Kaotic Algebras $Ka^n(p,q)$

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Abstract. Manifolds of any dimension and signature have an associated Clifford algebra. Division algebras can be generated by repeated application of the Cayley-Dickson construction, which can be further extended to power associative algebras such as the sedenions. It is possible to apply the Cayley-Dickson construction to Clifford algebras. The series of algebras generated this procedure are referred to in this paper as kaotic algebras, and the notation $Ka^n(p,q)$ is proposed to designate particular kaotic algebra obtained by n applications of the Cayley-Dickson construction to a matrix group isomorphic to a Clifford algebra $Cl(p,q)$. The Cayley table for $Ka^3(1,4)$ is generated. This table has aspects suggesting that this algebra may have applications in physics.

1. Introduction

2. The kaotic algebra $Ka^3(1,4)$

Using $Ka^n(p,q)$ to designate the kaotic algebra obtained by n applications of the Cayley-Dickson construction to a matrix group isomorphic to a Clifford algebra $Cl(p,q)$, the kaotic algebra obtained by three applications of the Cayley-Dickson construction to a Clifford algebra $Cl(1,4)$ is designated $Ka^3(1,4)$. This kaotic algebra is not a Moufang loop, but can be constructed in a similar manner.

2.1. Moufang Loop construction for octonions

Rules which construct Moufang Loops from groups can be used to construct octonions from quaternion pairs. A dis-association operator, μ, is assigned to the second quaternion pair, and the product rule is, for $(p,\mu p)$ times $(q,\mu q)$:
$p.q = (pq)$
$p.\mu q = \mu(qp)$
$\mu p.q = \mu(pq^{-1})$
$\mu p.\mu q = -(q^{-1}p)$
or, equivalently:
$p.q = (pq)$
$p.\omega q = \omega(p^{-1}q)$
$\omega p.q = \omega(qp)$
$\omega p.\omega q = -(qp^{-1})$

2.2. A Modified Moufang Loop construction for sedenions

A similar construction can be used for sedenions, using three dis-association operators, μ, ν and λ, with rules for $(p,\mu p,\nu p,\lambda p)$ times $(q,\mu q,\nu q,\lambda q)$ as follows:
$p.q = pq$
$p.\mu q = \mu qp$
$p.\nu q = \nu qp$
$p.\lambda q = \lambda qp^{-1}$
$\mu p.q = \mu pq^{-1}$
$\mu p.\mu q = -q^{-1}p$
$\mu p.\nu q = \lambda pq$
$\mu p.\lambda q = -\nu p^{-1}q$
$\nu p.q = \nu pq^{-1}$
$\nu p.\mu q = -\lambda qp$
$\nu p.\nu q = -q^{-1}p$
$\nu p.\lambda q = \mu qp^{-1}$
$\lambda p.q = \lambda pq$
$\lambda p.\mu q = \nu q^{-1}p$
$\lambda p.\nu q = -\mu pq^{-1}$
$\lambda p.\lambda q = -p^{-1}q$

2.3. A Modified Moufang Loop construction for trigintaduonions

A similar construction for trigintaduonions can be assembled, using seven dis-association operators, μ, ν, λ, α, β, γ and δ. Rules are imposed for the product: $(p, \mu p, \nu p, \lambda p, \alpha p, \beta p, \gamma p \delta p)$ times $(q, \mu q, \nu q, \lambda q, \alpha q, \beta q, \gamma q \delta q)$.
As there are 64 products, it is easier to describe the construction using a table where each entry defines the product as a procedure, as follows:

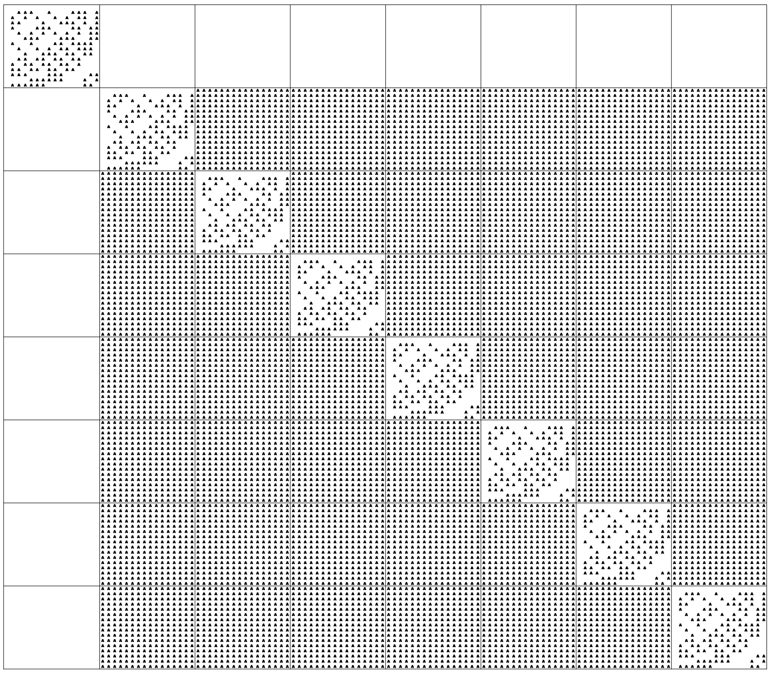
	q	μq	νq	λq	αq	βq	γq	δq
p	$+pq$	$+\mu qp$	$+\nu qp$	$+\lambda qp^{-1}$	$+\alpha qp$	$+\beta qp^{-1}$	$+\gamma qp^{-1}$	$+\delta qp$
μp	$+\mu pq^{-1}$	$-q^{-1}p$	$+\lambda pq$	$-\nu p^{-1}q$	$+\beta pq$	$-\alpha p^{-1}q$	$-\delta pq$	$+\gamma p^{-1}q$
νp	$+\nu pq^{-1}$	$-\lambda qp$	$-q^{-1}p$	$+\mu qp^{-1}$	$+\gamma pq$	$+\delta qp$	$-\alpha p^{-1}q$	$-\beta qp^{-1}$
λp	$+\lambda pq$	$+\nu q^{-1}p$	$-\mu pq^{-1}$	$-p^{-1}q$	$+\delta pq^{-1}$	$-\gamma q^{-1}p$	$+\beta pq^{-1}$	$-\alpha q^{-1}p$
αp	$+\alpha pq^{-1}$	$-\beta qp$	$-\gamma qp$	$-\delta qp^{-1}$	$-q^{-1}p$	$+\mu qp^{-1}$	$+\nu qp^{-1}$	$+\lambda qp$
βp	$+\beta pq$	$+\alpha q^{-1}p$	$-\delta pq$	$+\gamma p^{-1}q$	$-\mu pq^{-1}$	$-p^{-1}q$	$-\lambda pq$	$+\nu p^{-1}q$
γp	$+\gamma pq$	$+\delta qp$	$+\alpha q^{-1}p$	$-\beta qp^{-1}$	$-\nu pq^{-1}$	$+\lambda qp$	$-p^{-1}q$	$-\mu qp^{-1}$
δp	$+\delta pq^{-1}$	$-\gamma q^{-1}p$	$+\beta pq^{-1}$	$+\alpha p^{-1}q$	$-\lambda pq$	$-\nu q^{-1}p$	$+\mu pq^{-1}$	$-q^{-1}p$

If applied to the reals, this construction generates an octonion algebra. If applied to the complex numbers, it generates a sedenion algebra. If applied to a quaternion algebra, it generates a trigintaduonion algebra. When applied to unit multivector matrices for $Cl(1,4)$, it generates the kaotic algebra $Ka^3(1,4)$. The multiplication table for basis elements of $Ka^3(1,4)$ is shown in tables 1 to 32, in which hexadecimal numbering has been used to reduce column width.

3. Commutation properties

An overview of the commutation properties of products of $Ka^3(1,4)$ is shown in condensed form in figure 1, where products that anti-commute have an A in their entry.

FIGURE 1. Pattern of anticommuting products for the kaotic algebra



4. Discussion

$Ka^3(1,4)$ has 16 real basis elements that square to $+1$ and 240 imaginary basis elements that square to -1. The imaginary elements can be sorted into two sets, 112 of them are based on real matrices and 128 of them are based on imaginary matrices. This suggests a relationship with the root vectors of the group $E8$ and the octo-octonionic projective plane. $E8$ and its subgroups have been used in many attempts to generate a grand unification algebra, by, amongst others, J.D.Smith and G.Lisi. $Ka^3(1,4)$ includes the division algebras $\mathbb{R}, \mathbb{C}, \mathbb{H}, \mathbb{O}$. These algebras have been used in a model by G.Dixon.

A difficulty encountered when trying to generate the phenomenology of the standard model from an algebra is in finding a natural way to break the symmetry of the algebra that matches the asymmetry of the standard model. For $Ka^3(1,4)$, as the algebra is based on matrices isomorphic to unit multivectors of $Cl(1,4)$, which are also isomorphic to the complexification of unit multivectors of $Cl(3,1)$ or $Cl(1,3)$, a natural way to break the symmetry is to assign basis elements to unit vectors and phase for a space-time manifold. Assigning one basis element to time and three basis elements of opposite signature to three spatial dimensions creates distinctions between subsets of the imaginary basis elements, and thus creates distinctions between the root vectors of $E8$, breaking the symmetry of $E8$.

An additional method of introducing symmetry breakage is a result of a feature of the trigintaduonions. In an analysis of the subalgebra structure of the trigintaduonions, R. Cawagas noted that there are four non-isotopic sedenion subalgebras within the trigintaduonions[1]. J.Baez has noted that there is a correspondence between Feynman vertices which feature two spinors and a vector component, and the way in which a higher division algebra can be assembled from two copies of a division algebra and a third component[2]. This suggests that the four non-isotopic sedenion subalgebras could result in four different types of Feynman vertices, resulting in four fundamental forces, possible comprising the forces of the standard model together with a force associated with dark matter.

Another difficulty lies in the possibility that some elements of the algebra may be associated with dark matter particles, whose phenomenology is unknown. However, this does offer the opportunity to make testable predictions. A possible approach to this assigns basis elements featuring α, β, γ and δ to subalgebras associated with dark matter. This is suggested by the observation that the other basis elements, which are the basis elements of $Ka^2(1,4)$, generate copies of the subalgebra $\mathbb{C} \otimes \mathbb{H} \otimes \mathbb{O}$ (including 3 copies of $\mathbb{O}$), which has been used by G. Dixon to describe one family of the fermions of the standard model[3].

A relationship with string and M-theory can be established for $Ka^2(1,4)$.

5. Analysis of relationship of $Ka^2(1,4)$ with string/M-theory

To relate $Ka^2(1,4)$ with string/M-theory, which feature one time-like dimension and 9 or 10 space-like dimensions, it is useful to assign orientation to basis elements for $Ka^2(1,4)$ using a notation that highlights relationships between basis elements and elements assigned to vectors for a $(Cl(1,10)$ background. The multiplication table for $Ka^2(1,4)$ using this notation is shown in tables 33 to 40.

5.1. Notation

32×32 matrices can be used to represent unit elements of a $Cl(1,10)$ multivector. To represent 32×32 in compact form, letters are used to label unit 2×2 and 4×4 matrices as follows:

$$s=\begin{bmatrix}1&0\\0&1\end{bmatrix}\quad g=\begin{bmatrix}1&0\\0&-1\end{bmatrix}\quad h=\begin{bmatrix}0&1\\1&0\end{bmatrix}\quad j=\begin{bmatrix}0&1\\-1&0\end{bmatrix}$$

$$S=\begin{bmatrix}1&0&0&0\\0&1&0&0\\0&0&1&0\\0&0&0&1\end{bmatrix}$$

$$R=\begin{bmatrix}0&0&1&0\\0&0&0&1\\1&0&0&0\\0&1&0&0\end{bmatrix}\quad P=\begin{bmatrix}1&0&0&0\\0&1&0&0\\0&0&-1&0\\0&0&0&-1\end{bmatrix}\quad M=\begin{bmatrix}0&0&1&0\\0&0&0&1\\-1&0&0&0\\0&-1&0&0\end{bmatrix}$$

$$Y=\begin{bmatrix}0&1&0&0\\1&0&0&0\\0&0&0&1\\0&0&1&0\end{bmatrix}\quad E=\begin{bmatrix}1&0&0&0\\0&-1&0&0\\0&0&1&0\\0&0&0&-1\end{bmatrix}\quad T=\begin{bmatrix}0&1&0&0\\-1&0&0&0\\0&0&0&1\\0&0&-1&0\end{bmatrix}$$

$$D=\begin{bmatrix}0&0&0&1\\0&0&1&0\\0&1&0&0\\1&0&0&0\end{bmatrix}\quad X=\begin{bmatrix}0&0&1&0\\0&0&0&-1\\1&0&0&0\\0&-1&0&0\end{bmatrix}\quad N=\begin{bmatrix}0&0&0&1\\0&0&-1&0\\0&1&0&0\\-1&0&0&0\end{bmatrix}$$

$$F=\begin{bmatrix}0&1&0&0\\1&0&0&0\\0&0&0&-1\\0&0&-1&0\end{bmatrix}\quad Z=\begin{bmatrix}1&0&0&0\\0&-1&0&0\\0&0&-1&0\\0&0&0&1\end{bmatrix}\quad L=\begin{bmatrix}0&1&0&0\\-1&0&0&0\\0&0&0&-1\\0&0&1&0\end{bmatrix}$$

$$U=\begin{bmatrix}0&0&0&1\\0&0&1&0\\0&-1&0&0\\-1&0&0&0\end{bmatrix}\quad V=\begin{bmatrix}0&0&1&0\\0&0&0&-1\\-1&0&0&0\\0&1&0&0\end{bmatrix}\quad Q=\begin{bmatrix}0&0&0&1\\0&0&-1&0\\0&-1&0&0\\1&0&0&0\end{bmatrix}$$

Note that the positive and negative forms of matrices R, Q, L, X, Y, Z are opposite to those used in a previous paper by this author, The Pattern of Reality[4], for consistency with a convention that matrices with a $+1$ entry in the first row are the positive form.

This notation allows a real 32×32 matrix to be labelled using a three letter combination such as: ${}^{gY}X$, and an imaginary 32×32 matrix to be labelled using a four letter combination such as: ${}^{hD}iF$. Using this notation, products for two matrices can be obtained by multiplying the nested matrices separately. For instance:
${}^{gY}X \times {}^{hD} F = {}^{g.h\ Y.D}\ X.F$

To label basis elements for $Ka^2(1,4)$ it is only necessary to use 4×4 complex matrices together with a dis-association operator which can be ν, μ or λ, resulting in labels such as: ${}^{\nu}iX$. When referring to several unit matrices with a common dis-association operator, and/or common real/imaginary status, matrices are enclosed in square brackets, e.g.: ${}^{\nu}[iXiYiZT]$ and ${}^{\lambda}i[PQFD]$.

5.2. Matrices chosen to represent unit vectors for $Cl(1,10)$

${}^{sS}[iVTXYZ]$ all anticommute with each other. If ${}^{sS}[TXYZ]$ are assigned to represent unit vectors for space-time dimensions, $[iV]$ could be assigned to the fifth dimension used in the original Kaluza-Klein theory. Then, to expand that theory to eleven dimensions for use in M-theory, it would be logical to select eleven matrices to represent unit vectors such as:
${}^{sS}[TXYZ]\ {}^{g[TUV]}V\ {}^{h[LMN]}V\ {}^{jS}iV$
Then ${}^{sS}[TXYZ]$ can be assigned to space-time dimensions,
and ${}^{g[TUV]}V\ {}^{h[LMN]}V\ {}^{jS}iV$ can be assigned to compactified dimensions.

5.3. Mapping between $Cl(1,10)$ and $Ka^2(1,4)$

Space-time dimensions can be regarded as being generated using $\mathbb{H}\otimes\mathbb{H}$, the product of two independent quaternions. This suggests using a similar product for octonions to generate compactified dimensions. Consider octonionic elements from $Ka^2(1,4)$ such as: $[STUV]^{\mu}[STUV]$ and $[SLMN]^{\nu}[SLMN]$, together with ${}^{\lambda}iS$. Their non-associative components, ${}^{\mu}[STUV]^{\nu}[SLMN]^{\lambda}iS$ correspond to ${}^{g[TUV]}V\ {}^{h[LMN]}V\ {}^{jS}iV$. If sign is ignored, they generate the same product table.

This suggests that an equivalent of the Clifford algebra multivector for the compactified dimensions of M-theory can be identified for $Ka^2(1,4)$ elements.

The algebra multivector components for ${}^{g}[{}^{L}V^{M}V^{N}V]\ {}^{h}[{}^{T}V^{U}V^{V}V]\ i^{jS}V$ are:
Scalar: ${}^{S}S$
Vector: ${}^{g[TUV]}V$, ${}^{h[LMN]}V$, ${}^{jS}iV$
Bivector: ${}^{[TUVLMN]}V$, ${}^{j[XYZPQRDEF]}V$, ${}^{h[TUV]}iV$, ${}^{g[LMN]}iV$
3-vector: ${}^{j[TUVLMN]}iV$, ${}^{g[SXYZPQRDEF]}V$, ${}^{h[SXYZPQRDEF]}V$, ${}^{[XYZPQRDEF]}iV$
4-vector: ${}^{j[TUVLMN]}V$, ${}^{g[SXYZPQRDEF]}iV$, ${}^{h[SXYZPQRDEF]}iV$, ${}^{[XYZPQRDEF]}V$
5-vector: ${}^{[TUVLMN]}iV$, ${}^{j[XYZPQRDEF]}iV$, ${}^{h[TUV]}V$, ${}^{g[LMN]}V$
6-Vector: ${}^{g[TUV]}iV$, ${}^{h[LMN]}iV$, ${}^{jS}V$
Pseudoscalar: ${}^{S}iV$

Equivalents of $Cl(0,7)$ unit multivector components for $Ka^2(1,4)$ elements can be identified as:
Scalar: S
Vector: ${}^{\mu}[TUV]$, ${}^{\nu}[LMN]$, ${}^{\lambda}iS$
Bivector: $[TUVLMN]$, ${}^{\lambda}[XYZPQRDEF]$, ${}^{\nu}i[TUV]$, ${}^{\mu}i[LMN]$
3-vector: ${}^{\lambda}i[TUVLMN]$, ${}^{\mu}[SXYZPQRDEF]$, ${}^{\nu}[SXYZPQRDEF]$, $i[XYZPQRDEF]$
4-vector: ${}^{\lambda}[TUVLMN]$, ${}^{\mu}i[SXYZPQRDEF]$, ${}^{\nu}i[SXYZPQRDEF]$, $[XYZPQRDEF]$
5-vector: $i[TUVLMN]$, ${}^{\lambda}i[XYZPQRDEF]$, $\nu[TUV]$, ${}^{\mu}[LMN]$
6-Vector: ${}^{\mu}i[TUV]$, ${}^{\mu}i[LMN]$, ${}^{\lambda}S$
Pseudoscalar: iS

This mapping may allow much of the mathematics of string/M-theory to be applied to $Ka^2(1,4)$ and $Ka^3(1,4)$.

6. Acknowledgements

Many papers available on arXiv and elsewhere on the internet contributed to the development of this paper, but most use higher mathematical methods, which make them less accessible for a synthesist and making it hard to acknowledge particular contributions. I thank Wikipedia and its contributors and John Baez for information presented on the internet on a more accessible level. I thank F.D.Smith, G.Dixon and J.Koeplinger for their comments on earlier versions of this paper.

References

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TABLE 1. $Ka^3(1, 4)$, part A1

	e_0	e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8	e_9	e_A	e_B	e_C	e_D	e_E	e_F	e_{10}	e_{11}	e_{12}	e_{13}	e_{14}	e_{15}	e_{16}	e_{17}	e_{18}	e_{19}	e_{1A}	e_{1B}	e_{1C}	e_{1D}	e_{1E}	e_{1F}
e_0	+0	+1	+2	+3	+4	+5	+6	+7	+8	+9	+A	+B	+C	+D	+E	+F	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+1A	+1B	+1C	+1D	+1E	+1F
e_1	+1	+0	+8C	-8B	-8F	-9	+8	+8D	+6	-5	-E	-83	+82	+87	-A	-84	+11	+10	-9C	+9B	+9F	-19	+18	-9D	+16	-15	-1E	+93	-92	-97	-1A	+94
e_2	+2	-8C	+0	-8A	+9	-8F	+7	+6	-8D	+4	-83	+E	-81	-88	+B	-85	+12	+9C	+10	+9A	+19	+9F	+17	+16	+9D	+14	+93	+1E	+91	+98	+1B	+95
e_3	+3	+8B	+8A	+0	+8	+7	+8F	+5	+4	+8D	+82	+81	+E	+89	+C	+86	+13	-9B	-9A	+10	+18	+17	-9F	+15	+14	-9D	-92	-91	+1E	-99	+1C	-96
e_4	+4	+8F	+9	+8	+0	+8C	+8B	+8E	+3	+2	+D	+86	+85	+A	+87	+81	+14	-9F	+19	+18	+10	-9C	-9B	-9E	+13	+12	+1D	-96	-95	+1A	-97	-91
e_5	+5	-9	+8F	+7	-8C	+0	+8A	+3	-8E	-1	+86	-D	-84	-B	-88	+82	+15	-19	-9F	+17	+9C	+10	-9A	+13	+9E	-11	-96	-1D	+94	-1B	+98	-92
e_6	+6	+8	+7	-8F	-8B	-8A	+0	+2	+1	-8E	-85	-84	+D	+C	-89	-83	+16	+18	+17	+9F	+9B	+9A	+10	+12	+11	+9E	+95	+94	+1D	+1C	+99	+93
e_7	+7	-8D	+6	+5	-8E	+3	+2	+0	-8C	-8B	+F	-89	-88	-81	-84	+A	+17	+9D	+16	+15	+9E	+13	+12	+10	+9C	+9B	+1F	+99	+98	+91	+94	+1A
e_8	+8	+6	+8D	+4	+3	+8E	+1	+8C	+0	+8A	+89	+F	+87	+82	+85	+B	+18	+16	-9D	+14	+13	-9E	+11	-9C	+10	-9A	-99	+1F	-97	-92	-95	+1B
e_9	+9	-5	+4	-8D	+2	-1	+8E	+8B	-8A	+0	-88	+87	-F	-83	+86	-C	+19	-15	+14	+9D	+12	-11	-9E	-9B	+9A	+10	+98	-97	-1F	+93	-96	-1C
e_A	+A	-E	+83	-82	+D	-86	+85	+F	-89	+88	+0	-8C	+8B	+4	-1	+7	+1A	-1E	-93	+92	+1D	+96	-95	+1F	+99	-98	+10	+9C	-9B	+14	-11	+17
e_B	+B	+83	+E	-81	-86	-D	+84	+89	+F	-87	+8C	+0	-8A	-5	+2	+8	+1B	-93	+1E	+91	+96	-1D	-94	-99	+1F	+97	-9C	+10	+9A	-15	+12	+18
e_C	+C	-82	+81	+E	-85	+84	+D	+88	-87	-F	-8B	+8A	+0	+6	+3	-9	+1C	+92	-91	+1E	+95	-94	+1D	-98	+97	-1F	+9B	-9A	+10	+16	+13	-19
e_D	+D	-87	+88	-89	+A	-B	+C	+81	-82	+83	+4	-5	+6	+0	-8F	+8E	+1D	+97	-98	+99	+1A	-1B	+1C	-91	+92	-93	+14	-15	+16	+10	+9F	-9E
e_E	+E	-A	+B	+C	-87	+88	+89	+84	-85	-86	-1	+2	+3	+8F	+0	-8D	+1E	-1A	+1B	+1C	+97	-98	-99	-94	+95	+96	-11	+12	+13	-9F	+10	+9D
e_F	+F	+84	+85	-86	-81	-82	+83	+A	+B	-C	+7	+8	-9	-8E	+8D	+0	+1F	-94	-95	+96	+91	+92	-93	+1A	+1B	-1C	+17	+18	-19	+9E	-9D	+10
e_{10}	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+1A	+1B	+1C	+1D	+1E	+1F	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F
e_{11}	+11	+10	+9C	-9B	-9F	-19	+18	+9D	+16	-15	-1E	-93	+92	+97	-1A	-94	-1	-0	+8C	-8B	-8F	+9	-8	+8D	-6	+5	+E	-83	+82	+87	+A	-84
e_{12}	+12	-9C	+10	-9A	+19	-9F	+17	+16	-9D	+14	-93	+1E	-91	-98	+1B	-95	-2	-8C	-0	-8A	-9	-8F	-7	-6	-8D	-4	-83	-E	-81	-88	-B	-85
e_{13}	+13	+9B	+9A	+10	+18	+17	+9F	+15	+14	+9D	+92	+91	+1E	+99	+1C	+96	-3	+8B	+8A	-0	-8	-7	+8F	-5	-4	+8D	+82	+81	-E	+89	-C	+86
e_{14}	+14	+9F	+19	+18	+10	+9C	+9B	+9E	+13	+12	+1D	+96	+95	+1A	+97	+91	-4	+8F	-9	-8	-0	+8C	+8B	+8E	-3	-2	-D	+86	+85	-A	+87	+81
e_{15}	+15	-19	+9F	+17	-9C	+10	+9A	+13	-9E	-11	+96	-1D	-94	-1B	-98	+92	-5	+9	+8F	-7	-8C	-0	+8A	-3	-8E	+1	+86	+D	-84	+B	-88	+82
e_{16}	+16	+18	+17	-9F	-9B	-9A	+10	+12	+11	-9E	-95	-94	+1D	+1C	-99	-93	-6	-8	-7	-8F	-8B	-8A	-0	-2	-1	-8E	-85	-84	-D	-C	-89	-83
e_{17}	+17	-9D	+16	+15	-9E	+13	+12	+10	-9C	-9B	+1F	-99	-98	-91	-94	+1A	-7	-8D	-6	-5	-8E	-3	-2	-0	-8C	-8B	-F	-89	-88	-81	-84	-A
e_{18}	+18	+16	+9D	+14	+13	+9E	+11	+9C	+10	+9A	+99	+1F	+97	+92	+95	+1B	-8	-6	+8D	-4	-3	+8E	-1	+8C	-0	+8A	+89	-F	+87	+82	+85	-B
e_{19}	+19	-15	+14	-9D	+12	-11	+9E	+9B	-9A	+10	-98	+97	-1F	-93	+96	-1C	-9	+5	-4	-8D	-2	+1	+8E	+8B	-8A	-0	-88	+87	+F	-83	+86	+C
e_{1A}	+1A	-1E	+93	-92	+1D	-96	+95	+1F	-99	+98	+10	-9C	+9B	+14	-11	+17	-A	+E	+83	-82	-D	-86	+85	-F	-89	+88	-0	-8C	+8B	-4	+1	-7
e_{1B}	+1B	+93	+1E	-91	-96	-1D	+94	+99	+1F	-97	+9C	+10	-9A	-15	+12	+18	-B	+83	-E	-81	-86	+D	+84	+89	-F	-87	+8C	-0	-8A	+5	-2	-8
e_{1C}	+1C	-92	+91	+1E	-95	+94	+1D	+98	-97	-1F	-9B	+9A	+10	+16	+13	-19	-C	-82	+81	-E	-85	+84	-D	+88	-87	+F	-8B	+8A	-0	-6	-3	+9
e_{1D}	+1D	-97	+98	-99	+1A	-1B	+1C	+91	-92	+93	+14	-15	+16	+10	-9F	+9E	-D	-87	+88	-89	-A	+B	-C	+81	-82	+83	-4	+5	-6	-0	-8F	+8E
e_{1E}	+1E	-1A	+1B	+1C	-97	+98	+99	+94	-95	-96	-11	+12	+13	+9F	+10	-9D	-E	+A	-B	-C	-87	+88	+89	+84	-85	-86	+1	-2	-3	+8F	-0	-8D
e_{1F}	+1F	+94	+95	-96	-91	-92	+93	+1A	+1B	-1C	+17	+18	-19	-9E	+9D	+10	-F	+84	+85	-86	-81	-82	+83	-A	-B	+C	-7	-8	+9	-8E	+8D	-0
e_{20}	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+2A	+2B	+2C	+2D	+2E	+2F	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-3A	-3B	-3C	-3D	-3E	-3F
e_{21}	+21	+20	+AC	-AB	-AF	-29	+28	+AD	+26	-25	-2E	-A3	+A2	+A7	-2A	-A4	-31	-30	+BC	-BB	-BF	+39	-38	+BD	-36	+35	+3E	-B3	+B2	+B7	+3A	-B4
e_{22}	+22	-AC	+20	-AA	+29	-AF	+27	+26	-AD	+24	-A3	+2E	-A1	-A8	+2B	-A5	-32	-BC	-30	-BA	-39	-BF	-37	-36	-BD	-34	-B3	-3E	-B1	-B8	-3B	-B5
e_{23}	+23	+AB	+AA	+20	+28	+27	+AF	+25	+24	+AD	+A2	+A1	+2E	+A9	+2C	+A6	-33	+BB	+BA	-30	-38	-37	+BF	-35	-34	+BD	+B2	+B1	-3E	+B9	-3C	+B6
e_{24}	+24	+AF	+29	+28	+20	+AC	+AB	+AE	+23	+22	+2D	+A6	+A5	+2A	+A7	+A1	-34	+BF	-39	-38	-30	+BC	+BB	+BE	-33	-32	-3D	+B6	+B5	-3A	+B7	+B1
e_{25}	+25	-29	+AF	+27	-AC	+20	+AA	+23	-AE	-21	+A6	-2D	-A4	-2B	-A8	+A2	-35	+39	+BF	-37	-BC	-30	+BA	-33	-BE	+31	+B6	+3D	-B4	+3B	-B8	+B2
e_{26}	+26	+28	+27	-AF	-AB	-AA	+20	+22	+21	-AE	-A5	-A4	+2D	+2C	-A9	-A3	-36	-38	-37	-BF	-BB	-BA	-30	-32	-31	-BE	-B5	-B4	-3D	-3C	-B9	-B3
e_{27}	+27	-AD	+26	+25	-AE	+23	+22	+20	-AC	-AB	+2F	-A9	-A8	-A1	-A4	+2A	-37	-BD	-36	-35	-BE	-33	-32	-30	-BC	-BB	-3F	-B9	-B8	-B1	-B4	-3A
e_{28}	+28	+26	+AD	+24	+23	+AE	+21	+AC	+20	+AA	+A9	+2F	+A7	+A2	+A5	+2B	-38	-36	+BD	-34	-33	+BE	-31	+BC	-30	+BA	+B9	-3F	+B7	+B2	+B5	-3B
e_{29}	+29	-25	+24	-AD	+22	-21	+AE	+AB	-AA	+20	-A8	+A7	-2F	-A3	+A6	-2C	-39	+35	-34	-BD	-32	+31	+BE	+BB	-BA	-30	-B8	+B7	+3F	-B3	+B6	+3C
e_{2A}	+2A	-2E	+A3	-A2	+2D	-A6	+A5	+2F	-A9	+A8	+20	-AC	+AB	+24	-21	+27	-3A	+3E	+B3	-B2	-3D	-B6	+B5	-3F	-B9	+B8	-30	-BC	+BB	-34	+31	-37
e_{2B}	+2B	+A3	+2E	-A1	-A6	-2D	+A4	+A9	+2F	-A7	+AC	+20	-AA	-25	+22	+28	-3B	+B3	-3E	-B1	-B6	+3D	+B4	+B9	-3F	-B7	+BC	-30	-BA	+35	-32	-38
e_{2C}	+2C	-A2	+A1	+2E	-A5	+A4	+2D	+A8	-A7	-2F	-AB	+AA	+20	+26	+23	-29	-3C	-B2	+B1	-3E	-B5	+B4	-3D	+B8	-B7	+3F	-BB	+BA	-30	-36	-33	+39
e_{2D}	+2D	-A7	+A8	-A9	+2A	-2B	+2C	+A1	-A2	+A3	+24	-25	+26	+20	-AF	+AE	-3D	-B7	+B8	-B9	-3A	+3B	-3C	+B1	-B2	+B3	-34	+35	-36	-30	-BF	+BE
e_{2E}	+2E	-2A	+2B	+2C	-A7	+A8	+A9	+A4	-A5	-A6	-21	+22	+23	+AF	+20	-AD	-3E	+3A	-3B	-3C	-B7	+B8	+B9	+B4	-B5	-B6	+31	-32	-33	+BF	-30	-BD
e_{2F}	+2F	+A4	+A5	-A6	-A1	-A2	+A3	+2A	+2B	-2C	+27	+28	-29	-AE	+AD	+20	-3F	+B4	+B5	-B6	-B1	-B2	+B3	-3A	-3B	+3C	-37	-38	+39	-BE	+BD	-30
e_{30}	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+3A	+3B	+3C	+3D	+3E	+3F	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+2A	+2B	+2C	+2D	+2E	+2F
e_{31}	+31	+30	+BC	-BB	-BF	-39	+38	+BD	+36	-35	-3E	-B3	+B2	+B7	-3A	-B4	+21	+20	-AC	+AB	+AF	-29	+28	-AD	+26	-25	-2E	+A3	-A2	-A7	-2A	+A4
e_{32}	+32	-BC	+30	-BA	+39	-BF	+37	+36	-BD	+34	-B3	+3E	-B1	-B8	+3B	-B5	+22	+AC	+20	+AA	+29	+AF	+27	+26	+AD	+24	+A3	+2E	+A1	+A8	+2B	+A5
e_{33}	+33	+BB	+BA	+30	+38	+37	+BF	+35	+34	+BD	+B2	+B1	+3E	+B9	+3C	+B6	+23	-AB	-AA	+20	+28	+27	-AF	+25	+24	-AD	-A2	-A1	+2E	-A9	+2C	-A6
e_{34}	+34	+BF	+39	+38	+30	+BC	+BB	+BE	+33	+32	+3D	+B6	+B5	+3A	+B7	+B1	+24	-AF	+29	+28	+20	-AC	-AB	-AE	+23	+22	+2D	-A6	-A5	+2A	-A7	-A1
e_{35}	+35	-39	+BF	+37	-BC	+30	+BA	+33	-BE	-31	+B6	-3D	-B4	-3B	-B8	+B2	+25	-29	-AF	+27	+AC	+20	-AA	+23	+AE	-21	-A6	-2D	+A4	-2B	+A8	-A2
e_{36}	+36	+38	+37	-BF	-BB	-BA	+30	+32	+31	-BE	-B5	-B4	+3D	+3C	-B9	-B3	+26	+28	+27	+AF	+AB	+AA	+20	+22	+21	+AE	+A5	+A4	+2D	+2C	+A9	+A3
e_{37}	+37	-BD	+36	+35	-BE	+33	+32	+30	-BC	-BB	+3F	-B9	-B8	-B1	-B4	+3A	+27	+AD	+26	+25	+AE	+23	+22	+20	+AC	+AB	+2F	+A9	+A8	+A1	+A4	+2A
e_{38}	+38	+36	+BD	+34	+33	+BE	+31	+BC	+30	+BA	+B9	+3F	+B7	+B2	+B5	+3B	+28	+26	-AD	+24	+23	-AE	+21	-AC	+20	-AA	-A9	+2F	-A7	-A2	-A5	+2B
e_{39}	+39	-35	+34	-BD	+32	-31	+BE	+BB	-BA	+30	-B8	+B7	-3F	-B3	+B6	-3C	+29	-25	+24	+AD	+22	-21	-AE	-AB	+AA	+20	+A8	-A7	-2F	+A3	-A6	-2C
e_{3A}	+3A	-3E	+B3	-B2	+3D	-B6	+B5	+3F	-B9	+B8	+30	-BC	+BB	+34	-31	+37	+2A	-2E	-A3	+A2	+2D	+A6	-A5	+2F	+A9	-A8	+20	+AC	-AB	+24	-21	+27
e_{3B}	+3B	+B3	+3E	-B1	-B6	-3D	+B4	+B9	+3F	-B7	+BC	+30	-BA	-35	+32	+38	+2B	-A3	+2E	+A1	+A6	-2D	-A4	-A9	+2F	+A7	-AC	+20	+AA	-25	+22	+28
e_{3C}	+3C	-B2	+B1	+3E	-B5	+B4	+3D	+B8	-B7	-3F	-BB	+BA	+30	+36	+33	-39	+2C	+A2	-A1	+2E	+A5	-A4	+2D	-A8	+A7	-2F	+AB	-AA	+20	+26	+23	-29
e_{3D}	+3D	-B7	+B8	-B9	+3A	-3B	+3C	+B1	-B2	+B3	+34	-35	+36	+30	-BF	+BE	+2D	+A7	-A8	+A9	+2A	-2B	+2C	-A1	+A2	-A3	+24	-25	+26	+20	+AF	-AE
e_{3E}	+3E	-3A	+3B	+3C	-B7	+B8	+B9	+B4	-B5	-B6	-31	+32	+33	+BF	+30	-BD	+2E	-2A	+2B	+2C	+A7	-A8	-A9	-A4	+A5	+A6	-21	+22	+23	-AF	+20	+AD
e_{3F}	+3F	+B4	+B5	-B6	-B1	-B2	+B3	+3A	+3B	-3C	+37	+38	-39	-BE	+BD	+30	+2F	-A4	-A5	+A6	+A1	+A2	-A3	+2A	+2B	-2C	+27	+28	-29	+AE	-AD	+20

Table 2. $Ka^3(1,4)$ multiplication table, part A2

	e_0	e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8	e_9	e_A	e_B	e_C	e_D	e_E	e_F	e_{10}	e_{11}	e_{12}	e_{13}	e_{14}	e_{15}	e_{16}	e_{17}	e_{18}	e_{19}	e_{1A}	e_{1B}	e_{1C}	e_{1D}	e_{1E}	e_{1F}
e_{40}	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+4A	+4B	+4C	+4D	+4E	+4F	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	-5A	-5B	-5C	-5D	-5E	-5F
e_{41}	+41	+40	+CC	-CB	-CF	-49	+48	+CD	+46	-45	-4E	-C3	+C2	+C7	-4A	-C4	-51	-50	+DC	-DB	-DF	+59	-58	+DD	-56	+55	+5E	-D3	+D2	+D7	+5A	-D4
e_{42}	+42	-CC	+40	-CA	+49	-CF	+47	+46	-CD	+44	-C3	+4E	-C1	-C8	+4B	-C5	-52	-DC	-50	-DA	-59	-DF	-57	-56	-DD	-54	-D3	-5E	-D1	-D8	-5B	-D5
e_{43}	+43	+CB	+CA	+40	+48	+47	+CF	+45	+44	+CD	+C2	+C1	+4E	+C9	+4C	+C6	-53	+DB	+DA	-50	-58	-57	+DF	-55	-54	+DD	+D2	+D1	-5E	+D9	-5C	+D6
e_{44}	+44	+CF	+49	+48	+40	+CC	+CB	+CE	+43	+42	+4D	+C6	+C5	+4A	+C7	+C1	-54	+DF	-59	-58	-50	+DC	+DB	+DE	-53	-52	-5D	+D6	+D5	-5A	+D7	+D1
e_{45}	+45	-49	+CF	+47	-CC	+40	+CA	+43	-CE	-41	+C6	-4D	-C4	-4B	-C8	+C2	-55	+59	+DF	-57	-DC	-50	+DA	-53	-DE	+51	+D6	+5D	-D4	+5B	-D8	+D2
e_{46}	+46	+48	+47	-CF	-CB	-CA	+40	+42	+41	-CE	-C5	-C4	+4D	+4C	-C9	-C3	-56	-58	-57	-DF	-DB	-DA	-50	-52	-51	-DE	-D5	-D4	-5D	-5C	-D9	-D3
e_{47}	+47	-CD	+46	+45	-CE	+43	+42	+40	-CC	-CB	+4F	-C9	-C8	-C1	-C4	+4A	-57	-DD	-56	-55	-DE	-53	-52	-50	-DC	-DB	-5F	-D9	-D8	-D1	-D4	-5A
e_{48}	+48	+46	+CD	+44	+43	+CE	+41	+CC	+40	+CA	+C9	+4F	+C7	+C2	+C5	+4B	-58	-56	+DD	-54	-53	+DE	-51	+DC	-50	+DA	+D9	-5F	+D7	+D2	+D5	-5B
e_{49}	+49	-45	+44	-CD	+42	-41	+CE	+CB	-CA	+40	-C8	+C7	-4F	-C3	+C6	-4C	-59	+55	-54	-DD	-52	+51	+DE	+DB	-DA	-50	-D8	+D7	+5F	-D3	+D6	+5C
e_{4A}	+4A	-4E	+C3	-C2	+4D	-C6	+C5	+4F	-C9	+C8	+40	-CC	+CB	+44	-41	+47	-5A	+5E	+D3	-D2	-5D	-D6	+D5	-5F	-D9	+D8	-50	-DC	+DB	-54	+51	-57
e_{4B}	+4B	+C3	+4E	-C1	-C6	-4D	+C4	+C9	+4F	-C7	+CC	+40	-CA	-45	+42	+48	-5B	+D3	-5E	-D1	-D6	+5D	+D4	+D9	-5F	-D7	+DC	-50	-DA	+55	-52	-58
e_{4C}	+4C	-C2	+C1	+4E	-C5	+C4	+4D	+C8	-C7	-4F	-CB	+CA	+40	+46	+43	-49	-5C	-D2	+D1	-5E	-D5	+D4	-5D	+D8	-D7	+5F	-DB	+DA	-50	-56	-53	+59
e_{4D}	+4D	-C7	+C8	-C9	+4A	-4B	+4C	+C1	-C2	+C3	+44	-45	+46	+40	-CF	+CE	-5D	-D7	+D8	-D9	-5A	+5B	-5C	+D1	-D2	+D3	-54	+55	-56	-50	-DF	+DE
e_{4E}	+4E	-4A	+4B	+4C	-C7	+C8	+C9	+C4	-C5	-C6	-41	+42	+43	+CF	+40	-CD	-5E	+5A	-5B	-5C	-D7	+D8	+D9	+D4	-D5	-D6	+51	-52	-53	+DF	-50	-DD
e_{4F}	+4F	+C4	+C5	-C6	-C1	-C2	+C3	+4A	+4B	-4C	+47	+48	-49	-CE	+CD	+40	-5F	+D4	+D5	-D6	-D1	-D2	+D3	-5A	-5B	+5C	-57	-58	+59	-DE	+DD	-50
e_{50}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+5A	+5B	+5C	+5D	+5E	+5F	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+4A	+4B	+4C	+4D	+4E	+4F
e_{51}	+51	+50	+DC	-DB	-DF	-59	+58	+DD	+56	-55	-5E	-D3	+D2	+D7	-5A	-D4	+41	+40	-CC	+CB	+CF	-49	+48	-CD	+46	-45	-4E	+C3	-C2	-C7	-4A	+C4
e_{52}	+52	-DC	+50	-DA	+59	-DF	+57	+56	-DD	+54	-D3	+5E	-D1	-D8	+5B	-D5	+42	+CC	+40	+CA	+49	+CF	+47	+46	+CD	+44	+C3	+4E	+C1	+C8	+4B	+C5
e_{53}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	+D2	+D1	+5E	+D9	+5C	+D6	+43	-CB	-CA	+40	+48	+47	-CF	+45	+44	-CD	-C2	-C1	+4E	-C9	+4C	-C6
e_{54}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	+5D	+D6	+D5	+5A	+D7	+D1	+44	-CF	+49	+48	+40	-CC	-CB	-CE	+43	+42	+4D	-C6	-C5	+4A	-C7	-C1
e_{55}	+55	-59	+DF	+57	-DC	+50	+DA	+53	-DE	-51	+D6	-5D	-D4	-5B	-D8	+D2	+45	-49	-CF	+47	+CC	+40	-CA	+43	+CE	-41	-C6	-4D	+C4	-4B	+C8	-C2
e_{56}	+56	+58	+57	-DF	-DB	-DA	+50	+52	+51	-DE	-D5	-D4	+5D	+5C	-D9	-D3	+46	+48	+47	+CF	+CB	+CA	+40	+42	+41	+CE	+C5	+C4	+4D	+4C	+C9	+C3
e_{57}	+57	-DD	+56	+55	-DE	+53	+52	+50	-DC	-DB	+5F	-D9	-D8	-D1	-D4	+5A	+47	+CD	+46	+45	+CE	+43	+42	+40	+CC	+CB	+4F	+C9	+C8	+C1	+C4	+4A
e_{58}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	+D9	+5F	+D7	+D2	+D5	+5B	+48	+46	-CD	+44	+43	-CE	+41	-CC	+40	-CA	-C9	+4F	-C7	-C2	-C5	+4B
e_{59}	+59	-55	+54	-DD	+52	-51	+DE	+DB	-DA	+50	-D8	+D7	-5F	-D3	+D6	-5C	+49	-45	+44	+CD	+42	-41	-CE	-CB	+CA	+40	+C8	-C7	-4F	+C3	-C6	-4C
e_{5A}	+5A	-5E	+D3	-D2	+5D	-D6	+D5	+5F	-D9	+D8	+50	-DC	+DB	+54	-51	+57	+4A	-4E	-C3	+C2	+4D	+C6	-C5	+4F	+C9	-C8	+40	+CC	-CB	+44	-41	+47
e_{5B}	+5B	+D3	+5E	-D1	-D6	-5D	+D4	+D9	+5F	-D7	+DC	+50	-DA	-55	+52	+58	+4B	-C3	+4E	+C1	+C6	-4D	-C4	-C9	+4F	+C7	-CC	+40	+CA	-45	+42	+48
e_{5C}	+5C	-D2	+D1	+5E	-D5	+D4	+5D	+D8	-D7	-5F	-DB	+DA	+50	+56	+53	-59	+4C	+C2	-C1	+4E	+C5	-C4	+4D	-C8	+C7	-4F	+CB	-CA	+40	+46	+43	-49
e_{5D}	+5D	-D7	+D8	-D9	+5A	-5B	+5C	+D1	-D2	+D3	+54	-55	+56	+50	-DF	+DE	+4D	+C7	-C8	+C9	+4A	-4B	+4C	-C1	+C2	-C3	+44	-45	+46	+40	+CF	-CE
e_{5E}	+5E	-5A	+5B	+5C	-D7	+D8	+D9	+D4	-D5	-D6	-51	+52	+53	+DF	+50	-DD	+4E	-4A	+4B	+4C	+C7	-C8	-C9	-C4	+C5	+C6	-41	+42	+43	-CF	+40	+CD
e_{5F}	+5F	+D4	+D5	-D6	-D1	-D2	+D3	+5A	+5B	-5C	+57	+58	-59	-DE	+DD	+50	+4F	-C4	-C5	+C6	+C1	+C2	-C3	+4A	+4B	-4C	+47	+48	-49	+CE	-CD	+40
e_{60}	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+6A	+6B	+6C	+6D	+6E	+6F	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+7A	+7B	+7C	+7D	+7E	+7F
e_{61}	+61	+60	+EC	-EB	-EF	-69	+68	+ED	+66	-65	-6E	-E3	+E2	+E7	-6A	-E4	+71	+70	-FC	+FB	+FF	-79	+78	-FD	+76	-75	-7E	+F3	-F2	-F7	-7A	+F4
e_{62}	+62	-EC	+60	-EA	+69	-EF	+67	+66	-ED	+64	-E3	+6E	-E1	-E8	+6B	-E5	+72	+FC	+70	+FA	+79	+FF	+77	+76	+FD	+74	+F3	+7E	+F1	+F8	+7B	+F5
e_{63}	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	+E2	+E1	+6E	+E9	+6C	+E6	+73	-FB	-FA	+70	+78	+77	-FF	+75	+74	-FD	-F2	-F1	+7E	-F9	+7C	-F6
e_{64}	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	+6D	+E6	+E5	+6A	+E7	+E1	+74	-FF	+79	+78	+70	-FC	-FB	-FE	+73	+72	+7D	-F6	-F5	+7A	-F7	-F1
e_{65}	+65	-69	+EF	+67	-EC	+60	+EA	+63	-EE	-61	+E6	-6D	-E4	-6B	-E8	+E2	+75	-79	-FF	+77	+FC	+70	-FA	+73	+FE	-71	-F6	-7D	+F4	-7B	+F8	-F2
e_{66}	+66	+68	+67	-EF	-EB	-EA	+60	+62	+61	-EE	-E5	-E4	+6D	+6C	-E9	-E3	+76	+78	+77	+FF	+FB	+FA	+70	+72	+71	+FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{67}	+67	-ED	+66	+65	-EE	+63	+62	+60	-EC	-EB	+6F	-E9	-E8	-E1	-E4	+6A	+77	+FD	+76	+75	+FE	+73	+72	+70	+FC	+FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{68}	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	+E9	+6F	+E7	+E2	+E5	+6B	+78	+76	-FD	+74	+73	-FE	+71	-FC	+70	-FA	-F9	+7F	-F7	-F2	-F5	+7B
e_{69}	+69	-65	+64	-ED	+62	-61	+EE	+EB	-EA	+60	-E8	+E7	-6F	-E3	+E6	-6C	+79	-75	+74	+FD	+72	-71	-FE	-FB	+FA	+70	+F8	-F7	-7F	+F3	-F6	-7C
e_{6A}	+6A	-6E	+E3	-E2	+6D	-E6	+E5	+6F	-E9	+E8	+60	-EC	+EB	+64	-61	+67	+7A	-7E	-F3	+F2	+7D	+F6	-F5	+7F	+F9	-F8	+70	+FC	-FB	+74	-71	+77
e_{6B}	+6B	+E3	+6E	-E1	-E6	-6D	+E4	+E9	+6F	-E7	+EC	+60	-EA	-65	+62	+68	+7B	-F3	+7E	+F1	+F6	-7D	-F4	-F9	+7F	+F7	-FC	+70	+FA	-75	+72	+78
e_{6C}	+6C	-E2	+E1	+6E	-E5	+E4	+6D	+E8	-E7	-6F	-EB	+EA	+60	+66	+63	-69	+7C	+F2	-F1	+7E	+F5	-F4	+7D	-F8	+F7	-7F	+FB	-FA	+70	+76	+73	-79
e_{6D}	+6D	-E7	+E8	-E9	+6A	-6B	+6C	+E1	-E2	+E3	+64	-65	+66	+60	-EF	+EE	+7D	+F7	-F8	+F9	+7A	-7B	+7C	-F1	+F2	-F3	+74	-75	+76	+70	+FF	-FE
e_{6E}	+6E	-6A	+6B	+6C	-E7	+E8	+E9	+E4	-E5	-E6	-61	+62	+63	+EF	+60	-ED	+7E	-7A	+7B	+7C	+F7	-F8	-F9	-F4	+F5	+F6	-71	+72	+73	-FF	+70	+FD
e_{6F}	+6F	+E4	+E5	-E6	-E1	-E2	+E3	+6A	+6B	-6C	+67	+68	-69	-EE	+ED	+60	+7F	-F4	-F5	+F6	+F1	+F2	-F3	+7A	+7B	-7C	+77	+78	-79	+FE	-FD	+70
e_{70}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+7A	+7B	+7C	+7D	+7E	+7F	-60	-61	-62	-63	-64	-65	-66	-67	-68	-69	-6A	-6B	-6C	-6D	-6E	-6F
e_{71}	+71	+70	+FC	-FB	-FF	-79	+78	+FD	+76	-75	-7E	-F3	+F2	+F7	-7A	-F4	-61	-60	+EC	-EB	-EF	+69	-68	+ED	-66	+65	+6E	-E3	+E2	+E7	+6A	-E4
e_{72}	+72	-FC	+70	-FA	+79	-FF	+77	+76	-FD	+74	-F3	+7E	-F1	-F8	+7B	-F5	-62	-EC	-60	-EA	-69	-EF	-67	-66	-ED	-64	-E3	-6E	-E1	-E8	-6B	-E5
e_{73}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	+F2	+F1	+7E	+F9	+7C	+F6	-63	+EB	+EA	-60	-68	-67	+EF	-65	-64	+ED	+E2	+E1	-6E	+E9	-6C	+E6
e_{74}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	+7D	+F6	+F5	+7A	+F7	+F1	-64	+EF	-69	-68	-60	+EC	+EB	+EE	-63	-62	-6D	+E6	+E5	-6A	+E7	+E1
e_{75}	+75	-79	+FF	+77	-FC	+70	+FA	+73	-FE	-71	+F6	-7D	-F4	-7B	-F8	+F2	-65	+69	+EF	-67	-EC	-60	+EA	-63	-EE	+61	+E6	+6D	-E4	+6B	-E8	+E2
e_{76}	+76	+78	+77	-FF	-FB	-FA	+70	+72	+71	-FE	-F5	-F4	+7D	+7C	-F9	-F3	-66	-68	-67	-EF	-EB	-EA	-60	-62	-61	-EE	-E5	-E4	-6D	-6C	-E9	-E3
e_{77}	+77	-FD	+76	+75	-FE	+73	+72	+70	-FC	-FB	+7F	-F9	-F8	-F1	-F4	+7A	-67	-ED	-66	-65	-EE	-63	-62	-60	-EC	-EB	-6F	-E9	-E8	-E1	-E4	-6A
e_{78}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	+F9	+7F	+F7	+F2	+F5	+7B	-68	-66	+ED	-64	-63	+EE	-61	+EC	-60	+EA	+E9	-6F	+E7	+E2	+E5	-6B
e_{79}	+79	-75	+74	-FD	+72	-71	+FE	+FB	-FA	+70	-F8	+F7	-7F	-F3	+F6	-7C	-69	+65	-64	-ED	-62	+61	+EE	+EB	-EA	-60	-E8	+E7	+6F	-E3	+E6	+6C
e_{7A}	+7A	-7E	+F3	-F2	+7D	-F6	+F5	+7F	-F9	+F8	+70	-FC	+FB	+74	-71	+77	-6A	+6E	+E3	-E2	-6D	-E6	+E5	-6F	-E9	+E8	-60	-EC	+EB	-64	+61	-67
e_{7B}	+7B	+F3	+7E	-F1	-F6	-7D	+F4	+F9	+7F	-F7	+FC	+70	-FA	-75	+72	+78	-6B	+E3	-6E	-E1	-E6	+6D	+E4	+E9	-6F	-E7	+EC	-60	-EA	+65	-62	-68
e_{7C}	+7C	-F2	+F1	+7E	-F5	+F4	+7D	+F8	-F7	-7F	-FB	+FA	+70	+76	+73	-79	-6C	-E2	+E1	-6E	-E5	+E4	-6D	+E8	-E7	+6F	-EB	+EA	-60	-66	-63	+69
e_{7D}	+7D	-F7	+F8	-F9	+7A	-7B	+7C	+F1	-F2	+F3	+74	-75	+76	+70	-FF	+FE	-6D	-E7	+E8	-E9	-6A	+6B	-6C	+E1	-E2	+E3	-64	+65	-66	-60	-EF	+EE
e_{7E}	+7E	-7A	+7B	+7C	-F7	+F8	+F9	+F4	-F5	-F6	-71	+72	+73	+FF	+70	-FD	-6E	+6A	-6B	-6C	-E7	+E8	+E9	+E4	-E5	-E6	+61	-62	-63	+EF	-60	-ED
e_{7F}	+7F	+F4	+F5	-F6	-F1	-F2	+F3	+7A	+7B	-7C	+77	+78	-79	-FE	+FD	+70	-6F	+E4	+E5	-E6	-E1	-E2	+E3	-6A	-6B	+6C	-67	-68	+69	-EE	+ED	-60

