{10212}{01442}, \binom{10212}{01442}, \binom{10214}{01443}, \binom{10222}{01423}, \binom{10222}{01423}, \binom{10221}{01431},$
$\binom{10221}{01434}, \binom{10221}{01444}, \binom{10224}{01443}, \binom{10224}{01443}, \binom{10224}{01443}, \binom{10224}{01443}, \binom{10224}{01443}, \binom{10234}{01424}, \binom{10234}{01424},$
$\binom{10233}{01430}, \binom{10233}{01432}, \binom{10231}{01444}, \binom{10231}{01444}, \binom{10231}{01444}, \binom{10231}{01444}, \binom{10231}{01444}, \binom{10233}{01440}, \binom{10241}{01420},$
$\binom{10241}{01420}, \binom{10240}{01431}, \binom{10240}{01433}, \binom{10240}{01441}, \binom{10243}{01440}, \binom{10243}{01440}, \binom{10243}{01440}, \binom{10243}{01440}, \binom{10243}{01440},$
$\binom{12042}{00102}, \binom{12042}{00102}, \binom{12042}{00102}, \binom{12042}{00102}, \binom{12012}{00114}, \binom{12012}{00114}, \binom{12012}{00114}, \binom{12021}{00104}, \binom{12021}{00104},$
$\binom{12021}{00104}, \binom{12010}{00104}, \binom{12003}{00133}, \binom{12003}{00133}, \binom{12003}{00133}, \binom{12012}{00123}, \binom{12012}{00123}, \binom{12012}{00123}, \binom{12001}{00123},$
$\binom{12033}{00121}, \binom{12033}{00121}, \binom{12033}{00121}, \binom{12033}{00121}, \binom{12024}{00140}, \binom{12024}{00140}, \binom{12024}{00140}, \binom{12024}{00140}, \binom{12044}{00102},$
$\binom{12044}{00102}, \binom{12044}{00102}, \binom{12003}{00142}, \binom{12003}{00142}, \binom{12003}{00142}, \binom{12042}{00142}, \binom{12044}{00111}, \binom{12044}{00111}, \binom{12044}{00111},$
$\binom{12033}{00111}, \binom{12010}{00114}, \binom{12010}{00114}, \binom{12010}{00114}, \binom{12010}{00114}, \binom{12030}{00121}, \binom{12030}{00121}, \binom{12030}{00121}, \binom{12001}{00133},$
$\binom{12001}{00133}, \binom{12001}{00133}, \binom{12001}{00133}, \binom{12021}{00140}, \binom{12021}{00140}, \binom{12021}{00140}, \binom{12024}{00130}, \binom{12030}{00130}, \binom{12030}{00130},$
$\binom{12030}{00130}, \binom{10300}{01101}, \binom{10300}{01101}, \binom{10303}{01102}, \binom{10303}{01102}, \binom{10303}{01102}, \binom{10302}{01130}, \binom{10314}{01122}, \binom{10310}{01144},$
$\binom{10310}{01144}, \binom{10310}{01144}, \binom{10312}{01143}, \binom{10312}{01143}, \binom{10321}{01114}, \binom{10322}{01131}, \binom{10322}{01131}, \binom{10322}{01131}, \binom{10324}{01130},$
$\binom{10324}{01130}, \binom{10333}{01101}, \binom{10331}{01122}, \binom{10331}{01122}, \binom{10334}{01123}, \binom{10334}{01123}, \binom{10334}{01123}, \binom{10341}{01110}, \binom{10341}{01110},$
$\binom{10341}{01110}, \binom{10343}{01114}, \binom{10343}{01114}, \binom{10340}{01143}, \binom{10301}{01232}, \binom{10301}{01232}, \binom{10303}{01233}, \binom{10304}{01230}, \binom{10302}{01240},$
$\binom{10302}{01240}, \binom{10302}{01240}, \binom{10302}{01240}, \binom{10304}{01241}, \binom{10304}{01241}, \binom{10311}{01202}, \binom{10311}{01202}, \binom{10314}{01201}, \binom{10314}{01201},$
$\binom{10314}{01201}, \binom{10314}{01201}, \binom{10310}{01244}, \binom{10311}{01241}, \binom{10313}{01243}, \binom{10313}{01243}, \binom{10320}{01204}, \binom{10320}{01204}, \binom{10322}{01200},$
$\binom{10323}{01202}, \binom{10321}{01212}, \binom{10321}{01212}, \binom{10321}{01212}, \binom{10321}{01212}, \binom{10323}{01213}, \binom{10323}{01213}, \binom{10330}{01213}, \binom{10332}{01210},$
$\binom{10332}{01210}, \binom{10334}{01211}, \binom{10330}{01224}, \binom{10330}{01224}, \binom{10333}{01223}, \binom{10333}{01223}, \binom{10333}{01223}, \binom{10333}{01223}, \binom{10341}{01222},$
$\binom{10342}{01224}, \binom{10344}{01221}, \binom{10344}{01221}, \binom{10340}{01234}, \binom{10340}{01234}, \binom{10340}{01234}, \binom{10340}{01234}, \binom{10342}{01230}, \binom{10342}{01230},$
$\binom{10300}{01300}, \binom{10400}{01440}, \binom{10301}{01304}, \binom{10433}{01423}, \binom{10302}{01312}, \binom{10302}{01312}, \binom{10404}{01432}, \binom{10404}{01432}, \binom{10303}{01324},$
$\binom{10303}{01324}, \binom{10303}{01324}, \binom{10414}{01424}, \binom{10414}{01424}, \binom{10414}{01424}, \binom{10300}{01332}, \binom{10300}{01332}, \binom{10424}{01433}, \binom{10424}{01433},$
$\binom{10310}{01304}, \binom{10310}{01304}, \binom{10310}{01304}, \binom{10440}{01423}, \binom{10440}{01423}, \binom{10440}{01423}, \binom{10312}{01312}, \binom{10312}{01312}, \binom{10400}{01432},$
$\binom{10400}{01432}, \binom{10312}{01330}, \binom{10431}{01444}, \binom{10313}{01334}, \binom{10414}{01422}, \binom{10314}{01342}, \binom{10314}{01342}, \binom{10430}{01431}, \binom{10430}{01431},$
$\binom{10320}{01314}, \binom{10440}{01421}, \binom{10324}{01310}, \binom{10412}{01443}, \binom{10321}{01322}, \binom{10321}{01322}, \binom{10411}{01430}, \binom{10411}{01430}, \binom{10322}{01334},$
$\binom{10322}{01334}, \binom{10322}{01334}, \binom{10421}{01422}, \binom{10421}{01422}, \binom{10421}{01422}, \binom{10324}{01342}, \binom{10324}{01342}, \binom{10431}{01431}, \binom{10431}{01431},$
$\binom{10333}{01302}, \binom{10333}{01302}, \binom{10442}{01434}, \binom{10442}{01434}, \binom{10334}{01314}, \binom{10334}{01314}, \binom{10334}{01314}, \binom{10402}{01421}, \binom{10402}{01421},$
$\binom{10402}{01421}, \binom{10331}{01322}, \binom{10331}{01322}, \binom{10412}{01430}, \binom{10412}{01430}, \binom{10331}{01340}, \binom{10443}{01442}, \binom{10332}{01344}, \binom{10421}{01420},$
$\binom{10343}{01302}, \binom{10343}{01302}, \binom{10443}{01434}, \binom{10443}{01434}, \binom{10343}{01320}, \binom{10424}{01441}, \binom{10344}{01324}, \binom{10402}{01424}, \binom{10340}{01332},$
$\binom{10340}{01332}, \binom{10423}{01433}, \binom{10423}{01433}, \binom{10341}{01344}, \binom{10341}{01344}, \binom{10341}{01344}, \binom{10433}{01420}, \binom{10433}{01420}, \binom{10433}{01420},$
$\binom{11040}{00122}, \binom{11044}{00112}, \binom{11044}{00112}, \binom{11044}{00112}, \binom{11044}{00112}, \binom{11041}{00104}, \binom{11041}{00104}, \binom{11041}{00104}, \binom{11041}{00104},$
$\binom{11041}{00104}, \binom{11030}{00100}, \binom{11030}{00100}, \binom{11030}{00100}, \binom{11030}{00100}, \binom{11032}{00142}, \binom{11032}{00142}, \binom{11032}{00142}, \binom{11032}{00142},$
$\binom{11032}{00142}, \binom{11031}{00110}, \binom{11023}{00130}, \binom{11023}{00130}, \binom{11023}{00130}, \binom{11023}{00130}, \binom{11023}{00130}, \binom{11022}{00103}, \binom{11021}{00143},$
$\binom{11021}{00143}, \binom{11021}{00143}, \binom{11021}{00143}, \binom{11014}{00123}, \binom{11014}{00123}, \binom{11014}{00123}, \binom{11014}{00123}, \binom{11014}{00123}, \binom{11013}{00141},$
$\binom{11012}{00131}, \binom{11012}{00131}, \binom{11012}{00131}, \binom{11012}{00131}, \binom{11000}{00111}, \binom{11000}{00111}, \binom{11000}{00111}, \binom{11000}{00111}, \binom{11000}{00111},$
$\binom{11004}{00134}, \binom{11003}{00124}, \binom{11003}{00124}, \binom{11003}{00124}, \binom{11003}{00124}, \binom{10402}{01110}, \binom{10402}{01114}, \binom{10402}{01114}, \binom{10402}{01114},$
$\binom{10403}{01140}, \binom{10403}{01140}, \binom{10403}{01140}, \binom{10403}{01140}, \binom{10403}{01140}, \binom{10403}{01140}, \binom{10410}{01124}, \binom{10410}{01124}, \binom{10410}{01124},$
$\binom{10410}{01124}, \binom{10410}{01124}, \binom{10410}{01124}, \binom{10414}{01143}, \binom{10414}{01143}, \binom{10414}{01143}, \binom{10414}{01144}, \binom{10422}{01103}, \binom{10422}{01103},$
$\binom{10422}{01103}, \binom{10422}{01103}, \binom{10422}{01103}, \binom{10422}{01103}, \binom{10421}{01122}, \binom{10421}{01122}, \binom{10421}{01122}, \binom{10421}{01123}, \binom{10433}{01101},$
$\binom{10433}{01101}, \binom{10433}{01101}, \binom{10433}{01102}, \binom{10434}{01132}, \binom{10434}{01132}, \binom{10434}{01132}, \binom{10434}{01132}, \binom{10434}{01132}, \binom{10434}{01132},$
$\binom{10441}{01111}, \binom{10441}{01111}, \binom{10441}{01111}, \binom{10441}{01111}, \binom{10441}{01111}, \binom{10441}{01111}, \binom{10440}{01130}, \binom{10440}{01130}, \binom{10440}{01130},$
$\binom{10440}{01131}, \binom{10404}{01203}, \binom{10404}{01203}, \binom{10404}{01203}, \binom{10401}{01214}, \binom{10404}{01210}, \binom{10404}{01210}, \binom{10400}{01232}, \binom{10400}{01232},$
$\binom{10401}{01244}, \binom{10412}{01204}, \binom{10412}{01204}, \binom{10413}{01211}, \binom{10411}{01220}, \binom{10411}{01220}, \binom{10411}{01220}, \binom{10411}{01232}, \binom{10411}{01232},$
$\binom{10413}{01231}, \binom{10420}{01203}, \binom{10423}{01204}, \binom{10423}{01204}, \binom{10424}{01221}, \binom{10424}{01221}, \binom{10420}{01233}, \binom{10423}{01242}, \binom{10423}{01242},$
$\binom{10423}{01242}, \binom{10432}{01200}, \binom{10430}{01214}, \binom{10430}{01214}, \binom{10430}{01214}, \binom{10430}{01221}, \binom{10430}{01221}, \binom{10432}{01220}, \binom{10431}{01243},$
$\binom{10431}{01243}, \binom{10443}{01210}, \binom{10443}{01210}, \binom{10444}{01222}, \binom{10442}{01231}, \binom{10442}{01231}, \binom{10442}{01231}, \binom{10442}{01243}, \binom{10442}{01243},$
$\binom{10444}{01242}, \binom{11000}{00014}, \binom{11004}{00014}, \binom{14001}{00014}, \binom{14001}{00014}, \binom{14001}{00014}, \binom{14001}{00014}, \binom{11203}{00011}, \binom{13402}{00010},$

$\binom{11302}{00010}$, $\binom{12310}{00001}$, $\binom{11420}{00001}$, $\binom{12101}{00010}$, $\binom{14100}{00001}$, $\binom{13001}{00014}$, $\binom{12403}{00011}$, $\binom{13103}{00011}$, $\binom{14202}{00010}$, $\binom{13200}{00001}$, $\binom{14304}{00011}$.

D Explicit lists of generator matrices for lower bounds for $n_4(5,2;s)$

In this section we explicitly list the generator matrices of the projective systems found by ILP computations.

$n_4(5,2;2) \geq 20$, $\begin{bmatrix} 01000 \\ 1\omega000 \\ 00010 \\ 001\upsilon0 \\ 00001 \end{bmatrix}$, $(x \to x^2) \cdot \begin{bmatrix} 001\upsilon0 \\ 00\upsilon\upsilon0 \\ \omega\omega000 \\ \omega1000 \\ 00001 \end{bmatrix}$: $\binom{01010}{00101}^{10}\binom{100\omega\omega}{001\omega\omega}$, $\binom{110\upsilon\omega}{001\upsilon1}$, $\binom{1\omega10\upsilon}{00011}$, $\binom{1\upsilon01\upsilon}{0011\omega}$, $\binom{1001\omega}{01001}$, $\binom{10001}{01100}$, $\binom{10111}{0111\omega}$, $\binom{10\omega1\omega}{011\upsilon\omega}$, $\binom{10\upsilon10}{011\omega1}$, $\binom{010\upsilon\upsilon}{00100}^{10}\binom{1001\upsilon}{001\omega0}$, $\binom{110\omega\omega}{001\upsilon0}$, $\binom{1\omega\upsilon0\upsilon}{00010}$, $\binom{1\upsilon0\upsilon\omega}{00110}$, $\binom{100\upsilon1}{01000}$, $\binom{10000}{01\upsilon01}$, $\binom{101\upsilon\omega}{01\upsilon\omega1}$, $\binom{10\omega\upsilon1}{01\upsilon1\omega}$, $\binom{10\upsilon\upsilon\omega}{01\upsilon\upsilon\omega}$.

