[1]

ZEROS OF ZETA FUNCTIONS FOR EXCEPTIONAL GROUPS OF TYPE E

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Abstract. A selection of 128 elements form Weyl groups for exceptional groups of type E_8 with 696,729,600 elements is given. As a direct consequence, we then prove the weak Riemann Hypothesis for the so-called Weng zeta functions of E_8. Moreover, we explain what is the meaning of these $128\,(=2^7)$ elements in terms of the masses of semi-stable principal E_8-lattices, following our earlier conjecture on Stability, Parabolic Reduction, and the Masses. (This last part to be extended.)

1. Root Systems

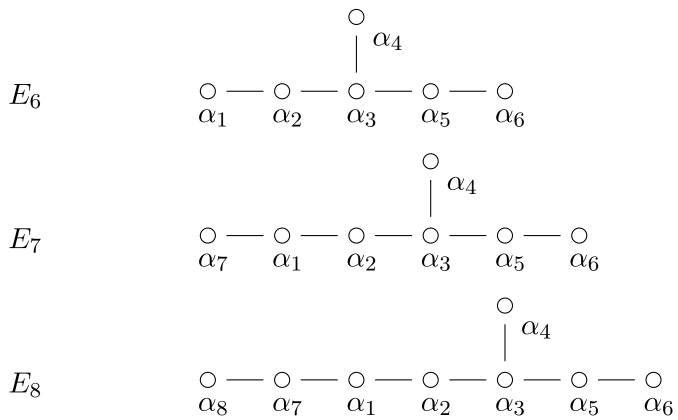
Following structures of the associated Weyl groups, to realize the set of simple roots for the exceptional group of types E_n $(n = 6, 7, 8)$, we choose an oriented basis of $\mathbb{R}^8$ as follows:

$$\begin{aligned}
\alpha_1 =&(0,0,0,-1,1,0,0,0), \quad \alpha_2 = (0,0,-1,1,0,0,0,0),\\
\alpha_3 =&(0,-1,1,0,0,0,0,0), \quad \alpha_4 = (1,1,0,0,0,0,0,0),\\
\alpha_5 =&(-1,1,0,0,0,0,0,0), \quad \alpha_6 = \frac{1}{2}(1,-1,-1,-1,-1,-1,-1,1),\\
\alpha_7 =&(0,0,0,0,-1,1,0,0), \quad \alpha_8 = (0,0,0,0,0,-1,1,0).
\end{aligned}$$

Accordingly, we will take the sets Δ_n $(n = 6, 7, 8)$ of simple roots for root systems of Φ_n for types E_n, to be

$$\begin{aligned}
\Delta_6 =&\{\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6\},\\
\Delta_7 =&\{\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7\},\\
\Delta_8 =&\{\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7, \alpha_8\}.
\end{aligned}$$

Clearly, the corresponding Dynkin diagrams are given as follows:



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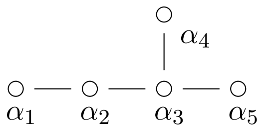
2. **Weyl Groups**

2.1. **Weyl Group for D_5.** Let W_n be the Weyl groups of the exceptional group of type E_n, $n = 6, 7, 8$. Then natural inclusions $\Phi_6 \subset \Phi_7 \subset \Phi_8$ of the roos systems give rise to natural inclusions $W_6 \leq W_7 \leq W_8$ of groups. If, in addition, we set $\Delta_5 := \{\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5\}$. Then Δ_5 can be understood as a set of simple roots for the D_5 of D-series group with the Dynkin diagram

D_5



Denote its associated roots system by Φ_5 and Weyl group by W_5 . We have two chains $\Phi_5 \subset \Phi_6 \subset \Phi_7 \subset \Phi_8$ and $W_5 \leq W_6 \leq W_7 \leq W_8$. Our method to build W_n starts with W_5, which is known to be the semi-product $\mathfrak{S}_5 \rtimes \mathrm{Sign}_{\mathrm{ev}}$ where $\mathfrak{S}_5$ denotes the 5-th symmetric group acting as follows: for any $\sigma \in \mathfrak{S}_5$,

$$(x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8) \mapsto (x_{\sigma(1)}, x_{\sigma(2)}, x_{\sigma(3)}, x_{\sigma(4)}, x_{\sigma(4)}, x_6, x_7, x_8),$$

and $\mathrm{Sign}_{\mathrm{ev}}$ consists of even sign changes for the first 5 coordinates. Thus, totally, $\# W_5 = \# \mathfrak{S}_5 \times 2^{\binom{5}{0} + \binom{5}{2} + \binom{5}{4}} = 1920$.

2.2. **Weyl Group for E_6.** From now on, we will view all groups $W_n, n = 5, 6, 7, 8$ as subgroups of $\mathrm{Aut}_{\mathbb{R}}(\mathbb{R}^8)$. Thus, to obtain the group W_6, we only need to find out what are the representatives of the coset W_6 / W_5. For this, we first set $\Phi_{6,5}^+ := \{\alpha \in \Phi_6^+ : \alpha \notin \Phi_5^+\}$. It consists of 16 elements. Namely,

$$\left\{ \begin{array}{cc}
(-\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (-\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(-\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (-\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(-\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (-\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(-\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (-\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), \\
(\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2}), & (\frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, \frac{1}{2}, -\frac{1}{2}, -\frac{1}{2}, \frac{1}{2})
\end{array} \right\}$$

which we denote by $\{\alpha_{6,1},\ \alpha_{6,2}, \ldots, \alpha_{6,16}\}$. Accordingly, we set the reflections associated to $\alpha_{6,i}$ by $\sigma_{6,i}$, $i = 1, 2, \ldots, 16$.

Our first result, one calculated using Mathematica together with Katayama ([Ka]), is the following:

Lemma 1. *The representatives of W_6 / W_5 can be chosen as*

$$\begin{aligned} \Sigma_6 = \Big\{ & \mathrm{Id}, \sigma_{6,1}, \sigma_{6,2}, \sigma_{6,3}, \sigma_{6,4}, \sigma_{6,5}, \sigma_{6,6}, \sigma_{6,7}, \sigma_{6,8}, \sigma_{6,9}, \sigma_{6,10}, \\ & \sigma_{6,11}, \sigma_{6,12},\ \sigma_{6,13}, \sigma_{6,14}, \sigma_{6,15}, \sigma_{6,16}, \\ & \sigma_{6,1}\sigma_{6,8},\ \sigma_{6,1}\sigma_{6,12},\ \sigma_{6,1}\sigma_{6,14},\ \sigma_{6,1}\sigma_{6,15}, \sigma_{6,1}\sigma_{6,16}, \\ & \sigma_{6,2}\sigma_{6,15},\ \sigma_{6,2}\sigma_{6,16},\ \sigma_{6,3}\sigma_{6,16},\ \sigma_{6,5}\sigma_{6,16},\ \sigma_{6,9}\sigma_{6,16} \Big\} \end{aligned}$$

As to be expected, it consists of 27 elements. Hence $\# W_6 = 27 \times 1920 = 51,840$. Based on this calculation, we could calculate the zeta functions for

(E_6, P_1) where P_1 is the maximal parabolic subgroup of E_7 corresponding to the subset $\Delta_6 \setminus \{\alpha_1\}$. For later use, we denote Σ_6 by $\{\tau_{6,i}, i = 0, 1, 2, \dots 26\}$, where $\tau_{6,i}$ stands for the $i+1$-st element in the previous display for Σ_6.

The calculation, using Mathematica, is not very difficult, even the choice at the beginning for the orders of simple roots already proves to be crucial.

2.3. **Weyl Group for E_7.** To construct the Weyl group W_7 for the exceptional group of type E_7, we use W_6 as presented in the above lemma and yet-to-be-found representatives of W_7/W_6, which consists of 56 elements.

We first introduce $\Phi_{7,6}^+ := \{\alpha \in \Phi_7^+ : \alpha \notin \Phi_6^+\}$, which consists of 27 elements. Namely,

$$\left\{ \begin{array}{cc} (-1,0,0,0,0,1,0,0), & (-\tfrac12,-\tfrac12,-\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (-\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (-\tfrac12,-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (-\tfrac12,\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (-\tfrac12,\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (-\tfrac12,\tfrac12,\tfrac12,\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (0,-1,0,0,0,1,0,0), \\ (0,0,-1,0,0,1,0,0), & (0,0,0,-1,0,1,0,0), \\ (0,0,0,0,-1,1,0,0), & (0,0,0,0,0,0,-1,1), \\ (0,0,0,0,1,1,0,0), & (0,0,0,1,0,1,0,0), \\ (0,0,1,0,0,1,0,0), & (0,1,0,0,0,1,0,0), \\ (\tfrac12,-\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (\tfrac12,-\tfrac12,\tfrac12,\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (\tfrac12,\tfrac12,-\tfrac12,-\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (\tfrac12,\tfrac12,-\tfrac12,\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12), & (\tfrac12,\tfrac12,\tfrac12,\tfrac12,-\tfrac12,\tfrac12,-\tfrac12,\tfrac12), \\ (1,0,0,0,0,1,0,0) & \end{array} \right\}.$$

We denote them, with above displayed order, by $\{\alpha_{7,1}, \alpha_{7,2}, \dots, \alpha_{7,27}\}$, and denote the reflection associated to $\alpha_{7,j}$ by $\sigma_{7,j}$, $j = 1, 2, \dots, 27$.

Proposition 2. *A group of representatives for W_7/W_6 can be chosen as*

$$\begin{aligned} \Sigma_7 = \Big\{ & \mathrm{Id}, \sigma_{7,1}, \sigma_{7,2}, \sigma_{7,3}, \sigma_{7,4}, \sigma_{7,5}, \sigma_{7,6}, \sigma_{7,7}, \sigma_{7,8}, \sigma_{7,9}, \sigma_{7,10}, \\ & \sigma_{7,11}, \sigma_{7,12}, \sigma_{7,13}, \sigma_{7,14}, \sigma_{7,15}, \sigma_{7,16}, \sigma_{7,17}, \sigma_{7,18}, \sigma_{7,19}, \sigma_{7,20}, \\ & \sigma_{7,21}, \sigma_{7,22}, \sigma_{7,23}, \sigma_{7,24}, \sigma_{7,25}, \sigma_{7,26}, \sigma_{7,27}, \\ & \sigma_{7,1}\sigma_{7,14}, \ \sigma_{7,1}\sigma_{7,19}, \ \sigma_{7,1}\sigma_{7,20}, \ \sigma_{7,1}\sigma_{7,21}, \ \sigma_{7,1}\sigma_{7,22}, \\ & \sigma_{7,1}\sigma_{7,23}, \ \sigma_{7,1}\sigma_{7,24}, \ \sigma_{7,1}\sigma_{7,25}, \ \sigma_{7,1}\sigma_{7,26}, \ \sigma_{7,1}\sigma_{7,27}, \\ & \sigma_{7,2}\sigma_{7,22}, \ \sigma_{7,2}\sigma_{7,24}, \ \sigma_{7,2}\sigma_{7,25}, \ \sigma_{7,2}\sigma_{7,26}, \ \sigma_{7,2}\sigma_{7,27}, \\ & \sigma_{7,3}\sigma_{7,25}, \ \sigma_{7,3}\sigma_{7,26}, \ \sigma_{7,3}\sigma_{7,27}, \\ & \sigma_{7,4}\sigma_{7,26}, \ \sigma_{7,4}\sigma_{7,27}, \ \sigma_{7,5}\sigma_{7,27}, \ \sigma_{7,6}\sigma_{7,26}, \ \sigma_{7,6}\sigma_{7,27}, \\ & \sigma_{7,7}\sigma_{7,27}, \ \sigma_{7,8}\sigma_{7,27}, \ \sigma_{7,9}\sigma_{7,27}, \ \sigma_{7,14}\sigma_{7,27}, \quad \sigma_{7,1}\sigma_{7,14}\sigma_{7,27} \Big\} \end{aligned}$$

With $\#W_7 = 2,903,040$, the calculation using Mathematica is still manageable: It completed in one night and we even can store W_7 as a single set in our Power MacBook. Here, as above, the special orders for simple roots plays a very crucial role. For later use, we denote Σ_7 by $\{\tau_{7,j}, j = 0, 1, 2, \dots 55\}$, where $\tau_{7,j}$ denotes the $j+1$-st elements in the previous display for Σ_7.

2.4. **Weyl Group for E_8.** Construction of W_8, consisting of $696,729,600$ elements, proves to be extremely challenging. Even in terms of representatives of W_8/W_7, there are 240 elements to be found. With our program in Mathematica, it took a couple of weeks to find the answer.

As the first step, we calculate $\Phi_{8,7}^+ := \{\alpha \in \Phi_8^+ : \alpha \notin \Phi_7^+\}$. It consists of 57 elements. Namely,

$$
\left\{
\begin{array}{cc}
(-1,0,0,0,0,0,0,1), & (-1,0,0,0,0,0,1,0), \\
(-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(0,-1,0,0,0,0,0,1), & (0,-1,0,0,0,0,1,0), \\
(0,0,-1,0,0,0,0,1), & (0,0,-1,0,0,0,1,0), \\
(0,0,0,-1,0,0,0,1), & (0,0,0,-1,0,0,1,0), \\
(0,0,0,0,-1,0,0,1), & (0,0,0,0,-1,0,1,0), \\
(0,0,0,0,0,-1,0,1), & (0,0,0,0,0,-1,1,0), \\
(0,0,0,0,0,0,1,1), & (0,0,0,0,0,1,0,1), \\
(0,0,0,0,0,1,1,0), & (0,0,0,0,1,0,0,1), \\
(0,0,0,0,1,0,1,0), & (0,0,0,1,0,0,0,1), \\
(0,0,0,1,0,0,1,0), & (0,0,1,0,0,0,0,1), \\
(0,0,1,0,0,0,1,0), & (0,1,0,0,0,0,0,1), \\
(0,1,0,0,0,0,1,0), & (\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},-\frac{1}{2},-\frac{1}{2},\frac{1}{2},\frac{1}{2}), \\
(\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2},\frac{1}{2}), & (1,0,0,0,0,0,0,1), \\
(1,0,0,0,0,0,1,0) &
\end{array}
\right\}
$$

We denote them, with above displayed order, by $\{\alpha_{8,1}, \alpha_{8,2}, \dots, \alpha_{8,57}\}$, and denote the reflection associated to $\alpha_{8,k}$ by $\sigma_{8,k}$, $k = 1, 2, \dots, 57$.

With these, then we are ready to state our first main result son the construction of W_8.

Theorem 3. *A group of representatives for W_8/W_7 can be chosen as*

$\Sigma_8 = \Big\{$ Id, $\sigma_{8,1}, \sigma_{8,2}, \sigma_{8,3}, \sigma_{8,4}, \sigma_{8,5}, \sigma_{8,6}, \sigma_{8,7}, \sigma_{8,8}, \sigma_{8,9}, \sigma_{8,10},$

$\sigma_{8,11}, \sigma_{8,12}, \sigma_{13}, \sigma_{8,14}, \sigma_{8,15}, \sigma_{8,16}, \sigma_{8,17}, \sigma_{8,18}, \sigma_{8,19}, \sigma_{8,20},$

$\sigma_{8,21}, \sigma_{8,22}, \sigma_{8,23},$ 24, $\sigma_{8,25}, \sigma_{8,26}, \sigma_{8,27}, \sigma_{8,28}, \sigma_{8,29}, \sigma_{8,30},$

$\sigma_{8,31}, \sigma_{8,32}, \sigma_{8,33}, \sigma_{8,34},$ 35, $\sigma_{8,36}, \sigma_{8,37}, \sigma_{8,38}, \sigma_{8,39}, \sigma_{8,40},$

$\sigma_{8,41}, \sigma_{8,42}, \sigma_{8,43}, \sigma_{8,44}, \sigma_{8,45},$ 46, $\sigma_{8,47}, \sigma_{8,48}, \sigma_{8,49}, \sigma_{8,50},$

$\sigma_{8,51}, \sigma_{8,52}, \sigma_{8,53}, \sigma_{8,54}, \sigma_{8,55}, \sigma_{8,56}, \sigma_{57},$

$\sigma_{8,1}\sigma_{8,20}, \sigma_{8,1}\sigma_{8,22}, \sigma_{8,1}\sigma_{8,24}, \sigma_{8,1}\sigma_{8,26}, \sigma_{8,1}\sigma_{8,28}, \sigma_{8,1}\sigma_{8,29},$

$\sigma_{8,1}\sigma_{8,31}, \sigma_{8,1}\sigma_{8,33}, \sigma_{8,1}\sigma_{8,35}, \sigma_{8,1}\sigma_{8,37}, \sigma_{8,1}\sigma_{8,39}, \sigma_{8,1}\sigma_{8,40},$

$\sigma_{8,1}\sigma_{8,41}, \sigma_{8,1}\sigma_{8,42}, \sigma_{8,1}\sigma_{8,43}, \sigma_{8,1}\sigma_{8,44}, \sigma_{8,1}\sigma_{8,45}, \sigma_{8,1}\sigma_{8,46},$

$\sigma_{8,1}\sigma_{8,47}, \sigma_{8,1}\sigma_{8,48}, \sigma_{8,1}\sigma_{8,49}, \sigma_{8,1}\sigma_{8,50}, \sigma_{8,1}\sigma_{8,51}, \sigma_{8,1}\sigma_{8,52},$

$\sigma_{8,1}\sigma_{8,53}, \sigma_{8,1}\sigma_{8,54}, \sigma_{8,1}\sigma_{8,55}, \sigma_{8,1}\sigma_{8,56}, \sigma_{8,1}\sigma_{8,57},$

$\sigma_{8,2}\sigma_{8,29}, \sigma_{8,2}\sigma_{8,40}, \sigma_{8,2}\sigma_{8,41}, \sigma_{8,2}\sigma_{8,42}, \sigma_{8,2}\sigma_{8,43}, \sigma_{8,2}\sigma_{8,44},$

$\sigma_{8,2}\sigma_{8,45}, \sigma_{8,2}\sigma_{8,46}, \sigma_{8,2}\sigma_{8,47}, \sigma_{8,2}\sigma_{8,48}, \sigma_{8,2}\sigma_{8,49}, \sigma_{8,2}\sigma_{8,50},$

$\sigma_{8,2}\sigma_{8,51}, \sigma_{8,2}\sigma_{8,52}, \sigma_{8,2}\sigma_{8,53}, \sigma_{8,2}\sigma_{8,54}, \sigma_{8,2}\sigma_{8,55}, \sigma_{8,2}\sigma_{8,56}, \sigma_{8,2}\sigma_{8,57},$

$\sigma_{8,3}\sigma_{8,29}, \sigma_{8,3}\sigma_{8,43}, \sigma_{8,3}\sigma_{8,45}, \sigma_{8,3}\sigma_{8,46}, \sigma_{8,3}\sigma_{8,47}, \sigma_{8,3}\sigma_{8,49}, \sigma_{8,3}\sigma_{8,50},$

$\sigma_{8,3}\sigma_{8,51}, \sigma_{8,3}\sigma_{8,52}, \sigma_{8,3}\sigma_{8,53}, \sigma_{8,3}\sigma_{8,54}, \sigma_{8,3}\sigma_{8,55}, \sigma_{8,3}\sigma_{8,56}, \sigma_{8,3}\sigma_{8,57},$

$\sigma_{8,4}\sigma_{8,29}, \sigma_{8,4}\sigma_{8,46}, \sigma_{8,4}\sigma_{8,47}, \sigma_{8,4}\sigma_{8,50}, \sigma_{8,4}\sigma_{8,51}, \sigma_{8,4}\sigma_{8,52},$

$\sigma_{8,4}\sigma_{8,53}, \sigma_{8,4}\sigma_{8,54}, \sigma_{8,4}\sigma_{8,55}, \sigma_{8,4}\sigma_{8,56}, \sigma_{8,4}\sigma_{8,57},$

$\sigma_{8,5}\sigma_{8,29}, \sigma_{8,5}\sigma_{8,47}, \sigma_{8,5}\sigma_{8,51}, \sigma_{8,5}\sigma_{8,52}, \sigma_{8,5}\sigma_{8,53},$

$\sigma_{8,5}\sigma_{8,54}, \sigma_{8,5}\sigma_{8,55}, \sigma_{8,5}\sigma_{8,56}, \sigma_{8,5}\sigma_{8,57},$

$\sigma_{8,6}\sigma_{8,29}, \sigma_{8,6}\sigma_{8,52}, \sigma_{8,6}\sigma_{8,53}, \sigma_{8,6}\sigma_{8,54}, \sigma_{8,6}\sigma_{8,55}, \sigma_{8,6}\sigma_{8,56}, \sigma_{8,6}\sigma_{8,57},$

$\sigma_{8,7}\sigma_{8,29}, \sigma_{8,7}\sigma_{8,47}, \sigma_{8,7}\sigma_{8,51}, \sigma_{8,7}\sigma_{8,53}, \sigma_{8,7}\sigma_{8,54}, \sigma_{8,7}\sigma_{8,55}, \sigma_{8,7}\sigma_{8,56}, \sigma_{8,7}\sigma_{8,57},$

$\sigma_{8,8}\sigma_{8,29}, \sigma_{8,8}\sigma_{8,50}, \sigma_{8,8}\sigma_{8,54}, \sigma_{8,8}\sigma_{8,55}, \sigma_{8,8}\sigma_{8,56}, \sigma_{8,8}\sigma_{8,57},$

$\sigma_{8,9}\sigma_{8,29}, \sigma_{8,9}\sigma_{8,49}, \sigma_{8,9}\sigma_{8,55}, \sigma_{8,9}\sigma_{8,56}, \sigma_{8,9}\sigma_{8,57},$

$\sigma_{8,10}\sigma_{8,29}, \sigma_{8,10}\sigma_{8,48}, \sigma_{8,10}\sigma_{8,56}, \sigma_{8,10}\sigma_{8,57},$

$\sigma_{8,11}\sigma_{8,29}, \sigma_{8,11}\sigma_{8,47}, \sigma_{8,11}\sigma_{8,51}, \sigma_{8,11}\sigma_{8,53}, \sigma_{8,11}\sigma_{8,54}, \sigma_{8,11}\sigma_{8,55}, \sigma_{8,11}\sigma_{8,56}, \sigma_{8,11}\sigma_{8,57},$

$\sigma_{8,12}\sigma_{8,29}, \sigma_{8,12}\sigma_{8,46}, \sigma_{8,12}\sigma_{8,54}, \sigma_{8,12}\sigma_{8,55}, \sigma_{8,12}\sigma_{8,56}, \sigma_{8,12}\sigma_{8,57},$

$\sigma_{8,13}\sigma_{8,29}, \sigma_{8,13}\sigma_{8,45}, \sigma_{8,13}\sigma_{8,55}, \sigma_{8,13}\sigma_{8,56}, \sigma_{8,13}\sigma_{8,57},$

$\sigma_{8,14}\sigma_{8,29}, \sigma_{8,14}\sigma_{8,44}, \sigma_{8,14}\sigma_{8,56}, \sigma_{8,14}\sigma_{8,57},$

$\sigma_{8,15}\sigma_{8,29}, \sigma_{8,15}\sigma_{8,43}, \sigma_{8,15}\sigma_{8,55}, \sigma_{8,15}\sigma_{8,56}, \sigma_{8,15}\sigma_{8,57},$

$\sigma_{8,16}\sigma_{8,29}, \sigma_{8,16}\sigma_{8,42}, \sigma_{8,16}\sigma_{8,56}, \sigma_{8,16}\sigma_{8,57},$

$\sigma_{8,17}\sigma_{8,29}, \sigma_{8,17}\sigma_{8,41}, \sigma_{8,17}\sigma_{8,56}, \sigma_{8,17}\sigma_{8,57},$

$\sigma_{8,18}\sigma_{8,29}, \sigma_{8,18}\sigma_{8,40}, \sigma_{8,18}\sigma_{8,56}, \sigma_{8,18}\sigma_{8,57},$

$\sigma_{8,19}\sigma_{8,29}, \sigma_{8,19}\sigma_{8,39}, \sigma_{8,19}\sigma_{8,57}, \sigma_{8,20}\sigma_{8,29}, \sigma_{8,20}\sigma_{8,38},$

$\sigma_{8,21}\sigma_{8,29}, \sigma_{8,21}\sigma_{8,37}, \sigma_{8,21}\sigma_{8,57}, \sigma_{8,22}\sigma_{8,29}, \sigma_{8,22}\sigma_{8,36},$

$\sigma_{8,23}\sigma_{8,29}, \sigma_{8,23}\sigma_{8,35}, \sigma_{8,23}\sigma_{8,57}, \sigma_{8,24}\sigma_{8,29}, \sigma_{8,24}\sigma_{8,34}, \sigma_{8,25}\sigma_{8,29}, \sigma_{8,25}\sigma_{8,33}, \sigma_{8,25}\sigma_{8,57},$

$\sigma_{8,26}\sigma_{8,29}, \sigma_{8,26}\sigma_{8,32}, \sigma_{8,27}\sigma_{8,29}, \sigma_{8,27}\sigma_{8,31}, \sigma_{8,27}\sigma_{8,57},$

$\sigma_{8,28}\sigma_{8,29}, \sigma_{8,28}\sigma_{8,30}, \sigma_{8,30}\sigma_{8,57}, \sigma_{8,32}\sigma_{8,57}, \sigma_{8,34}\sigma_{8,57}, \sigma_{8,36}\sigma_{8,57}, \sigma_{8,38}\sigma_{8,57}\Big\}$

For later use, we denote Σ_8 by $\{\tau_{8,k}, k = 0, 1, 2, \dots 239\}$ where $\tau_{8,k}$ denotes the $k+1$-st elements in the above display.