TABLE 3. $Ka^3(1,4)$ multiplication table, part A3

	e_0	e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8	e_9	e_A	e_B	e_C	e_D	e_E	e_F	e_{10}	e_{11}	e_{12}	e_{13}	e_{14}	e_{15}	e_{16}	e_{17}	e_{18}	e_{19}	e_{1A}	e_{1B}	e_{1C}	e_{1D}	e_{1E}	e_{1F}
e_{80}	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	−8A	−8B	−8C	−8D	−8E	−8F	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	−9A	−9B	−9C	−9D	−9E	−9F
e_{81}	+81	+80	+C	−B	−F	−89	+88	+D	+86	−85	+8E	+3	−2	−7	+8A	+4	+91	+90	−1C	+1B	+1F	−99	+98	−1D	+96	−95	+9E	−13	+12	+17	+9A	−14
e_{82}	+82	−C	+80	−A	+89	−F	+87	+86	−D	+84	+3	−8E	+1	+8	−8B	+5	+92	+1C	+90	+1A	+99	+1F	+97	+96	+1D	+94	−13	−9E	−11	−18	−9B	−15
e_{83}	+83	+B	+A	+80	+88	+87	+F	+85	+84	+D	−2	−1	−8E	−9	−8C	−6	+93	−1B	−1A	+90	+98	+97	−1F	+95	+94	−1D	+12	+11	−9E	+19	−9C	+16
e_{84}	+84	+F	+89	+88	+80	+C	+B	+E	+83	+82	−8D	−6	−5	−8A	−7	−1	+94	−1F	+99	+98	+90	−1C	−1B	−1E	+93	+92	−9D	+16	+15	−9A	+17	+11
e_{85}	+85	−89	+F	+87	−C	+80	+A	+83	−E	−81	−6	+8D	+4	+8B	+8	−2	+95	−99	−1F	+97	+1C	+90	−1A	+93	+1E	−91	+16	+9D	−14	+9B	−18	+12
e_{86}	+86	+88	+87	−F	−B	−A	+80	+82	+81	−E	+5	+4	−8D	−8C	+9	+3	+96	+98	+97	+1F	+1B	+1A	+90	+92	+91	+1E	−15	−14	−9D	−9C	−19	−13
e_{87}	+87	−D	+86	+85	−E	+83	+82	+80	−C	−B	−8F	+9	+8	+1	+4	−8A	+97	+1D	+96	+95	+1E	+93	+92	+90	+1C	+1B	−9F	−19	−18	−11	−14	−9A
e_{88}	+88	+86	+D	+84	+83	+E	+81	+C	+80	+A	−9	−8F	−7	−2	−5	−8B	+98	+96	−1D	+94	+93	−1E	+91	−1C	+90	−1A	+19	−9F	+17	+12	+15	−9B
e_{89}	+89	−85	+84	−D	+82	−81	+E	+B	−A	+80	+8	−7	+8F	+3	−6	+8C	+99	−95	+94	+1D	+92	−91	−1E	−1B	+1A	+90	−18	+17	+9F	−13	+16	+9C
e_{8A}	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	−80	+C	−B	−84	+81	−87	+9A	−9E	−13	+12	+9D	+16	−15	+9F	+19	−18	−90	−1C	+1B	−94	+91	−97
e_{8B}	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	−C	−80	+A	+85	−82	−88	+9B	−13	+9E	+11	+16	−9D	−14	−19	+9F	+17	+1C	−90	−1A	+95	−92	−98
e_{8C}	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	+B	−A	−80	−86	−83	+89	+9C	+12	−11	+9E	+15	−14	+9D	−18	+17	−9F	−1B	+1A	−90	−96	−93	+99
e_{8D}	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	−84	+85	−86	−80	+F	−E	+9D	+17	−18	+19	+9A	−9B	+9C	−11	+12	−13	−94	+95	−96	−90	−1F	+1E
e_{8E}	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	−F	−80	+D	+9E	−9A	+9B	+9C	+17	−18	−19	−14	+15	+16	+91	−92	−93	+1F	−90	−1D
e_{8F}	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	−87	−88	+89	+E	−D	−80	+9F	−14	−15	+16	+11	+12	−13	+9A	+9B	−9C	−97	−98	+99	−1E	+1D	−90
e_{90}	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	−9A	−9B	−9C	−9D	−9E	−9F	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	+8A	+8B	+8C	+8D	+8E	+8F
e_{91}	+91	+90	+1C	−1B	−1F	−99	+98	+1D	+96	−95	+9E	+13	−12	−17	+9A	+14	−81	−80	+C	−B	−F	+89	−88	+D	−86	+85	−8E	+3	−2	−7	−8A	+4
e_{92}	+92	−1C	+90	−1A	+99	−1F	+97	+96	−1D	+94	+13	−9E	+11	+18	−9B	+15	−82	−C	−80	−A	−89	−F	−87	−86	−D	−84	+3	+8E	+1	+8	+8B	+5
e_{93}	+93	+1B	+1A	+90	+98	+97	+1F	+95	+94	+1D	−12	−11	−9E	−19	−9C	−16	−83	+B	+A	−80	−88	−87	+F	−85	−84	+D	−2	−1	+8E	−9	+8C	−6
e_{94}	+94	+1F	+99	+98	+90	+1C	+1B	+1E	+93	+92	−9D	−16	−15	−9A	−17	−11	−84	+F	−89	−88	−80	+C	+B	+E	−83	−82	+8D	−6	−5	+8A	−7	−1
e_{95}	+95	−99	+1F	+97	−1C	+90	+1A	+93	−1E	−91	−16	+9D	+14	+9B	+18	−12	−85	+89	+F	−87	−C	−80	+A	−83	−E	+81	−6	−8D	+4	−8B	+8	−2
e_{96}	+96	+98	+97	−1F	−1B	−1A	+90	+92	+91	−1E	+15	+14	−9D	−9C	+19	+13	−86	−88	−87	−F	−B	−A	−80	−82	−81	−E	+5	+4	+8D	+8C	+9	+3
e_{97}	+97	−1D	+96	+95	−1E	+93	+92	+90	−1C	−1B	−9F	+19	+18	+11	+14	−9A	−87	−D	−86	−85	−E	−83	−82	−80	−C	−B	+8F	+9	+8	+1	+4	+8A
e_{98}	+98	+96	+1D	+94	+93	+1E	+91	+1C	+90	+1A	−19	−9F	−17	−12	−15	−9B	−88	−86	+D	−84	−83	+E	−81	+C	−80	+A	−9	+8F	−7	−2	−5	+8B
e_{99}	+99	−95	+94	−1D	+92	−91	+1E	+1B	−1A	+90	+18	−17	+9F	+13	−16	+9C	−89	+85	−84	−D	−82	+81	+E	+B	−A	−80	+8	−7	−8F	+3	−6	−8C
e_{9A}	+9A	−9E	+13	−12	+9D	−16	+15	+9F	−19	+18	−90	+1C	−1B	−94	+91	−97	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	+80	+C	−B	+84	−81	+87
e_{9B}	+9B	+13	+9E	−11	−16	−9D	+14	+19	+9F	−17	−1C	−90	+1A	+95	−92	−98	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	−C	+80	+A	−85	+82	+88
e_{9C}	+9C	−12	+11	+9E	−15	+14	+9D	+18	−17	−9F	+1B	−1A	−90	−96	−93	+99	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	+B	−A	+80	+86	+83	−89
e_{9D}	+9D	−17	+18	−19	+9A	−9B	+9C	+11	−12	+13	−94	+95	−96	−90	+1F	−1E	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	+84	−85	+86	+80	+F	−E
e_{9E}	+9E	−9A	+9B	+9C	−17	+18	+19	+14	−15	−16	+91	−92	−93	−1F	−90	+1D	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	−F	+80	+D
e_{9F}	+9F	+14	+15	−16	−11	−12	+13	+9A	+9B	−9C	−97	−98	+99	+1E	−1D	−90	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	+87	+88	−89	+E	−D	+80
e_{A0}	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	−AA	−AB	−AC	−AD	−AE	−AF	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	+BA	+BB	+BC	+BD	+BE	+BF
e_{A1}	+A1	+A0	+2C	−2B	−2F	−A9	+A8	+2D	+A6	−A5	+AE	+23	−22	−27	+AA	+24	−B1	−B0	+3C	−3B	−3F	+B9	−B8	+3D	−B6	+B5	−BE	+33	−32	−37	−BA	+34
e_{A2}	+A2	−2C	+A0	−2A	+A9	−2F	+A7	+A6	−2D	+A4	+23	−AE	+21	+28	−AB	+25	−B2	−3C	−B0	−3A	−B9	−3F	−B7	−B6	−3D	−B4	+33	+BE	+31	+38	+BB	+35
e_{A3}	+A3	+2B	+2A	+A0	+A8	+A7	+2F	+A5	+A4	+2D	−22	−21	−AE	−29	−AC	−26	−B3	+3B	+3A	−B0	−B8	−B7	+3F	−B5	−B4	+3D	−32	−31	+BE	−39	+BC	−36
e_{A4}	+A4	+2F	+A9	+A8	+A0	+2C	+2B	+2E	+A3	+A2	−AD	−26	−25	−AA	−27	−21	−B4	+3F	−B9	−B8	−B0	+3C	+3B	+3E	−B3	−B2	+BD	−36	−35	+BA	−37	−31
e_{A5}	+A5	−A9	+2F	+A7	−2C	+A0	+2A	+A3	−2E	−A1	−26	+AD	+24	+AB	+28	−22	−B5	+B9	+3F	−B7	−3C	−B0	+3A	−B3	−3E	+B1	−36	−BD	+34	−BB	+38	−32
e_{A6}	+A6	+A8	+A7	−2F	−2B	−2A	+A0	+A2	+A1	−2E	+25	+24	−AD	−AC	+29	+23	−B6	−B8	−B7	−3F	−3B	−3A	−B0	−B2	−B1	−3E	+35	+34	+BD	+BC	+39	+33
e_{A7}	+A7	−2D	+A6	+A5	−2E	+A3	+A2	+A0	−2C	−2B	−AF	+29	+28	+21	+24	−AA	−B7	−3D	−B6	−B5	−3E	−B3	−B2	−B0	−3C	−3B	+BF	+39	+38	+31	+34	+BA
e_{A8}	+A8	+A6	+2D	+A4	+A3	+2E	+A1	+2C	+A0	+2A	−29	−AF	−27	−22	−25	−AB	−B8	−B6	+3D	−B4	−B3	+3E	−B1	+3C	−B0	+3A	−39	+BF	−37	−32	−35	+BB
e_{A9}	+A9	−A5	+A4	−2D	+A2	−A1	+2E	+2B	−2A	+A0	+28	−27	+AF	+23	−26	+AC	−B9	+B5	−B4	−3D	−B2	+B1	+3E	+3B	−3A	−B0	+38	−37	−BF	+33	−36	−BC
e_{AA}	+AA	−AE	+23	−22	+AD	−26	+25	+AF	−29	+28	−A0	+2C	−2B	−A4	+A1	−A7	−BA	+BE	+33	−32	−BD	−36	+35	−BF	−39	+38	+B0	+3C	−3B	+B4	−B1	+B7
e_{AB}	+AB	+23	+AE	−21	−26	−AD	+24	+29	+AF	−27	−2C	−A0	+2A	+A5	−A2	−A8	−BB	+33	−BE	−31	−36	+BD	+34	+39	−BF	−37	−3C	+B0	+3A	−B5	+B2	+B8
e_{AC}	+AC	−22	+21	+AE	−25	+24	+AD	+28	−27	−AF	+2B	−2A	−A0	−A6	−A3	+A9	−BC	−32	+31	−BE	−35	+34	−BD	+38	−37	+BF	+3B	−3A	+B0	+B6	+B3	−B9
e_{AD}	+AD	−27	+28	−29	+AA	−AB	+AC	+21	−22	+23	−A4	+A5	−A6	−A0	+2F	−2E	−BD	−37	+38	−39	−BA	+BB	−BC	+31	−32	+33	+B4	−B5	+B6	+B0	+3F	−3E
e_{AE}	+AE	−AA	+AB	+AC	−27	+28	+29	+24	−25	−26	+A1	−A2	−A3	−2F	−A0	+2D	−BE	+BA	−BB	−BC	−37	+38	+39	+34	−35	−36	−B1	+B2	+B3	−3F	+B0	+3D
e_{AF}	+AF	+24	+25	−26	−21	−22	+23	+AA	+AB	−AC	−A7	−A8	+A9	+2E	−2D	−A0	−BF	+34	+35	−36	−31	−32	+33	−BA	−BB	+BC	+B7	+B8	−B9	+3E	−3D	+B0
e_{B0}	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	−BA	−BB	−BC	−BD	−BE	−BF	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	−AA	−AB	−AC	−AD	−AE	−AF
e_{B1}	+B1	+B0	+3C	−3B	−3F	−B9	+B8	+3D	+B6	−B5	+BE	+33	−32	−37	+BA	+34	+A1	+A0	−2C	+2B	+2F	−A9	+A8	−2D	+A6	−A5	+AE	−23	+22	+27	+AA	−24
e_{B2}	+B2	−3C	+B0	−3A	+B9	−3F	+B7	+B6	−3D	+B4	+33	−BE	+31	+38	−BB	+35	+A2	+2C	+A0	+2A	+A9	+2F	+A7	+A6	+2D	+A4	−23	−AE	−21	−28	−AB	−25
e_{B3}	+B3	+3B	+3A	+B0	+B8	+B7	+3F	+B5	+B4	+3D	−32	−31	−BE	−39	−BC	−36	+A3	−2B	−2A	+A0	+A8	+A7	−2F	+A5	+A4	−2D	+22	+21	−AE	+29	−AC	+26
e_{B4}	+B4	+3F	+B9	+B8	+B0	+3C	+3B	+3E	+B3	+B2	−BD	−36	−35	−BA	−37	−31	+A4	−2F	+A9	+A8	+A0	−2C	−2B	−2E	+A3	+A2	−AD	+26	+25	−AA	+27	+21
e_{B5}	+B5	−B9	+3F	+B7	−3C	+B0	+3A	+B3	−3E	−B1	−36	+BD	+34	+BB	+38	−32	+A5	−A9	−2F	+A7	+2C	+A0	−2A	+A3	+2E	−A1	+26	+AD	−24	+AB	−28	+22
e_{B6}	+B6	+B8	+B7	−3F	−3B	−3A	+B0	+B2	+B1	−3E	+35	+34	−BD	−BC	+39	+33	+A6	+A8	+A7	+2F	+2B	+2A	+A0	+A2	+A1	+2E	−25	−24	−AD	−AC	−29	−23
e_{B7}	+B7	−3D	+B6	+B5	−3E	+B3	+B2	+B0	−3C	−3B	−BF	+39	+38	+31	+34	−BA	+A7	+2D	+A6	+A5	+2E	+A3	+A2	+A0	+2C	+2B	−AF	−29	−28	−21	−24	−AA
e_{B8}	+B8	+B6	+3D	+B4	+B3	+3E	+B1	+3C	+B0	+3A	−39	−BF	−37	−32	−35	−BB	+A8	+A6	−2D	+A4	+A3	−2E	+A1	−2C	+A0	−2A	+29	−AF	+27	+22	+25	−AB
e_{B9}	+B9	−B5	+B4	−3D	+B2	−B1	+3E	+3B	−3A	+B0	+38	−37	+BF	+33	−36	+BC	+A9	−A5	+A4	+2D	+A2	−A1	−2E	−2B	+2A	+A0	−28	+27	+AF	−23	+26	+AC
e_{BA}	+BA	−BE	+33	−32	+BD	−36	+35	+BF	−39	+38	−B0	+3C	−3B	−B4	+B1	−B7	+AA	−AE	−23	+22	+AD	+26	−25	+AF	+29	−28	−A0	−2C	+2B	−A4	+A1	−A7
e_{BB}	+BB	+33	+BE	−31	−36	−BD	+34	+39	+BF	−37	−3C	−B0	+3A	+B5	−B2	−B8	+AB	−23	+AE	+21	+26	−AD	−24	−29	+AF	+27	+2C	−A0	−2A	+A5	−A2	−A8
e_{BC}	+BC	−32	+31	+BE	−35	+34	+BD	+38	−37	−BF	+3B	−3A	−B0	−B6	−B3	+B9	+AC	+22	−21	+AE	+25	−24	+AD	−28	+27	−AF	−2B	+2A	−A0	−A6	−A3	+A9
e_{BD}	+BD	−37	+38	−39	+BA	−BB	+BC	+31	−32	+33	−B4	+B5	−B6	−B0	+3F	−3E	+AD	+27	−28	+29	+AA	−AB	+AC	−21	+22	−23	−A4	+A5	−A6	−A0	−2F	+2E
e_{BE}	+BE	−BA	+BB	+BC	−37	+38	+39	+34	−35	−36	+B1	−B2	−B3	−3F	−B0	+3D	+AE	−AA	+AB	+AC	+27	−28	−29	−24	+25	+26	+A1	−A2	−A3	+2F	−A0	−2D
e_{BF}	+BF	+34	+35	−36	−31	−32	+33	+BA	+BB	−BC	−B7	−B8	+B9	+3E	−3D	−B0	+AF	−24	−25	+26	+21	+22	−23	+AA	+AB	−AC	−A7	−A8	+A9	−2E	+2D	−A0

TABLE 4. $Ka^3(1,4)$ multiplication table, part A4

	e_0	e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8	e_9	e_A	e_B	e_C	e_D	e_E	e_F	e_{10}	e_{11}	e_{12}	e_{13}	e_{14}	e_{15}	e_{16}	e_{17}	e_{18}	e_{19}	e_{1A}	e_{1B}	e_{1C}	e_{1D}	e_{1E}	e_{1F}
e_{C0}	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	−CA	−CB	−CC	−CD	−CE	−CF	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	+DA	+DB	+DC	+DD	+DE	+DF
e_{C1}	+C1	+C0	+4C	−4B	−4F	−C9	+C8	+4D	+C6	−C5	+CE	+43	−42	−47	+CA	+44	−D1	−D0	+5C	−5B	−5F	+D9	−D8	+5D	−D6	+D5	−DE	+53	−52	−57	−DA	+54
e_{C2}	+C2	−4C	+C0	−4A	+C9	−4F	+C7	+C6	−4D	+C4	+43	−CE	+41	+48	−CB	+45	−D2	−5C	−D0	−5A	−D9	−5F	−D7	−D6	−5D	−D4	+53	+DE	+51	+58	+DB	+55
e_{C3}	+C3	+4B	+4A	+C0	+C8	+C7	+4F	+C5	+C4	+4D	−42	−41	−CE	−49	−CC	−46	−D3	+5B	+5A	−D0	−D8	−D7	+5F	−D5	−D4	+5D	−52	−51	+DE	−59	+DC	−56
e_{C4}	+C4	+4F	+C9	+C8	+C0	+4C	+4B	+4E	+C3	+C2	−CD	−46	−45	−CA	−47	−41	−D4	+5F	−D9	−D8	−D0	+5C	+5B	+5E	−D3	−D2	+DD	−56	−55	+DA	−57	−51
e_{C5}	+C5	−C9	+4F	+C7	−4C	+C0	+4A	+C3	−4E	−C1	−46	+CD	+44	+CB	+48	−42	−D5	+D9	+5F	−D7	−5C	−D0	+5A	−D3	−5E	+D1	−56	−DD	+54	−DB	+58	−52
e_{C6}	+C6	+C8	+C7	−4F	−4B	−4A	+C0	+C2	+C1	−4E	+45	+44	−CD	−CC	+49	+43	−D6	−D8	−D7	−5F	−5B	−5A	−D0	−D2	−D1	−5E	+55	+54	+DD	+DC	+59	+53
e_{C7}	+C7	−4D	+C6	+C5	−4E	+C3	+C2	+C0	−4C	−4B	−CF	+49	+48	+41	+44	−CA	−D7	−5D	−D6	−D5	−5E	−D3	−D2	−D0	−5C	−5B	+DF	+59	+58	+51	+54	+DA
e_{C8}	+C8	+C6	+4D	+C4	+C3	+4E	+C1	+4C	+C0	+4A	−49	−CF	−47	−42	−45	−CB	−D8	−D6	+5D	−D4	−D3	+5E	−D1	+5C	−D0	+5A	−59	+DF	−57	−52	−55	+DB
e_{C9}	+C9	−C5	+C4	−4D	+C2	−C1	+4E	+4B	−4A	+C0	+48	−47	+CF	+43	−46	+CC	−D9	+D5	−D4	−5D	−D2	+D1	+5E	+5B	−5A	−D0	+58	−57	−DF	+53	−56	−DC
e_{CA}	+CA	−CE	+43	−42	+CD	−46	+45	+CF	−49	+48	−C0	+4C	−4B	−C4	+C1	−C7	−DA	+DE	+53	−52	−DD	−56	+55	−DF	−59	+58	+D0	+5C	−5B	+D4	−D1	+D7
e_{CB}	+CB	+43	+CE	−41	−46	−CD	+44	+49	+CF	−47	−4C	−C0	+4A	+C5	−C2	−C8	−DB	+53	−DE	−51	−56	+DD	+54	+59	−DF	−57	−5C	+D0	+5A	−D5	+D2	+D8
e_{CC}	+CC	−42	+41	+CE	−45	+44	+CD	+48	−47	−CF	+4B	−4A	−C0	−C6	−C3	+C9	−DC	−52	+51	−DE	−55	+54	−DD	+58	−57	+DF	+5B	−5A	+D0	+D6	+D3	−D9
e_{CD}	+CD	−47	+48	−49	+CA	−CB	+CC	+41	−42	+43	−C4	+C5	−C6	−C0	+4F	−4E	−DD	−57	+58	−59	−DA	+DB	−DC	+51	−52	+53	+D4	−D5	+D6	+D0	+5F	−5E
e_{CE}	+CE	−CA	+CB	+CC	−47	+48	+49	+44	−45	−46	+C1	−C2	−C3	−4F	−C0	+4D	−DE	+DA	−DB	−DC	−57	+58	+59	+54	−55	−56	−D1	+D2	+D3	−5F	+D0	+5D
e_{CF}	+CF	+44	+45	−46	−41	−42	+43	+CA	+CB	−CC	−C7	−C8	+C9	+4E	−4D	−C0	−DF	+54	+55	−56	−51	−52	+53	−DA	−DB	+DC	+D7	+D8	−D9	+5E	−5D	+D0
e_{D0}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	−DA	−DB	−DC	−DD	−DE	−DF	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	−CA	−CB	−CC	−CD	−CE	−CF
e_{D1}	+D1	+D0	+5C	−5B	−5F	−D9	+D8	+5D	+D6	−D5	+DE	+53	−52	−57	+DA	+54	+C1	+C0	−4C	+4B	+4F	−C9	+C8	−4D	+C6	−C5	+CE	−43	+42	+47	+CA	−44
e_{D2}	+D2	−5C	+D0	−5A	+D9	−5F	+D7	+D6	−5D	+D4	+53	−DE	+51	+58	−DB	+55	+C2	+4C	+C0	+4A	+C9	+4F	+C7	+C6	+4D	+C4	−43	−CE	−41	−48	−CB	−45
e_{D3}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	−52	−51	−DE	−59	−DC	−56	+C3	−4B	−4A	+C0	+C8	+C7	−4F	+C5	+C4	−4D	+42	+41	−CE	+49	−CC	+46
e_{D4}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	−DD	−56	−55	−DA	−57	−51	+C4	−4F	+C9	+C8	+C0	−4C	−4B	−4E	+C3	+C2	−CD	+46	+45	−CA	+47	+41
e_{D5}	+D5	−D9	+5F	+D7	−5C	+D0	+5A	+D3	−5E	−D1	−56	+DD	+54	+DB	+58	−52	+C5	−C9	−4F	+C7	+4C	+C0	−4A	+C3	+4E	−C1	+46	+CD	−44	+CB	−48	+42
e_{D6}	+D6	+D8	+D7	−5F	−5B	−5A	+D0	+D2	+D1	−5E	+55	+54	−DD	−DC	+59	+53	+C6	+C8	+C7	+4F	+4B	+4A	+C0	+C2	+C1	+4E	−45	−44	−CD	−CC	−49	−43
e_{D7}	+D7	−5D	+D6	+D5	−5E	+D3	+D2	+D0	−5C	−5B	−DF	+59	+58	+51	+54	−DA	+C7	+4D	+C6	+C5	+4E	+C3	+C2	+C0	+4C	+4B	−CF	−49	−48	−41	−44	−CA
e_{D8}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	−59	−DF	−57	−52	−55	−DB	+C8	+C6	−4D	+C4	+C3	−4E	+C1	−4C	+C0	−4A	+49	−CF	+47	+42	+45	−CB
e_{D9}	+D9	−D5	+D4	−5D	+D2	−D1	+5E	+5B	−5A	+D0	+58	−57	+DF	+53	−56	+DC	+C9	−C5	+C4	+4D	+C2	−C1	−4E	−4B	+4A	+C0	−48	+47	+CF	−43	+46	+CC
e_{DA}	+DA	−DE	+53	−52	+DD	−56	+55	+DF	−59	+58	−D0	+5C	−5B	−D4	+D1	−D7	+CA	−CE	−43	+42	+CD	+46	−45	+CF	+49	−48	−C0	−4C	+4B	−C4	+C1	−C7
e_{DB}	+DB	+53	+DE	−51	−56	−DD	+54	+59	+DF	−57	−5C	−D0	+5A	+D5	−D2	−D8	+CB	−43	+CE	+41	+46	−CD	−44	−49	+CF	+47	+4C	−C0	−4A	+C5	−C2	−C8
e_{DC}	+DC	−52	+51	+DE	−55	+54	+DD	+58	−57	−DF	+5B	−5A	−D0	−D6	−D3	+D9	+CC	+42	−41	+CE	+45	−44	+CD	−48	+47	−CF	−4B	+4A	−C0	−C6	−C3	+C9
e_{DD}	+DD	−57	+58	−59	+DA	−DB	+DC	+51	−52	+53	−D4	+D5	−D6	−D0	+5F	−5E	+CD	+47	−48	+49	+CA	−CB	+CC	−41	+42	−43	−C4	+C5	−C6	−C0	−4F	+4E
e_{DE}	+DE	−DA	+DB	+DC	−57	+58	+59	+54	−55	−56	+D1	−D2	−D3	−5F	−D0	+5D	+CE	−CA	+CB	+CC	+47	−48	−49	−44	+45	+46	+C1	−C2	−C3	+4F	−C0	−4D
e_{DF}	+DF	+54	+55	−56	−51	−52	+53	+DA	+DB	−DC	−D7	−D8	+D9	+5E	−5D	−D0	+CF	−44	−45	+46	+41	+42	−43	+CA	+CB	−CC	−C7	−C8	+C9	−4E	+4D	−C0
e_{E0}	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	−EA	−EB	−EC	−ED	−EE	−EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	−FA	−FB	−FC	−FD	−FE	−FF
e_{E1}	+E1	+E0	+6C	−6B	−6F	−E9	+E8	+6D	+E6	−E5	+EE	+63	−62	−67	+EA	+64	+F1	+F0	−7C	+7B	+7F	−F9	+F8	−7D	+F6	−F5	+FE	−73	+72	+77	+FA	−74
e_{E2}	+E2	−6C	+E0	−6A	+E9	−6F	+E7	+E6	−6D	+E4	+63	−EE	+61	+68	−EB	+65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	−73	−FE	−71	−78	−FB	−75
e_{E3}	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	−62	−61	−EE	−69	−EC	−66	+F3	−7B	−7A	+F0	+F8	+F7	−7F	+F5	+F4	−7D	+72	+71	−FE	+79	−FC	+76
e_{E4}	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	−ED	−66	−65	−EA	−67	−61	+F4	−7F	+F9	+F8	+F0	−7C	−7B	−7E	+F3	+F2	−FD	+76	+75	−FA	+77	+71
e_{E5}	+E5	−E9	+6F	+E7	−6C	+E0	+6A	+E3	−6E	−E1	−66	+ED	+64	+EB	+68	−62	+F5	−F9	−7F	+F7	+7C	+F0	−7A	+F3	+7E	−F1	+76	+FD	−74	+FB	−78	+72
e_{E6}	+E6	+E8	+E7	−6F	−6B	−6A	+E0	+E2	+E1	−6E	+65	+64	−ED	−EC	+69	+63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	−75	−74	−FD	−FC	−79	−73
e_{E7}	+E7	−6D	+E6	+E5	−6E	+E3	+E2	+E0	−6C	−6B	−EF	+69	+68	+61	+64	−EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	−FF	−79	−78	−71	−74	−FA
e_{E8}	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	−69	−EF	−67	−62	−65	−EB	+F8	+F6	−7D	+F4	+F3	−7E	+F1	−7C	+F0	−7A	+79	−FF	+77	+72	+75	−FB
e_{E9}	+E9	−E5	+E4	−6D	+E2	−E1	+6E	+6B	−6A	+E0	+68	−67	+EF	+63	−66	+EC	+F9	−F5	+F4	+7D	+F2	−F1	−7E	−7B	+7A	+F0	−78	+77	+FF	−73	+76	+FC
e_{EA}	+EA	−EE	+63	−62	+ED	−66	+65	+EF	−69	+68	−E0	+6C	−6B	−E4	+E1	−E7	+FA	−FE	−73	+72	+FD	+76	−75	+FF	+79	−78	−F0	−7C	+7B	−F4	+F1	−F7
e_{EB}	+EB	+63	+EE	−61	−66	−ED	+64	+69	+EF	−67	−6C	−E0	+6A	+E5	−E2	−E8	+FB	−73	+FE	+71	+76	−FD	−74	−79	+FF	+77	+7C	−F0	−7A	+F5	−F2	−F8
e_{EC}	+EC	−62	+61	+EE	−65	+64	+ED	+68	−67	−EF	+6B	−6A	−E0	−E6	−E3	+E9	+FC	+72	−71	+FE	+75	−74	+FD	−78	+77	−FF	−7B	+7A	−F0	−F6	−F3	+F9
e_{ED}	+ED	−67	+68	−69	+EA	−EB	+EC	+61	−62	+63	−E4	+E5	−E6	−E0	+6F	−6E	+FD	+77	−78	+79	+FA	−FB	+FC	−71	+72	−73	−F4	+F5	−F6	−F0	−7F	+7E
e_{EE}	+EE	−EA	+EB	+EC	−67	+68	+69	+64	−65	−66	+E1	−E2	−E3	−6F	−E0	+6D	+FE	−FA	+FB	+FC	+77	−78	−79	−74	+75	+76	+F1	−F2	−F3	+7F	−F0	−7D
e_{EF}	+EF	+64	+65	−66	−61	−62	+63	+EA	+EB	−EC	−E7	−E8	+E9	+6E	−6D	−E0	+FF	−74	−75	+76	+71	+72	−73	+FA	+FB	−FC	−F7	−F8	+F9	−7E	+7D	−F0
e_{F0}	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	−FA	−FB	−FC	−FD	−FE	−FF	−E0	−E1	−E2	−E3	−E4	−E5	−E6	−E7	−E8	−E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{F1}	+F1	+F0	+7C	−7B	−7F	−F9	+F8	+7D	+F6	−F5	+FE	+73	−72	−77	+FA	+74	−E1	−E0	+6C	−6B	−6F	+E9	−E8	+6D	−E6	+E5	−EE	+63	−62	−67	−EA	+64
e_{F2}	+F2	−7C	+F0	−7A	+F9	−7F	+F7	+F6	−7D	+F4	+73	−FE	+71	+78	−FB	+75	−E2	−6C	−E0	−6A	−E9	−6F	−E7	−E6	−6D	−E4	+63	+EE	+61	+68	+EB	+65
e_{F3}	+F3	+7B	+7A	+F0	+F8	+F7	+7F	+F5	+F4	+7D	−72	−71	−FE	−79	−FC	−76	−E3	+6B	+6A	−E0	−E8	−E7	+6F	−E5	−E4	+6D	−62	−61	+EE	−69	+EC	−66
e_{F4}	+F4	+7F	+F9	+F8	+F0	+7C	+7B	+7E	+F3	+F2	−FD	−76	−75	−FA	−77	−71	−E4	+6F	−E9	−E8	−E0	+6C	+6B	+6E	−E3	−E2	+ED	−66	−65	+EA	−67	−61
e_{F5}	+F5	−F9	+7F	+F7	−7C	+F0	+7A	+F3	−7E	−F1	−76	+FD	+74	+FB	+78	−72	−E5	+E9	+6F	−E7	−6C	−E0	+6A	−E3	−6E	+E1	−66	−ED	+64	−EB	+68	−62
e_{F6}	+F6	+F8	+F7	−7F	−7B	−7A	+F0	+F2	+F1	−7E	+75	+74	−FD	−FC	+79	+73	−E6	−E8	−E7	−6F	−6B	−6A	−E0	−E2	−E1	−6E	+65	+64	+ED	+EC	+69	+63
e_{F7}	+F7	−7D	+F6	+F5	−7E	+F3	+F2	+F0	−7C	−7B	−FF	+79	+78	+71	+74	−FA	−E7	−6D	−E6	−E5	−6E	−E3	−E2	−E0	−6C	−6B	+EF	+69	+68	+61	+64	+EA
e_{F8}	+F8	+F6	+7D	+F4	+F3	+7E	+F1	+7C	+F0	+7A	−79	−FF	−77	−72	−75	−FB	−E8	−E6	+6D	−E4	−E3	+6E	−E1	+6C	−E0	+6A	−69	+EF	−67	−62	−65	+EB
e_{F9}	+F9	−F5	+F4	−7D	+F2	−F1	+7E	+7B	−7A	+F0	+78	−77	+FF	+73	−76	+FC	−E9	+E5	−E4	−6D	−E2	+E1	+6E	+6B	−6A	−E0	+68	−67	−EF	+63	−66	−EC
e_{FA}	+FA	−FE	+73	−72	+FD	−76	+75	+FF	−79	+78	−F0	+7C	−7B	−F4	+F1	−F7	−EA	+EE	+63	−62	−ED	−66	+65	−EF	−69	+68	+E0	+6C	−6B	+E4	−E1	+E7
e_{FB}	+FB	+73	+FE	−71	−76	−FD	+74	+79	+FF	−77	−7C	−F0	+7A	+F5	−F2	−F8	−EB	+63	−EE	−61	−66	+ED	+64	+69	−EF	−67	−6C	+E0	+6A	−E5	+E2	+E8
e_{FC}	+FC	−72	+71	+FE	−75	+74	+FD	+78	−77	−FF	+7B	−7A	−F0	−F6	−F3	+F9	−EC	−62	+61	−EE	−65	+64	−ED	+68	−67	+EF	+6B	−6A	+E0	+E6	+E3	−E9
e_{FD}	+FD	−77	+78	−79	+FA	−FB	+FC	+71	−72	+73	−F4	+F5	−F6	−F0	+7F	−7E	−ED	−67	+68	−69	−EA	+EB	−EC	+61	−62	+63	+E4	−E5	+E6	+E0	+6F	−6E
e_{FE}	+FE	−FA	+FB	+FC	−77	+78	+79	+74	−75	−76	+F1	−F2	−F3	−7F	−F0	+7D	−EE	+EA	−EB	−EC	−67	+68	+69	+64	−65	−66	−E1	+E2	+E3	−6F	+E0	+6D
e_{FF}	+FF	+74	+75	−76	−71	−72	+73	+FA	+FB	−FC	−F7	−F8	+F9	+7E	−7D	−F0	−EF	+64	+65	−66	−61	−62	+63	−EA	−EB	+EC	+E7	+E8	−E9	+6E	−6D	+E0