$n_4(5,2;3) \geq 39$, $\begin{bmatrix} 10000 \\ 0\omega000 \\ 00\omega00 \\ 000\upsilon0 \\ 0000\upsilon \end{bmatrix}$, $x \to x^2$: $\binom{00100}{00010}^1$, $\binom{01000}{00001}^1$, $\binom{01100}{00011}^1$, $\binom{110\omega\upsilon}{001\omega1}^6$, $\binom{110\upsilon\omega}{001\upsilon1}$, $\binom{1\omega0\omega1}{0011\omega}$, $\binom{1\omega01\omega}{001\upsilon\omega}$, $\binom{1\upsilon0\upsilon1}{0011\upsilon}$, $\binom{1\upsilon01\upsilon}{001\omega\upsilon}$, $\binom{101\omega\omega}{0101\upsilon}^6$, $\binom{101\upsilon\upsilon}{0101\omega}$, $\binom{10\omega11}{010\omega1}$, $\binom{10\omega\omega\omega}{010\omega\upsilon}$, $\binom{10\upsilon11}{010\upsilon1}$, $\binom{10\upsilon\upsilon\upsilon}{010\upsilon\omega}$, $\binom{1011\upsilon}{011\omega\upsilon}^6$, $\binom{1011\omega}{011\upsilon\omega}$, $\binom{10\omega\upsilon1}{0111\upsilon}$, $\binom{10\omega\upsilon\omega}{011\upsilon1}$, $\binom{10\upsilon\omega1}{0111\omega}$, $\binom{10\upsilon\omega\upsilon}{011\omega1}$, $\binom{101\upsilon0}{01\omega01}^6$, $\binom{10\omega\omega0}{01\omega0\omega}$, $\binom{10\upsilon10}{01\omega0\upsilon}$, $\binom{101\omega0}{01\upsilon01}$, $\binom{10\omega10}{01\upsilon0\omega}$, $\binom{10\upsilon\upsilon0}{01\upsilon0\upsilon}$, $\binom{1010\omega}{01\omega10}^6$, $\binom{10\omega01}{01\omega\omega0}$, $\binom{10\upsilon0\upsilon}{01\omega\upsilon0}$, $\binom{1010\upsilon}{01\upsilon10}$, $\binom{10\omega0\omega}{01\upsilon\omega0}$, $\binom{10\upsilon01}{01\upsilon\upsilon0}$, $\binom{101\upsilon\omega}{01\omega11}^6$, $\binom{10\omega\omega1}{01\omega\omega\omega}$, $\binom{10\upsilon1\upsilon}{01\omega\upsilon\upsilon}$, $\binom{101\omega\upsilon}{01\upsilon11}$, $\binom{10\omega1\omega}{01\upsilon\omega\omega}$, $\binom{10\upsilon\upsilon1}{01\upsilon\upsilon\upsilon}$.

$n_4(5,2;5) \geq 75$, $\begin{bmatrix} 01000 \\ 1\omega000 \\ 00010 \\ 001\upsilon0 \\ 00001 \end{bmatrix}$: $\binom{01\upsilon0\upsilon}{0001\upsilon}^5$, $\binom{100\upsilon\omega}{0010\upsilon}$, $\binom{110\upsilon0}{00111}$, $\binom{1\omega0\upsilon\upsilon}{001\upsilon\upsilon}$, $\binom{1\upsilon0\upsilon\upsilon}{001\omega1}$, $\binom{010\omega1}{001\omega\omega}^5$, $\binom{100\omega\omega}{0011\omega}$, $\binom{11\upsilon00}{00011}$, $\binom{1\omega01\upsilon}{00101}$, $\binom{1\upsilon0\upsilon0}{001\upsilon1}$, $\binom{010\upsilon\omega}{001\omega\omega}^5$, $\binom{100\upsilon\upsilon}{0011\omega}$, $\binom{11100}{00011}$, $\binom{1\omega0\omega1}{00101}$, $\binom{1\upsilon010}{001\upsilon1}$, $\binom{01000}{001\upsilon0}^5$, $\binom{10000}{00010}$, $\binom{11000}{001\omega0}$, $\binom{1\omega000}{00110}$, $\binom{1\upsilon000}{00100}$, $\binom{010\upsilon\omega}{001\upsilon\omega}^5$, $\binom{10\upsilon0\omega}{0001\omega}$, $\binom{110\upsilon\omega}{001\omega\upsilon}$, $\binom{1\omega010}{0011\upsilon}$, $\binom{1\upsilon0\omega\upsilon}{0010\omega}$, $\binom{1001\upsilon}{0100\upsilon}^5$, $\binom{1000\upsilon}{0110\omega}$, $\binom{10110}{0111\omega}$, $\binom{10\omega1\omega}{011\upsilon\upsilon}$, $\binom{10\upsilon1\omega}{011\omega0}$, $\binom{10001}{010\upsilon0}^5$, $\binom{10\upsilon\omega\omega}{01001}$, $\binom{10\upsilon00}{01101}$, $\binom{10\upsilon\upsilon\omega}{01\omega\omega\omega}$, $\binom{10\upsilon11}{01\upsilon1\omega}$, $\binom{1010\omega}{010\omega1}^5$, $\binom{10\omega01}{01010}$, $\binom{10\omega\upsilon\omega}{0101\omega}$, $\binom{100\upsilon1}{01\upsilon0\omega}$, $\binom{10100}{01\upsilon\omega1}$, $\binom{101\omega0}{010\omega\upsilon}^5$, $\binom{100\omega1}{01111}$, $\binom{10\omega11}{011\omega\upsilon}$, $\binom{1011\upsilon}{01\omega00}$, $\binom{10\omega0\upsilon}{01\omega11}$, $\binom{10101}{010\upsilon\upsilon}^5$, $\binom{101\omega\upsilon}{010\upsilon1}$, $\binom{10\upsilon01}{01011}$, $\binom{100\omega0}{01\omega0\upsilon}$, $\binom{10\upsilon0\upsilon}{01\omega10}$, $\binom{10\omega\omega0}{01011}^5$, $\binom{10101}{011\omega\omega}$, $\binom{1011\omega}{011\upsilon\omega}$, $\binom{1001\omega}{01\omega\upsilon1}$, $\binom{10\omega\omega1}{01\omega\upsilon0}$, $\binom{10\omega00}{010\omega\omega}^5$, $\binom{10\omega\omega\omega}{010\omega0}$, $\binom{10\upsilon\omega\upsilon}{0101\upsilon}$, $\binom{1010\upsilon}{01\omega\upsilon\omega}$, $\binom{10\omega0\omega}{01\omega\omega\upsilon}$, $\binom{101\omega0}{0111\upsilon}^5$, $\binom{10\omega\omega\upsilon}{01\omega00}$, $\binom{10\omega1\upsilon}{01\omega\upsilon1}$, $\binom{10\upsilon\upsilon1}{01\omega\upsilon\upsilon}$, $\binom{10\omega\omega1}{01\upsilon11}$, $\binom{10\omega\upsilon0}{011\upsilon1}^5$, $\binom{10011}{01\omega0\omega}$, $\binom{101\upsilon\omega}{01\upsilon01}$, $\binom{101\omega\omega}{01\upsilon\upsilon\omega}$, $\binom{10\omega\upsilon1}{01\upsilon00}$, $\binom{10\upsilon\omega1}{011\omega1}^5$, $\binom{100\omega\upsilon}{01\omega\omega0}$, $\binom{10111}{01\omega1\upsilon}$, $\binom{101\upsilon\upsilon}{01\omega\omega1}$, $\binom{10\upsilon\omega0}{01\upsilon\upsilon\upsilon}$.

$n_4(5,2;6) \geq 90$, $\begin{bmatrix} 0\omega000 \\ \omega0000 \\ 000\upsilon0 \\ 00\upsilon00 \\ 00001 \end{bmatrix}$: $\binom{0100\omega}{00011}^6$, $\binom{01001}{0001\omega}$, $\binom{0100\upsilon}{0001\upsilon}$, $\binom{1000\omega}{00101}$, $\binom{10001}{0010\omega}$, $\binom{1000\upsilon}{0010\upsilon}$, $\binom{01011}{001\omega1}^6$, $\binom{010\omega\upsilon}{001\omega\omega}$, $\binom{010\upsilon\omega}{001\omega\upsilon}$, $\binom{10011}{001\upsilon1}$, $\binom{100\omega\upsilon}{001\upsilon\omega}$, $\binom{100\upsilon\omega}{001\upsilon\upsilon}$, $\binom{1100\upsilon}{001\omega1}^6$, $\binom{1100\omega}{001\omega\omega}$, $\binom{11001}{001\omega\upsilon}$, $\binom{1100\omega}{001\upsilon1}$, $\binom{11001}{001\upsilon\omega}$, $\binom{1100\upsilon}{001\upsilon\upsilon}$, $\binom{1\omega011}{00100}^6$, $\binom{1\omega0\omega\upsilon}{00100}$, $\binom{1\omega0\upsilon\omega}{00100}$, $\binom{1\upsilon10\omega}{00010}$, $\binom{1\upsilon\omega01}{00010}$, $\binom{1\upsilon\upsilon0\upsilon}{00010}$, $\binom{1\omega01\omega}{0010\upsilon}^6$, $\binom{1\omega0\omega1}{00101}$, $\binom{1\omega0\upsilon\upsilon}{0010\omega}$, $\binom{1\upsilon10\upsilon}{00011}$, $\binom{1\upsilon\omega0\omega}{0001\omega}$, $\binom{1\upsilon\upsilon01}{0001\upsilon}$, $\binom{100\omega1}{01010}^6$, $\binom{100\upsilon\upsilon}{010\omega0}$, $\binom{1001\omega}{010\upsilon0}$, $\binom{10\upsilon00}{0110\omega}$, $\binom{10100}{01\omega01}$, $\binom{10\omega00}{01\upsilon0\upsilon}$, $\binom{101\upsilon1}{010\upsilon\upsilon}^6$, $\binom{10\omega1\upsilon}{0101\omega}$, $\binom{10\upsilon\omega\omega}{010\omega1}$, $\binom{1010\omega}{011\omega\upsilon}$, $\binom{10\omega01}{01\omega\upsilon\omega}$, $\binom{10\upsilon0\upsilon}{01\upsilon11}$, $\binom{100\upsilon1}{0111\omega}^6$, $\binom{10\omega\omega1}{0110\upsilon}$, $\binom{1001\upsilon}{01\omega\omega1}$, $\binom{10\upsilon\upsilon\upsilon}{01\omega0\omega}$, $\binom{100\omega\omega}{01\upsilon\upsilon\upsilon}$, $\binom{1011\omega}{01\upsilon01}$, $\binom{100\omega\omega}{011\omega1}^6$, $\binom{101\upsilon\omega}{0110\upsilon}$, $\binom{100\upsilon1}{01\omega\upsilon\upsilon}$, $\binom{10\omega11}{01\omega0\omega}$, $\binom{1001\upsilon}{01\upsilon1\omega}$, $\binom{10\upsilon\omega\upsilon}{01\upsilon01}$, $\binom{100\upsilon0}{011\omega\omega}^6$, $\binom{10\upsilon\omega1}{01100}$, $\binom{10010}{01\omega\upsilon1}$, $\binom{101\upsilon\upsilon}{01\omega00}$, $\binom{100\omega0}{01\upsilon1\upsilon}$, $\binom{10\omega1\omega}{01\upsilon00}$, $\binom{10010}{011\upsilon\upsilon}^6$, $\binom{10\upsilon1\upsilon}{01100}$, $\binom{100\omega0}{01\omega1\omega}$, $\binom{101\omega\omega}{01\omega00}$, $\binom{100\upsilon0}{01\upsilon\omega1}$, $\binom{10\omega\upsilon1}{01\upsilon00}$, $\binom{10111}{011\omega\upsilon}^6$, $\binom{10\omega1\upsilon}{01111}$, $\binom{10\omega\omega\upsilon}{01\omega\upsilon\omega}$, $\binom{10\upsilon\omega\omega}{01\omega\omega\upsilon}$, $\binom{101\upsilon1}{01\upsilon\upsilon\omega}$, $\binom{10\upsilon\upsilon\omega}{01\upsilon11}$, $\binom{101\upsilon0}{011\omega0}^6$, $\binom{10\upsilon\omega0}{011\omega0}$, $\binom{101\upsilon0}{01\omega\upsilon0}$, $\binom{10\omega10}{01\omega\upsilon0}$, $\binom{10\omega10}{01\upsilon10}$, $\binom{10\upsilon\omega0}{01\upsilon10}$, $\binom{10\omega\omega0}{0111\omega}^6$, $\binom{10\upsilon\upsilon\upsilon}{01110}$, $\binom{1011\omega}{01\omega\omega0}$, $\binom{10\upsilon\upsilon0}{01\omega\omega1}$, $\binom{10110}{01\upsilon\upsilon\upsilon}$, $\binom{10\omega\omega1}{01\upsilon\upsilon0}$, $\binom{10\omega1\omega}{011\upsilon1}^6$, $\binom{10\upsilon11}{011\omega\omega}$, $\binom{101\omega\upsilon}{01\omega\upsilon1}$, $\binom{10\upsilon\omega1}{01\omega1\upsilon}$, $\binom{101\upsilon\upsilon}{01\upsilon\omega\omega}$, $\binom{10\omega\upsilon\omega}{01\upsilon1\upsilon}$.