Theorem 4. *The Weyl groups for the exceptional groups of types E_6, E_7, E_8 are given by*

$$W_6 = \sqcup_{i=1}^{27} \tau_{6,i} W_5,$$
$$W_7 = \sqcup_{j=0}^{55} \sqcup_{i=0}^{26} \tau_{7,j} \tau_{6,i} W_5,$$
$$W_8 = \sqcup_{k=0}^{239} \sqcup_{j=0}^{55} \sqcup_{i=0}^{26} \tau_{8,k} \tau_{7,j} \tau_{6,i} W_5,$$

As to be expected, the special orders for simple roots at the beginning proves to be extremely crucial.

This calculation is a rather long and complicated – with a series of bugs searching and program fixing, our calculation to find all representatives above last for about a month and a half, and our program in Mathematica cannot treat W_8 as a single set to store in our Power MacBook/Power Mac. There is a huge problem when we tried to store W_8 as a single unit, which forced our work stations stop calculating repeatedly. At some point, we realized this and offered a not-perfect-but-practical solution: Instead, we introduce

$$W_{8,i} := \sqcup_{k=0}^{239} \sqcup_{j=0}^{55} \tau_{8,k} \tau_{7,j} \tau_{6,i} W_5, \qquad i = 0, 1, 2, \dots, 26$$

and hence divide our calculations into 27 parallel units. With W_8, we were able to start our second phrase of calculations, on zetas themselves and the verifications of the weak Riemann Hypothesis for the so-called Weng zetas for E_6, E_7, E_8. This lasted for another 2 months.

3. Zeta functions for (G, P)

Let G be a connected split reductive algebraic group of rank r with a fixed Borel subgroup B and associated maximal split torus T (over a base field). Denote by

$$\Big(V, \langle\cdot,\cdot\rangle, \Phi = \Phi^+ \cup \Phi^-, \Delta = \{\alpha_1, \dots, \alpha_r\}, \varpi := \{\varpi_1, \dots, \varpi_r\}, W\Big)$$

the associated root system. That is, V is the real vector space defined as the $\mathbb{R}$-span of rational characters of T, and as usual, is equipped with a natural inner product $\langle\cdot,\cdot\rangle$, with which we identify V with its dual V^*, $\Phi^+ \subset V$ is the set of positive roots, $\Phi^- := -\Phi^+$ the set of negative roots, $\Delta \subset V$ the set of simple roots, $\varpi \subset V$ the set of fundamental weights, and W the Weyl group. By definition, the fundamental weights are characterized by the formula $\langle \varpi_i, \alpha_j^\vee \rangle = \delta_{ij}$ for $i, j = 1, 2, \dots, r$, where $\alpha^\vee := \frac{2}{\langle\alpha,\alpha\rangle}\alpha$ denotes the coroot of a root $\alpha \in \Phi$. We also define the Weyl vector ρ by $\rho = \frac{1}{2}\sum_{\alpha\in\Phi^+}\alpha$, and introduce a *coordinate system* on V (with respect to the base $\{\varpi_1, \dots, \varpi_r\}$ of V and the vector ρ) by writing an element $\lambda \in V$ in the form

$$\lambda \;=\; \sum_{j=1}^r (1 - s_j)\varpi_j \;=\; \rho - \sum_{j=1}^r s_j \varpi_j$$

thus fixing identifications of V and $V_\mathbb{C} = V \otimes_\mathbb{R} \mathbb{C}$ with $\mathbb{R}^r$ and $\mathbb{C}^r$. In addition, for each Weyl element $w \in W$, we set $\Phi_w := \Phi^+ \cap w^{-1}\Phi^-$, i.e., the collection of positive roots whose w-images are negative.

As usual, by a *standard parabolic subgroup*, we mean a parabolic subgroup of G that contains the Borel subgroup B. From Lie theory (see e.g., [Hu]), there is an one-to-one correspondence between standard parabolic subgroups P of G and subsets Δ_P of Δ. In particular, if P is maximal, we may and will write $\Delta_P = \Delta \smallsetminus \{\alpha_p\}$ for a certain unique $p = p(P) \in \{1, \dots, r\}$. For such a standard parabolic subgroup P, denote by V_P the $\mathbb{R}$-span of rational characters of the maximal split torus T_P contained in P, by V_P^* its dual space, and by $\Phi_P \subset V_P$ the set of non-trivial characters of T_P occurring in the space V. Then, by standard theory of reductive groups (see e.g.,[Ar]), V_P admits a canonical embedding in V (and V_P^* admits a canonical embedding in V^*), which is known to be orthogonal to the fundamental weight ϖ_p, and hence Φ_P can be viewed as a subset of Φ. Set $\Phi_P^+ = \Phi^+ \cap \Phi_P$, $\rho_P = \frac{1}{2}\sum_{\alpha\in\Phi_P^+}\alpha$, and $c_P = 2\langle \varpi_p - \rho_P, \alpha_p^\vee\rangle$.

In [W?], to understand the non-abelian zeta function over a number field F, we, for a connected split reductive algebraic group G, and its standard parabolic subgroup P as above (defined over F), defined the *period of* G *for* F by

$$\omega_F^G(\lambda) := \sum_{w\in W} \frac{1}{\prod_{\alpha\in\Delta}\langle w\lambda - \rho, \alpha^\vee\rangle} \prod_{\alpha\in\Phi_w} \frac{\widehat{\zeta}_F(\langle\lambda, \alpha^\vee\rangle)}{\widehat{\zeta}_F(\langle\lambda, \alpha^\vee\rangle + 1)}$$

and the *period of* (G, P) *for* F by

$$\begin{aligned}\omega_F^{G,P}(s) &:= \mathrm{Res}_{\langle\lambda-\rho,\,\alpha^\vee\rangle=0,\ \alpha\in\Delta_P}\omega_F^G(\lambda)\\ &= \mathrm{Res}_{s_r=0}\cdots\mathrm{Res}_{s_{p+1}=0}\mathrm{Res}_{s_{p-1}=0}\cdots\mathrm{Res}_{s_1=0}\,\omega_F^G(\lambda)\,.\end{aligned}$$

Here $\widehat{\zeta}_F(s)$ denotes the completed Dedekind zeta function for F, $s = c_p \cdot s_p$ and for the last equality, we used the fact that $\langle\rho, \alpha^\vee\rangle = 1$ for all $\alpha \in \Delta$ and the relation that $\langle\varpi_i, \alpha_j^\vee\rangle = \delta_{ij}$ for all $i, j \in \{1, \dots, r\}$. As proved in [Ko, W?], the ordering of taking residues along singular hyperplanes $\langle\lambda - \rho, \alpha^\vee\rangle = 0$ for $\alpha \in \Delta_P$ does not affect the outcome, so that the definition is independent of the numbering of the simple roots.

To get the zeta function associated to (G, P) for F, certain normalizations should be made. For this purpose, write $\omega_F^G(\lambda) = \sum_{w\in W} T_w(\lambda)$, where, for each $w \in W$,

$$T_w(\lambda) := \frac{1}{\prod_{\alpha\in\Delta} -\langle w\lambda - \rho, \alpha^\vee\rangle} \prod_{\alpha\in\Phi_w} \frac{\widehat{\zeta}_F(\langle\lambda, \alpha^\vee\rangle)}{\widehat{\zeta}_F(\langle\lambda, \alpha^\vee\rangle + 1)}.$$

We must study the residue $\mathrm{Res}_{\langle\lambda-\rho,\,\alpha^\vee\rangle=0,\ \alpha\in\Delta_P}T_w(\lambda)$.

We care only about those elements $w \in W$ (we will call them *special*) which give non-trivial residues, namely, those satisfying the condition that $\mathrm{Res}_{\langle\lambda-\rho,\,\alpha^\vee\rangle=0,\ \alpha\in\Delta_P}T_w(\lambda) \not\equiv 0$. This can happen only if all singular hyperplanes are of one of the following two forms:

(1) $\langle w\lambda - \rho, \alpha^\vee\rangle = 0$ for some $\alpha \in \Delta$, giving a simple pole of the rational factor $\frac{1}{\prod_{\alpha\in\Delta}(-\langle w\lambda-\rho,\alpha^\vee\rangle)}$;
(2) $\langle\lambda, \alpha^\vee\rangle = 1$ for some $\alpha \in \Phi_w$, giving a simple pole of the zeta factor $\widehat{\zeta}_F(\langle\lambda, \alpha^\vee\rangle)$.

For special $w \in W$, and $(k,h) \in \mathbb{Z}^2$, following [Ko], we define

$$N_{P,w}(k,h) := \#\{\alpha \in w^{-1}\Phi^- : \langle \lambda_p, \alpha^\vee \rangle,\ \langle \rho, \alpha^\vee \rangle = h\}$$
$$M_P(k,h) := \max_{w:\ \text{special}} (N_{P,w}(k,h-1) - N_{P,w}(k,h)).$$

Note that $N_P(k,h) = 0$ for almost all but finitely many pairs of integers (k,h), so it makes sense to introduce the product

$$D_F^{G,P}(s) := \prod_{k=0}^{\infty} \prod_{h=2}^{\infty} \widehat{\zeta}_F(ks+h)^{M_P(k,h)}.$$

Then the so-called *Weng zeta function of F associated to* (G,P) is defined by

$$\widehat{\zeta}_F^{G,P}(s) := q^{(g-1)\dim N_u(B)} \cdot D^{G,P}(s) \cdot \omega_F^{G,P}(s)\,. \tag{1}$$

Here $N_u(B)$ denote the nilpotent radical of the Borel subgroup B of G.

Remark. For special $w \in W$, even after taking residues, there are some zeta factors $\widehat{\zeta}_F(ks+h)$ left in the denominator of $\mathrm{Res}_{\langle \lambda-\rho,\, \alpha^\vee \rangle=0,\ \alpha\in\Delta_P} T_w(\lambda)$. The reason for introducing the factor $D_F^{G,P}(s)$ in our normalization of the zeta functions, based on formulas in [Ko] and [W3], is to clear up all of the zeta factors appearing in the denominators associated to special Weyl elements.

4. **Conditions for Weak Riemann Hypothesis**

In this section, we explain a numerical condition stated in the work of Ki, Komori, Suzuki ([KKS]) on the weak Riemann Hypothesis for Weng zeta functions.

Let

$$\mathfrak{W}_P := \{\, w \in W : \Delta_P \subset w^{-1}(\Delta \cup \Phi^-)\,\}.$$

For each $w \in \mathfrak{W}_P$, set

$$\delta_{\alpha,w} = \begin{cases} 1 & \alpha \in w^{-1}\Phi^+ \\ 0 & \alpha \in w^{-1}\Phi^- \end{cases},$$

and define

$$k_P(w) := \sum_{\alpha \in \Phi^+ \smallsetminus \Phi_P^+} (1 - \delta_{\alpha.w}) = \left|(\Phi^+ \smallsetminus \Phi_P^+) \cap w^{-1}\Phi^-\right|,$$
$$\mathfrak{W}_p^\ddagger := \{w \in \mathfrak{W}_P : k_P(w) = 0\}.$$

Set $\xi(s) := s(s-1)\widehat{\zeta}(s)$ and

$$C_{P,w} := \xi(2)^{|\Delta_P \cap w^{-1}\Phi^+|} \prod_{\alpha \in \Phi_P^+ \smallsetminus \Delta_P} \xi(\langle \rho, \alpha^\vee \rangle + \delta_{\alpha,w},$$
$$\frac{1}{D_{P,w}} := 2^{|\Delta_P \cap w^{-1}\Phi^+|} \prod_{\alpha \in (w^{-1}\Delta)\cap(\Phi_P \smallsetminus \Delta_P)} (\langle \rho, \alpha^\vee \rangle - 1)$$
$$\times \prod_{\alpha \in \Phi_P \smallsetminus \Delta_P} (\langle \rho, \alpha^\vee \rangle + \delta_{\alpha,w})(\langle \rho, \alpha^\vee \rangle + \delta_{\alpha,w} - 1)$$

Introduce then the number

$$v_{G,P} := \sum_{\substack{w\in\mathfrak{W}_P^{\ddagger}\\ |(w^{-1}\Delta)\smallsetminus\Phi_P|=1}} \frac{1}{\langle\varpi_P,\alpha_w^\vee\rangle}\cdot C_{P,w}\cdot D_{P,w},$$

where α_w is the only element of $(w^{-1}\Delta)\smallsetminus\Phi_P$.

Theorem. *([KKS]) If $v_{G,P}\neq 0$, all but finitely many zeros of $\widehat{\zeta}_{\mathbb{Q}}^{G,P}(s)$ are simple and on the critical line of its functional equation.*

Set

$$B_{P,w} := \widehat{\zeta}(2)^{|\Delta_P\cap w^{-1}\Phi^+|}\prod_{\alpha\in(w^{-1}\Delta)\cap(\Phi_P\smallsetminus\Delta_P)}\frac{1}{\langle\rho,\alpha^\vee\rangle-1}\prod_{\alpha\in\Phi_P^+\smallsetminus\Delta_P}\widehat{\zeta}(\langle\rho,\alpha^\vee\rangle+\delta_{\alpha,w}).$$

Then by [KKS, p.153, lines 2, 3], we have

$$v_{G,P} = \sum_{\substack{w\in\mathfrak{W}_P^{\ddagger}\\ |(w^{-1}\Delta)\smallsetminus\Phi_P|=1}} \frac{B_{P,w}}{\langle\varpi_P,\alpha_w^\vee\rangle}. \tag{2}$$

Here $\{\varpi_1,\varpi_2,\dots,\varpi_n\}$ is the dual bases of $\{\alpha_1^\vee,\alpha_2^\vee,\dots,\alpha_n^\vee\}$ for $n=6,7,8$, and α_w is the unique element in $(w^{-1}\Delta)\smallsetminus\Phi_P$.

5. Special and Very Special Weyl Elements

For each $w\in W$, we set

$$A_w := \{\alpha\in\Delta_P : w\alpha\in\Delta\},\qquad B_w := \{\alpha\in\Delta_P : w\alpha\in\Phi^-\}.$$

Clearly, $A_w\cup B_w\subseteq\Delta_P$. We call w *special*, if $A_w\cup B_w=\Delta_P$. Denote by

$$\begin{aligned}W_P^{\rm sp} :=&\{w\in W : w \text{ special}\},\\ W_P^{\dagger} :=&\{w\in W^{\rm sp} : |\Delta\smallsetminus w\Phi_P|=1\},\\ W_P^{\ddagger} :=&\{w\in W^{\dagger} : |w(\Phi^+\smallsetminus\Phi_P^+)\cap\Phi^-|=0\}.\end{aligned}$$

Then $W^{\rm sp}=\mathfrak{W}_P$ since $A_w\cup B_w=\Delta_P \iff \Delta_P\subset w^{-1}(\Delta\cup\Phi^-\}$, and, moreover,

$$W_P^{\dagger} = \{w\in W^{\rm sp} : |\Delta\cap w\Phi_P|=7\}.$$

To prove $v_{E_n,P}\neq 0$ for every $n=6,7,8$ and all associated maximal parabolic subgroups, we first search on the selections of Weyl elements belonging to $W^{\rm sp}$, $W^{\dagger}$ and $W^{\ddagger}$ respectively. Accordingly, we divide our calculations in Mathematica into three steps:

Step 1. Calculate elements of $W_P^{\rm sp}$, denoted sp. This is very long.

Step 2. Calculate elements of $W_P^{\dagger}$,denotedsps. This is rather long.

Step 3. Calculate elements of $W_P^{\ddagger}$, called very special. This is very pleasent.

Our calculation can be summarized as follows:

Theorem 5. *For an exceptional group of type E_n, $n=6,7,8$, we have*

$$W_{6,P_i}^{\ddagger}\leq W_{7,P_i}^{\ddagger}\qquad and\qquad W_{7,P_j}^{\ddagger}\leq W_{8_j}^{\dagger}\leq W_{8_i}^{\ddagger}\qquad (1\leq i\leq 6,\quad 1\leq j\leq 7).$$

Moreover,

$$\#W_{n,P}^{\dagger}=2^n,\qquad \#W_{n,P}^{\ddagger}=2^{n-1}.$$

To state an example with $(G,P)=(E_8,P_1)$, we denote $\tau_{5,s}\tau_{6,i}\tau_{7,j}\tau_{8,k}$ as $(s+1,i+1,j+1,k+1)$, where $w_{5,s}\in W_5$. Then, we get, from ddag.nb

$$\begin{aligned}W^\ddagger=\big\{&(1,1,1,1),(1,1,1,27),(1,1,14,27),(1,1,14,29),\\
&(1375,3,1,1),(1375,3,1,27),(1375,3,14,27),(1375,3,14,29),\\
&(1,9,1,1),(1,9,1,27),(1,9,14,27),(1,9,14,29),\\
&(193,9,1,1),(193,9,1,27),(193,9,14,27),(193,9,14,29),\\
&(301,9,1,1),(301,9,1,27),(301,9,14,27),(301,9,14,29),\\
&(325,9,1,1),(325,9,1,27),(325,9,14,27),(325,9,14,29),\\
&(393,9,1,1),(393,9,1,27),(393,9,14,27),(393,9,14,29),\\
&(423,9,1,1),(423,9,1,27),(423,9,14,27),(423,9,14,29),\\
&(441,9,1,1),(441,9,1,27),(441,9,14,27),(441,9,14,29),\\
&(447,9,1,1),(447,9,1,27),(447,9,14,27),(447,9,14,29),\\
&(663,13,1,1),(663,13,1,27),(663,13,14,27),(663,13,14,29),\\
&(687,13,1,1),(687,13,1,27),(687,13,14,27),(687,13,14,29),\\
&(781,13,1,1),(781,13,1,27),(781,13,14,27),(781,13,14,29),\\
&(805,13,1,1),(805,13,1,27),(805,13,14,27),(805,13,14,29),\\
&(963,15,1,1),(963,15,1,27),(963,15,14,27),(963,15,14,29),\\
&(1375,16,1,1),(1375,16,1,27),(1375,16,14,27),(1375,16,14,29),\\
&(1,23,1,1),(1,23,1,27),(1,23,14,27),(1,23,14,29),\\
&(361,23,1,1),(361,23,1,27),(361,23,14,27),(361,23,14,29),\\
&(687,23,1,1),(687,23,1,27),(687,23,14,27),(687,23,14,29),\\
&(775,23,1,1),(775,23,1,27),(775,23,14,27),(775,23,14,29),\\
&(961,23,1,1),(961,23,1,27),(961,23,14,27),(961,23,14,29),\\
&(963,23,1,1),(963,23,1,27),(963,23,14,27),(963,23,14,29),\\
&(985,23,1,1),(985,23,1,27),(985,23,14,27),(985,23,14,29),\\
&(987,23,1,1),(987,23,1,27),(987,23,14,27),(987,23,14,29),\\
&(1321,23,1,1),(1321,23,1,27),(1321,23,14,27),(1321,23,14,29),\\
&(1323,23,1,1),(1323,23,1,27),(1323,23,14,27),(1323,23,14,29),\\
&(1327,23,1,1),(1327,23,1,27),(1327,23,14,27),(1327,23,14,29),\\
&(1335,23,1,1),(1335,23,1,27),(1335,23,14,27),(1335,23,14,29),\\
&(1345,23,1,1),(1345,23,1,27),(1345,23,14,27),(1345,23,14,29),\\
&(1347,23,1,1),(1347,23,1,27),(1347,23,14,27),(1347,23,14,29),\\
&(1375,23,1,1),(1375,23,1,27),(1375,23,14,27),(1375,23,14,29),\\
&(1407,23,1,1),(1407,23,1,27),(1407,23,14,27),(1407,23,14,29)\big\}\end{aligned}$$

Totally, there are $128=2^7$ of them. For other cases, please refer to the appendix where $W^\ddagger$ is hidden in Appendix C.

As we will see later, this calculation is also compatible with the Conjecture on Parabolic Reduction, Stability and the Masses [We]. Besides, even by examining the components of each element, ew can clear see natural structures for very special Weyl elements. This deserves to be further investigated.

6. Constants $\langle \varpi_P, \alpha_w^\vee \rangle$

Very special Weyl elements are these which appeared in (2) giving non-trivial contributions to $v_{G,P}$. To calculate $v_{G,P}$ for $G = E_{6,7,8}$, we here calculate the constant $\langle \varpi_P, \alpha_w^\vee \rangle$. Here, for each very special Weyl element w, α_w is the only element in $w^{-1}\Delta \smallsetminus \Phi_P$.