TABLE 5. $Ka^3(1,4)$ multiplication table, part B1

	e_{20}	e_{21}	e_{22}	e_{23}	e_{24}	e_{25}	e_{26}	e_{27}	e_{28}	e_{29}	e_{2A}	e_{2B}	e_{2C}	e_{2D}	e_{2E}	e_{2F}	e_{30}	e_{31}	e_{32}	e_{33}	e_{34}	e_{35}	e_{36}	e_{37}	e_{38}	e_{39}	e_{3A}	e_{3B}	e_{3C}	e_{3D}	e_{3E}	e_{3F}
e_0	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+2A	+2B	+2C	+2D	+2E	+2F	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+3A	+3B	+3C	+3D	+3E	+3F
e_1	+21	+20	−AC	+AB	+AF	−29	+28	−AD	+26	−25	−2E	+A3	−A2	−A7	−2A	+A4	+31	+30	−BC	+BB	+BF	−39	+38	−BD	+36	−35	−3E	+B3	−B2	−B7	−3A	+B4
e_2	+22	+AC	+20	+AA	+29	+AF	+27	+26	+AD	+24	+A3	+2E	+A1	+A8	+2B	+A5	+32	+BC	+30	+BA	+39	+BF	+37	+36	+BD	+34	+B3	+3E	+B1	+B8	+3B	+B5
e_3	+23	−AB	−AA	+20	+28	+27	−AF	+25	+24	−AD	−A2	−A1	+2E	−A9	+2C	−A6	+33	−BB	−BA	+30	+38	+37	−BF	+35	+34	−BD	−B2	−B1	+3E	−B9	+3C	−B6
e_4	+24	−AF	+29	+28	+20	−AC	−AB	−AE	+23	+22	+2D	−A6	−A5	+2A	−A7	−A1	+34	−BF	+39	+38	+30	−BC	−BB	−BE	+33	+32	+3D	−B6	−B5	+3A	−B7	−B1
e_5	+25	−29	−AF	+27	+AC	+20	−AA	+23	+AE	−21	−A6	−2D	+A4	−2B	+A8	−A2	+35	−39	−BF	+37	+BC	+30	−BA	+33	+BE	−31	−B6	−3D	+B4	−3B	+B8	−B2
e_6	+26	+28	+27	+AF	+AB	+AA	+20	+22	+21	+AE	+A5	+A4	+2D	+2C	+A9	+A3	+36	+38	+37	+BF	+BB	+BA	+30	+32	+31	+BE	+B5	+B4	+3D	+3C	+B9	+B3
e_7	+27	+AD	+26	+25	+AE	+23	+22	+20	+AC	+AB	+2F	+A9	+A8	+A1	+A4	+2A	+37	+BD	+36	+35	+BE	+33	+32	+30	+BC	+BB	+3F	+B9	+B8	+B1	+B4	+3A
e_8	+28	+26	−AD	+24	+23	−AE	+21	−AC	+20	−AA	−A9	+2F	−A7	−A2	−A5	+2B	+38	+36	−BD	+34	+33	−BE	+31	−BC	+30	−BA	−B9	+3F	−B7	−B2	−B5	+3B
e_9	+29	−25	+24	+AD	+22	−21	−AE	−AB	+AA	+20	+A8	−A7	−2F	+A3	−A6	−2C	+39	−35	+34	+BD	+32	−31	−BE	−BB	+BA	+30	+B8	−B7	−3F	+B3	−B6	−3C
e_A	+2A	−2E	−A3	+A2	+2D	+A6	−A5	+2F	+A9	−A8	+20	+AC	−AB	+24	−21	+27	+3A	−3E	−B3	+B2	+3D	+B6	−B5	+3F	+B9	−B8	+30	+BC	−BB	+34	−31	+37
e_B	+2B	−A3	+2E	+A1	+A6	−2D	−A4	−A9	+2F	+A7	−AC	+20	+AA	−25	+22	+28	+3B	−B3	+3E	+B1	+B6	−3D	−B4	−B9	+3F	+B7	−BC	+30	+BA	−35	+32	+38
e_C	+2C	+A2	−A1	+2E	+A5	−A4	+2D	−A8	+A7	−2F	+AB	−AA	+20	+26	+23	−29	+3C	+B2	−B1	+3E	+B5	−B4	+3D	−B8	+B7	−3F	+BB	−BA	+30	+36	+33	−39
e_D	+2D	+A7	−A8	+A9	+2A	−2B	+2C	−A1	+A2	−A3	+24	−25	+26	+20	+AF	−AE	+3D	+B7	−B8	+B9	+3A	−3B	+3C	−B1	+B2	−B3	+34	−35	+36	+30	+BF	−BE
e_E	+2E	−2A	+2B	+2C	+A7	−A8	−A9	−A4	+A5	+A6	−21	+22	+23	−AF	+20	+AD	+3E	−3A	+3B	+3C	+B7	−B8	−B9	−B4	+B5	+B6	−31	+32	+33	−BF	+30	+BD
e_F	+2F	−A4	−A5	+A6	+A1	+A2	−A3	+2A	+2B	−2C	+27	+28	−29	+AE	−AD	+20	+3F	−B4	−B5	+B6	+B1	+B2	−B3	+3A	+3B	−3C	+37	+38	−39	+BE	−BD	+30
e_{10}	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+3A	+3B	+3C	+3D	+3E	+3F	−20	−21	−22	−23	−24	−25	−26	−27	−28	−29	−2A	−2B	−2C	−2D	−2E	−2F
e_{11}	+31	+30	+BC	−BB	−BF	−39	+38	+BD	+36	−35	−3E	−B3	+B2	+B7	−3A	−B4	−21	−20	−AC	+AB	+AF	+29	−28	−AD	−26	+25	+2E	+A3	−A2	−A7	+2A	+A4
e_{12}	+32	−BC	+30	−BA	+39	−BF	+37	+36	−BD	+34	−B3	+3E	−B1	−B8	+3B	−B5	−22	+AC	−20	+AA	−29	+AF	−27	−26	+AD	−24	+A3	−2E	+A1	+A8	−2B	+A5
e_{13}	+33	+BB	+BA	+30	+38	+37	+BF	+35	+34	+BD	+B2	+B1	+3E	+B9	+3C	+B6	−23	−AB	−AA	−20	−28	−27	−AF	−25	−24	−AD	−A2	−A1	−2E	−A9	−2C	−A6
e_{14}	+34	+BF	+39	+38	+30	+BC	+BB	+BE	+33	+32	+3D	+B6	+B5	+3A	+B7	+B1	−24	−AF	−29	−28	−20	−AC	−AB	−AE	−23	−22	−2D	−A6	−A5	−2A	−A7	−A1
e_{15}	+35	−39	+BF	+37	−BC	+30	+BA	+33	−BE	−31	+B6	−3D	−B4	−3B	−B8	+B2	−25	+29	−AF	−27	+AC	−20	−AA	−23	+AE	+21	−A6	+2D	+A4	+2B	+A8	−A2
e_{16}	+36	+38	+37	−BF	−BB	−BA	+30	+32	+31	−BE	−B5	−B4	+3D	+3C	−B9	−B3	−26	−28	−27	+AF	+AB	+AA	−20	−22	−21	+AE	+A5	+A4	−2D	−2C	+A9	+A3
e_{17}	+37	−BD	+36	+35	−BE	+33	+32	+30	−BC	−BB	+3F	−B9	−B8	−B1	−B4	+3A	−27	+AD	−26	−25	+AE	−23	−22	−20	+AC	+AB	−2F	+A9	+A8	+A1	+A4	−2A
e_{18}	+38	+36	+BD	+34	+33	+BE	+31	+BC	+30	+BA	+B9	+3F	+B7	+B2	+B5	+3B	−28	−26	−AD	−24	−23	−AE	−21	−AC	−20	−AA	−A9	−2F	−A7	−A2	−A5	−2B
e_{19}	+39	−35	+34	−BD	+32	−31	+BE	+BB	−BA	+30	−B8	+B7	−3F	−B3	+B6	−3C	−29	+25	−24	+AD	−22	+21	−AE	−AB	+AA	−20	+A8	−A7	+2F	+A3	−A6	+2C
e_{1A}	+3A	−3E	+B3	−B2	+3D	−B6	+B5	+3F	−B9	+B8	+30	−BC	+BB	+34	−31	+37	−2A	+2E	−A3	+A2	−2D	+A6	−A5	−2F	+A9	−A8	−20	+AC	−AB	−24	+21	−27
e_{1B}	+3B	+B3	+3E	−B1	−B6	−3D	+B4	+B9	+3F	−B7	+BC	+30	−BA	−35	+32	+38	−2B	−A3	−2E	+A1	+A6	+2D	−A4	−A9	−2F	+A7	−AC	−20	+AA	+25	−22	−28
e_{1C}	+3C	−B2	+B1	+3E	−B5	+B4	+3D	+B8	−B7	−3F	−BB	+BA	+30	+36	+33	−39	−2C	+A2	−A1	−2E	+A5	−A4	−2D	−A8	+A7	+2F	+AB	−AA	−20	−26	−23	+29
e_{1D}	+3D	−B7	+B8	−B9	+3A	−3B	+3C	+B1	−B2	+B3	+34	−35	+36	+30	−BF	+BE	−2D	+A7	−A8	+A9	−2A	+2B	−2C	−A1	+A2	−A3	−24	+25	−26	−20	+AF	−AE
e_{1E}	+3E	−3A	+3B	+3C	−B7	+B8	+B9	+B4	−B5	−B6	−31	+32	+33	+BF	+30	−BD	−2E	+2A	−2B	−2C	+A7	−A8	−A9	−A4	+A5	+A6	+21	−22	−23	−AF	−20	+AD
e_{1F}	+3F	+B4	+B5	−B6	−B1	−B2	+B3	+3A	+3B	−3C	+37	+38	−39	−BE	+BD	+30	−2F	−A4	−A5	+A6	+A1	+A2	−A3	−2A	−2B	+2C	−27	−28	+29	+AE	−AD	−20
e_{20}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−A	−B	−C	−D	−E	−F	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+1A	+1B	+1C	+1D	+1E	+1F
e_{21}	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	+E	−83	+82	+87	+A	−84	+11	+10	−9C	+9B	+9F	−19	+18	−9D	+16	−15	−1E	+93	−92	−97	−1A	+94
e_{22}	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	−83	−E	−81	−88	−B	−85	+12	+9C	+10	+9A	+19	+9F	+17	+16	+9D	+14	+93	+1E	+91	+98	+1B	+95
e_{23}	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	+82	+81	−E	+89	−C	+86	+13	−9B	−9A	+10	+18	+17	−9F	+15	+14	−9D	−92	−91	+1E	−99	+1C	−96
e_{24}	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	−D	+86	+85	−A	+87	+81	+14	−9F	+19	+18	+10	−9C	−9B	−9E	+13	+12	+1D	−96	−95	+1A	−97	−91
e_{25}	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	+86	+D	−84	+B	−88	+82	+15	−19	−9F	+17	+9C	+10	−9A	+13	+9E	−11	−96	−1D	+94	−1B	+98	−92
e_{26}	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	−85	−84	−D	−C	−89	−83	+16	+18	+17	+9F	+9B	+9A	+10	+12	+11	+9E	+95	+94	+1D	+1C	+99	+93
e_{27}	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	−F	−89	−88	−81	−84	−A	+17	+9D	+16	+15	+9E	+13	+12	+10	+9C	+9B	+1F	+99	+98	+91	+94	+1A
e_{28}	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	+89	−F	+87	+82	+85	−B	+18	+16	−9D	+14	+13	−9E	+11	−9C	+10	−9A	−99	+1F	−97	−92	−95	+1B
e_{29}	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	−88	+87	+F	−83	+86	+C	+19	−15	+14	+9D	+12	−11	−9E	−9B	+9A	+10	+98	−97	−1F	+93	−96	−1C
e_{2A}	−A	+E	+83	−82	−D	−86	+85	−F	−89	+88	−0	−8C	+8B	−4	+1	−7	+1A	−1E	−93	+92	+1D	+96	−95	+1F	+99	−98	+10	+9C	−9B	+14	−11	+17
e_{2B}	−B	+83	−E	−81	−86	+D	+84	+89	−F	−87	+8C	−0	−8A	+5	−2	−8	+1B	−93	+1E	+91	+96	−1D	−94	−99	+1F	+97	−9C	+10	+9A	−15	+12	+18
e_{2C}	−C	−82	+81	−E	−85	+84	−D	+88	−87	+F	−8B	+8A	−0	−6	−3	+9	+1C	+92	−91	+1E	+95	−94	+1D	−98	+97	−1F	+9B	−9A	+10	+16	+13	−19
e_{2D}	−D	−87	+88	−89	−A	+B	−C	+81	−82	+83	−4	+5	−6	−0	−8F	+8E	+1D	+97	−98	+99	+1A	−1B	+1C	−91	+92	−93	+14	−15	+16	+10	+9F	−9E
e_{2E}	−E	+A	−B	−C	−87	+88	+89	+84	−85	−86	+1	−2	−3	+8F	−0	−8D	+1E	−1A	+1B	+1C	+97	−98	−99	−94	+95	+96	−11	+12	+13	−9F	+10	+9D
e_{2F}	−F	+84	+85	−86	−81	−82	+83	−A	−B	+C	−7	−8	+9	−8E	+8D	−0	+1F	−94	−95	+96	+91	+92	−93	+1A	+1B	−1C	+17	+18	−19	+9E	−9D	+10
e_{30}	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	−1A	−1B	−1C	−1D	−1E	−1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−A	−B	−C	−D	−E	−F
e_{31}	−11	−10	−9C	+9B	+9F	+19	−18	−9D	−16	+15	+1E	+93	−92	−97	+1A	+94	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	+E	+83	−82	−87	+A	+84
e_{32}	−12	+9C	−10	+9A	−19	+9F	−17	−16	+9D	−14	+93	−1E	+91	+98	−1B	+95	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	+83	−E	+81	+88	−B	+85
e_{33}	−13	−9B	−9A	−10	−18	−17	−9F	−15	−14	−9D	−92	−91	−1E	−99	−1C	−96	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	−82	−81	−E	−89	−C	−86
e_{34}	−14	−9F	−19	−18	−10	−9C	−9B	−9E	−13	−12	−1D	−96	−95	−1A	−97	−91	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	−D	−86	−85	−A	−87	−81
e_{35}	−15	+19	−9F	−17	+9C	−10	−9A	−13	+9E	+11	−96	+1D	+94	+1B	+98	−92	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	−86	+D	+84	+B	+88	−82
e_{36}	−16	−18	−17	+9F	+9B	+9A	−10	−12	−11	+9E	+95	+94	−1D	−1C	+99	+93	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	+85	+84	−D	−C	+89	+83
e_{37}	−17	+9D	−16	−15	+9E	−13	−12	−10	+9C	+9B	−1F	+99	+98	+91	+94	−1A	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	−F	+89	+88	+81	+84	−A
e_{38}	−18	−16	−9D	−14	−13	−9E	−11	−9C	−10	−9A	−99	−1F	−97	−92	−95	−1B	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	−89	−F	−87	−82	−85	−B
e_{39}	−19	+15	−14	+9D	−12	+11	−9E	−9B	+9A	−10	+98	−97	+1F	+93	−96	+1C	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	+88	−87	+F	+83	−86	+C
e_{3A}	−1A	+1E	−93	+92	−1D	+96	−95	−1F	+99	−98	−10	+9C	−9B	−14	+11	−17	−A	+E	−83	+82	−D	+86	−85	−F	+89	−88	−0	+8C	−8B	−4	+1	−7
e_{3B}	−1B	−93	−1E	+91	+96	+1D	−94	−99	−1F	+97	−9C	−10	+9A	+15	−12	−18	−B	−83	−E	+81	+86	+D	−84	−89	−F	+87	−8C	−0	+8A	+5	−2	−8
e_{3C}	−1C	+92	−91	−1E	+95	−94	−1D	−98	+97	+1F	+9B	−9A	−10	−16	−13	+19	−C	+82	−81	−E	+85	−84	−D	−88	+87	+F	+8B	−8A	−0	−6	−3	+9
e_{3D}	−1D	+97	−98	+99	−1A	+1B	−1C	−91	+92	−93	−14	+15	−16	−10	+9F	−9E	−D	+87	−88	+89	−A	+B	−C	−81	+82	−83	−4	+5	−6	−0	+8F	−8E
e_{3E}	−1E	+1A	−1B	−1C	+97	−98	−99	−94	+95	+96	+11	−12	−13	−9F	−10	+9D	−E	+A	−B	−C	+87	−88	−89	−84	+85	+86	+1	−2	−3	−8F	−0	+8D
e_{3F}	−1F	−94	−95	+96	+91	+92	−93	−1A	−1B	+1C	−17	−18	+19	+9E	−9D	−10	−F	−84	−85	+86	+81	+82	−83	−A	−B	+C	−7	−8	+9	+8E	−8D	−0

Table 6. $Ka^3(1,4)$ multiplication table, part B2

	e_{20}	e_{21}	e_{22}	e_{23}	e_{24}	e_{25}	e_{26}	e_{27}	e_{28}	e_{29}	e_{2A}	e_{2B}	e_{2C}	e_{2D}	e_{2E}	e_{2F}	e_{30}	e_{31}	e_{32}	e_{33}	e_{34}	e_{35}	e_{36}	e_{37}	e_{38}	e_{39}	e_{3A}	e_{3B}	e_{3C}	e_{3D}	e_{3E}	e_{3F}
e_{40}	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	−6A	−6B	−6C	−6D	−6E	−6F	−70	−71	−72	−73	−74	−75	−76	−77	−78	−79	−7A	−7B	−7C	−7D	−7E	−7F
e_{41}	−61	−60	+EC	−EB	−EF	+69	−68	+ED	−66	+65	+6E	−E3	+E2	+E7	+6A	−E4	−71	−70	+FC	−FB	−FF	+79	−78	+FD	−76	+75	+7E	−F3	+F2	+F7	+7A	−F4
e_{42}	−62	−EC	−60	−EA	−69	−EF	−67	−66	−ED	−64	−E3	−6E	−E1	−E8	−6B	−E5	−72	−FC	−70	−FA	−79	−FF	−77	−76	−FD	−74	−F3	−7E	−F1	−F8	−7B	−F5
e_{43}	−63	+EB	+EA	−60	−68	−67	+EF	−65	−64	+ED	+E2	+E1	−6E	+E9	−6C	+E6	−73	+FB	+FA	−70	−78	−77	+FF	−75	−74	+FD	+F2	+F1	−7E	+F9	−7C	+F6
e_{44}	−64	+EF	−69	−68	−60	+EC	+EB	+EE	−63	−62	−6D	+E6	+E5	−6A	+E7	+E1	−74	+FF	−79	−78	−70	+FC	+FB	+FE	−73	−72	−7D	+F6	+F5	−7A	+F7	+F1
e_{45}	−65	+69	+EF	−67	−EC	−60	+EA	−63	−EE	+61	+E6	+6D	−E4	+6B	−E8	+E2	−75	+79	+FF	−77	−FC	−70	+FA	−73	−FE	+71	+F6	+7D	−F4	+7B	−F8	+F2
e_{46}	−66	−68	−67	−EF	−EB	−EA	−60	−62	−61	−EE	−E5	−E4	−6D	−6C	−E9	−E3	−76	−78	−77	−FF	−FB	−FA	−70	−72	−71	−FE	−F5	−F4	−7D	−7C	−F9	−F3
e_{47}	−67	−ED	−66	−65	−EE	−63	−62	−60	−EC	−EB	−6F	−E9	−E8	−E1	−E4	−6A	−77	−FD	−76	−75	−FE	−73	−72	−70	−FC	−FB	−7F	−F9	−F8	−F1	−F4	−7A
e_{48}	−68	−66	+ED	−64	−63	+EE	−61	+EC	−60	+EA	+E9	−6F	+E7	+E2	+E5	−6B	−78	−76	+FD	−74	−73	+FE	−71	+FC	−70	+FA	+F9	−7F	+F7	+F2	+F5	−7B
e_{49}	−69	+65	−64	−ED	−62	+61	+EE	+EB	−EA	−60	−E8	+E7	+6F	−E3	+E6	+6C	−79	+75	−74	−FD	−72	+71	+FE	+FB	−FA	−70	−F8	+F7	+7F	−F3	+F6	+7C
e_{4A}	−6A	+6E	+E3	−E2	−6D	−E6	+E5	−6F	−E9	+E8	−60	−EC	+EB	−64	+61	−67	−7A	+7E	+F3	−F2	−7D	−F6	+F5	−7F	−F9	+F8	−70	−FC	+FB	−74	+71	−77
e_{4B}	−6B	+E3	−6E	−E1	−E6	+6D	+E4	+E9	−6F	−E7	+EC	−60	−EA	+65	−62	−68	−7B	+F3	−7E	−F1	−F6	+7D	+F4	+F9	−7F	−F7	+FC	−70	−FA	+75	−72	−78
e_{4C}	−6C	−E2	+E1	−6E	−E5	+E4	−6D	+E8	−E7	+6F	−EB	+EA	−60	−66	−63	+69	−7C	−F2	+F1	−7E	−F5	+F4	−7D	+F8	−F7	+7F	−FB	+FA	−70	−76	−73	+79
e_{4D}	−6D	−E7	+E8	−E9	−6A	+6B	−6C	+E1	−E2	+E3	−64	+65	−66	−60	−EF	+EE	−7D	−F7	+F8	−F9	−7A	+7B	−7C	+F1	−F2	+F3	−74	+75	−76	−70	−FF	+FE
e_{4E}	−6E	+6A	−6B	−6C	−E7	+E8	+E9	+E4	−E5	−E6	+61	−62	−63	+EF	−60	−ED	−7E	+7A	−7B	−7C	−F7	+F8	+F9	+F4	−F5	−F6	+71	−72	−73	+FF	−70	−FD
e_{4F}	−6F	+E4	+E5	−E6	−E1	−E2	+E3	−6A	−6B	+6C	−67	−68	+69	−EE	+ED	−60	−7F	+F4	+F5	−F6	−F1	−F2	+F3	−7A	−7B	+7C	−77	−78	+79	−FE	+FD	−70
e_{50}	−70	−71	−72	−73	−74	−75	−76	−77	−78	−79	−7A	−7B	−7C	−7D	−7E	−7F	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+6A	+6B	+6C	+6D	+6E	+6F
e_{51}	−71	−70	−FC	+FB	+FF	+79	−78	−FD	−76	+75	+7E	+F3	−F2	−F7	+7A	+F4	+61	+60	+EC	−EB	−EF	−69	+68	+ED	+66	−65	−6E	−E3	+E2	+E7	−6A	−E4
e_{52}	−72	+FC	−70	+FA	−79	+FF	−77	−76	+FD	−74	+F3	−7E	+F1	+F8	−7B	+F5	+62	−EC	+60	−EA	+69	−EF	+67	+66	−ED	+64	−E3	+6E	−E1	−E8	+6B	−E5
e_{53}	−73	−FB	−FA	−70	−78	−77	−FF	−75	−74	−FD	−F2	−F1	−7E	−F9	−7C	−F6	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	+E2	+E1	+6E	+E9	+6C	+E6
e_{54}	−74	−FF	−79	−78	−70	−FC	−FB	−FE	−73	−72	−7D	−F6	−F5	−7A	−F7	−F1	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	+6D	+E6	+E5	+6A	+E7	+E1
e_{55}	−75	+79	−FF	−77	+FC	−70	−FA	−73	+FE	+71	−F6	+7D	+F4	+7B	+F8	−F2	+65	−69	+EF	+67	−EC	+60	+EA	+63	−EE	−61	+E6	−6D	−E4	−6B	−E8	+E2
e_{56}	−76	−78	−77	+FF	+FB	+FA	−70	−72	−71	+FE	+F5	+F4	+7D	+7C	+F9	+F3	+66	+68	+67	−EF	−EB	−EA	+60	+62	+61	−EE	−E5	−E4	+6D	+6C	−E9	−E3
e_{57}	−77	+FD	−76	−75	+FE	−73	−72	−70	+FC	+FB	+7F	+F9	+F8	+F1	+F4	−7A	+67	−ED	+66	+65	−EE	+63	+62	+60	−EC	−EB	+6F	−E9	−E8	−E1	−E4	+6A
e_{58}	−78	−76	−FD	−74	−73	−FE	−71	−FC	−70	−FA	−F9	−7F	−F7	−F2	−F5	−7B	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	+E9	+6F	+E7	+E2	+E5	+6B
e_{59}	−79	+75	−74	+FD	−72	+71	−FE	−FB	+FA	−70	+F8	−F7	+7F	+F3	−F6	+7C	+69	−65	+64	−ED	+62	−61	+EE	+EB	−EA	+60	−E8	+E7	−6F	−E3	+E6	−6C
e_{5A}	−7A	+7E	−F3	+F2	−7D	+F6	−F5	−7F	+F9	−F8	−70	+FC	−FB	−74	+71	−77	+6A	−6E	+E3	−E2	+6D	−E6	+E5	+6F	−E9	+E8	+60	−EC	+EB	+64	−61	+67
e_{5B}	−7B	−F3	−7E	+F1	+F6	+7D	−F4	−F9	−7F	+F7	−FC	−70	+FA	+75	−72	−78	+6B	+E3	+6E	−E1	−E6	−6D	+E4	+E9	+6F	−E7	+EC	+60	−EA	−65	+62	+68
e_{5C}	−7C	+F2	−F1	−7E	+F5	−F4	−7D	−F8	+F7	+7F	+FB	−FA	−70	−76	−73	+79	+6C	−E2	+E1	+6E	−E5	+E4	+6D	+E8	−E7	−6F	−EB	+EA	+60	+66	+63	−69
e_{5D}	−7D	+F7	−F8	+F9	−7A	+7B	−7C	−F1	+F2	−F3	−74	+75	−76	−70	+FF	−FE	+6D	−E7	+E8	−E9	+6A	−6B	+6C	+E1	−E2	+E3	+64	−65	+66	+60	−EF	+EE
e_{5E}	−7E	+7A	−7B	−7C	+F7	−F8	−F9	−F4	+F5	+F6	+71	−72	−73	−FF	−70	+FD	+6E	−6A	+6B	+6C	−E7	+E8	+E9	+E4	−E5	−E6	−61	+62	+63	+EF	+60	−ED
e_{5F}	−7F	−F4	−F5	+F6	+F1	+F2	−F3	−7A	−7B	+7C	−77	−78	+79	+FE	−FD	−70	+6F	+E4	+E5	−E6	−E1	−E2	+E3	+6A	+6B	−6C	+67	+68	−69	−EE	+ED	+60
e_{60}	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+4A	+4B	+4C	+4D	+4E	+4F	−50	−51	−52	−53	−54	−55	−56	−57	−58	−59	−5A	−5B	−5C	−5D	−5E	−5F
e_{61}	+41	+40	−CC	+CB	+CF	−49	+48	−CD	+46	−45	−4E	+C3	−C2	−C7	−4A	+C4	−51	−50	+DC	−DB	−DF	+59	−58	+DD	−56	+55	+5E	−D3	+D2	+D7	+5A	−D4
e_{62}	+42	+CC	+40	+CA	+49	+CF	+47	+46	+CD	+44	+C3	+4E	+C1	+C8	+4B	+C5	−52	−DC	−50	−DA	−59	−DF	−57	−56	−DD	−54	−D3	−5E	−D1	−D8	−5B	−D5
e_{63}	+43	−CB	−CA	+40	+48	+47	−CF	+45	+44	−CD	−C2	−C1	+4E	−C9	+4C	−C6	−53	+DB	+DA	−50	−58	−57	+DF	−55	−54	+DD	+D2	+D1	−5E	+D9	−5C	+D6
e_{64}	+44	−CF	+49	+48	+40	−CC	−CB	−CE	+43	+42	+4D	−C6	−C5	+4A	−C7	−C1	−54	+DF	−59	−58	−50	+DC	+DB	+DE	−53	−52	−5D	+D6	+D5	−5A	+D7	+D1
e_{65}	+45	−49	−CF	+47	+CC	+40	−CA	+43	+CE	−41	−C6	−4D	+C4	−4B	+C8	−C2	−55	+59	+DF	−57	−DC	−50	+DA	−53	−DE	+51	+D6	+5D	−D4	+5B	−D8	+D2
e_{66}	+46	+48	+47	+CF	+CB	+CA	+40	+42	+41	+CE	+C5	+C4	+4D	+4C	+C9	+C3	−56	−58	−57	−DF	−DB	−DA	−50	−52	−51	−DE	−D5	−D4	−5D	−5C	−D9	−D3
e_{67}	+47	+CD	+46	+45	+CE	+43	+42	+40	+CC	+CB	+4F	+C9	+C8	+C1	+C4	+4A	−57	−DD	−56	−55	−DE	−53	−52	−50	−DC	−DB	−5F	−D9	−D8	−D1	−D4	−5A
e_{68}	+48	+46	−CD	+44	+43	−CE	+41	−CC	+40	−CA	−C9	+4F	−C7	−C2	−C5	+4B	−58	−56	+DD	−54	−53	+DE	−51	+DC	−50	+DA	+D9	−5F	+D7	+D2	+D5	−5B
e_{69}	+49	−45	+44	+CD	+42	−41	−CE	−CB	+CA	+40	+C8	−C7	−4F	+C3	−C6	−4C	−59	+55	−54	−DD	−52	+51	+DE	+DB	−DA	−50	−D8	+D7	+5F	−D3	+D6	+5C
e_{6A}	+4A	−4E	−C3	+C2	+4D	+C6	−C5	+4F	+C9	−C8	+40	+CC	−CB	+44	−41	+47	−5A	+5E	+D3	−D2	−5D	−D6	+D5	−5F	−D9	+D8	−50	−DC	+DB	−54	+51	−57
e_{6B}	+4B	−C3	+4E	+C1	+C6	−4D	−C4	−C9	+4F	+C7	−CC	+40	+CA	−45	+42	+48	−5B	+D3	−5E	−D1	−D6	+5D	+D4	+D9	−5F	−D7	+DC	−50	−DA	+55	−52	−58
e_{6C}	+4C	+C2	−C1	+4E	+C5	−C4	+4D	−C8	+C7	−4F	+CB	−CA	+40	+46	+43	−49	−5C	−D2	+D1	−5E	−D5	+D4	−5D	+D8	−D7	+5F	−DB	+DA	−50	−56	−53	+59
e_{6D}	+4D	+C7	−C8	+C9	+4A	−4B	+4C	−C1	+C2	−C3	+44	−45	+46	+40	+CF	−CE	−5D	−D7	+D8	−D9	−5A	+5B	−5C	+D1	−D2	+D3	−54	+55	−56	−50	−DF	+DE
e_{6E}	+4E	−4A	+4B	+4C	+C7	−C8	−C9	−C4	+C5	+C6	−41	+42	+43	−CF	+40	+CD	−5E	+5A	−5B	−5C	−D7	+D8	+D9	+D4	−D5	−D6	+51	−52	−53	+DF	−50	−DD
e_{6F}	+4F	−C4	−C5	+C6	+C1	+C2	−C3	+4A	+4B	−4C	+47	+48	−49	+CE	−CD	+40	−5F	+D4	+D5	−D6	−D1	−D2	+D3	−5A	−5B	+5C	−57	−58	+59	−DE	+DD	−50
e_{70}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+5A	+5B	+5C	+5D	+5E	+5F	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+4A	+4B	+4C	+4D	+4E	+4F
e_{71}	+51	+50	+DC	−DB	−DF	−59	+58	+DD	+56	−55	−5E	−D3	+D2	+D7	−5A	−D4	+41	+40	+CC	−CB	−CF	−49	+48	+CD	+46	−45	−4E	−C3	+C2	+C7	−4A	−C4
e_{72}	+52	−DC	+50	−DA	+59	−DF	+57	+56	−DD	+54	−D3	+5E	−D1	−D8	+5B	−D5	+42	−CC	+40	−CA	+49	−CF	+47	+46	−CD	+44	−C3	+4E	−C1	−C8	+4B	−C5
e_{73}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	+D2	+D1	+5E	+D9	+5C	+D6	+43	+CB	+CA	+40	+48	+47	+CF	+45	+44	+CD	+C2	+C1	+4E	+C9	+4C	+C6
e_{74}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	+5D	+D6	+D5	+5A	+D7	+D1	+44	+CF	+49	+48	+40	+CC	+CB	+CE	+43	+42	+4D	+C6	+C5	+4A	+C7	+C1
e_{75}	+55	−59	+DF	+57	−DC	+50	+DA	+53	−DE	−51	+D6	−5D	−D4	−5B	−D8	+D2	+45	−49	+CF	+47	−CC	+40	+CA	+43	−CE	−41	+C6	−4D	−C4	−4B	−C8	+C2
e_{76}	+56	+58	+57	−DF	−DB	−DA	+50	+52	+51	−DE	−D5	−D4	+5D	+5C	−D9	−D3	+46	+48	+47	−CF	−CB	−CA	+40	+42	+41	−CE	−C5	−C4	+4D	+4C	−C9	−C3
e_{77}	+57	−DD	+56	+55	−DE	+53	+52	+50	−DC	−DB	+5F	−D9	−D8	−D1	−D4	+5A	+47	−CD	+46	+45	−CE	+43	+42	+40	−CC	−CB	+4F	−C9	−C8	−C1	−C4	+4A
e_{78}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	+D9	+5F	+D7	+D2	+D5	+5B	+48	+46	+CD	+44	+43	+CE	+41	+CC	+40	+CA	+C9	+4F	+C7	+C2	+C5	+4B
e_{79}	+59	−55	+54	−DD	+52	−51	+DE	+DB	−DA	+50	−D8	+D7	−5F	−D3	+D6	−5C	+49	−45	+44	−CD	+42	−41	+CE	+CB	−CA	+40	−C8	+C7	−4F	−C3	+C6	−4C
e_{7A}	+5A	−5E	+D3	−D2	+5D	−D6	+D5	+5F	−D9	+D8	+50	−DC	+DB	+54	−51	+57	+4A	−4E	+C3	−C2	+4D	−C6	+C5	+4F	−C9	+C8	+40	−CC	+CB	+44	−41	+47
e_{7B}	+5B	+D3	+5E	−D1	−D6	−5D	+D4	+D9	+5F	−D7	+DC	+50	−DA	−55	+52	+58	+4B	+C3	+4E	−C1	−C6	−4D	+C4	+C9	+4F	−C7	+CC	+40	−CA	−45	+42	+48
e_{7C}	+5C	−D2	+D1	+5E	−D5	+D4	+5D	+D8	−D7	−5F	−DB	+DA	+50	+56	+53	−59	+4C	−C2	+C1	+4E	−C5	+C4	+4D	+C8	−C7	−4F	−CB	+CA	+40	+46	+43	−49
e_{7D}	+5D	−D7	+D8	−D9	+5A	−5B	+5C	+D1	−D2	+D3	+54	−55	+56	+50	−DF	+DE	+4D	−C7	+C8	−C9	+4A	−4B	+4C	+C1	−C2	+C3	+44	−45	+46	+40	−CF	+CE
e_{7E}	+5E	−5A	+5B	+5C	−D7	+D8	+D9	+D4	−D5	−D6	−51	+52	+53	+DF	+50	−DD	+4E	−4A	+4B	+4C	−C7	+C8	+C9	+C4	−C5	−C6	−41	+42	+43	+CF	+40	−CD
e_{7F}	+5F	+D4	+D5	−D6	−D1	−D2	+D3	+5A	+5B	−5C	+57	+58	−59	−DE	+DD	+50	+4F	+C4	+C5	−C6	−C1	−C2	+C3	+4A	+4B	−4C	+47	+48	−49	−CE	+CD	+40

TABLE 7. $Ka^3(1,4)$ multiplication table, part B3

	e_{A0}	e_{21}	e_{22}	e_{23}	e_{24}	e_{25}	e_{26}	e_{27}	e_{28}	e_{29}	e_{2A}	e_{2B}	e_{2C}	e_{2D}	e_{2E}	e_{2F}	e_{30}	e_{31}	e_{32}	e_{33}	e_{34}	e_{35}	e_{36}	e_{37}	e_{38}	e_{39}	e_{3A}	e_{3B}	e_{3C}	e_{3D}	e_{3E}	e_{3F}
e_{80}	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	−AA	−AB	−AC	−AD	−AE	−AF	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	+BA	+BB	+BC	+BD	+BE	+BF
e_{81}	+A1	+A0	−2C	+2B	+2F	−A9	+A8	−2D	+A6	−A5	+AE	−23	+22	+27	+AA	−24	−B1	−B0	+3C	−3B	−3F	+B9	−B8	+3D	−B6	+B5	−BE	+33	−32	−37	−BA	+34
e_{82}	+A2	+2C	+A0	+2A	+A9	+2F	+A7	+A6	+2D	+A4	−23	−AE	−21	−28	−AB	−25	−B2	−3C	−B0	−3A	−B9	−3F	−B7	−B6	−3D	−B4	+33	+BE	+31	+38	+BB	+35
e_{83}	+A3	−2B	−2A	+A0	+A8	+A7	−2F	+A5	+A4	−2D	+22	+21	−AE	+29	−AC	+26	−B3	+3B	+3A	−B0	−B8	−B7	+3F	−B5	−B4	+3D	−32	−31	+BE	−39	+BC	−36
e_{84}	+A4	−2F	+A9	+A8	+A0	−2C	−2B	−2E	+A3	+A2	−AD	+26	+25	−AA	+27	+21	−B4	+3F	−B9	−B8	−B0	+3C	+3B	+3E	−B3	−B2	+BD	−36	−35	+BA	−37	−31
e_{85}	+A5	−A9	−2F	+A7	+2C	+A0	−2A	+A3	+2E	−A1	+26	+AD	−24	+AB	−28	+22	−B5	+B9	+3F	−B7	−3C	−B0	+3A	−B3	−3E	+B1	−36	−BD	+34	−BB	+38	−32
e_{86}	+A6	+A8	+A7	+2F	+2B	+2A	+A0	+A2	+A1	+2E	−25	−24	−AD	−AC	−29	−23	−B6	−B8	−B7	−3F	−3B	−3A	−B0	−B2	−B1	−3E	+35	+34	+BD	+BC	+39	+33
e_{87}	+A7	+2D	+A6	+A5	+2E	+A3	+A2	+A0	+2C	+2B	−AF	−29	−28	−21	−24	−AA	−B7	−3D	−B6	−B5	−3E	−B3	−B2	−B0	−3C	−3B	+BF	+39	+38	+31	+34	+BA
e_{88}	+A8	+A6	−2D	+A4	+A3	−2E	+A1	−2C	+A0	−2A	+29	−AF	+27	+22	+25	−AB	−B8	−B6	+3D	−B4	−B3	+3E	−B1	+3C	−B0	+3A	−39	+BF	−37	−32	−35	+BB
e_{89}	+A9	−A5	+A4	+2D	+A2	−A1	−2E	−2B	+2A	+A0	−28	+27	+AF	−23	+26	+AC	−B9	+B5	−B4	−3D	−B2	+B1	+3E	+3B	−3A	−B0	+38	−37	−BF	+33	−36	−BC
e_{8A}	+AA	−AE	−23	+22	+AD	+26	−25	+AF	+29	−28	−A0	−2C	+2B	−A4	+A1	−A7	−BA	+BE	+33	−32	−BD	−36	+35	−BF	−39	+38	+B0	+3C	−3B	+B4	−B1	+B7
e_{8B}	+AB	−23	+AE	+21	+26	−AD	−24	−29	+AF	+27	+2C	−A0	−2A	+A5	−A2	−A8	−BB	+33	−BE	−31	−36	+BD	+34	+39	−BF	−37	−3C	+B0	+3A	−B5	+B2	+B8
e_{8C}	+AC	+22	−21	+AE	+25	−24	+AD	−28	+27	−AF	−2B	+2A	−A0	−A6	−A3	+A9	−BC	−32	+31	−BE	−35	+34	−BD	+38	−37	+BF	+3B	−3A	+B0	+B6	+B3	−B9
e_{8D}	+AD	+27	−28	+29	+AA	−AB	+AC	−21	+22	−23	−A4	+A5	−A6	−A0	−2F	+2E	−BD	−37	+38	−39	−BA	+BB	−BC	+31	−32	+33	+B4	−B5	+B6	+B0	+3F	−3E
e_{8E}	+AE	−AA	+AB	+AC	+27	−28	−29	−24	+25	+26	+A1	−A2	−A3	+2F	−A0	−2D	−BE	+BA	−BB	−BC	−37	+38	+39	+34	−35	−36	−B1	+B2	+B3	−3F	+B0	+3D
e_{8F}	+AF	−24	−25	+26	+21	+22	−23	+AA	+AB	−AC	−A7	−A8	+A9	−2E	+2D	−A0	−BF	+34	+35	−36	−31	−32	+33	−BA	−BB	+BC	+B7	+B8	−B9	+3E	−3D	+B0
e_{90}	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	−BA	−BB	−BC	−BD	−BE	−BF	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	−AA	−AB	−AC	−AD	−AE	−AF
e_{91}	+B1	+B0	+3C	−3B	−3F	−B9	+B8	+3D	+B6	−B5	+BE	+33	−32	−37	+BA	+34	+A1	+A0	+2C	−2B	−2F	−A9	+A8	+2D	+A6	−A5	+AE	+23	−22	−27	+AA	+24
e_{92}	+B2	−3C	+B0	−3A	+B9	−3F	+B7	+B6	−3D	+B4	+33	−BE	+31	+38	−BB	+35	+A2	−2C	+A0	−2A	+A9	−2F	+A7	+A6	−2D	+A4	+23	−AE	+21	+28	−AB	+25
e_{93}	+B3	+3B	+3A	+B0	+B8	+B7	+3F	+B5	+B4	+3D	−32	−31	−BE	−39	−BC	−36	+A3	+2B	+2A	+A0	+A8	+A7	+2F	+A5	+A4	+2D	−22	−21	−AE	−29	−AC	−26
e_{94}	+B4	+3F	+B9	+B8	+B0	+3C	+3B	+3E	+B3	+B2	−BD	−36	−35	−BA	−37	−31	+A4	+2F	+A9	+A8	+A0	+2C	+2B	+2E	+A3	+A2	−AD	−26	−25	−AA	−27	−21
e_{95}	+B5	−B9	+3F	+B7	−3C	+B0	+3A	+B3	−3E	−B1	−36	+BD	+34	+BB	+38	−32	+A5	−A9	+2F	+A7	−2C	+A0	+2A	+A3	−2E	−A1	−26	+AD	+24	+AB	+28	−22
e_{96}	+B6	+B8	+B7	−3F	−3B	−3A	+B0	+B2	+B1	−3E	+35	+34	−BD	−BC	+39	+33	+A6	+A8	+A7	−2F	−2B	−2A	+A0	+A2	+A1	−2E	+25	+24	−AD	−AC	+29	+23
e_{97}	+B7	−3D	+B6	+B5	−3E	+B3	+B2	+B0	−3C	−3B	−BF	+39	+38	+31	+34	−BA	+A7	−2D	+A6	+A5	−2E	+A3	+A2	+A0	−2C	−2B	−AF	+29	+28	+21	+24	−AA
e_{98}	+B8	+B6	+3D	+B4	+B3	+3E	+B1	+3C	+B0	+3A	−39	−BF	−37	−32	−35	−BB	+A8	+A6	+2D	+A4	+A3	+2E	+A1	+2C	+A0	+2A	−29	−AF	−27	−22	−25	−AB
e_{99}	+B9	−B5	+B4	−3D	+B2	−B1	+3E	+3B	−3A	+B0	+38	−37	+BF	+33	−36	+BC	+A9	−A5	+A4	−2D	+A2	−A1	+2E	+2B	−2A	+A0	+28	−27	+AF	+23	−26	+AC
e_{9A}	+BA	−BE	+33	−32	+BD	−36	+35	+BF	−39	+38	−B0	+3C	−3B	−B4	+B1	−B7	+AA	−AE	+23	−22	+AD	−26	+25	+AF	−29	+28	−A0	+2C	−2B	−A4	+A1	−A7
e_{9B}	+BB	+33	+BE	−31	−36	−BD	+34	+39	+BF	−37	−3C	−B0	+3A	+B5	−B2	−B8	+AB	+23	+AE	−21	−26	−AD	+24	+29	+AF	−27	−2C	−A0	+2A	+A5	−A2	−A8
e_{9C}	+BC	−32	+31	+BE	−35	+34	+BD	+38	−37	−BF	+3B	−3A	−B0	−B6	−B3	+B9	+AC	−22	+21	+AE	−25	+24	+AD	+28	−27	−AF	+2B	−2A	−A0	−A6	−A3	+A9
e_{9D}	+BD	−37	+38	−39	+BA	−BB	+BC	+31	−32	+33	−B4	+B5	−B6	−B0	+3F	−3E	+AD	−27	+28	−29	+AA	−AB	+AC	+21	−22	+23	−A4	+A5	−A6	−A0	+2F	−2E
e_{9E}	+BE	−BA	+BB	+BC	−37	+38	+39	+34	−35	−36	+B1	−B2	−B3	−3F	−B0	+3D	+AE	−AA	+AB	+AC	−27	+28	+29	+24	−25	−26	+A1	−A2	−A3	−2F	−A0	+2D
e_{9F}	+BF	+34	+35	−36	−31	−32	+33	+BA	+BB	−BC	−B7	−B8	+B9	+3E	−3D	−B0	+AF	+24	+25	−26	−21	−22	+23	+AA	+AB	−AC	−A7	−A8	+A9	+2E	−2D	−A0
e_{A0}	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	+8A	+8B	+8C	+8D	+8E	+8F	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	+9A	+9B	+9C	+9D	+9E	+9F
e_{A1}	−81	−80	+C	−B	−F	+89	−88	+D	−86	+85	−8E	+3	−2	−7	−8A	+4	−91	−90	+1C	−1B	−1F	+99	−98	+1D	−96	+95	−9E	+13	−12	−17	−9A	+14
e_{A2}	−82	−C	−80	−A	−89	−F	−87	−86	−D	−84	+3	+8E	+1	+8	+8B	+5	−92	−1C	−90	−1A	−99	−1F	−97	−96	−1D	−94	+13	+9E	+11	+18	+9B	+15
e_{A3}	−83	+B	+A	−80	−88	−87	+F	−85	−84	+D	−2	−1	+8E	−9	+8C	−6	−93	+1B	+1A	−90	−98	−97	+1F	−95	−94	+1D	−12	−11	+9E	−19	+9C	−16
e_{A4}	−84	+F	−89	−88	−80	+C	+B	+E	−83	−82	+8D	−6	−5	+8A	−7	−1	−94	+1F	−99	−98	−90	+1C	+1B	+1E	−93	−92	+9D	−16	−15	+9A	−17	−11
e_{A5}	−85	+89	+F	−87	−C	−80	+A	−83	−E	+81	−6	−8D	+4	−8B	+8	−2	−95	+99	+1F	−97	−1C	−90	+1A	−93	−1E	+91	−16	−9D	+14	−9B	+18	−12
e_{A6}	−86	−88	−87	−F	−B	−A	−80	−82	−81	−E	+5	+4	+8D	+8C	+9	+3	−96	−98	−97	−1F	−1B	−1A	−90	−92	−91	−1E	+15	+14	+9D	+9C	+19	+13
e_{A7}	−87	−D	−86	−85	−E	−83	−82	−80	−C	−B	+8F	+9	+8	+1	+4	+8A	−97	−1D	−96	−95	−1E	−93	−92	−90	−1C	−1B	+9F	+19	+18	+11	+14	+9A
e_{A8}	−88	−86	+D	−84	−83	+E	−81	+C	−80	+A	−9	+8F	−7	−2	−5	+8B	−98	−96	+1D	−94	−93	+1E	−91	+1C	−90	+1A	−19	+9F	−17	−12	−15	+9B
e_{A9}	−89	+85	−84	−D	−82	+81	+E	+B	−A	−80	+8	−7	−8F	+3	−6	−8C	−99	+95	−94	−1D	−92	+91	+1E	+1B	−1A	−90	+18	−17	−9F	+13	−16	−9C
e_{AA}	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	+80	+C	−B	+84	−81	+87	−9A	+9E	+13	−12	−9D	−16	+15	−9F	−19	+18	+90	+1C	−1B	+94	−91	+97
e_{AB}	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	−C	+80	+A	−85	+82	+88	−9B	+13	−9E	−11	−16	+9D	+14	+19	−9F	−17	−1C	+90	+1A	−95	+92	+98
e_{AC}	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	+B	−A	+80	+86	+83	−89	−9C	−12	+11	−9E	−15	+14	−9D	+18	−17	+9F	+1B	−1A	+90	+96	+93	−99
e_{AD}	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	+84	−85	+86	+80	+F	−E	−9D	−17	+18	−19	−9A	+9B	−9C	+11	−12	+13	+94	−95	+96	+90	+1F	−1E
e_{AE}	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	−F	+80	+D	−9E	+9A	−9B	−9C	−17	+18	+19	+14	−15	−16	−91	+92	+93	−1F	+90	+1D
e_{AF}	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	+87	+88	−89	+E	−D	+80	−9F	+14	+15	−16	−11	−12	+13	−9A	−9B	+9C	+97	+98	−99	+1E	−1D	+90
e_{B0}	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	+9A	+9B	+9C	+9D	+9E	+9F	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	−8A	−8B	−8C	−8D	−8E	−8F
e_{B1}	−91	−90	−1C	+1B	+1F	+99	−98	−1D	−96	+95	−9E	−13	+12	+17	−9A	−14	+81	+80	+C	−B	−F	−89	+88	+D	+86	−85	+8E	+3	−2	−7	+8A	+4
e_{B2}	−92	+1C	−90	+1A	−99	+1F	−97	−96	+1D	−94	−13	+9E	−11	−18	+9B	−15	+82	−C	+80	−A	+89	−F	+87	+86	−D	+84	+3	−8E	+1	+8	−8B	+5
e_{B3}	−93	−1B	−1A	−90	−98	−97	−1F	−95	−94	−1D	+12	+11	+9E	+19	+9C	+16	+83	+B	+A	+80	+88	+87	+F	+85	+84	+D	−2	−1	−8E	−9	−8C	−6
e_{B4}	−94	−1F	−99	−98	−90	−1C	−1B	−1E	−93	−92	+9D	+16	+15	+9A	+17	+11	+84	+F	+89	+88	+80	+C	+B	+E	+83	+82	−8D	−6	−5	−8A	−7	−1
e_{B5}	−95	+99	−1F	−97	+1C	−90	−1A	−93	+1E	+91	+16	−9D	−14	−9B	−18	+12	+85	−89	+F	+87	−C	+80	+A	+83	−E	−81	−6	+8D	+4	+8B	+8	−2
e_{B6}	−96	−98	−97	+1F	+1B	+1A	−90	−92	−91	+1E	−15	−14	+9D	+9C	−19	−13	+86	+88	+87	−F	−B	−A	+80	+82	+81	−E	+5	+4	−8D	−8C	+9	+3
e_{B7}	−97	+1D	−96	−95	+1E	−93	−92	−90	+1C	+1B	+9F	−19	−18	−11	−14	+9A	+87	−D	+86	+85	−E	+83	+82	+80	−C	−B	−8F	+9	+8	+1	+4	−8A
e_{B8}	−98	−96	−1D	−94	−93	−1E	−91	−1C	−90	−1A	+19	+9F	+17	+12	+15	+9B	+88	+86	+D	+84	+83	+E	+81	+C	+80	+A	−9	−8F	−7	−2	−5	−8B
e_{B9}	−99	+95	−94	+1D	−92	+91	−1E	−1B	+1A	−90	−18	+17	−9F	−13	+16	−9C	+89	−85	+84	−D	+82	−81	+E	+B	−A	+80	+8	−7	+8F	+3	−6	+8C
e_{BA}	−9A	+9E	−13	+12	−9D	+16	−15	−9F	+19	−18	+90	−1C	+1B	+94	−91	+97	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	−80	+C	−B	−84	+81	−87
e_{BB}	−9B	−13	−9E	+11	+16	+9D	−14	−19	−9F	+17	+1C	+90	−1A	−95	+92	+98	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	−C	−80	+A	+85	−82	−88
e_{BC}	−9C	+12	−11	−9E	+15	−14	−9D	−18	+17	+9F	−1B	+1A	+90	+96	+93	−99	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	+B	−A	−80	−86	−83	+89
e_{BD}	−9D	+17	−18	+19	−9A	+9B	−9C	−11	+12	−13	+94	−95	+96	+90	−1F	+1E	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	−84	+85	−86	−80	+F	−E
e_{BE}	−9E	+9A	−9B	−9C	+17	−18	−19	−14	+15	+16	−91	+92	+93	+1F	+90	−1D	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	−F	−80	+D
e_{BF}	−9F	−14	−15	+16	+11	+12	−13	−9A	−9B	+9C	+97	+98	−99	−1E	+1D	+90	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	−87	−88	+89	+E	−D	−80