$n_4(5,2;7) \geq 107$, $\begin{bmatrix} 00100 \\ 10000 \\ 01100 \\ 00010 \\ 00001 \end{bmatrix}$: $\binom{00010}{00001}^1$, $\binom{00010}{00001}^1$, $\binom{0100\omega}{00110}^7$, $\binom{10010}{0011\omega}$, $\binom{1101\omega}{0010\omega}$, $\binom{1001\omega}{01010}$, $\binom{10110}{0101\omega}$, $\binom{1000\omega}{01110}$, $\binom{1011\omega}{0110\omega}$, $\binom{010\omega0}{00110}^7$, $\binom{10010}{001\upsilon0}$, $\binom{110\upsilon0}{001\omega0}$, $\binom{100\upsilon0}{01010}$, $\binom{10110}{010\upsilon0}$, $\binom{100\omega0}{01110}$, $\binom{101\upsilon0}{011\omega0}$, $\binom{0101\upsilon}{001\omega\upsilon}^7$, $\binom{100\omega\upsilon}{001\upsilon0}$, $\binom{110\upsilon0}{0011\upsilon}$, $\binom{100\upsilon0}{010\omega\upsilon}$, $\binom{101\omega\upsilon}{010\upsilon0}$, $\binom{1001\upsilon}{011\omega\upsilon}$, $\binom{101\upsilon0}{0111\upsilon}$, $\binom{01000}{001\upsilon\upsilon}^7$, $\binom{100\upsilon\upsilon}{001\upsilon\upsilon}$, $\binom{110\upsilon\upsilon}{00100}$,

$\binom{100\upsilon\upsilon}{010\upsilon\upsilon}$, $\binom{101\upsilon\upsilon}{010\upsilon\upsilon}$, $\binom{10000}{011\upsilon\upsilon}$, $\binom{101\upsilon\upsilon}{01100}$, $\binom{010\upsilon1}{001\upsilon1}^7$, $\binom{100\upsilon1}{00100}$, $\binom{11000}{001\upsilon1}$, $\binom{10000}{010\upsilon1}$, $\binom{101\upsilon1}{01000}$, $\binom{100\upsilon1}{011\upsilon1}$, $\binom{10100}{011\upsilon1}$, $\binom{1\omega001}{0011\upsilon}^7$, $\binom{10\omega\upsilon0}{0101\upsilon}$, $\binom{10\upsilon0\upsilon}{0111\upsilon}$, $\binom{1001\upsilon}{01\omega\omega0}$, $\binom{1011\upsilon}{01\omega11}$, $\binom{10\omega\omega\omega}{01\omega\upsilon1}$, $\binom{10\omega1\omega}{01\upsilon01}$, $\binom{1\omega0\omega0}{00111}^7$, $\binom{10\omega0\upsilon}{01011}$, $\binom{10\upsilon10}{01111}$, $\binom{10011}{01\omega0\omega}$, $\binom{10111}{01\omega\omega1}$, $\binom{10\omega\upsilon\omega}{01\omega\omega\upsilon}$, $\binom{10\omega\upsilon1}{01\upsilon\omega0}$, $\binom{1\omega0\upsilon\omega}{00111}^7$, $\binom{10\omega\omega0}{01011}$, $\binom{10\upsilon\omega1}{01111}$, $\binom{10011}{01\omega10}$, $\binom{10111}{01\omega0\omega}$, $\binom{10\omega0\upsilon}{01\omega1\omega}$, $\binom{10\omega\omega\upsilon}{01\upsilon\upsilon\omega}$, $\binom{1\omega0\omega\upsilon}{001\upsilon\omega}^7$, $\binom{10\omega10}{010\upsilon\omega}$, $\binom{10\upsilon1\omega}{011\upsilon\omega}$, $\binom{100\upsilon\omega}{01\omega\upsilon0}$, $\binom{101\upsilon\omega}{01\omega0\upsilon}$, $\binom{10\omega01}{01\omega\upsilon\upsilon}$, $\binom{10\omega11}{01\upsilon\omega\upsilon}$, $\binom{1\omega0\omega\upsilon}{001\upsilon\omega}^7$, $\binom{10\omega10}{010\upsilon\omega}$, $\binom{10\upsilon1\omega}{011\upsilon\omega}$, $\binom{100\upsilon\omega}{01\omega\upsilon0}$, $\binom{101\upsilon\omega}{01\omega0\upsilon}$, $\binom{10\omega01}{01\omega\upsilon\upsilon}$, $\binom{10\omega11}{01\upsilon\omega\upsilon}$, $\binom{1\upsilon001}{00101}^7$, $\binom{10\upsilon01}{01001}$, $\binom{10\omega0\omega}{01101}$, $\binom{10\upsilon00}{01\omega01}$, $\binom{10001}{01\upsilon0\omega}$, $\binom{10101}{01\upsilon0\omega}$, $\binom{10\upsilon01}{01\upsilon00}$, $\binom{1\upsilon01\upsilon}{0010\upsilon}^7$, $\binom{10\upsilon\upsilon\upsilon}{0100\upsilon}$, $\binom{10\omega\omega1}{0110\upsilon}$, $\binom{10\upsilon10}{01\omega1\upsilon}$, $\binom{1000\upsilon}{01\upsilon11}$, $\binom{1010\upsilon}{01\upsilon\upsilon1}$, $\binom{10\upsilon\omega\upsilon}{01\upsilon\omega0}$, $\binom{1\upsilon0\upsilon\omega}{0011\omega}^7$, $\binom{10\upsilon0\omega}{0101\omega}$, $\binom{10\omega1\upsilon}{0111\omega}$, $\binom{10\upsilon\omega0}{01\omega\upsilon\omega}$, $\binom{1001\omega}{01\upsilon0\upsilon}$, $\binom{1011\omega}{01\upsilon\upsilon\upsilon}$, $\binom{10\upsilon\omega\omega}{01\upsilon\upsilon0}$, $\binom{1\upsilon001}{001\omega\omega}^7$, $\binom{10\upsilon\upsilon0}{010\omega\omega}$, $\binom{10\omega0\omega}{011\omega\omega}$, $\binom{10\upsilon\omega\upsilon}{01\omega01}$, $\binom{100\omega\omega}{01\upsilon10}$, $\binom{101\omega\omega}{01\upsilon\omega1}$, $\binom{10\upsilon1\upsilon}{01\upsilon\upsilon1}$, $\binom{1\upsilon01\upsilon}{001\omega1}^7$, $\binom{10\upsilon00}{010\omega1}$, $\binom{10\omega\omega1}{011\omega1}$, $\binom{10\upsilon\upsilon\omega}{01\omega1\upsilon}$, $\binom{100\omega1}{01\upsilon00}$, $\binom{101\omega1}{01\upsilon1\upsilon}$, $\binom{10\upsilon\upsilon\omega}{01\upsilon1\upsilon}$.

$n_4(5,2;9) \geq 141$, $\begin{bmatrix}00100\\10000\\01100\\00010\\00001\end{bmatrix}$: $\binom{00010}{00001}^1$, $\binom{010\omega\upsilon}{0010\omega}^7$, $\binom{1000\omega}{001\omega1}$, $\binom{110\omega1}{001\omega\upsilon}$, $\binom{100\omega1}{0100\omega}$, $\binom{1010\omega}{010\omega1}$, $\binom{100\omega\upsilon}{0110\omega}$, $\binom{101\omega1}{011\omega\upsilon}$, $\binom{010\upsilon1}{00101}^7$, $\binom{10001}{001\upsilon0}$, $\binom{110\upsilon0}{001\upsilon1}$, $\binom{100\upsilon0}{01001}$, $\binom{10101}{010\upsilon0}$, $\binom{100\upsilon1}{01101}$, $\binom{101\upsilon0}{011\upsilon1}$, $\binom{010\upsilon1}{0010\upsilon}^7$, $\binom{1000\upsilon}{001\upsilon\omega}$, $\binom{110\upsilon\omega}{001\upsilon1}$, $\binom{100\upsilon\omega}{0100\upsilon}$, $\binom{1010\upsilon}{010\upsilon\omega}$, $\binom{100\upsilon1}{0110\upsilon}$, $\binom{101\upsilon\omega}{011\upsilon1}$, $\binom{01000}{0011\upsilon}^7$, $\binom{1001\upsilon}{0011\upsilon}$, $\binom{1101\upsilon}{00100}$, $\binom{1001\upsilon}{0101\upsilon}$, $\binom{1011\upsilon}{0101\upsilon}$, $\binom{10000}{0111\upsilon}$, $\binom{1011\upsilon}{01100}$, $\binom{010\omega\upsilon}{00111}^7$, $\binom{10011}{001\upsilon\omega}$, $\binom{110\upsilon\omega}{001\omega\upsilon}$, $\binom{100\upsilon\omega}{01011}$, $\binom{10111}{010\upsilon\omega}$, $\binom{100\omega\upsilon}{01111}$, $\binom{101\upsilon\omega}{011\omega\upsilon}$, $\binom{010\omega\omega}{001\omega1}^7$, $\binom{100\omega1}{0010\upsilon}$, $\binom{1100\upsilon}{001\omega\omega}$, $\binom{1000\upsilon}{010\omega1}$, $\binom{101\omega1}{0100\upsilon}$, $\binom{100\omega\omega}{011\omega1}$, $\binom{1010\upsilon}{011\omega\omega}$, $\binom{1\omega00\upsilon}{0010\omega}^7$, $\binom{10\omega00}{0100\omega}$, $\binom{10\upsilon0\omega}{0110\omega}$, $\binom{1000\omega}{01\omega00}$, $\binom{1010\omega}{01\omega0\upsilon}$, $\binom{10\omega01}{01\omega0\upsilon}$, $\binom{10\omega01}{01\upsilon0\upsilon}$, $\binom{1\omega0\upsilon0}{0011\omega}^7$, $\binom{10\omega\omega1}{0101\omega}$, $\binom{10\upsilon\omega0}{0111\omega}$, $\binom{1001\omega}{01\omega1\upsilon}$, $\binom{1011\omega}{01\omega0\omega}$, $\binom{10\omega0\upsilon}{01\omega11}$, $\binom{10\omega\omega\omega}{01\upsilon\upsilon0}$, $\binom{1\omega00\omega}{001\omega0}^7$, $\binom{10\omega1\upsilon}{010\omega0}$, $\binom{10\upsilon01}{011\omega0}$, $\binom{100\omega0}{01\omega\upsilon\omega}$, $\binom{101\omega0}{01\omega\omega\upsilon}$, $\binom{10\omega\upsilon1}{01\omega11}$, $\binom{10\omega\omega\omega}{01\upsilon0\omega}$, $\binom{1\omega0\omega0}{001\omega\omega}^7$, $\binom{10\omega\omega1}{010\omega\omega}$, $\binom{10\upsilon10}{011\omega\omega}$, $\binom{100\omega\omega}{01\omega1\upsilon}$, $\binom{101\omega\omega}{01\omega1\omega}$, $\binom{10\omega\omega\upsilon}{01\omega01}$, $\binom{10\omega0\omega}{01\upsilon\omega0}$, $\binom{1\omega00\omega}{001\upsilon0}^7$, $\binom{10\omega\omega\upsilon}{010\upsilon0}$, $\binom{10\upsilon01}{011\upsilon0}$, $\binom{100\upsilon0}{01\omega1\omega}$, $\binom{101\upsilon0}{01\omega\upsilon\upsilon}$, $\binom{10\omega11}{01\omega\omega1}$, $\binom{10\omega\upsilon\omega}{01\upsilon0\omega}$, $\binom{1\omega0\omega\upsilon}{001\upsilon\upsilon}^7$, $\binom{10\omega1\upsilon}{010\upsilon\upsilon}$, $\binom{10\upsilon1\omega}{011\upsilon\upsilon}$, $\binom{100\upsilon\upsilon}{01\omega\upsilon\omega}$, $\binom{101\upsilon\upsilon}{01\omega0\omega}$, $\binom{10\omega0\upsilon}{01\omega\upsilon0}$, $\binom{10\omega10}{01\upsilon\omega\upsilon}$, $\binom{1\upsilon010}{00100}^7$, $\binom{10\upsilon\upsilon0}{01000}$, $\binom{10\omega\omega0}{01100}$, $\binom{10\upsilon10}{01\omega10}$, $\binom{10000}{01\upsilon10}$, $\binom{10100}{01\upsilon\upsilon0}$, $\binom{10\upsilon\omega0}{01\upsilon\omega0}$, $\binom{1\upsilon0\omega0}{00101}^7$, $\binom{10\upsilon1\omega}{01001}$, $\binom{10\omega\upsilon0}{01101}$, $\binom{10\upsilon\omega1}{01\omega\omega0}$, $\binom{10001}{01\upsilon\omega\upsilon}$, $\binom{10101}{01\upsilon11}$, $\binom{10\upsilon\upsilon\upsilon}{01\upsilon\upsilon\omega}$, $\binom{1\upsilon000}{00111}^7$, $\binom{10\upsilon\omega\omega}{01011}$, $\binom{10\omega00}{01111}$, $\binom{10\upsilon11}{01\omega00}$, $\binom{10011}{01\upsilon\upsilon\upsilon}$, $\binom{10111}{01\upsilon11}$, $\binom{10\upsilon\upsilon\upsilon}{01\upsilon\omega\omega}$, $\binom{1\upsilon0\omega\omega}{00110}^7$, $\binom{10\upsilon\upsilon1}{01010}$, $\binom{10\omega\upsilon\upsilon}{01110}$, $\binom{10\upsilon\upsilon\omega}{01\omega\omega\omega}$, $\binom{10010}{01\upsilon1\omega}$, $\binom{10110}{01\upsilon01}$, $\binom{10\upsilon0\upsilon}{01\upsilon1\upsilon}$, $\binom{1\upsilon0\omega\omega}{00110}^7$, $\binom{10\upsilon\upsilon1}{01010}$, $\binom{10\omega\upsilon\upsilon}{01110}$, $\binom{10\upsilon\upsilon\omega}{01\omega\omega\omega}$, $\binom{10010}{01\upsilon1\omega}$, $\binom{10110}{01\upsilon01}$, $\binom{10\upsilon0\upsilon}{01\upsilon1\upsilon}$, $\binom{1\upsilon0\upsilon1}{0011\omega}^7$, $\binom{10\upsilon00}{0101\omega}$, $\binom{10\omega1\omega}{0111\omega}$, $\binom{10\upsilon\omega\upsilon}{01\omega\upsilon1}$, $\binom{1001\omega}{01\upsilon00}$, $\binom{1011\omega}{01\upsilon\upsilon1}$, $\binom{10\upsilon\omega\upsilon}{01\upsilon\upsilon1}$, $\binom{1\upsilon0\upsilon1}{001\omega0}^7$, $\binom{10\upsilon1\upsilon}{010\omega0}$, $\binom{10\omega1\omega}{011\omega0}$, $\binom{10\upsilon11}{01\omega\upsilon1}$, $\binom{100\omega0}{01\upsilon\omega1}$, $\binom{101\omega0}{01\upsilon0\upsilon}$, $\binom{10\upsilon0\omega}{01\upsilon\omega\omega}$, $\binom{1\upsilon0\omega\upsilon}{001\upsilon\upsilon}^7$, $\binom{10\upsilon0\upsilon}{010\upsilon\upsilon}$, $\binom{10\omega\upsilon1}{011\upsilon\upsilon}$, $\binom{10\upsilon10}{01\omega\omega\upsilon}$, $\binom{100\upsilon\upsilon}{01\upsilon01}$, $\binom{101\upsilon\upsilon}{01\upsilon\omega1}$, $\binom{10\upsilon1\upsilon}{01\upsilon\omega0}$.