Proposition 6. *For all very special elements $w \in W^\ddagger$,*

$$\langle \varpi_P, \alpha_w^\vee \rangle = 1.$$

Proof. Fix a very special Weyl element $w \in W^\ddagger$. Note that $\langle \cdot, \cdot \rangle$ is w-invariant, it is sufficient to calculate $\langle w\varpi_P, \beta_w^\vee \rangle$ where β_w is the unique element in $\Delta \smallsetminus w\Phi_P$. Our calculation then shows that

Lemma 7. *For all $w \in W_{n,P}^\ddagger$, when applicable,*

$$\begin{aligned} w\varpi_1 =& (0,0,0,0,1,1,1,3), & w\varpi_2 =& (0,0,0,1,1,1,1,4),\\ w\varpi_3 =& (0,0,1,1,1,1,1,5), & w\varpi_4 =& (\frac12,\frac12,\frac12,\frac12,\frac12,\frac12,\frac12,\frac52),\\ w\varpi_5 =& (-\frac12,\frac12,\frac12,\frac12,\frac12,\frac12,\frac12,\frac72), & w\varpi_6 =& (0,0,0,0,0,0,0,2),\\ w\varpi_7 =& (0,0,0,0,0,1,1,2), & w\varpi_8 =& (0,0,0,0,0,0,1,1) \end{aligned}$$

To go further, we calculate β_w which is listed in the program as the set titled 'com'. Finally, we verify the following

$$\langle w\varpi_P, \beta_w^\vee \rangle = 1 \qquad \forall w \in W_{n,P}^\ddagger.$$

□

7. Constants $v_{E_n,P}, n = 6,7,8$

Recall that, see e.g. Equation (2) in §4

$$v_{G,P} = \sum_{\substack{w \in \mathfrak{W}_P^\ddagger \\ |(w^{-1}\Delta)\smallsetminus\Phi_P|=1}} \frac{B_{P,w}}{\langle \varpi_P, \alpha_w^\vee \rangle}. \tag{3}$$

where

$$B_{P,w} := \widehat{\zeta}(2)^{|\Delta_P \cap w^{-1}\Phi^+|} \prod_{\alpha \in (w^{-1}\Delta)\cap(\Phi_P\smallsetminus\Delta_P)} \frac{1}{\langle \rho, \alpha^\vee \rangle - 1} \prod_{\alpha \in \Phi_P^+ \smallsetminus \Delta_P} \widehat{\zeta}(\langle \rho, \alpha^\vee \rangle + \delta_{\alpha,w}).$$

By Proposition 6 in §6, $\langle \varpi_P, \alpha_w^\vee \rangle = 1$. Hence, only $B_{P,w}$ becomes essential now. Thus to calculate the constants $v_{E_n,P}, n = 6,7,8$ for all associated maximal parabolic subgroups, we need to further calculate, for each very special $w \in W^\ddagger$,

(A) The cardinal number of $\Delta_P \cap w^{-1}\Phi^+$;
(B) The product $\prod_{\alpha \in (w^{-1}\Delta)\cap(\Phi_P\smallsetminus\Delta_P)} \frac{1}{\langle \rho, \alpha^\vee \rangle - 1}$;
(C) The constant $\delta_{\alpha,w}$ for $\sigma \in \Phi^+ \smallsetminus \Delta_P$;
(D) The product $\prod_{\alpha \in \Phi_P^+ \smallsetminus \Delta_P} \widehat{\zeta}(\langle \rho, \alpha^\vee \rangle + \delta_{\alpha,w})$.

All this is done in the Appendix at the end of this paper. With all this, now we are ready to state explicit formulas for the constants $v_{E_n,P}, n = 6,7,8$ obtained using Mathematica.

Theorem 8. *The constant $v_{G,P}$ for $G = E_n, n = 6,7,8$ is given by the following lists:*

(E_8, P_1)

$$v_{E_8,P_1} = -\frac{1}{3628800}\widehat{\zeta}(2)^5\widehat{\zeta}(3)^4(3+4\widehat{\zeta}(2)(-2+3\widehat{\zeta}(3)))\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)\widehat{\zeta}(7)$$
$$(9450+5040\widehat{\zeta}(2)^3(-9+10\widehat{\zeta}(3))+60\widehat{\zeta}(2)^2(1435+72\widehat{\zeta}(3)(-21+10\widehat{\zeta}(4)))$$
$$+7\widehat{\zeta}(2)(27\widehat{\zeta}(3)(225+16\widehat{\zeta}(4)(-19+25\widehat{\zeta}(5)))$$
$$+200(-37+27\widehat{\zeta}(4)\widehat{\zeta}(6)(\widehat{\zeta}(4)-8\widehat{\zeta}(5)\widehat{\zeta}(8)))))$$

(E_8, P_2)

$$v_{E_8,P_2} = \frac{1}{51840}\widehat{\zeta}(2)^5\widehat{\zeta}(3)^3\widehat{\zeta}(4)(9+18\widehat{\zeta}(2)^2-4\widehat{\zeta}(2)(8+9\widehat{\zeta}(3)(-1+2\widehat{\zeta}(4))))$$
$$(-45+\widehat{\zeta}(2)(200+8\widehat{\zeta}(2)(-25+36\widehat{\zeta}(3))-9\widehat{\zeta}(3)(25+16\widehat{\zeta}(4)(-2+5\widehat{\zeta}(5)))))$$

(E_8, P_3)

$$v_{E_8,P_3} = -\frac{1}{17280}\widehat{\zeta}(2)^4(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)^2(3+4\widehat{\zeta}(2)(-2+3\widehat{\zeta}(3)))\widehat{\zeta}(4)$$
$$(-45+\widehat{\zeta}(2)(200+8\widehat{\zeta}(2)(-25+36\widehat{\zeta}(3))-9\widehat{\zeta}(3)(25+16\widehat{\zeta}(4)(-2+5\widehat{\zeta}(5)))))$$

(E_8, P_4)

$$v_{E_8,P_4} = -\frac{1}{12700800}\widehat{\zeta}(2)^6\widehat{\zeta}(3)^5\widehat{\zeta}(4)^4\widehat{\zeta}(5)^3\widehat{\zeta}(6)^2\widehat{\zeta}(7)$$
$$(99225+2\widehat{\zeta}(2)(99225\widehat{\zeta}(2)^3+44100(-8+9\widehat{\zeta}(3))$$
$$-1568\widehat{\zeta}(2)^2(425+18\widehat{\zeta}(3)(-46+24\widehat{\zeta}(3)+25\widehat{\zeta}(4)))$$
$$+42\widehat{\zeta}(2)(19600+45\widehat{\zeta}(3)^2(385+12\widehat{\zeta}(4)(-64+35\widehat{\zeta}(4)+70\widehat{\zeta}(5)))$$
$$+24\widehat{\zeta}(3)(-1540+\widehat{\zeta}(4)(1568+25\widehat{\zeta}(5)(-64+63\widehat{\zeta}(6)))))$$
$$-144\widehat{\zeta}(3)\widehat{\zeta}(4)(3528+25\widehat{\zeta}(5)(-196+9\widehat{\zeta}(6)(32+49\widehat{\zeta}(7)(-1+4\widehat{\zeta}(8)))))))$$

(E_8, P_5)

$$v_{E_8,P_5} = \frac{1}{1814400}\widehat{\zeta}(2)^5(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)^4\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)$$
$$(14175+\widehat{\zeta}(2)(11025(-8+9\widehat{\zeta}(3))+4(882\widehat{\zeta}(2)^2(-25+36\widehat{\zeta}(3))$$
$$+5\widehat{\zeta}(2)(8330-9\widehat{\zeta}(3)(15\widehat{\zeta}(3)(-49+96\widehat{\zeta}(4))+2(833+16\widehat{\zeta}(4)(-49+45\widehat{\zeta}(5)))))$$
$$+36\widehat{\zeta}(3)\widehat{\zeta}(4)(-882+25\widehat{\zeta}(5)(49+36\widehat{\zeta}(6)(-2+7\widehat{\zeta}(7)))))))$$

(E_8, P_6)

$$\begin{aligned}
v_{E_8,P_6} =& \frac{1}{4191264000}\widehat{\zeta}(2)^6\widehat{\zeta}(3)^6\widehat{\zeta}(4)^5\widehat{\zeta}(5)^5\widehat{\zeta}(6)^4\widehat{\zeta}(7)^3\widehat{\zeta}(8)^2\widehat{\zeta}(9)^2\widehat{\zeta}(10)\widehat{\zeta}(11)\\
&(1164240\widehat{\zeta}(2)^4(-215+264\widehat{\zeta}(3))+41580\widehat{\zeta}(2)^3(14980+3\widehat{\zeta}(3)(-6139+3840\widehat{\zeta}(4)))\\
&\qquad -10914750(3+16\widehat{\zeta}(3)^2\widehat{\zeta}(4)\widehat{\zeta}(5))\\
&\quad +140\widehat{\zeta}(2)^2(-14850\widehat{\zeta}(3)^2(126+\widehat{\zeta}(4)(-387+224\widehat{\zeta}(4)+252\widehat{\zeta}(5)))\\
&\qquad -99\widehat{\zeta}(3)(-58135+48\widehat{\zeta}(4)(1487-225\widehat{\zeta}(5)+630\widehat{\zeta}(4)\widehat{\zeta}(6)))\\
&\quad +175(-24431+72\widehat{\zeta}(4)\widehat{\zeta}(6)(187\widehat{\zeta}(4)-216\widehat{\zeta}(5)\widehat{\zeta}(8))))\\
&\qquad +99\widehat{\zeta}(2)(6048000\widehat{\zeta}(3)^2\widehat{\zeta}(4)\widehat{\zeta}(5)\\
&\qquad\quad +\widehat{\zeta}(3)(-2149875+16\widehat{\zeta}(4)(202419-25\widehat{\zeta}(5)(2695+72\widehat{\zeta}(6)(-72+245\widehat{\zeta}(7)))))\\
&\qquad -9800(-245+9\widehat{\zeta}(4)\widehat{\zeta}(6)(15\widehat{\zeta}(4)\\
&\qquad\quad -8(-5\widehat{\zeta}(6)\widehat{\zeta}(9)\widehat{\zeta}(10)+3\widehat{\zeta}(8)(\widehat{\zeta}(5)+20\widehat{\zeta}(7)\widehat{\zeta}(10)\widehat{\zeta}(12)))))))
\end{aligned}$$

(E_8, P_7)

$$\begin{aligned}
v_{E_8,P_7} =& -\frac{1}{6652800}\widehat{\zeta}(2)^5(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)^5\widehat{\zeta}(4)^5\widehat{\zeta}(5)^4\widehat{\zeta}(6)^3\widehat{\zeta}(7)^3\widehat{\zeta}(8)^2\widehat{\zeta}(9)\widehat{\zeta}(10)\widehat{\zeta}(11)\\
&(-51975+44\widehat{\zeta}(2)^3(10255+48\widehat{\zeta}(3)(-448+225\widehat{\zeta}(3)))\\
&\qquad -440\widehat{\zeta}(2)^2(1540+3\widehat{\zeta}(3)(-819+210\widehat{\zeta}(3)+8\widehat{\zeta}(4)(39-70\widehat{\zeta}(5))))\\
&\quad +7\widehat{\zeta}(2)(47300+9(\widehat{\zeta}(3)(-4950+32\widehat{\zeta}(4)(132+25\widehat{\zeta}(5)(-11+6\widehat{\zeta}(6))))\\
&\qquad -275\widehat{\zeta}(6)(3\widehat{\zeta}(4)^2-32\widehat{\zeta}(4)\widehat{\zeta}(5)\widehat{\zeta}(8)+192\widehat{\zeta}(5)\widehat{\zeta}(8)\widehat{\zeta}(9)\widehat{\zeta}(12)))))
\end{aligned}$$

(E_8, P_8)

$$\begin{aligned}
v_{E_8,P_8} =& \frac{1}{22054032000}\widehat{\zeta}(2)^6\widehat{\zeta}(3)^6\widehat{\zeta}(4)^6\widehat{\zeta}(5)^6\widehat{\zeta}(6)^5\widehat{\zeta}(7)^5\widehat{\zeta}(8)^4\\
&\qquad \widehat{\zeta}(9)^4\widehat{\zeta}(10)^3\widehat{\zeta}(11)^3\widehat{\zeta}(12)^2\widehat{\zeta}(13)^2\widehat{\zeta}(14)\widehat{\zeta}(15)\widehat{\zeta}(16)\widehat{\zeta}(17)\\
&(-172297125+91891800\widehat{\zeta}(2)^4(-9+10\widehat{\zeta}(3))\\
&\qquad -24310\widehat{\zeta}(2)^3(-122605+36\widehat{\zeta}(3)(6153-3200\widehat{\zeta}(4)+150\widehat{\zeta}(3)(-20+21\widehat{\zeta}(4))))\\
&\quad +170\widehat{\zeta}(2)^2(-1081080\widehat{\zeta}(3)^2(10+3\widehat{\zeta}(4)(-5+4\widehat{\zeta}(5)))\\
&\qquad -117\widehat{\zeta}(3)(-252175+16\widehat{\zeta}(4)(13046+175\widehat{\zeta}(5)(-55+36\widehat{\zeta}(6))))\\
&\qquad +3850(-4745+36\widehat{\zeta}(4)\widehat{\zeta}(6)(13\widehat{\zeta}(4)-72\widehat{\zeta}(5)\widehat{\zeta}(8))))\\
&\quad -39\widehat{\zeta}(2)(51\widehat{\zeta}(3)(606375+16\widehat{\zeta}(4)(-40887+25\widehat{\zeta}(5)(1925+18\widehat{\zeta}(6)(-119+110\widehat{\zeta}(7)))))\\
&\qquad +1925(-16660+3\widehat{\zeta}(6)(765\widehat{\zeta}(4)^2+288\widehat{\zeta}(4)\widehat{\zeta}(8)(-17\widehat{\zeta}(5)+20\widehat{\zeta}(6)\widehat{\zeta}(10))\\
&\qquad\quad +5440\widehat{\zeta}(8)\widehat{\zeta}(12)(\widehat{\zeta}(5)\widehat{\zeta}(9)-18\widehat{\zeta}(10)\widehat{\zeta}(14)\widehat{\zeta}(18))))))
\end{aligned}$$

(E_7, P_1)

$$v_{E_7,P_1} = -\frac{1}{604800}\widehat{\zeta}(2)^4(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)^4\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)\widehat{\zeta}(7)$$
$$(5040\widehat{\zeta}(2)^3(-9+10\widehat{\zeta}(3))+378(25-32\widehat{\zeta}(3)^2\widehat{\zeta}(4))+60\widehat{\zeta}(2)^2(1435+72\widehat{\zeta}(3)(-21+10\widehat{\zeta}(4)))$$
$$+35\widehat{\zeta}(2)(27\widehat{\zeta}(3)(45+16\widehat{\zeta}(4)(-3+5\widehat{\zeta}(5)))+40(-37+27\widehat{\zeta}(4)\widehat{\zeta}(6)(\widehat{\zeta}(4)-8\widehat{\zeta}(5)\widehat{\zeta}(8)))))$$

(E_7, P_2)

$$v_{E_7,P_2} = -\frac{1}{8640}\widehat{\zeta}(2)^4\widehat{\zeta}(3)^2(3+4\widehat{\zeta}(2)(-2+3\widehat{\zeta}(3)))\widehat{\zeta}(4)$$
$$(-45+\widehat{\zeta}(2)(200+8\widehat{\zeta}(2)(-25+36\widehat{\zeta}(3))-9\widehat{\zeta}(3)(25+16\widehat{\zeta}(4)(-2+5\widehat{\zeta}(5)))))$$

(E_7, P_3)

$$v_{E_7,P_3} = -\frac{1}{1728}\widehat{\zeta}(2)^3(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)(3+4\widehat{\zeta}(2)(-2+3\widehat{\zeta}(3)))$$
$$(9+18\widehat{\zeta}(2)^2-4\widehat{\zeta}(2)(8+9\widehat{\zeta}(3)(-1+2\widehat{\zeta}(4))))$$

(E_7, P_4)

$$v_{E_7,P_4} = \frac{1}{907200}\widehat{\zeta}(2)^5\widehat{\zeta}(3)^4\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)$$
$$(14175+\widehat{\zeta}(2)(11025(-8+9\widehat{\zeta}(3))+4(882\widehat{\zeta}(2)^2(-25+36\widehat{\zeta}(3))$$
$$+5\widehat{\zeta}(2)(8330-9\widehat{\zeta}(3)(15\widehat{\zeta}(3)(-49+96\widehat{\zeta}(4))+2(833+16\widehat{\zeta}(4)(-49+45\widehat{\zeta}(5)))))$$
$$+36\widehat{\zeta}(3)\widehat{\zeta}(4)(-882+25\widehat{\zeta}(5)(49+36\widehat{\zeta}(6)(-2+7\widehat{\zeta}(7)))))))$$

(E_7, P_5)

$$v_{E_7,P_5} = \frac{1}{43200}\widehat{\zeta}(2)^4(-1+2\widehat{\zeta}(2))\widehat{\zeta}(3)^3\widehat{\zeta}(4)^2\widehat{\zeta}(5)$$
$$(-675+2\widehat{\zeta}(2)(675\widehat{\zeta}(2)^2-40\widehat{\zeta}(2)(65+9\widehat{\zeta}(3)(-12+5\widehat{\zeta}(3)+10\widehat{\zeta}(4)))$$
$$+9(200+\widehat{\zeta}(3)(-225+16\widehat{\zeta}(4)(18+25\widehat{\zeta}(5)(-1+3\widehat{\zeta}(6)))))))$$

(E_7, P_6)

$$v_{E_7,P_6} = \frac{1}{9072000}\widehat{\zeta}(2)^5\widehat{\zeta}(3)^5\widehat{\zeta}(4)^4\widehat{\zeta}(5)^4\widehat{\zeta}(6)^2\widehat{\zeta}(7)^2\widehat{\zeta}(8)\widehat{\zeta}(9)$$
$$(141750+453600\widehat{\zeta}(2)^4-1800\widehat{\zeta}(2)^3(833+15\widehat{\zeta}(3)(-35+48\widehat{\zeta}(4)))$$
$$-500\widehat{\zeta}(2)^2(-3773+18\widehat{\zeta}(3)(245-328\widehat{\zeta}(4)+42\widehat{\zeta}(3)(-2+3\widehat{\zeta}(4)))+2016\widehat{\zeta}(4)^2\widehat{\zeta}(6))$$
$$-21\widehat{\zeta}(2)(43000+\widehat{\zeta}(3)(-37125+48\widehat{\zeta}(4)(1197+25\widehat{\zeta}(5)(-25+72\widehat{\zeta}(6))))$$
$$-5400\widehat{\zeta}(4)\widehat{\zeta}(6)(5\widehat{\zeta}(4)-8\widehat{\zeta}(8)(\widehat{\zeta}(5)-10\widehat{\zeta}(6)\widehat{\zeta}(10)))))$$

(E_7, P_7)

$$v_{E_7,P_7} = \frac{1}{3326400}\widehat{\zeta}(2)^5\widehat{\zeta}(3)^5\widehat{\zeta}(4)^5\widehat{\zeta}(5)^4\widehat{\zeta}(6)^3\widehat{\zeta}(7)^3\widehat{\zeta}(8)^2\widehat{\zeta}(9)\widehat{\zeta}(10)\widehat{\zeta}(11)$$
$$(51975 + \widehat{\zeta}(2)(3850(-86 + 81\widehat{\zeta}(3)) - 44\widehat{\zeta}(2)^2(10255 + 48\widehat{\zeta}(3)(-448 + 225\widehat{\zeta}(3)))$$
$$+ 440\widehat{\zeta}(2)(1540 + 3\widehat{\zeta}(3)(-819 + 210\widehat{\zeta}(3) + 8\widehat{\zeta}(4)(39 - 70\widehat{\zeta}(5))))$$
$$+ 63(-32\widehat{\zeta}(3)\widehat{\zeta}(4)(132 + 25\widehat{\zeta}(5)(-11 + 6\widehat{\zeta}(6)))$$
$$+ 275\widehat{\zeta}(6)(3\widehat{\zeta}(4)^2 - 32\widehat{\zeta}(4)\widehat{\zeta}(5)\widehat{\zeta}(8) + 192\widehat{\zeta}(5)\widehat{\zeta}(8)\widehat{\zeta}(9)\widehat{\zeta}(12)))))$$

(E_6, P_1)

$$v_{E_6,P_1} = -\frac{1}{302400}\widehat{\zeta}(2)^4\widehat{\zeta}(3)^4\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)\widehat{\zeta}(7)$$
$$(9450 + 5040\widehat{\zeta}(2)^3(-9 + 10\widehat{\zeta}(3)) + 60\widehat{\zeta}(2)^2(1435 + 72\widehat{\zeta}(3)(-21 + 10\widehat{\zeta}(4)))$$
$$+ 7\widehat{\zeta}(2)(27\widehat{\zeta}(3)(225 + 16\widehat{\zeta}(4)(-19 + 25\widehat{\zeta}(5))) + 200(-37 + 27\widehat{\zeta}(4)\widehat{\zeta}(6)(\widehat{\zeta}(4) - 8\widehat{\zeta}(5)\widehat{\zeta}(8)))))$$

(E_6, P_2)

$$v_{E_6,P_2} = -\frac{1}{1440}\widehat{\zeta}(2)^3(-1 + 2\widehat{\zeta}(2))\widehat{\zeta}(3)^2\widehat{\zeta}(4)$$
$$(-45 + \widehat{\zeta}(2)(200 + 8\widehat{\zeta}(2)(-25 + 36\widehat{\zeta}(3)) - 9\widehat{\zeta}(3)(25 + 16\widehat{\zeta}(4)(-2 + 5\widehat{\zeta}(5)))))$$

(E_6, P_3)

$$v_{E_6,P_3} = \frac{1}{288}\widehat{\zeta}(2)^2(-1 + 2\widehat{\zeta}(2))(3 + 4\widehat{\zeta}(2)(-2 + 3\widehat{\zeta}(3)))^2$$

(E_6, P_4)

$$v_{E_6,P_4} = \frac{1}{21600}\widehat{\zeta}(2)^4\widehat{\zeta}(3)^3\widehat{\zeta}(4)^2\widehat{\zeta}(5)$$
$$(-675 + 2\widehat{\zeta}(2)(675\widehat{\zeta}(2)^2 - 40\widehat{\zeta}(2)(65 + 9\widehat{\zeta}(3)(-12 + 5\widehat{\zeta}(3) + 10\widehat{\zeta}(4)))$$
$$+ 9(200 + \widehat{\zeta}(3)(-225 + 16\widehat{\zeta}(4)(18 + 25\widehat{\zeta}(5)(-1 + 3\widehat{\zeta}(6)))))))$$

(E_6, P_5)

$$v_{E_6,P_5} = -\frac{1}{1440}\widehat{\zeta}(2)^3(-1 + 2\widehat{\zeta}(2))\widehat{\zeta}(3)^2\widehat{\zeta}(4)$$
$$(-45 + \widehat{\zeta}(2)(200 + 8\widehat{\zeta}(2)(-25 + 36\widehat{\zeta}(3)) - 9\widehat{\zeta}(3)(25 + 16\widehat{\zeta}(4)(-2 + 5\widehat{\zeta}(5)))))$$

(E_6, P_6)

$$v_{E_6,P_6} = -\frac{1}{302400}\widehat{\zeta}(2)^4\widehat{\zeta}(3)^4\widehat{\zeta}(4)^3\widehat{\zeta}(5)^2\widehat{\zeta}(6)\widehat{\zeta}(7)$$
$$(9450 + 5040\widehat{\zeta}(2)^3(-9 + 10\widehat{\zeta}(3)) + 60\widehat{\zeta}(2)^2(1435 + 72\widehat{\zeta}(3)(-21 + 10\widehat{\zeta}(4)))$$
$$+ 7\widehat{\zeta}(2)(27\widehat{\zeta}(3)(225 + 16\widehat{\zeta}(4)(-19 + 25\widehat{\zeta}(5)))$$
$$+ 200(-37 + 27\widehat{\zeta}(4)\widehat{\zeta}(6)(\widehat{\zeta}(4) - 8\widehat{\zeta}(5)\widehat{\zeta}(8)))))$$

Corollary 9. *$v_{E_n,p} \neq 0$ for all $n = 6, 7, 8$ and their maximal parabolic subgroups.*

Proof. This is simple. For example, with (E_8, P_1), we have

$$\begin{aligned} v_{E_8,P_1} = & -\frac{(\pi^3\zeta(3)^4 \cdot (4\pi - 3(3+\zeta(3))) \cdot \zeta(5)^2 \cdot \zeta(7))}{752437406964960460800000000} \\ & \cdot (-567000\pi^3(-63+2\zeta(3)) + 7938000\pi(185+27\zeta(3)) \\ & - 79380\pi^2(5125+136\zeta(3)) + 8\pi^8(-35+12\zeta(5)) \\ & - 4465125(360+\zeta(3)(135+2\zeta(5)))) \end{aligned}$$

Approximately,

$$v_{E_8,P_1} = \frac{206392.}{752437406964960460800000000} \neq 0.$$

Our verifications for other cases are the same. □

Consequently, by the theorem recalled in §4, we have proved the following

Theorem 10. *All but finitely many zeros of* $\widehat{\zeta}_{\mathbb{Q}}^{E_8/P_1}(s)$ *are simple and lie on the line* $\mathrm{Re}(s) = -7$.