TABLE 8. $Ka^3(1,4)$ multiplication table, part B4

	e_{A0}	e_{21}	e_{22}	e_{23}	e_{24}	e_{25}	e_{26}	e_{27}	e_{28}	e_{29}	e_{2A}	e_{2B}	e_{2C}	e_{2D}	e_{2E}	e_{2F}	e_{30}	e_{31}	e_{32}	e_{33}	e_{34}	e_{35}	e_{36}	e_{37}	e_{38}	e_{39}	e_{3A}	e_{3B}	e_{3C}	e_{3D}	e_{3E}	e_{3F}
e_{C0}	-E0	-E1	-E2	-E3	-E4	-E5	-E6	-E7	-E8	-E9	+EA	+EB	+EC	+ED	+EE	+EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	-FA	-FB	-FC	-FD	-FE	-FF
e_{C1}	-E1	-E0	+6C	-6B	-6F	+E9	-E8	+6D	-E6	+E5	-EE	+63	-62	-67	-EA	+64	+F1	+F0	-7C	+7B	+7F	-F9	+F8	-7D	+F6	-F5	+FE	-73	+72	+77	+FA	-74
e_{C2}	-E2	-6C	-E0	-6A	-E9	-6F	-E7	-E6	-6D	-E4	+63	+EE	+61	+68	+EB	+65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	-73	-FE	-71	-78	-FB	-75
e_{C3}	-E3	+6B	+6A	-E0	-E8	-E7	+6F	-E5	-E4	+6D	-62	-61	+EE	-69	+EC	-66	+F3	-7B	-7A	+F0	+F8	+F7	-7F	+F5	+F4	-7D	+72	+71	-FE	+79	-FC	+76
e_{C4}	-E4	+6F	-E9	-E8	-E0	+6C	+6B	+6E	-E3	-E2	+ED	-66	-65	+EA	-67	-61	+F4	-7F	+F9	+F8	+F0	-7C	-7B	-7E	+F3	+F2	-FD	+76	+75	-FA	+77	+71
e_{C5}	-E5	+E9	+6F	-E7	-6C	-E0	+6A	-E3	-6E	+E1	-66	-ED	+64	-EB	+68	-62	+F5	-F9	-7F	+F7	+7C	+F0	-7A	+F3	+7E	-F1	+76	+FD	-74	+FB	-78	+72
e_{C6}	-E6	-E8	-E7	-6F	-6B	-6A	-E0	-E2	-E1	-6E	+65	+64	+ED	+EC	+69	+63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	-75	-74	-FD	-FC	-79	-73
e_{C7}	-E7	-6D	-E6	-E5	-6E	-E3	-E2	-E0	-6C	-6B	+EF	+69	+68	+61	+64	+EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	-FF	-79	-78	-71	-74	-FA
e_{C8}	-E8	-E6	+6D	-E4	-E3	+6E	-E1	+6C	-E0	+6A	-69	+EF	-67	-62	-65	+EB	+F8	+F6	-7D	+F4	+F3	-7E	+F1	-7C	+F0	-7A	+79	-FF	+77	+72	+75	-FB
e_{C9}	-E9	+E5	-E4	-6D	-E2	+E1	+6E	+6B	-6A	-E0	+68	-67	-EF	+63	-66	-EC	+F9	-F5	+F4	+7D	+F2	-F1	-7E	-7B	+7A	+F0	-78	+77	+FF	-73	+76	+FC
e_{CA}	-EA	+EE	+63	-62	-ED	-66	+65	-EF	-69	+68	+E0	+6C	-6B	+E4	-E1	+E7	+FA	-FE	-73	+72	+FD	+76	-75	+FF	+79	-78	-F0	-7C	+7B	-F4	+F1	-F7
e_{CB}	-EB	+63	-EE	-61	-66	+ED	+64	+69	-EF	-67	-6C	+E0	+6A	-E5	+E2	+E8	+FB	-73	+FE	+71	+76	-FD	-74	-79	+FF	+77	+7C	-F0	-7A	+F5	-F2	-F8
e_{CC}	-EC	-62	+61	-EE	-65	+64	-ED	+68	-67	+EF	+6B	-6A	+E0	+E6	+E3	-E9	+FC	+72	-71	+FE	+75	-74	+FD	-78	+77	-FF	-7B	+7A	-F0	-F6	-F3	+F9
e_{CD}	-ED	-67	+68	-69	-EA	+EB	-EC	+61	-62	+63	+E4	-E5	+E6	+E0	+6F	-6E	+FD	+77	-78	+79	+FA	-FB	+FC	-71	+72	-73	-F4	+F5	-F6	-F0	-7F	+7E
e_{CE}	-EE	+EA	-EB	-EC	-67	+68	+69	+64	-65	-66	-E1	+E2	+E3	-6F	+E0	+6D	+FE	-FA	+FB	+FC	+77	-78	-79	-74	+75	+76	+F1	-F2	-F3	+7F	-F0	-7D
e_{CF}	-EF	+64	+65	-66	-61	-62	+63	-EA	-EB	+EC	+E7	+E8	-E9	+6E	-6D	+E0	+FF	-74	-75	+76	+71	+72	-73	+FA	+FB	-FC	-F7	-F8	+F9	-7E	+7D	-F0
e_{D0}	-F0	-F1	-F2	-F3	-F4	-F5	-F6	-F7	-F8	-F9	+FA	+FB	+FC	+FD	+FE	+FF	-E0	-E1	-E2	-E3	-E4	-E5	-E6	-E7	-E8	-E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{D1}	-F1	-F0	-7C	+7B	+7F	+F9	-F8	-7D	-F6	+F5	-FE	-73	+72	+77	-FA	-74	-E1	-E0	-6C	+6B	+6F	+E9	-E8	-6D	-E6	+E5	-EE	-63	+62	+67	-EA	-64
e_{D2}	-F2	+7C	-F0	+7A	-F9	+7F	-F7	-F6	+7D	-F4	-73	+FE	-71	-78	+FB	-75	-E2	+6C	-E0	+6A	-E9	+6F	-E7	-E6	+6D	-E4	-63	+EE	-61	-68	+EB	-65
e_{D3}	-F3	-7B	-7A	-F0	-F8	-F7	-7F	-F5	-F4	-7D	+72	+71	+FE	+79	+FC	+76	-E3	-6B	-6A	-E0	-E8	-E7	-6F	-E5	-E4	-6D	+62	+61	+EE	+69	+EC	+66
e_{D4}	-F4	-7F	-F9	-F8	-F0	-7C	-7B	-7E	-F3	-F2	+FD	+76	+75	+FA	+77	+71	-E4	-6F	-E9	-E8	-E0	-6C	-6B	-6E	-E3	-E2	+ED	+66	+65	+EA	+67	+61
e_{D5}	-F5	+F9	-7F	-F7	+7C	-F0	-7A	-F3	+7E	+F1	+76	-FD	-74	-FB	-78	+72	-E5	+E9	-6F	-E7	+6C	-E0	-6A	-E3	+6E	+E1	+66	-ED	-64	-EB	-68	+62
e_{D6}	-F6	-F8	-F7	+7F	+7B	+7A	-F0	-F2	-F1	+7E	-75	-74	+FD	+FC	-79	-73	-E6	-E8	-E7	+6F	+6B	+6A	-E0	-E2	-E1	+6E	-65	-64	+ED	+EC	-69	-63
e_{D7}	-F7	+7D	-F6	-F5	+7E	-F3	-F2	-F0	+7C	+7B	+FF	-79	-78	-71	-74	+FA	-E7	+6D	-E6	-E5	+6E	-E3	-E2	-E0	+6C	+6B	+EF	-69	-68	-61	-64	+EA
e_{D8}	-F8	-F6	-7D	-F4	-F3	-7E	-F1	-7C	-F0	-7A	+79	+FF	+77	+72	+75	+FB	-E8	-E6	-6D	-E4	-E3	-6E	-E1	-6C	-E0	-6A	+69	+EF	+67	+62	+65	+EB
e_{D9}	-F9	+F5	-F4	+7D	-F2	+F1	-7E	-7B	+7A	-F0	-78	+77	-FF	-73	+76	-FC	-E9	+E5	-E4	+6D	-E2	+E1	-6E	-6B	+6A	-E0	-68	+67	-EF	-63	+66	-EC
e_{DA}	-FA	+FE	-73	+72	-FD	+76	-75	-FF	+79	-78	+F0	-7C	+7B	+F4	-F1	+F7	-EA	+EE	-63	+62	-ED	+66	-65	-EF	+69	-68	+E0	-6C	+6B	+E4	-E1	+E7
e_{DB}	-FB	-73	-FE	+71	+76	+FD	-74	-79	-FF	+77	+7C	+F0	-7A	-F5	+F2	+F8	-EB	-63	-EE	+61	+66	+ED	-64	-69	-EF	+67	+6C	+E0	-6A	-E5	+E2	+E8
e_{DC}	-FC	+72	-71	-FE	+75	-74	-FD	-78	+77	+FF	-7B	+7A	+F0	+F6	+F3	-F9	-EC	+62	-61	-EE	+65	-64	-ED	-68	+67	+EF	-6B	+6A	+E0	+E6	+E3	-E9
e_{DD}	-FD	+77	-78	+79	-FA	+FB	-FC	-71	+72	-73	+F4	-F5	+F6	+F0	-7F	+7E	-ED	+67	-68	+69	-EA	+EB	-EC	-61	+62	-63	+E4	-E5	+E6	+E0	-6F	+6E
e_{DE}	-FE	+FA	-FB	-FC	+77	-78	-79	-74	+75	+76	-F1	+F2	+F3	+7F	+F0	-7D	-EE	+EA	-EB	-EC	+67	-68	-69	-64	+65	+66	-E1	+E2	+E3	+6F	+E0	-6D
e_{DF}	-FF	-74	-75	+76	+71	+72	-73	-FA	-FB	+FC	+F7	+F8	-F9	-7E	+7D	+F0	-EF	-64	-65	+66	+61	+62	-63	-EA	-EB	+EC	+E7	+E8	-E9	-6E	+6D	+E0
e_{E0}	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	-CA	-CB	-CC	-CD	-CE	-CF	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	-DA	-DB	-DC	-DD	-DE	-DF
e_{E1}	+C1	+C0	-4C	+4B	+4F	-C9	+C8	-4D	+C6	-C5	+CE	-43	+42	+47	+CA	-44	+D1	+D0	-5C	+5B	+5F	-D9	+D8	-5D	+D6	-D5	+DE	-53	+52	+57	+DA	-54
e_{E2}	+C2	+4C	+C0	+4A	+C9	+4F	+C7	+C6	+4D	+C4	-43	-CE	-41	-48	-CB	-45	+D2	+5C	+D0	+5A	+D9	+5F	+D7	+D6	+5D	+D4	-53	-DE	-51	-58	-DB	-55
e_{E3}	+C3	-4B	-4A	+C0	+C8	+C7	-4F	+C5	+C4	-4D	+42	+41	-CE	+49	-CC	+46	+D3	-5B	-5A	+D0	+D8	+D7	-5F	+D5	+D4	-5D	+52	+51	-DE	+59	-DC	+56
e_{E4}	+C4	-4F	+C9	+C8	+C0	-4C	-4B	-4E	+C3	+C2	-CD	+46	+45	-CA	+47	+41	+D4	-5F	+D9	+D8	+D0	-5C	-5B	-5E	+D3	+D2	-DD	+56	+55	-DA	+57	+51
e_{E5}	+C5	-C9	-4F	+C7	+4C	+C0	-4A	+C3	+4E	-C1	+46	+CD	-44	+CB	-48	+42	+D5	-D9	-5F	+D7	+5C	+D0	-5A	+D3	+5E	-D1	+56	+DD	-54	+DB	-58	+52
e_{E6}	+C6	+C8	+C7	+4F	+4B	+4A	+C0	+C2	+C1	+4E	-45	-44	-CD	-CC	-49	-43	+D6	+D8	+D7	+5F	+5B	+5A	+D0	+D2	+D1	+5E	-55	-54	-DD	-DC	-59	-53
e_{E7}	+C7	+4D	+C6	+C5	+4E	+C3	+C2	+C0	+4C	+4B	-CF	-49	-48	-41	-44	-CA	+D7	+5D	+D6	+D5	+5E	+D3	+D2	+D0	+5C	+5B	-DF	-59	-58	-51	-54	-DA
e_{E8}	+C8	+C6	-4D	+C4	+C3	-4E	+C1	-4C	+C0	-4A	+49	-CF	+47	+42	+45	-CB	+D8	+D6	-5D	+D4	+D3	-5E	+D1	-5C	+D0	-5A	+59	-DF	+57	+52	+55	-DB
e_{E9}	+C9	-C5	+C4	+4D	+C2	-C1	-4E	-4B	+4A	+C0	-48	+47	+CF	-43	+46	+CC	+D9	-D5	+D4	+5D	+D2	-D1	-5E	-5B	+5A	+D0	-58	+57	+DF	-53	+56	+DC
e_{EA}	+CA	-CE	-43	+42	+CD	+46	-45	+CF	+49	-48	-C0	-4C	+4B	-C4	+C1	-C7	+DA	-DE	-53	+52	+DD	+56	-55	+DF	+59	-58	-D0	-5C	+5B	-D4	+D1	-D7
e_{EB}	+CB	-43	+CE	+41	+46	-CD	-44	-49	+CF	+47	+4C	-C0	-4A	+C5	-C2	-C8	+DB	-53	+DE	+51	+56	-DD	-54	-59	+DF	+57	+5C	-D0	-5A	+D5	-D2	-D8
e_{EC}	+CC	+42	-41	+CE	+45	-44	+CD	-48	+47	-CF	-4B	+4A	-C0	-C6	-C3	+C9	+DC	+52	-51	+DE	+55	-54	+DD	-58	+57	-DF	-5B	+5A	-D0	-D6	-D3	+D9
e_{ED}	+CD	+47	-48	+49	+CA	-CB	+CC	-41	+42	-43	-C4	+C5	-C6	-C0	-4F	+4E	+DD	+57	-58	+59	+DA	-DB	+DC	-51	+52	-53	-D4	+D5	-D6	-D0	-5F	+5E
e_{EE}	+CE	-CA	+CB	+CC	+47	-48	-49	-44	+45	+46	+C1	-C2	-C3	+4F	-C0	-4D	+DE	-DA	+DB	+DC	+57	-58	-59	-54	+55	+56	+D1	-D2	-D3	+5F	-D0	-5D
e_{EF}	+CF	-44	-45	+46	+41	+42	-43	+CA	+CB	-CC	-C7	-C8	+C9	-4E	+4D	-C0	+DF	-54	-55	+56	+51	+52	-53	+DA	+DB	-DC	-D7	-D8	+D9	-5E	+5D	-D0
e_{F0}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	-DA	-DB	-DC	-DD	-DE	-DF	-C0	-C1	-C2	-C3	-C4	-C5	-C6	-C7	-C8	-C9	+CA	+CB	+CC	+CD	+CE	+CF
e_{F1}	+D1	+D0	+5C	-5B	-5F	-D9	+D8	+5D	+D6	-D5	+DE	+53	-52	-57	+DA	+54	-C1	-C0	-4C	+4B	+4F	+C9	-C8	-4D	-C6	+C5	-CE	-43	+42	+47	-CA	-44
e_{F2}	+D2	-5C	+D0	-5A	+D9	-5F	+D7	+D6	-5D	+D4	+53	-DE	+51	+58	-DB	+55	-C2	+4C	-C0	+4A	-C9	+4F	-C7	-C6	+4D	-C4	-43	+CE	-41	-48	+CB	-45
e_{F3}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	-52	-51	-DE	-59	-DC	-56	-C3	-4B	-4A	-C0	-C8	-C7	-4F	-C5	-C4	-4D	+42	+41	+CE	+49	+CC	+46
e_{F4}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	-DD	-56	-55	-DA	-57	-51	-C4	-4F	-C9	-C8	-C0	-4C	-4B	-4E	-C3	-C2	+CD	+46	+45	+CA	+47	+41
e_{F5}	+D5	-D9	+5F	+D7	-5C	+D0	+5A	+D3	-5E	-D1	-56	+DD	+54	+DB	+58	-52	-C5	+C9	-4F	-C7	+4C	-C0	-4A	-C3	+4E	+C1	+46	-CD	-44	-CB	-48	+42
e_{F6}	+D6	+D8	+D7	-5F	-5B	-5A	+D0	+D2	+D1	-5E	+55	+54	-DD	-DC	+59	+53	-C6	-C8	-C7	+4F	+4B	+4A	-C0	-C2	-C1	+4E	-45	-44	+CD	+CC	-49	-43
e_{F7}	+D7	-5D	+D6	+D5	-5E	+D3	+D2	+D0	-5C	-5B	-DF	+59	+58	+51	+54	-DA	-C7	+4D	-C6	-C5	+4E	-C3	-C2	-C0	+4C	+4B	+CF	-49	-48	-41	-44	+CA
e_{F8}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	-59	-DF	-57	-52	-55	-DB	-C8	-C6	-4D	-C4	-C3	-4E	-C1	-4C	-C0	-4A	+49	+CF	+47	+42	+45	+CB
e_{F9}	+D9	-D5	+D4	-5D	+D2	-D1	+5E	+5B	-5A	+D0	+58	-57	+DF	+53	-56	+DC	-C9	+C5	-C4	+4D	-C2	+C1	-4E	-4B	+4A	-C0	-48	+47	-CF	-43	+46	-CC
e_{FA}	+DA	-DE	+53	-52	+DD	-56	+55	+DF	-59	+58	-D0	+5C	-5B	-D4	+D1	-D7	-CA	+CE	-43	+42	-CD	+46	-45	-CF	+49	-48	+C0	-4C	+4B	+C4	-C1	+C7
e_{FB}	+DB	+53	+DE	-51	-56	-DD	+54	+59	+DF	-57	-5C	-D0	+5A	+D5	-D2	-D8	-CB	-43	-CE	+41	+46	+CD	-44	-49	-CF	+47	+4C	+C0	-4A	-C5	+C2	+C8
e_{FC}	+DC	-52	+51	+DE	-55	+54	+DD	+58	-57	-DF	+5B	-5A	-D0	-D6	-D3	+D9	-CC	+42	-41	-CE	+45	-44	-CD	-48	+47	+CF	-4B	+4A	+C0	+C6	+C3	-C9
e_{FD}	+DD	-57	+58	-59	+DA	-DB	+DC	+51	-52	+53	-D4	+D5	-D6	-D0	+5F	-5E	-CD	+47	-48	+49	-CA	+CB	-CC	-41	+42	-43	+C4	-C5	+C6	+C0	-4F	+4E
e_{FE}	+DE	-DA	+DB	+DC	-57	+58	+59	+54	-55	-56	+D1	-D2	-D3	-5F	-D0	+5D	-CE	+CA	-CB	-CC	+47	-48	-49	-44	+45	+46	-C1	+C2	+C3	+4F	+C0	-4D
e_{FF}	+DF	+54	+55	-56	-51	-52	+53	+DA	+DB	-DC	-D7	-D8	+D9	+5E	-5D	-D0	-CF	-44	-45	+46	+41	+42	-43	-CA	-CB	+CC	+C7	+C8	-C9	-4E	+4D	+C0

TABLE 9. $Ka^3(1,4)$ multiplication table, part C1

	e_{40}	e_{41}	e_{42}	e_{43}	e_{44}	e_{45}	e_{46}	e_{47}	e_{48}	e_{49}	e_{4A}	e_{4B}	e_{4C}	e_{4D}	e_{4E}	e_{4F}	e_{50}	e_{51}	e_{52}	e_{53}	e_{54}	e_{55}	e_{56}	e_{57}	e_{58}	e_{59}	e_{5A}	e_{5B}	e_{5C}	e_{5D}	e_{5E}	e_{5F}
e_{0}	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	+4A	+4B	+4C	+4D	+4E	+4F	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+5A	+5B	+5C	+5D	+5E	+5F
e_{1}	+41	+40	−CC	+CB	+CF	−49	+48	−CD	+46	−45	−4E	+C3	−C2	−C7	−4A	+C4	+51	+50	−DC	+DB	+DF	−59	+58	−DD	+56	−55	−5E	+D3	−D2	−D7	−5A	+D4
e_{2}	+42	+CC	+40	+CA	+49	+CF	+47	+46	+CD	+44	+C3	+4E	+C1	+C8	+4B	+C5	+52	+DC	+50	+DA	+59	+DF	+57	+56	+DD	+54	+D3	+5E	+D1	+D8	+5B	+D5
e_{3}	+43	−CB	−CA	+40	+48	+47	−CF	+45	+44	−CD	−C2	−C1	+4E	−C9	+4C	−C6	+53	−DB	−DA	+50	+58	+57	−DF	+55	+54	−DD	−D2	−D1	+5E	−D9	+5C	−D6
e_{4}	+44	−CF	+49	+48	+40	−CC	−CB	−CE	+43	+42	+4D	−C6	−C5	+4A	−C7	−C1	+54	−DF	+59	+58	+50	−DC	−DB	−DE	+53	+52	+5D	−D6	−D5	+5A	−D7	−D1
e_{5}	+45	−49	−CF	+47	+CC	+40	−CA	+43	+CE	−41	−C6	−4D	+C4	−4B	+C8	−C2	+55	−59	−DF	+57	+DC	+50	−DA	+53	+DE	−51	−D6	−5D	+D4	−5B	+D8	−D2
e_{6}	+46	+48	+47	+CF	+CB	+CA	+40	+42	+41	+CE	+C5	+C4	+4D	+4C	+C9	+C3	+56	+58	+57	+DF	+DB	+DA	+50	+52	+51	+DE	+D5	+D4	+5D	+5C	+D9	+D3
e_{7}	+47	+CD	+46	+45	+CE	+43	+42	+40	+CC	+CB	+4F	+C9	+C8	+C1	+C4	+4A	+57	+DD	+56	+55	+DE	+53	+52	+50	+DC	+DB	+5F	+D9	+D8	+D1	+D4	+5A
e_{8}	+48	+46	−CD	+44	+43	−CE	+41	−CC	+40	−CA	−C9	+4F	−C7	−C2	−C5	+4B	+58	+56	−DD	+54	+53	−DE	+51	−DC	+50	−DA	−D9	+5F	−D7	−D2	−D5	+5B
e_{9}	+49	−45	+44	+CD	+42	−41	−CE	−CB	+CA	+40	+C8	−C7	−4F	+C3	−C6	−4C	+59	−55	+54	+DD	+52	−51	−DE	−DB	+DA	+50	+D8	−D7	−5F	+D3	−D6	−5C
e_{A}	+4A	−4E	−C3	+C2	+4D	+C6	−C5	+4F	+C9	−C8	+40	+CC	−CB	+44	−41	+47	+5A	−5E	−D3	+D2	+5D	+D6	−D5	+5F	+D9	−D8	+50	+DC	−DB	+54	−51	+57
e_{B}	+4B	−C3	+4E	+C1	+C6	−4D	−C4	−C9	+4F	+C7	−CC	+40	+CA	−45	+42	+48	+5B	−D3	+5E	+D1	+D6	−5D	−D4	−D9	+5F	+D7	−DC	+50	+DA	−55	+52	+58
e_{C}	+4C	+C2	−C1	+4E	+C5	−C4	+4D	−C8	+C7	−4F	+CB	−CA	+40	+46	+43	−49	+5C	+D2	−D1	+5E	+D5	−D4	+5D	−D8	+D7	−5F	+DB	−DA	+50	+56	+53	−59
e_{D}	+4D	+C7	−C8	+C9	+4A	−4B	+4C	−C1	+C2	−C3	+44	−45	+46	+40	+CF	−CE	+5D	+D7	−D8	+D9	+5A	−5B	+5C	−D1	+D2	−D3	+54	−55	+56	+50	+DF	−DE
e_{E}	+4E	−4A	+4B	+4C	+C7	−C8	−C9	−C4	+C5	+C6	−41	+42	+43	−CF	+40	+CD	+5E	−5A	+5B	+5C	+D7	−D8	−D9	−D4	+D5	+D6	−51	+52	+53	−DF	+50	+DD
e_{F}	+4F	−C4	−C5	+C6	+C1	+C2	−C3	+4A	+4B	−4C	+47	+48	−49	+CE	−CD	+40	+5F	−D4	−D5	+D6	+D1	+D2	−D3	+5A	+5B	−5C	+57	+58	−59	+DE	−DD	+50
e_{10}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+5A	+5B	+5C	+5D	+5E	+5F	−40	−41	−42	−43	−44	−45	−46	−47	−48	−49	−4A	−4B	−4C	−4D	−4E	−4F
e_{11}	+51	+50	+DC	−DB	−DF	−59	+58	+DD	+56	−55	−5E	−D3	+D2	+D7	−5A	−D4	−41	−40	−CC	+CB	+CF	+49	−48	−CD	−46	+45	+4E	+C3	−C2	−C7	+4A	+C4
e_{12}	+52	−DC	+50	−DA	+59	−DF	+57	+56	−DD	+54	−D3	+5E	−D1	−D8	+5B	−D5	−42	+CC	−40	+CA	−49	+CF	−47	−46	+CD	−44	+C3	−4E	+C1	+C8	−4B	+C5
e_{13}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	+D2	+D1	+5E	+D9	+5C	+D6	−43	−CB	−CA	−40	−48	−47	−CF	−45	−44	−CD	−C2	−C1	−4E	−C9	−4C	−C6
e_{14}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	+5D	+D6	+D5	+5A	+D7	+D1	−44	−CF	−49	−48	−40	−CC	−CB	−CE	−43	−42	−4D	−C6	−C5	−4A	−C7	−C1
e_{15}	+55	−59	+DF	+57	−DC	+50	+DA	+53	−DE	−51	+D6	−5D	−D4	−5B	−D8	+D2	−45	+49	−CF	−47	+CC	−40	−CA	−43	+CE	+41	−C6	+4D	+C4	+4B	+C8	−C2
e_{16}	+56	+58	+57	−DF	−DB	−DA	+50	+52	+51	−DE	−D5	−D4	+5D	+5C	−D9	−D3	−46	−48	−47	+CF	+CB	+CA	−40	−42	−41	+CE	+C5	+C4	−4D	−4C	+C9	+C3
e_{17}	+57	−DD	+56	+55	−DE	+53	+52	+50	−DC	−DB	+5F	−D9	−D8	−D1	−D4	+5A	−47	+CD	−46	−45	+CE	−43	−42	−40	+CC	+CB	−4F	+C9	+C8	+C1	+C4	−4A
e_{18}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	+D9	+5F	+D7	+D2	+D5	+5B	−48	−46	−CD	−44	−43	−CE	−41	−CC	−40	−CA	−C9	−4F	−C7	−C2	−C5	−4B
e_{19}	+59	−55	+54	−DD	+52	−51	+DE	+DB	−DA	+50	−D8	+D7	−5F	−D3	+D6	−5C	−49	+45	−44	+CD	−42	+41	−CE	−CB	+CA	−40	+C8	−C7	+4F	+C3	−C6	+4C
e_{1A}	+5A	−5E	+D3	−D2	+5D	−D6	+D5	+5F	−D9	+D8	+50	−DC	+DB	+54	−51	+57	−4A	+4E	−C3	+C2	−4D	+C6	−C5	−4F	+C9	−C8	−40	+CC	−CB	−44	+41	−47
e_{1B}	+5B	+D3	+5E	−D1	−D6	−5D	+D4	+D9	+5F	−D7	+DC	+50	−DA	−55	+52	+58	−4B	−C3	−4E	+C1	+C6	+4D	−C4	−C9	−4F	+C7	−CC	−40	+CA	+45	−42	−48
e_{1C}	+5C	−D2	+D1	+5E	−D5	+D4	+5D	+D8	−D7	−5F	−DB	+DA	+50	+56	+53	−59	−4C	+C2	−C1	−4E	+C5	−C4	−4D	−C8	+C7	+4F	+CB	−CA	−40	−46	−43	+49
e_{1D}	+5D	−D7	+D8	−D9	+5A	−5B	+5C	+D1	−D2	+D3	+54	−55	+56	+50	−DF	+DE	−4D	+C7	−C8	+C9	−4A	+4B	−4C	−C1	+C2	−C3	−44	+45	−46	−40	+CF	−CE
e_{1E}	+5E	−5A	+5B	+5C	−D7	+D8	+D9	+D4	−D5	−D6	−51	+52	+53	+DF	+50	−DD	−4E	+4A	−4B	−4C	+C7	−C8	−C9	−C4	+C5	+C6	+41	−42	−43	−CF	−40	+CD
e_{1F}	+5F	+D4	+D5	−D6	−D1	−D2	+D3	+5A	+5B	−5C	+57	+58	−59	−DE	+DD	+50	−4F	−C4	−C5	+C6	+C1	+C2	−C3	−4A	−4B	+4C	−47	−48	+49	+CE	−CD	−40
e_{20}	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+6A	+6B	+6C	+6D	+6E	+6F	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+7A	+7B	+7C	+7D	+7E	+7F
e_{21}	+61	+60	+EC	−EB	−EF	−69	+68	+ED	+66	−65	−6E	−E3	+E2	+E7	−6A	−E4	+71	+70	−FC	+FB	+FF	−79	+78	−FD	+76	−75	−7E	+F3	−F2	−F7	−7A	+F4
e_{22}	+62	−EC	+60	−EA	+69	−EF	+67	+66	−ED	+64	−E3	+6E	−E1	−E8	+6B	−E5	+72	+FC	+70	+FA	+79	+FF	+77	+76	+FD	+74	+F3	+7E	+F1	+F8	+7B	+F5
e_{23}	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	+E2	+E1	+6E	+E9	+6C	+E6	+73	−FB	−FA	+70	+78	+77	−FF	+75	+74	−FD	−F2	−F1	+7E	−F9	+7C	−F6
e_{24}	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	+6D	+E6	+E5	+6A	+E7	+E1	+74	−FF	+79	+78	+70	−FC	−FB	−FE	+73	+72	+7D	−F6	−F5	+7A	−F7	−F1
e_{25}	+65	−69	+EF	+67	−EC	+60	+EA	+63	−EE	−61	+E6	−6D	−E4	−6B	−E8	+E2	+75	−79	−FF	+77	+FC	+70	−FA	+73	+FE	−71	−F6	−7D	+F4	−7B	+F8	−F2
e_{26}	+66	+68	+67	−EF	−EB	−EA	+60	+62	+61	−EE	−E5	−E4	+6D	+6C	−E9	−E3	+76	+78	+77	+FF	+FB	+FA	+70	+72	+71	+FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{27}	+67	−ED	+66	+65	−EE	+63	+62	+60	−EC	−EB	+6F	−E9	−E8	−E1	−E4	+6A	+77	+FD	+76	+75	+FE	+73	+72	+70	+FC	+FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{28}	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	+E9	+6F	+E7	+E2	+E5	+6B	+78	+76	−FD	+74	+73	−FE	+71	−FC	+70	−FA	−F9	+7F	−F7	−F2	−F5	+7B
e_{29}	+69	−65	+64	−ED	+62	−61	+EE	+EB	−EA	+60	−E8	+E7	−6F	−E3	+E6	−6C	+79	−75	+74	+FD	+72	−71	−FE	−FB	+FA	+70	+F8	−F7	−7F	+F3	−F6	−7C
e_{2A}	+6A	−6E	+E3	−E2	+6D	−E6	+E5	+6F	−E9	+E8	+60	−EC	+EB	+64	−61	+67	+7A	−7E	−F3	+F2	+7D	+F6	−F5	+7F	+F9	−F8	+70	+FC	−FB	+74	−71	+77
e_{2B}	+6B	+E3	+6E	−E1	−E6	−6D	+E4	+E9	+6F	−E7	+EC	+60	−EA	−65	+62	+68	+7B	−F3	+7E	+F1	+F6	−7D	−F4	−F9	+7F	+F7	−FC	+70	+FA	−75	+72	+78
e_{2C}	+6C	−E2	+E1	+6E	−E5	+E4	+6D	+E8	−E7	−6F	−EB	+EA	+60	+66	+63	−69	+7C	+F2	−F1	+7E	+F5	−F4	+7D	−F8	+F7	−7F	+FB	−FA	+70	+76	+73	−79
e_{2D}	+6D	−E7	+E8	−E9	+6A	−6B	+6C	+E1	−E2	+E3	+64	−65	+66	+60	−EF	+EE	+7D	+F7	−F8	+F9	+7A	−7B	+7C	−F1	+F2	−F3	+74	−75	+76	+70	+FF	−FE
e_{2E}	+6E	−6A	+6B	+6C	−E7	+E8	+E9	+E4	−E5	−E6	−61	+62	+63	+EF	+60	−ED	+7E	−7A	+7B	+7C	+F7	−F8	−F9	−F4	+F5	+F6	−71	+72	+73	−FF	+70	+FD
e_{2F}	+6F	+E4	+E5	−E6	−E1	−E2	+E3	+6A	+6B	−6C	+67	+68	−69	−EE	+ED	+60	+7F	−F4	−F5	+F6	+F1	+F2	−F3	+7A	+7B	−7C	+77	+78	−79	+FE	−FD	+70
e_{30}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+7A	+7B	+7C	+7D	+7E	+7F	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	−6A	−6B	−6C	−6D	−6E	−6F
e_{31}	+71	+70	+FC	−FB	−FF	−79	+78	+FD	+76	−75	−7E	−F3	+F2	+F7	−7A	−F4	−61	−60	+EC	−EB	−EF	+69	−68	+ED	−66	+65	+6E	−E3	+E2	+E7	+6A	−E4
e_{32}	+72	−FC	+70	−FA	+79	−FF	+77	+76	−FD	+74	−F3	+7E	−F1	−F8	+7B	−F5	−62	−EC	−60	−EA	−69	−EF	−67	−66	−ED	−64	−E3	−6E	−E1	−E8	−6B	−E5
e_{33}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	+F2	+F1	+7E	+F9	+7C	+F6	−63	+EB	+EA	−60	−68	−67	+EF	−65	−64	+ED	+E2	+E1	−6E	+E9	−6C	+E6
e_{34}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	+7D	+F6	+F5	+7A	+F7	+F1	−64	+EF	−69	−68	−60	+EC	+EB	+EE	−63	−62	−6D	+E6	+E5	−6A	+E7	+E1
e_{35}	+75	−79	+FF	+77	−FC	+70	+FA	+73	−FE	−71	+F6	−7D	−F4	−7B	−F8	+F2	−65	+69	+EF	−67	−EC	−60	+EA	−63	−EE	+61	+E6	+6D	−E4	+6B	−E8	+E2
e_{36}	+76	+78	+77	−FF	−FB	−FA	+70	+72	+71	−FE	−F5	−F4	+7D	+7C	−F9	−F3	−66	−68	−67	−EF	−EB	−EA	−60	−62	−61	−EE	−E5	−E4	−6D	−6C	−E9	−E3
e_{37}	+77	−FD	+76	+75	−FE	+73	+72	+70	−FC	−FB	+7F	−F9	−F8	−F1	−F4	+7A	−67	−ED	−66	−65	−EE	−63	−62	−60	−EC	−EB	−6F	−E9	−E8	−E1	−E4	−6A
e_{38}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	+F9	+7F	+F7	+F2	+F5	+7B	−68	−66	+ED	−64	−63	+EE	−61	+EC	−60	+EA	+E9	−6F	+E7	+E2	+E5	−6B
e_{39}	+79	−75	+74	−FD	+72	−71	+FE	+FB	−FA	+70	−F8	+F7	−7F	−F3	+F6	−7C	−69	+65	−64	−ED	−62	+61	+EE	+EB	−EA	−60	−E8	+E7	+6F	−E3	+E6	+6C
e_{3A}	+7A	−7E	+F3	−F2	+7D	−F6	+F5	+7F	−F9	+F8	+70	−FC	+FB	+74	−71	+77	−6A	+6E	+E3	−E2	−6D	−E6	+E5	−6F	−E9	+E8	−60	−EC	+EB	−64	+61	−67
e_{3B}	+7B	+F3	+7E	−F1	−F6	−7D	+F4	+F9	+7F	−F7	+FC	+70	−FA	−75	+72	+78	−6B	+E3	−6E	−E1	−E6	+6D	+E4	+E9	−6F	−E7	+EC	−60	−EA	+65	−62	−68
e_{3C}	+7C	−F2	+F1	+7E	−F5	+F4	+7D	+F8	−F7	−7F	−FB	+FA	+70	+76	+73	−79	−6C	−E2	+E1	−6E	−E5	+E4	−6D	+E8	−E7	+6F	−EB	+EA	−60	−66	−63	+69
e_{3D}	+7D	−F7	+F8	−F9	+7A	−7B	+7C	+F1	−F2	+F3	+74	−75	+76	+70	−FF	+FE	−6D	−E7	+E8	−E9	−6A	+6B	−6C	+E1	−E2	+E3	−64	+65	−66	−60	−EF	+EE
e_{3E}	+7E	−7A	+7B	+7C	−F7	+F8	+F9	+F4	−F5	−F6	−71	+72	+73	+FF	+70	−FD	−6E	+6A	−6B	−6C	−E7	+E8	+E9	+E4	−E5	−E6	+61	−62	−63	+EF	−60	−ED
e_{3F}	+7F	+F4	+F5	−F6	−F1	−F2	+F3	+7A	+7B	−7C	+77	+78	−79	−FE	+FD	+70	−6F	+E4	+E5	−E6	−E1	−E2	+E3	−6A	−6B	+6C	−67	−68	+69	−EE	+ED	−60