$n_4(5,2;10) \geq 156$, $\begin{bmatrix}0\omega000\\\omega0000\\000\upsilon0\\00\upsilon00\\00001\end{bmatrix}$, $x \to x^2$: $\binom{001\omega0}{00001}^2$, $\binom{001\upsilon0}{00001}$, $\binom{01000}{00010}^2$, $\binom{10000}{00100}$, $\binom{01000}{00010}^2$, $\binom{10000}{00100}$, $\binom{0101\omega}{00101}^{12}$, $\binom{0101\upsilon}{00101}$, $\binom{010\omega1}{0010\omega}$, $\binom{010\omega\omega}{0010\omega}$, $\binom{010\upsilon1}{0010\upsilon}$, $\binom{010\upsilon\upsilon}{0010\upsilon}$, $\binom{1010\omega}{00011}$, $\binom{1010\upsilon}{00011}$, $\binom{10\omega01}{0001\omega}$, $\binom{10\omega0\omega}{0001\omega}$, $\binom{10\upsilon01}{0001\upsilon}$, $\binom{10\upsilon0\upsilon}{0001\upsilon}$, $\binom{1\omega01\upsilon}{0011\omega}^6$, $\binom{1\omega0\omega\omega}{0011\upsilon}$, $\binom{1\omega0\upsilon1}{00111}$, $\binom{1\upsilon01\omega}{0011\upsilon}$, $\binom{1\upsilon0\omega1}{00111}$, $\binom{1\upsilon0\upsilon\upsilon}{0011\omega}$, $\binom{1\omega01\omega}{001\omega\omega}^6$, $\binom{1\omega0\omega1}{001\omega\upsilon}$, $\binom{1\omega0\upsilon\upsilon}{001\omega1}$, $\binom{1\upsilon01\upsilon}{001\upsilon\upsilon}$, $\binom{1\upsilon0\omega\omega}{001\upsilon1}$, $\binom{1\upsilon0\upsilon1}{001\upsilon\omega}$, $\binom{100\omega0}{0101\omega}^{12}$, $\binom{100\upsilon0}{0101\upsilon}$, $\binom{10010}{010\omega\omega}$, $\binom{100\upsilon0}{010\omega1}$, $\binom{10010}{010\upsilon\upsilon}$, $\binom{100\omega0}{010\upsilon1}$, $\binom{10\omega0\omega}{01100}$, $\binom{10\upsilon0\upsilon}{01100}$, $\binom{1010\omega}{01\omega00}$, $\binom{10\upsilon01}{01\omega00}$, $\binom{1010\upsilon}{01\upsilon00}$, $\binom{10\omega01}{01\upsilon00}$, $\binom{101\omega0}{01001}^{12}$, $\binom{101\upsilon0}{01001}$, $\binom{10\omega10}{0100\upsilon}$, $\binom{10\omega\upsilon0}{0100\upsilon}$, $\binom{10\upsilon10}{0100\omega}$, $\binom{10\upsilon\omega0}{0100\omega}$, $\binom{1000\upsilon}{011\omega0}$, $\binom{1000\omega}{011\upsilon0}$, $\binom{10001}{01\omega10}$, $\binom{1000\omega}{01\omega\upsilon0}$, $\binom{10001}{01\upsilon10}$, $\binom{1000\upsilon}{01\upsilon\omega0}$, $\binom{10111}{01011}^6$, $\binom{10\omega\omega\upsilon}{010\omega\upsilon}$, $\binom{10\upsilon\upsilon\omega}{010\upsilon\omega}$, $\binom{10101}{01111}$, $\binom{10\omega0\upsilon}{01\omega\omega\upsilon}$, $\binom{10\upsilon0\omega}{01\upsilon\upsilon\omega}$, $\binom{10111}{01011}^6$, $\binom{10\omega\omega\upsilon}{010\omega\upsilon}$, $\binom{10\upsilon\upsilon\omega}{010\upsilon\omega}$, $\binom{10101}{01111}$, $\binom{10\omega0\upsilon}{01\omega\omega\upsilon}$, $\binom{10\upsilon0\omega}{01\upsilon\upsilon\omega}$, $\binom{101\omega0}{010\omega\omega}^{12}$, $\binom{101\upsilon0}{010\upsilon\upsilon}$, $\binom{10\omega10}{0101\omega}$, $\binom{10\omega\upsilon0}{010\upsilon1}$, $\binom{10\upsilon10}{0101\upsilon}$, $\binom{10\upsilon\omega0}{010\omega1}$, $\binom{1010\omega}{011\omega0}$, $\binom{1010\upsilon}{011\upsilon0}$, $\binom{10\omega0\omega}{01\omega10}$, $\binom{10\omega01}{01\omega\upsilon0}$, $\binom{10\upsilon0\upsilon}{01\upsilon10}$, $\binom{10\upsilon01}{01\upsilon\omega0}$, $\binom{1001\upsilon}{0110\omega}^6$, $\binom{1001\omega}{0110\upsilon}$, $\binom{100\omega\omega}{01\omega01}$, $\binom{100\omega1}{01\omega0\omega}$, $\binom{100\upsilon\upsilon}{01\upsilon01}$, $\binom{100\upsilon1}{01\upsilon0\upsilon}$, $\binom{100\omega\omega}{0110\omega}^6$, $\binom{100\upsilon\upsilon}{0110\upsilon}$, $\binom{1001\omega}{01\omega0\omega}$, $\binom{100\upsilon1}{01\omega01}$, $\binom{1001\upsilon}{01\upsilon0\upsilon}$, $\binom{100\omega1}{01\upsilon01}$, $\binom{1001\upsilon}{011\omega\omega}^{12}$, $\binom{1001\omega}{011\upsilon\upsilon}$, $\binom{10\omega1\omega}{0110\upsilon}$, $\binom{10\upsilon1\upsilon}{0110\omega}$, $\binom{100\omega1}{01\omega1\omega}$, $\binom{100\omega\omega}{01\omega\upsilon1}$, $\binom{101\omega\omega}{01\omega01}$, $\binom{10\upsilon\omega1}{01\omega0\omega}$, $\binom{100\upsilon1}{01\upsilon1\upsilon}$, $\binom{100\upsilon\upsilon}{01\upsilon\omega1}$, $\binom{101\upsilon\upsilon}{01\upsilon01}$, $\binom{10\omega\upsilon1}{01\upsilon0\upsilon}$, $\binom{100\upsilon\omega}{011\omega1}^{12}$, $\binom{100\omega\upsilon}{011\upsilon1}$, $\binom{10\omega\upsilon\omega}{01101}$, $\binom{10\upsilon\omega\upsilon}{01101}$, $\binom{100\upsilon\omega}{01\omega1\upsilon}$, $\binom{10011}{01\omega\upsilon\upsilon}$, $\binom{101\upsilon\omega}{01\omega0\upsilon}$, $\binom{10\upsilon11}{01\omega0\upsilon}$, $\binom{100\omega\upsilon}{01\upsilon1\omega}$, $\binom{10011}{01\upsilon\omega\omega}$, $\binom{101\omega\upsilon}{01\upsilon0\omega}$, $\binom{10\omega11}{01\upsilon0\omega}$, $\binom{101\omega\upsilon}{011\omega1}^6$, $\binom{101\upsilon\omega}{011\upsilon1}$, $\binom{10\omega11}{01\omega1\upsilon}$, $\binom{10\omega\upsilon\omega}{01\omega\upsilon\upsilon}$, $\binom{10\upsilon11}{01\upsilon1\omega}$, $\binom{10\upsilon\omega\upsilon}{01\upsilon\omega\omega}$, $\binom{101\upsilon1}{011\omega\upsilon}^{12}$, $\binom{101\omega1}{011\upsilon\omega}$, $\binom{10\omega\upsilon\upsilon}{011\upsilon\omega}$, $\binom{10\upsilon\omega\omega}{011\omega\upsilon}$, $\binom{101\upsilon1}{01\omega\upsilon\omega}$, $\binom{10\omega\upsilon\upsilon}{01\omega11}$, $\binom{10\omega1\upsilon}{01\omega\upsilon\omega}$, $\binom{10\upsilon1\omega}{01\omega11}$, $\binom{101\omega1}{01\upsilon\omega\upsilon}$, $\binom{10\omega1\upsilon}{01\upsilon11}$, $\binom{10\upsilon\omega\omega}{01\upsilon11}$, $\binom{10\upsilon1\omega}{01\upsilon\omega\upsilon}$, $\binom{10\omega\upsilon1}{01110}^{12}$, $\binom{10\omega\omega0}{011\upsilon\upsilon}$, $\binom{10\upsilon\omega1}{01110}$, $\binom{10\upsilon\upsilon0}{011\omega\omega}$, $\binom{101\upsilon\upsilon}{01\omega\omega0}$, $\binom{10110}{01\omega\upsilon1}$, $\binom{10\upsilon\upsilon0}{01\omega1\omega}$, $\binom{10\upsilon1\upsilon}{01\omega\omega0}$, $\binom{10110}{01\upsilon\omega1}$, $\binom{101\omega\omega}{01\upsilon\upsilon0}$, $\binom{10\omega\omega0}{01\upsilon1\upsilon}$, $\binom{10\omega1\omega}{01\upsilon\upsilon0}$, $\binom{10\omega\upsilon\omega}{0111\omega}^{12}$, $\binom{10\omega\omega1}{011\upsilon1}$, $\binom{10\upsilon\omega\upsilon}{0111\upsilon}$, $\binom{10\upsilon\upsilon1}{011\omega1}$, $\binom{101\upsilon\omega}{01\omega\omega\omega}$, $\binom{1011\upsilon}{01\omega\upsilon\upsilon}$, $\binom{10\upsilon\upsilon\upsilon}{01\omega1\upsilon}$, $\binom{10\upsilon11}{01\omega\omega1}$, $\binom{1011\omega}{01\upsilon\omega\omega}$, $\binom{101\omega\upsilon}{01\upsilon\upsilon\upsilon}$, $\binom{10\omega\omega\omega}{01\upsilon1\omega}$, $\binom{10\omega11}{01\upsilon\upsilon1}$.