Remark: The structures for $W^\ddagger$ and $v_{E_n,P}$ as stated above is strikingly uniform. Besides that their cardinal numbers are 2^n, the number of non-trivial factors of v_{E_n,P_i} in fact is the same as the number of connected components of the Dynkin diagram by deleting the i-th simple root. Furthermore, there is a nice symmetry hidden in our formula. For example,

$$v_{E_6,P_1} = v_{E_6,P_6}, \qquad v_{E_6,P_2} = v_{E_6,P_5}.$$

All this is not just a coincidence: they are dominated a force exposed in our conjecture on Stability, Parabolic Reduction and Masses. For example, from $|W^\ddagger| = s^{n-1}$, we know that, from definition, $v_{E_n,P}$ consists of 2^{n-1} terms. This is exactly the number appeared in the Arthur's analytic truncation theory: Set of all standard parabolic subgroups is bijectively correspondence to a power set. For more details, please refer to our works.[1]

Appendix A. Cardinal Number of $\Delta_P \cap w^{-1}\Phi^+$

Next, we give the cardinal number of the set $\Delta_P \cap w^{-1}\Phi_n^+$ for each very special element $w \in W_{n,P}^\ddagger$, appeared as the power of $\widehat{\zeta}(2)$. Since w is a bijection for the root system, it suffices to calculate the cardinal number of $w\Delta_P \cap \Phi_n^+$. Our calculations give the following

Proposition 11. *With the order of* $w \in \mathfrak{W}_{n,P}^\ddagger$ *as in ddag.nb,* $|\Delta_P \cap w^{-1}\Phi^+|$ *for* $w \in W_{n,P}^\ddagger$ *is given by the following lists:*

$(W_{8,1}^\ddagger)$

7, 5, 6, 6, 6, 4, 5, 5, 6, 4, 5, 5, 5, 3, 4, 4, 5, 3, 4, 4, 4, 2, 3, 3, 5, 3, 4, 4, 4, 2, 3, 3,
4, 2, 3, 3, 3, 1, 2, 2, 5, 3, 4, 4, 6, 4, 5, 5, 4, 2, 3, 3, 5, 3, 4, 4, 5, 3, 4, 4, 6, 4, 5, 5,
6, 4, 5, 5, 5, 3, 4, 4, 5, 3, 4, 4, 4, 2, 3, 3, 4, 2, 3, 3, 5, 3, 4, 4, 3, 1, 2, 2, 4, 2, 3, 3,
2, 0, 1, 1, 3, 1, 2, 2, 3, 1, 2, 2, 4, 2, 3, 3, 3, 1, 2, 2, 4, 2, 3, 3, 4, 2, 3, 3, 5, 3, 4, 4

[1] This will be extended. With 16G data obtained from the calculation of a half year long, I am simply exhausted.

$(W^{\ddagger}_{8,2})$

5, 3, 4, 2, 4, 3, 3, 4, 6, 4, 5, 3, 5, 4, 4, 5, 4, 2, 3, 1, 3, 2, 2, 3, 5, 3, 4, 2, 4, 3, 3, 4,
7, 5, 6, 4, 6, 5, 5, 6, 5, 3, 4, 2, 4, 3, 3, 4, 6, 4, 5, 3, 5, 4, 4, 5, 6, 4, 5, 3, 5, 4, 4, 5,
5, 3, 4, 2, 4, 3, 3, 4, 4, 2, 3, 1, 3, 2, 2, 3, 4, 2, 3, 1, 3, 2, 2, 3, 3, 1, 2, 0, 2, 1, 1, 2,
4, 2, 3, 1, 3, 2, 2, 3, 5, 3, 4, 2, 4, 3, 3, 4, 5, 3, 4, 2, 4, 3, 3, 4, 6, 4, 5, 3, 5, 4, 4, 5

$(W^{\ddagger}_{8,3})$

7, 5, 5, 3, 4, 4, 4, 4, 6, 5, 6, 6, 5, 6, 5, 5, 6, 4, 4, 2, 3, 3, 3, 3, 5, 4, 5, 5, 4, 5, 4, 4,
5, 3, 3, 1, 2, 2, 2, 2, 4, 3, 4, 4, 3, 4, 3, 3, 6, 4, 4, 2, 3, 3, 3, 3, 5, 4, 5, 5, 4, 5, 4, 4,
5, 3, 3, 1, 2, 2, 2, 2, 4, 3, 4, 4, 3, 4, 3, 3, 4, 2, 2, 0, 1, 1, 1, 1, 3, 2, 3, 3, 2, 3, 2, 2,
6, 4, 4, 2, 3, 3, 3, 3, 5, 4, 5, 5, 4, 5, 4, 4, 5, 3, 3, 1, 2, 2, 2, 2, 4, 3, 4, 4, 3, 4, 3, 3

$(W^{\ddagger}_{8,4})$

7, 5, 3, 5, 2, 4, 2, 4, 1, 3, 2, 4, 1, 3, 1, 3, 0, 2, 4, 3, 2, 2, 1, 3, 3, 4, 2, 3, 3, 2, 3, 4,
3, 4, 2, 2, 1, 3, 2, 3, 4, 5, 4, 4, 3, 3, 2, 5, 4, 3, 6, 4, 5, 5, 5, 5, 6, 4, 4, 3, 4, 4, 5, 4,
3, 6, 4, 5, 5, 5, 6, 4, 4, 3, 4, 3, 6, 4, 5, 5, 5, 5, 4, 4, 3, 3, 2, 4, 3, 3, 2, 5, 5, 6, 5, 4,
4, 4, 3, 4, 4, 3, 3, 3, 3, 2, 2, 3, 3, 2, 2, 2, 2, 1, 1, 5, 5, 6, 4, 4, 3, 4, 4, 3, 4, 3, 3, 2

$(W^{\ddagger}_{8,5})$

7, 5, 3, 5, 2, 4, 2, 4, 1, 3, 4, 3, 2, 3, 3, 4, 3, 4, 2, 3, 4, 4, 4, 3, 3, 3, 3, 2, 2, 4, 3, 4,
6, 5, 5, 4, 4, 3, 6, 5, 4, 3, 4, 5, 5, 4, 5, 6, 4, 4, 5, 5, 6, 5, 5, 6, 4, 4, 3, 5, 5, 4, 6, 5,
6, 4, 2, 4, 1, 3, 1, 3, 0, 2, 3, 2, 1, 2, 2, 3, 2, 3, 1, 2, 3, 3, 3, 2, 2, 2, 2, 1, 1, 3, 2, 3,
5, 4, 4, 3, 3, 2, 5, 4, 3, 2, 3, 4, 4, 3, 4, 5, 3, 3, 4, 4, 5, 4, 4, 5, 3, 3, 2, 4, 4, 3, 5, 4

$(W^{\ddagger}_{8,6})$

7, 6, 6, 6, 5, 6, 5, 5, 5, 4, 4, 5, 5, 6, 5, 4, 5, 3, 4, 4, 5, 4, 5, 3, 4, 4, 5, 4, 3, 4, 4, 5,
2, 3, 3, 4, 4, 3, 4, 3, 5, 5, 5, 4, 4, 1, 2, 2, 3, 2, 3, 3, 4, 2, 3, 3, 4, 3, 4, 4, 5, 5, 4, 2,
3, 3, 4, 4, 3, 3, 4, 3, 2, 4, 3, 3, 2, 4, 3, 4, 3, 5, 6, 6, 4, 4, 2, 1, 3, 2, 3, 2, 4, 3, 1, 0,
2, 1, 2, 1, 3, 2, 2, 1, 3, 2, 3, 2, 4, 5, 5, 3, 2, 1, 3, 2, 3, 2, 4, 3, 3, 2, 4, 3, 4, 3, 5, 4

$(W^{\ddagger}_{8,7})$

7, 6, 6, 5, 6, 5, 5, 4, 4, 3, 3, 2, 4, 3, 3, 2, 2, 1, 3, 2, 4, 3, 3, 2, 2, 1, 3, 2, 2, 1, 1, 0,
2, 1, 3, 2, 4, 3, 5, 4, 3, 2, 2, 1, 3, 2, 4, 3, 4, 3, 3, 2, 4, 3, 5, 4, 3, 2, 4, 3, 4, 3, 5, 4,
4, 3, 5, 4, 5, 4, 6, 5, 6, 5, 4, 3, 3, 2, 4, 3, 3, 2, 2, 1, 3, 2, 4, 3, 5, 4, 4, 3, 3, 2, 4, 3,
5, 4, 4, 3, 5, 4, 5, 4, 6, 5, 4, 3, 3, 2, 4, 3, 5, 4, 5, 4, 4, 3, 5, 4, 6, 5, 4, 3, 5, 4, 5, 4

$(W^{\ddagger}_{8,8})$

5, 7, 6, 6, 5, 4, 3, 4, 4, 3, 2, 3, 2, 3, 3, 4, 1, 2, 2, 3, 0, 1, 1, 2, 1, 2, 2, 5, 5, 3, 1, 2,
2, 3, 2, 3, 3, 4, 5, 4, 4, 3, 4, 5, 4, 3, 4, 5, 2, 3, 3, 4, 3, 4, 4, 5, 4, 5, 5, 6, 4, 5, 5, 4,
4, 3, 4, 3, 3, 2, 5, 5, 4, 3, 4, 4, 1, 2, 2, 3, 2, 3, 3, 6, 4, 2, 3, 3, 4, 3, 4, 4, 5, 5, 6, 4,
5, 4, 5, 3, 4, 6, 5, 4, 6, 4, 3, 3, 4, 2, 3, 1, 2, 2, 3, 2, 3, 3, 4, 5, 5, 4, 4, 3, 2, 3, 3, 4

$(W^{\ddagger}_{7,1})$

6, 5, 5, 4, 5, 4, 4, 3, 4, 3, 3, 2, 4, 3, 4, 3, 3, 2, 3, 2, 2, 1, 4, 3, 5, 4, 4, 3, 3, 2, 3, 2,
4, 3, 3, 2, 4, 3, 4, 3, 2, 1, 3, 2, 1, 0, 2, 1, 2, 1, 3, 2, 2, 1, 3, 2, 5, 4, 5, 4, 3, 2, 4, 3

$(W^{\ddagger}_{7,2})$

6, 4, 4, 2, 5, 5, 3, 3, 3, 1, 2, 2, 3, 1, 2, 2, 2, 0, 1, 1, 3, 1, 2, 2, 5, 3, 4, 2, 4, 4, 3, 3,
4, 2, 4, 2, 3, 3, 3, 3, 5, 3, 4, 4, 4, 2, 3, 3, 5, 3, 4, 4, 3, 1, 2, 2, 4, 2, 5, 3, 3, 3, 4, 4

$(W^{\ddagger}_{7,3})$

6, 4, 4, 2, 3, 1, 5, 4, 3, 2, 4, 5, 2, 3, 5, 3, 5, 3, 5, 3, 2, 2, 4, 3, 4, 3, 3, 4, 3, 4, 4, 4,
4, 2, 4, 2, 1, 1, 3, 2, 3, 2, 2, 3, 2, 3, 3, 3, 5, 3, 3, 1, 2, 0, 4, 3, 2, 1, 3, 4, 1, 2, 4, 2

$(W^{\ddagger}_{7,4})$

6, 4, 4, 3, 3, 2, 3, 4, 4, 5, 3, 3, 4, 5, 2, 4, 4, 3, 3, 5, 4, 2, 5, 3, 2, 4, 4, 1, 3, 3, 2, 3,
4, 5, 4, 3, 2, 3, 4, 3, 2, 3, 5, 1, 2, 3, 2, 2, 3, 4, 4, 1, 2, 3, 2, 1, 2, 3, 3, 0, 1, 2, 2, 1

$(W^{\ddagger}_{7,5})$

6, 4, 5, 3, 3, 2, 3, 2, 2, 1, 3, 2, 2, 1, 2, 1, 1, 0, 5, 4, 4, 3, 3, 2, 3, 2, 2, 1, 4, 4, 3, 3,
3, 2, 5, 4, 4, 4, 3, 3, 3, 2, 5, 4, 4, 3, 4, 5, 3, 4, 3, 2, 3, 2, 2, 1, 5, 4, 4, 3, 4, 3, 3, 2

$(W^{\ddagger}_{7,6})$

6, 5, 5, 4, 5, 4, 4, 3, 4, 3, 4, 2, 3, 4, 3, 3, 5, 4, 4, 1, 2, 2, 3, 2, 3, 3, 4, 4, 2, 3, 3, 4,
3, 3, 4, 2, 3, 2, 3, 3, 4, 4, 1, 2, 2, 3, 0, 1, 1, 2, 1, 2, 2, 5, 5, 3, 1, 2, 2, 3, 2, 3, 3, 4

$(W^{\ddagger}_{7,7})$

6, 5, 3, 2, 3, 4, 2, 1, 2, 3, 3, 4, 2, 1, 2, 1, 0, 1, 2, 3, 3, 2, 3, 4, 4, 3, 2, 3, 2, 1, 2, 3,
4, 2, 1, 2, 3, 3, 2, 3, 4, 3, 2, 3, 4, 4, 3, 4, 5, 2, 3, 3, 4, 3, 4, 5, 5, 4, 3, 4, 5, 4, 4, 5

$(W^{\ddagger}_{6,1})$

5, 4, 4, 3, 3, 2, 3, 3, 2, 2, 1, 3, 4, 3, 2, 2, 3, 2, 3, 3, 1, 2, 0, 1, 1, 2, 1, 2, 4, 4, 2, 3

$(W^{\ddagger}_{6,2})$

5, 3, 4, 2, 2, 1, 2, 1, 1, 0, 2, 1, 4, 3, 3, 2, 3, 3, 2, 2, 4, 3, 3, 2, 4, 3, 2, 1, 3, 4, 2, 3

$(W^{\ddagger}_{6,3})$

5, 3, 4, 2, 4, 2, 3, 1, 4, 4, 3, 3, 3, 3, 2, 2, 3, 3, 2, 2, 2, 2, 1, 1, 4, 2, 3, 1, 3, 1, 2, 0

$(W^{\ddagger}_{6,4})$

5, 3, 2, 3, 4, 2, 1, 2, 3, 3, 4, 2, 1, 2, 1, 0, 1, 2, 3, 3, 2, 3, 4, 4, 3, 2, 3, 2, 1, 2, 3, 4

$(W^{\ddagger}_{6,5})$

5, 4, 4, 3, 4, 3, 3, 2, 4, 3, 3, 2, 3, 2, 2, 1, 4, 3, 3, 2, 3, 2, 2, 1, 3, 2, 2, 1, 2, 1, 1, 0

$(W^{\ddagger}_{6,6})$

5, 4, 3, 4, 4, 3, 2, 3, 2, 3, 3, 4, 1, 2, 2, 3, 0, 1, 1, 2, 1, 2, 2, 3, 1, 2, 2, 3, 2, 3, 3, 4

Appendix B. $\prod_{\alpha\in(\mathbf{w^{-1}\Delta})\cap(\mathbf{\Phi_P}\smallsetminus\mathbf{\Delta_P})}\frac{\mathbf{1}}{\langle\rho,\alpha^\vee\rangle-\mathbf{1}}$

In this section, for each very special Weyl element $w\in\mathfrak{W}^\ddagger_{n,P}$, we give the rational factors contribution $\prod_{\alpha\in(w^{-1}\Delta)\cap(\Phi_P\smallsetminus\Delta_P)}\frac{1}{\langle\rho,\alpha^\vee\rangle-1}$. Our calculation gives the following

Proposition 12. *For very special Weyl elements $w\in W^\ddagger_{n,P}$, the corresponding constants $\prod_{\alpha\in(w^{-1}\Delta)\cap(\Phi_P\smallsetminus\Delta_P)}(\langle\rho,\alpha^\vee\rangle-1)$ are given by the following lists.*

$(W^\ddagger_{8,1})$

$1, 4, -3, -3, -8, -32, 24, 24, -7, -28, 21, 21, 20, 80, -60, -60, 12, 48, -36, -36,$
$-18, -72, 54, 54, 20, 80, -60, -60, -18, -72, 54, 54, -36, -144, 108, 108, 24, 96,$
$-72, -72, 10, 40, -30, -30, -6, -24, 18, 18, -16, -64, 48, 48, 10, 40, -30, -30, 25,$
$100, -75, -75, -8, -32, 24, 24, -8, -32, 24, 24, 30, 120, -90, -90, 12, 48, -36, -36,$
$-32, -128, 96, 96, -24, -96, 72, 72, 15, 60, -45, -45, 24, 96, -72, -72, -16, -64,$
$48, 48, -32, -128, 96, 96, 24, 96, -72, -72, 54, 216, -162, -162, -32, -128, 96, 96,$
$36, 144, -108, -108, -24, -96, 72, 72, -64, -256, 192, 192, 30, 120, -90, -90$

$(W^\ddagger_{8,2})$

$9, 81, -36, -72, -36, 54, 54, -36, -5, -45, 20, 40, 20, -30, -30, 20, -12, -108,$
$48, 96, 48, -72, -72, 48, 12, 108, -48, -96, -48, 72, 72, -48, 1, 9, -4, -8, -4, 6,$
$6, -4, 8, 72, -32, -64, -32, 48, 48, -32, -5, -45, 20, 40, 20, -30, -30, 20, -5, -45,$
$20, 40, 20, -30, -30, 20, 16, 144, -64, -128, -64, 96, 96, -64, -18, -162, 72, 144,$
$72, -108, -108, 72, -18, -162, 72, 144, 72, -108, -108, 72, 16, 144, -64, -128,$
$-64, 96, 96, -64, -12, -108, 48, 96, 48, -72, -72, 48, 12, 108, -48, -96, -48, 72,$
$72, -48, 8, 72, -32, -64, -32, 48, 48, -32, -5, -45, 20, 40, 20, -30, -30, 20$

$(W^\ddagger_{8,3})$

$1, 16, 9, 16, -18, -18, -12, -12, -5, 12, -5, -5, 12, -5, 8, 8, -2, -32, -18, -32,$
$36, 36, 24, 24, 10, -24, 10, 10, -24, 10, -16, -16, 4, 64, 36, 64, -72, -72, -48,$
$-48, -20, 48, -20, -20, 48, -20, 32, 32, -3, -48, -27, -48, 54, 54, 36, 36, 15,$
$-36, 15, 15, -36, 15, -24, -24, 6, 96, 54, 96, -108, -108, -72, -72, -30, 72, -30,$
$-30, 72, -30, 48, 48, -8, -128, -72, -128, 144, 144, 96, 96, 40, -96, 40, 40,$
$-96, 40, -64, -64, -3, -48, -27, -48, 54, 54, 36, 36, 15, -36, 15, 15, -36, 15,$
$-24, -24, 6, 96, 54, 96, -108, -108, -72, -72, -30, 72, -30, -30, 72, -30, 48, 48$

$(W^{\ddagger}_{8,4})$

$$1, 49, 100, 36, -128, -60, -144, -64, 144, 72, -128, -60, 144, 81, 144, 72,$$
$$-128, -72, -72, 120, -162, -144, 144, 100, 120, -90, -128, 120, 100, -128,$$
$$144, -96, 120, -72, -144, -162, 144, 144, -162, 144, -90, 25, -32, -48, 60, 72,$$
$$-64, 20, -60, 72, -8, -64, 35, 14, 30, 42, -8, -45, -48, 48, -24, -75, 20, -36, 40,$$
$$-8, -45, 28, 21, 24, -8, -30, -36, 40, -80, 96, -8, -24, 21, 28, 18, 18, -45, -48,$$
$$72, 60, -64, -75, 108, 108, -108, 14, 35, -8, 24, -30, -64, -60, 72, -60, -60,$$
$$80, 96, 96, 96, -96, -108, 96, 80, -108, -108, -108, -96, 96, 96, 30, 42, -8, -48,$$
$$-45, 48, -75, -80, 96, -75, 108, 108, -108$$

$(W^{\ddagger}_{8,5})$

$$1, 36, 64, 25, -72, -36, -72, -36, 64, 36, -50, 72, -72, 64, 64, -60, 72, -50,$$
$$-72, 81, -60, -40, -40, 48, 54, 54, 48, -48, -48, -48, 54, -48, -7, 30, 20, -24,$$
$$-48, 54, -7, 15, -30, 32, -36, 12, 24, -48, 15, -7, -20, -20, 18, 18, -7, 20, 30,$$
$$-7, -24, -30, 32, 24, 12, -36, -7, 16, -2, -72, -128, -50, 144, 72, 144, 72, -128,$$
$$-72, 100, -144, 144, -128, -128, 120, -144, 100, 144, -162, 120, 80, 80, -96,$$
$$-108, -108, -96, 96, 96, 96, -108, 96, 14, -60, -40, 48, 96, -108, 14, -30, 60,$$
$$-64, 72, -24, -48, 96, -30, 14, 40, 40, -36, -36, 14, -40, -60, 14, 48, 60, -64,$$
$$-48, -24, 72, 14, -32$$

$(W^{\ddagger}_{8,6})$

$$1, -11, -12, -9, 27, -10, 20, 28, 20, -30, -54, 24, 24, -8, 32, -32, 14, 40, -54,$$
$$-30, 28, -108, 42, 144, -64, -24, 14, -96, 72, -32, -60, 25, -108, 48, 96, -40,$$
$$-64, 96, -36, 48, 28, 49, 35, -42, -60, 144, -64, -144, 60, -243, 108, 240, -96,$$
$$-108, 48, 96, -40, 144, -64, -108, 42, 56, -96, -128, 180, 96, -96, -90, 120,$$
$$100, -60, 96, -128, -80, 120, 48, -64, -48, 72, -45, 60, 30, -12, -12, -216, -48,$$
$$-72, 96, 72, -108, 72, -96, -50, 80, 96, -128, -96, 144, -108, 144, 80, -128,$$
$$-162, 216, 144, -216, 192, -256, -150, 70, 70, 250, -72, 96, 72, -108, 72, -96,$$
$$-50, 80, 96, -128, -80, 120, -90, 120, 56, -96$$

$(W^{\ddagger}_{8,7})$

$$1, -2, -11, 22, -9, 18, 16, -32, -150, 300, 128, -256, -80, 160, 72, -144, -72,$$
$$144, 54, -108, -30, 60, 128, -256, -108, 216, 72, -144, -72, 144, 64, -128, -48,$$
$$96, 32, -64, -50, 100, 48, -96, 48, -96, -48, 96, 36, -72, -20, 40, -45, 90, 48,$$
$$-96, -36, 72, 18, -36, 64, -128, -40, 80, -60, 120, 16, -32, -60, 120, 35, -70,$$
$$64, -128, -12, 24, -12, 24, -80, 160, 72, -144, -48, 96, 54, -108, -48, 96, 36,$$
$$-72, -24, 48, 30, -60, -36, 72, 36, -72, -27, 54, 15, -30, -40, 80, 25, -50, 35, -70,$$
$$-9, 18, -30, 60, 32, -64, -24, 48, 12, -24, 18, -36, -20, 40, 15, -30, -7, 14, -50,$$
$$100, 30, -60, 48, -96$$

$(W^{\ddagger}_{8,8})$

$56, 1, -17, -13, 120, -128, 120, -105, -288, 300, -256, 240, -96, 108, 90, -72,$
$144, -162, -144, 120, -128, 144, 144, -128, 216, -216, -256, 20, 70, 250, 96,$
$-108, -96, 80, -128, 120, 120, -96, 30, -36, -60, 48, -96, 18, -30, 100, -90, 42,$
$-64, 72, 60, -48, 40, -45, -36, 28, -32, 20, 14, -8, -32, 27, 42, -100, -48, 72,$
$-60, 54, 108, -72, 77, 21, -24, 40, -36, -72, 96, -108, -108, 96, -144, 144, 160,$
$-11, -150, -72, 81, 72, -60, 80, -75, -70, 54, 24, -10, -75, 35, -40, 24, 48, -30,$
$-14, 72, -90, -18, -72, 96, 72, -60, -72, 64, 96, -96, -162, 160, -108, 96, 192,$
$-180, 24, 40, -48, -48, 48, -64, 90, 72, -96$