TABLE 10. $Ka^3(1,4)$ multiplication table, part C2

	e_{40}	e_{41}	e_{42}	e_{43}	e_{44}	e_{45}	e_{46}	e_{47}	e_{48}	e_{49}	e_{4A}	e_{4B}	e_{4C}	e_{4D}	e_{4E}	e_{4F}	e_{50}	e_{51}	e_{52}	e_{53}	e_{54}	e_{55}	e_{56}	e_{57}	e_{58}	e_{59}	e_{5A}	e_{5B}	e_{5C}	e_{5D}	e_{5E}	e_{5F}
e_{40}	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+1A	+1B	+1C	+1D	+1E	+1F
e_{41}	-1	-0	+8C	-8B	-8F	+9	-8	+8D	-6	+5	+E	-83	+82	+87	+A	-84	+11	+10	-9C	+9B	+9F	-19	+18	-9D	+16	-15	-1E	+93	-92	-97	-1A	+94
e_{42}	-2	-8C	-0	-8A	-9	-8F	-7	-6	-8D	-4	-83	-E	-81	-88	-B	-85	+12	+9C	+10	+9A	+19	+9F	+17	+16	+9D	+14	+93	+1E	+91	+98	+1B	+95
e_{43}	-3	+8B	+8A	-0	-8	-7	+8F	-5	-4	+8D	+82	+81	-E	+89	-C	+86	+13	-9B	-9A	+10	+18	+17	-9F	+15	+14	-9D	-92	-91	+1E	-99	+1C	-96
e_{44}	-4	+8F	-9	-8	-0	+8C	+8B	+8E	-3	-2	-D	+86	+85	-A	+87	+81	+14	-9F	+19	+18	+10	-9C	-9B	-9E	+13	+12	+1D	-96	-95	+1A	-97	-91
e_{45}	-5	+9	+8F	-7	-8C	-0	+8A	-3	-8E	+1	+86	+D	-84	+B	-88	+82	+15	-19	-9F	+17	+9C	+10	-9A	+13	+9E	-11	-96	-1D	+94	-1B	+98	-92
e_{46}	-6	-8	-7	-8F	-8B	-8A	-0	-2	-1	-8E	-85	-84	-D	-C	-89	-83	+16	+18	+17	+9F	+9B	+9A	+10	+12	+11	+9E	+95	+94	+1D	+1C	+99	+93
e_{47}	-7	-8D	-6	-5	-8E	-3	-2	-0	-8C	-8B	-F	-89	-88	-81	-84	-A	+17	+9D	+16	+15	+9E	+13	+12	+10	+9C	+9B	+1F	+99	+98	+91	+94	+1A
e_{48}	-8	-6	+8D	-4	-3	+8E	-1	+8C	-0	+8A	+89	-F	+87	+82	+85	-B	+18	+16	-9D	+14	+13	-9E	+11	-9C	+10	-9A	-99	+1F	-97	-92	-95	+1B
e_{49}	-9	+5	-4	-8D	-2	+1	+8E	+8B	-8A	-0	-88	+87	+F	-83	+86	+C	+19	-15	+14	+9D	+12	-11	-9E	-9B	+9A	+10	+98	-97	-1F	+93	-96	-1C
e_{4A}	-A	+E	+83	-82	-D	-86	+85	-F	-89	+88	-0	-8C	+8B	-4	+1	-7	+1A	-1E	-93	+92	+1D	+96	-95	+1F	+99	-98	+10	+9C	-9B	+14	-11	+17
e_{4B}	-B	+83	-E	-81	-86	+D	+84	+89	-F	-87	+8C	-0	-8A	+5	-2	-8	+1B	-93	+1E	+91	+96	-1D	-94	-99	+1F	+97	-9C	+10	+9A	-15	+12	+18
e_{4C}	-C	-82	+81	-E	-85	+84	-D	+88	-87	+F	-8B	+8A	-0	-6	-3	+9	+1C	+92	-91	+1E	+95	-94	+1D	-98	+97	-1F	+9B	-9A	+10	+16	+13	-19
e_{4D}	-D	-87	+88	-89	-A	+B	-C	+81	-82	+83	-4	+5	-6	-0	-8F	+8E	+1D	+97	-98	+99	+1A	-1B	+1C	-91	+92	-93	+14	-15	+16	+10	+9F	-9E
e_{4E}	-E	+A	-B	-C	-87	+88	+89	+84	-85	-86	+1	-2	-3	+8F	-0	-8D	+1E	-1A	+1B	+1C	+97	-98	-99	-94	+95	+96	-11	+12	+13	-9F	+10	+9D
e_{4F}	-F	+84	+85	-86	-81	-82	+83	-A	-B	+C	-7	-8	+9	-8E	+8D	-0	+1F	-94	-95	+96	+91	+92	-93	+1A	+1B	-1C	+17	+18	-19	+9E	-9D	+10
e_{50}	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-1A	-1B	-1C	-1D	-1E	-1F	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-A	-B	-C	-D	-E	-F
e_{51}	-11	-10	-9C	+9B	+9F	+19	-18	-9D	-16	+15	+1E	+93	-92	-97	+1A	+94	-1	-0	-8C	+8B	+8F	+9	-8	-8D	-6	+5	+E	+83	-82	-87	+A	+84
e_{52}	-12	+9C	-10	+9A	-19	+9F	-17	-16	+9D	-14	+93	-1E	+91	+98	-1B	+95	-2	+8C	-0	+8A	-9	+8F	-7	-6	+8D	-4	+83	-E	+81	+88	-B	+85
e_{53}	-13	-9B	-9A	-10	-18	-17	-9F	-15	-14	-9D	-92	-91	-1E	-99	-1C	-96	-3	-8B	-8A	-0	-8	-7	-8F	-5	-4	-8D	-82	-81	-E	-89	-C	-86
e_{54}	-14	-9F	-19	-18	-10	-9C	-9B	-9E	-13	-12	-1D	-96	-95	-1A	-97	-91	-4	-8F	-9	-8	-0	-8C	-8B	-8E	-3	-2	-D	-86	-85	-A	-87	-81
e_{55}	-15	+19	-9F	-17	+9C	-10	-9A	-13	+9E	+11	-96	+1D	+94	+1B	+98	-92	-5	+9	-8F	-7	+8C	-0	-8A	-3	+8E	+1	-86	+D	+84	+B	+88	-82
e_{56}	-16	-18	-17	+9F	+9B	+9A	-10	-12	-11	+9E	+95	+94	-1D	-1C	+99	+93	-6	-8	-7	+8F	+8B	+8A	-0	-2	-1	+8E	+85	+84	-D	-C	+89	+83
e_{57}	-17	+9D	-16	-15	+9E	-13	-12	-10	+9C	+9B	-1F	+99	+98	+91	+94	-1A	-7	+8D	-6	-5	+8E	-3	-2	-0	+8C	+8B	-F	+89	+88	+81	+84	-A
e_{58}	-18	-16	-9D	-14	-13	-9E	-11	-9C	-10	-9A	-99	-1F	-97	-92	-95	-1B	-8	-6	-8D	-4	-3	-8E	-1	-8C	-0	-8A	-89	-F	-87	-82	-85	-B
e_{59}	-19	+15	-14	+9D	-12	+11	-9E	-9B	+9A	-10	+98	-97	+1F	+93	-96	+1C	-9	+5	-4	+8D	-2	+1	-8E	-8B	+8A	-0	+88	-87	+F	+83	-86	+C
e_{5A}	-1A	+1E	-93	+92	-1D	+96	-95	-1F	+99	-98	-10	+9C	-9B	-14	+11	-17	-A	+E	-83	+82	-D	+86	-85	-F	+89	-88	-0	+8C	-8B	-4	+1	-7
e_{5B}	-1B	-93	-1E	+91	+96	+1D	-94	-99	-1F	+97	-9C	-10	+9A	+15	-12	-18	-B	-83	-E	+81	+86	+D	-84	-89	-F	+87	-8C	-0	+8A	+5	-2	-8
e_{5C}	-1C	+92	-91	-1E	+95	-94	-1D	-98	+97	+1F	+9B	-9A	-10	-16	-13	+19	-C	+82	-81	-E	+85	-84	-D	-88	+87	+F	+8B	-8A	-0	-6	-3	+9
e_{5D}	-1D	+97	-98	+99	-1A	+1B	-1C	-91	+92	-93	-14	+15	-16	-10	+9F	-9E	-D	+87	-88	+89	-A	+B	-C	-81	+82	-83	-4	+5	-6	-0	+8F	-8E
e_{5E}	-1E	+1A	-1B	-1C	+97	-98	-99	-94	+95	+96	+11	-12	-13	-9F	-10	+9D	-E	+A	-B	-C	+87	-88	-89	-84	+85	+86	+1	-2	-3	-8F	-0	+8D
e_{5F}	-1F	-94	-95	+96	+91	+92	-93	-1A	-1B	+1C	-17	-18	+19	+9E	-9D	-10	-F	-84	-85	+86	+81	+82	-83	-A	-B	+C	-7	-8	+9	+8E	-8D	-0
e_{60}	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-2A	-2B	-2C	-2D	-2E	-2F	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+3A	+3B	+3C	+3D	+3E	+3F
e_{61}	-21	-20	-AC	+AB	+AF	+29	-28	-AD	-26	+25	+2E	+A3	-A2	-A7	+2A	+A4	+31	+30	-BC	+BB	+BF	-39	+38	-BD	+36	-35	-3E	+B3	-B2	-B7	-3A	+B4
e_{62}	-22	+AC	-20	+AA	-29	+AF	-27	-26	+AD	-24	+A3	-2E	+A1	+A8	-2B	+A5	+32	+BC	+30	+BA	+39	+BF	+37	+36	+BD	+34	+B3	+3E	+B1	+B8	+3B	+B5
e_{63}	-23	-AB	-AA	-20	-28	-27	-AF	-25	-24	-AD	-A2	-A1	-2E	-A9	-2C	-A6	+33	-BB	-BA	+30	+38	+37	-BF	+35	+34	-BD	-B2	-B1	+3E	-B9	+3C	-B6
e_{64}	-24	-AF	-29	-28	-20	-AC	-AB	-AE	-23	-22	-2D	-A6	-A5	-2A	-A7	-A1	+34	-BF	+39	+38	+30	-BC	-BB	-BE	+33	+32	+3D	-B6	-B5	+3A	-B7	-B1
e_{65}	-25	+29	-AF	-27	+AC	-20	-AA	-23	+AE	+21	-A6	+2D	+A4	+2B	+A8	-A2	+35	-39	-BF	+37	+BC	+30	-BA	+33	+BE	-31	-B6	-3D	+B4	-3B	+B8	-B2
e_{66}	-26	-28	-27	+AF	+AB	+AA	-20	-22	-21	+AE	+A5	+A4	-2D	-2C	+A9	+A3	+36	+38	+37	+BF	+BB	+BA	+30	+32	+31	+BE	+B5	+B4	+3D	+3C	+B9	+B3
e_{67}	-27	+AD	-26	-25	+AE	-23	-22	-20	+AC	+AB	-2F	+A9	+A8	+A1	+A4	-2A	+37	+BD	+36	+35	+BE	+33	+32	+30	+BC	+BB	+3F	+B9	+B8	+B1	+B4	+3A
e_{68}	-28	-26	-AD	-24	-23	-AE	-21	-AC	-20	-AA	-A9	-2F	-A7	-A2	-A5	-2B	+38	+36	-BD	+34	+33	-BE	+31	-BC	+30	-BA	-B9	+3F	-B7	-B2	-B5	+3B
e_{69}	-29	+25	-24	+AD	-22	+21	-AE	-AB	+AA	-20	+A8	-A7	+2F	+A3	-A6	+2C	+39	-35	+34	+BD	+32	-31	-BE	-BB	+BA	+30	+B8	-B7	-3F	+B3	-B6	-3C
e_{6A}	-2A	+2E	-A3	+A2	-2D	+A6	-A5	-2F	+A9	-A8	-20	+AC	-AB	-24	+21	-27	+3A	-3E	-B3	+B2	+3D	+B6	-B5	+3F	+B9	-B8	+30	+BC	-BB	+34	-31	+37
e_{6B}	-2B	-A3	-2E	+A1	+A6	+2D	-A4	-A9	-2F	+A7	-AC	-20	+AA	+25	-22	-28	+3B	-B3	+3E	+B1	+B6	-3D	-B4	-B9	+3F	+B7	-BC	+30	+BA	-35	+32	+38
e_{6C}	-2C	+A2	-A1	-2E	+A5	-A4	-2D	-A8	+A7	+2F	+AB	-AA	-20	-26	-23	+29	+3C	+B2	-B1	+3E	+B5	-B4	+3D	-B8	+B7	-3F	+BB	-BA	+30	+36	+33	-39
e_{6D}	-2D	+A7	-A8	+A9	-2A	+2B	-2C	-A1	+A2	-A3	-24	+25	-26	-20	+AF	-AE	+3D	+B7	-B8	+B9	+3A	-3B	+3C	-B1	+B2	-B3	+34	-35	+36	+30	+BF	-BE
e_{6E}	-2E	+2A	-2B	-2C	+A7	-A8	-A9	-A4	+A5	+A6	+21	-22	-23	-AF	-20	+AD	+3E	-3A	+3B	+3C	+B7	-B8	-B9	-B4	+B5	+B6	-31	+32	+33	-BF	+30	+BD
e_{6F}	-2F	-A4	-A5	+A6	+A1	+A2	-A3	-2A	-2B	+2C	-27	-28	+29	+AE	-AD	-20	+3F	-B4	-B5	+B6	+B1	+B2	-B3	+3A	+3B	-3C	+37	+38	-39	+BE	-BD	+30
e_{70}	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39	-3A	-3B	-3C	-3D	-3E	-3F	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29	-2A	-2B	-2C	-2D	-2E	-2F
e_{71}	-31	-30	-BC	+BB	+BF	+39	-38	-BD	-36	+35	+3E	+B3	-B2	-B7	+3A	+B4	-21	-20	+AC	-AB	-AF	+29	-28	+AD	-26	+25	+2E	-A3	+A2	+A7	+2A	-A4
e_{72}	-32	+BC	-30	+BA	-39	+BF	-37	-36	+BD	-34	+B3	-3E	+B1	+B8	-3B	+B5	-22	-AC	-20	-AA	-29	-AF	-27	-26	-AD	-24	-A3	-2E	-A1	-A8	-2B	-A5
e_{73}	-33	-BB	-BA	-30	-38	-37	-BF	-35	-34	-BD	-B2	-B1	-3E	-B9	-3C	-B6	-23	+AB	+AA	-20	-28	-27	+AF	-25	-24	+AD	+A2	+A1	-2E	+A9	-2C	+A6
e_{74}	-34	-BF	-39	-38	-30	-BC	-BB	-BE	-33	-32	-3D	-B6	-B5	-3A	-B7	-B1	-24	+AF	-29	-28	-20	+AC	+AB	+AE	-23	-22	-2D	+A6	+A5	-2A	+A7	+A1
e_{75}	-35	+39	-BF	-37	+BC	-30	-BA	-33	+BE	+31	-B6	+3D	+B4	+3B	+B8	-B2	-25	+29	+AF	-27	-AC	-20	+AA	-23	-AE	+21	+A6	+2D	-A4	+2B	-A8	+A2
e_{76}	-36	-38	-37	+BF	+BB	+BA	-30	-32	-31	+BE	+B5	+B4	-3D	-3C	+B9	+B3	-26	-28	-27	-AF	-AB	-AA	-20	-22	-21	-AE	-A5	-A4	-2D	-2C	-A9	-A3
e_{77}	-37	+BD	-36	-35	+BE	-33	-32	-30	+BC	+BB	-3F	+B9	+B8	+B1	+B4	-3A	-27	-AD	-26	-25	-AE	-23	-22	-20	-AC	-AB	-2F	-A9	-A8	-A1	-A4	-2A
e_{78}	-38	-36	-BD	-34	-33	-BE	-31	-BC	-30	-BA	-B9	-3F	-B7	-B2	-B5	-3B	-28	-26	+AD	-24	-23	+AE	-21	+AC	-20	+AA	+A9	-2F	+A7	+A2	+A5	-2B
e_{79}	-39	+35	-34	+BD	-32	+31	-BE	-BB	+BA	-30	+B8	-B7	+3F	+B3	-B6	+3C	-29	+25	-24	-AD	-22	+21	+AE	+AB	-AA	-20	-A8	+A7	+2F	-A3	+A6	+2C
e_{7A}	-3A	+3E	-B3	+B2	-3D	+B6	-B5	-3F	+B9	-B8	-30	+BC	-BB	-34	+31	-37	-2A	+2E	+A3	-A2	-2D	-A6	+A5	-2F	-A9	+A8	-20	-AC	+AB	-24	+21	-27
e_{7B}	-3B	-B3	-3E	+B1	+B6	+3D	-B4	-B9	-3F	+B7	-BC	-30	+BA	+35	-32	-38	-2B	+A3	-2E	-A1	-A6	+2D	+A4	+A9	-2F	-A7	+AC	-20	-AA	+25	-22	-28
e_{7C}	-3C	+B2	-B1	-3E	+B5	-B4	-3D	-B8	+B7	+3F	+BB	-BA	-30	-36	-33	+39	-2C	-A2	+A1	-2E	-A5	+A4	-2D	+A8	-A7	+2F	-AB	+AA	-20	-26	-23	+29
e_{7D}	-3D	+B7	-B8	+B9	-3A	+3B	-3C	-B1	+B2	-B3	-34	+35	-36	-30	+BF	-BE	-2D	-A7	+A8	-A9	-2A	+2B	-2C	+A1	-A2	+A3	-24	+25	-26	-20	-AF	+AE
e_{7E}	-3E	+3A	-3B	-3C	+B7	-B8	-B9	-B4	+B5	+B6	+31	-32	-33	-BF	-30	+BD	-2E	+2A	-2B	-2C	-A7	+A8	+A9	+A4	-A5	-A6	+21	-22	-23	+AF	-20	-AD
e_{7F}	-3F	-B4	-B5	+B6	+B1	+B2	-B3	-3A	-3B	+3C	-37	-38	+39	+BE	-BD	-30	-2F	+A4	+A5	-A6	-A1	-A2	+A3	-2A	-2B	+2C	-27	-28	+29	-AE	+AD	-20

TABLE 11. $Ka^3(1,4)$ multiplication table, part C3

	e_{40}	e_{41}	e_{42}	e_{43}	e_{44}	e_{45}	e_{46}	e_{47}	e_{48}	e_{49}	e_{4A}	e_{4B}	e_{4C}	e_{4D}	e_{4E}	e_{4F}	e_{50}	e_{51}	e_{52}	e_{53}	e_{54}	e_{55}	e_{56}	e_{57}	e_{58}	e_{59}	e_{5A}	e_{5B}	e_{5C}	e_{5D}	e_{5E}	e_{5F}
e_{80}	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	−CA	−CB	−CC	−CD	−CE	−CF	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	+DA	+DB	+DC	+DD	+DE	+DF
e_{81}	+C1	+C0	−4C	+4B	+4F	−C9	+C8	−4D	+C6	−C5	+CE	−43	+42	+47	+CA	−44	−D1	−D0	+5C	−5B	−5F	+D9	−D8	+5D	−D6	+D5	−DE	+53	−52	−57	−DA	+54
e_{82}	+C2	+4C	+C0	+4A	+C9	+4F	+C7	+C6	+4D	+C4	−43	−CE	−41	−48	−CB	−45	−D2	−5C	−D0	−5A	−D9	−5F	−D7	−D6	−5D	−D4	+53	+DE	+51	+58	+DB	+55
e_{83}	+C3	−4B	−4A	+C0	+C8	+C7	−4F	+C5	+C4	−4D	+42	+41	−CE	+49	−CC	+46	−D3	+5B	+5A	−D0	−D8	−D7	+5F	−D5	−D4	+5D	−52	−51	+DE	−59	+DC	−56
e_{84}	+C4	−4F	+C9	+C8	+C0	−4C	−4B	−4E	+C3	+C2	−CD	+46	+45	−CA	+47	+41	−D4	+5F	−D9	−D8	−D0	+5C	+5B	+5E	−D3	−D2	+DD	−56	−55	+DA	−57	−51
e_{85}	+C5	−C9	−4F	+C7	+4C	+C0	−4A	+C3	+4E	−C1	+46	+CD	−44	+CB	−48	+42	−D5	+D9	+5F	−D7	−5C	−D0	+5A	−D3	−5E	+D1	−56	−DD	+54	−DB	+58	−52
e_{86}	+C6	+C8	+C7	+4F	+4B	+4A	+C0	+C2	+C1	+4E	−45	−44	−CD	−CC	−49	−43	−D6	−D8	−D7	−5F	−5B	−5A	−D0	−D2	−D1	−5E	+55	+54	+DD	+DC	+59	+53
e_{87}	+C7	+4D	+C6	+C5	+4E	+C3	+C2	+C0	+4C	+4B	−CF	−49	−48	−41	−44	−CA	−D7	−5D	−D6	−D5	−5E	−D3	−D2	−D0	−5C	−5B	+DF	+59	+58	+51	+54	+DA
e_{88}	+C8	+C6	−4D	+C4	+C3	−4E	+C1	−4C	+C0	−4A	+49	−CF	+47	+42	+45	−CB	−D8	−D6	+5D	−D4	−D3	+5E	−D1	+5C	−D0	+5A	−59	+DF	−57	−52	−55	+DB
e_{89}	+C9	−C5	+C4	+4D	+C2	−C1	−4E	−4B	+4A	+C0	−48	+47	+CF	−43	+46	+CC	−D9	+D5	−D4	−5D	−D2	+D1	+5E	+5B	−5A	−D0	+58	−57	−DF	+53	−56	−DC
e_{8A}	+CA	−CE	−43	+42	+CD	+46	−45	+CF	+49	−48	−C0	−4C	+4B	−C4	+C1	−C7	−DA	+DE	+53	−52	−DD	−56	+55	−DF	−59	+58	+D0	+5C	−5B	+D4	−D1	+D7
e_{8B}	+CB	−43	+CE	+41	+46	−CD	−44	−49	+CF	+47	+4C	−C0	−4A	+C5	−C2	−C8	−DB	+53	−DE	−51	−56	+DD	+54	+59	−DF	−57	−5C	+D0	+5A	−D5	+D2	+D8
e_{8C}	+CC	+42	−41	+CE	+45	−44	+CD	−48	+47	−CF	−4B	+4A	−C0	−C6	−C3	+C9	−DC	−52	+51	−DE	−55	+54	−DD	+58	−57	+DF	+5B	−5A	+D0	+D6	+D3	−D9
e_{8D}	+CD	+47	−48	+49	+CA	−CB	+CC	−41	+42	−43	−C4	+C5	−C6	−C0	−4F	+4E	−DD	−57	+58	−59	−DA	+DB	−DC	+51	−52	+53	+D4	−D5	+D6	+D0	+5F	−5E
e_{8E}	+CE	−CA	+CB	+CC	+47	−48	−49	−44	+45	+46	+C1	−C2	−C3	+4F	−C0	−4D	−DE	+DA	−DB	−DC	−57	+58	+59	+54	−55	−56	−D1	+D2	+D3	−5F	+D0	+5D
e_{8F}	+CF	−44	−45	+46	+41	+42	−43	+CA	+CB	−CC	−C7	−C8	+C9	−4E	+4D	−C0	−DF	+54	+55	−56	−51	−52	+53	−DA	−DB	+DC	+D7	+D8	−D9	+5E	−5D	+D0
e_{90}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	−DA	−DB	−DC	−DD	−DE	−DF	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	−CA	−CB	−CC	−CD	−CE	−CF
e_{91}	+D1	+D0	+5C	−5B	−5F	−D9	+D8	+5D	+D6	−D5	+DE	+53	−52	−57	+DA	+54	+C1	+C0	+4C	−4B	−4F	−C9	+C8	+4D	+C6	−C5	+CE	+43	−42	−47	+CA	+44
e_{92}	+D2	−5C	+D0	−5A	+D9	−5F	+D7	+D6	−5D	+D4	+53	−DE	+51	+58	−DB	+55	+C2	−4C	+C0	−4A	+C9	−4F	+C7	+C6	−4D	+C4	+43	−CE	+41	+48	−CB	+45
e_{93}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	−52	−51	−DE	−59	−DC	−56	+C3	+4B	+4A	+C0	+C8	+C7	+4F	+C5	+C4	+4D	−42	−41	−CE	−49	−CC	−46
e_{94}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	−DD	−56	−55	−DA	−57	−51	+C4	+4F	+C9	+C8	+C0	+4C	+4B	+4E	+C3	+C2	−CD	−46	−45	−CA	−47	−41
e_{95}	+D5	−D9	+5F	+D7	−5C	+D0	+5A	+D3	−5E	−D1	−56	+DD	+54	+DB	+58	−52	+C5	−C9	+4F	+C7	−4C	+C0	+4A	+C3	−4E	−C1	−46	+CD	+44	+CB	+48	−42
e_{96}	+D6	+D8	+D7	−5F	−5B	−5A	+D0	+D2	+D1	−5E	+55	+54	−DD	−DC	+59	+53	+C6	+C8	+C7	−4F	−4B	−4A	+C0	+C2	+C1	−4E	+45	+44	−CD	−CC	+49	+43
e_{97}	+D7	−5D	+D6	+D5	−5E	+D3	+D2	+D0	−5C	−5B	−DF	+59	+58	+51	+54	−DA	+C7	−4D	+C6	+C5	−4E	+C3	+C2	+C0	−4C	−4B	−CF	+49	+48	+41	+44	−CA
e_{98}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	−59	−DF	−57	−52	−55	−DB	+C8	+C6	+4D	+C4	+C3	+4E	+C1	+4C	+C0	+4A	−49	−CF	−47	−42	−45	−CB
e_{99}	+D9	−D5	+D4	−5D	+D2	−D1	+5E	+5B	−5A	+D0	+58	−57	+DF	+53	−56	+DC	+C9	−C5	+C4	−4D	+C2	−C1	+4E	+4B	−4A	+C0	+48	−47	+CF	+43	−46	+CC
e_{9A}	+DA	−DE	+53	−52	+DD	−56	+55	+DF	−59	+58	−D0	+5C	−5B	−D4	+D1	−D7	+CA	−CE	+43	−42	+CD	−46	+45	+CF	−49	+48	−C0	+4C	−4B	−C4	+C1	−C7
e_{9B}	+DB	+53	+DE	−51	−56	−DD	+54	+59	+DF	−57	−5C	−D0	+5A	+D5	−D2	−D8	+CB	+43	+CE	−41	−46	−CD	+44	+49	+CF	−47	−4C	−C0	+4A	+C5	−C2	−C8
e_{9C}	+DC	−52	+51	+DE	−55	+54	+DD	+58	−57	−DF	+5B	−5A	−D0	−D6	−D3	+D9	+CC	−42	+41	+CE	−45	+44	+CD	+48	−47	−CF	+4B	−4A	−C0	−C6	−C3	+C9
e_{9D}	+DD	−57	+58	−59	+DA	−DB	+DC	+51	−52	+53	−D4	+D5	−D6	−D0	+5F	−5E	+CD	−47	+48	−49	+CA	−CB	+CC	+41	−42	+43	−C4	+C5	−C6	−C0	+4F	−4E
e_{9E}	+DE	−DA	+DB	+DC	−57	+58	+59	+54	−55	−56	+D1	−D2	−D3	−5F	−D0	+5D	+CE	−CA	+CB	+CC	−47	+48	+49	+44	−45	−46	+C1	−C2	−C3	−4F	−C0	+4D
e_{9F}	+DF	+54	+55	−56	−51	−52	+53	+DA	+DB	−DC	−D7	−D8	+D9	+5E	−5D	−D0	+CF	+44	+45	−46	−41	−42	+43	+CA	+CB	−CC	−C7	−C8	+C9	+4E	−4D	−C0
e_{A0}	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	−EA	−EB	−EC	−ED	−EE	−EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	−FA	−FB	−FC	−FD	−FE	−FF
e_{A1}	+E1	+E0	+6C	−6B	−6F	−E9	+E8	+6D	+E6	−E5	+EE	+63	−62	−67	+EA	+64	+F1	+F0	−7C	+7B	+7F	−F9	+F8	−7D	+F6	−F5	+FE	−73	+72	+77	+FA	−74
e_{A2}	+E2	−6C	+E0	−6A	+E9	−6F	+E7	+E6	−6D	+E4	+63	−EE	+61	+68	−EB	+65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	−73	−FE	−71	−78	−FB	−75
e_{A3}	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	−62	−61	−EE	−69	−EC	−66	+F3	−7B	−7A	+F0	+F8	+F7	−7F	+F5	+F4	−7D	+72	+71	−FE	+79	−FC	+76
e_{A4}	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	−ED	−66	−65	−EA	−67	−61	+F4	−7F	+F9	+F8	+F0	−7C	−7B	−7E	+F3	+F2	−FD	+76	+75	−FA	+77	+71
e_{A5}	+E5	−E9	+6F	+E7	−6C	+E0	+6A	+E3	−6E	−E1	−66	+ED	+64	+EB	+68	−62	+F5	−F9	−7F	+F7	+7C	+F0	−7A	+F3	+7E	−F1	+76	+FD	−74	+FB	−78	+72
e_{A6}	+E6	+E8	+E7	−6F	−6B	−6A	+E0	+E2	+E1	−6E	+65	+64	−ED	−EC	+69	+63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	−75	−74	−FD	−FC	−79	−73
e_{A7}	+E7	−6D	+E6	+E5	−6E	+E3	+E2	+E0	−6C	−6B	−EF	+69	+68	+61	+64	−EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	−FF	−79	−78	−71	−74	−FA
e_{A8}	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	−69	−EF	−67	−62	−65	−EB	+F8	+F6	−7D	+F4	+F3	−7E	+F1	−7C	+F0	−7A	+79	−FF	+77	+72	+75	−FB
e_{A9}	+E9	−E5	+E4	−6D	+E2	−E1	+6E	+6B	−6A	+E0	+68	−67	+EF	+63	−66	+EC	+F9	−F5	+F4	+7D	+F2	−F1	−7E	−7B	+7A	+F0	−78	+77	+FF	−73	+76	+FC
e_{AA}	+EA	−EE	+63	−62	+ED	−66	+65	+EF	−69	+68	−E0	+6C	−6B	−E4	+E1	−E7	+FA	−FE	−73	+72	+FD	+76	−75	+FF	+79	−78	−F0	−7C	+7B	−F4	+F1	−F7
e_{AB}	+EB	+63	+EE	−61	−66	−ED	+64	+69	+EF	−67	−6C	−E0	+6A	+E5	−E2	−E8	+FB	−73	+FE	+71	+76	−FD	−74	−79	+FF	+77	+7C	−F0	−7A	+F5	−F2	−F8
e_{AC}	+EC	−62	+61	+EE	−65	+64	+ED	+68	−67	−EF	+6B	−6A	−E0	−E6	−E3	+E9	+FC	+72	−71	+FE	+75	−74	+FD	−78	+77	−FF	−7B	+7A	−F0	−F6	−F3	+F9
e_{AD}	+ED	−67	+68	−69	+EA	−EB	+EC	+61	−62	+63	−E4	+E5	−E6	−E0	+6F	−6E	+FD	+77	−78	+79	+FA	−FB	+FC	−71	+72	−73	−F4	+F5	−F6	−F0	−7F	+7E
e_{AE}	+EE	−EA	+EB	+EC	−67	+68	+69	+64	−65	−66	+E1	−E2	−E3	−6F	−E0	+6D	+FE	−FA	+FB	+FC	+77	−78	−79	−74	+75	+76	+F1	−F2	−F3	+7F	−F0	−7D
e_{AF}	+EF	+64	+65	−66	−61	−62	+63	+EA	+EB	−EC	−E7	−E8	+E9	+6E	−6D	−E0	+FF	−74	−75	+76	+71	+72	−73	+FA	+FB	−FC	−F7	−F8	+F9	−7E	+7D	−F0
e_{B0}	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	−FA	−FB	−FC	−FD	−FE	−FF	−E0	−E1	−E2	−E3	−E4	−E5	−E6	−E7	−E8	−E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{B1}	+F1	+F0	+7C	−7B	−7F	−F9	+F8	+7D	+F6	−F5	+FE	+73	−72	−77	+FA	+74	−E1	−E0	+6C	−6B	−6F	+E9	−E8	+6D	−E6	+E5	−EE	+63	−62	−67	−EA	+64
e_{B2}	+F2	−7C	+F0	−7A	+F9	−7F	+F7	+F6	−7D	+F4	+73	−FE	+71	+78	−FB	+75	−E2	−6C	−E0	−6A	−E9	−6F	−E7	−E6	−6D	−E4	+63	+EE	+61	+68	+EB	+65
e_{B3}	+F3	+7B	+7A	+F0	+F8	+F7	+7F	+F5	+F4	+7D	−72	−71	−FE	−79	−FC	−76	−E3	+6B	+6A	−E0	−E8	−E7	+6F	−E5	−E4	+6D	−62	−61	+EE	−69	+EC	−66
e_{B4}	+F4	+7F	+F9	+F8	+F0	+7C	+7B	+7E	+F3	+F2	−FD	−76	−75	−FA	−77	−71	−E4	+6F	−E9	−E8	−E0	+6C	+6B	+6E	−E3	−E2	+ED	−66	−65	+EA	−67	−61
e_{B5}	+F5	−F9	+7F	+F7	−7C	+F0	+7A	+F3	−7E	−F1	−76	+FD	+74	+FB	+78	−72	−E5	+E9	+6F	−E7	−6C	−E0	+6A	−E3	−6E	+E1	−66	−ED	+64	−EB	+68	−62
e_{B6}	+F6	+F8	+F7	−7F	−7B	−7A	+F0	+F2	+F1	−7E	+75	+74	−FD	−FC	+79	+73	−E6	−E8	−E7	−6F	−6B	−6A	−E0	−E2	−E1	−6E	+65	+64	+ED	+EC	+69	+63
e_{B7}	+F7	−7D	+F6	+F5	−7E	+F3	+F2	+F0	−7C	−7B	−FF	+79	+78	+71	+74	−FA	−E7	−6D	−E6	−E5	−6E	−E3	−E2	−E0	−6C	−6B	+EF	+69	+68	+61	+64	+EA
e_{B8}	+F8	+F6	+7D	+F4	+F3	+7E	+F1	+7C	+F0	+7A	−79	−FF	−77	−72	−75	−FB	−E8	−E6	+6D	−E4	−E3	+6E	−E1	+6C	−E0	+6A	−69	+EF	−67	−62	−65	+EB
e_{B9}	+F9	−F5	+F4	−7D	+F2	−F1	+7E	+7B	−7A	+F0	+78	−77	+FF	+73	−76	+FC	−E9	+E5	−E4	−6D	−E2	+E1	+6E	+6B	−6A	−E0	+68	−67	−EF	+63	−66	−EC
e_{BA}	+FA	−FE	+73	−72	+FD	−76	+75	+FF	−79	+78	−F0	+7C	−7B	−F4	+F1	−F7	−EA	+EE	+63	−62	−ED	−66	+65	−EF	−69	+68	+E0	+6C	−6B	+E4	−E1	+E7
e_{BB}	+FB	+73	+FE	−71	−76	−FD	+74	+79	+FF	−77	−7C	−F0	+7A	+F5	−F2	−F8	−EB	+63	−EE	−61	−66	+ED	+64	+69	−EF	−67	−6C	+E0	+6A	−E5	+E2	+E8
e_{BC}	+FC	−72	+71	+FE	−75	+74	+FD	+78	−77	−FF	+7B	−7A	−F0	−F6	−F3	+F9	−EC	−62	+61	−EE	−65	+64	−ED	+68	−67	+EF	+6B	−6A	+E0	+E6	+E3	−E9
e_{BD}	+FD	−77	+78	−79	+FA	−FB	+FC	+71	−72	+73	−F4	+F5	−F6	−F0	+7F	−7E	−ED	−67	+68	−69	−EA	+EB	−EC	+61	−62	+63	+E4	−E5	+E6	+E0	+6F	−6E
e_{BE}	+FE	−FA	+FB	+FC	−77	+78	+79	+74	−75	−76	+F1	−F2	−F3	−7F	−F0	+7D	−EE	+EA	−EB	−EC	−67	+68	+69	+64	−65	−66	−E1	+E2	+E3	−6F	+E0	+6D
e_{BF}	+FF	+74	+75	−76	−71	−72	+73	+FA	+FB	−FC	−F7	−F8	+F9	+7E	−7D	−F0	−EF	+64	+65	−66	−61	−62	+63	−EA	−EB	+EC	+E7	+E8	−E9	+6E	−6D	+E0

TABLE 12. $Ka^3(1,4)$ multiplication table, part C4

	e_{40}	e_{41}	e_{42}	e_{43}	e_{44}	e_{45}	e_{46}	e_{47}	e_{48}	e_{49}	e_{4A}	e_{4B}	e_{4C}	e_{4D}	e_{4E}	e_{4F}	e_{50}	e_{51}	e_{52}	e_{53}	e_{54}	e_{55}	e_{56}	e_{57}	e_{58}	e_{59}	e_{5A}	e_{5B}	e_{5C}	e_{5D}	e_{5E}	e_{5F}
e_{C0}	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	+8A	+8B	+8C	+8D	+8E	+8F	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	+9A	+9B	+9C	+9D	+9E	+9F
e_{C1}	−81	−80	+C	−B	−F	+89	−88	+D	−86	+85	−8E	+3	−2	−7	−8A	+4	−91	−90	+1C	−1B	−1F	+99	−98	+1D	−96	+95	−9E	+13	−12	−17	−9A	+14
e_{C2}	−82	−C	−80	−A	−89	−F	−87	−86	−D	−84	+3	+8E	+1	+8	+8B	+5	−92	−1C	−90	−1A	−99	−1F	−97	−96	−1D	−94	+13	+9E	+11	+18	+9B	+15
e_{C3}	−83	+B	+A	−80	−88	−87	+F	−85	−84	+D	−2	−1	+8E	−9	+8C	−6	−93	+1B	+1A	−90	−98	−97	+1F	−95	−94	+1D	−12	−11	+9E	−19	+9C	−16
e_{C4}	−84	+F	−89	−88	−80	+C	+B	+E	−83	−82	+8D	−6	−5	+8A	−7	−1	−94	+1F	−99	−98	−90	+1C	+1B	+1E	−93	−92	+9D	−16	−15	+9A	−17	−11
e_{C5}	−85	+89	+F	−87	−C	−80	+A	−83	−E	+81	−6	−8D	+4	−8B	+8	−2	−95	+99	+1F	−97	−1C	−90	+1A	−93	−1E	+91	−16	−9D	+14	−9B	+18	−12
e_{C6}	−86	−88	−87	−F	−B	−A	−80	−82	−81	−E	+5	+4	+8D	+8C	+9	+3	−96	−98	−97	−1F	−1B	−1A	−90	−92	−91	−1E	+15	+14	+9D	+9C	+19	+13
e_{C7}	−87	−D	−86	−85	−E	−83	−82	−80	−C	−B	+8F	+9	+8	+1	+4	+8A	−97	−1D	−96	−95	−1E	−93	−92	−90	−1C	−1B	+9F	+19	+18	+11	+14	+9A
e_{C8}	−88	−86	+D	−84	−83	+E	−81	+C	−80	+A	−9	+8F	−7	−2	−5	+8B	−98	−96	+1D	−94	−93	+1E	−91	+1C	−90	+1A	−19	+9F	−17	−12	−15	+9B
e_{C9}	−89	+85	−84	−D	−82	+81	+E	+B	−A	−80	+8	−7	−8F	+3	−6	−8C	−99	+95	−94	−1D	−92	+91	+1E	+1B	−1A	−90	+18	−17	−9F	+13	−16	−9C
e_{CA}	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	+80	+C	−B	+84	−81	+87	−9A	+9E	+13	−12	−9D	−16	+15	−9F	−19	+18	+90	+1C	−1B	+94	−91	+97
e_{CB}	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	−C	+80	+A	−85	+82	+88	−9B	+13	−9E	−11	−16	+9D	+14	+19	−9F	−17	−1C	+90	+1A	−95	+92	+98
e_{CC}	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	+B	−A	+80	+86	+83	−89	−9C	−12	+11	−9E	−15	+14	−9D	+18	−17	+9F	+1B	−1A	+90	+96	+93	−99
e_{CD}	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	+84	−85	+86	+80	+F	−E	−9D	−17	+18	−19	−9A	+9B	−9C	+11	−12	+13	+94	−95	+96	+90	+1F	−1E
e_{CE}	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	−F	+80	+D	−9E	+9A	−9B	−9C	−17	+18	+19	+14	−15	−16	−91	+92	+93	−1F	+90	+1D
e_{CF}	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	+87	+88	−89	+E	−D	+80	−9F	+14	+15	−16	−11	−12	+13	−9A	−9B	+9C	+97	+98	−99	+1E	−1D	+90
e_{D0}	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	+9A	+9B	+9C	+9D	+9E	+9F	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	−8A	−8B	−8C	−8D	−8E	−8F
e_{D1}	−91	−90	−1C	+1B	+1F	+99	−98	−1D	−96	+95	−9E	−13	+12	+17	−9A	−14	+81	+80	+C	−B	−F	−89	+88	+D	+86	−85	+8E	+3	−2	−7	+8A	+4
e_{D2}	−92	+1C	−90	+1A	−99	+1F	−97	−96	+1D	−94	−13	+9E	−11	−18	+9B	−15	+82	−C	+80	−A	+89	−F	+87	+86	−D	+84	+3	−8E	+1	+8	−8B	+5
e_{D3}	−93	−1B	−1A	−90	−98	−97	−1F	−95	−94	−1D	+12	+11	+9E	+19	+9C	+16	+83	+B	+A	+80	+88	+87	+F	+85	+84	+D	−2	−1	−8E	−9	−8C	−6
e_{D4}	−94	−1F	−99	−98	−90	−1C	−1B	−1E	−93	−92	+9D	+16	+15	+9A	+17	+11	+84	+F	+89	+88	+80	+C	+B	+E	+83	+82	−8D	−6	−5	−8A	−7	−1
e_{D5}	−95	+99	−1F	−97	+1C	−90	−1A	−93	+1E	+91	+16	−9D	−14	−9B	−18	+12	+85	−89	+F	+87	−C	+80	+A	+83	−E	−81	−6	+8D	+4	+8B	+8	−2
e_{D6}	−96	−98	−97	+1F	+1B	+1A	−90	−92	−91	+1E	−15	−14	+9D	+9C	−19	−13	+86	+88	+87	−F	−B	−A	+80	+82	+81	−E	+5	+4	−8D	−8C	+9	+3
e_{D7}	−97	+1D	−96	−95	+1E	−93	−92	−90	+1C	+1B	+9F	−19	−18	−11	−14	+9A	+87	−D	+86	+85	−E	+83	+82	+80	−C	−B	−8F	+9	+8	+1	+4	−8A
e_{D8}	−98	−96	−1D	−94	−93	−1E	−91	−1C	−90	−1A	+19	+9F	+17	+12	+15	+9B	+88	+86	+D	+84	+83	+E	+81	+C	+80	+A	−9	−8F	−7	−2	−5	−8B
e_{D9}	−99	+95	−94	+1D	−92	+91	−1E	−1B	+1A	−90	−18	+17	−9F	−13	+16	−9C	+89	−85	+84	−D	+82	−81	+E	+B	−A	+80	+8	−7	+8F	+3	−6	+8C
e_{DA}	−9A	+9E	−13	+12	−9D	+16	−15	−9F	+19	−18	+90	−1C	+1B	+94	−91	+97	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	−80	+C	−B	−84	+81	−87
e_{DB}	−9B	−13	−9E	+11	+16	+9D	−14	−19	−9F	+17	+1C	+90	−1A	−95	+92	+98	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	−C	−80	+A	+85	−82	−88
e_{DC}	−9C	+12	−11	−9E	+15	−14	−9D	−18	+17	+9F	−1B	+1A	+90	+96	+93	−99	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	+B	−A	−80	−86	−83	+89
e_{DD}	−9D	+17	−18	+19	−9A	+9B	−9C	−11	+12	−13	+94	−95	+96	+90	−1F	+1E	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	−84	+85	−86	−80	+F	−E
e_{DE}	−9E	+9A	−9B	−9C	+17	−18	−19	−14	+15	+16	−91	+92	+93	+1F	+90	−1D	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	−F	−80	+D
e_{DF}	−9F	−14	−15	+16	+11	+12	−13	−9A	−9B	+9C	+97	+98	−99	−1E	+1D	+90	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	−87	−88	+89	+E	−D	−80
e_{E0}	−A0	−A1	−A2	−A3	−A4	−A5	−A6	−A7	−A8	−A9	+AA	+AB	+AC	+AD	+AE	+AF	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	−BA	−BB	−BC	−BD	−BE	−BF
e_{E1}	−A1	−A0	−2C	+2B	+2F	+A9	−A8	−2D	−A6	+A5	−AE	−23	+22	+27	−AA	−24	+B1	+B0	−3C	+3B	+3F	−B9	+B8	−3D	+B6	−B5	+BE	−33	+32	+37	+BA	−34
e_{E2}	−A2	+2C	−A0	+2A	−A9	+2F	−A7	−A6	+2D	−A4	−23	+AE	−21	−28	+AB	−25	+B2	+3C	+B0	+3A	+B9	+3F	+B7	+B6	+3D	+B4	−33	−BE	−31	−38	−BB	−35
e_{E3}	−A3	−2B	−2A	−A0	−A8	−A7	−2F	−A5	−A4	−2D	+22	+21	+AE	+29	+AC	+26	+B3	−3B	−3A	+B0	+B8	+B7	−3F	+B5	+B4	−3D	+32	+31	−BE	+39	−BC	+36
e_{E4}	−A4	−2F	−A9	−A8	−A0	−2C	−2B	−2E	−A3	−A2	+AD	+26	+25	+AA	+27	+21	+B4	−3F	+B9	+B8	+B0	−3C	−3B	−3E	+B3	+B2	−BD	+36	+35	−BA	+37	+31
e_{E5}	−A5	+A9	−2F	−A7	+2C	−A0	−2A	−A3	+2E	+A1	+26	−AD	−24	−AB	−28	+22	+B5	−B9	−3F	+B7	+3C	+B0	−3A	+B3	+3E	−B1	+36	+BD	−34	+BB	−38	+32
e_{E6}	−A6	−A8	−A7	+2F	+2B	+2A	−A0	−A2	−A1	+2E	−25	−24	+AD	+AC	−29	−23	+B6	+B8	+B7	+3F	+3B	+3A	+B0	+B2	+B1	+3E	−35	−34	−BD	−BC	−39	−33
e_{E7}	−A7	+2D	−A6	−A5	+2E	−A3	−A2	−A0	+2C	+2B	+AF	−29	−28	−21	−24	+AA	+B7	+3D	+B6	+B5	+3E	+B3	+B2	+B0	+3C	+3B	−BF	−39	−38	−31	−34	−BA
e_{E8}	−A8	−A6	−2D	−A4	−A3	−2E	−A1	−2C	−A0	−2A	+29	+AF	+27	+22	+25	+AB	+B8	+B6	−3D	+B4	+B3	−3E	+B1	−3C	+B0	−3A	+39	−BF	+37	+32	+35	−BB
e_{E9}	−A9	+A5	−A4	+2D	−A2	+A1	−2E	−2B	+2A	−A0	−28	+27	−AF	−23	+26	−AC	+B9	−B5	+B4	+3D	+B2	−B1	−3E	−3B	+3A	+B0	−38	+37	+BF	−33	+36	+BC
e_{EA}	−AA	+AE	−23	+22	−AD	+26	−25	−AF	+29	−28	+A0	−2C	+2B	+A4	−A1	+A7	+BA	−BE	−33	+32	+BD	+36	−35	+BF	+39	−38	−B0	−3C	+3B	−B4	+B1	−B7
e_{EB}	−AB	−23	−AE	+21	+26	+AD	−24	−29	−AF	+27	+2C	+A0	−2A	−A5	+A2	+A8	+BB	−33	+BE	+31	+36	−BD	−34	−39	+BF	+37	+3C	−B0	−3A	+B5	−B2	−B8
e_{EC}	−AC	+22	−21	−AE	+25	−24	−AD	−28	+27	+AF	−2B	+2A	+A0	+A6	+A3	−A9	+BC	+32	−31	+BE	+35	−34	+BD	−38	+37	−BF	−3B	+3A	−B0	−B6	−B3	+B9
e_{ED}	−AD	+27	−28	+29	−AA	+AB	−AC	−21	+22	−23	+A4	−A5	+A6	+A0	−2F	+2E	+BD	+37	−38	+39	+BA	−BB	+BC	−31	+32	−33	−B4	+B5	−B6	−B0	−3F	+3E
e_{EE}	−AE	+AA	−AB	−AC	+27	−28	−29	−24	+25	+26	−A1	+A2	+A3	+2F	+A0	−2D	+BE	−BA	+BB	+BC	+37	−38	−39	−34	+35	+36	+B1	−B2	−B3	+3F	−B0	−3D
e_{EF}	−AF	−24	−25	+26	+21	+22	−23	−AA	−AB	+AC	+A7	+A8	−A9	−2E	+2D	+A0	+BF	−34	−35	+36	+31	+32	−33	+BA	+BB	−BC	−B7	−B8	+B9	−3E	+3D	−B0
e_{F0}	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	+BA	+BB	+BC	+BD	+BE	+BF	−A0	−A1	−A2	−A3	−A4	−A5	−A6	−A7	−A8	−A9	+AA	+AB	+AC	+AD	+AE	+AF
e_{F1}	−B1	−B0	−3C	+3B	+3F	+B9	−B8	−3D	−B6	+B5	−BE	−33	+32	+37	−BA	−34	−A1	−A0	+2C	−2B	−2F	+A9	−A8	+2D	−A6	+A5	−AE	+23	−22	−27	−AA	+24
e_{F2}	−B2	+3C	−B0	+3A	−B9	+3F	−B7	−B6	+3D	−B4	−33	+BE	−31	−38	+BB	−35	−A2	−2C	−A0	−2A	−A9	−2F	−A7	−A6	−2D	−A4	+23	+AE	+21	+28	+AB	+25
e_{F3}	−B3	−3B	−3A	−B0	−B8	−B7	−3F	−B5	−B4	−3D	+32	+31	+BE	+39	+BC	+36	−A3	+2B	+2A	−A0	−A8	−A7	+2F	−A5	−A4	+2D	−22	−21	+AE	−29	+AC	−26
e_{F4}	−B4	−3F	−B9	−B8	−B0	−3C	−3B	−3E	−B3	−B2	+BD	+36	+35	+BA	+37	+31	−A4	+2F	−A9	−A8	−A0	+2C	+2B	+2E	−A3	−A2	+AD	−26	−25	+AA	−27	−21
e_{F5}	−B5	+B9	−3F	−B7	+3C	−B0	−3A	−B3	+3E	+B1	+36	−BD	−34	−BB	−38	+32	−A5	+A9	+2F	−A7	−2C	−A0	+2A	−A3	−2E	+A1	−26	−AD	+24	−AB	+28	−22
e_{F6}	−B6	−B8	−B7	+3F	+3B	+3A	−B0	−B2	−B1	+3E	−35	−34	+BD	+BC	−39	−33	−A6	−A8	−A7	−2F	−2B	−2A	−A0	−A2	−A1	−2E	+25	+24	+AD	+AC	+29	+23
e_{F7}	−B7	+3D	−B6	−B5	+3E	−B3	−B2	−B0	+3C	+3B	+BF	−39	−38	−31	−34	+BA	−A7	−2D	−A6	−A5	−2E	−A3	−A2	−A0	−2C	−2B	+AF	+29	+28	+21	+24	+AA
e_{F8}	−B8	−B6	−3D	−B4	−B3	−3E	−B1	−3C	−B0	−3A	+39	+BF	+37	+32	+35	+BB	−A8	−A6	+2D	−A4	−A3	+2E	−A1	+2C	−A0	+2A	−29	+AF	−27	−22	−25	+AB
e_{F9}	−B9	+B5	−B4	+3D	−B2	+B1	−3E	−3B	+3A	−B0	−38	+37	−BF	−33	+36	−BC	−A9	+A5	−A4	−2D	−A2	+A1	+2E	+2B	−2A	−A0	+28	−27	−AF	+23	−26	−AC
e_{FA}	−BA	+BE	−33	+32	−BD	+36	−35	−BF	+39	−38	+B0	−3C	+3B	+B4	−B1	+B7	−AA	+AE	+23	−22	−AD	−26	+25	−AF	−29	+28	+A0	+2C	−2B	+A4	−A1	+A7
e_{FB}	−BB	−33	−BE	+31	+36	+BD	−34	−39	−BF	+37	+3C	+B0	−3A	−B5	+B2	+B8	−AB	+23	−AE	−21	−26	+AD	+24	+29	−AF	−27	−2C	+A0	+2A	−A5	+A2	+A8
e_{FC}	−BC	+32	−31	−BE	+35	−34	−BD	−38	+37	+BF	−3B	+3A	+B0	+B6	+B3	−B9	−AC	−22	+21	−AE	−25	+24	−AD	+28	−27	+AF	+2B	−2A	+A0	+A6	+A3	−A9
e_{FD}	−BD	+37	−38	+39	−BA	+BB	−BC	−31	+32	−33	+B4	−B5	+B6	+B0	−3F	+3E	−AD	−27	+28	−29	−AA	+AB	−AC	+21	−22	+23	+A4	−A5	+A6	+A0	+2F	−2E
e_{FE}	−BE	+BA	−BB	−BC	+37	−38	−39	−34	+35	+36	−B1	+B2	+B3	+3F	+B0	−3D	−AE	+AA	−AB	−AC	−27	+28	+29	+24	−25	−26	−A1	+A2	+A3	−2F	+A0	+2D
e_{FF}	−BF	−34	−35	+36	+31	+32	−33	−BA	−BB	+BC	+B7	+B8	−B9	−3E	+3D	+B0	−AF	+24	+25	−26	−21	−22	+23	−AA	−AB	+AC	+A7	+A8	−A9	+2E	−2D	+A0