$n_4(5,2;11) \ge 175$, $\begin{bmatrix}00100\\10000\\01100\\00010\\00001\end{bmatrix}$: $\binom{0101\omega}{00101}^7, \binom{10001}{0011\upsilon}, \binom{1101\upsilon}{0011\omega}, \binom{1001\upsilon}{01001}, \binom{10101}{0101\upsilon}, \binom{1001\omega}{01101},$
$\binom{1011\upsilon}{0111\omega}, \binom{010\omega0}{0010\omega}^7, \binom{1000\omega}{001\omega\omega}, \binom{110\omega\omega}{001\omega0}, \binom{100\omega\omega}{0100\omega}, \binom{1010\omega}{010\omega\omega}, \binom{100\omega0}{0110\omega}, \binom{101\omega\omega}{011\omega0}, \binom{010\omega\upsilon}{0010\upsilon}^7, \binom{1000\upsilon}{001\omega0},$
$\binom{110\omega0}{001\omega\upsilon}, \binom{100\omega0}{0100\upsilon}, \binom{1010\upsilon}{010\omega0}, \binom{100\omega\upsilon}{0110\upsilon}, \binom{101\omega0}{011\omega\upsilon}, \binom{010\upsilon0}{0010\omega}^7, \binom{1000\omega}{001\upsilon\omega}, \binom{110\upsilon\omega}{001\upsilon0}, \binom{100\upsilon\omega}{0100\omega}, \binom{1010\omega}{010\upsilon\omega},$
$\binom{100\upsilon0}{0110\omega}, \binom{101\upsilon\omega}{011\upsilon0}, \binom{01001}{00110}^7, \binom{10010}{00111}, \binom{11011}{00101}, \binom{10011}{01010}, \binom{10110}{01011}, \binom{10001}{01110}, \binom{10111}{01101}, \binom{01010}{00111}^7,$
$\binom{10011}{00101}, \binom{11001}{00110}, \binom{10001}{01011}, \binom{10111}{01001}, \binom{10010}{01111}, \binom{10101}{01110}, \binom{010\omega\omega}{0011\omega}^7, \binom{1001\omega}{001\upsilon0}, \binom{110\upsilon0}{001\omega\omega}, \binom{100\upsilon0}{0101\omega},$
$\binom{1011\omega}{010\upsilon0}, \binom{100\omega\omega}{0111\omega}, \binom{101\upsilon0}{011\omega\omega}, \binom{010\upsilon1}{0011\omega}^7, \binom{1001\omega}{001\omega\upsilon}, \binom{110\omega\upsilon}{001\upsilon1}, \binom{100\omega\upsilon}{0101\omega}, \binom{1011\omega}{010\omega\upsilon}, \binom{100\upsilon1}{0111\omega}, \binom{101\omega\upsilon}{011\upsilon1},$
$\binom{0100\upsilon}{001\omega\upsilon}^7, \binom{100\omega\upsilon}{001\omega0}, \binom{110\omega0}{0010\upsilon}, \binom{100\omega0}{010\omega\upsilon}, \binom{101\omega\upsilon}{010\omega0}, \binom{1000\upsilon}{011\omega\upsilon}, \binom{101\omega0}{0110\upsilon}, \binom{0100\upsilon}{001\upsilon1}^7, \binom{100\upsilon1}{001\upsilon\omega}, \binom{110\upsilon\omega}{0010\upsilon},$
$\binom{100\upsilon\omega}{010\upsilon1}, \binom{101\upsilon1}{010\upsilon\omega}, \binom{1000\upsilon}{011\upsilon1}, \binom{101\upsilon\omega}{0110\upsilon}, \binom{0101\upsilon}{001\upsilon\omega}^7, \binom{100\upsilon\omega}{001\omega1}, \binom{110\omega1}{0011\upsilon}, \binom{100\omega1}{010\upsilon\omega}, \binom{101\upsilon\omega}{010\omega1}, \binom{1001\upsilon}{011\upsilon\omega},$
$\binom{101\omega1}{0111\upsilon}, \binom{1\omega00\omega}{00100}^7, \binom{10\omega0\upsilon}{01000}, \binom{10\upsilon01}{01100}, \binom{10000}{01\omega0\omega}, \binom{10100}{01\omega0\upsilon}, \binom{10\omega01}{01\omega01}, \binom{10\omega0\omega}{01\upsilon0\omega}, \binom{1\omega0\upsilon\upsilon}{00100}^7, \binom{10\omega11}{01000},$
$\binom{10\upsilon\omega\omega}{01100}, \binom{10000}{01\omega\upsilon\upsilon}, \binom{10100}{01\omega11}, \binom{10\omega\omega\omega}{01\omega\omega\omega}, \binom{10\omega\upsilon\upsilon}{01\upsilon\upsilon\upsilon}, \binom{1\omega01\upsilon}{00110}^7, \binom{10\omega11}{01010}, \binom{10\upsilon\upsilon\omega}{01110}, \binom{10010}{01\omega\upsilon\upsilon}, \binom{10110}{01\omega\upsilon1},$
$\binom{10\omega1\omega}{01\omega0\omega}, \binom{10\omega0\upsilon}{01\upsilon1\upsilon}, \binom{1\omega0\omega\omega}{0011\upsilon}^7, \binom{10\omega01}{0101\upsilon}, \binom{10\upsilon11}{0111\upsilon}, \binom{1001\upsilon}{01\omega0\upsilon}, \binom{1011\upsilon}{01\omega\omega0}, \binom{10\omega\upsilon0}{01\omega\omega\upsilon}, \binom{10\omega\upsilon1}{01\upsilon\omega\omega}, \binom{1\omega0\upsilon0}{00111}^7,$
$\binom{10\omega\omega\upsilon}{01011}, \binom{10\upsilon\omega0}{01111}, \binom{10011}{01\omega1\omega}, \binom{10111}{01\omega01}, \binom{10\omega0\omega}{01\omega1\upsilon}, \binom{10\omega\omega1}{01\upsilon\upsilon0}, \binom{1\omega00\upsilon}{001\omega\omega}^7, \binom{10\omega10}{010\omega\omega}, \binom{10\upsilon0\omega}{011\omega\omega}, \binom{100\omega\omega}{01\omega\upsilon0},$
$\binom{101\omega\omega}{01\omega\omega\upsilon}, \binom{10\omega\upsilon1}{01\omega1\upsilon}, \binom{10\omega\omega1}{01\upsilon0\upsilon}, \binom{1\omega001}{001\upsilon\upsilon}^7, \binom{10\omega\omega0}{010\upsilon\upsilon}, \binom{10\upsilon0\upsilon}{011\upsilon\upsilon}, \binom{100\upsilon\upsilon}{01\omega10}, \binom{101\upsilon\upsilon}{01\omega\upsilon1}, \binom{10\omega1\omega}{01\omega\omega1}, \binom{10\omega\upsilon\omega}{01\upsilon01},$
$\binom{1\omega001}{001\upsilon\upsilon}^7, \binom{10\omega\omega0}{010\upsilon\upsilon}, \binom{10\upsilon0\upsilon}{011\upsilon\upsilon}, \binom{100\upsilon\upsilon}{01\omega10}, \binom{101\upsilon\upsilon}{01\omega\upsilon1}, \binom{10\omega1\omega}{01\omega\omega1}, \binom{10\omega\upsilon\omega}{01\upsilon01}, \binom{1\omega00\upsilon}{001\upsilon\upsilon}^7, \binom{10\omega\omega\upsilon}{010\upsilon\upsilon}, \binom{10\upsilon0\omega}{011\upsilon\upsilon},$
$\binom{100\upsilon\upsilon}{01\omega1\omega}, \binom{101\upsilon\upsilon}{01\omega\upsilon\omega}, \binom{10\omega1\upsilon}{01\omega\omega0}, \binom{10\omega\upsilon0}{01\upsilon0\upsilon}, \binom{1\omega0\omega0}{001\upsilon0}^7, \binom{10\omega10}{010\upsilon0}, \binom{10\upsilon10}{011\upsilon0}, \binom{100\upsilon0}{01\omega\upsilon0}, \binom{101\upsilon0}{01\omega00}, \binom{10\omega00}{01\omega\upsilon0},$
$\binom{10\omega10}{01\upsilon\omega0}, \binom{1\omega0\upsilon\omega}{001\upsilon1}^7, \binom{10\omega\upsilon0}{010\upsilon1}, \binom{10\upsilon\omega1}{011\upsilon1}, \binom{100\upsilon1}{01\omega\omega0}, \binom{101\upsilon1}{01\omega\omega\omega}, \binom{10\omega\upsilon\upsilon}{01\omega0\omega}, \binom{10\omega0\upsilon}{01\upsilon\upsilon\omega}, \binom{1\upsilon01\upsilon}{0010\omega}^7, \binom{10\upsilon\upsilon1}{0100\omega},$
$\binom{10\omega\omega1}{0110\omega}, \binom{10\upsilon11}{01\omega1\upsilon}, \binom{1000\omega}{01\upsilon1\omega}, \binom{1010\omega}{01\upsilon\upsilon0}, \binom{10\upsilon\omega0}{01\upsilon\omega\omega}, \binom{1\upsilon00\upsilon}{001\omega1}^7, \binom{10\upsilon\upsilon0}{010\omega1}, \binom{10\omega01}{011\omega1}, \binom{10\upsilon\omega\omega}{01\omega0\upsilon}, \binom{100\omega1}{01\upsilon10},$
$\binom{101\omega1}{01\upsilon\omega\upsilon}, \binom{10\upsilon1\omega}{01\upsilon\upsilon\upsilon}, \binom{1\upsilon011}{001\omega1}^7, \binom{10\upsilon01}{010\omega1}, \binom{10\omega\omega\omega}{011\omega1}, \binom{10\upsilon\upsilon0}{01\omega11}, \binom{100\omega1}{01\upsilon0\omega}, \binom{101\omega1}{01\upsilon1\omega}, \binom{10\upsilon\upsilon1}{01\upsilon10}.$

$n_4(5,2;14) \ge 222$, $\begin{bmatrix}0\omega000\\\omega0000\\000\upsilon0\\00\upsilon00\\00001\end{bmatrix}$, $\begin{bmatrix}00100\\00010\\10000\\01000\\00001\end{bmatrix}$, $x \to x^2$: $\binom{00010}{00001}^4, \binom{00100}{00001}, \binom{01000}{00001}, \binom{10000}{00001},$
$\binom{01000}{00010}^2, \binom{10000}{00100}, \binom{01001}{00011}^6, \binom{0100\upsilon}{0001\omega}, \binom{0100\omega}{0001\upsilon}, \binom{10001}{00101}, \binom{1000\upsilon}{0010\omega}, \binom{1000\omega}{0010\upsilon}, \binom{01001}{00111}^{12}, \binom{0100\upsilon}{0011\omega},$
$\binom{0100\omega}{0011\upsilon}, \binom{10001}{00111}, \binom{1000\upsilon}{0011\omega}, \binom{1000\omega}{0011\upsilon}, \binom{11001}{00011}, \binom{1100\upsilon}{0001\omega}, \binom{1100\omega}{0001\upsilon}, \binom{11001}{00101}, \binom{1100\upsilon}{0010\omega}, \binom{1100\omega}{0010\upsilon},$
$\binom{11001}{00110}^6, \binom{1100\omega}{00110}, \binom{1100\upsilon}{00110}, \binom{11000}{00111}, \binom{11000}{0011\omega}, \binom{11000}{0011\upsilon}, \binom{1\omega000}{001\omega0}^2, \binom{1\upsilon000}{001\upsilon0}, \binom{1\omega000}{001\omega0}^2, \binom{1\upsilon000}{001\upsilon0},$
$\binom{1\omega000}{001\omega0}^2, \binom{1\upsilon000}{001\upsilon0}, \binom{1\omega00\omega}{001\omega1}^6, \binom{1\omega001}{001\omega\omega}, \binom{1\omega00\upsilon}{001\omega\upsilon}, \binom{1\upsilon00\upsilon}{001\upsilon1}, \binom{1\upsilon00\omega}{001\upsilon\omega}, \binom{1\upsilon001}{001\upsilon\upsilon}, \binom{1\omega010}{001\omega\omega}^{24}, \binom{1\omega011}{001\omega\omega},$
$\binom{1\omega0\omega0}{001\omega\upsilon}, \binom{1\omega0\omega\upsilon}{001\omega\upsilon}, \binom{1\omega0\upsilon0}{001\omega1}, \binom{1\omega0\upsilon\omega}{001\omega1}, \binom{1\upsilon010}{001\upsilon\upsilon}, \binom{1\upsilon011}{001\upsilon\upsilon}, \binom{1\upsilon0\omega0}{001\upsilon1}, \binom{1\upsilon0\omega\upsilon}{001\upsilon1}, \binom{1\upsilon0\upsilon0}{001\upsilon\omega}, \binom{1\upsilon0\upsilon\omega}{001\upsilon\omega},$
$\binom{10\omega\upsilon\omega}{011\omega0}, \binom{10\omega\upsilon0}{011\omega1}, \binom{10\upsilon\omega\upsilon}{011\upsilon0}, \binom{10\upsilon\omega0}{011\upsilon1}, \binom{101\upsilon\omega}{01\omega10}, \binom{101\upsilon0}{01\omega1\upsilon}, \binom{10\upsilon11}{01\omega\upsilon0}, \binom{10\upsilon10}{01\omega\upsilon\upsilon}, \binom{101\omega\upsilon}{01\upsilon10}, \binom{101\omega0}{01\upsilon1\omega},$
$\binom{10\omega11}{01\upsilon\omega0}, \binom{10\omega10}{01\upsilon\omega\omega}, \binom{1010\omega}{01010}^{12}, \binom{1010\upsilon}{01010}, \binom{10100}{0101\omega}, \binom{10100}{0101\upsilon}, \binom{10\omega01}{010\omega0}, \binom{10\omega0\omega}{010\omega0}, \binom{10\omega00}{010\omega1}, \binom{10\omega00}{010\omega\omega},$
$\binom{10\upsilon01}{010\upsilon0}, \binom{10\upsilon0\upsilon}{010\upsilon0}, \binom{10\upsilon00}{010\upsilon1}, \binom{10\upsilon00}{010\upsilon\upsilon}, \binom{1010\upsilon}{010\omega1}^{12}, \binom{1010\omega}{010\omega\omega}, \binom{1010\omega}{010\upsilon1}, \binom{1010\upsilon}{010\upsilon\upsilon}, \binom{10\omega0\omega}{0101\omega}, \binom{10\omega01}{0101\upsilon},$
$\binom{10\omega01}{010\upsilon1}, \binom{10\omega0\omega}{010\upsilon\upsilon}, \binom{10\upsilon01}{0101\omega}, \binom{10\upsilon0\upsilon}{0101\upsilon}, \binom{10\upsilon01}{010\omega1}, \binom{10\upsilon0\upsilon}{010\omega\omega}, \binom{10010}{01100}^3, \binom{100\omega0}{01\omega00}, \binom{100\upsilon0}{01\upsilon00}, \binom{10010}{01100}^3,$
$\binom{100\omega0}{01\omega00}, \binom{100\upsilon0}{01\upsilon00}, \binom{1001\upsilon}{0110\omega}^6, \binom{1001\omega}{0110\upsilon}, \binom{100\omega\omega}{01\omega01}, \binom{100\omega1}{01\omega0\omega}, \binom{100\upsilon\upsilon}{01\upsilon01}, \binom{100\upsilon1}{01\upsilon0\upsilon}, \binom{10011}{011\omega0}^{24}, \binom{10011}{011\omega\omega},$
$\binom{10011}{011\upsilon0}, \binom{10011}{011\upsilon\upsilon}, \binom{10\omega10}{01101}, \binom{10\omega1\omega}{01101}, \binom{10\upsilon10}{01101}, \binom{10\upsilon1\upsilon}{01101}, \binom{100\omega\upsilon}{01\omega10}, \binom{100\omega\upsilon}{01\omega1\omega}, \binom{100\omega\upsilon}{01\omega\upsilon0}, \binom{100\omega\upsilon}{01\omega\upsilon1},$
$\binom{101\omega0}{01\omega0\upsilon}, \binom{101\omega\omega}{01\omega0\upsilon}, \binom{10\upsilon\omega0}{01\omega0\upsilon}, \binom{10\upsilon\omega1}{01\omega0\upsilon}, \binom{100\upsilon\omega}{01\upsilon10}, \binom{100\upsilon\omega}{01\upsilon1\upsilon}, \binom{100\upsilon\omega}{01\upsilon\omega0}, \binom{100\upsilon\omega}{01\upsilon\omega1}, \binom{101\upsilon0}{01\upsilon0\omega}, \binom{101\upsilon\upsilon}{01\upsilon0\omega},$
$\binom{10\omega\upsilon0}{01\upsilon0\omega}, \binom{10\omega\upsilon1}{01\upsilon0\omega}, \binom{1001\upsilon}{011\omega\omega}^{24}, \binom{1001\upsilon}{011\omega\upsilon}, \binom{1001\omega}{011\upsilon\omega}, \binom{1001\omega}{011\upsilon\upsilon}, \binom{10\omega1\omega}{0110\upsilon}, \binom{10\omega1\upsilon}{0110\upsilon}, \binom{10\upsilon1\omega}{0110\omega}, \binom{10\upsilon1\upsilon}{0110\omega},$
$\binom{100\omega1}{01\omega11}, \binom{100\omega1}{01\omega1\omega}, \binom{100\omega\omega}{01\omega\upsilon1}, \binom{100\omega\omega}{01\omega\upsilon\omega}, \binom{101\omega1}{01\omega01}, \binom{101\omega\omega}{01\omega01}, \binom{10\upsilon\omega1}{01\omega0\omega}, \binom{10\upsilon\omega\omega}{01\omega0\omega}, \binom{100\upsilon1}{01\upsilon11}, \binom{100\upsilon1}{01\upsilon1\upsilon},$
$\binom{100\upsilon\upsilon}{01\upsilon\omega1}, \binom{100\upsilon\upsilon}{01\upsilon\omega\upsilon}, \binom{101\upsilon1}{01\upsilon01}, \binom{101\upsilon\upsilon}{01\upsilon01}, \binom{10\omega\upsilon1}{01\upsilon0\upsilon}, \binom{10\omega\upsilon\upsilon}{01\upsilon0\upsilon}, \binom{101\omega0}{01111}^{24}, \binom{101\omega1}{0111\upsilon}, \binom{101\upsilon0}{01111}, \binom{101\upsilon1}{0111\omega},$
$\binom{10\omega\omega\upsilon}{011\omega0}, \binom{10\omega\omega1}{011\omega\upsilon}, \binom{10\upsilon\upsilon\omega}{011\upsilon0}, \binom{10\upsilon\upsilon1}{011\upsilon\omega}, \binom{10111}{01\omega10}, \binom{1011\upsilon}{01\omega11}, \binom{10\omega1\upsilon}{01\omega\omega1}, \binom{10\omega10}{01\omega\omega\upsilon}, \binom{10\omega\upsilon\upsilon}{01\omega\omega\omega}, \binom{10\omega\upsilon0}{01\omega\omega\upsilon},$
$\binom{10\upsilon\upsilon\omega}{01\omega\upsilon0}, \binom{10\upsilon\upsilon\upsilon}{01\omega\upsilon\omega}, \binom{10111}{01\upsilon10}, \binom{1011\omega}{01\upsilon11}, \binom{10\omega\omega\upsilon}{01\upsilon\omega0}, \binom{10\omega\omega\omega}{01\upsilon\omega\upsilon}, \binom{10\upsilon1\omega}{01\upsilon\upsilon1}, \binom{10\upsilon10}{01\upsilon\upsilon\omega}, \binom{10\upsilon\omega0}{01\upsilon\upsilon\omega}, \binom{10\upsilon\omega\omega}{01\upsilon\upsilon\upsilon},$
$\binom{1011\omega}{011\omega\omega}^{24}, \binom{10110}{011\omega\upsilon}, \binom{10110}{011\upsilon\omega}, \binom{1011\upsilon}{011\upsilon\upsilon}, \binom{10\omega1\upsilon}{01110}, \binom{10\omega1\omega}{0111\omega}, \binom{10\upsilon1\omega}{01110}, \binom{10\upsilon1\upsilon}{0111\upsilon}, \binom{101\omega1}{01\omega\omega0}, \binom{101\omega\omega}{01\omega\omega\omega},$
$\binom{10\omega\omega0}{01\omega11}, \binom{10\omega\omega\omega}{01\omega1\omega}, \binom{10\omega\omega1}{01\omega\upsilon1}, \binom{10\omega\omega0}{01\omega\upsilon\omega}, \binom{10\upsilon\omega\omega}{01\omega\omega0}, \binom{10\upsilon\omega1}{01\omega\omega1}, \binom{101\upsilon1}{01\upsilon\upsilon0}, \binom{101\upsilon\upsilon}{01\upsilon\upsilon\upsilon}, \binom{10\omega\upsilon\upsilon}{01\upsilon\upsilon0}, \binom{10\omega\upsilon1}{01\upsilon\upsilon1},$
$\binom{10\upsilon\upsilon0}{01\upsilon11}, \binom{10\upsilon\upsilon\upsilon}{01\upsilon1\upsilon}, \binom{10\upsilon\upsilon1}{01\upsilon\omega1}, \binom{10\upsilon\upsilon0}{01\upsilon\omega\upsilon}, \binom{101\upsilon\omega}{011\omega1}^{24}, \binom{101\omega\upsilon}{011\upsilon1}, \binom{10\omega\upsilon0}{0111\upsilon}, \binom{10\omega\omega\omega}{011\upsilon0}, \binom{10\omega\upsilon\omega}{011\upsilon1}, \binom{10\upsilon\omega0}{0111\omega},$
$\binom{10\upsilon\omega\upsilon}{011\omega1}, \binom{10\upsilon\upsilon\upsilon}{011\omega0}, \binom{101\upsilon0}{01\omega\omega1}, \binom{1011\omega}{01\omega\upsilon0}, \binom{101\upsilon\omega}{01\omega\upsilon\upsilon}, \binom{10\omega\upsilon\omega}{01\omega1\upsilon}, \binom{10\omega11}{01\omega\upsilon\upsilon}, \binom{10\upsilon11}{01\omega1\upsilon}, \binom{10\upsilon\upsilon1}{01\omega10}, \binom{10\upsilon10}{01\omega\omega\omega},$
$\binom{1011\upsilon}{01\upsilon\omega0}, \binom{101\omega\upsilon}{01\upsilon\omega\omega}, \binom{101\omega0}{01\upsilon\upsilon1}, \binom{10\omega11}{01\upsilon1\omega}, \binom{10\omega\omega1}{01\upsilon10}, \binom{10\omega10}{01\upsilon\upsilon\upsilon}, \binom{10\upsilon\omega\upsilon}{01\upsilon1\omega}, \binom{10\upsilon11}{01\upsilon\omega\omega}.$