$(W^{\ddagger}_{7,1})$

$1, -2, -7, 14, -8, 16, 20, -40, 12, -24, -18, 36, 30, -60, 20, -40, -18,$
$36, -36, 72, 24, -48, 10, -20, -6, 12, 12, -24, -32, 64, -16, 32, 10,$
$-20, -24, 48, 25, -50, 15, -30, 24, -48, -16, 32, -32, 64, 24, -48,$
$54, -108, -32, 64, 36, -72, -24, 48, -8, 16, -8, 16, -64, 128, 30, -60$

$(W^{\ddagger}_{7,2})$

$1, 4, 16, 64, -3, -3, -48, -48, -18, -72, 54, 54, -18, -72, 54, 54, 16,$
$64, -48, -48, -12, -48, 36, 36, -5, -20, 12, 48, 15, 15, -36, -36, 8,$
$32, 8, 32, -24, -24, -24, -24, -5, -20, 15, 15, 9, 36, -27, -27, -5,$
$-20, 15, 15, -12, -48, 36, 36, 12, 48, -5, -20, -36, -36, 15, 15$

$(W^{\ddagger}_{7,3})$

$1, 9, 4, 36, -8, -32, -4, 6, -16, 24, 6, -4, 24, -16, -4, -16, -3, -27,$
$-3, -27, 24, 24, 12, -18, 12, -18, -18, 12, -18, 12, 12, 12, 6, 54, 6,$
$54, -48, -48, -24, 36, -24, 36, 36, -24, 36, -24, -24, -24, -2, -18,$
$-8, -72, 16, 64, 8, -12, 32, -48, -12, 8, -48, 32, 8, 32$

$(W^{\ddagger}_{7,4})$

$1, 36, 25, -36, -36, 36, -50, 20, 30, -7, -24, -60, 15, -7, 64, 12, 24,$
$-48, -60, -7, 15, 72, -7, -48, 81, 18, 18, -72, -20, -36, 54, -50,$
$30, -7, 20, -24, 64, -40, 16, -40, 72, -48, -7, -72, 48, -30, 54, 64,$
$-48, 24, 12, -72, 54, -30, 48, -72, 54, -36, -20, 64, -48, 32, 32, -48$

$(W^{\ddagger}_{7,5})$

$1, 25, -2, -50, -32, 64, -36, 72, 36, -72, -32, 64, 36, -72, 36, -72,$
$-32, 64, -6, 20, 12, -40, -24, 48, -27, 54, 24, -48, 10, 15, -20, -30,$
$-16, 32, -6, 12, 15, 10, -30, -20, -16, 32, -6, 12, 12, -24, 20, -6,$
$-40, 12, -27, 54, -24, 48, 24, -48, -6, 12, 12, -24, 16, -32, -18, 36$

$(W^{\ddagger}_{7,6})$

$$1,-9,-10,18,-8,16,36,-48,24,-24,20,36,-32,16,-24,-24,-7,$$
$$21,12,-48,48,81,-80,36,-32,-48,36,48,32,-45,-24,24,-60,$$
$$-20,12,64,-60,32,-36,-30,36,24,-48,54,48,-40,64,-72,-72,$$
$$64,-108,108,128,-10,-10,-125,-48,54,48,-40,64,-60,-60,48$$

$(W^{\ddagger}_{7,7})$

$$1,-11,-150,128,-80,48,72,-72,54,-30,-50,30,128,-108,72,$$
$$-72,64,-48,32,-50,-30,32,-24,12,48,-80,72,-48,54,-48,36,$$
$$-24,30,48,-48,36,-20,-36,36,-27,15,-45,48,-36,18,18,-20,$$
$$15,-7,64,-40,-40,25,-60,35,-12,-9,16,-60,35,-9,16,64,-12$$

$(W^{\ddagger}_{6,1})$

$$1,-7,-8,20,12,-18,30,20,-18,-36,24,10,-6,12,-32,-16,$$
$$10,-24,25,15,24,-16,-32,24,54,-32,36,-24,-8,-8,-64,30$$

$(W^{\ddagger}_{6,2})$

$$1,16,-2,-32,-18,36,-18,36,16,-32,-12,24,-5,12,10,-24,$$
$$8,8,-16,-16,-5,10,9,-18,-5,10,-12,24,12,-5,-24,10$$

$(W^{\ddagger}_{6,3})$

$$1,4,-3,-12,-3,-12,4,16,-3,-3,9,9,9,9,-12,-12,6,6,-18,$$
$$-18,-18,-18,24,24,-2,-8,6,24,6,24,-8,-32$$

$(W^{\ddagger}_{6,4})$

$$1,25,-32,20,-6,-36,36,-27,15,10,-6,-32,36,-24,36,-32,$$
$$24,-16,10,15,-16,12,-6,-6,20,-24,16,-27,24,-18,12,-6$$

$(W^{\ddagger}_{6,5})$

$$1,-2,-5,10,-5,10,8,-16,-5,10,9,-18,12,-24,-12,24,-5,10,$$
$$8,-16,12,-24,-12,24,16,-32,-18,36,-18,36,16,-32$$

$(W^{\ddagger}_{6,6})$

$$1,-8,12,-7,-8,30,-32,20,-16,12,15,-6,24,-18,-24,10,-32,$$
$$24,36,-16,54,-36,-64,25,24,-18,-24,10,-32,20,30,-8$$

Appendix C. Probability $\delta_{\alpha,\mathbf{w}}$

Before we are able to calculate the product $\prod_{\alpha\in\Phi_P^+\smallsetminus\Delta_P}\widehat{\zeta}(\langle\rho,\alpha^\vee\rangle+\delta_{\alpha,w})$, we in this section calculate $\delta_{\alpha,w}$ for $\alpha\in\Phi^+\smallsetminus\Delta_P$ and $w\in\mathfrak{W}^\ddagger$, by detecting whether $w\alpha\in\Phi^+$. Our calculations give the follows, corresponding to cg[2] in the program. (We remark that $W^\ddagger$ in all cases are also given heres.)

Proposition 13. $(w,\delta_{\alpha,w})$ *for* $\alpha\in\Phi^+\smallsetminus\Delta_P$ *and* $w\in\mathfrak{W}^\ddagger$ *is given by:*

$(W^{\ddagger}_{8,1})$

$$
\begin{aligned}
&\big(((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),\\
&((1,1,1,27),(1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1)),\\
&((1,1,14,27),(1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1)),\\
&((1,1,14,29),(1,1,1,1,1,1,1,0,1,1,1,1,1,1,1,1)),\\
&((1375,3,1,1),(0,1,0,1,1,0,0,1,0,0,1,0,0,1,0,1)),\\
&((1375,3,1,27),(0,1,0,1,1,0,0,0,0,0,1,0,0,1,0,1)),\\
&((1375,3,14,27),(0,1,0,1,1,0,0,0,0,0,1,0,0,1,0,1)),\\
&((1375,3,14,29),(0,1,0,1,1,0,0,0,0,0,1,0,0,1,0,1)),\\
&((1,9,1,1),(0,0,0,0,0,0,1,1,0,0,0,0,0,0,1,1)),\\
&((1,9,1,27),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,1,1)),\\
&((1,9,14,27),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,1,1)),\\
&((1,9,14,29),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,1,1)),\\
&((193,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,1))\\
&((193,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))\\
&((193,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))\\
&((193,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))\\
&((301,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))\\
&((301,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((301,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((301,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((325,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))\\
&((325,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((325,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((325,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((393,9,1,1),(0,0,0,0,0,0,1,1,0,0,0,0,0,0,0,0))\\
&((393,9,1,27),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0))\\
&((393,9,14,27),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0))\\
&((393,9,14,29),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0))\\
&((423,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))\\
&((423,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((423,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((423,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((441,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))\\
&((441,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((441,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((441,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((447,9,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))\\
&((447,9,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((447,9,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((447,9,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))
\end{aligned}
$$

$((663, 13, 1, 1), (0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((663, 13, 1, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((663, 13, 14, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((663, 13, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((687, 13, 1, 1), (0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((687, 13, 1, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((687, 13, 14, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((687, 13, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((781, 13, 1, 1), (0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((781, 13, 1, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((781, 13, 14, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((781, 13, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((805, 13, 1, 1), (0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((805, 13, 1, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((805, 13, 14, 27), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((805, 13, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((963, 15, 1, 1), (0, 1, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((963, 15, 1, 27), (0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((963, 15, 14, 27), (0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0$
$((963, 15, 14, 29), (0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 16, 1, 1), (1, 1, 1, 1, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 16, 1, 27), (1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 16, 14, 27), (1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 16, 14, 29), (1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1, 23, 1, 1), (1, 1, 0, 0, 0, 0, 1, 1, 1, 1, 1, 0, 0, 0, 1, 1))$
$((1, 23, 1, 27), (1, 1, 0, 0, 0, 0, 1, 0, 1, 1, 1, 0, 0, 0, 1, 1))$
$((1, 23, 14, 27), (1, 1, 0, 0, 0, 0, 1, 0, 1, 1, 1, 0, 0, 0, 1, 1))$
$((1, 23, 14, 29), (1, 1, 0, 0, 0, 0, 1, 0, 1, 1, 1, 0, 0, 0, 1, 1))$
$((361, 23, 1, 1), (1, 1, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((361, 23, 1, 27), (1, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((361, 23, 14, 27), (1, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((361, 23, 14, 29), (1, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((687, 23, 1, 1), (0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1))$
$((687, 23, 1, 27), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1))$
$((687, 23, 14, 27), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1))$
$((687, 23, 14, 29), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1))$
$((775, 23, 1, 1), (0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((775, 23, 1, 27), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((775, 23, 14, 27), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((775, 23, 14, 29), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((961,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((961,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((961,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((961,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((963,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((963,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((963,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((963,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((985,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((985,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((985,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((985,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((987,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((987,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((987,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((987,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1321,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((1321,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1321,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1321,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1323,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((1323,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1323,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1323,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1327,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((1327,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1327,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1327,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1335,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,1))$
$((1335,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$
$((1335,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$
$((1335,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$
$((1345,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((1345,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1345,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1345,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1347,23,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$
$((1347,23,1,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1347,23,14,27),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1347,23,14,29),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$$((1375, 23, 1, 1), (0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((1375, 23, 1, 27), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((1375, 23, 14, 27), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((1375, 23, 14, 29), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((1407, 23, 1, 1), (0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 1, 0, 0, 0, 0, 1))$$
$$((1407, 23, 1, 27), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1))$$
$$((1407, 23, 14, 27), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1))$$
$$((1407, 23, 14, 29), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1)).$$

$(W^{\ddagger}_{8,2})$

$$((607,4,1,1),(0,0,0,1,1,1,0,0,0)),$$
$$((607,4,1,25),(0,0,0,0,0,0,0,0,0)),$$
$$((607,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((607,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((608,4,13,25),(0,0,0,0,0,1,0,0,0)),$$
$$((608,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((608,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((608,4,14,29),(0,0,0,0,1,0,0,0,0)),$$
$$((625,4,1,1),(0,0,1,1,1,1,0,0,0)),$$
$$((625,4,1,25),(0,0,1,0,0,0,0,0,0)),$$
$$((625,4,13,27),(0,0,1,0,0,0,0,0,0)),$$
$$((625,4,14,25),(0,0,1,0,0,0,0,0,0)),$$
$$((626,4,13,25),(0,0,1,0,0,1,0,0,0)),$$
$$((626,4,13,27),(0,0,1,0,0,0,0,0,0)),$$
$$((626,4,14,25),(0,0,1,0,0,0,0,0,0)),$$
$$((626,4,14,29),(0,0,1,0,1,0,0,0,0)),$$
$$((649,4,1,1),(0,0,0,1,1,1,0,0,0)),$$
$$((649,4,1,25),(0,0,0,0,0,0,0,0,0)),$$
$$((649,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((649,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((650,4,13,25),(0,0,0,0,0,1,0,0,0)),$$
$$((650,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((650,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((650,4,14,29),(0,0,0,0,1,0,0,0,0)),$$
$$((655,4,1,1),(0,0,0,1,1,1,0,0,0)),$$
$$((655,4,1,25),(0,0,0,0,0,0,0,0,0)),$$
$$((655,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((655,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((656,4,13,25),(0,0,0,0,0,1,0,0,0)),$$
$$((656,4,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((656,4,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((656,4,14,29),(0,0,0,0,1,0,0,0,0)),$$
$$((1,1,1,1),(1,1,1,1,1,1,1,1,1)),$$
$$((1,1,1,25),(1,1,1,0,0,0,1,1,1)),$$
$$((1,1,13,27),(1,1,1,0,0,0,1,1,1)),$$
$$((1,1,14,25),(1,1,1,0,0,0,1,1,1)),$$
$$((2,1,13,25),(1,1,1,0,0,1,1,1,1)),$$
$$((2,1,13,27),(1,1,1,0,0,0,1,1,1)),$$
$$((2,1,14,25),(1,1,1,0,0,0,1,1,1)),$$
$$((2,1,14,29),(1,1,1,0,1,0,1,1,1)),$$

$$((241,6,1,1),(0,0,0,1,1,1,0,0,1)),$$
$$((241,6,1,25),(0,0,0,0,0,0,0,0,1)),$$
$$((241,6,13,27),(0,0,0,0,0,0,0,0,1)),$$
$$((241,6,14,25),(0,0,0,0,0,0,0,0,1)),$$
$$((242,6,13,25),(0,0,0,0,0,1,0,0,1)),$$
$$((242,6,13,27),(0,0,0,0,0,0,0,0,1)),$$
$$((242,6,14,25),(0,0,0,0,0,0,0,0,1)),$$
$$((242,6,14,29),(0,0,0,0,1,0,0,0,1)),$$
$$((265,6,1,1),(0,0,0,1,1,1,0,0,1)),$$
$$((265,6,1,25),(0,0,0,0,0,0,0,0,1)),$$
$$((265,6,13,27),(0,0,0,0,0,0,0,0,1)),$$
$$((265,6,14,25),(0,0,0,0,0,0,0,0,1)),$$
$$((266,6,13,25),(0,0,0,0,0,1,0,0,1)),$$
$$((266,6,13,27),(0,0,0,0,0,0,0,0,1)),$$
$$((266,6,14,25),(0,0,0,0,0,0,0,0,1)),$$
$$((266,6,14,29),(0,0,0,0,1,0,0,0,1)),$$
$$((175,10,1,1),(1,0,0,1,1,1,1,0,1)),$$
$$((175,10,1,25),(1,0,0,0,0,0,1,0,1)),$$
$$((175,10,13,27),(1,0,0,0,0,0,1,0,1)),$$
$$((175,10,14,25),(1,0,0,0,0,0,1,0,1)),$$
$$((176,10,13,25),(1,0,0,0,0,1,1,0,1)),$$
$$((176,10,13,27),(1,0,0,0,0,0,1,0,1)),$$
$$((176,10,14,25),(1,0,0,0,0,0,1,0,1)),$$
$$((176,10,14,29),(1,0,0,0,1,0,1,0,1)),$$
$$((1,16,1,1),(1,0,0,1,1,1,0,0,0)),$$
$$((1,16,1,25),(1,0,0,0,0,0,0,0,0)),$$
$$((1,16,13,27),(1,0,0,0,0,0,0,0,0)),$$
$$((1,16,14,25),(1,0,0,0,0,0,0,0,0)),$$
$$((2,16,13,25),(1,0,0,0,0,1,0,0,0)),$$
$$((2,16,13,27),(1,0,0,0,0,0,0,0,0)),$$
$$((2,16,14,25),(1,0,0,0,0,0,0,0,0)),$$
$$((2,16,14,29),(1,0,0,0,1,0,0,0,0)),$$
$$((31,16,1,1),(0,0,0,1,1,1,0,0,0)),$$
$$((31,16,1,25),(0,0,0,0,0,0,0,0,0)),$$
$$((31,16,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((31,16,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((32,16,13,25),(0,0,0,0,0,1,0,0,0)),$$
$$((32,16,13,27),(0,0,0,0,0,0,0,0,0)),$$
$$((32,16,14,25),(0,0,0,0,0,0,0,0,0)),$$
$$((32,16,14,29),(0,0,0,0,1,0,0,0,0)),$$

$((49, 16, 1, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0)),$
$((49, 16, 1, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((49, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((49, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((50, 16, 13, 25), (0, 0, 0, 0, 0, 1, 0, 0, 0)),$
$((50, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((50, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((50, 16, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0)),$
$((55, 16, 1, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0)),$
$((55, 16, 1, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((55, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((55, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((56, 16, 13, 25), (0, 0, 0, 0, 0, 1, 0, 0, 0)),$
$((56, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((56, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((56, 16, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0)),$
$((151, 16, 1, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0)),$
$((151, 16, 1, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((151, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((151, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((152, 16, 13, 25), (0, 0, 0, 0, 0, 1, 0, 0, 0)),$
$((152, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((152, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((152, 16, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0)),$
$((175, 16, 1, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0)),$
$((175, 16, 1, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((175, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((175, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((176, 16, 13, 25), (0, 0, 0, 0, 0, 1, 0, 0, 0)),$
$((176, 16, 13, 27), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((176, 16, 14, 25), (0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((176, 16, 14, 29), (0, 0, 0, 0, 1, 0, 0, 0, 0)),$
$((241, 16, 1, 1), (0, 0, 1, 1, 1, 1, 0, 0, 0)),$
$((241, 16, 1, 25), (0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((241, 16, 13, 27), (0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((241, 16, 14, 25), (0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((242, 16, 13, 25), (0, 0, 1, 0, 0, 1, 0, 0, 0)),$
$((242, 16, 13, 27), (0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((242, 16, 14, 25), (0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((242, 16, 14, 29), (0, 0, 1, 0, 1, 0, 0, 0, 0)),$

$$
\begin{aligned}
&((655, 16, 1, 1), (1, 1, 1, 1, 1, 1, 0, 0, 0)),\\
&((655, 16, 1, 25), (1, 1, 1, 0, 0, 0, 0, 0, 0)),\\
&((655, 16, 13, 27), (1, 1, 1, 0, 0, 0, 0, 0, 0)),\\
&((655, 16, 14, 25), (1, 1, 1, 0, 0, 0, 0, 0, 0)),\\
&((656, 16, 13, 25), (1, 1, 1, 0, 0, 1, 0, 0, 0)),\\
&((656, 16, 13, 27), (1, 1, 1, 0, 0, 0, 0, 0, 0)),\\
&((656, 16, 14, 25), (1, 1, 1, 0, 0, 0, 0, 0, 0)),\\
&((656, 16, 14, 29), (1, 1, 1, 0, 1, 0, 0, 0, 0))
\end{aligned}
$$

$(W_{8,3}^{\ddagger})$

$$
\begin{aligned}
&((1,1,1,1),(1,1,1,1,1,1,1)),\\
&((1,1,1,23),(1,0,0,0,0,1,0)),\\
&((1,1,12,25),(1,0,0,0,0,0,0)),\\
&((1,1,13,23),(1,0,0,0,0,0,0)),\\
&((2,1,13,23),(1,0,0,0,0,0,0)),\\
&((2,1,14,23),(1,0,0,0,0,0,0)),\\
&((3,1,12,25),(1,0,0,0,0,0,0)),\\
&((3,1,13,23),(1,0,0,0,0,0,0)),\\
&((4,1,12,23),(1,0,0,0,1,1,1)),\\
&((4,1,12,25),(1,0,0,0,0,0,0)),\\
&((4,1,13,27),(1,0,0,1,0,0,0)),\\
&((5,1,12,25),(1,0,0,0,0,0,1)),\\
&((5,1,14,23),(1,0,0,0,0,0,0)),\\
&((5,1,14,29),(1,0,1,1,0,1,0)),\\
&((6,1,13,23),(1,0,0,0,0,0,1)),\\
&((6,1,13,27),(1,0,0,1,0,0,0)),\\
&((145,1,1,1),(1,1,1,1,1,1,1)),\\
&((145,1,1,23),(1,0,0,0,0,1,0)),\\
&((145,1,12,25),(1,0,0,0,0,0,0)),\\
&((145,1,13,23),(1,0,0,0,0,0,0)),\\
&((146,1,13,23),(1,0,0,0,0,0,0)),\\
&((146,1,14,23),(1,0,0,0,0,0,0)),\\
&((147,1,12,25),(1,0,0,0,0,0,0)),\\
&((147,1,13,23),(1,0,0,0,0,0,0)),\\
&((148,1,12,23),(1,0,0,0,1,1,1)),\\
&((148,1,12,25),(1,0,0,0,0,0,0)),\\
&((148,1,13,27),(1,0,0,1,0,0,0)),\\
&((149,1,12,25),(1,0,0,0,0,0,1)),\\
&((149,1,14,23),(1,0,0,0,0,0,0)),\\
&((149,1,14,29),(1,0,1,1,0,1,0)),\\
&((150,1,13,23),(1,0,0,0,0,0,1)),\\
&((150,1,13,27),(1,0,0,1,0,0,0)),\\
&((1,6,1,1),(0,1,1,1,1,1,1)),\\
&((1,6,1,23),(0,0,0,0,0,1,0)),\\
&((1,6,12,25),(0,0,0,0,0,0,0)),\\
&((1,6,13,23),(0,0,0,0,0,0,0)),\\
&((2,6,13,23),(0,0,0,0,0,0,0)),\\
&((2,6,14,23),(0,0,0,0,0,0,0)),\\
&((3,6,12,25),(0,0,0,0,0,0,0)),\\
&((3,6,13,23),(0,0,0,0,0,0,0)),
\end{aligned}
$$

$$((4,6,12,23),(0,0,0,0,1,1,1)),$$
$$((4,6,12,25),(0,0,0,0,0,0,0)),$$
$$((4,6,13,27),(0,0,0,1,0,0,0)),$$
$$((5,6,12,25),(0,0,0,0,0,0,1)),$$
$$((5,6,14,23),(0,0,0,0,0,0,0)),$$
$$((5,6,14,29),(0,0,1,1,0,1,0)),$$
$$((6,6,13,23),(0,0,0,0,0,0,1)),$$
$$((6,6,13,27),(0,0,0,1,0,0,0)),$$
$$((25,6,1,1),(0,1,1,1,1,1,1)),$$
$$((25,6,1,23),(0,0,0,0,0,1,0)),$$
$$((25,6,12,25),(0,0,0,0,0,0,0)),$$
$$((25,6,13,23),(0,0,0,0,0,0,0)),$$
$$((26,6,13,23),(0,0,0,0,0,0,0)),$$
$$((26,6,14,23),(0,0,0,0,0,0,0)),$$
$$((27,6,12,25),(0,0,0,0,0,0,0)),$$
$$((27,6,13,23),(0,0,0,0,0,0,0)),$$
$$((28,6,12,23),(0,0,0,0,1,1,1)),$$
$$((28,6,12,25),(0,0,0,0,0,0,0)),$$
$$((28,6,13,27),(0,0,0,1,0,0,0)),$$
$$((29,6,12,25),(0,0,0,0,0,0,1)),$$
$$((29,6,14,23),(0,0,0,0,0,0,0)),$$
$$((29,6,14,29),(0,0,1,1,0,1,0)),$$
$$((30,6,13,23),(0,0,0,0,0,0,1)),$$
$$((30,6,13,27),(0,0,0,1,0,0,0)),$$
$$((121,6,1,1),(0,1,1,1,1,1,1)),$$
$$((121,6,1,23),(0,0,0,0,0,1,0)),$$
$$((121,6,12,25),(0,0,0,0,0,0,0)),$$
$$((121,6,13,23),(0,0,0,0,0,0,0)),$$
$$((122,6,13,23),(0,0,0,0,0,0,0)),$$
$$((122,6,14,23),(0,0,0,0,0,0,0)),$$
$$((123,6,12,25),(0,0,0,0,0,0,0)),$$
$$((123,6,13,23),(0,0,0,0,0,0,0)),$$
$$((124,6,12,23),(0,0,0,0,1,1,1)),$$
$$((124,6,12,25),(0,0,0,0,0,0,0)),$$
$$((124,6,13,27),(0,0,0,1,0,0,0)),$$
$$((125,6,12,25),(0,0,0,0,0,0,1)),$$
$$((125,6,14,23),(0,0,0,0,0,0,0)),$$
$$((125,6,14,29),(0,0,1,1,0,1,0)),$$
$$((126,6,13,23),(0,0,0,0,0,0,1)),$$
$$((126,6,13,27),(0,0,0,1,0,0,0)),$$