TABLE 13. $Ka^3(1, 4)$ multiplication table, part D1

	e_{60}	e_{61}	e_{62}	e_{63}	e_{64}	e_{65}	e_{66}	e_{67}	e_{68}	e_{69}	e_{6A}	e_{6B}	e_{6C}	e_{6D}	e_{6E}	e_{6F}	e_{70}	e_{71}	e_{72}	e_{73}	e_{74}	e_{75}	e_{76}	e_{77}	e_{78}	e_{79}	e_{7A}	e_{7B}	e_{7C}	e_{7D}	e_{7E}	e_{7F}
e_0	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+6A	+6B	+6C	+6D	+6E	+6F	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	+7A	+7B	+7C	+7D	+7E	+7F
e_1	+61	+60	-EC	+EB	+EF	-69	+68	-ED	+66	-65	-6E	+E3	-E2	-E7	-6A	+E4	+71	+70	-FC	+FB	+FF	-79	+78	-FD	+76	-75	-7E	+F3	-F2	-F7	-7A	+F4
e_2	+62	+EC	+60	+EA	+69	+EF	+67	+66	+ED	+64	+E3	+6E	+E1	+E8	+6B	+E5	+72	+FC	+70	+FA	+79	+FF	+77	+76	+FD	+74	+F3	+7E	+F1	+F8	+7B	+F5
e_3	+63	-EB	-EA	+60	+68	+67	-EF	+65	+64	-ED	-E2	-E1	+6E	-E9	+6C	-E6	+73	-FB	-FA	+70	+78	+77	-FF	+75	+74	-FD	-F2	-F1	+7E	-F9	+7C	-F6
e_4	+64	-EF	+69	+68	+60	-EC	-EB	-EE	+63	+62	+6D	-E6	-E5	+6A	-E7	-E1	+74	-FF	+79	+78	+70	-FC	-FB	-FE	+73	+72	+7D	-F6	-F5	+7A	-F7	-F1
e_5	+65	-69	-EF	+67	+EC	+60	-EA	+63	+EE	-61	-E6	-6D	+E4	-6B	+E8	-E2	+75	-79	-FF	+77	+FC	+70	-FA	+73	+FE	-71	-F6	-7D	+F4	-7B	+F8	-F2
e_6	+66	+68	+67	+EF	+EB	+EA	+60	+62	+61	+EE	+E5	+E4	+6D	+6C	+E9	+E3	+76	+78	+77	+FF	+FB	+FA	+70	+72	+71	+FE	+F5	+F4	+7D	+7C	+F9	+F3
e_7	+67	+ED	+66	+65	+EE	+63	+62	+60	+EC	+EB	+6F	+E9	+E8	+E1	+E4	+6A	+77	+FD	+76	+75	+FE	+73	+72	+70	+FC	+FB	+7F	+F9	+F8	+F1	+F4	+7A
e_8	+68	+66	-ED	+64	+63	-EE	+61	-EC	+60	-EA	-E9	+6F	-E7	-E2	-E5	+6B	+78	+76	-FD	+74	+73	-FE	+71	-FC	+70	-FA	-F9	+7F	-F7	-F2	-F5	+7B
e_9	+69	-65	+64	+ED	+62	-61	-EE	-EB	+EA	+60	+E8	-E7	-6F	+E3	-E6	-6C	+79	-75	+74	+FD	+72	-71	-FE	-FB	+FA	+70	+F8	-F7	-7F	+F3	-F6	-7C
e_A	+6A	-6E	-E3	+E2	+6D	+E6	-E5	+6F	+E9	-E8	+60	+EC	-EB	+64	-61	+67	+7A	-7E	-F3	+F2	+7D	+F6	-F5	+7F	+F9	-F8	+70	+FC	-FB	+74	-71	+77
e_B	+6B	-E3	+6E	+E1	+E6	-6D	-E4	-E9	+6F	+E7	-EC	+60	+EA	-65	+62	+68	+7B	-F3	+7E	+F1	+F6	-7D	-F4	-F9	+7F	+F7	-FC	+70	+FA	-75	+72	+78
e_C	+6C	+E2	-E1	+6E	+E5	-E4	+6D	-E8	+E7	-6F	+EB	-EA	+60	+66	+63	-69	+7C	+F2	-F1	+7E	+F5	-F4	+7D	-F8	+F7	-7F	+FB	-FA	+70	+76	+73	-79
e_D	+6D	+E7	-E8	+E9	+6A	-6B	+6C	-E1	+E2	-E3	+64	-65	+66	+60	+EF	-EE	+7D	+F7	-F8	+F9	+7A	-7B	+7C	-F1	+F2	-F3	+74	-75	+76	+70	+FF	-FE
e_E	+6E	-6A	+6B	+6C	+E7	-E8	-E9	-E4	+E5	+E6	-61	+62	+63	-EF	+60	+ED	+7E	-7A	+7B	+7C	+F7	-F8	-F9	-F4	+F5	+F6	-71	+72	+73	-FF	+70	+FD
e_F	+6F	-E4	-E5	+E6	+E1	+E2	-E3	+6A	+6B	-6C	+67	+68	-69	+EE	-ED	+60	+7F	-F4	-F5	+F6	+F1	+F2	-F3	+7A	+7B	-7C	+77	+78	-79	+FE	-FD	+70
e_{10}	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-7A	-7B	-7C	-7D	-7E	-7F	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	+6A	+6B	+6C	+6D	+6E	+6F
e_{11}	-71	-70	-FC	+FB	+FF	+79	-78	-FD	-76	+75	+7E	+F3	-F2	-F7	+7A	+F4	+61	+60	+EC	-EB	-EF	-69	+68	+ED	+66	-65	-6E	-E3	+E2	+E7	-6A	-E4
e_{12}	-72	+FC	-70	+FA	-79	+FF	-77	-76	+FD	-74	+F3	-7E	+F1	+F8	-7B	+F5	+62	-EC	+60	-EA	+69	-EF	+67	+66	-ED	+64	-E3	+6E	-E1	-E8	+6B	-E5
e_{13}	-73	-FB	-FA	-70	-78	-77	-FF	-75	-74	-FD	-F2	-F1	-7E	-F9	-7C	-F6	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	+E2	+E1	+6E	+E9	+6C	+E6
e_{14}	-74	-FF	-79	-78	-70	-FC	-FB	-FE	-73	-72	-7D	-F6	-F5	-7A	-F7	-F1	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	+6D	+E6	+E5	+6A	+E7	+E1
e_{15}	-75	+79	-FF	-77	+FC	-70	-FA	-73	+FE	+71	-F6	+7D	+F4	+7B	+F8	-F2	+65	-69	+EF	+67	-EC	+60	+EA	+63	-EE	-61	+E6	-6D	-E4	-6B	-E8	+E2
e_{16}	-76	-78	-77	+FF	+FB	+FA	-70	-72	-71	+FE	+F5	+F4	-7D	-7C	+F9	+F3	+66	+68	+67	-EF	-EB	-EA	+60	+62	+61	-EE	-E5	-E4	+6D	+6C	-E9	-E3
e_{17}	-77	+FD	-76	-75	+FE	-73	-72	-70	+FC	+FB	-7F	+F9	+F8	+F1	+F4	-7A	+67	-ED	+66	+65	-EE	+63	+62	+60	-EC	-EB	+6F	-E9	-E8	-E1	-E4	+6A
e_{18}	-78	-76	-FD	-74	-73	-FE	-71	-FC	-70	-FA	-F9	-7F	-F7	-F2	-F5	-7B	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	+E9	+6F	+E7	+E2	+E5	+6B
e_{19}	-79	+75	-74	+FD	-72	+71	-FE	-FB	+FA	-70	+F8	-F7	+7F	+F3	-F6	+7C	+69	-65	+64	-ED	+62	-61	+EE	+EB	-EA	+60	-E8	+E7	-6F	-E3	+E6	-6C
e_{1A}	-7A	+7E	-F3	+F2	-7D	+F6	-F5	-7F	+F9	-F8	-70	+FC	-FB	-74	+71	-77	+6A	-6E	+E3	-E2	+6D	-E6	+E5	+6F	-E9	+E8	+60	-EC	+EB	+64	-61	+67
e_{1B}	-7B	-F3	-7E	+F1	+F6	+7D	-F4	-F9	-7F	+F7	-FC	-70	+FA	+75	-72	-78	+6B	+E3	+6E	-E1	-E6	-6D	+E4	+E9	+6F	-E7	+EC	+60	-EA	-65	+62	+68
e_{1C}	-7C	+F2	-F1	-7E	+F5	-F4	-7D	-F8	+F7	+7F	+FB	-FA	-70	-76	-73	+79	+6C	-E2	+E1	+6E	-E5	+E4	+6D	+E8	-E7	-6F	-EB	+EA	+60	+66	+63	-69
e_{1D}	-7D	+F7	-F8	+F9	-7A	+7B	-7C	-F1	+F2	-F3	-74	+75	-76	-70	+FF	-FE	+6D	-E7	+E8	-E9	+6A	-6B	+6C	+E1	-E2	+E3	+64	-65	+66	+60	-EF	+EE
e_{1E}	-7E	+7A	-7B	-7C	+F7	-F8	-F9	-F4	+F5	+F6	+71	-72	-73	-FF	-70	+FD	+6E	-6A	+6B	+6C	-E7	+E8	+E9	+E4	-E5	-E6	-61	+62	+63	+EF	+60	-ED
e_{1F}	-7F	-F4	-F5	+F6	+F1	+F2	-F3	-7A	-7B	+7C	-77	-78	+79	+FE	-FD	-70	+6F	+E4	+E5	-E6	-E1	-E2	+E3	+6A	+6B	-6C	+67	+68	-69	-EE	+ED	+60
e_{20}	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	-4A	-4B	-4C	-4D	-4E	-4F	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	-5A	-5B	-5C	-5D	-5E	-5F
e_{21}	-41	-40	-CC	+CB	+CF	+49	-48	-CD	-46	+45	+4E	+C3	-C2	-C7	+4A	+C4	-51	-50	+DC	-DB	-DF	+59	-58	+DD	-56	+55	+5E	-D3	+D2	+D7	+5A	-D4
e_{22}	-42	+CC	-40	+CA	-49	+CF	-47	-46	+CD	-44	+C3	-4E	+C1	+C8	-4B	+C5	-52	-DC	-50	-DA	-59	-DF	-57	-56	-DD	-54	-D3	-5E	-D1	-D8	-5B	-D5
e_{23}	-43	-CB	-CA	-40	-48	-47	-CF	-45	-44	-CD	-C2	-C1	-4E	-C9	-4C	-C6	-53	+DB	+DA	-50	-58	-57	+DF	-55	-54	+DD	+D2	+D1	-5E	+D9	-5C	+D6
e_{24}	-44	-CF	-49	-48	-40	-CC	-CB	-CE	-43	-42	-4D	-C6	-C5	-4A	-C7	-C1	-54	+DF	-59	-58	-50	+DC	+DB	+DE	-53	-52	-5D	+D6	+D5	-5A	+D7	+D1
e_{25}	-45	+49	-CF	-47	+CC	-40	-CA	-43	+CE	+41	-C6	+4D	+C4	+4B	+C8	-C2	-55	+59	+DF	-57	-DC	-50	+DA	-53	-DE	+51	+D6	+5D	-D4	+5B	-D8	+D2
e_{26}	-46	-48	-47	+CF	+CB	+CA	-40	-42	-41	+CE	+C5	+C4	-4D	-4C	+C9	+C3	-56	-58	-57	-DF	-DB	-DA	-50	-52	-51	-DE	-D5	-D4	-5D	-5C	-D9	-D3
e_{27}	-47	+CD	-46	-45	+CE	-43	-42	-40	+CC	+CB	-4F	+C9	+C8	+C1	+C4	-4A	-57	-DD	-56	-55	-DE	-53	-52	-50	-DC	-DB	-5F	-D9	-D8	-D1	-D4	-5A
e_{28}	-48	-46	-CD	-44	-43	-CE	-41	-CC	-40	-CA	-C9	-4F	-C7	-C2	-C5	-4B	-58	-56	+DD	-54	-53	+DE	-51	+DC	-50	+DA	+D9	-5F	+D7	+D2	+D5	-5B
e_{29}	-49	+45	-44	+CD	-42	+41	-CE	-CB	+CA	-40	+C8	-C7	+4F	+C3	-C6	+4C	-59	+55	-54	-DD	-52	+51	+DE	+DB	-DA	-50	-D8	+D7	+5F	-D3	+D6	+5C
e_{2A}	-4A	+4E	-C3	+C2	-4D	+C6	-C5	-4F	+C9	-C8	-40	+CC	-CB	-44	+41	-47	-5A	+5E	+D3	-D2	-5D	-D6	+D5	-5F	-D9	+D8	-50	-DC	+DB	-54	+51	-57
e_{2B}	-4B	-C3	-4E	+C1	+C6	+4D	-C4	-C9	-4F	+C7	-CC	-40	+CA	+45	-42	-48	-5B	+D3	-5E	-D1	-D6	+5D	+D4	+D9	-5F	-D7	+DC	-50	-DA	+55	-52	-58
e_{2C}	-4C	+C2	-C1	-4E	+C5	-C4	-4D	-C8	+C7	+4F	+CB	-CA	-40	-46	-43	+49	-5C	-D2	+D1	-5E	-D5	+D4	-5D	+D8	-D7	+5F	-DB	+DA	-50	-56	-53	+59
e_{2D}	-4D	+C7	-C8	+C9	-4A	+4B	-4C	-C1	+C2	-C3	-44	+45	-46	-40	+CF	-CE	-5D	-D7	+D8	-D9	-5A	+5B	-5C	+D1	-D2	+D3	-54	+55	-56	-50	-DF	+DE
e_{2E}	-4E	+4A	-4B	-4C	+C7	-C8	-C9	-C4	+C5	+C6	+41	-42	-43	-CF	-40	+CD	-5E	+5A	-5B	-5C	-D7	+D8	+D9	+D4	-D5	-D6	+51	-52	-53	+DF	-50	-DD
e_{2F}	-4F	-C4	-C5	+C6	+C1	+C2	-C3	-4A	-4B	+4C	-47	-48	+49	+CE	-CD	-40	-5F	+D4	+D5	-D6	-D1	-D2	+D3	-5A	-5B	+5C	-57	-58	+59	-DE	+DD	-50
e_{30}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	+5A	+5B	+5C	+5D	+5E	+5F	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	-4A	-4B	-4C	-4D	-4E	-4F
e_{31}	+51	+50	+DC	-DB	-DF	-59	+58	+DD	+56	-55	-5E	-D3	+D2	+D7	-5A	-D4	-41	-40	+CC	-CB	-CF	+49	-48	+CD	-46	+45	+4E	-C3	+C2	+C7	+4A	-C4
e_{32}	+52	-DC	+50	-DA	+59	-DF	+57	+56	-DD	+54	-D3	+5E	-D1	-D8	+5B	-D5	-42	-CC	-40	-CA	-49	-CF	-47	-46	-CD	-44	-C3	-4E	-C1	-C8	-4B	-C5
e_{33}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	+D2	+D1	+5E	+D9	+5C	+D6	-43	+CB	+CA	-40	-48	-47	+CF	-45	-44	+CD	+C2	+C1	-4E	+C9	-4C	+C6
e_{34}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	+5D	+D6	+D5	+5A	+D7	+D1	-44	+CF	-49	-48	-40	+CC	+CB	+CE	-43	-42	-4D	+C6	+C5	-4A	+C7	+C1
e_{35}	+55	-59	+DF	+57	-DC	+50	+DA	+53	-DE	-51	+D6	-5D	-D4	-5B	-D8	+D2	-45	+49	+CF	-47	-CC	-40	+CA	-43	-CE	+41	+C6	+4D	-C4	+4B	-C8	+C2
e_{36}	+56	+58	+57	-DF	-DB	-DA	+50	+52	+51	-DE	-D5	-D4	+5D	+5C	-D9	-D3	-46	-48	-47	-CF	-CB	-CA	-40	-42	-41	-CE	-C5	-C4	-4D	-4C	-C9	-C3
e_{37}	+57	-DD	+56	+55	-DE	+53	+52	+50	-DC	-DB	+5F	-D9	-D8	-D1	-D4	+5A	-47	-CD	-46	-45	-CE	-43	-42	-40	-CC	-CB	-4F	-C9	-C8	-C1	-C4	-4A
e_{38}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	+D9	+5F	+D7	+D2	+D5	+5B	-48	-46	+CD	-44	-43	+CE	-41	+CC	-40	+CA	+C9	-4F	+C7	+C2	+C5	-4B
e_{39}	+59	-55	+54	-DD	+52	-51	+DE	+DB	-DA	+50	-D8	+D7	-5F	-D3	+D6	-5C	-49	+45	-44	-CD	-42	+41	+CE	+CB	-CA	-40	-C8	+C7	+4F	-C3	+C6	+4C
e_{3A}	+5A	-5E	+D3	-D2	+5D	-D6	+D5	+5F	-D9	+D8	+50	-DC	+DB	+54	-51	+57	-4A	+4E	+C3	-C2	-4D	-C6	+C5	-4F	-C9	+C8	-40	-CC	+CB	-44	+41	-47
e_{3B}	+5B	+D3	+5E	-D1	-D6	-5D	+D4	+D9	+5F	-D7	+DC	+50	-DA	-55	+52	+58	-4B	+C3	-4E	-C1	-C6	+4D	+C4	+C9	-4F	-C7	+CC	-40	-CA	+45	-42	-48
e_{3C}	+5C	-D2	+D1	+5E	-D5	+D4	+5D	+D8	-D7	-5F	-DB	+DA	+50	+56	+53	-59	-4C	-C2	+C1	-4E	-C5	+C4	-4D	+C8	-C7	+4F	-CB	+CA	-40	-46	-43	+49
e_{3D}	+5D	-D7	+D8	-D9	+5A	-5B	+5C	+D1	-D2	+D3	+54	-55	+56	+50	-DF	+DE	-4D	-C7	+C8	-C9	-4A	+4B	-4C	+C1	-C2	+C3	-44	+45	-46	-40	-CF	+CE
e_{3E}	+5E	-5A	+5B	+5C	-D7	+D8	+D9	+D4	-D5	-D6	-51	+52	+53	+DF	+50	-DD	-4E	+4A	-4B	-4C	-C7	+C8	+C9	+C4	-C5	-C6	+41	-42	-43	+CF	-40	-CD
e_{3F}	+5F	+D4	+D5	-D6	-D1	-D2	+D3	+5A	+5B	-5C	+57	+58	-59	-DE	+DD	+50	-4F	+C4	+C5	-C6	-C1	-C2	+C3	-4A	-4B	+4C	-47	-48	+49	-CE	+CD	-40

TABLE 14. $Ka^3(1,4)$ multiplication table, part D2

	e_{60}	e_{61}	e_{62}	e_{63}	e_{64}	e_{65}	e_{66}	e_{67}	e_{68}	e_{69}	e_{6A}	e_{6B}	e_{6C}	e_{6D}	e_{6E}	e_{6F}	e_{70}	e_{71}	e_{72}	e_{73}	e_{74}	e_{75}	e_{76}	e_{77}	e_{78}	e_{79}	e_{7A}	e_{7B}	e_{7C}	e_{7D}	e_{7E}	e_{7F}
e_{40}	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+2A	+2B	+2C	+2D	+2E	+2F	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	+3A	+3B	+3C	+3D	+3E	+3F
e_{41}	+21	+20	−AC	+AB	+AF	−29	+28	−AD	+26	−25	−2E	+A3	−A2	−A7	−2A	+A4	+31	+30	−BC	+BB	+BF	−39	+38	−BD	+36	−35	−3E	+B3	−B2	−B7	−3A	+B4
e_{42}	+22	+AC	+20	+AA	+29	+AF	+27	+26	+AD	+24	+A3	+2E	+A1	+A8	+2B	+A5	+32	+BC	+30	+BA	+39	+BF	+37	+36	+BD	+34	+B3	+3E	+B1	+B8	+3B	+B5
e_{43}	+23	−AB	−AA	+20	+28	+27	−AF	+25	+24	−AD	−A2	−A1	+2E	−A9	+2C	−A6	+33	−BB	−BA	+30	+38	+37	−BF	+35	+34	−BD	−B2	−B1	+3E	−B9	+3C	−B6
e_{44}	+24	−AF	+29	+28	+20	−AC	−AB	−AE	+23	+22	+2D	−A6	−A5	+2A	−A7	−A1	+34	−BF	+39	+38	+30	−BC	−BB	−BE	+33	+32	+3D	−B6	−B5	+3A	−B7	−B1
e_{45}	+25	−29	−AF	+27	+AC	+20	−AA	+23	+AE	−21	−A6	−2D	+A4	−2B	+A8	−A2	+35	−39	−BF	+37	+BC	+30	−BA	+33	+BE	−31	−B6	−3D	+B4	−3B	+B8	−B2
e_{46}	+26	+28	+27	+AF	+AB	+AA	+20	+22	+21	+AE	+A5	+A4	+2D	+2C	+A9	+A3	+36	+38	+37	+BF	+BB	+BA	+30	+32	+31	+BE	+B5	+B4	+3D	+3C	+B9	+B3
e_{47}	+27	+AD	+26	+25	+AE	+23	+22	+20	+AC	+AB	+2F	+A9	+A8	+A1	+A4	+2A	+37	+BD	+36	+35	+BE	+33	+32	+30	+BC	+BB	+3F	+B9	+B8	+B1	+B4	+3A
e_{48}	+28	+26	−AD	+24	+23	−AE	+21	−AC	+20	−AA	−A9	+2F	−A7	−A2	−A5	+2B	+38	+36	−BD	+34	+33	−BE	+31	−BC	+30	−BA	−B9	+3F	−B7	−B2	−B5	+3B
e_{49}	+29	−25	+24	+AD	+22	−21	−AE	−AB	+AA	+20	+A8	−A7	−2F	+A3	−A6	−2C	+39	−35	+34	+BD	+32	−31	−BE	−BB	+BA	+30	+B8	−B7	−3F	+B3	−B6	−3C
e_{4A}	+2A	−2E	−A3	+A2	+2D	+A6	−A5	+2F	+A9	−A8	+20	+AC	−AB	+24	−21	+27	+3A	−3E	−B3	+B2	+3D	+B6	−B5	+3F	+B9	−B8	+30	+BC	−BB	+34	−31	+37
e_{4B}	+2B	−A3	+2E	+A1	+A6	−2D	−A4	−A9	+2F	+A7	−AC	+20	+AA	−25	+22	+28	+3B	−B3	+3E	+B1	+B6	−3D	−B4	−B9	+3F	+B7	−BC	+30	+BA	−35	+32	+38
e_{4C}	+2C	+A2	−A1	+2E	+A5	−A4	+2D	−A8	+A7	−2F	+AB	−AA	+20	+26	+23	−29	+3C	+B2	−B1	+3E	+B5	−B4	+3D	−B8	+B7	−3F	+BB	−BA	+30	+36	+33	−39
e_{4D}	+2D	+A7	−A8	+A9	+2A	−2B	+2C	−A1	+A2	−A3	+24	−25	+26	+20	+AF	−AE	+3D	+B7	−B8	+B9	+3A	−3B	+3C	−B1	+B2	−B3	+34	−35	+36	+30	+BF	−BE
e_{4E}	+2E	−2A	+2B	+2C	+A7	−A8	−A9	−A4	+A5	+A6	−21	+22	+23	−AF	+20	+AD	+3E	−3A	+3B	+3C	+B7	−B8	−B9	−B4	+B5	+B6	−31	+32	+33	−BF	+30	+BD
e_{4F}	+2F	−A4	−A5	+A6	+A1	+A2	−A3	+2A	+2B	−2C	+27	+28	−29	+AE	−AD	+20	+3F	−B4	−B5	+B6	+B1	+B2	−B3	+3A	+3B	−3C	+37	+38	−39	+BE	−BD	+30
e_{50}	−30	−31	−32	−33	−34	−35	−36	−37	−38	−39	−3A	−3B	−3C	−3D	−3E	−3F	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	+2A	+2B	+2C	+2D	+2E	+2F
e_{51}	−31	−30	−BC	+BB	+BF	+39	−38	−BD	−36	+35	+3E	+B3	−B2	−B7	+3A	+B4	+21	+20	+AC	−AB	−AF	−29	+28	+AD	+26	−25	−2E	−A3	+A2	+A7	−2A	−A4
e_{52}	−32	+BC	−30	+BA	−39	+BF	−37	−36	+BD	−34	+B3	−3E	+B1	+B8	−3B	+B5	+22	−AC	+20	−AA	+29	−AF	+27	+26	−AD	+24	−A3	+2E	−A1	−A8	+2B	−A5
e_{53}	−33	−BB	−BA	−30	−38	−37	−BF	−35	−34	−BD	−B2	−B1	−3E	−B9	−3C	−B6	+23	+AB	+AA	+20	+28	+27	+AF	+25	+24	+AD	+A2	+A1	+2E	+A9	+2C	+A6
e_{54}	−34	−BF	−39	−38	−30	−BC	−BB	−BE	−33	−32	−3D	−B6	−B5	−3A	−B7	−B1	+24	+AF	+29	+28	+20	+AC	+AB	+AE	+23	+22	+2D	+A6	+A5	+2A	+A7	+A1
e_{55}	−35	+39	−BF	−37	+BC	−30	−BA	−33	+BE	+31	−B6	+3D	+B4	+3B	+B8	−B2	+25	−29	+AF	+27	−AC	+20	+AA	+23	−AE	−21	+A6	−2D	−A4	−2B	−A8	+A2
e_{56}	−36	−38	−37	+BF	+BB	+BA	−30	−32	−31	+BE	+B5	+B4	−3D	−3C	+B9	+B3	+26	+28	+27	−AF	−AB	−AA	+20	+22	+21	−AE	−A5	−A4	+2D	+2C	−A9	−A3
e_{57}	−37	+BD	−36	−35	+BE	−33	−32	−30	+BC	+BB	−3F	+B9	+B8	+B1	+B4	−3A	+27	−AD	+26	+25	−AE	+23	+22	+20	−AC	−AB	+2F	−A9	−A8	−A1	−A4	+2A
e_{58}	−38	−36	−BD	−34	−33	−BE	−31	−BC	−30	−BA	−B9	−3F	−B7	−B2	−B5	−3B	+28	+26	+AD	+24	+23	+AE	+21	+AC	+20	+AA	+A9	+2F	+A7	+A2	+A5	+2B
e_{59}	−39	+35	−34	+BD	−32	+31	−BE	−BB	+BA	−30	+B8	−B7	+3F	+B3	−B6	+3C	+29	−25	+24	−AD	+22	−21	+AE	+AB	−AA	+20	−A8	+A7	−2F	−A3	+A6	−2C
e_{5A}	−3A	+3E	−B3	+B2	−3D	+B6	−B5	−3F	+B9	−B8	−30	+BC	−BB	−34	+31	−37	+2A	−2E	+A3	−A2	+2D	−A6	+A5	+2F	−A9	+A8	+20	−AC	+AB	+24	−21	+27
e_{5B}	−3B	−B3	−3E	+B1	+B6	+3D	−B4	−B9	−3F	+B7	−BC	−30	+BA	+35	−32	−38	+2B	+A3	+2E	−A1	−A6	−2D	+A4	+A9	+2F	−A7	+AC	+20	−AA	−25	+22	+28
e_{5C}	−3C	+B2	−B1	−3E	+B5	−B4	−3D	−B8	+B7	+3F	+BB	−BA	−30	−36	−33	+39	+2C	−A2	+A1	+2E	−A5	+A4	+2D	+A8	−A7	−2F	−AB	+AA	+20	+26	+23	−29
e_{5D}	−3D	+B7	−B8	+B9	−3A	+3B	−3C	−B1	+B2	−B3	−34	+35	−36	−30	+BF	−BE	+2D	−A7	+A8	−A9	+2A	−2B	+2C	+A1	−A2	+A3	+24	−25	+26	+20	−AF	+AE
e_{5E}	−3E	+3A	−3B	−3C	+B7	−B8	−B9	−B4	+B5	+B6	+31	−32	−33	−BF	−30	+BD	+2E	−2A	+2B	+2C	−A7	+A8	+A9	+A4	−A5	−A6	−21	+22	+23	+AF	+20	−AD
e_{5F}	−3F	−B4	−B5	+B6	+B1	+B2	−B3	−3A	−3B	+3C	−37	−38	+39	+BE	−BD	−30	+2F	+A4	+A5	−A6	−A1	−A2	+A3	+2A	+2B	−2C	+27	+28	−29	−AE	+AD	+20
e_{60}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−A	−B	−C	−D	−E	−F	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	−1A	−1B	−1C	−1D	−1E	−1F
e_{61}	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	+E	+83	−82	−87	+A	+84	−11	−10	+9C	−9B	−9F	+19	−18	+9D	−16	+15	+1E	−93	+92	+97	+1A	−94
e_{62}	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	+83	−E	+81	+88	−B	+85	−12	−9C	−10	−9A	−19	−9F	−17	−16	−9D	−14	−93	−1E	−91	−98	−1B	−95
e_{63}	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	−82	−81	−E	−89	−C	−86	−13	+9B	+9A	−10	−18	−17	+9F	−15	−14	+9D	+92	+91	−1E	+99	−1C	+96
e_{64}	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	−D	−86	−85	−A	−87	−81	−14	+9F	−19	−18	−10	+9C	+9B	+9E	−13	−12	−1D	+96	+95	−1A	+97	+91
e_{65}	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	−86	+D	+84	+B	+88	−82	−15	+19	+9F	−17	−9C	−10	+9A	−13	−9E	+11	+96	+1D	−94	+1B	−98	+92
e_{66}	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	+85	+84	−D	−C	+89	+83	−16	−18	−17	−9F	−9B	−9A	−10	−12	−11	−9E	−95	−94	−1D	−1C	−99	−93
e_{67}	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	−F	+89	+88	+81	+84	−A	−17	−9D	−16	−15	−9E	−13	−12	−10	−9C	−9B	−1F	−99	−98	−91	−94	−1A
e_{68}	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	−89	−F	−87	−82	−85	−B	−18	−16	+9D	−14	−13	+9E	−11	+9C	−10	+9A	+99	−1F	+97	+92	+95	−1B
e_{69}	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	+88	−87	+F	+83	−86	+C	−19	+15	−14	−9D	−12	+11	+9E	+9B	−9A	−10	−98	+97	+1F	−93	+96	+1C
e_{6A}	−A	+E	−83	+82	−D	+86	−85	−F	+89	−88	−0	+8C	−8B	−4	+1	−7	−1A	+1E	+93	−92	−1D	−96	+95	−1F	−99	+98	−10	−9C	+9B	−14	+11	−17
e_{6B}	−B	−83	−E	+81	+86	+D	−84	−89	−F	+87	−8C	−0	+8A	+5	−2	−8	−1B	+93	−1E	−91	−96	+1D	+94	+99	−1F	−97	+9C	−10	−9A	+15	−12	−18
e_{6C}	−C	+82	−81	−E	+85	−84	−D	−88	+87	+F	+8B	−8A	−0	−6	−3	+9	−1C	−92	+91	−1E	−95	+94	−1D	+98	−97	+1F	−9B	+9A	−10	−16	−13	+19
e_{6D}	−D	+87	−88	+89	−A	+B	−C	−81	+82	−83	−4	+5	−6	−0	+8F	−8E	−1D	−97	+98	−99	−1A	+1B	−1C	+91	−92	+93	−14	+15	−16	−10	−9F	+9E
e_{6E}	−E	+A	−B	−C	+87	−88	−89	−84	+85	+86	+1	−2	−3	−8F	−0	+8D	−1E	+1A	−1B	−1C	−97	+98	+99	+94	−95	−96	+11	−12	−13	+9F	−10	−9D
e_{6F}	−F	−84	−85	+86	+81	+82	−83	−A	−B	+C	−7	−8	+9	+8E	−8D	−0	−1F	+94	+95	−96	−91	−92	+93	−1A	−1B	+1C	−17	−18	+19	−9E	+9D	−10
e_{70}	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	+1A	+1B	+1C	+1D	+1E	+1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	−A	−B	−C	−D	−E	−F
e_{71}	+11	+10	+9C	−9B	−9F	−19	+18	+9D	+16	−15	−1E	−93	+92	+97	−1A	−94	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	+E	−83	+82	+87	+A	−84
e_{72}	+12	−9C	+10	−9A	+19	−9F	+17	+16	−9D	+14	−93	+1E	−91	−98	+1B	−95	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	−83	−E	−81	−88	−B	−85
e_{73}	+13	+9B	+9A	+10	+18	+17	+9F	+15	+14	+9D	+92	+91	+1E	+99	+1C	+96	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	+82	+81	−E	+89	−C	+86
e_{74}	+14	+9F	+19	+18	+10	+9C	+9B	+9E	+13	+12	+1D	+96	+95	+1A	+97	+91	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	−D	+86	+85	−A	+87	+81
e_{75}	+15	−19	+9F	+17	−9C	+10	+9A	+13	−9E	−11	+96	−1D	−94	−1B	−98	+92	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	+86	+D	−84	+B	−88	+82
e_{76}	+16	+18	+17	−9F	−9B	−9A	+10	+12	+11	−9E	−95	−94	+1D	+1C	−99	−93	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	−85	−84	−D	−C	−89	−83
e_{77}	+17	−9D	+16	+15	−9E	+13	+12	+10	−9C	−9B	+1F	−99	−98	−91	−94	+1A	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	−F	−89	−88	−81	−84	−A
e_{78}	+18	+16	+9D	+14	+13	+9E	+11	+9C	+10	+9A	+99	+1F	+97	+92	+95	+1B	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	+89	−F	+87	+82	+85	−B
e_{79}	+19	−15	+14	−9D	+12	−11	+9E	+9B	−9A	+10	−98	+97	−1F	−93	+96	−1C	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	−88	+87	+F	−83	+86	+C
e_{7A}	+1A	−1E	+93	−92	+1D	−96	+95	+1F	−99	+98	+10	−9C	+9B	+14	−11	+17	−A	+E	+83	−82	−D	−86	+85	−F	−89	+88	−0	−8C	+8B	−4	+1	−7
e_{7B}	+1B	+93	+1E	−91	−96	−1D	+94	+99	+1F	−97	+9C	+10	−9A	−15	+12	+18	−B	+83	−E	−81	−86	+D	+84	+89	−F	−87	+8C	−0	−8A	+5	−2	−8
e_{7C}	+1C	−92	+91	+1E	−95	+94	+1D	+98	−97	−1F	−9B	+9A	+10	+16	+13	−19	−C	−82	+81	−E	−85	+84	−D	+88	−87	+F	−8B	+8A	−0	−6	−3	+9
e_{7D}	+1D	−97	+98	−99	+1A	−1B	+1C	+91	−92	+93	+14	−15	+16	+10	−9F	+9E	−D	−87	+88	−89	−A	+B	−C	+81	−82	+83	−4	+5	−6	−0	−8F	+8E
e_{7E}	+1E	−1A	+1B	+1C	−97	+98	+99	+94	−95	−96	−11	+12	+13	+9F	+10	−9D	−E	+A	−B	−C	−87	+88	+89	+84	−85	−86	+1	−2	−3	+8F	−0	−8D
e_{7F}	+1F	+94	+95	−96	−91	−92	+93	+1A	+1B	−1C	+17	+18	−19	−9E	+9D	+10	−F	+84	+85	−86	−81	−82	+83	−A	−B	+C	−7	−8	+9	−8E	+8D	−0

TABLE 15. $Ka^3(1,4)$ multiplication table, part D3

	e_{60}	e_{61}	e_{62}	e_{63}	e_{64}	e_{65}	e_{66}	e_{67}	e_{68}	e_{69}	e_{6A}	e_{6B}	e_{6C}	e_{6D}	e_{6E}	e_{6F}	e_{70}	e_{71}	e_{72}	e_{73}	e_{74}	e_{75}	e_{76}	e_{77}	e_{78}	e_{79}	e_{7A}	e_{7B}	e_{7C}	e_{7D}	e_{7E}	e_{7F}
e_{80}	−E0	−E1	−E2	−E3	−E4	−E5	−E6	−E7	−E8	−E9	+EA	+EB	+EC	+ED	+EE	+EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	−FA	−FB	−FC	−FD	−FE	−FF
e_{81}	−E1	−E0	+6C	−6B	−6F	+E9	−E8	+6D	−E6	+E5	−EE	+63	−62	−67	−EA	+64	+F1	+F0	−7C	+7B	+7F	−F9	+F8	−7D	+F6	−F5	+FE	−73	+72	+77	+FA	−74
e_{82}	−E2	−6C	−E0	−6A	−E9	−6F	−E7	−E6	−6D	−E4	+63	+EE	+61	+68	+EB	+65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	−73	−FE	−71	−78	−FB	−75
e_{83}	−E3	+6B	+6A	−E0	−E8	−E7	+6F	−E5	−E4	+6D	−62	−61	+EE	−69	+EC	−66	+F3	−7B	−7A	+F0	+F8	+F7	−7F	+F5	+F4	−7D	+72	+71	−FE	+79	−FC	+76
e_{84}	−E4	+6F	−E9	−E8	−E0	+6C	+6B	+6E	−E3	−E2	+ED	−66	−65	+EA	−67	−61	+F4	−7F	+F9	+F8	+F0	−7C	−7B	−7E	+F3	+F2	−FD	+76	+75	−FA	+77	+71
e_{85}	−E5	+E9	+6F	−E7	−6C	−E0	+6A	−E3	−6E	+E1	−66	−ED	+64	−EB	+68	−62	+F5	−F9	−7F	+F7	+7C	+F0	−7A	+F3	+7E	−F1	+76	+FD	−74	+FB	−78	+72
e_{86}	−E6	−E8	−E7	−6F	−6B	−6A	−E0	−E2	−E1	−6E	+65	+64	+ED	+EC	+69	+63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	−75	−74	−FD	−FC	−79	−73
e_{87}	−E7	−6D	−E6	−E5	−6E	−E3	−E2	−E0	−6C	−6B	+EF	+69	+68	+61	+64	+EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	−FF	−79	−78	−71	−74	−FA
e_{88}	−E8	−E6	+6D	−E4	−E3	+6E	−E1	+6C	−E0	+6A	−69	+EF	−67	−62	−65	+EB	+F8	+F6	−7D	+F4	+F3	−7E	+F1	−7C	+F0	−7A	+79	−FF	+77	+72	+75	−FB
e_{89}	−E9	+E5	−E4	−6D	−E2	+E1	+6E	+6B	−6A	−E0	+68	−67	−EF	+63	−66	−EC	+F9	−F5	+F4	+7D	+F2	−F1	−7E	−7B	+7A	+F0	−78	+77	+FF	−73	+76	+FC
e_{8A}	−EA	+EE	+63	−62	−ED	−66	+65	−EF	−69	+68	+E0	+6C	−6B	+E4	−E1	+E7	+FA	−FE	−73	+72	+FD	+76	−75	+FF	+79	−78	−F0	−7C	+7B	−F4	+F1	−F7
e_{8B}	−EB	+63	−EE	−61	−66	+ED	+64	+69	−EF	−67	−6C	+E0	+6A	−E5	+E2	+E8	+FB	−73	+FE	+71	+76	−FD	−74	−79	+FF	+77	+7C	−F0	−7A	+F5	−F2	−F8
e_{8C}	−EC	−62	+61	−EE	−65	+64	−ED	+68	−67	+EF	+6B	−6A	+E0	+E6	+E3	−E9	+FC	+72	−71	+FE	+75	−74	+FD	−78	+77	−FF	−7B	+7A	−F0	−F6	−F3	+F9
e_{8D}	−ED	−67	+68	−69	−EA	+EB	−EC	+61	−62	+63	+E4	−E5	+E6	+E0	+6F	−6E	+FD	+77	−78	+79	+FA	−FB	+FC	−71	+72	−73	−F4	+F5	−F6	−F0	−7F	+7E
e_{8E}	−EE	+EA	−EB	−EC	−67	+68	+69	+64	−65	−66	−E1	+E2	+E3	−6F	+E0	+6D	+FE	−FA	+FB	+FC	+77	−78	−79	−74	+75	+76	+F1	−F2	−F3	+7F	−F0	−7D
e_{8F}	−EF	+64	+65	−66	−61	−62	+63	−EA	−EB	+EC	+E7	+E8	−E9	+6E	−6D	+E0	+FF	−74	−75	+76	+71	+72	−73	+FA	+FB	−FC	−F7	−F8	+F9	−7E	+7D	−F0
e_{90}	−F0	−F1	−F2	−F3	−F4	−F5	−F6	−F7	−F8	−F9	+FA	+FB	+FC	+FD	+FE	+FF	−E0	−E1	−E2	−E3	−E4	−E5	−E6	−E7	−E8	−E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{91}	−F1	−F0	−7C	+7B	+7F	+F9	−F8	−7D	−F6	+F5	−FE	−73	+72	+77	−FA	−74	−E1	−E0	−6C	+6B	+6F	+E9	−E8	−6D	−E6	+E5	−EE	−63	+62	+67	−EA	−64
e_{92}	−F2	+7C	−F0	+7A	−F9	+7F	−F7	−F6	+7D	−F4	−73	+FE	−71	−78	+FB	−75	−E2	+6C	−E0	+6A	−E9	+6F	−E7	−E6	+6D	−E4	−63	+EE	−61	−68	+EB	−65
e_{93}	−F3	−7B	−7A	−F0	−F8	−F7	−7F	−F5	−F4	−7D	+72	+71	+FE	+79	+FC	+76	−E3	−6B	−6A	−E0	−E8	−E7	−6F	−E5	−E4	−6D	+62	+61	+EE	+69	+EC	+66
e_{94}	−F4	−7F	−F9	−F8	−F0	−7C	−7B	−7E	−F3	−F2	+FD	+76	+75	+FA	+77	+71	−E4	−6F	−E9	−E8	−E0	−6C	−6B	−6E	−E3	−E2	+ED	+66	+65	+EA	+67	+61
e_{95}	−F5	+F9	−7F	−F7	+7C	−F0	−7A	−F3	+7E	+F1	+76	−FD	−74	−FB	−78	+72	−E5	+E9	−6F	−E7	+6C	−E0	−6A	−E3	+6E	+E1	+66	−ED	−64	−EB	−68	+62
e_{96}	−F6	−F8	−F7	+7F	+7B	+7A	−F0	−F2	−F1	+7E	−75	−74	+FD	+FC	−79	−73	−E6	−E8	−E7	+6F	+6B	+6A	−E0	−E2	−E1	+6E	−65	−64	+ED	+EC	−69	−63
e_{97}	−F7	+7D	−F6	−F5	+7E	−F3	−F2	−F0	+7C	+7B	+FF	−79	−78	−71	−74	+FA	−E7	+6D	−E6	−E5	+6E	−E3	−E2	−E0	+6C	+6B	+EF	−69	−68	−61	−64	+EA
e_{98}	−F8	−F6	−7D	−F4	−F3	−7E	−F1	−7C	−F0	−7A	+79	+FF	+77	+72	+75	+FB	−E8	−E6	−6D	−E4	−E3	−6E	−E1	−6C	−E0	−6A	+69	+EF	+67	+62	+65	+EB
e_{99}	−F9	+F5	−F4	+7D	−F2	+F1	−7E	−7B	+7A	−F0	−78	+77	−FF	−73	+76	−FC	−E9	+E5	−E4	+6D	−E2	+E1	−6E	−6B	+6A	−E0	−68	+67	−EF	−63	+66	−EC
e_{9A}	−FA	+FE	−73	+72	−FD	+76	−75	−FF	+79	−78	+F0	−7C	+7B	+F4	−F1	+F7	−EA	+EE	−63	+62	−ED	+66	−65	−EF	+69	−68	+E0	−6C	+6B	+E4	−E1	+E7
e_{9B}	−FB	−73	−FE	+71	+76	+FD	−74	−79	−FF	+77	+7C	+F0	−7A	−F5	+F2	+F8	−EB	−63	−EE	+61	+66	+ED	−64	−69	−EF	+67	+6C	+E0	−6A	−E5	+E2	+E8
e_{9C}	−FC	+72	−71	−FE	+75	−74	−FD	−78	+77	+FF	−7B	+7A	+F0	+F6	+F3	−F9	−EC	+62	−61	−EE	+65	−64	−ED	−68	+67	+EF	−6B	+6A	+E0	+E6	+E3	−E9
e_{9D}	−FD	+77	−78	+79	−FA	+FB	−FC	−71	+72	−73	+F4	−F5	+F6	+F0	−7F	+7E	−ED	+67	−68	+69	−EA	+EB	−EC	−61	+62	−63	+E4	−E5	+E6	+E0	−6F	+6E
e_{9E}	−FE	+FA	−FB	−FC	+77	−78	−79	−74	+75	+76	−F1	+F2	+F3	+7F	+F0	−7D	−EE	+EA	−EB	−EC	+67	−68	−69	−64	+65	+66	−E1	+E2	+E3	+6F	+E0	−6D
e_{9F}	−FF	−74	−75	+76	+71	+72	−73	−FA	−FB	+FC	+F7	+F8	−F9	−7E	+7D	+F0	−EF	−64	−65	+66	+61	+62	−63	−EA	−EB	+EC	+E7	+E8	−E9	−6E	+6D	+E0
e_{A0}	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	−CA	−CB	−CC	−CD	−CE	−CF	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	−DA	−DB	−DC	−DD	−DE	−DF
e_{A1}	+C1	+C0	+4C	−4B	−4F	−C9	+C8	+4D	+C6	−C5	+CE	+43	−42	−47	+CA	+44	+D1	+D0	−5C	+5B	+5F	−D9	+D8	−5D	+D6	−D5	+DE	−53	+52	+57	+DA	−54
e_{A2}	+C2	−4C	+C0	−4A	+C9	−4F	+C7	+C6	−4D	+C4	+43	−CE	+41	+48	−CB	+45	+D2	+5C	+D0	+5A	+D9	+5F	+D7	+D6	+5D	+D4	−53	−DE	−51	−58	−DB	−55
e_{A3}	+C3	+4B	+4A	+C0	+C8	+C7	+4F	+C5	+C4	+4D	−42	−41	−CE	−49	−CC	−46	+D3	−5B	−5A	+D0	+D8	+D7	−5F	+D5	+D4	−5D	+52	+51	−DE	+59	−DC	+56
e_{A4}	+C4	+4F	+C9	+C8	+C0	+4C	+4B	+4E	+C3	+C2	−CD	−46	−45	−CA	−47	−41	+D4	−5F	+D9	+D8	+D0	−5C	−5B	−5E	+D3	+D2	−DD	+56	+55	−DA	+57	+51
e_{A5}	+C5	−C9	+4F	+C7	−4C	+C0	+4A	+C3	−4E	−C1	−46	+CD	+44	+CB	+48	−42	+D5	−D9	−5F	+D7	+5C	+D0	−5A	+D3	+5E	−D1	+56	+DD	−54	+DB	−58	+52
e_{A6}	+C6	+C8	+C7	−4F	−4B	−4A	+C0	+C2	+C1	−4E	+45	+44	−CD	−CC	+49	+43	+D6	+D8	+D7	+5F	+5B	+5A	+D0	+D2	+D1	+5E	−55	−54	−DD	−DC	−59	−53
e_{A7}	+C7	−4D	+C6	+C5	−4E	+C3	+C2	+C0	−4C	−4B	−CF	+49	+48	+41	+44	−CA	+D7	+5D	+D6	+D5	+5E	+D3	+D2	+D0	+5C	+5B	−DF	−59	−58	−51	−54	−DA
e_{A8}	+C8	+C6	+4D	+C4	+C3	+4E	+C1	+4C	+C0	+4A	−49	−CF	−47	−42	−45	−CB	+D8	+D6	−5D	+D4	+D3	−5E	+D1	−5C	+D0	−5A	+59	−DF	+57	+52	+55	−DB
e_{A9}	+C9	−C5	+C4	−4D	+C2	−C1	+4E	+4B	−4A	+C0	+48	−47	+CF	+43	−46	+CC	+D9	−D5	+D4	+5D	+D2	−D1	−5E	−5B	+5A	+D0	−58	+57	+DF	−53	+56	+DC
e_{AA}	+CA	−CE	+43	−42	+CD	−46	+45	+CF	−49	+48	−C0	+4C	−4B	−C4	+C1	−C7	+DA	−DE	−53	+52	+DD	+56	−55	+DF	+59	−58	−D0	−5C	+5B	−D4	+D1	−D7
e_{AB}	+CB	+43	+CE	−41	−46	−CD	+44	+49	+CF	−47	−4C	−C0	+4A	+C5	−C2	−C8	+DB	−53	+DE	+51	+56	−DD	−54	−59	+DF	+57	+5C	−D0	−5A	+D5	−D2	−D8
e_{AC}	+CC	−42	+41	+CE	−45	+44	+CD	+48	−47	−CF	+4B	−4A	−C0	−C6	−C3	+C9	+DC	+52	−51	+DE	+55	−54	+DD	−58	+57	−DF	−5B	+5A	−D0	−D6	−D3	+D9
e_{AD}	+CD	−47	+48	−49	+CA	−CB	+CC	+41	−42	+43	−C4	+C5	−C6	−C0	+4F	−4E	+DD	+57	−58	+59	+DA	−DB	+DC	−51	+52	−53	−D4	+D5	−D6	−D0	−5F	+5E
e_{AE}	+CE	−CA	+CB	+CC	−47	+48	+49	+44	−45	−46	+C1	−C2	−C3	−4F	−C0	+4D	+DE	−DA	+DB	+DC	+57	−58	−59	−54	+55	+56	+D1	−D2	−D3	+5F	−D0	−5D
e_{AF}	+CF	+44	+45	−46	−41	−42	+43	+CA	+CB	−CC	−C7	−C8	+C9	+4E	−4D	−C0	+DF	−54	−55	+56	+51	+52	−53	+DA	+DB	−DC	−D7	−D8	+D9	−5E	+5D	−D0
e_{B0}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	−DA	−DB	−DC	−DD	−DE	−DF	−C0	−C1	−C2	−C3	−C4	−C5	−C6	−C7	−C8	−C9	+CA	+CB	+CC	+CD	+CE	+CF
e_{B1}	+D1	+D0	+5C	−5B	−5F	−D9	+D8	+5D	+D6	−D5	+DE	+53	−52	−57	+DA	+54	−C1	−C0	+4C	−4B	−4F	+C9	−C8	+4D	−C6	+C5	−CE	+43	−42	−47	−CA	+44
e_{B2}	+D2	−5C	+D0	−5A	+D9	−5F	+D7	+D6	−5D	+D4	+53	−DE	+51	+58	−DB	+55	−C2	−4C	−C0	−4A	−C9	−4F	−C7	−C6	−4D	−C4	+43	+CE	+41	+48	+CB	+45
e_{B3}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	−52	−51	−DE	−59	−DC	−56	−C3	+4B	+4A	−C0	−C8	−C7	+4F	−C5	−C4	+4D	−42	−41	+CE	−49	+CC	−46
e_{B4}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	−DD	−56	−55	−DA	−57	−51	−C4	+4F	−C9	−C8	−C0	+4C	+4B	+4E	−C3	−C2	+CD	−46	−45	+CA	−47	−41
e_{B5}	+D5	−D9	+5F	+D7	−5C	+D0	+5A	+D3	−5E	−D1	−56	+DD	+54	+DB	+58	−52	−C5	+C9	+4F	−C7	−4C	−C0	+4A	−C3	−4E	+C1	−46	−CD	+44	−CB	+48	−42
e_{B6}	+D6	+D8	+D7	−5F	−5B	−5A	+D0	+D2	+D1	−5E	+55	+54	−DD	−DC	+59	+53	−C6	−C8	−C7	−4F	−4B	−4A	−C0	−C2	−C1	−4E	+45	+44	+CD	+CC	+49	+43
e_{B7}	+D7	−5D	+D6	+D5	−5E	+D3	+D2	+D0	−5C	−5B	−DF	+59	+58	+51	+54	−DA	−C7	−4D	−C6	−C5	−4E	−C3	−C2	−C0	−4C	−4B	+CF	+49	+48	+41	+44	+CA
e_{B8}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	−59	−DF	−57	−52	−55	−DB	−C8	−C6	+4D	−C4	−C3	+4E	−C1	+4C	−C0	+4A	−49	+CF	−47	−42	−45	+CB
e_{B9}	+D9	−D5	+D4	−5D	+D2	−D1	+5E	+5B	−5A	+D0	+58	−57	+DF	+53	−56	+DC	−C9	+C5	−C4	−4D	−C2	+C1	+4E	+4B	−4A	−C0	+48	−47	−CF	+43	−46	−CC
e_{BA}	+DA	−DE	+53	−52	+DD	−56	+55	+DF	−59	+58	−D0	+5C	−5B	−D4	+D1	−D7	−CA	+CE	+43	−42	−CD	−46	+45	−CF	−49	+48	+C0	+4C	−4B	+C4	−C1	+C7
e_{BB}	+DB	+53	+DE	−51	−56	−DD	+54	+59	+DF	−57	−5C	−D0	+5A	+D5	−D2	−D8	−CB	+43	−CE	−41	−46	+CD	+44	+49	−CF	−47	−4C	+C0	+4A	−C5	+C2	+C8
e_{BC}	+DC	−52	+51	+DE	−55	+54	+DD	+58	−57	−DF	+5B	−5A	−D0	−D6	−D3	+D9	−CC	−42	+41	−CE	−45	+44	−CD	+48	−47	+CF	+4B	−4A	+C0	+C6	+C3	−C9
e_{BD}	+DD	−57	+58	−59	+DA	−DB	+DC	+51	−52	+53	−D4	+D5	−D6	−D0	+5F	−5E	−CD	−47	+48	−49	−CA	+CB	−CC	+41	−42	+43	+C4	−C5	+C6	+C0	+4F	−4E
e_{BE}	+DE	−DA	+DB	+DC	−57	+58	+59	+54	−55	−56	+D1	−D2	−D3	−5F	−D0	+5D	−CE	+CA	−CB	−CC	−47	+48	+49	+44	−45	−46	−C1	+C2	+C3	−4F	+C0	+4D
e_{BF}	+DF	+54	+55	−56	−51	−52	+53	+DA	+DB	−DC	−D7	−D8	+D9	+5E	−5D	−D0	−CF	+44	+45	−46	−41	−42	+43	−CA	−CB	+CC	+C7	+C8	−C9	+4E	−4D	+C0