$n_4(5,2;18) \geq 290$, $\begin{bmatrix} 0\omega000 \\ \omega0000 \\ 000\upsilon0 \\ 00\upsilon00 \\ 00001 \end{bmatrix}$, $\begin{bmatrix} 00100 \\ 00010 \\ 10000 \\ 01000 \\ 00001 \end{bmatrix}$: $\binom{001\omega0}{00001}^4$, $\binom{001\upsilon0}{00001}$, $\binom{1\omega000}{00001}$, $\binom{1\upsilon000}{00001}$, $\binom{00101}{00010}^{12}$,
$\binom{0010\omega}{00010}$, $\binom{0010\upsilon}{00010}$, $\binom{00100}{00011}$, $\binom{00100}{0001\omega}$, $\binom{00100}{0001\upsilon}$, $\binom{10001}{01000}$, $\binom{1000\omega}{01000}$, $\binom{1000\upsilon}{01000}$, $\binom{10000}{01001}$, $\binom{10000}{0100\omega}$,
$\binom{10000}{0100\upsilon}$, $\binom{0100\upsilon}{00101}^6$, $\binom{0100\omega}{0010\omega}$, $\binom{01001}{0010\upsilon}$, $\binom{1000\upsilon}{00011}$, $\binom{1000\omega}{0001\omega}$, $\binom{10001}{0001\upsilon}$, $\binom{0101\omega}{0010\omega}^{12}$, $\binom{010\omega1}{0010\upsilon}$, $\binom{010\upsilon\upsilon}{00101}$,
$\binom{1010\omega}{0001\omega}$, $\binom{10\omega01}{0001\upsilon}$, $\binom{10\upsilon0\upsilon}{00011}$, $\binom{1000\omega}{0101\omega}$, $\binom{10001}{010\omega1}$, $\binom{1000\upsilon}{010\upsilon\upsilon}$, $\binom{1010\omega}{0100\omega}$, $\binom{10\omega01}{01001}$, $\binom{10\upsilon0\upsilon}{0100\upsilon}$, $\binom{0101\omega}{0010\omega}^{12}$,
$\binom{010\omega1}{0010\upsilon}$, $\binom{010\upsilon\upsilon}{00101}$, $\binom{1010\omega}{0001\omega}$, $\binom{10\omega01}{0001\upsilon}$, $\binom{10\upsilon0\upsilon}{00011}$, $\binom{1000\omega}{0101\omega}$, $\binom{10001}{010\omega1}$, $\binom{1000\upsilon}{010\upsilon\upsilon}$, $\binom{1010\omega}{0100\omega}$, $\binom{10\omega01}{01001}$,
$\binom{10\upsilon0\upsilon}{0100\upsilon}$, $\binom{01000}{00110}^4$, $\binom{10000}{00110}$, $\binom{11000}{00010}$, $\binom{11000}{00100}$, $\binom{1\omega011}{0011\upsilon}^{12}$, $\binom{1\omega0\omega\upsilon}{00111}$, $\binom{1\omega0\upsilon\omega}{0011\omega}$, $\binom{1\upsilon01\upsilon}{00111}$, $\binom{1\upsilon0\omega\omega}{0011\omega}$,
$\binom{1\upsilon0\upsilon1}{0011\upsilon}$, $\binom{101\omega\omega}{011\omega1}$, $\binom{101\upsilon\omega}{011\upsilon\upsilon}$, $\binom{10\omega11}{01\omega1\omega}$, $\binom{10\omega\upsilon1}{01\omega\upsilon\upsilon}$, $\binom{10\upsilon1\upsilon}{01\upsilon1\omega}$, $\binom{10\upsilon\omega\upsilon}{01\upsilon\omega1}$, $\binom{1\omega01\omega}{001\omega\upsilon}^{12}$, $\binom{1\omega0\omega1}{001\omega1}$, $\binom{1\omega0\upsilon\upsilon}{001\omega\omega}$,
$\binom{1\upsilon010}{001\upsilon1}$, $\binom{1\upsilon0\omega0}{001\upsilon\omega}$, $\binom{1\upsilon0\upsilon0}{001\upsilon\upsilon}$, $\binom{10\omega\upsilon0}{011\omega\omega}$, $\binom{10\upsilon\omega1}{011\upsilon0}$, $\binom{101\upsilon\upsilon}{01\omega10}$, $\binom{10\upsilon10}{01\omega\upsilon1}$, $\binom{101\omega0}{01\upsilon1\upsilon}$, $\binom{10\omega1\omega}{01\upsilon\omega0}$, $\binom{1\omega000}{001\upsilon0}^2$,
$\binom{1\upsilon000}{001\omega0}$, $\binom{1\omega000}{001\upsilon0}^2$, $\binom{1\upsilon000}{001\omega0}$, $\binom{1\omega000}{001\upsilon0}^2$, $\binom{1\upsilon000}{001\omega0}$, $\binom{1010\upsilon}{01011}^6$, $\binom{10101}{0101\upsilon}$, $\binom{10\omega0\upsilon}{010\omega\omega}$, $\binom{10\omega0\omega}{010\omega\upsilon}$, $\binom{10\upsilon0\omega}{010\upsilon1}$,
$\binom{10\upsilon01}{010\upsilon\omega}$, $\binom{1010\upsilon}{0101\omega}^6$, $\binom{1010\omega}{0101\upsilon}$, $\binom{10\omega0\omega}{010\omega1}$, $\binom{10\omega01}{010\omega\omega}$, $\binom{10\upsilon0\upsilon}{010\upsilon1}$, $\binom{10\upsilon01}{010\upsilon\upsilon}$, $\binom{101\omega\omega}{0101\upsilon}^{12}$, $\binom{101\omega\upsilon}{0101\upsilon}$, $\binom{10\omega\upsilon1}{010\omega\omega}$,
$\binom{10\omega\upsilon\omega}{010\omega\omega}$, $\binom{10\upsilon11}{010\upsilon1}$, $\binom{10\upsilon1\upsilon}{010\upsilon1}$, $\binom{10\upsilon01}{011\upsilon1}$, $\binom{10\upsilon01}{011\upsilon\upsilon}$, $\binom{1010\upsilon}{01\omega1\omega}$, $\binom{1010\upsilon}{01\omega1\upsilon}$, $\binom{10\omega0\omega}{01\upsilon\omega1}$, $\binom{10\omega0\omega}{01\upsilon\omega\omega}$, $\binom{101\upsilon1}{01011}^{12}$,
$\binom{101\upsilon\omega}{01011}$, $\binom{10\omega11}{010\omega\upsilon}$, $\binom{10\omega1\upsilon}{010\omega\upsilon}$, $\binom{10\upsilon\omega\omega}{010\upsilon\omega}$, $\binom{10\upsilon\omega\upsilon}{010\upsilon\omega}$, $\binom{10\omega0\upsilon}{011\omega1}$, $\binom{10\omega0\upsilon}{011\omega\upsilon}$, $\binom{10\upsilon0\omega}{01\omega\upsilon\omega}$, $\binom{10\upsilon0\omega}{01\omega\upsilon\upsilon}$, $\binom{10101}{01\upsilon11}$,
$\binom{10101}{01\upsilon1\omega}$, $\binom{1011\upsilon}{010\omega0}^{12}$, $\binom{101\upsilon\upsilon}{010\upsilon0}$, $\binom{10\omega1\omega}{01010}$, $\binom{10\omega\omega\omega}{010\upsilon0}$, $\binom{10\upsilon\upsilon1}{01010}$, $\binom{10\upsilon\omega1}{010\omega0}$, $\binom{10100}{011\omega\omega}$, $\binom{10\omega00}{0111\upsilon}$, $\binom{10\omega00}{01\omega\upsilon1}$,
$\binom{10\upsilon00}{01\omega\omega\omega}$, $\binom{10100}{01\upsilon\upsilon1}$, $\binom{10\upsilon00}{01\upsilon1\upsilon}$, $\binom{1011\upsilon}{010\omega\upsilon}^{12}$, $\binom{101\upsilon1}{010\upsilon\omega}$, $\binom{10\omega1\upsilon}{01011}$, $\binom{10\omega\omega\omega}{010\upsilon\omega}$, $\binom{10\upsilon\upsilon1}{01011}$, $\binom{10\upsilon\omega\omega}{010\omega\upsilon}$, $\binom{10101}{011\omega\upsilon}$,
$\binom{10\omega0\upsilon}{0111\upsilon}$, $\binom{10\omega0\upsilon}{01\omega\upsilon\omega}$, $\binom{10\upsilon0\omega}{01\omega\omega\omega}$, $\binom{10101}{01\upsilon\upsilon1}$, $\binom{10\upsilon0\omega}{01\upsilon11}$, $\binom{101\omega1}{010\omega0}^{12}$, $\binom{10111}{010\upsilon0}$, $\binom{10\omega\omega\upsilon}{01010}$, $\binom{10\omega\upsilon\upsilon}{010\upsilon0}$, $\binom{10\upsilon1\omega}{01010}$,
$\binom{10\upsilon\upsilon\omega}{010\omega0}$, $\binom{10100}{011\upsilon\omega}$, $\binom{10\upsilon00}{01111}$, $\binom{10100}{01\omega\omega\upsilon}$, $\binom{10\omega00}{01\omega11}$, $\binom{10\omega00}{01\upsilon\upsilon\omega}$, $\binom{10\upsilon00}{01\upsilon\omega\upsilon}$, $\binom{10011}{01100}^6$, $\binom{10010}{01101}$, $\binom{100\omega\upsilon}{01\omega00}$,
$\binom{100\omega0}{01\omega0\upsilon}$, $\binom{100\upsilon\omega}{01\upsilon00}$, $\binom{100\upsilon0}{01\upsilon0\omega}$, $\binom{1001\omega}{01100}^6$, $\binom{10010}{0110\omega}$, $\binom{100\omega1}{01\omega00}$, $\binom{100\omega0}{01\omega01}$, $\binom{100\upsilon\upsilon}{01\upsilon00}$, $\binom{100\upsilon0}{01\upsilon0\upsilon}$, $\binom{1001\upsilon}{0110\upsilon}^3$,
$\binom{100\omega\omega}{01\omega0\omega}$, $\binom{100\upsilon1}{01\upsilon01}$, $\binom{1001\upsilon}{0110\upsilon}^3$, $\binom{100\omega\omega}{01\omega0\omega}$, $\binom{100\upsilon1}{01\upsilon01}$, $\binom{100\upsilon1}{01111}^{12}$, $\binom{100\omega\omega}{011\omega\upsilon}$, $\binom{101\upsilon1}{0110\upsilon}$, $\binom{10\omega\omega\upsilon}{0110\upsilon}$, $\binom{1001\upsilon}{01\omega\omega\upsilon}$,
$\binom{100\upsilon1}{01\omega\upsilon\omega}$, $\binom{10\omega1\upsilon}{01\omega0\omega}$, $\binom{10\upsilon\upsilon\omega}{01\omega0\omega}$, $\binom{1001\upsilon}{01\upsilon11}$, $\binom{100\omega\omega}{01\upsilon\upsilon\omega}$, $\binom{10111}{01\upsilon01}$, $\binom{10\upsilon\omega\omega}{01\upsilon01}$, $\binom{10010}{011\omega1}^6$, $\binom{10\omega11}{01100}$, $\binom{100\omega0}{01\omega\upsilon\upsilon}$,
$\binom{10\upsilon\omega\upsilon}{01\omega00}$, $\binom{100\upsilon0}{01\upsilon1\omega}$, $\binom{101\upsilon\omega}{01\upsilon00}$, $\binom{100\upsilon\upsilon}{011\omega0}^{12}$, $\binom{100\omega1}{011\upsilon\omega}$, $\binom{10\omega\upsilon\upsilon}{0110\omega}$, $\binom{10\upsilon\omega0}{0110\omega}$, $\binom{100\upsilon\upsilon}{01\omega11}$, $\binom{1001\omega}{01\omega\upsilon0}$, $\binom{101\upsilon0}{01\omega01}$,
$\binom{10\upsilon1\omega}{01\omega01}$, $\binom{100\omega1}{01\upsilon10}$, $\binom{1001\omega}{01\upsilon\omega\upsilon}$, $\binom{101\omega1}{01\upsilon0\upsilon}$, $\binom{10\omega10}{01\upsilon0\upsilon}$, $\binom{10011}{011\upsilon0}^{12}$, $\binom{10011}{011\upsilon\upsilon}$, $\binom{10\upsilon10}{01101}$, $\binom{10\upsilon1\upsilon}{01101}$, $\binom{100\omega\upsilon}{01\omega10}$,
$\binom{100\omega\upsilon}{01\omega1\omega}$, $\binom{101\omega0}{01\omega0\upsilon}$, $\binom{101\omega\omega}{01\omega0\upsilon}$, $\binom{100\upsilon\omega}{01\upsilon\omega0}$, $\binom{100\upsilon\omega}{01\upsilon\omega1}$, $\binom{10\omega\upsilon0}{01\upsilon0\omega}$, $\binom{10\omega\upsilon1}{01\upsilon0\omega}$, $\binom{10011}{011\upsilon0}^{12}$, $\binom{10011}{011\upsilon\upsilon}$, $\binom{10\upsilon10}{01101}$,
$\binom{10\upsilon1\upsilon}{01101}$, $\binom{100\omega\upsilon}{01\omega10}$, $\binom{100\omega\upsilon}{01\omega1\omega}$, $\binom{101\omega0}{01\omega0\upsilon}$, $\binom{101\omega\omega}{01\omega0\upsilon}$, $\binom{100\upsilon\omega}{01\upsilon\omega0}$, $\binom{100\upsilon\omega}{01\upsilon\omega1}$, $\binom{10\omega\upsilon0}{01\upsilon0\omega}$, $\binom{10\omega\upsilon1}{01\upsilon0\omega}$, $\binom{101\omega\upsilon}{0111\omega}^{12}$,
$\binom{101\omega0}{0111\upsilon}$, $\binom{10\upsilon\upsilon1}{011\upsilon0}$, $\binom{10\upsilon\upsilon\upsilon}{011\upsilon1}$, $\binom{1011\upsilon}{01\omega10}$, $\binom{1011\omega}{01\omega1\upsilon}$, $\binom{10\omega\upsilon\omega}{01\omega\omega1}$, $\binom{10\omega\upsilon0}{01\omega\omega\omega}$, $\binom{10\omega\omega\omega}{01\upsilon\omega0}$, $\binom{10\omega\omega1}{01\upsilon\omega\omega}$, $\binom{10\upsilon10}{01\upsilon\upsilon1}$,
$\binom{10\upsilon11}{01\upsilon\upsilon\upsilon}$, $\binom{101\upsilon0}{01111}^{12}$, $\binom{101\upsilon1}{0111\omega}$, $\binom{10\omega\omega\upsilon}{011\omega0}$, $\binom{10\omega\omega1}{011\omega\upsilon}$, $\binom{10\omega1\upsilon}{01\omega\omega1}$, $\binom{10\omega10}{01\omega\omega\upsilon}$, $\binom{10\upsilon\upsilon\omega}{01\omega\upsilon0}$, $\binom{10\upsilon\upsilon\upsilon}{01\omega\upsilon\omega}$, $\binom{10111}{01\upsilon10}$,
$\binom{1011\omega}{01\upsilon11}$, $\binom{10\upsilon\omega0}{01\upsilon\upsilon\omega}$, $\binom{10\upsilon\omega\omega}{01\upsilon\upsilon\upsilon}$, $\binom{10111}{011\omega1}^{12}$, $\binom{10110}{011\omega\omega}$, $\binom{10\omega1\omega}{01110}$, $\binom{10\omega11}{01111}$, $\binom{10\omega\omega0}{01\omega\upsilon1}$, $\binom{10\omega\omega\upsilon}{01\omega\upsilon\upsilon}$, $\binom{10\upsilon\omega1}{01\omega\omega0}$,
$\binom{10\upsilon\omega\upsilon}{01\omega\omega\upsilon}$, $\binom{101\upsilon\upsilon}{01\upsilon\upsilon0}$, $\binom{101\upsilon\omega}{01\upsilon\upsilon\omega}$, $\binom{10\upsilon\upsilon\omega}{01\upsilon1\omega}$, $\binom{10\upsilon\upsilon0}{01\upsilon1\upsilon}$, $\binom{101\upsilon0}{011\omega\upsilon}^{12}$, $\binom{10\omega\upsilon\omega}{0111\upsilon}$, $\binom{10\omega\omega\omega}{011\upsilon1}$, $\binom{10\upsilon\omega\omega}{011\omega0}$, $\binom{101\upsilon1}{01\omega\upsilon0}$,
$\binom{10\omega10}{01\omega\upsilon\omega}$, $\binom{10\upsilon\upsilon1}{01\omega1\upsilon}$, $\binom{10\upsilon11}{01\omega\omega\omega}$, $\binom{1011\upsilon}{01\upsilon\omega\omega}$, $\binom{101\omega\upsilon}{01\upsilon\upsilon1}$, $\binom{10\omega1\upsilon}{01\upsilon10}$, $\binom{10\upsilon\omega0}{01\upsilon11}$, $\binom{1011\omega}{011\upsilon\upsilon}^6$, $\binom{10\upsilon1\upsilon}{0111\omega}$, $\binom{101\omega\omega}{01\omega\omega1}$,
$\binom{10\omega\omega1}{01\omega1\omega}$, $\binom{10\omega\upsilon1}{01\upsilon\upsilon\upsilon}$, $\binom{10\upsilon\upsilon\upsilon}{01\upsilon\omega1}$, $\binom{101\omega\upsilon}{011\upsilon1}^{12}$, $\binom{10\omega\upsilon\omega}{011\upsilon1}$, $\binom{10\upsilon\omega0}{0111\omega}$, $\binom{10\upsilon\upsilon\upsilon}{011\omega0}$, $\binom{101\upsilon0}{01\omega\omega1}$, $\binom{1011\omega}{01\omega\upsilon0}$, $\binom{10\omega\upsilon\omega}{01\omega1\upsilon}$,
$\binom{10\upsilon11}{01\omega1\upsilon}$, $\binom{101\omega\upsilon}{01\upsilon\omega\omega}$, $\binom{10\omega\omega1}{01\upsilon10}$, $\binom{10\omega10}{01\upsilon\upsilon\upsilon}$, $\binom{10\upsilon11}{01\upsilon\omega\omega}$.