$$((145,6,1,1),(0,1,1,1,1,1,1)),$$
$$((145,6,1,23),(0,0,0,0,0,1,0)),$$
$$((145,6,12,25),(0,0,0,0,0,0,0)),$$
$$((145,6,13,23),(0,0,0,0,0,0,0)),$$
$$((146,6,13,23),(0,0,0,0,0,0,0)),$$
$$((146,6,14,23),(0,0,0,0,0,0,0)),$$
$$((147,6,12,25),(0,0,0,0,0,0,0)),$$
$$((147,6,13,23),(0,0,0,0,0,0,0)),$$
$$((148,6,12,23),(0,0,0,0,1,1,1)),$$
$$((148,6,12,25),(0,0,0,0,0,0,0)),$$
$$((148,6,13,27),(0,0,0,1,0,0,0)),$$
$$((149,6,12,25),(0,0,0,0,0,0,1)),$$
$$((149,6,14,23),(0,0,0,0,0,0,0)),$$
$$((149,6,14,29),(0,0,1,1,0,1,0)),$$
$$((150,6,13,23),(0,0,0,0,0,0,1)),$$
$$((150,6,13,27),(0,0,0,1,0,0,0)),$$
$$((25,10,1,1),(0,1,1,1,1,1,1)),$$
$$((25,10,1,23),(0,0,0,0,0,1,0)),$$
$$((25,10,12,25),(0,0,0,0,0,0,0)),$$
$$((25,10,13,23),(0,0,0,0,0,0,0)),$$
$$((26,10,13,23),(0,0,0,0,0,0,0)),$$
$$((26,10,14,23),(0,0,0,0,0,0,0)),$$
$$((27,10,12,25),(0,0,0,0,0,0,0)),$$
$$((27,10,13,23),(0,0,0,0,0,0,0)),$$
$$((28,10,12,23),(0,0,0,0,1,1,1)),$$
$$((28,10,12,25),(0,0,0,0,0,0,0)),$$
$$((28,10,13,27),(0,0,0,1,0,0,0)),$$
$$((29,10,12,25),(0,0,0,0,0,0,1)),$$
$$((29,10,14,23),(0,0,0,0,0,0,0)),$$
$$((29,10,14,29),(0,0,1,1,0,1,0)),$$
$$((30,10,13,23),(0,0,0,0,0,0,1)),$$
$$((30,10,13,27),(0,0,0,1,0,0,0)),$$
$$((121,10,1,1),(0,1,1,1,1,1,1)),$$
$$((121,10,1,23),(0,0,0,0,0,1,0)),$$
$$((121,10,12,25),(0,0,0,0,0,0,0)),$$
$$((121,10,13,23),(0,0,0,0,0,0,0)),$$
$$((122,10,13,23),(0,0,0,0,0,0,0)),$$
$$((122,10,14,23),(0,0,0,0,0,0,0)),$$
$$((123,10,12,25),(0,0,0,0,0,0,0)),$$
$$((123,10,13,23),(0,0,0,0,0,0,0)),$$

$$
\begin{aligned}
&((124, 10, 12, 23), (0, 0, 0, 0, 1, 1, 1)),\\
&((124, 10, 12, 25), (0, 0, 0, 0, 0, 0, 0)),\\
&((124, 10, 13, 27), (0, 0, 0, 1, 0, 0, 0)),\\
&((125, 10, 12, 25), (0, 0, 0, 0, 0, 0, 1)),\\
&((125, 10, 14, 23), (0, 0, 0, 0, 0, 0, 0)),\\
&((125, 10, 14, 29), (0, 0, 1, 1, 0, 1, 0)),\\
&((126, 10, 13, 23), (0, 0, 0, 0, 0, 0, 1)),\\
&((126, 10, 13, 27), (0, 0, 0, 1, 0, 0, 0))
\end{aligned}
$$

$(W^{\ddagger}_{8,4})$

$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),$
$((1,1,1,4),(0,1,1,1,1,0,0,0,0,0,0,0,1,1,1,0,1,1,0,1,0)),$
$((1,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,1,0,0,0)),$
$((1,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,0,1,0,0,0)),$
$((10,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0)),$
$((10,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0)),$
$((17,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((17,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((18,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((18,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((19,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((19,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((22,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((22,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((23,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((23,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((24,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((24,1,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((34,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,1,1,0,1,0)),$
$((34,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0)),$
$((42,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((46,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((48,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((65,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,1,0)),$
$((65,1,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((66,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,0,1,0)),$
$((71,1,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((91,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0)),$
$((91,1,13,4),(0,0,0,1,1,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((92,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0)),$
$((94,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0)),$
$((95,1,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0)),$
$((97,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((97,1,14,4),(0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,0,0,1,0,0,0)),$
$((100,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((101,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((102,1,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((106,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((108,1,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$$((113,1,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((115,1,13,4),(0,0,0,1,1,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$$
$$((1,2,2,21),(0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,1)),$$
$$((3,2,2,21),(0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,1)),$$
$$((19,2,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,1)),$$
$$((22,2,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((23,2,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((24,2,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((34,2,11,23),(0,0,0,0,1,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,1)),$$
$$((46,2,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((48,2,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((65,2,12,25),(0,0,0,1,1,0,0,0,1,1,1,0,0,0,1,0,0,0,0,0,1)),$$
$$((71,2,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((91,2,13,4),(0,0,0,1,1,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,1)),$$
$$((91,2,13,27),(0,0,1,1,1,0,0,1,1,1,1,0,0,1,1,0,0,1,0,0,0)),$$
$$((97,2,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,1)),$$
$$((97,2,14,4),(0,0,1,1,1,0,0,0,0,0,0,0,0,1,1,0,0,1,0,0,0)),$$
$$((97,2,14,29),(0,1,1,1,1,0,1,1,1,1,1,0,1,1,1,0,1,1,0,1,0)),$$
$$((100,2,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((101,2,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((102,2,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((71,3,12,25),(0,0,0,1,1,0,0,0,1,1,1,0,0,0,1,0,0,0,0,0,0)),$$
$$((91,3,13,4),(0,0,0,1,1,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$$
$$((97,3,2,21),(0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,1,1,1)),$$
$$((101,3,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((102,3,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((106,3,11,23),(0,0,0,0,1,0,0,0,0,1,1,0,0,0,0,0,0,0,1,1,1)),$$
$$((108,3,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((113,3,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((113,3,12,25),(0,0,0,1,1,0,0,0,1,1,1,0,0,0,1,0,0,0,0,0,0)),$$
$$((115,3,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((115,3,13,27),(0,0,1,1,1,0,0,1,1,1,1,0,0,1,1,0,0,1,0,0,0)),$$
$$((116,3,3,3),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1)),$$
$$((42,4,11,23),(0,0,0,0,1,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0)),$$
$$((48,4,11,23),(0,0,0,0,1,0,0,0,0,1,1,0,0,0,0,0,0,0,0,0,0)),$$
$$((65,4,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((71,4,12,4),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((91,4,2,21),(0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,1,1,1,1,1,1)),$$
$$((92,4,2,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1)),$$
$$((94,4,11,4),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1,1,1,1,1)),$$
$$((94,4,11,23),(0,0,0,0,1,0,0,0,0,1,1,0,0,0,0,0,0,0,0,1,0)),$$

((95, 4, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1)),
((95, 4, 12, 25), (0, 0, 0, 1, 1, 0, 0, 0, 1, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),
((108, 4, 11, 23), (0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((10, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)),
((18, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((22, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((24, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((34, 6, 11, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)),
((42, 6, 11, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((46, 6, 11, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((48, 6, 11, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((65, 6, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),
((65, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0)),
((66, 6, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),
((66, 6, 11, 23), (0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((72, 6, 11, 23), (0, 0, 0, 0, 1, 0, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((92, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0)),
((100, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((102, 6, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0)),
((1, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0)),
((10, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)),
((10, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)),
((17, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((17, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((18, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((18, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((19, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),
((19, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),
((22, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((22, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((23, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((23, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((24, 10, 2, 4), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((24, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((34, 10, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0)),
((34, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0)),
((34, 10, 3, 4), (1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),
((42, 10, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((46, 10, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),

$$
\begin{aligned}
&((48, 10, 2, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),\\
&((65, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0)),\\
&((91, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0)),\\
&((92, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0)),\\
&((97, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),\\
&((100, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),\\
&((101, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),\\
&((102, 10, 3, 3), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))
\end{aligned}
$$

$(W^{\ddagger}_{8,5})$

$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),$
$((1,1,1,58),(0,1,1,1,0,1,1,0,1,0,0,0,0,0,0)),$
$((1,1,11,58),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$
$((1,1,28,21),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$
$((4,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((4,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((5,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((5,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((6,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((6,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((10,1,11,58),(0,0,0,0,0,1,1,0,1,0,0,0,0,0,0)),$
$((10,1,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((12,1,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((17,1,11,58),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((17,1,13,58),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0)),$
$((18,1,12,58),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$
$((19,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((19,1,14,58),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0)),$
$((20,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((22,1,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((23,1,13,58),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0)),$
$((145,1,11,58),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$
$((145,1,28,21),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$
$((148,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((148,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((149,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((149,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((150,1,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((150,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((172,1,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((174,1,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((197,1,13,58),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0)),$
$((217,1,14,29),(0,1,1,1,0,1,1,0,1,0,0,1,1,1,1)),$
$((217,1,14,58),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0)),$
$((217,1,28,21),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0)),$
$((218,1,28,21),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0)),$
$((283,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$
$((284,1,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$$((331,1,13,27),(0,0,1,1,0,0,1,0,0,0,0,0,1,1,1)),$$
$$((331,1,28,21),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0)),$$
$$((343,1,11,58),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0)),$$
$$((344,1,11,58),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0)),$$
$$((350,1,12,58),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0)),$$
$$((355,1,13,27),(0,0,1,1,0,0,1,0,0,0,0,0,1,1,1)),$$
$$((355,1,13,58),(0,0,0,1,0,0,0,0,0,1,0,0,0,0,0)),$$
$$((401,1,28,21),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0)),$$
$$((425,1,12,25),(0,0,0,1,0,0,0,0,0,0,0,0,0,1,1)),$$
$$((425,1,28,21),(0,0,0,0,1,1,1,1,1,1,0,0,0,0,0)),$$
$$((449,1,12,25),(0,0,0,1,0,0,0,0,0,0,0,0,0,1,1)),$$
$$((453,1,11,58),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0)),$$
$$((455,1,12,25),(0,0,0,1,0,0,0,0,0,0,0,0,0,1,1)),$$
$$((455,1,12,58),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0)),$$
$$((473,1,12,25),(0,0,0,1,0,0,0,0,0,1,0,0,0,1,1)),$$
$$((514,1,11,23),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((514,1,28,21),(0,0,0,0,0,1,1,0,1,0,0,0,0,0,0)),$$
$$((514,1,28,58),(1,1,1,1,1,1,1,1,1,1,0,0,0,0,0)),$$
$$((516,1,11,23),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((538,1,11,23),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((540,1,11,23),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((546,1,11,23),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,1)),$$
$$((546,1,11,58),(0,0,0,0,1,1,1,1,1,1,0,0,0,0,0)),$$
$$((550,1,11,23),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$$
$$((574,1,11,23),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,1)),$$
$$((586,1,11,23),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,1)),$$
$$((1,10,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),$$
$$((1,10,1,58),(0,1,1,1,0,1,1,0,1,0,0,0,0,0,0)),$$
$$((1,10,11,58),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$$
$$((1,10,28,21),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),$$
$$((4,10,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((4,10,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((5,10,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((5,10,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((6,10,11,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((6,10,28,21),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((10,10,11,58),(0,0,0,0,0,1,1,0,1,0,0,0,0,0,0)),$$
$$((10,10,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$
$$((12,10,12,58),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$$

$((17, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((17, 10, 13, 58), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((18, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((19, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((19, 10, 14, 58), (0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((20, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((22, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((23, 10, 13, 58), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((145, 10, 11, 58), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((145, 10, 28, 21), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((148, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((148, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((149, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((149, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((150, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((150, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((172, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((174, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((197, 10, 13, 58), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((217, 10, 14, 29), (0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 1, 1, 1)),$
$((217, 10, 14, 58), (0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((217, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((218, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((283, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((284, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((331, 10, 13, 27), (0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((331, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0)),$
$((343, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((344, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((350, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((355, 10, 13, 27), (0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((355, 10, 13, 58), (0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0)),$
$((401, 10, 28, 21), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0)),$
$((425, 10, 12, 25), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((425, 10, 28, 21), (0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0)),$
$((449, 10, 12, 25), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((453, 10, 11, 58), (0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0)),$
$((455, 10, 12, 25), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((455, 10, 12, 58), (0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0)),$
$((473, 10, 12, 25), (0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 1)),$

$$((514, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$$
$$((514, 10, 28, 21), (0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0)),$$
$$((514, 10, 28, 58), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0)),$$
$$((516, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$$
$$((538, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$$
$$((540, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$$
$$((546, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1)),$$
$$((546, 10, 11, 58), (0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0)),$$
$$((550, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$$
$$((574, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 1)),$$
$$((586, 10, 11, 23), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1))$$

$(W_{8,6}^{\ddagger})$

$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),$

$((1,1,1,32),(0,0,1,1,1,0,0,1,1,0,0,1,0,0,0,0,0,0,0,1,0,0,1,1,0,0,1,1,1,0,0,1,1,1)),$

$((1,1,1,106),(0,1,1,1,1,0,1,1,1,0,1,1,0,1,0,0,0,1,0,1,1,1,1,1,1,0,1,1,1,1,0,1,1,1,1)),$

$((1,1,16,36),(0,0,0,0,1,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,1)),$

$((1,1,16,106),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1,1,0,0,0,1,1)),$

$((1,1,38,34),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,1,0,0,0,1,1,0,0,0,1,1)),$

$((1,1,38,106),(0,0,1,1,1,0,0,1,1,0,0,1,0,0,0,0,0,0,0,1,0,0,1,1,0,0,1,1,1,0,0,1,1,1)),$

$((175,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),$

$((241,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((265,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((361,1,16,106),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,1)),$

$((361,1,38,34),(0,0,0,0,1,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,1)),$

$((481,1,1,32),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1,1,0,0,0,1,1)),$

$((481,1,17,38),(0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((481,1,17,106),(0,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,1)),$

$((481,1,38,106),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1,1,0,0,0,1,1)),$

$((505,1,17,38),(0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((601,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((607,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((625,1,16,36),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((655,1,16,36),(0,0,0,0,1,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((687,1,16,106),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((687,1,38,34),(0,0,0,1,1,0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((775,1,16,106),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((775,1,38,34),(0,0,0,0,1,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((841,1,17,38),(0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((865,1,17,38),(0,0,0,0,1,0,0,0,0,1,1,1,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((895,1,17,106),(0,0,0,0,1,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((961,1,16,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((961,1,38,34),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((963,1,16,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((963,1,38,34),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((985,1,16,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((985,1,38,34),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((987,1,16,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((987,1,38,34),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((1081,1,17,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

$((1105,1,17,106),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),$

((1201, 1, 1, 32), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1)),
((1201, 1, 38, 106), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1)),
((1202, 1, 1, 32), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1)),
((1202, 1, 18, 40), (0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1202, 1, 18, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1202, 1, 38, 106), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1)),
((1226, 1, 18, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1321, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1321, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1323, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1323, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1327, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1327, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1335, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1335, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1345, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1345, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1347, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1347, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1375, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1375, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1407, 1, 16, 106), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((1407, 1, 38, 34), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((1440, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),
((1440, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),
((1441, 1, 17, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1447, 1, 17, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1465, 1, 17, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1495, 1, 17, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1527, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((1527, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((1562, 1, 18, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1586, 1, 18, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1615, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1615, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1616, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1616, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1681, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1681, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),

((1682, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1682, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1683, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1683, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1686, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1686, 1, 19, 3), (0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1)),
((1686, 1, 19, 58), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1686, 1, 19, 106), (0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1686, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1705, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1705, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1706, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1706, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1707, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1707, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1710, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1710, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1801, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1801, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1802, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1802, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1803, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1803, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1806, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1806, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1807, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1807, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1808, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1808, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1815, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1815, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1824, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1824, 1, 2, 106), (0, 1, 1, 1, 1, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1824, 1, 28, 106), (0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1)),
((1824, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1825, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1825, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1826, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1826, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),

$((1827, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1827, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1830, 1, 1, 32), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1830, 1, 38, 106), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1855, 1, 1, 32), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1855, 1, 38, 106), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1856, 1, 1, 32), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1856, 1, 38, 106), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1887, 1, 1, 32), (0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1887, 1, 38, 106), (0, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1920, 1, 1, 32), (0, 0, 1, 1, 1, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1920, 1, 38, 106), (0, 0, 1, 1, 1, 0, 0, 1, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$(W^{\ddagger}_{8,7})$

$((1, 1, 1, 1), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),$

$((1, 1, 1, 29), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),$

$((1, 17, 1, 1), (1, 1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1, 17, 1, 29), (1, 1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1233, 18, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$

$((1233, 18, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$

$((1234, 18, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$

$((1234, 18, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$

$((1, 22, 1, 1), (0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((1, 22, 1, 29), (0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((33, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((33, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((34, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((34, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((61, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((61, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((63, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((63, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((64, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((64, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((65, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((65, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((73, 22, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((73, 22, 1, 29), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((81, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((81, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((82, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((82, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((85, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((85, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((87, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((87, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((88, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((88, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((89, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((89, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((91, 22, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((91, 22, 1, 29), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((97, 22, 1, 1), (0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((97, 22, 1, 29), (0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((181, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((181, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((183, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((183, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((184, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((184, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((185, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((185, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((205, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((205, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((207, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((207, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((208, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((208, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((209, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((209, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((273, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((273, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((274, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((274, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((361, 22, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((361, 22, 1, 29), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((577, 22, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1)),$
$((577, 22, 1, 29), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1)),$
$((687, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((687, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((688, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((688, 22, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((1407, 22, 1, 1), (0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((1407, 22, 1, 29), (0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((1887, 22, 1, 1), (0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1)),$
$((1887, 22, 1, 29), (0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1)),$
$((481, 23, 1, 1), (1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((481, 23, 1, 29), (1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((97, 24, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((97, 24, 1, 29), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((105, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((105, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((106, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((106, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((109, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((109, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((111, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((111, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((112, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((112, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((113, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((113, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((115, 24, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((115, 24, 1, 29), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((187, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((187, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((189, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((189, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((190, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((190, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((191, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((191, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((275, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((275, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((276, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((276, 24, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((362, 24, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((362, 24, 1, 29), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((553, 24, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1)),$
$((553, 24, 1, 29), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1)),$
$((91, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((91, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((93, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((93, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((94, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((94, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((95, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((95, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((235, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((235, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((237, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((237, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

$((238, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((238, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((239, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((239, 25, 1, 29), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((65, 26, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((65, 26, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((66, 26, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((66, 26, 1, 29), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((34, 27, 1, 1), (1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((34, 27, 1, 29), (1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$(W^{\ddagger}_{8,8})$

$((1375, 3, 44, 1), (0, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1, 1, 1, 1), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,$
$1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1)),$
$((1, 1, 15, 1), (1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 1, 1, 1,$
$1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1)),$
$((1, 1, 44, 1), (0, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 1, 1)),$
$((1, 1, 56, 1), (0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1,$
$0, 1, 1, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((481, 1, 56, 1), (0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((1201, 1, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((1202, 1, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((1440, 1, 56, 1), (0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1527, 1, 56, 1), (0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1615, 1, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1616, 1, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1681, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1682, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1683, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1686, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1705, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1706, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1707, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

((1710, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1801, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1802, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1803, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1806, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1807, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1808, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1815, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1824, 1, 29, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1)),
((1824, 1, 55, 1), (1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1824, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1825, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1826, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1827, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1830, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1855, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1856, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1887, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((1920, 1, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),

$((516, 8, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((550, 8, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((586, 8, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((592, 8, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1615, 8, 56, 1), (0, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((455, 7, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((479, 7, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1705, 7, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1706, 7, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((343, 5, 50, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1801, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1802, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1803, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1806, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1825, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1826, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1827, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1830, 5, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

((908, 12, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((950, 12, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((816, 11, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((840, 11, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1615, 11, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1)),
((1616, 11, 56, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1)),
((1, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),
((193, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((301, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((325, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((393, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((423, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((441, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((447, 9, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1527, 9, 56, 1), (0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1202, 20, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1226, 20, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1562, 20, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1586, 20, 47, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1686, 19, 50, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),

$((1801, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1802, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1803, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1806, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1807, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1808, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1815, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1824, 17, 29, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1)),$
$((1824, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1825, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1826, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1827, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1830, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1855, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((1856, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((1887, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((1920, 17, 56, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1)),$
$((1375, 16, 44, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1)),$
$((1495, 16, 45, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1)),$

$((963, 15, 44, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1086, 14, 45, 1), (0, 0, 0, 1, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((663, 13, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((687, 13, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((781, 13, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((805, 13, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1440, 27, 54, 1), (1, 1, 1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1, 23, 44, 1), (0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((361, 23, 44, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((481, 23, 56, 1), (0, 1, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 1,$
$0, 1, 1, 0, 1, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1, 0, 1, 0, 0, 1, 0, 1, 1, 1)),$
$((687, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1)),$
$((775, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),$
$((961, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((963, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((985, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((987, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1321, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1323, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$
$((1327, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,$
$0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),$

((1335, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1345, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1347, 23, 44, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1375, 23, 44, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1407, 23, 44, 1), (0, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1887, 22, 56, 1), (0, 0, 1, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0,
0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 1, 1)),
((481, 21, 45, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((895, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1)),
((1081, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1105, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1441, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1447, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1465, 21, 45, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0)),
((1495, 21, 45, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,
0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))

$(W^{\ddagger}_{7,1})$

$$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1))$$
$$((1,1,14,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1))$$
$$((1,9,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1))$$
$$((1,9,14,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1))$$
$$((1,23,1,1),(1,1,0,0,0,0,1,1,1,1,0,0,0,1,1))$$
$$((1,23,14,1),(1,1,0,0,0,0,1,1,1,1,0,0,0,1,1))$$
$$((193,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$$
$$((193,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$$
$$((301,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((301,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((325,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((325,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((361,23,1,1),(1,1,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((361,23,14,1),(1,1,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((393,9,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((393,9,14,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((423,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((423,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((441,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((441,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((447,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((447,9,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((663,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((663,13,14,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((687,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((687,13,14,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((687,23,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1))$$
$$((687,23,14,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1))$$
$$((775,23,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((775,23,14,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0))$$
$$((781,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((781,13,14,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((805,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((805,13,14,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0))$$
$$((961,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((961,23,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((963,15,1,1),(0,1,0,1,1,0,1,0,0,0,0,0,0,0,0))$$
$$((963,15,14,1),(0,1,0,1,1,0,1,0,0,0,0,0,0,0,0))$$
$$((963,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$
$$((963,23,14,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$$