TABLE 16. $Ka^3(1,4)$ multiplication table, part D4

	e_{60}	e_{61}	e_{62}	e_{63}	e_{64}	e_{65}	e_{66}	e_{67}	e_{68}	e_{69}	e_{6A}	e_{6B}	e_{6C}	e_{6D}	e_{6E}	e_{6F}	e_{70}	e_{71}	e_{72}	e_{73}	e_{74}	e_{75}	e_{76}	e_{77}	e_{78}	e_{79}	e_{7A}	e_{7B}	e_{7C}	e_{7D}	e_{7E}	e_{7F}
e_{C0}	-A0	-A1	-A2	-A3	-A4	-A5	-A6	-A7	-A8	-A9	+AA	+AB	+AC	+AD	+AE	+AF	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	-BA	-BB	-BC	-BD	-BE	-BF
e_{C1}	-A1	-A0	+2C	-2B	-2F	+A9	-A8	+2D	-A6	+A5	-AE	+23	-22	-27	-AA	+24	+B1	+B0	-3C	+3B	+3F	-B9	+B8	-3D	+B6	-B5	+BE	-33	+32	+37	+BA	-34
e_{C2}	-A2	-2C	-A0	-2A	-A9	-2F	-A7	-A6	-2D	-A4	+23	+AE	+21	+28	+AB	+25	+B2	+3C	+B0	+3A	+B9	+3F	+B7	+B6	+3D	+B4	-33	-BE	-31	-38	-BB	-35
e_{C3}	-A3	+2B	+2A	-A0	-A8	-A7	+2F	-A5	-A4	+2D	-22	-21	+AE	-29	+AC	-26	+B3	-3B	-3A	+B0	+B8	+B7	-3F	+B5	+B4	-3D	+32	+31	-BE	+39	-BC	+36
e_{C4}	-A4	+2F	-A9	-A8	-A0	+2C	+2B	+2E	-A3	-A2	+AD	-26	-25	+AA	-27	-21	+B4	-3F	+B9	+B8	+B0	-3C	-3B	-3E	+B3	+B2	-BD	+36	+35	-BA	+37	+31
e_{C5}	-A5	+A9	+2F	-A7	-2C	-A0	+2A	-A3	-2E	+A1	-26	-AD	+24	-AB	+28	-22	+B5	-B9	-3F	+B7	+3C	+B0	-3A	+B3	+3E	-B1	+36	+BD	-34	+BB	-38	+32
e_{C6}	-A6	-A8	-A7	-2F	-2B	-2A	-A0	-A2	-A1	-2E	+25	+24	+AD	+AC	+29	+23	+B6	+B8	+B7	+3F	+3B	+3A	+B0	+B2	+B1	+3E	-35	-34	-BD	-BC	-39	-33
e_{C7}	-A7	-2D	-A6	-A5	-2E	-A3	-A2	-A0	-2C	-2B	+AF	+29	+28	+21	+24	+AA	+B7	+3D	+B6	+B5	+3E	+B3	+B2	+B0	+3C	+3B	-BF	-39	-38	-31	-34	-BA
e_{C8}	-A8	-A6	+2D	-A4	-A3	+2E	-A1	+2C	-A0	+2A	-29	+AF	-27	-22	-25	+AB	+B8	+B6	-3D	+B4	+B3	-3E	+B1	-3C	+B0	-3A	+39	-BF	+37	+32	+35	-BB
e_{C9}	-A9	+A5	-A4	-2D	-A2	+A1	+2E	+2B	-2A	-A0	+28	-27	-AF	+23	-26	-AC	+B9	-B5	+B4	+3D	+B2	-B1	-3E	-3B	+3A	+B0	-38	+37	+BF	-33	+36	+BC
e_{CA}	-AA	+AE	+23	-22	-AD	-26	+25	-AF	-29	+28	+A0	+2C	-2B	+A4	-A1	+A7	+BA	-BE	-33	+32	+BD	+36	-35	+BF	+39	-38	-B0	-3C	+3B	-B4	+B1	-B7
e_{CB}	-AB	+23	-AE	-21	-26	+AD	+24	+29	-AF	-27	-2C	+A0	+2A	-A5	+A2	+A8	+BB	-33	+BE	+31	+36	-BD	-34	-39	+BF	+37	+3C	-B0	-3A	+B5	-B2	-B8
e_{CC}	-AC	-22	+21	-AE	-25	+24	-AD	+28	-27	+AF	+2B	-2A	+A0	+A6	+A3	-A9	+BC	+32	-31	+BE	+35	-34	+BD	-38	+37	-BF	-3B	+3A	-B0	-B6	-B3	+B9
e_{CD}	-AD	-27	+28	-29	-AA	+AB	-AC	+21	-22	+23	+A4	-A5	+A6	+A0	+2F	-2E	+BD	+37	-38	+39	+BA	-BB	+BC	-31	+32	-33	-B4	+B5	-B6	-B0	-3F	+3E
e_{CE}	-AE	+AA	-AB	-AC	-27	+28	+29	+24	-25	-26	-A1	+A2	+A3	-2F	+A0	+2D	+BE	-BA	+BB	+BC	+37	-38	-39	-34	+35	+36	+B1	-B2	-B3	+3F	-B0	-3D
e_{CF}	-AF	+24	+25	-26	-21	-22	+23	-AA	-AB	+AC	+A7	+A8	-A9	+2E	-2D	+A0	+BF	-34	-35	+36	+31	+32	-33	+BA	+BB	-BC	-B7	-B8	+B9	-3E	+3D	-B0
e_{D0}	-B0	-B1	-B2	-B3	-B4	-B5	-B6	-B7	-B8	-B9	+BA	+BB	+BC	+BD	+BE	+BF	-A0	-A1	-A2	-A3	-A4	-A5	-A6	-A7	-A8	-A9	+AA	+AB	+AC	+AD	+AE	+AF
e_{D1}	-B1	-B0	-3C	+3B	+3F	+B9	-B8	-3D	-B6	+B5	-BE	-33	+32	+37	-BA	-34	-A1	-A0	-2C	+2B	+2F	+A9	-A8	-2D	-A6	+A5	-AE	-23	+22	+27	-AA	-24
e_{D2}	-B2	+3C	-B0	+3A	-B9	+3F	-B7	-B6	+3D	-B4	-33	+BE	-31	-38	+BB	-35	-A2	+2C	-A0	+2A	-A9	+2F	-A7	-A6	+2D	-A4	-23	+AE	-21	-28	+AB	-25
e_{D3}	-B3	-3B	-3A	-B0	-B8	-B7	-3F	-B5	-B4	-3D	+32	+31	+BE	+39	+BC	+36	-A3	-2B	-2A	-A0	-A8	-A7	-2F	-A5	-A4	-2D	+22	+21	+AE	+29	+AC	+26
e_{D4}	-B4	-3F	-B9	-B8	-B0	-3C	-3B	-3E	-B3	-B2	+BD	+36	+35	+BA	+37	+31	-A4	-2F	-A9	-A8	-A0	-2C	-2B	-2E	-A3	-A2	+AD	+26	+25	+AA	+27	+21
e_{D5}	-B5	+B9	-3F	-B7	+3C	-B0	-3A	-B3	+3E	+B1	+36	-BD	-34	-BB	-38	+32	-A5	+A9	-2F	-A7	+2C	-A0	-2A	-A3	+2E	+A1	+26	-AD	-24	-AB	-28	+22
e_{D6}	-B6	-B8	-B7	+3F	+3B	+3A	-B0	-B2	-B1	+3E	-35	-34	+BD	+BC	-39	-33	-A6	-A8	-A7	+2F	+2B	+2A	-A0	-A2	-A1	+2E	-25	-24	+AD	+AC	-29	-23
e_{D7}	-B7	+3D	-B6	-B5	+3E	-B3	-B2	-B0	+3C	+3B	+BF	-39	-38	-31	-34	+BA	-A7	+2D	-A6	-A5	+2E	-A3	-A2	-A0	+2C	+2B	+AF	-29	-28	-21	-24	+AA
e_{D8}	-B8	-B6	-3D	-B4	-B3	-3E	-B1	-3C	-B0	-3A	+39	+BF	+37	+32	+35	+BB	-A8	-A6	-2D	-A4	-A3	-2E	-A1	-2C	-A0	-2A	+29	+AF	+27	+22	+25	+AB
e_{D9}	-B9	+B5	-B4	+3D	-B2	+B1	-3E	-3B	+3A	-B0	-38	+37	-BF	-33	+36	-BC	-A9	+A5	-A4	+2D	-A2	+A1	-2E	-2B	+2A	-A0	-28	+27	-AF	-23	+26	-AC
e_{DA}	-BA	+BE	-33	+32	-BD	+36	-35	-BF	+39	-38	+B0	-3C	+3B	+B4	-B1	+B7	-AA	+AE	-23	+22	-AD	+26	-25	-AF	+29	-28	+A0	-2C	+2B	+A4	-A1	+A7
e_{DB}	-BB	-33	-BE	+31	+36	+BD	-34	-39	-BF	+37	+3C	+B0	-3A	-B5	+B2	+B8	-AB	-23	-AE	+21	+26	+AD	-24	-29	-AF	+27	+2C	+A0	-2A	-A5	+A2	+A8
e_{DC}	-BC	+32	-31	-BE	+35	-34	-BD	-38	+37	+BF	-3B	+3A	+B0	+B6	+B3	-B9	-AC	+22	-21	-AE	+25	-24	-AD	-28	+27	+AF	-2B	+2A	+A0	+A6	+A3	-A9
e_{DD}	-BD	+37	-38	+39	-BA	+BB	-BC	-31	+32	-33	+B4	-B5	+B6	+B0	-3F	+3E	-AD	+27	-28	+29	-AA	+AB	-AC	-21	+22	-23	+A4	-A5	+A6	+A0	-2F	+2E
e_{DE}	-BE	+BA	-BB	-BC	+37	-38	-39	-34	+35	+36	-B1	+B2	+B3	+3F	+B0	-3D	-AE	+AA	-AB	-AC	+27	-28	-29	-24	+25	+26	-A1	+A2	+A3	+2F	+A0	-2D
e_{DF}	-BF	-34	-35	+36	+31	+32	-33	-BA	-BB	+BC	+B7	+B8	-B9	-3E	+3D	+B0	-AF	-24	-25	+26	+21	+22	-23	-AA	-AB	+AC	+A7	+A8	-A9	-2E	+2D	+A0
e_{E0}	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	-8A	-8B	-8C	-8D	-8E	-8F	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	-9A	-9B	-9C	-9D	-9E	-9F
e_{E1}	+81	+80	+C	-B	-F	-89	+88	+D	+86	-85	+8E	+3	-2	-7	+8A	+4	+91	+90	-1C	+1B	+1F	-99	+98	-1D	+96	-95	+9E	-13	+12	+17	+9A	-14
e_{E2}	+82	-C	+80	-A	+89	-F	+87	+86	-D	+84	+3	-8E	+1	+8	-8B	+5	+92	+1C	+90	+1A	+99	+1F	+97	+96	+1D	+94	-13	-9E	-11	-18	-9B	-15
e_{E3}	+83	+B	+A	+80	+88	+87	+F	+85	+84	+D	-2	-1	-8E	-9	-8C	-6	+93	-1B	-1A	+90	+98	+97	-1F	+95	+94	-1D	+12	+11	-9E	+19	-9C	+16
e_{E4}	+84	+F	+89	+88	+80	+C	+B	+E	+83	+82	-8D	-6	-5	-8A	-7	-1	+94	-1F	+99	+98	+90	-1C	-1B	-1E	+93	+92	-9D	+16	+15	-9A	+17	+11
e_{E5}	+85	-89	+F	+87	-C	+80	+A	+83	-E	-81	-6	+8D	+4	+8B	+8	-2	+95	-99	-1F	+97	+1C	+90	-1A	+93	+1E	-91	+16	+9D	-14	+9B	-18	+12
e_{E6}	+86	+88	+87	-F	-B	-A	+80	+82	+81	-E	+5	+4	-8D	-8C	+9	+3	+96	+98	+97	+1F	+1B	+1A	+90	+92	+91	+1E	-15	-14	-9D	-9C	-19	-13
e_{E7}	+87	-D	+86	+85	-E	+83	+82	+80	-C	-B	-8F	+9	+8	+1	+4	-8A	+97	+1D	+96	+95	+1E	+93	+92	+90	+1C	+1B	-9F	-19	-18	-11	-14	-9A
e_{E8}	+88	+86	+D	+84	+83	+E	+81	+C	+80	+A	-9	-8F	-7	-2	-5	-8B	+98	+96	-1D	+94	+93	-1E	+91	-1C	+90	-1A	+19	-9F	+17	+12	+15	-9B
e_{E9}	+89	-85	+84	-D	+82	-81	+E	+B	-A	+80	+8	-7	+8F	+3	-6	+8C	+99	-95	+94	+1D	+92	-91	-1E	-1B	+1A	+90	-18	+17	+9F	-13	+16	+9C
e_{EA}	+8A	-8E	+3	-2	+8D	-6	+5	+8F	-9	+8	-80	+C	-B	-84	+81	-87	+9A	-9E	-13	+12	+9D	+16	-15	+9F	+19	-18	-90	-1C	+1B	-94	+91	-97
e_{EB}	+8B	+3	+8E	-1	-6	-8D	+4	+9	+8F	-7	-C	-80	+A	+85	-82	-88	+9B	-13	+9E	+11	+16	-9D	-14	-19	+9F	+17	+1C	-90	-1A	+95	-92	-98
e_{EC}	+8C	-2	+1	+8E	-5	+4	+8D	+8	-7	-8F	+B	-A	-80	-86	-83	+89	+9C	+12	-11	+9E	+15	-14	+9D	-18	+17	-9F	-1B	+1A	-90	-96	-93	+99
e_{ED}	+8D	-7	+8	-9	+8A	-8B	+8C	+1	-2	+3	-84	+85	-86	-80	+F	-E	+9D	+17	-18	+19	+9A	-9B	+9C	-11	+12	-13	-94	+95	-96	-90	-1F	+1E
e_{EE}	+8E	-8A	+8B	+8C	-7	+8	+9	+4	-5	-6	+81	-82	-83	-F	-80	+D	+9E	-9A	+9B	+9C	+17	-18	-19	-14	+15	+16	+91	-92	-93	+1F	-90	-1D
e_{EF}	+8F	+4	+5	-6	-1	-2	+3	+8A	+8B	-8C	-87	-88	+89	+E	-D	-80	+9F	-14	-15	+16	+11	+12	-13	+9A	+9B	-9C	-97	-98	+99	-1E	+1D	-90
e_{F0}	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	-9A	-9B	-9C	-9D	-9E	-9F	-80	-81	-82	-83	-84	-85	-86	-87	-88	-89	+8A	+8B	+8C	+8D	+8E	+8F
e_{F1}	+91	+90	+1C	-1B	-1F	-99	+98	+1D	+96	-95	+9E	+13	-12	-17	+9A	+14	-81	-80	+C	-B	-F	+89	-88	+D	-86	+85	-8E	+3	-2	-7	-8A	+4
e_{F2}	+92	-1C	+90	-1A	+99	-1F	+97	+96	-1D	+94	+13	-9E	+11	+18	-9B	+15	-82	-C	-80	-A	-89	-F	-87	-86	-D	-84	+3	+8E	+1	+8	+8B	+5
e_{F3}	+93	+1B	+1A	+90	+98	+97	+1F	+95	+94	+1D	-12	-11	-9E	-19	-9C	-16	-83	+B	+A	-80	-88	-87	+F	-85	-84	+D	-2	-1	+8E	-9	+8C	-6
e_{F4}	+94	+1F	+99	+98	+90	+1C	+1B	+1E	+93	+92	-9D	-16	-15	-9A	-17	-11	-84	+F	-89	-88	-80	+C	+B	+E	-83	-82	+8D	-6	-5	+8A	-7	-1
e_{F5}	+95	-99	+1F	+97	-1C	+90	+1A	+93	-1E	-91	-16	+9D	+14	+9B	+18	-12	-85	+89	+F	-87	-C	-80	+A	-83	-E	+81	-6	-8D	+4	-8B	+8	-2
e_{F6}	+96	+98	+97	-1F	-1B	-1A	+90	+92	+91	-1E	+15	+14	-9D	-9C	+19	+13	-86	-88	-87	-F	-B	-A	-80	-82	-81	-E	+5	+4	+8D	+8C	+9	+3
e_{F7}	+97	-1D	+96	+95	-1E	+93	+92	+90	-1C	-1B	-9F	+19	+18	+11	+14	-9A	-87	-D	-86	-85	-E	-83	-82	-80	-C	-B	+8F	+9	+8	+1	+4	+8A
e_{F8}	+98	+96	+1D	+94	+93	+1E	+91	+1C	+90	+1A	-19	-9F	-17	-12	-15	-9B	-88	-86	+D	-84	-83	+E	-81	+C	-80	+A	-9	+8F	-7	-2	-5	+8B
e_{F9}	+99	-95	+94	-1D	+92	-91	+1E	+1B	-1A	+90	+18	-17	+9F	+13	-16	+9C	-89	+85	-84	-D	-82	+81	+E	+B	-A	-80	+8	-7	-8F	+3	-6	-8C
e_{FA}	+9A	-9E	+13	-12	+9D	-16	+15	+9F	-19	+18	-90	+1C	-1B	-94	+91	-97	-8A	+8E	+3	-2	-8D	-6	+5	-8F	-9	+8	+80	+C	-B	+84	-81	+87
e_{FB}	+9B	+13	+9E	-11	-16	-9D	+14	+19	+9F	-17	-1C	-90	+1A	+95	-92	-98	-8B	+3	-8E	-1	-6	+8D	+4	+9	-8F	-7	-C	+80	+A	-85	+82	+88
e_{FC}	+9C	-12	+11	+9E	-15	+14	+9D	+18	-17	-9F	+1B	-1A	-90	-96	-93	+99	-8C	-2	+1	-8E	-5	+4	-8D	+8	-7	+8F	+B	-A	+80	+86	+83	-89
e_{FD}	+9D	-17	+18	-19	+9A	-9B	+9C	+11	-12	+13	-94	+95	-96	-90	+1F	-1E	-8D	-7	+8	-9	-8A	+8B	-8C	+1	-2	+3	+84	-85	+86	+80	+F	-E
e_{FE}	+9E	-9A	+9B	+9C	-17	+18	+19	+14	-15	-16	+91	-92	-93	-1F	-90	+1D	-8E	+8A	-8B	-8C	-7	+8	+9	+4	-5	-6	-81	+82	+83	-F	+80	+D
e_{FF}	+9F	+14	+15	-16	-11	-12	+13	+9A	+9B	-9C	-97	-98	+99	+1E	-1D	-90	-8F	+4	+5	-6	-1	-2	+3	-8A	-8B	+8C	+87	+88	-89	+E	-D	+80

TABLE 17. $Ka^3(1,4)$ multiplication table, part E1

	e_{80}	e_{81}	e_{82}	e_{83}	e_{84}	e_{85}	e_{86}	e_{87}	e_{88}	e_{89}	e_{8A}	e_{8B}	e_{8C}	e_{8D}	e_{8E}	e_{8F}	e_{90}	e_{91}	e_{92}	e_{93}	e_{94}	e_{95}	e_{96}	e_{97}	e_{98}	e_{99}	e_{9A}	e_{9B}	e_{9C}	e_{9D}	e_{9E}	e_{9F}
e_{0}	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+8A	+8B	+8C	+8D	+8E	+8F	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+9A	+9B	+9C	+9D	+9E	+9F
e_{1}	+81	+80	+C	−B	−F	−89	+88	+D	+86	−85	−8E	−3	+2	+7	−8A	−4	+91	+90	−1C	+1B	+1F	−99	+98	−1D	+96	−95	−9E	+13	−12	−17	−9A	+14
e_{2}	+82	−C	+80	−A	+89	−F	+87	+86	−D	+84	−3	+8E	−1	−8	+8B	−5	+92	+1C	+90	+1A	+99	+1F	+97	+96	+1D	+94	+13	+9E	+11	+18	+9B	+15
e_{3}	+83	+B	+A	+80	+88	+87	+F	+85	+84	+D	+2	+1	+8E	+9	+8C	+6	+93	−1B	−1A	+90	+98	+97	−1F	+95	+94	−1D	−12	−11	+9E	−19	+9C	−16
e_{4}	+84	+F	+89	+88	+80	+C	+B	+E	+83	+82	+8D	+6	+5	+8A	+7	+1	+94	−1F	+99	+98	+90	−1C	−1B	−1E	+93	+92	+9D	−16	−15	+9A	−17	−11
e_{5}	+85	−89	+F	+87	−C	+80	+A	+83	−E	−81	+6	−8D	−4	−8B	−8	+2	+95	−99	−1F	+97	+1C	+90	−1A	+93	+1E	−91	−16	−9D	+14	−9B	+18	−12
e_{6}	+86	+88	+87	−F	−B	−A	+80	+82	+81	−E	−5	−4	+8D	+8C	−9	−3	+96	+98	+97	+1F	+1B	+1A	+90	+92	+91	+1E	+15	+14	+9D	+9C	+19	+13
e_{7}	+87	−D	+86	+85	−E	+83	+82	+80	−C	−B	+8F	−9	−8	−1	−4	+8A	+97	+1D	+96	+95	+1E	+93	+92	+90	+1C	+1B	+9F	+19	+18	+11	+14	+9A
e_{8}	+88	+86	+D	+84	+83	+E	+81	+C	+80	+A	+9	+8F	+7	+2	+5	+8B	+98	+96	−1D	+94	+93	−1E	+91	−1C	+90	−1A	−19	+9F	−17	−12	−15	+9B
e_{9}	+89	−85	+84	−D	+82	−81	+E	+B	−A	+80	−8	+7	−8F	−3	+6	−8C	+99	−95	+94	+1D	+92	−91	−1E	−1B	+1A	+90	+18	−17	−9F	+13	−16	−9C
e_{A}	−8A	+8E	−3	+2	−8D	+6	−5	−8F	+9	−8	−80	+C	−B	−84	+81	−87	−9A	+9E	+13	−12	−9D	−16	+15	−9F	−19	+18	−90	−1C	+1B	−94	+91	−97
e_{B}	−8B	−3	−8E	+1	+6	+8D	−4	−9	−8F	+7	−C	−80	+A	+85	−82	−88	−9B	+13	−9E	−11	−16	+9D	+14	+19	−9F	−17	+1C	−90	−1A	+95	−92	−98
e_{C}	−8C	+2	−1	−8E	+5	−4	−8D	−8	+7	+8F	+B	−A	−80	−86	−83	+89	−9C	−12	+11	−9E	−15	+14	−9D	+18	−17	+9F	−1B	+1A	−90	−96	−93	+99
e_{D}	−8D	+7	−8	+9	−8A	+8B	−8C	−1	+2	−3	−84	+85	−86	−80	+F	−E	−9D	−17	+18	−19	−9A	+9B	−9C	+11	−12	+13	−94	+95	−96	−90	−1F	+1E
e_{E}	−8E	+8A	−8B	−8C	+7	−8	−9	−4	+5	+6	+81	−82	−83	−F	−80	+D	−9E	+9A	−9B	−9C	−17	+18	+19	+14	−15	−16	+91	−92	−93	+1F	−90	−1D
e_{F}	−8F	−4	−5	+6	+1	+2	−3	−8A	−8B	+8C	−87	−88	+89	+E	−D	−80	−9F	+14	+15	−16	−11	−12	+13	−9A	−9B	+9C	−97	−98	+99	−1E	+1D	−90
e_{10}	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	−9A	−9B	−9C	−9D	−9E	−9F	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+8A	+8B	+8C	+8D	+8E	+8F
e_{11}	−91	−90	−1C	+1B	+1F	+99	−98	−1D	−96	+95	+9E	+13	−12	−17	+9A	+14	+81	+80	−C	+B	+F	−89	+88	−D	+86	−85	−8E	+3	−2	−7	−8A	+4
e_{12}	−92	+1C	−90	+1A	−99	+1F	−97	−96	+1D	−94	+13	−9E	+11	+18	−9B	+15	+82	+C	+80	+A	+89	+F	+87	+86	+D	+84	+3	+8E	+1	+8	+8B	+5
e_{13}	−93	−1B	−1A	−90	−98	−97	−1F	−95	−94	−1D	−12	−11	−9E	−19	−9C	−16	+83	−B	−A	+80	+88	+87	−F	+85	+84	−D	−2	−1	+8E	−9	+8C	−6
e_{14}	−94	−1F	−99	−98	−90	−1C	−1B	−1E	−93	−92	−9D	−16	−15	−9A	−17	−11	+84	−F	+89	+88	+80	−C	−B	−E	+83	+82	+8D	−6	−5	+8A	−7	−1
e_{15}	−95	+99	−1F	−97	+1C	−90	−1A	−93	+1E	+91	−16	+9D	+14	+9B	+18	−12	+85	−89	−F	+87	+C	+80	−A	+83	+E	−81	−6	−8D	+4	−8B	+8	−2
e_{16}	−96	−98	−97	+1F	+1B	+1A	−90	−92	−91	+1E	+15	+14	−9D	−9C	+19	+13	+86	+88	+87	+F	+B	+A	+80	+82	+81	+E	+5	+4	+8D	+8C	+9	+3
e_{17}	−97	+1D	−96	−95	+1E	−93	−92	−90	+1C	+1B	−9F	+19	+18	+11	+14	−9A	+87	+D	+86	+85	+E	+83	+82	+80	+C	+B	+8F	+9	+8	+1	+4	+8A
e_{18}	−98	−96	−1D	−94	−93	−1E	−91	−1C	−90	−1A	−19	−9F	−17	−12	−15	−9B	+88	+86	−D	+84	+83	−E	+81	−C	+80	−A	−9	+8F	−7	−2	−5	+8B
e_{19}	−99	+95	−94	+1D	−92	+91	−1E	−1B	+1A	−90	+18	−17	+9F	+13	−16	+9C	+89	−85	+84	+D	+82	−81	−E	−B	+A	+80	+8	−7	−8F	+3	−6	−8C
e_{1A}	+9A	−9E	+13	−12	+9D	−16	+15	+9F	−19	+18	+90	−1C	+1B	+94	−91	+97	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	−80	−C	+B	−84	+81	−87
e_{1B}	+9B	+13	+9E	−11	−16	−9D	+14	+19	+9F	−17	+1C	+90	−1A	−95	+92	+98	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	+C	−80	−A	+85	−82	−88
e_{1C}	+9C	−12	+11	+9E	−15	+14	+9D	+18	−17	−9F	−1B	+1A	+90	+96	+93	−99	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	−B	+A	−80	−86	−83	+89
e_{1D}	+9D	−17	+18	−19	+9A	−9B	+9C	+11	−12	+13	+94	−95	+96	+90	−1F	+1E	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	−84	+85	−86	−80	−F	+E
e_{1E}	+9E	−9A	+9B	+9C	−17	+18	+19	+14	−15	−16	−91	+92	+93	+1F	+90	−1D	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	+F	−80	−D
e_{1F}	+9F	+14	+15	−16	−11	−12	+13	+9A	+9B	−9C	+97	+98	−99	−1E	+1D	+90	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	−87	−88	+89	−E	+D	−80
e_{20}	−A0	−A1	−A2	−A3	−A4	−A5	−A6	−A7	−A8	−A9	−AA	−AB	−AC	−AD	−AE	−AF	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	−BA	−BB	−BC	−BD	−BE	−BF
e_{21}	−A1	−A0	−2C	+2B	+2F	+A9	−A8	−2D	−A6	+A5	+AE	+23	−22	−27	+AA	+24	−B1	−B0	+3C	−3B	−3F	+B9	−B8	+3D	−B6	+B5	+BE	−33	+32	+37	+BA	−34
e_{22}	−A2	+2C	−A0	+2A	−A9	+2F	−A7	−A6	+2D	−A4	+23	−AE	+21	+28	−AB	+25	−B2	−3C	−B0	−3A	−B9	−3F	−B7	−B6	−3D	−B4	−33	−BE	−31	−38	−BB	−35
e_{23}	−A3	−2B	−2A	−A0	−A8	−A7	−2F	−A5	−A4	−2D	−22	−21	−AE	−29	−AC	−26	−B3	+3B	+3A	−B0	−B8	−B7	+3F	−B5	−B4	+3D	+32	+31	−BE	+39	−BC	+36
e_{24}	−A4	−2F	−A9	−A8	−A0	−2C	−2B	−2E	−A3	−A2	−AD	−26	−25	−AA	−27	−21	−B4	+3F	−B9	−B8	−B0	+3C	+3B	+3E	−B3	−B2	−BD	+36	+35	−BA	+37	+31
e_{25}	−A5	+A9	−2F	−A7	+2C	−A0	−2A	−A3	+2E	+A1	−26	+AD	+24	+AB	+28	−22	−B5	+B9	+3F	−B7	−3C	−B0	+3A	−B3	−3E	+B1	+36	+BD	−34	+BB	−38	+32
e_{26}	−A6	−A8	−A7	+2F	+2B	+2A	−A0	−A2	−A1	+2E	+25	+24	−AD	−AC	+29	+23	−B6	−B8	−B7	−3F	−3B	−3A	−B0	−B2	−B1	−3E	−35	−34	−BD	−BC	−39	−33
e_{27}	−A7	+2D	−A6	−A5	+2E	−A3	−A2	−A0	+2C	+2B	−AF	+29	+28	+21	+24	−AA	−B7	−3D	−B6	−B5	−3E	−B3	−B2	−B0	−3C	−3B	−BF	−39	−38	−31	−34	−BA
e_{28}	−A8	−A6	−2D	−A4	−A3	−2E	−A1	−2C	−A0	−2A	−29	−AF	−27	−22	−25	−AB	−B8	−B6	+3D	−B4	−B3	+3E	−B1	+3C	−B0	+3A	+39	−BF	+37	+32	+35	−BB
e_{29}	−A9	+A5	−A4	+2D	−A2	+A1	−2E	−2B	+2A	−A0	+28	−27	+AF	+23	−26	+AC	−B9	+B5	−B4	−3D	−B2	+B1	+3E	+3B	−3A	−B0	−38	+37	+BF	−33	+36	+BC
e_{2A}	+AA	−AE	+23	−22	+AD	−26	+25	+AF	−29	+28	+A0	−2C	+2B	+A4	−A1	+A7	+BA	−BE	−33	+32	+BD	+36	−35	+BF	+39	−38	+B0	+3C	−3B	+B4	−B1	+B7
e_{2B}	+AB	+23	+AE	−21	−26	−AD	+24	+29	+AF	−27	+2C	+A0	−2A	−A5	+A2	+A8	+BB	−33	+BE	+31	+36	−BD	−34	−39	+BF	+37	−3C	+B0	+3A	−B5	+B2	+B8
e_{2C}	+AC	−22	+21	+AE	−25	+24	+AD	+28	−27	−AF	−2B	+2A	+A0	+A6	+A3	−A9	+BC	+32	−31	+BE	+35	−34	+BD	−38	+37	−BF	+3B	−3A	+B0	+B6	+B3	−B9
e_{2D}	+AD	−27	+28	−29	+AA	−AB	+AC	+21	−22	+23	+A4	−A5	+A6	+A0	−2F	+2E	+BD	+37	−38	+39	+BA	−BB	+BC	−31	+32	−33	+B4	−B5	+B6	+B0	+3F	−3E
e_{2E}	+AE	−AA	+AB	+AC	−27	+28	+29	+24	−25	−26	−A1	+A2	+A3	+2F	+A0	−2D	+BE	−BA	+BB	+BC	+37	−38	−39	−34	+35	+36	−B1	+B2	+B3	−3F	+B0	+3D
e_{2F}	+AF	+24	+25	−26	−21	−22	+23	+AA	+AB	−AC	+A7	+A8	−A9	−2E	+2D	+A0	+BF	−34	−35	+36	+31	+32	−33	+BA	+BB	−BC	+B7	+B8	−B9	+3E	−3D	+B0
e_{30}	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	+BA	+BB	+BC	+BD	+BE	+BF	−A0	−A1	−A2	−A3	−A4	−A5	−A6	−A7	−A8	−A9	−AA	−AB	−AC	−AD	−AE	−AF
e_{31}	+B1	+B0	+3C	−3B	−3F	−B9	+B8	+3D	+B6	−B5	−BE	−33	+32	+37	−BA	−34	−A1	−A0	+2C	−2B	−2F	+A9	−A8	+2D	−A6	+A5	+AE	−23	+22	+27	+AA	−24
e_{32}	+B2	−3C	+B0	−3A	+B9	−3F	+B7	+B6	−3D	+B4	−33	+BE	−31	−38	+BB	−35	−A2	−2C	−A0	−2A	−A9	−2F	−A7	−A6	−2D	−A4	−23	−AE	−21	−28	−AB	−25
e_{33}	+B3	+3B	+3A	+B0	+B8	+B7	+3F	+B5	+B4	+3D	+32	+31	+BE	+39	+BC	+36	−A3	+2B	+2A	−A0	−A8	−A7	+2F	−A5	−A4	+2D	+22	+21	−AE	+29	−AC	+26
e_{34}	+B4	+3F	+B9	+B8	+B0	+3C	+3B	+3E	+B3	+B2	+BD	+36	+35	+BA	+37	+31	−A4	+2F	−A9	−A8	−A0	+2C	+2B	+2E	−A3	−A2	−AD	+26	+25	−AA	+27	+21
e_{35}	+B5	−B9	+3F	+B7	−3C	+B0	+3A	+B3	−3E	−B1	+36	−BD	−34	−BB	−38	+32	−A5	+A9	+2F	−A7	−2C	−A0	+2A	−A3	−2E	+A1	+26	+AD	−24	+AB	−28	+22
e_{36}	+B6	+B8	+B7	−3F	−3B	−3A	+B0	+B2	+B1	−3E	−35	−34	+BD	+BC	−39	−33	−A6	−A8	−A7	−2F	−2B	−2A	−A0	−A2	−A1	−2E	−25	−24	−AD	−AC	−29	−23
e_{37}	+B7	−3D	+B6	+B5	−3E	+B3	+B2	+B0	−3C	−3B	+BF	−39	−38	−31	−34	+BA	−A7	−2D	−A6	−A5	−2E	−A3	−A2	−A0	−2C	−2B	−AF	−29	−28	−21	−24	−AA
e_{38}	+B8	+B6	+3D	+B4	+B3	+3E	+B1	+3C	+B0	+3A	+39	+BF	+37	+32	+35	+BB	−A8	−A6	+2D	−A4	−A3	+2E	−A1	+2C	−A0	+2A	+29	−AF	+27	+22	+25	−AB
e_{39}	+B9	−B5	+B4	−3D	+B2	−B1	+3E	+3B	−3A	+B0	−38	+37	−BF	−33	+36	−BC	−A9	+A5	−A4	−2D	−A2	+A1	+2E	+2B	−2A	−A0	−28	+27	+AF	−23	+26	+AC
e_{3A}	−BA	+BE	−33	+32	−BD	+36	−35	−BF	+39	−38	−B0	+3C	−3B	−B4	+B1	−B7	+AA	−AE	−23	+22	+AD	+26	−25	+AF	+29	−28	+A0	+2C	−2B	+A4	−A1	+A7
e_{3B}	−BB	−33	−BE	+31	+36	+BD	−34	−39	−BF	+37	−3C	−B0	+3A	+B5	−B2	−B8	+AB	−23	+AE	+21	+26	−AD	−24	−29	+AF	+27	−2C	+A0	+2A	−A5	+A2	+A8
e_{3C}	−BC	+32	−31	−BE	+35	−34	−BD	−38	+37	+BF	+3B	−3A	−B0	−B6	−B3	+B9	+AC	+22	−21	+AE	+25	−24	+AD	−28	+27	−AF	+2B	−2A	+A0	+A6	+A3	−A9
e_{3D}	−BD	+37	−38	+39	−BA	+BB	−BC	−31	+32	−33	−B4	+B5	−B6	−B0	+3F	−3E	+AD	+27	−28	+29	+AA	−AB	+AC	−21	+22	−23	+A4	−A5	+A6	+A0	+2F	−2E
e_{3E}	−BE	+BA	−BB	−BC	+37	−38	−39	−34	+35	+36	+B1	−B2	−B3	−3F	−B0	+3D	+AE	−AA	+AB	+AC	+27	−28	−29	−24	+25	+26	−A1	+A2	+A3	−2F	+A0	+2D
e_{3F}	−BF	−34	−35	+36	+31	+32	−33	−BA	−BB	+BC	−B7	−B8	+B9	+3E	−3D	−B0	+AF	−24	−25	+26	+21	+22	−23	+AA	+AB	−AC	+A7	+A8	−A9	+2E	−2D	+A0