$n_4(5,2;19) \geq 307$, $\begin{bmatrix} 0\omega000 \\ \omega0000 \\ 000\upsilon0 \\ 00\upsilon00 \\ 00001 \end{bmatrix}$, $x \to x^2$: $\binom{00100}{00010}^1$, $\binom{00100}{00010}^1$, $\binom{00100}{00010}^1$, $\binom{01000}{00001}^2$, $\binom{10000}{00001}$,
$\binom{01000}{00011}^6$, $\binom{01000}{0001\omega}$, $\binom{01000}{0001\upsilon}$, $\binom{10000}{00101}$, $\binom{10000}{0010\omega}$, $\binom{10000}{0010\upsilon}$, $\binom{0100\omega}{00101}^{12}$, $\binom{0100\upsilon}{00101}$, $\binom{01001}{0010\omega}$, $\binom{0100\omega}{0010\omega}$,
$\binom{01001}{0010\upsilon}$, $\binom{0100\upsilon}{0010\upsilon}$, $\binom{1000\omega}{00011}$, $\binom{1000\upsilon}{00011}$, $\binom{10001}{0001\omega}$, $\binom{1000\omega}{0001\omega}$, $\binom{10001}{0001\upsilon}$, $\binom{1000\upsilon}{0001\upsilon}$, $\binom{0101\upsilon}{001\omega1}^{12}$, $\binom{010\omega\omega}{001\omega\omega}$,
$\binom{010\upsilon1}{001\omega\upsilon}$, $\binom{0101\omega}{001\upsilon1}$, $\binom{010\omega1}{001\upsilon\omega}$, $\binom{010\upsilon\upsilon}{001\upsilon\upsilon}$, $\binom{10010}{001\omega1}$, $\binom{100\omega0}{001\omega\omega}$, $\binom{100\upsilon0}{001\omega\upsilon}$, $\binom{10010}{001\upsilon1}$, $\binom{100\omega0}{001\upsilon\omega}$, $\binom{100\upsilon0}{001\upsilon\upsilon}$,
$\binom{11000}{00001}^1$, $\binom{11000}{00111}^3$, $\binom{11000}{0011\omega}$, $\binom{11000}{0011\upsilon}$, $\binom{11010}{00111}^6$, $\binom{11011}{00111}$, $\binom{110\omega0}{0011\omega}$, $\binom{110\omega\upsilon}{0011\omega}$, $\binom{110\upsilon0}{0011\upsilon}$, $\binom{110\upsilon\omega}{0011\upsilon}$,
$\binom{1100\upsilon}{001\omega1}^6$, $\binom{1100\omega}{001\omega\omega}$, $\binom{11001}{001\omega\upsilon}$, $\binom{1100\omega}{001\upsilon1}$, $\binom{11001}{001\upsilon\omega}$, $\binom{1100\upsilon}{001\upsilon\upsilon}$, $\binom{10000}{01000}^1$, $\binom{10011}{01001}^6$, $\binom{100\omega\upsilon}{0100\upsilon}$, $\binom{100\upsilon\omega}{0100\omega}$,
$\binom{10001}{01101}$, $\binom{1000\upsilon}{01\omega0\upsilon}$, $\binom{1000\omega}{01\upsilon0\omega}$, $\binom{10011}{01001}^6$, $\binom{100\omega\upsilon}{0100\upsilon}$, $\binom{100\upsilon\omega}{0100\omega}$, $\binom{10001}{01101}$, $\binom{1000\upsilon}{01\omega0\upsilon}$, $\binom{1000\omega}{01\upsilon0\omega}$, $\binom{10100}{01010}^3$,
$\binom{10\omega00}{010\omega0}$, $\binom{10\upsilon00}{010\upsilon0}$, $\binom{10100}{01010}^3$, $\binom{10\omega00}{010\omega0}$, $\binom{10\upsilon00}{010\upsilon0}$, $\binom{10100}{01010}^3$, $\binom{10\omega00}{010\omega0}$, $\binom{10\upsilon00}{010\upsilon0}$, $\binom{101\omega1}{01011}^{12}$, $\binom{101\upsilon1}{01011}$,
$\binom{10\omega1\upsilon}{010\omega\upsilon}$, $\binom{10\omega\upsilon\upsilon}{010\omega\upsilon}$, $\binom{10\upsilon1\omega}{010\upsilon\omega}$, $\binom{10\upsilon\omega\omega}{010\upsilon\omega}$, $\binom{10\omega0\upsilon}{011\omega\upsilon}$, $\binom{10\upsilon0\omega}{011\upsilon\omega}$, $\binom{10101}{01\omega11}$, $\binom{10\upsilon0\omega}{01\omega\upsilon\omega}$, $\binom{10101}{01\upsilon11}$, $\binom{10\omega0\upsilon}{01\upsilon\omega\upsilon}$,
$\binom{101\omega\upsilon}{0101\omega}^{12}$, $\binom{101\upsilon\omega}{0101\upsilon}$, $\binom{10\omega11}{010\omega\omega}$, $\binom{10\omega\upsilon\omega}{010\omega1}$, $\binom{10\upsilon11}{010\upsilon\upsilon}$, $\binom{10\upsilon\omega\upsilon}{010\upsilon1}$, $\binom{10\omega0\omega}{011\omega1}$, $\binom{10\upsilon0\upsilon}{011\upsilon1}$, $\binom{1010\omega}{01\omega1\upsilon}$, $\binom{10\upsilon01}{01\omega\upsilon\upsilon}$,
$\binom{1010\upsilon}{01\upsilon1\omega}$, $\binom{10\omega01}{01\upsilon\omega\omega}$, $\binom{1010\omega}{010\omega\omega}^6$, $\binom{1010\upsilon}{010\upsilon\upsilon}$, $\binom{10\omega0\omega}{0101\omega}$, $\binom{10\omega01}{010\upsilon1}$, $\binom{10\upsilon0\upsilon}{0101\upsilon}$, $\binom{10\upsilon01}{010\omega1}$, $\binom{1011\upsilon}{010\omega1}^{12}$, $\binom{1011\omega}{010\upsilon1}$,
$\binom{10\omega\omega1}{0101\upsilon}$, $\binom{10\omega\omega\omega}{010\upsilon\upsilon}$, $\binom{10\upsilon\upsilon1}{0101\omega}$, $\binom{10\upsilon\upsilon\upsilon}{010\omega\omega}$, $\binom{10\omega01}{0111\upsilon}$, $\binom{10\upsilon01}{0111\omega}$, $\binom{1010\upsilon}{01\omega\omega1}$, $\binom{10\upsilon0\upsilon}{01\omega\omega\omega}$, $\binom{1010\omega}{01\upsilon\upsilon1}$, $\binom{10\omega0\omega}{01\upsilon\upsilon\upsilon}$,