$((985, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((985, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((987, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((987, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1321, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1321, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1323, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1323, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1327, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1327, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1335, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((1335, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((1345, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1345, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1347, 23, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1347, 23, 14, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 3, 1, 1), (0, 1, 0, 1, 1, 0, 0, 0, 0, 1, 0, 0, 1, 0, 1))$
$((1375, 3, 14, 1), (0, 1, 0, 1, 1, 0, 0, 0, 0, 1, 0, 0, 1, 0, 1))$
$((1375, 16, 1, 1), (1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 16, 14, 1), (1, 1, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 23, 1, 1), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1375, 23, 14, 1), (0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1407, 23, 1, 1), (0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1))$
$((1407, 23, 14, 1), (0, 1, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 1))$

$(W^{\ddagger}_{7,2})$

$$
\begin{aligned}
&((1,1,1,1),(1,1,1,1,1,1,1)),((1,1,13,1),(1,1,1,0,1,1,1)),)\\
&((1,16,1,1),(1,0,0,1,0,0,0)),((1,16,13,1),(1,0,0,0,0,0,0)),)\\
&((2,1,13,1),(1,1,1,0,1,1,1)),((2,1,14,1),(1,1,1,0,1,1,1)),)\\
&((2,16,13,1),(1,0,0,0,0,0,0)),((2,16,14,1),(1,0,0,0,0,0,0)),)\\
&((31,16,1,1),(0,0,0,1,0,0,0)),((31,16,13,1),(0,0,0,0,0,0,0)),)\\
&((32,16,13,1),(0,0,0,0,0,0,0)),((32,16,14,1),(0,0,0,0,0,0,0)),)\\
&((49,16,1,1),(0,0,0,1,0,0,0)),((49,16,13,1),(0,0,0,0,0,0,0)),)\\
&((50,16,13,1),(0,0,0,0,0,0,0)),((50,16,14,1),(0,0,0,0,0,0,0)),)\\
&((55,16,1,1),(0,0,0,1,0,0,0)),((55,16,13,1),(0,0,0,0,0,0,0)),)\\
&((56,16,13,1),(0,0,0,0,0,0,0)),((56,16,14,1),(0,0,0,0,0,0,0)),)\\
&((151,16,1,1),(0,0,0,1,0,0,0)),((151,16,13,1),(0,0,0,0,0,0,0)),)\\
&((152,16,13,1),(0,0,0,0,0,0,0)),((152,16,14,1),(0,0,0,0,0,0,0)),)\\
&((175,10,1,1),(1,0,0,1,1,0,1)),((175,10,13,1),(1,0,0,0,1,0,1)),)\\
&((175,16,1,1),(0,0,0,1,0,0,0)),((175,16,13,1),(0,0,0,0,0,0,0)),)\\
&((176,10,13,1),(1,0,0,0,1,0,1)),((176,10,14,1),(1,0,0,0,1,0,1)),)\\
&((176,16,13,1),(0,0,0,0,0,0,0)),((176,16,14,1),(0,0,0,0,0,0,0)),)\\
&((241,6,1,1),(0,0,0,1,0,0,1)),((241,6,13,1),(0,0,0,0,0,0,1)),)\\
&((241,16,1,1),(0,0,1,1,0,0,0)),((241,16,13,1),(0,0,1,0,0,0,0)),)\\
&((242,6,13,1),(0,0,0,0,0,0,1)),((242,6,14,1),(0,0,0,0,0,0,1)),)\\
&((242,16,13,1),(0,0,1,0,0,0,0)),((242,16,14,1),(0,0,1,0,0,0,0)),)\\
&((265,6,1,1),(0,0,0,1,0,0,1)),((265,6,13,1),(0,0,0,0,0,0,1)),)\\
&((266,6,13,1),(0,0,0,0,0,0,1)),((266,6,14,1),(0,0,0,0,0,0,1)),)\\
&((607,4,1,1),(0,0,0,1,0,0,0)),((607,4,13,1),(0,0,0,0,0,0,0)),)\\
&((608,4,13,1),(0,0,0,0,0,0,0)),((608,4,14,1),(0,0,0,0,0,0,0)),)\\
&((625,4,1,1),(0,0,1,1,0,0,0)),((625,4,13,1),(0,0,1,0,0,0,0)),)\\
&((626,4,13,1),(0,0,1,0,0,0,0)),((626,4,14,1),(0,0,1,0,0,0,0)),)\\
&((649,4,1,1),(0,0,0,1,0,0,0)),((649,4,13,1),(0,0,0,0,0,0,0)),)\\
&((650,4,13,1),(0,0,0,0,0,0,0)),((650,4,14,1),(0,0,0,0,0,0,0)),)\\
&((655,4,1,1),(0,0,0,1,0,0,0)),((655,4,13,1),(0,0,0,0,0,0,0)),)\\
&((655,16,1,1),(1,1,1,1,0,0,0)),((655,16,13,1),(1,1,1,0,0,0,0)),)\\
&((656,4,13,1),(0,0,0,0,0,0,0)),((656,4,14,1),(0,0,0,0,0,0,0)),)\\
&((656,16,13,1),(1,1,1,0,0,0,0)),((656,16,14,1),(1,1,1,0,0,0,0))
\end{aligned}
$$

$(W^{\ddagger}_{7,3})$

$((1,1,1,1),(1,1,1,1)),((1,1,12,1),(1,0,0,0)),((1,6,1,1),(0,1,1,1))$
$((1,6,12,1),(0,0,0,0)),((2,1,12,1),(1,0,0,0)),((2,6,12,1),(0,0,0,0))$
$((4,1,12,1),(1,0,0,1)),((4,1,13,1),(1,0,0,0)),((4,6,12,1),(0,0,0,1))$
$((4,6,13,1),(0,0,0,0)),((5,1,12,1),(1,0,0,0)),((5,1,14,1),(1,0,1,0))$
$((5,6,12,1),(0,0,0,0)),((5,6,14,1),(0,0,1,0)),((6,1,13,1),(1,0,0,0))$
$((6,6,13,1),(0,0,0,0)),((25,6,1,1),(0,1,1,1)),((25,6,12,1),(0,0,0,0))$
$((25,10,1,1),(0,1,1,1)),((25,10,12,1),(0,0,0,0)),((26,6,12,1),(0,0,0,0))$
$((26,10,12,1),(0,0,0,0)),((28,6,12,1),(0,0,0,1)),((28,6,13,1),(0,0,0,0))$
$((28,10,12,1),(0,0,0,1)),((28,10,13,1),(0,0,0,0)),((29,6,12,1),(0,0,0,0))$
$((29,6,14,1),(0,0,1,0)),((29,10,12,1),(0,0,0,0)),((29,10,14,1),(0,0,1,0))$
$((30,6,13,1),(0,0,0,0)),((30,10,13,1),(0,0,0,0)),((121,6,1,1),(0,1,1,1))$
$((121,6,12,1),(0,0,0,0)),((121,10,1,1),(0,1,1,1)),((121,10,12,1),(0,0,0,0))$
$((122,6,12,1),(0,0,0,0)),((122,10,12,1),(0,0,0,0)),((124,6,12,1),(0,0,0,1))$
$((124,6,13,1),(0,0,0,0)),((124,10,12,1),(0,0,0,1)),((124,10,13,1),(0,0,0,0))$
$((125,6,12,1),(0,0,0,0)),((125,6,14,1),(0,0,1,0)),((125,10,12,1),(0,0,0,0))$
$((125,10,14,1),(0,0,1,0)),((126,6,13,1),(0,0,0,0)),((126,10,13,1),(0,0,0,0))$
$((145,1,1,1),(1,1,1,1)),((145,1,12,1),(1,0,0,0)),((145,6,1,1),(0,1,1,1))$
$((145,6,12,1),(0,0,0,0)),((146,1,12,1),(1,0,0,0)),((146,6,12,1),(0,0,0,0))$
$((148,1,12,1),(1,0,0,1)),((148,1,13,1),(1,0,0,0)),((148,6,12,1),(0,0,0,1))$
$((148,6,13,1),(0,0,0,0)),((149,1,12,1),(1,0,0,0)),((149,1,14,1),(1,0,1,0))$
$((149,6,12,1),(0,0,0,0)),((149,6,14,1),(0,0,1,0)),((150,1,13,1),(1,0,0,0),)$
$((150,6,13,1),(0,0,0,0)));$

$(W^{\ddagger}_{7,4})$

$$
\begin{aligned}
&((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1))\\
&((1,1,3,1),(0,1,1,1,0,0,0,0,0,0,1,1,0,1,0))\\
&((1,2,2,1),(0,0,0,0,0,0,0,0,0,0,0,1,0,0,0))\\
&((9,2,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((13,2,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((15,2,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((34,1,3,1),(0,0,0,0,0,0,0,0,0,0,1,1,0,1,0))\\
&((34,2,11,1),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0))\\
&((34,10,2,1),(0,0,0,0,0,0,0,0,0,0,1,1,0,1,0))\\
&((34,10,3,1),(1,1,1,1,0,0,0,0,0,1,1,1,1,1,1))\\
&((40,2,11,1),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0))\\
&((65,1,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0))\\
&((65,2,12,1),(0,0,0,1,0,0,0,1,1,0,0,0,0,0,0))\\
&((65,6,2,1),(0,0,0,0,0,0,0,0,0,1,1,1,1,1,1))\\
&((66,1,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0))\\
&((66,6,3,1),(0,0,0,0,0,0,0,0,0,1,1,1,1,1,1))\\
&((66,6,11,1),(0,0,0,0,0,0,0,0,1,0,0,0,0,1,0))\\
&((66,10,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0))\\
&((91,1,3,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0))\\
&((91,2,13,1),(0,0,1,1,0,0,1,1,1,0,0,1,0,0,0))\\
&((91,4,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,1,1,1))\\
&((94,1,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((94,4,11,1),(0,0,0,0,0,0,0,0,1,0,0,0,1,1,1))\\
&((94,10,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((95,1,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((95,4,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,1,1,1))\\
&((95,4,12,1),(0,0,0,1,0,0,0,1,1,0,0,0,0,0,0))\\
&((96,1,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((96,4,3,1),(0,0,0,0,0,0,0,0,0,0,0,0,1,1,1))\\
&((96,6,11,1),(0,0,0,0,0,0,0,0,1,0,0,0,0,0,0))\\
&((96,10,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))\\
&((97,1,3,1),(0,0,1,1,0,0,0,0,0,0,0,1,0,0,0))\\
&((97,2,3,1),(0,0,1,1,0,0,0,0,0,0,0,1,0,0,0))\\
&((97,2,14,1),(0,1,1,1,0,1,1,1,1,0,1,1,0,1,0))\\
&((97,3,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))\\
&((99,3,2,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))
\end{aligned}
$$

$((106, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0))$
$((106, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0))$
$((106, 3, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1))$
$((106, 10, 2, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0))$
$((113, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((113, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((113, 3, 12, 1), (0, 0, 0, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 1))$
$((114, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((114, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((114, 6, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0))$
$((114, 10, 2, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((115, 1, 3, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((115, 2, 3, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((115, 3, 3, 1), (0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((115, 3, 13, 1), (0, 0, 1, 1, 0, 0, 1, 1, 1, 0, 0, 1, 0, 0, 0))$
$((118, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((118, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((118, 3, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((118, 10, 2, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((119, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((119, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((119, 3, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((119, 4, 12, 1), (0, 0, 0, 1, 0, 0, 0, 1, 1, 0, 0, 0, 0, 0, 0))$
$((120, 1, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((120, 2, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((120, 3, 3, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((120, 6, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0))$
$((120, 10, 2, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$(W^{\ddagger}_{7,5})$

$$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1))$$
$$((1,1,28,1),(0,1,1,0,1,0,0,0,0,0))$$
$$((1,10,1,1),(1,1,1,1,1,1,1,1,1,1))$$
$$((1,10,28,1),(0,1,1,0,1,0,0,0,0,0))$$
$$((10,1,28,1),(0,0,0,0,1,0,0,0,0,0))$$
$$((10,10,28,1),(0,0,0,0,1,0,0,0,0,0))$$
$$((17,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((17,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((18,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((18,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((19,1,28,1),(0,0,1,0,0,0,0,0,0,0))$$
$$((19,10,28,1),(0,0,1,0,0,0,0,0,0,0))$$
$$((22,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((22,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((23,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((23,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((24,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((24,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((217,1,14,1),(0,1,1,0,1,0,0,1,1,1))$$
$$((217,1,28,1),(0,0,1,0,0,0,0,0,0,0))$$
$$((217,10,14,1),(0,1,1,0,1,0,0,1,1,1))$$
$$((217,10,28,1),(0,0,1,0,0,0,0,0,0,0))$$
$$((220,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((220,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((221,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((221,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((222,1,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((222,10,28,1),(0,0,0,0,0,0,0,0,0,0))$$
$$((331,1,13,1),(0,0,1,0,0,0,0,0,1,1))$$
$$((331,1,28,1),(0,0,0,0,0,1,0,0,0,0))$$
$$((331,10,13,1),(0,0,1,0,0,0,0,0,1,1))$$
$$((331,10,28,1),(0,0,0,0,0,1,0,0,0,0))$$
$$((332,1,28,1),(0,0,0,0,0,1,0,0,0,0))$$
$$((332,10,28,1),(0,0,0,0,0,1,0,0,0,0))$$
$$((355,1,13,1),(0,0,1,0,0,0,0,0,1,1))$$
$$((355,10,13,1),(0,0,1,0,0,0,0,0,1,1))$$

$$((425, 1, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((425, 1, 28, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0, 0))$$
$$((425, 10, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((425, 10, 28, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0, 0))$$
$$((431, 1, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((431, 10, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((455, 1, 12, 1), (0, 0, 0, 0, 0, 1, 0, 0, 0, 1))$$
$$((455, 10, 12, 1), (0, 0, 0, 0, 0, 1, 0, 0, 0, 1))$$
$$((473, 1, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((473, 10, 12, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$$
$$((514, 1, 11, 1), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0))$$
$$((514, 1, 28, 1), (1, 1, 1, 1, 1, 1, 0, 0, 0, 0))$$
$$((514, 10, 11, 1), (0, 0, 0, 0, 1, 0, 0, 0, 0, 0))$$
$$((514, 10, 28, 1), (1, 1, 1, 1, 1, 1, 0, 0, 0, 0))$$
$$((522, 1, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((522, 10, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((526, 1, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((526, 10, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((528, 1, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((528, 10, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((546, 1, 11, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0, 0))$$
$$((546, 10, 11, 1), (0, 0, 0, 1, 1, 1, 0, 0, 0, 0))$$
$$((574, 1, 11, 1), (0, 0, 0, 0, 0, 1, 0, 0, 0, 0))$$
$$((574, 10, 11, 1), (0, 0, 0, 0, 0, 1, 0, 0, 0, 0))$$
$$((586, 1, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((586, 10, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((588, 1, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$
$$((588, 10, 11, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$$

$(W^{\ddagger}_{7,6})$

$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1))$
$((1,1,16,1),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0,1,0,0,1,1,0,0,1,1))$
$((1,1,38,1),(0,1,1,1,0,1,1,0,1,0,0,0,1,0,1,1,0,1,1,1,0,1,1,1))$
$((361,1,16,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1))$
$((481,1,17,1),(0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,1,0,0,0,1))$
$((481,1,38,1),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0,1,0,0,1,1,0,0,1,1))$
$((687,1,16,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,1))$
$((775,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$
$((895,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,1))$
$((961,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((963,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((985,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((987,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1081,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1105,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1201,1,38,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1))$
$((1202,1,18,1),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1202,1,38,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,1))$
$((1226,1,18,1),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1321,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1323,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1327,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1335,1,16,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1345,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1347,1,16,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1375,1,16,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1407,1,16,1),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1440,1,38,1),(0,1,1,1,0,1,1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1441,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1447,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1465,1,17,1),(0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1495,1,17,1),(0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1527,1,38,1),(0,0,1,1,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1562,1,18,1),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1586,1,18,1),(0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1615,1,38,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$
$((1616,1,38,1),(0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((1681, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1682, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1683, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1686, 1, 19, 1), (0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1686, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1705, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1706, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1707, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1710, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1801, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1802, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1803, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1806, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1807, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1808, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1815, 1, 38, 1), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1824, 1, 2, 1), (0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1))$
$((1824, 1, 28, 1), (1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1824, 1, 38, 1), (0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1825, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1826, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1827, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1830, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$
$((1855, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((1856, 1, 38, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$
$((1887, 1, 38, 1), (0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1))$
$((1920, 1, 38, 1), (0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1))$

$(W^{\ddagger}_{7,7})$

$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,1))$

$((1,17,1,1),(1,1,1,1,1,1,0,1,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((1,22,1,1),(0,1,1,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((33,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((34,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((34,27,1,1),(1,1,1,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((61,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((63,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((64,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((65,22,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((65,26,1,1),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((66,26,1,1),(0,0,0,0,0,0,0,0,0,0,0,1,1,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((73,22,1,1),(0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((81,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((82,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((85,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((87,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((88,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((89,22,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((91,22,1,1),(0,0,1,0,0,1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((91,25,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((93,25,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((94,25,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((95,25,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((97,22,1,1),(0,1,1,0,1,1,0,1,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((97,24,1,1),(0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((105,24,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((106,24,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((109,24,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((111,24,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((112,24,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((113,24,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((115,24,1,1),(0,0,1,0,0,1,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((181,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((183,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((184,22,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((185,22,1,1),(0,0,0,0,0,0,0,1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0))$

$((187, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((189, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((190, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((191, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((205, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((207, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((208, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((209, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((235, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((237, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((238, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((239, 25, 1, 1), (0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0))$

$((273, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((274, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((275, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((276, 24, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((361, 22, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((362, 24, 1, 1), (0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1))$

$((481, 23, 1, 1), (1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1))$

$((553, 24, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1))$

$((577, 22, 1, 1), (0, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1))$

$((687, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1))$

$((688, 22, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1))$

$((1233, 18, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1))$

$((1234, 18, 1, 1), (0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1))$

$((1407, 22, 1, 1), (0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1))$

$((1887, 22, 1, 1), (0, 1, 1, 0, 1, 1, 0, 1, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 1, 1, 0, 0, 1, 0, 1, 1, 0, 0, 1, 1))$

$(W^{\ddagger}_{6,1})$

$$
\begin{aligned}
&((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),\\
&((1,9,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1)),\\
&((1,23,1,1),(1,1,0,0,0,0,1,1,1,1,0,0,0,1,1)),\\
&((193,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),\\
&((301,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((325,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((361,23,1,1),(1,1,0,0,0,0,1,0,0,0,0,0,0,0,0)),\\
&((393,9,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),\\
&((423,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((441,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((447,9,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((663,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((687,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((687,23,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,1,1)),\\
&((775,23,1,1),(0,0,0,0,0,0,1,0,0,0,0,0,0,0,0)),\\
&((781,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((805,13,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((961,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((963,15,1,1),(0,1,0,1,1,0,0,0,0,0,0,0,0,0,0)),\\
&((963,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((985,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((987,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1321,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1323,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1327,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1335,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),\\
&((1345,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1347,23,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1375,3,1,1),(0,1,0,1,1,0,0,0,0,1,0,0,1,0,1)),\\
&((1375,16,1,1),(1,1,1,1,1,0,1,0,0,0,0,0,0,0,0)),\\
&((1375,23,1,1),(0,1,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1407,23,1,1),(0,1,0,0,0,0,0,0,0,1,0,0,0,0,1))
\end{aligned}
$$

$(W^{\ddagger}_{6,2})$

$$((1,1,1,1),(1,1,1,1,1,1)),((1,16,1,1),(1,0,0,0,0,0)),$$
$$((2,1,1,1),(1,1,1,1,1,1)),((2,16,1,1),(1,0,0,0,0,0)),$$
$$((31,16,1,1),(0,0,0,0,0,0)),((32,16,1,1),(0,0,0,0,0,0)),$$
$$((49,16,1,1),(0,0,0,0,0,0)),((50,16,1,1),(0,0,0,0,0,0)),$$
$$((55,16,1,1),(0,0,0,0,0,0)),((56,16,1,1),(0,0,0,0,0,0)),$$
$$((151,16,1,1),(0,0,0,0,0,0)),((152,16,1,1),(0,0,0,0,0,0)),$$
$$((175,10,1,1),(1,0,0,1,0,1)),((175,16,1,1),(0,0,0,0,0,0)),$$
$$((176,10,1,1),(1,0,0,1,0,1)),((176,16,1,1),(0,0,0,0,0,0)),$$
$$((241,6,1,1),(0,0,0,0,0,1)),((241,16,1,1),(0,0,1,0,0,0)),$$
$$((242,6,1,1),(0,0,0,0,0,1)),((242,16,1,1),(0,0,1,0,0,0)),$$
$$((265,6,1,1),(0,0,0,0,0,1)),((266,6,1,1),(0,0,0,0,0,1)),$$
$$((607,4,1,1),(0,0,0,0,0,0)),((608,4,1,1),(0,0,0,0,0,0)),$$
$$((625,4,1,1),(0,0,1,0,0,0)),((626,4,1,1),(0,0,1,0,0,0)),$$
$$((649,4,1,1),(0,0,0,0,0,0)),((650,4,1,1),(0,0,0,0,0,0)),$$
$$((655,4,1,1),(0,0,0,0,0,0)),((655,16,1,1),(1,1,1,0,0,0)),$$
$$((656,4,1,1),(0,0,0,0,0,0)),((656,16,1,1),(1,1,1,0,0,0)).$$

$(W^{\ddagger}_{6,3})$

$$((1,1,1,1),(1,1)),((1,6,1,1),(0,1)),((4,1,1,1),(1,0)),((4,6,1,1),(0,0)),$$
$$((5,1,1,1),(1,0)),((5,6,1,1),(0,0)),((6,1,1,1),(1,0)),((6,6,1,1),(0,0)),$$
$$((25,6,1,1),(0,1)),((25,10,1,1),(0,1)),((28,6,1,1),(0,0)),((28,10,1,1),(0,0)),$$
$$((29,6,1,1),(0,0)),((29,10,1,1),(0,0)),((30,6,1,1),(0,0)),((30,10,1,1),(0,0)),$$
$$((121,6,1,1),(0,1)),((121,10,1,1),(0,1)),((124,6,1,1),(0,0)),((124,10,1,1),(0,0)),$$
$$((125,6,1,1),(0,0)),((125,10,1,1),(0,0)),((126,6,1,1),(0,0)),((126,10,1,1),(0,0)),$$
$$((145,1,1,1),(1,1)),((145,6,1,1),(0,1)),((148,1,1,1),(1,0)),((148,6,1,1),(0,0)),$$
$$((149,1,1,1),(1,0)),((149,6,1,1),(0,0)),((150,1,1,1),(1,0)),((150,6,1,1),(0,0)).$$

$(W^{\ddagger}_{6,4})$

$$((1,1,1,1),(1,1,1,1,1,1,1,1,1,1)),((1,2,1,1),(0,1,1,0,0,0,0,0,1,0)),$$
$$((33,2,1,1),(0,0,0,0,0,0,0,0,1,0)),((34,2,1,1),(0,0,0,0,0,0,0,0,1,0)),$$
$$((34,10,1,1),(1,1,1,0,0,0,0,1,1,1)),((61,2,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((63,2,1,1),(0,0,0,0,0,0,0,0,0,0)),((64,2,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((65,2,1,1),(0,0,0,0,0,0,1,0,0,0)),((65,6,1,1),(0,0,0,0,0,0,0,1,1,1)),$$
$$((66,6,1,1),(0,0,0,0,0,0,0,1,1,1)),((73,2,1,1),(0,0,1,0,0,0,0,0,0,0)),$$
$$((81,2,1,1),(0,0,0,0,0,0,0,0,0,0)),((82,2,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((85,2,1,1),(0,0,0,0,0,0,0,0,0,0)),((87,2,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((88,2,1,1),(0,0,0,0,0,0,0,0,0,0)),((89,2,1,1),(0,0,0,0,0,0,1,0,0,0)),$$
$$((91,2,1,1),(0,0,1,0,0,1,1,0,0,0)),((91,4,1,1),(0,0,0,0,0,0,0,0,0,1)),$$
$$((93,4,1,1),(0,0,0,0,0,0,0,0,0,1)),((94,4,1,1),(0,0,0,0,0,0,0,0,0,1)),$$
$$((95,4,1,1),(0,0,0,0,0,0,1,0,0,1)),((97,2,1,1),(0,1,1,0,1,1,1,0,1,0)),$$
$$((97,3,1,1),(0,0,1,0,0,0,0,0,0,0)),((105,3,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((106,3,1,1),(0,0,0,0,0,0,0,0,0,0)),((109,3,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((111,3,1,1),(0,0,0,0,0,0,0,0,0,0)),((112,3,1,1),(0,0,0,0,0,0,0,0,0,0)),$$
$$((113,3,1,1),(0,0,0,0,0,0,1,0,0,0)),((115,3,1,1),(0,0,1,0,0,1,1,0,0,0))$$

$(W^{\ddagger}_{6,5})$

$$((1,1,1,1),(1,1,1,1,1,1)),((1,10,1,1),(1,1,1,1,1,1)),$$
$$((217,1,1,1),(0,1,0,0,1,1)),((217,10,1,1),(0,1,0,0,1,1)),$$
$$((331,1,1,1),(0,0,0,0,0,1)),((331,10,1,1),(0,0,0,0,0,1)),$$
$$((355,1,1,1),(0,0,0,0,0,1)),((355,10,1,1),(0,0,0,0,0,1)),$$
$$((425,1,1,1),(0,0,1,0,0,0)),((425,10,1,1),(0,0,1,0,0,0)),$$
$$((455,1,1,1),(0,0,0,0,0,0)),((455,10,1,1),(0,0,0,0,0,0)),$$
$$((473,1,1,1),(0,0,0,0,0,0)),((473,10,1,1),(0,0,0,0,0,0)),$$
$$((479,1,1,1),(0,0,0,0,0,0)),((479,10,1,1),(0,0,0,0,0,0)),$$
$$((514,1,1,1),(1,1,1,0,0,0)),((514,10,1,1),(1,1,1,0,0,0)),$$
$$((546,1,1,1),(0,0,1,0,0,0)),((546,10,1,1),(0,0,1,0,0,0)),$$
$$((574,1,1,1),(0,0,0,0,0,0)),((574,10,1,1),(0,0,0,0,0,0)),$$
$$((576,1,1,1),(0,0,0,0,0,0)),((576,10,1,1),(0,0,0,0,0,0)),$$
$$((586,1,1,1),(0,1,0,0,0,0)),((586,10,1,1),(0,1,0,0,0,0)),$$
$$((594,1,1,1),(0,0,0,0,0,0)),((594,10,1,1),(0,0,0,0,0,0)),$$
$$((598,1,1,1),(0,0,0,0,0,0)),((598,10,1,1),(0,0,0,0,0,0)),$$
$$((600,1,1,1),(0,0,0,0,0,0)),((600,10,1,1),(0,0,0,0,0,0))$$

$(W^{\ddagger}_{6,6})$

$$
\begin{aligned}
&((1,1,1,1),(1,1,1,1,1,1,1,1,1,1,1,1,1,1,1)),\\
&((481,1,1,1),(0,1,1,0,1,0,0,0,1,0,1,1,0,1,1)),\\
&((1201,1,1,1),(0,0,1,0,0,0,0,0,0,0,0,1,0,0,1)),\\
&((1202,1,1,1),(0,0,1,0,0,0,0,0,0,0,0,1,0,0,1)),\\
&((1440,1,1,1),(0,0,0,1,1,1,0,0,0,0,0,0,1,1,1)),\\
&((1527,1,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,1,1)),\\
&((1615,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),\\
&((1616,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,1)),\\
&((1681,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1682,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1683,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1686,1,1,1),(0,0,0,0,0,1,0,0,0,0,0,0,0,0,0)),\\
&((1705,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1706,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1707,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1710,1,1,1),(0,0,0,0,0,1,0,0,0,0,0,0,0,0,0)),\\
&((1801,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1802,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1803,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1806,1,1,1),(0,0,0,0,0,1,0,0,0,0,0,0,0,0,0)),\\
&((1807,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1808,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1815,1,1,1),(0,0,0,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((1824,1,1,1),(0,0,0,1,1,1,0,0,0,0,0,0,0,0,0)),\\
&((1825,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1826,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1827,1,1,1),(0,0,0,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1830,1,1,1),(0,0,0,0,0,1,0,0,0,0,0,0,0,0,0)),\\
&((1855,1,1,1),(0,0,1,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1856,1,1,1),(0,0,1,0,0,0,0,0,0,0,0,0,0,0,0)),\\
&((1887,1,1,1),(0,1,1,0,1,0,0,0,0,0,0,0,0,0,0)),\\
&((1920,1,1,1),(1,1,1,1,1,1,0,0,0,0,0,0,0,0,0))
\end{aligned}
$$

Appendix D. $\prod_{\alpha\in\Phi_P^+\smallsetminus\Delta_P}\widehat{\zeta}(\langle\rho,\alpha^\vee\rangle+\delta_{\alpha,w})$

Now we calculate$\prod_{\alpha\in\Phi_P^+\smallsetminus\Delta_P}\widehat{\zeta}(\langle\rho,\alpha^\vee\rangle+\delta_{\alpha,w})$ for $w\in\mathfrak{W}^{\ddagger}$. This is give in the table $kg[1]$ and the result can be rephrased as the following (with $G[s]=\widehat{\zeta}(s)$)

Proposition 14. *For* $w \in \mathfrak{W}^\ddagger$*, the corresponding* $\prod_{\alpha\in\Phi_P^+\smallsetminus\Delta_P}\widehat{\zeta}(\langle\rho,\alpha^\vee\rangle+\delta_{\alpha,w})$ *is given by*

$(W_{8,1}^\ddagger)$

$$G[3]^5G[4]^4G[5]^3G[6]^2G[7]G[8], G[2]G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8],$$
$$G[2]G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8], G[2]G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8],$$
$$G[2]G[3]^6G[4]^4G[5]^3G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7],$$
$$G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7],$$
$$G[2]^2G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^2G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$

$$G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]G[3]^6G[4]^4G[5]^3G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7],$$
$$G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6]G[7],$$
$$G[2]G[3]^5G[4]^5G[5]^2G[6]^2G[7], G[2]^2G[3]^4G[4]^5G[5]^2G[6]^2G[7],$$
$$G[2]^2G[3]^4G[4]^5G[5]^2G[6]^2G[7], G[2]^2G[3]^4G[4]^5G[5]^2G[6]^2G[7],$$
$$G[2]^2G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^2G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^5G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^6G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^2G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^4G[5]^2G[6]G[7]\Big).$$

$(W^{\ddagger}_{8,2})$

$G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4],$
$G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^2G[3]^5G[4]^2, G[2]^4G[3]^4G[4],$
$G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4],$
$G[2]^3G[3]^5G[4], G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4],$
$G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^4G[4]^2,$
$G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4],$
$G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[3]^5G[4]^3G[5], G[2]^2G[3]^4G[4]^2G[5],$
$G[2]^2G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^2G[5], G[2]G[3]^5G[4]^2G[5], G[2]^2G[3]^4G[4]^2G[5],$
$G[2]^2G[3]^4G[4]^2G[5], G[2]G[3]^5G[4]^2G[5], G[2]^2G[3]^5G[4]^2, G[2]^4G[3]^4G[4],$
$G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4],$
$G[2]^3G[3]^5G[4], G[2]^2G[3]^5G[4]^2, G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4],$
$G[2]^3G[3]^5G[4], G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]G[3]^5G[4]^3,$
$G[2]^3G[3]^4G[4]^2, G[2]^3G[3]^4G[4]^2, G[2]^3G[3]^4G[4]^2, G[2]^2G[3]^5G[4]^2,$
$G[2]^3G[3]^4G[4]^2, G[2]^3G[3]^4G[4]^2, G[2]^2G[3]^5G[4]^2, G[2]^2G[3]^5G[4]^2, G[2]^4G[3]^4G[4],$
$G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]^4G[3]^4G[4],$
$G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4],$
$G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4],$
$G[2]^4G[3]^4G[4], G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4],$
$G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^4G[4]^2,$
$G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4],$
$G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4],$
$G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4],$
$G[2]^3G[3]^4G[4]^2, G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4],$
$G[2]^5G[3]^3G[4], G[2]^5G[3]^3G[4], G[2]^4G[3]^4G[4], G[2]^2G[3]^5G[4]^2, G[2]^4G[3]^4G[4],$
$G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4], G[2]^3G[3]^5G[4], G[2]^4G[3]^4G[4], G[2]^4G[3]^4G[4],$
$G[2]^3G[3]^5G[4], G[2]G[3]^5G[4]^3, G[2]^3G[3]^4G[4]^2, G[2]^3G[3]^4G[4]^2,$
$G[2]^3G[3]^4G[4]^2, G[2]^2G[3]^5G[4]^2, G[2]^3G[3]^4G[4]^2, G[2]^3G[3]^4G[4]^2, G[2]^2G[3]^5G[4]^2$

$(W_{8,3}^{\ddagger})$

$G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$
$G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]G[3]^4G[4]^2, G[2]^3G[3]^3G[4],$
$G[2]^2G[3]^4G[4], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]G[3]^4G[4]^2, G[2]^2G[3]^4G[4],$
$G[2]^2G[3]^4G[4], G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$
$G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]G[3]^4G[4]^2,$
$G[2]^3G[3]^3G[4], G[2]^2G[3]^4G[4], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]G[3]^4G[4]^2,$
$G[2]^2G[3]^4G[4], G[2]^2G[3]^4G[4], G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4],$
$G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$
$G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]G[3]^3G[4]^2G[5],$
$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4], G[2]^3G[3]^3G[4],$
$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$
$G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4],$
$G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4],$
$G[2]^3G[3]^3G[4], G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2,$
$G[2]^4G[3]^2G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2,$
$G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4],$
$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$
$G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$
$G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4]$

$(W_{8,4}^{\ddagger})$

$$G[3]^6G[4]^5G[5]^4G[6]^3G[7]^2G[8], G[2]^2G[3]^6G[4]^5G[5]^4G[6]^3G[7],$$
$$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^2G[3]^7G[4]^5G[5]^4G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7], G[2]^2G[3]^6G[4]^5G[5]^4G[6]^3G[7],$$
$$G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7],$$
$$G[2]G[3]^6G[4]^5G[5]^4G[6]^3G[7]^2, G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$$
$$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$$
$$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^2G[3]^7G[4]^6G[5]^3G[6]^2G[7],$$
$$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7],$$

$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^2G[3]^6G[4]^5G[5]^4G[6]^3G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^2G[3]^7G[4]^5G[5]^4G[6]^2G[7], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7],$
$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7],$
$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^2G[3]^6G[4]^5G[5]^4G[6]^3G[7],$
$G[2]^3G[3]^7G[4]^5G[5]^3G[6]^2G[7], G[2]^2G[3]^6G[4]^5G[5]^4G[6]^3G[7],$
$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^7G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7], G[2]G[3]^6G[4]^5G[5]^4G[6]^3G[7]^2,$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^4G[3]^6G[4]^5G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^5G[3]^6G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7],$
$G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^6G[3]^5G[4]^4G[5]^3G[6]^2G[7]$

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$G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]G[3]^5G[4]^4G[5]^3G[6]^2, G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
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$G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]^2G[3]^6G[4]^4G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]G[3]^5G[4]^4G[5]^3G[6]^2, G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6],$

$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^2G[3]^6G[4]^4G[5]^2G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6],$
$G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
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$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]G[3]^5G[4]^4G[5]^3G[6]^2,$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6],$
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$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6],$
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$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]G[3]^5G[4]^4G[5]^3G[6]^2, G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6],$
$G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^2G[3]^6G[4]^4G[5]^2G[6],$
$G[2]^3G[3]^6G[4]^3G[5]^2G[6]$

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$$G[3]^6G[4]^6G[5]^5G[6]^5G[7]^4G[8]^3G[9]^2G[10]^2G[11]G[12],$$
$$G[2]^2G[3]^6G[4]^6G[5]^6G[6]^5G[7]^3G[8]^3G[9]^2G[10]G[11],$$
$$G[2]G[3]^6G[4]^6G[5]^5G[6]^6G[7]^3G[8]^2G[9]^3G[10]^2G[11],$$
$$G[2]^2G[3]^8G[4]^7G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^7G[5]^5G[6]^5G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^7G[4]^7G[5]^5G[6]^5G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^6G[6]^5G[7]^3G[8]^3G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^7G[5]^5G[6]^5G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^8G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^7G[5]^5G[6]^5G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^8G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^8G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^8G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^2G[3]^8G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^4G[3]^8G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
$$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^2G[3]^7G[4]^6G[5]^6G[6]^5G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^8G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^8G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^3G[3]^8G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^3G[3]^7G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

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$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

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$G[2]^4G[3]^7G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$

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$$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$

$$G[2]^6G[3]^6G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
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$$G[2]^5G[3]^7G[4]^5G[5]^5G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11],$$
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$$G[2]^3G[3]^7G[4]^6G[5]^6G[6]^4G[7]^3G[8]^2G[9]^2G[10]G[11]$$

$(W^{\ddagger}_{8,7})$

$$G[3]^5G[4]^5G[5]^5G[6]^4G[7]^3G[8]^3G[9]^2G[10]G[11]G[12],$$
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$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
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$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
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$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
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$$G[2]G[3]^5G[4]^6G[5]^5G[6]^4G[7]^3G[8]^3G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
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$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
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$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11]$$

$(W^{\ddagger}_{8,8}$]

$G[2]^3G[3]^7G[4]^7G[5]^7G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$

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$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
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$G[2]^2G[3]^7G[4]^7G[5]^7G[6]^6G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^7G[4]^7G[5]^7G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^2G[3]^7G[4]^7G[5]^7G[6]^6G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
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$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^7G[4]^7G[5]^7G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^7G[4]^7G[5]^7G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^2G[3]^8G[4]^7G[5]^7G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^8G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$

$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]G[3]^7G[4]^7G[5]^7G[6]^6G[7]^6G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^6G[4]^8G[5]^6G[6]^6G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]G[3]^6G[4]^6G[5]^7G[6]^6G[7]^5G[8]^5G[9]^5G[10]^3G[11]^3G[12]^3G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^6G[3]^6G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^7G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^2G[3]^6G[4]^7G[5]^7G[6]^6G[7]^5G[8]^5G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^3G[3]^8G[4]^7G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^8G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
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$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^5G[3]^7G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17],$
$G[2]^4G[3]^8G[4]^6G[5]^6G[6]^5G[7]^5G[8]^4G[9]^4G[10]^3G[11]^3G[12]^2G[13]^2G[14]G[15]G[16]G[17]$

$(W^{\ddagger}_{7,1})$

$G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8], G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7],$
$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]G[3]^4G[4]^5G[5]^2G[6]^2G[7], G[2]G[3]^4G[4]^5G[5]^2G[6]^2G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
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$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]G[3]^6G[4]^4G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
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$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7],$
$G[2]G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7],$
$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7]$

$(W^{\ddagger}_{7,2})$

$$G[3]^4G[4]^2G[5], G[2]G[3]^3G[4]^2G[5], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4],$$
$$G[2]G[3]^3G[4]^2G[5], G[2]G[3]^3G[4]^2G[5], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]G[3]^4G[4]^2, G[2]^2G[3]^3G[4]^2, G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^2G[3]^3G[4]^2, G[2]^2G[3]^3G[4]^2, G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$$
$$G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^2G[3]^4G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4], G[2]^3G[3]^3G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4],$$
$$G[2]^3G[3]^3G[4], G[2]^4G[3]^2G[4], G[2]G[3]^4G[4]^2, G[2]^2G[3]^3G[4]^2,$$
$$G[2]^4G[3]^2G[4], G[2]^4G[3]^2G[4], G[2]^2G[3]^3G[4]^2, G[2]^2G[3]^3G[4]^2$$

$(W^{\ddagger}_{7,3})$

$$G[3]^3G[4], G[2]^2G[3]^2, G[2]G[3]^2G[4], G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]G[3]^3,$$
$$G[2]^2G[3]^2, G[2]^2G[3]^2, G[2]^3G[3], G[2]^2G[3]^2, G[2]G[3]^3, G[2]^3G[3], G[2]^2G[3]^2,$$
$$G[2]^2G[3]^2, G[2]^3G[3], G[2]G[3]^2G[4], G[2]^3G[3], G[2]G[3]^2G[4], G[2]^3G[3], G[2]^3G[3],$$
$$G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^3G[3], G[2]^2G[3]^2,$$
$$G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^3G[3], G[2]G[3]^2G[4], G[2]^3G[3], G[2]G[3]^2G[4],$$
$$G[2]^3G[3], G[2]^3G[3], G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3],$$
$$G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]^3G[3], G[3]^3G[4], G[2]^2G[3]^2,$$
$$G[2]G[3]^2G[4], G[2]^3G[3], G[2]^2G[3]^2, G[2]^3G[3], G[2]G[3]^3, G[2]^2G[3]^2, G[2]^2G[3]^2,$$
$$G[2]^3G[3], G[2]^2G[3]^2, G[2]G[3]^3, G[2]^3G[3], G[2]^2G[3]^2, G[2]^2G[3]^2, G[2]^3G[3]$$

$(W^{\ddagger}_{7,4})$

$G[3]^5G[4]^4G[5]^3G[6]^2G[7], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6],$

$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]G[3]^5G[4]^4G[5]^3G[6]^2,$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6],$
$G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6],$
$G[2]^3G[3]^6G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^2G[3]^6G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]G[3]^5G[4]^4G[5]^3G[6]^2,$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^3G[3]^6G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^6G[4]^4G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^6G[4]^3G[5]^2G[6], G[2]^2G[3]^5G[4]^4G[5]^3G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6],$
$G[2]^3G[3]^5G[4]^4G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6],$
$G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^4G[3]^5G[4]^3G[5]^2G[6], G[2]^5G[3]^4G[4]^3G[5]^2G[6]$

$(W^{\ddagger}_{7,5})$

$G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^4G[4]^3G[5], G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^4G[4]^3G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]G[3]^4G[4]^3G[5]^2, G[2]^3G[3]^4G[4]^2G[5],$
$G[2]G[3]^4G[4]^3G[5]^2, G[2]^3G[3]^4G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^2G[3]^4G[4]^3G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^5G[4]^2G[5], G[2]^2G[3]^5G[4]^2G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]G[3]^4G[4]^3G[5]^2,$
$G[2]^3G[3]^4G[4]^2G[5], G[2]G[3]^4G[4]^3G[5]^2, G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^2G[3]^4G[4]^3G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5]$

$(W^{\ddagger}_{7,6})$

$$
\begin{aligned}
&G[3]^5G[4]^5G[5]^4G[6]^4G[7]^2G[8]^2G[9]G[10], G[2]^2G[3]^5G[4]^6G[5]^4G[6]^3G[7]^2G[8]G[9],\\
&G[2]G[3]^5G[4]^5G[5]^5G[6]^3G[7]^2G[8]^2G[9], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^2G[3]^7G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^2G[3]^5G[4]^6G[5]^4G[6]^3G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^7G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^2G[3]^6G[4]^5G[5]^5G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^3G[3]^7G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^2G[3]^6G[4]^5G[5]^5G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]G[3]^6G[4]^5G[5]^5G[6]^3G[7]^2G[8]G[9],\\
&G[2]G[3]^6G[4]^5G[5]^5G[6]^3G[7]^2G[8]G[9], G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^5G[3]^5G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^4G[3]^6G[4]^4G[5]^4G[6]^2G[7]^2G[8]G[9],\\
&G[2]^3G[3]^6G[4]^5G[5]^4G[6]^2G[7]^2G[8]G[9], G[2]^2G[3]^6G[4]^5G[5]^5G[6]^2G[7]^2G[8]G[9]
\end{aligned}
$$

$(W_{7,7}^{\ddagger})$

$$G[3]^5G[4]^5G[5]^5G[6]^4G[7]^3G[8]^3G[9]^2G[10]G[11]G[12],$$
$$G[2]G[3]^6G[4]^6G[5]^5G[6]^4G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^7G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$

$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^5G[3]^5G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^7G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^4G[3]^6G[4]^5G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]G[3]^5G[4]^6G[5]^5G[6]^4G[7]^3G[8]^3G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^3G[3]^6G[4]^6G[5]^4G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^6G[4]^6G[5]^5G[6]^3G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]^2G[3]^5G[4]^7G[5]^4G[6]^4G[7]^3G[8]^2G[9]G[10]G[11],$$
$$G[2]G[3]^5G[4]^6G[5]^5G[6]^4G[7]^3G[8]^3G[9]G[10]G[11]$$

($W^{\ddagger}_{6,1}$)

$G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]G[3]^4G[4]^5G[5]^2G[6]^2G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$
$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7],$
$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7]$

($W^{\ddagger}_{6,2}$)

$G[3]^3G[4]^2G[5], G[2]^2G[3]^3G[4], G[3]^3G[4]^2G[5], G[2]^2G[3]^3G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4],$
$G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4],$
$G[2]G[3]^3G[4]^2, G[2]^3G[3]^2G[4], G[2]G[3]^3G[4]^2, G[2]^3G[3]^2G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4],$
$G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4],$
$G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]G[3]^3G[4]^2,$
$G[2]^3G[3]^2G[4], G[2]G[3]^3G[4]^2$

($W^{\ddagger}_{6,3}$)

$G[3]^2, G[2]G[3], G[2]G[3], G[2]^2, G[2]G[3], G[2]^2, G[2]G[3], G[2]^2, G[2]G[3], G[2]G[3],$
$G[2]^2, G[2]^2, G[2]^2, G[2]^2, G[2]^2, G[2]^2, G[2]G[3], G[2]G[3], G[2]^2, G[2]^2, G[2]^2, G[2]^2,$
$G[2]^2, G[2]^2, G[3]^2, G[2]G[3], G[2]G[3], G[2]^2, G[2]G[3], G[2]^2, G[2]G[3], G[2]^2$

($W^{\ddagger}_{6,4}$)

$G[3]^4G[4]^3G[5]^2G[6], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]G[3]^4G[4]^3G[5]^2, G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5], G[2]^3G[3]^4G[4]^2G[5],$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^5G[4]^2G[5], G[2]G[3]^4G[4]^3G[5]^2,$
$G[2]^3G[3]^4G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5],$
$G[2]^4G[3]^3G[4]^2G[5], G[2]^4G[3]^3G[4]^2G[5], G[2]^3G[3]^4G[4]^2G[5], G[2]^2G[3]^4G[4]^3G[5]$

$(W_{6,5}^{\ddagger})$

$G[3]^3G[4]^2G[5], G[3]^3G[4]^2G[5], G[2]G[3]^3G[4]^2, G[2]G[3]^3G[4]^2, G[2]^2G[3]^3G[4],$
$G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4],$
$G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4],$
$G[2]^3G[3]^2G[4], G[2]G[3]^3G[4]^2, G[2]G[3]^3G[4]^2, G[2]^2G[3]^3G[4], G[2]^2G[3]^3G[4],$
$G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^2G[3]^3G[4],$
$G[2]^2G[3]^3G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4],$
$G[2]^3G[3]^2G[4], G[2]^3G[3]^2G[4]$

$(W_{6,6}^{\ddagger})$

$$G[3]^4G[4]^4G[5]^3G[6]^2G[7]G[8], G[2]G[3]^4G[4]^5G[5]^2G[6]^2G[7],$$
$$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]G[3]^5G[4]^4G[5]^3G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^4G[3]^4G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7], G[2]^3G[3]^5G[4]^3G[5]^2G[6]G[7],$$
$$G[2]^2G[3]^5G[4]^4G[5]^2G[6]G[7], G[2]G[3]^5G[4]^4G[5]^3G[6]G[7]$$

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