$\binom{101\omega\upsilon}{010\omega0}^{12}, \binom{101\upsilon\omega}{010\upsilon0}, \binom{10\omega11}{01010}, \binom{10\omega\upsilon\omega}{010\upsilon0}, \binom{10\upsilon11}{01010}, \binom{10\upsilon\omega\upsilon}{010\omega0}, \binom{10100}{011\omega1}, \binom{10100}{011\upsilon1}, \binom{10\omega00}{01\omega1\upsilon}, \binom{10\omega00}{01\omega\upsilon\upsilon},$
$\binom{10\upsilon00}{01\upsilon1\omega}, \binom{10\upsilon00}{01\upsilon\omega\omega}, \binom{101\upsilon1}{010\omega\upsilon}^{12}, \binom{101\omega1}{010\upsilon\omega}, \binom{10\omega\upsilon\upsilon}{01011}, \binom{10\omega1\upsilon}{010\upsilon\omega}, \binom{10\upsilon\omega\omega}{01011}, \binom{10\upsilon1\omega}{010\omega\upsilon}, \binom{10\omega0\upsilon}{011\upsilon\omega}, \binom{10\upsilon0\omega}{011\omega\upsilon},$
$\binom{10101}{01\omega\upsilon\omega}, \binom{10\upsilon0\omega}{01\omega11}, \binom{10101}{01\upsilon\omega\upsilon}, \binom{10\omega0\upsilon}{01\upsilon11}, \binom{10011}{01100}^{6}, \binom{10010}{01101}, \binom{100\omega\upsilon}{01\omega00}, \binom{100\omega0}{01\omega0\upsilon}, \binom{100\upsilon\omega}{01\upsilon00}, \binom{100\upsilon0}{01\upsilon0\omega},$
$\binom{1001\upsilon}{0110\omega}^{6}, \binom{1001\omega}{0110\upsilon}, \binom{100\omega\omega}{01\omega01}, \binom{100\omega1}{01\omega0\omega}, \binom{100\upsilon\upsilon}{01\upsilon01}, \binom{100\upsilon1}{01\upsilon0\upsilon}, \binom{100\omega\omega}{01101}^{12}, \binom{100\omega\upsilon}{0110\omega}, \binom{100\upsilon\upsilon}{01101}, \binom{100\upsilon\omega}{0110\upsilon},$
$\binom{10011}{01\omega0\omega}, \binom{1001\omega}{01\omega0\upsilon}, \binom{100\upsilon\omega}{01\omega01}, \binom{100\upsilon1}{01\omega0\upsilon}, \binom{1001\upsilon}{01\upsilon0\omega}, \binom{10011}{01\upsilon0\upsilon}, \binom{100\omega\upsilon}{01\upsilon01}, \binom{100\omega1}{01\upsilon0\omega}, \binom{100\omega1}{011\omega0}^{12}, \binom{100\upsilon1}{011\upsilon0},$
$\binom{101\omega0}{0110\upsilon}, \binom{101\upsilon0}{0110\omega}, \binom{1001\upsilon}{01\omega10}, \binom{100\upsilon\upsilon}{01\omega\upsilon0}, \binom{10\omega10}{01\omega01}, \binom{10\omega\upsilon0}{01\omega0\omega}, \binom{1001\omega}{01\upsilon10}, \binom{100\omega\omega}{01\upsilon\omega0}, \binom{10\upsilon10}{01\upsilon01}, \binom{10\upsilon\omega0}{01\upsilon0\upsilon},$
$\binom{10111}{01110}^{6}, \binom{10110}{01111}, \binom{10\omega\omega\upsilon}{01\omega\omega0}, \binom{10\omega\omega0}{01\omega\omega\upsilon}, \binom{10\upsilon\upsilon\omega}{01\upsilon\upsilon0}, \binom{10\upsilon\upsilon0}{01\upsilon\upsilon\omega}, \binom{101\omega\upsilon}{01110}^{12}, \binom{101\upsilon\omega}{01110}, \binom{10\omega\omega0}{011\omega1}, \binom{10\upsilon\upsilon0}{011\upsilon1},$
$\binom{10110}{01\omega1\upsilon}, \binom{10\omega11}{01\omega\omega0}, \binom{10\omega\upsilon\omega}{01\omega\omega0}, \binom{10\upsilon\upsilon0}{01\omega\upsilon\upsilon}, \binom{10110}{01\upsilon1\omega}, \binom{10\omega\omega0}{01\upsilon\omega\omega}, \binom{10\upsilon11}{01\upsilon\upsilon0}, \binom{10\upsilon\omega\upsilon}{01\upsilon\upsilon0}, \binom{101\omega\upsilon}{0111\upsilon}^{12}, \binom{101\upsilon\omega}{0111\omega},$
$\binom{10\omega\omega1}{011\omega1}, \binom{10\upsilon\upsilon1}{011\upsilon1}, \binom{1011\upsilon}{01\omega1\upsilon}, \binom{10\omega11}{01\omega\omega1}, \binom{10\omega\upsilon\omega}{01\omega\omega\omega}, \binom{10\upsilon\upsilon\upsilon}{01\omega\upsilon\upsilon}, \binom{1011\omega}{01\upsilon1\omega}, \binom{10\omega\omega\omega}{01\upsilon\omega\omega}, \binom{10\upsilon11}{01\upsilon\upsilon1}, \binom{10\upsilon\omega\upsilon}{01\upsilon\upsilon\upsilon},$
$\binom{1011\omega}{011\omega1}^{12}, \binom{1011\upsilon}{011\upsilon1}, \binom{10\omega11}{0111\omega}, \binom{10\upsilon11}{0111\upsilon}, \binom{101\omega\upsilon}{01\omega\omega\omega}, \binom{10\omega\omega\omega}{01\omega1\upsilon}, \binom{10\omega\omega1}{01\omega\upsilon\upsilon}, \binom{10\upsilon\omega\upsilon}{01\omega\omega1}, \binom{101\upsilon\omega}{01\upsilon\upsilon\upsilon}, \binom{10\omega\upsilon\omega}{01\upsilon\upsilon1},$
$\binom{10\upsilon\upsilon\upsilon}{01\upsilon1\omega}, \binom{10\upsilon\upsilon1}{01\upsilon\omega\omega}, \binom{10110}{011\omega\omega}^{12}, \binom{10110}{011\upsilon\upsilon}, \binom{10\omega1\omega}{01110}, \binom{10\upsilon1\upsilon}{01110}, \binom{101\omega\omega}{01\omega\omega0}, \binom{10\omega\omega0}{01\omega1\omega}, \binom{10\omega\omega0}{01\omega\upsilon1}, \binom{10\upsilon\omega1}{01\omega\omega0},$
$\binom{101\upsilon\upsilon}{01\upsilon\upsilon0}, \binom{10\omega\upsilon1}{01\upsilon\upsilon0}, \binom{10\upsilon\upsilon0}{01\upsilon1\upsilon}, \binom{10\upsilon\upsilon0}{01\upsilon\omega1}, \binom{10111}{011\omega\omega}^{12}, \binom{10111}{011\upsilon\upsilon}, \binom{10\omega1\omega}{01111}, \binom{10\upsilon1\upsilon}{01111}, \binom{101\omega\omega}{01\omega\omega\upsilon}, \binom{10\omega\omega\upsilon}{01\omega1\omega},$
$\binom{10\omega\omega\upsilon}{01\omega\upsilon1}, \binom{10\upsilon\omega1}{01\omega\omega\upsilon}, \binom{101\upsilon\upsilon}{01\upsilon\upsilon\omega}, \binom{10\omega\upsilon1}{01\upsilon\upsilon\omega}, \binom{10\upsilon\upsilon\omega}{01\upsilon1\upsilon}, \binom{10\upsilon\upsilon\omega}{01\upsilon\omega1}, \binom{101\upsilon1}{011\omega\omega}^{12}, \binom{101\omega1}{011\upsilon\upsilon}, \binom{10\omega\upsilon1}{011\upsilon\omega}, \binom{10\upsilon\omega1}{011\omega\upsilon},$
$\binom{101\upsilon\upsilon}{01\omega\upsilon\omega}, \binom{10\omega\upsilon\upsilon}{01\omega1\omega}, \binom{10\omega1\upsilon}{01\omega\upsilon1}, \binom{10\upsilon1\upsilon}{01\omega11}, \binom{101\omega\omega}{01\upsilon\omega\upsilon}, \binom{10\omega1\omega}{01\upsilon11}, \binom{10\upsilon\omega\omega}{01\upsilon1\upsilon}, \binom{10\upsilon1\omega}{01\upsilon\omega1}, \binom{10\omega\omega\omega}{0111\omega}^{6}, \binom{10\upsilon\upsilon\upsilon}{0111\upsilon},$
$\binom{1011\omega}{01\omega\omega\omega}, \binom{10\upsilon\upsilon1}{01\omega\omega1}, \binom{1011\upsilon}{01\upsilon\upsilon\upsilon}, \binom{10\omega\omega1}{01\upsilon\upsilon1}, \binom{10\omega\upsilon0}{01111}^{12}, \binom{10\omega\omega\upsilon}{011\upsilon0}, \binom{10\upsilon\omega0}{01111}, \binom{10\upsilon\upsilon\omega}{011\omega0}, \binom{101\upsilon0}{01\omega\omega\upsilon}, \binom{10111}{01\omega\upsilon0},$
$\binom{10\upsilon\upsilon\omega}{01\omega10}, \binom{10\upsilon10}{01\omega\omega\upsilon}, \binom{10111}{01\upsilon\omega0}, \binom{101\omega0}{01\upsilon\upsilon\omega}, \binom{10\omega\omega\upsilon}{01\upsilon10}, \binom{10\omega10}{01\upsilon\upsilon\omega}, \binom{10\omega1\upsilon}{011\omega0}^{12}, \binom{10\omega10}{011\omega\upsilon}, \binom{10\upsilon1\omega}{011\upsilon0}, \binom{10\upsilon10}{011\upsilon\omega},$
$\binom{101\omega1}{01\omega10}, \binom{101\omega0}{01\omega11}, \binom{10\upsilon\omega\omega}{01\omega\upsilon0}, \binom{10\upsilon\omega0}{01\omega\upsilon\omega}, \binom{101\upsilon1}{01\upsilon10}, \binom{101\upsilon0}{01\upsilon11}, \binom{10\omega\upsilon\upsilon}{01\upsilon\omega0}, \binom{10\omega\upsilon0}{01\upsilon\omega\upsilon}, \binom{10\omega\upsilon0}{011\omega0}^{6}, \binom{10\upsilon\omega0}{011\upsilon0},$
$\binom{101\upsilon0}{01\omega10}, \binom{10\upsilon10}{01\omega\upsilon0}, \binom{101\omega0}{01\upsilon10}, \binom{10\omega10}{01\upsilon\omega0}, \binom{10\omega1\omega}{011\upsilon0}^{12}, \binom{10\omega10}{011\upsilon\upsilon}, \binom{10\upsilon1\upsilon}{011\omega0}, \binom{10\upsilon10}{011\omega\omega}, \binom{101\omega\omega}{01\omega\upsilon0}, \binom{101\omega0}{01\omega\upsilon1},$
$\binom{10\upsilon\omega1}{01\omega10}, \binom{10\upsilon\omega0}{01\omega1\omega}, \binom{101\upsilon\upsilon}{01\upsilon\omega0}, \binom{101\upsilon0}{01\upsilon\omega1}, \binom{10\omega\upsilon1}{01\upsilon10}, \binom{10\omega\upsilon0}{01\upsilon1\upsilon}, \binom{10\omega1\omega}{011\upsilon\upsilon}^{6}, \binom{10\upsilon1\upsilon}{011\omega\omega}, \binom{101\omega\omega}{01\omega\upsilon1}, \binom{10\upsilon\omega1}{01\omega1\omega},$
$\binom{101\upsilon\upsilon}{01\upsilon\omega1}, \binom{10\omega\upsilon1}{01\upsilon1\upsilon}.$