TABLE 18. $Ka^3(1,4)$ multiplication table, part E2

	e_{80}	e_{81}	e_{82}	e_{83}	e_{84}	e_{85}	e_{86}	e_{87}	e_{88}	e_{89}	e_{8A}	e_{8B}	e_{8C}	e_{8D}	e_{8E}	e_{8F}	e_{90}	e_{91}	e_{92}	e_{93}	e_{94}	e_{95}	e_{96}	e_{97}	e_{98}	e_{99}	e_{9A}	e_{9B}	e_{9C}	e_{9D}	e_{9E}	e_{9F}
e_{40}	−C0	−C1	−C2	−C3	−C4	−C5	−C6	−C7	−C8	−C9	−CA	−CB	−CC	−CD	−CE	−CF	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	−DA	−DB	−DC	−DD	−DE	−DF
e_{41}	−C1	−C0	−4C	+4B	+4F	+C9	−C8	−4D	−C6	+C5	+CE	+43	−42	−47	+CA	+44	−D1	−D0	+5C	−5B	−5F	+D9	−D8	+5D	−D6	+D5	+DE	−53	+52	+57	+DA	−54
e_{42}	−C2	+4C	−C0	+4A	−C9	+4F	−C7	−C6	+4D	−C4	+43	−CE	+41	+48	−CB	+45	−D2	−5C	−D0	−5A	−D9	−5F	−D7	−D6	−5D	−D4	−53	−DE	−51	−58	−DB	−55
e_{43}	−C3	−4B	−4A	−C0	−C8	−C7	−4F	−C5	−C4	−4D	−42	−41	−CE	−49	−CC	−46	−D3	+5B	+5A	−D0	−D8	−D7	+5F	−D5	−D4	+5D	+52	+51	−DE	+59	−DC	+56
e_{44}	−C4	−4F	−C9	−C8	−C0	−4C	−4B	−4E	−C3	−C2	−CD	−46	−45	−CA	−47	−41	−D4	+5F	−D9	−D8	−D0	+5C	+5B	+5E	−D3	−D2	−DD	+56	+55	−DA	+57	+51
e_{45}	−C5	+C9	−4F	−C7	+4C	−C0	−4A	−C3	+4E	+C1	−46	+CD	+44	+CB	+48	−42	−D5	+D9	+5F	−D7	−5C	−D0	+5A	−D3	−5E	+D1	+56	+DD	−54	+DB	−58	+52
e_{46}	−C6	−C8	−C7	+4F	+4B	+4A	−C0	−C2	−C1	+4E	+45	+44	−CD	−CC	+49	+43	−D6	−D8	−D7	−5F	−5B	−5A	−D0	−D2	−D1	−5E	−55	−54	−DD	−DC	−59	−53
e_{47}	−C7	+4D	−C6	−C5	+4E	−C3	−C2	−C0	+4C	+4B	−CF	+49	+48	+41	+44	−CA	−D7	−5D	−D6	−D5	−5E	−D3	−D2	−D0	−5C	−5B	−DF	−59	−58	−51	−54	−DA
e_{48}	−C8	−C6	−4D	−C4	−C3	−4E	−C1	−4C	−C0	−4A	−49	−CF	−47	−42	−45	−CB	−D8	−D6	+5D	−D4	−D3	+5E	−D1	+5C	−D0	+5A	+59	−DF	+57	+52	+55	−DB
e_{49}	−C9	+C5	−C4	+4D	−C2	+C1	−4E	−4B	+4A	−C0	+48	−47	+CF	+43	−46	+CC	−D9	+D5	−D4	−5D	−D2	+D1	+5E	+5B	−5A	−D0	−58	+57	+DF	−53	+56	+DC
e_{4A}	+CA	−CE	+43	−42	+CD	−46	+45	+CF	−49	+48	+C0	−4C	+4B	+C4	−C1	+C7	+DA	−DE	−53	+52	+DD	+56	−55	+DF	+59	−58	+D0	+5C	−5B	+D4	−D1	+D7
e_{4B}	+CB	+43	+CE	−41	−46	−CD	+44	+49	+CF	−47	+4C	+C0	−4A	−C5	+C2	+C8	+DB	−53	+DE	+51	+56	−DD	−54	−59	+DF	+57	−5C	+D0	+5A	−D5	+D2	+D8
e_{4C}	+CC	−42	+41	+CE	−45	+44	+CD	+48	−47	−CF	−4B	+4A	+C0	+C6	+C3	−C9	+DC	+52	−51	+DE	+55	−54	+DD	−58	+57	−DF	+5B	−5A	+D0	+D6	+D3	−D9
e_{4D}	+CD	−47	+48	−49	+CA	−CB	+CC	+41	−42	+43	+C4	−C5	+C6	+C0	−4F	+4E	+DD	+57	−58	+59	+DA	−DB	+DC	−51	+52	−53	+D4	−D5	+D6	+D0	+5F	−5E
e_{4E}	+CE	−CA	+CB	+CC	−47	+48	+49	+44	−45	−46	−C1	+C2	+C3	+4F	+C0	−4D	+DE	−DA	+DB	+DC	+57	−58	−59	−54	+55	+56	−D1	+D2	+D3	−5F	+D0	+5D
e_{4F}	+CF	+44	+45	−46	−41	−42	+43	+CA	+CB	−CC	+C7	+C8	−C9	−4E	+4D	+C0	+DF	−54	−55	+56	+51	+52	−53	+DA	+DB	−DC	+D7	+D8	−D9	+5E	−5D	+D0
e_{50}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	+DA	+DB	+DC	+DD	+DE	+DF	−C0	−C1	−C2	−C3	−C4	−C5	−C6	−C7	−C8	−C9	−CA	−CB	−CC	−CD	−CE	−CF
e_{51}	+D1	+D0	+5C	−5B	−5F	−D9	+D8	+5D	+D6	−D5	−DE	−53	+52	+57	−DA	−54	−C1	−C0	+4C	−4B	−4F	+C9	−C8	+4D	−C6	+C5	+CE	−43	+42	+47	+CA	−44
e_{52}	+D2	−5C	+D0	−5A	+D9	−5F	+D7	+D6	−5D	+D4	−53	+DE	−51	−58	+DB	−55	−C2	−4C	−C0	−4A	−C9	−4F	−C7	−C6	−4D	−C4	−43	−CE	−41	−48	−CB	−45
e_{53}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	+52	+51	+DE	+59	+DC	+56	−C3	+4B	+4A	−C0	−C8	−C7	+4F	−C5	−C4	+4D	+42	+41	−CE	+49	−CC	+46
e_{54}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	+DD	+56	+55	+DA	+57	+51	−C4	+4F	−C9	−C8	−C0	+4C	+4B	+4E	−C3	−C2	−CD	+46	+45	−CA	+47	+41
e_{55}	+D5	−D9	+5F	+D7	−5C	+D0	+5A	+D3	−5E	−D1	+56	−DD	−54	−DB	−58	+52	−C5	+C9	+4F	−C7	−4C	−C0	+4A	−C3	−4E	+C1	+46	+CD	−44	+CB	−48	+42
e_{56}	+D6	+D8	+D7	−5F	−5B	−5A	+D0	+D2	+D1	−5E	−55	−54	+DD	+DC	−59	−53	−C6	−C8	−C7	−4F	−4B	−4A	−C0	−C2	−C1	−4E	−45	−44	−CD	−CC	−49	−43
e_{57}	+D7	−5D	+D6	+D5	−5E	+D3	+D2	+D0	−5C	−5B	+DF	−59	−58	−51	−54	+DA	−C7	−4D	−C6	−C5	−4E	−C3	−C2	−C0	−4C	−4B	−CF	−49	−48	−41	−44	−CA
e_{58}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	+59	+DF	+57	+52	+55	+DB	−C8	−C6	+4D	−C4	−C3	+4E	−C1	+4C	−C0	+4A	+49	−CF	+47	+42	+45	−CB
e_{59}	+D9	−D5	+D4	−5D	+D2	−D1	+5E	+5B	−5A	+D0	−58	+57	−DF	−53	+56	−DC	−C9	+C5	−C4	−4D	−C2	+C1	+4E	+4B	−4A	−C0	−48	+47	+CF	−43	+46	+CC
e_{5A}	−DA	+DE	−53	+52	−DD	+56	−55	−DF	+59	−58	−D0	+5C	−5B	−D4	+D1	−D7	+CA	−CE	−43	+42	+CD	+46	−45	+CF	+49	−48	+C0	+4C	−4B	+C4	−C1	+C7
e_{5B}	−DB	−53	−DE	+51	+56	+DD	−54	−59	−DF	+57	−5C	−D0	+5A	+D5	−D2	−D8	+CB	−43	+CE	+41	+46	−CD	−44	−49	+CF	+47	−4C	+C0	+4A	−C5	+C2	+C8
e_{5C}	−DC	+52	−51	−DE	+55	−54	−DD	−58	+57	+DF	+5B	−5A	−D0	−D6	−D3	+D9	+CC	+42	−41	+CE	+45	−44	+CD	−48	+47	−CF	+4B	−4A	+C0	+C6	+C3	−C9
e_{5D}	−DD	+57	−58	+59	−DA	+DB	−DC	−51	+52	−53	−D4	+D5	−D6	−D0	+5F	−5E	+CD	+47	−48	+49	+CA	−CB	+CC	−41	+42	−43	+C4	−C5	+C6	+C0	+4F	−4E
e_{5E}	−DE	+DA	−DB	−DC	+57	−58	−59	−54	+55	+56	+D1	−D2	−D3	−5F	−D0	+5D	+CE	−CA	+CB	+CC	+47	−48	−49	−44	+45	+46	−C1	+C2	+C3	−4F	+C0	+4D
e_{5F}	−DF	−54	−55	+56	+51	+52	−53	−DA	−DB	+DC	−D7	−D8	+D9	+5E	−5D	−D0	+CF	−44	−45	+46	+41	+42	−43	+CA	+CB	−CC	+C7	+C8	−C9	+4E	−4D	+C0
e_{60}	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	+FA	+FB	+FC	+FD	+FE	+FF
e_{61}	+E1	+E0	+6C	−6B	−6F	−E9	+E8	+6D	+E6	−E5	−EE	−63	+62	+67	−EA	−64	+F1	+F0	−7C	+7B	+7F	−F9	+F8	−7D	+F6	−F5	−FE	+73	−72	−77	−FA	+74
e_{62}	+E2	−6C	+E0	−6A	+E9	−6F	+E7	+E6	−6D	+E4	−63	+EE	−61	−68	+EB	−65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	+73	+FE	+71	+78	+FB	+75
e_{63}	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	+62	+61	+EE	+69	+EC	+66	+F3	−7B	−7A	+F0	+F8	+F7	−7F	+F5	+F4	−7D	−72	−71	+FE	−79	+FC	−76
e_{64}	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	+ED	+66	+65	+EA	+67	+61	+F4	−7F	+F9	+F8	+F0	−7C	−7B	−7E	+F3	+F2	+FD	−76	−75	+FA	−77	−71
e_{65}	+E5	−E9	+6F	+E7	−6C	+E0	+6A	+E3	−6E	−E1	+66	−ED	−64	−EB	−68	+62	+F5	−F9	−7F	+F7	+7C	+F0	−7A	+F3	+7E	−F1	−76	−FD	+74	−FB	+78	−72
e_{66}	+E6	+E8	+E7	−6F	−6B	−6A	+E0	+E2	+E1	−6E	−65	−64	+ED	+EC	−69	−63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	+75	+74	+FD	+FC	+79	+73
e_{67}	+E7	−6D	+E6	+E5	−6E	+E3	+E2	+E0	−6C	−6B	+EF	−69	−68	−61	−64	+EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	+FF	+79	+78	+71	+74	+FA
e_{68}	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	+69	+EF	+67	+62	+65	+EB	+F8	+F6	−7D	+F4	+F3	−7E	+F1	−7C	+F0	−7A	−79	+FF	−77	−72	−75	+FB
e_{69}	+E9	−E5	+E4	−6D	+E2	−E1	+6E	+6B	−6A	+E0	−68	+67	−EF	−63	+66	−EC	+F9	−F5	+F4	+7D	+F2	−F1	−7E	−7B	+7A	+F0	+78	−77	−FF	+73	−76	−FC
e_{6A}	−EA	+EE	−63	+62	−ED	+66	−65	−EF	+69	−68	−E0	+6C	−6B	−E4	+E1	−E7	−FA	+FE	+73	−72	−FD	−76	+75	−FF	−79	+78	−F0	−7C	+7B	−F4	+F1	−F7
e_{6B}	−EB	−63	−EE	+61	+66	+ED	−64	−69	−EF	+67	−6C	−E0	+6A	+E5	−E2	−E8	−FB	+73	−FE	−71	−76	+FD	+74	+79	−FF	−77	+7C	−F0	−7A	+F5	−F2	−F8
e_{6C}	−EC	+62	−61	−EE	+65	−64	−ED	−68	+67	+EF	+6B	−6A	−E0	−E6	−E3	+E9	−FC	−72	+71	−FE	−75	+74	−FD	+78	−77	+FF	−7B	+7A	−F0	−F6	−F3	+F9
e_{6D}	−ED	+67	−68	+69	−EA	+EB	−EC	−61	+62	−63	−E4	+E5	−E6	−E0	+6F	−6E	−FD	−77	+78	−79	−FA	+FB	−FC	+71	−72	+73	−F4	+F5	−F6	−F0	−7F	+7E
e_{6E}	−EE	+EA	−EB	−EC	+67	−68	−69	−64	+65	+66	+E1	−E2	−E3	−6F	−E0	+6D	−FE	+FA	−FB	−FC	−77	+78	+79	+74	−75	−76	+F1	−F2	−F3	+7F	−F0	−7D
e_{6F}	−EF	−64	−65	+66	+61	+62	−63	−EA	−EB	+EC	−E7	−E8	+E9	+6E	−6D	−E0	−FF	+74	+75	−76	−71	−72	+73	−FA	−FB	+FC	−F7	−F8	+F9	−7E	+7D	−F0
e_{70}	−F0	−F1	−F2	−F3	−F4	−F5	−F6	−F7	−F8	−F9	−FA	−FB	−FC	−FD	−FE	−FF	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{71}	−F1	−F0	−7C	+7B	+7F	+F9	−F8	−7D	−F6	+F5	+FE	+73	−72	−77	+FA	+74	+E1	+E0	−6C	+6B	+6F	−E9	+E8	−6D	+E6	−E5	−EE	+63	−62	−67	−EA	+64
e_{72}	−F2	+7C	−F0	+7A	−F9	+7F	−F7	−F6	+7D	−F4	+73	−FE	+71	+78	−FB	+75	+E2	+6C	+E0	+6A	+E9	+6F	+E7	+E6	+6D	+E4	+63	+EE	+61	+68	+EB	+65
e_{73}	−F3	−7B	−7A	−F0	−F8	−F7	−7F	−F5	−F4	−7D	−72	−71	−FE	−79	−FC	−76	+E3	−6B	−6A	+E0	+E8	+E7	−6F	+E5	+E4	−6D	−62	−61	+EE	−69	+EC	−66
e_{74}	−F4	−7F	−F9	−F8	−F0	−7C	−7B	−7E	−F3	−F2	−FD	−76	−75	−FA	−77	−71	+E4	−6F	+E9	+E8	+E0	−6C	−6B	−6E	+E3	+E2	+ED	−66	−65	+EA	−67	−61
e_{75}	−F5	+F9	−7F	−F7	+7C	−F0	−7A	−F3	+7E	+F1	−76	+FD	+74	+FB	+78	−72	+E5	−E9	−6F	+E7	+6C	+E0	−6A	+E3	+6E	−E1	−66	−ED	+64	−EB	+68	−62
e_{76}	−F6	−F8	−F7	+7F	+7B	+7A	−F0	−F2	−F1	+7E	+75	+74	−FD	−FC	+79	+73	+E6	+E8	+E7	+6F	+6B	+6A	+E0	+E2	+E1	+6E	+65	+64	+ED	+EC	+69	+63
e_{77}	−F7	+7D	−F6	−F5	+7E	−F3	−F2	−F0	+7C	+7B	−FF	+79	+78	+71	+74	−FA	+E7	+6D	+E6	+E5	+6E	+E3	+E2	+E0	+6C	+6B	+EF	+69	+68	+61	+64	+EA
e_{78}	−F8	−F6	−7D	−F4	−F3	−7E	−F1	−7C	−F0	−7A	−79	−FF	−77	−72	−75	−FB	+E8	+E6	−6D	+E4	+E3	−6E	+E1	−6C	+E0	−6A	−69	+EF	−67	−62	−65	+EB
e_{79}	−F9	+F5	−F4	+7D	−F2	+F1	−7E	−7B	+7A	−F0	+78	−77	+FF	+73	−76	+FC	+E9	−E5	+E4	+6D	+E2	−E1	−6E	−6B	+6A	+E0	+68	−67	−EF	+63	−66	−EC
e_{7A}	+FA	−FE	+73	−72	+FD	−76	+75	+FF	−79	+78	+F0	−7C	+7B	+F4	−F1	+F7	−EA	+EE	+63	−62	−ED	−66	+65	−EF	−69	+68	−E0	−6C	+6B	−E4	+E1	−E7
e_{7B}	+FB	+73	+FE	−71	−76	−FD	+74	+79	+FF	−77	+7C	+F0	−7A	−F5	+F2	+F8	−EB	+63	−EE	−61	−66	+ED	+64	+69	−EF	−67	+6C	−E0	−6A	+E5	−E2	−E8
e_{7C}	+FC	−72	+71	+FE	−75	+74	+FD	+78	−77	−FF	−7B	+7A	+F0	+F6	+F3	−F9	−EC	−62	+61	−EE	−65	+64	−ED	+68	−67	+EF	−6B	+6A	−E0	−E6	−E3	+E9
e_{7D}	+FD	−77	+78	−79	+FA	−FB	+FC	+71	−72	+73	+F4	−F5	+F6	+F0	−7F	+7E	−ED	−67	+68	−69	−EA	+EB	−EC	+61	−62	+63	−E4	+E5	−E6	−E0	−6F	+6E
e_{7E}	+FE	−FA	+FB	+FC	−77	+78	+79	+74	−75	−76	−F1	+F2	+F3	+7F	+F0	−7D	−EE	+EA	−EB	−EC	−67	+68	+69	+64	−65	−66	+E1	−E2	−E3	+6F	−E0	−6D
e_{7F}	+FF	+74	+75	−76	−71	−72	+73	+FA	+FB	−FC	+F7	+F8	−F9	−7E	+7D	+F0	−EF	+64	+65	−66	−61	−62	+63	−EA	−EB	+EC	−E7	−E8	+E9	−6E	+6D	−E0

TABLE 19. $Ka^3(1,4)$ multiplication table, part E3

	e_{80}	e_{81}	e_{82}	e_{83}	e_{84}	e_{85}	e_{86}	e_{87}	e_{88}	e_{89}	e_{8A}	e_{8B}	e_{8C}	e_{8D}	e_{8E}	e_{8F}	e_{90}	e_{91}	e_{92}	e_{93}	e_{94}	e_{95}	e_{96}	e_{97}	e_{98}	e_{99}	e_{9A}	e_{9B}	e_{9C}	e_{9D}	e_{9E}	e_{9F}
e_{80}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	+1A	+1B	+1C	+1D	+1E	+1F
e_{81}	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	−E	−83	+82	+87	−A	−84	−11	−10	+9C	−9B	−9F	+19	−18	+9D	−16	+15	−1E	+93	−92	−97	−1A	+94
e_{82}	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	−83	+E	−81	−88	+B	−85	−12	−9C	−10	−9A	−19	−9F	−17	−16	−9D	−14	+93	+1E	+91	+98	+1B	+95
e_{83}	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	+82	+81	+E	+89	+C	+86	−13	+9B	+9A	−10	−18	−17	+9F	−15	−14	+9D	−92	−91	+1E	−99	+1C	−96
e_{84}	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	+D	+86	+85	+A	+87	+81	−14	+9F	−19	−18	−10	+9C	+9B	+9E	−13	−12	+1D	−96	−95	+1A	−97	−91
e_{85}	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	+86	−D	−84	−B	−88	+82	−15	+19	+9F	−17	−9C	−10	+9A	−13	−9E	+11	−96	−1D	+94	−1B	+98	−92
e_{86}	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	−85	−84	+D	+C	−89	−83	−16	−18	−17	−9F	−9B	−9A	−10	−12	−11	−9E	+95	+94	+1D	+1C	+99	+93
e_{87}	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	+F	−89	−88	−81	−84	+A	−17	−9D	−16	−15	−9E	−13	−12	−10	−9C	−9B	+1F	+99	+98	+91	+94	+1A
e_{88}	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	+89	+F	+87	+82	+85	+B	−18	−16	+9D	−14	−13	+9E	−11	+9C	−10	+9A	−99	+1F	−97	−92	−95	+1B
e_{89}	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	−88	+87	−F	−83	+86	−C	−19	+15	−14	−9D	−12	+11	+9E	+9B	−9A	−10	+98	−97	−1F	+93	−96	−1C
e_{8A}	+A	−E	+83	−82	+D	−86	+85	+F	−89	+88	−0	+8C	−8B	−4	+1	−7	+1A	−1E	−93	+92	+1D	+96	−95	+1F	+99	−98	−10	−9C	+9B	−14	+11	−17
e_{8B}	+B	+83	+E	−81	−86	−D	+84	+89	+F	−87	−8C	−0	+8A	+5	−2	−8	+1B	−93	+1E	+91	+96	−1D	−94	−99	+1F	+97	+9C	−10	−9A	+15	−12	−18
e_{8C}	+C	−82	+81	+E	−85	+84	+D	+88	−87	−F	+8B	−8A	−0	−6	−3	+9	+1C	+92	−91	+1E	+95	−94	+1D	−98	+97	−1F	−9B	+9A	−10	−16	−13	+19
e_{8D}	+D	−87	+88	−89	+A	−B	+C	+81	−82	+83	−4	+5	−6	−0	+8F	−8E	+1D	+97	−98	+99	+1A	−1B	+1C	−91	+92	−93	−14	+15	−16	−10	−9F	+9E
e_{8E}	+E	−A	+B	+C	−87	+88	+89	+84	−85	−86	+1	−2	−3	−8F	−0	+8D	+1E	−1A	+1B	+1C	+97	−98	−99	−94	+95	+96	+11	−12	−13	+9F	−10	−9D
e_{8F}	+F	+84	+85	−86	−81	−82	+83	+A	+B	−C	−7	−8	+9	+8E	−8D	−0	+1F	−94	−95	+96	+91	+92	−93	+1A	+1B	−1C	−17	−18	+19	−9E	+9D	−10
e_{90}	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	−1A	−1B	−1C	−1D	−1E	−1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F
e_{91}	+11	+10	+9C	−9B	−9F	−19	+18	+9D	+16	−15	+1E	+93	−92	−97	+1A	+94	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	−E	+83	−82	−87	−A	+84
e_{92}	+12	−9C	+10	−9A	+19	−9F	+17	+16	−9D	+14	+93	−1E	+91	+98	−1B	+95	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	+83	+E	+81	+88	+B	+85
e_{93}	+13	+9B	+9A	+10	+18	+17	+9F	+15	+14	+9D	−92	−91	−1E	−99	−1C	−96	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	−82	−81	+E	−89	+C	−86
e_{94}	+14	+9F	+19	+18	+10	+9C	+9B	+9E	+13	+12	−1D	−96	−95	−1A	−97	−91	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	+D	−86	−85	+A	−87	−81
e_{95}	+15	−19	+9F	+17	−9C	+10	+9A	+13	−9E	−11	−96	+1D	+94	+1B	+98	−92	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	−86	−D	+84	−B	+88	−82
e_{96}	+16	+18	+17	−9F	−9B	−9A	+10	+12	+11	−9E	+95	+94	−1D	−1C	+99	+93	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	+85	+84	+D	+C	+89	+83
e_{97}	+17	−9D	+16	+15	−9E	+13	+12	+10	−9C	−9B	−1F	+99	+98	+91	+94	−1A	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	+F	+89	+88	+81	+84	+A
e_{98}	+18	+16	+9D	+14	+13	+9E	+11	+9C	+10	+9A	−99	−1F	−97	−92	−95	−1B	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	−89	+F	−87	−82	−85	+B
e_{99}	+19	−15	+14	−9D	+12	−11	+9E	+9B	−9A	+10	+98	−97	+1F	+93	−96	+1C	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	+88	−87	−F	+83	−86	−C
e_{9A}	−1A	+1E	−93	+92	−1D	+96	−95	−1F	+99	−98	+10	−9C	+9B	+14	−11	+17	+A	−E	−83	+82	+D	+86	−85	+F	+89	−88	−0	−8C	+8B	−4	+1	−7
e_{9B}	−1B	−93	−1E	+91	+96	+1D	−94	−99	−1F	+97	+9C	+10	−9A	−15	+12	+18	+B	−83	+E	+81	+86	−D	−84	−89	+F	+87	+8C	−0	−8A	+5	−2	−8
e_{9C}	−1C	+92	−91	−1E	+95	−94	−1D	−98	+97	+1F	−9B	+9A	+10	+16	+13	−19	+C	+82	−81	+E	+85	−84	+D	−88	+87	−F	−8B	+8A	−0	−6	−3	+9
e_{9D}	−1D	+97	−98	+99	−1A	+1B	−1C	−91	+92	−93	+14	−15	+16	+10	−9F	+9E	+D	+87	−88	+89	+A	−B	+C	−81	+82	−83	−4	+5	−6	−0	−8F	+8E
e_{9E}	−1E	+1A	−1B	−1C	+97	−98	−99	−94	+95	+96	−11	+12	+13	+9F	+10	−9D	+E	−A	+B	+C	+87	−88	−89	−84	+85	+86	+1	−2	−3	+8F	−0	−8D
e_{9F}	−1F	−94	−95	+96	+91	+92	−93	−1A	−1B	+1C	+17	+18	−19	−9E	+9D	+10	+F	−84	−85	+86	+81	+82	−83	+A	+B	−C	−7	−8	+9	−8E	+8D	−0
e_{A0}	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	−2A	−2B	−2C	−2D	−2E	−2F	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	−3A	−3B	−3C	−3D	−3E	−3F
e_{A1}	+21	+20	+AC	−AB	−AF	−29	+28	+AD	+26	−25	+2E	+A3	−A2	−A7	+2A	+A4	+31	+30	−BC	+BB	+BF	−39	+38	−BD	+36	−35	+3E	−B3	+B2	+B7	+3A	−B4
e_{A2}	+22	−AC	+20	−AA	+29	−AF	+27	+26	−AD	+24	+A3	−2E	+A1	+A8	−2B	+A5	+32	+BC	+30	+BA	+39	+BF	+37	+36	+BD	+34	−B3	−3E	−B1	−B8	−3B	−B5
e_{A3}	+23	+AB	+AA	+20	+28	+27	+AF	+25	+24	+AD	−A2	−A1	−2E	−A9	−2C	−A6	+33	−BB	−BA	+30	+38	+37	−BF	+35	+34	−BD	+B2	+B1	−3E	+B9	−3C	+B6
e_{A4}	+24	+AF	+29	+28	+20	+AC	+AB	+AE	+23	+22	−2D	−A6	−A5	−2A	−A7	−A1	+34	−BF	+39	+38	+30	−BC	−BB	−BE	+33	+32	−3D	+B6	+B5	−3A	+B7	+B1
e_{A5}	+25	−29	+AF	+27	−AC	+20	+AA	+23	−AE	−21	−A6	+2D	+A4	+2B	+A8	−A2	+35	−39	−BF	+37	+BC	+30	−BA	+33	+BE	−31	+B6	+3D	−B4	+3B	−B8	+B2
e_{A6}	+26	+28	+27	−AF	−AB	−AA	+20	+22	+21	−AE	+A5	+A4	−2D	−2C	+A9	+A3	+36	+38	+37	+BF	+BB	+BA	+30	+32	+31	+BE	−B5	−B4	−3D	−3C	−B9	−B3
e_{A7}	+27	−AD	+26	+25	−AE	+23	+22	+20	−AC	−AB	−2F	+A9	+A8	+A1	+A4	−2A	+37	+BD	+36	+35	+BE	+33	+32	+30	+BC	+BB	−3F	−B9	−B8	−B1	−B4	−3A
e_{A8}	+28	+26	+AD	+24	+23	+AE	+21	+AC	+20	+AA	−A9	−2F	−A7	−A2	−A5	−2B	+38	+36	−BD	+34	+33	−BE	+31	−BC	+30	−BA	+B9	−3F	+B7	+B2	+B5	−3B
e_{A9}	+29	−25	+24	−AD	+22	−21	+AE	+AB	−AA	+20	+A8	−A7	+2F	+A3	−A6	+2C	+39	−35	+34	+BD	+32	−31	−BE	−BB	+BA	+30	−B8	+B7	+3F	−B3	+B6	+3C
e_{AA}	−2A	+2E	−A3	+A2	−2D	+A6	−A5	−2F	+A9	−A8	+20	−AC	+AB	+24	−21	+27	−3A	+3E	+B3	−B2	−3D	−B6	+B5	−3F	−B9	+B8	+30	+BC	−BB	+34	−31	+37
e_{AB}	−2B	−A3	−2E	+A1	+A6	+2D	−A4	−A9	−2F	+A7	+AC	+20	−AA	−25	+22	+28	−3B	+B3	−3E	−B1	−B6	+3D	+B4	+B9	−3F	−B7	−BC	+30	+BA	−35	+32	+38
e_{AC}	−2C	+A2	−A1	−2E	+A5	−A4	−2D	−A8	+A7	+2F	−AB	+AA	+20	+26	+23	−29	−3C	−B2	+B1	−3E	−B5	+B4	−3D	+B8	−B7	+3F	+BB	−BA	+30	+36	+33	−39
e_{AD}	−2D	+A7	−A8	+A9	−2A	+2B	−2C	−A1	+A2	−A3	+24	−25	+26	+20	−AF	+AE	−3D	−B7	+B8	−B9	−3A	+3B	−3C	+B1	−B2	+B3	+34	−35	+36	+30	+BF	−BE
e_{AE}	−2E	+2A	−2B	−2C	+A7	−A8	−A9	−A4	+A5	+A6	−21	+22	+23	+AF	+20	−AD	−3E	+3A	−3B	−3C	−B7	+B8	+B9	+B4	−B5	−B6	−31	+32	+33	−BF	+30	+BD
e_{AF}	−2F	−A4	−A5	+A6	+A1	+A2	−A3	−2A	−2B	+2C	+27	+28	−29	−AE	+AD	+20	−3F	+B4	+B5	−B6	−B1	−B2	+B3	−3A	−3B	+3C	+37	+38	−39	+BE	−BD	+30
e_{B0}	−30	−31	−32	−33	−34	−35	−36	−37	−38	−39	+3A	+3B	+3C	+3D	+3E	+3F	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	−2A	−2B	−2C	−2D	−2E	−2F
e_{B1}	−31	−30	−BC	+BB	+BF	+39	−38	−BD	−36	+35	−3E	−B3	+B2	+B7	−3A	−B4	+21	+20	−AC	+AB	+AF	−29	+28	−AD	+26	−25	+2E	−A3	+A2	+A7	+2A	−A4
e_{B2}	−32	+BC	−30	+BA	−39	+BF	−37	−36	+BD	−34	−B3	+3E	−B1	−B8	+3B	−B5	+22	+AC	+20	+AA	+29	+AF	+27	+26	+AD	+24	−A3	−2E	−A1	−A8	−2B	−A5
e_{B3}	−33	−BB	−BA	−30	−38	−37	−BF	−35	−34	−BD	+B2	+B1	+3E	+B9	+3C	+B6	+23	−AB	−AA	+20	+28	+27	−AF	+25	+24	−AD	+A2	+A1	−2E	+A9	−2C	+A6
e_{B4}	−34	−BF	−39	−38	−30	−BC	−BB	−BE	−33	−32	+3D	+B6	+B5	+3A	+B7	+B1	+24	−AF	+29	+28	+20	−AC	−AB	−AE	+23	+22	−2D	+A6	+A5	−2A	+A7	+A1
e_{B5}	−35	+39	−BF	−37	+BC	−30	−BA	−33	+BE	+31	+B6	−3D	−B4	−3B	−B8	+B2	+25	−29	−AF	+27	+AC	+20	−AA	+23	+AE	−21	+A6	+2D	−A4	+2B	−A8	+A2
e_{B6}	−36	−38	−37	+BF	+BB	+BA	−30	−32	−31	+BE	−B5	−B4	+3D	+3C	−B9	−B3	+26	+28	+27	+AF	+AB	+AA	+20	+22	+21	+AE	−A5	−A4	−2D	−2C	−A9	−A3
e_{B7}	−37	+BD	−36	−35	+BE	−33	−32	−30	+BC	+BB	+3F	−B9	−B8	−B1	−B4	+3A	+27	+AD	+26	+25	+AE	+23	+22	+20	+AC	+AB	−2F	−A9	−A8	−A1	−A4	−2A
e_{B8}	−38	−36	−BD	−34	−33	−BE	−31	−BC	−30	−BA	+B9	+3F	+B7	+B2	+B5	+3B	+28	+26	−AD	+24	+23	−AE	+21	−AC	+20	−AA	+A9	−2F	+A7	+A2	+A5	−2B
e_{B9}	−39	+35	−34	+BD	−32	+31	−BE	−BB	+BA	−30	−B8	+B7	−3F	−B3	+B6	−3C	+29	−25	+24	+AD	+22	−21	−AE	−AB	+AA	+20	−A8	+A7	+2F	−A3	+A6	+2C
e_{BA}	+3A	−3E	+B3	−B2	+3D	−B6	+B5	+3F	−B9	+B8	−30	+BC	−BB	−34	+31	−37	−2A	+2E	+A3	−A2	−2D	−A6	+A5	−2F	−A9	+A8	+20	+AC	−AB	+24	−21	+27
e_{BB}	+3B	+B3	+3E	−B1	−B6	−3D	+B4	+B9	+3F	−B7	−BC	−30	+BA	+35	−32	−38	−2B	+A3	−2E	−A1	−A6	+2D	+A4	+A9	−2F	−A7	−AC	+20	+AA	−25	+22	+28
e_{BC}	+3C	−B2	+B1	+3E	−B5	+B4	+3D	+B8	−B7	−3F	+BB	−BA	−30	−36	−33	+39	−2C	−A2	+A1	−2E	−A5	+A4	−2D	+A8	−A7	+2F	+AB	−AA	+20	+26	+23	−29
e_{BD}	+3D	−B7	+B8	−B9	+3A	−3B	+3C	+B1	−B2	+B3	−34	+35	−36	−30	+BF	−BE	−2D	−A7	+A8	−A9	−2A	+2B	−2C	+A1	−A2	+A3	+24	−25	+26	+20	+AF	−AE
e_{BE}	+3E	−3A	+3B	+3C	−B7	+B8	+B9	+B4	−B5	−B6	+31	−32	−33	−BF	−30	+BD	−2E	+2A	−2B	−2C	−A7	+A8	+A9	+A4	−A5	−A6	−21	+22	+23	−AF	+20	+AD
e_{BF}	+3F	+B4	+B5	−B6	−B1	−B2	+B3	+3A	+3B	−3C	−37	−38	+39	+BE	−BD	−30	−2F	+A4	+A5	−A6	−A1	−A2	+A3	−2A	−2B	+2C	+27	+28	−29	+AE	−AD	+20

TABLE 20. $Ka^3(1,4)$ multiplication table, part E4

	e_{80}	e_{81}	e_{82}	e_{83}	e_{84}	e_{85}	e_{86}	e_{87}	e_{88}	e_{89}	e_{8A}	e_{8B}	e_{8C}	e_{8D}	e_{8E}	e_{8F}	e_{90}	e_{91}	e_{92}	e_{93}	e_{94}	e_{95}	e_{96}	e_{97}	e_{98}	e_{99}	e_{9A}	e_{9B}	e_{9C}	e_{9D}	e_{9E}	e_{9F}
e_{C0}	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	−4A	−4B	−4C	−4D	−4E	−4F	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	−5A	−5B	−5C	−5D	−5E	−5F
e_{C1}	+41	+40	+CC	−CB	−CF	−49	+48	+CD	+46	−45	+4E	+C3	−C2	−C7	+4A	+C4	+51	+50	−DC	+DB	+DF	−59	+58	−DD	+56	−55	+5E	−D3	+D2	+D7	+5A	−D4
e_{C2}	+42	−CC	+40	−CA	+49	−CF	+47	+46	−CD	+44	+C3	−4E	+C1	+C8	−4B	+C5	+52	+DC	+50	+DA	+59	+DF	+57	+56	+DD	+54	−D3	−5E	−D1	−D8	−5B	−D5
e_{C3}	+43	+CB	+CA	+40	+48	+47	+CF	+45	+44	+CD	−C2	−C1	−4E	−C9	−4C	−C6	+53	−DB	−DA	+50	+58	+57	−DF	+55	+54	−DD	+D2	+D1	−5E	+D9	−5C	+D6
e_{C4}	+44	+CF	+49	+48	+40	+CC	+CB	+CE	+43	+42	−4D	−C6	−C5	−4A	−C7	−C1	+54	−DF	+59	+58	+50	−DC	−DB	−DE	+53	+52	−5D	+D6	+D5	−5A	+D7	+D1
e_{C5}	+45	−49	+CF	+47	−CC	+40	+CA	+43	−CE	−41	−C6	+4D	+C4	+4B	+C8	−C2	+55	−59	−DF	+57	+DC	+50	−DA	+53	+DE	−51	+D6	+5D	−D4	+5B	−D8	+D2
e_{C6}	+46	+48	+47	−CF	−CB	−CA	+40	+42	+41	−CE	+C5	+C4	−4D	−4C	+C9	+C3	+56	+58	+57	+DF	+DB	+DA	+50	+52	+51	+DE	−D5	−D4	−5D	−5C	−D9	−D3
e_{C7}	+47	−CD	+46	+45	−CE	+43	+42	+40	−CC	−CB	−4F	+C9	+C8	+C1	+C4	−4A	+57	+DD	+56	+55	+DE	+53	+52	+50	+DC	+DB	−5F	−D9	−D8	−D1	−D4	−5A
e_{C8}	+48	+46	+CD	+44	+43	+CE	+41	+CC	+40	+CA	−C9	−4F	−C7	−C2	−C5	−4B	+58	+56	−DD	+54	+53	−DE	+51	−DC	+50	−DA	+D9	−5F	+D7	+D2	+D5	−5B
e_{C9}	+49	−45	+44	−CD	+42	−41	+CE	+CB	−CA	+40	+C8	−C7	+4F	+C3	−C6	+4C	+59	−55	+54	+DD	+52	−51	−DE	−DB	+DA	+50	−D8	+D7	+5F	−D3	+D6	+5C
e_{CA}	−4A	+4E	−C3	+C2	−4D	+C6	−C5	−4F	+C9	−C8	+40	−CC	+CB	+44	−41	+47	−5A	+5E	+D3	−D2	−5D	−D6	+D5	−5F	−D9	+D8	+50	+DC	−DB	+54	−51	+57
e_{CB}	−4B	−C3	−4E	+C1	+C6	+4D	−C4	−C9	−4F	+C7	+CC	+40	−CA	−45	+42	+48	−5B	+D3	−5E	−D1	−D6	+5D	+D4	+D9	−5F	−D7	−DC	+50	+DA	−55	+52	+58
e_{CC}	−4C	+C2	−C1	−4E	+C5	−C4	−4D	−C8	+C7	+4F	−CB	+CA	+40	+46	+43	−49	−5C	−D2	+D1	−5E	−D5	+D4	−5D	+D8	−D7	+5F	+DB	−DA	+50	+56	+53	−59
e_{CD}	−4D	+C7	−C8	+C9	−4A	+4B	−4C	−C1	+C2	−C3	+44	−45	+46	+40	−CF	+CE	−5D	−D7	+D8	−D9	−5A	+5B	−5C	+D1	−D2	+D3	+54	−55	+56	+50	+DF	−DE
e_{CE}	−4E	+4A	−4B	−4C	+C7	−C8	−C9	−C4	+C5	+C6	−41	+42	+43	+CF	+40	−CD	−5E	+5A	−5B	−5C	−D7	+D8	+D9	+D4	−D5	−D6	−51	+52	+53	−DF	+50	+DD
e_{CF}	−4F	−C4	−C5	+C6	+C1	+C2	−C3	−4A	−4B	+4C	+47	+48	−49	−CE	+CD	+40	−5F	+D4	+D5	−D6	−D1	−D2	+D3	−5A	−5B	+5C	+57	+58	−59	+DE	−DD	+50
e_{D0}	−50	−51	−52	−53	−54	−55	−56	−57	−58	−59	+5A	+5B	+5C	+5D	+5E	+5F	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	−4A	−4B	−4C	−4D	−4E	−4F
e_{D1}	−51	−50	−DC	+DB	+DF	+59	−58	−DD	−56	+55	−5E	−D3	+D2	+D7	−5A	−D4	+41	+40	−CC	+CB	+CF	−49	+48	−CD	+46	−45	+4E	−C3	+C2	+C7	+4A	−C4
e_{D2}	−52	+DC	−50	+DA	−59	+DF	−57	−56	+DD	−54	−D3	+5E	−D1	−D8	+5B	−D5	+42	+CC	+40	+CA	+49	+CF	+47	+46	+CD	+44	−C3	−4E	−C1	−C8	−4B	−C5
e_{D3}	−53	−DB	−DA	−50	−58	−57	−DF	−55	−54	−DD	+D2	+D1	+5E	+D9	+5C	+D6	+43	−CB	−CA	+40	+48	+47	−CF	+45	+44	−CD	+C2	+C1	−4E	+C9	−4C	+C6
e_{D4}	−54	−DF	−59	−58	−50	−DC	−DB	−DE	−53	−52	+5D	+D6	+D5	+5A	+D7	+D1	+44	−CF	+49	+48	+40	−CC	−CB	−CE	+43	+42	−4D	+C6	+C5	−4A	+C7	+C1
e_{D5}	−55	+59	−DF	−57	+DC	−50	−DA	−53	+DE	+51	+D6	−5D	−D4	−5B	−D8	+D2	+45	−49	−CF	+47	+CC	+40	−CA	+43	+CE	−41	+C6	+4D	−C4	+4B	−C8	+C2
e_{D6}	−56	−58	−57	+DF	+DB	+DA	−50	−52	−51	+DE	−D5	−D4	+5D	+5C	−D9	−D3	+46	+48	+47	+CF	+CB	+CA	+40	+42	+41	+CE	−C5	−C4	−4D	−4C	−C9	−C3
e_{D7}	−57	+DD	−56	−55	+DE	−53	−52	−50	+DC	+DB	+5F	−D9	−D8	−D1	−D4	+5A	+47	+CD	+46	+45	+CE	+43	+42	+40	+CC	+CB	−4F	−C9	−C8	−C1	−C4	−4A
e_{D8}	−58	−56	−DD	−54	−53	−DE	−51	−DC	−50	−DA	+D9	+5F	+D7	+D2	+D5	+5B	+48	+46	−CD	+44	+43	−CE	+41	−CC	+40	−CA	+C9	−4F	+C7	+C2	+C5	−4B
e_{D9}	−59	+55	−54	+DD	−52	+51	−DE	−DB	+DA	−50	−D8	+D7	−5F	−D3	+D6	−5C	+49	−45	+44	+CD	+42	−41	−CE	−CB	+CA	+40	−C8	+C7	+4F	−C3	+C6	+4C
e_{DA}	+5A	−5E	+D3	−D2	+5D	−D6	+D5	+5F	−D9	+D8	−50	+DC	−DB	−54	+51	−57	−4A	+4E	+C3	−C2	−4D	−C6	+C5	−4F	−C9	+C8	+40	+CC	−CB	+44	−41	+47
e_{DB}	+5B	+D3	+5E	−D1	−D6	−5D	+D4	+D9	+5F	−D7	−DC	−50	+DA	+55	−52	−58	−4B	+C3	−4E	−C1	−C6	+4D	+C4	+C9	−4F	−C7	−CC	+40	+CA	−45	+42	+48
e_{DC}	+5C	−D2	+D1	+5E	−D5	+D4	+5D	+D8	−D7	−5F	+DB	−DA	−50	−56	−53	+59	−4C	−C2	+C1	−4E	−C5	+C4	−4D	+C8	−C7	+4F	+CB	−CA	+40	+46	+43	−49
e_{DD}	+5D	−D7	+D8	−D9	+5A	−5B	+5C	+D1	−D2	+D3	−54	+55	−56	−50	+DF	−DE	−4D	−C7	+C8	−C9	−4A	+4B	−4C	+C1	−C2	+C3	+44	−45	+46	+40	+CF	−CE
e_{DE}	+5E	−5A	+5B	+5C	−D7	+D8	+D9	+D4	−D5	−D6	+51	−52	−53	−DF	−50	+DD	−4E	+4A	−4B	−4C	−C7	+C8	+C9	+C4	−C5	−C6	−41	+42	+43	−CF	+40	+CD
e_{DF}	+5F	+D4	+D5	−D6	−D1	−D2	+D3	+5A	+5B	−5C	−57	−58	+59	+DE	−DD	−50	−4F	+C4	+C5	−C6	−C1	−C2	+C3	−4A	−4B	+4C	+47	+48	−49	+CE	−CD	+40
e_{E0}	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	+6A	+6B	+6C	+6D	+6E	+6F	−70	−71	−72	−73	−74	−75	−76	−77	−78	−79	+7A	+7B	+7C	+7D	+7E	+7F
e_{E1}	−61	−60	−EC	+EB	+EF	+69	−68	−ED	−66	+65	−6E	−E3	+E2	+E7	−6A	−E4	−71	−70	+FC	−FB	−FF	+79	−78	+FD	−76	+75	−7E	+F3	−F2	−F7	−7A	+F4
e_{E2}	−62	+EC	−60	+EA	−69	+EF	−67	−66	+ED	−64	−E3	+6E	−E1	−E8	+6B	−E5	−72	−FC	−70	−FA	−79	−FF	−77	−76	−FD	−74	+F3	+7E	+F1	+F8	+7B	+F5
e_{E3}	−63	−EB	−EA	−60	−68	−67	−EF	−65	−64	−ED	+E2	+E1	+6E	+E9	+6C	+E6	−73	+FB	+FA	−70	−78	−77	+FF	−75	−74	+FD	−F2	−F1	+7E	−F9	+7C	−F6
e_{E4}	−64	−EF	−69	−68	−60	−EC	−EB	−EE	−63	−62	+6D	+E6	+E5	+6A	+E7	+E1	−74	+FF	−79	−78	−70	+FC	+FB	+FE	−73	−72	+7D	−F6	−F5	+7A	−F7	−F1
e_{E5}	−65	+69	−EF	−67	+EC	−60	−EA	−63	+EE	+61	+E6	−6D	−E4	−6B	−E8	+E2	−75	+79	+FF	−77	−FC	−70	+FA	−73	−FE	+71	−F6	−7D	+F4	−7B	+F8	−F2
e_{E6}	−66	−68	−67	+EF	+EB	+EA	−60	−62	−61	+EE	−E5	−E4	+6D	+6C	−E9	−E3	−76	−78	−77	−FF	−FB	−FA	−70	−72	−71	−FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{E7}	−67	+ED	−66	−65	+EE	−63	−62	−60	+EC	+EB	+6F	−E9	−E8	−E1	−E4	+6A	−77	−FD	−76	−75	−FE	−73	−72	−70	−FC	−FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{E8}	−68	−66	−ED	−64	−63	−EE	−61	−EC	−60	−EA	+E9	+6F	+E7	+E2	+E5	+6B	−78	−76	+FD	−74	−73	+FE	−71	+FC	−70	+FA	−F9	+7F	−F7	−F2	−F5	+7B
e_{E9}	−69	+65	−64	+ED	−62	+61	−EE	−EB	+EA	−60	−E8	+E7	−6F	−E3	+E6	−6C	−79	+75	−74	−FD	−72	+71	+FE	+FB	−FA	−70	+F8	−F7	−7F	+F3	−F6	−7C
e_{EA}	+6A	−6E	+E3	−E2	+6D	−E6	+E5	+6F	−E9	+E8	−60	+EC	−EB	−64	+61	−67	+7A	−7E	−F3	+F2	+7D	+F6	−F5	+7F	+F9	−F8	−70	−FC	+FB	−74	+71	−77
e_{EB}	+6B	+E3	+6E	−E1	−E6	−6D	+E4	+E9	+6F	−E7	−EC	−60	+EA	+65	−62	−68	+7B	−F3	+7E	+F1	+F6	−7D	−F4	−F9	+7F	+F7	+FC	−70	−FA	+75	−72	−78
e_{EC}	+6C	−E2	+E1	+6E	−E5	+E4	+6D	+E8	−E7	−6F	+EB	−EA	−60	−66	−63	+69	+7C	+F2	−F1	+7E	+F5	−F4	+7D	−F8	+F7	−7F	−FB	+FA	−70	−76	−73	+79
e_{ED}	+6D	−E7	+E8	−E9	+6A	−6B	+6C	+E1	−E2	+E3	−64	+65	−66	−60	+EF	−EE	+7D	+F7	−F8	+F9	+7A	−7B	+7C	−F1	+F2	−F3	−74	+75	−76	−70	−FF	+FE
e_{EE}	+6E	−6A	+6B	+6C	−E7	+E8	+E9	+E4	−E5	−E6	+61	−62	−63	−EF	−60	+ED	+7E	−7A	+7B	+7C	−F7	+F8	+F9	−F4	+F5	+F6	+71	−72	−73	+FF	−70	−FD
e_{EF}	+6F	+E4	+E5	−E6	−E1	−E2	+E3	+6A	+6B	−6C	−67	−68	+69	+EE	−ED	−60	+7F	−F4	−F5	+F6	+F1	+F2	−F3	+7A	+7B	−7C	−77	−78	+79	−FE	+FD	−70
e_{F0}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	−7A	−7B	−7C	−7D	−7E	−7F	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	+6A	+6B	+6C	+6D	+6E	+6F
e_{F1}	+71	+70	+FC	−FB	−FF	−79	+78	+FD	+76	−75	+7E	+F3	−F2	−F7	+7A	+F4	−61	−60	+EC	−EB	−EF	+69	−68	+ED	−66	+65	−6E	+E3	−E2	−E7	−6A	+E4
e_{F2}	+72	−FC	+70	−FA	+79	−FF	+77	+76	−FD	+74	+F3	−7E	+F1	+F8	−7B	+F5	−62	−EC	−60	−EA	−69	−EF	−67	−66	−ED	−64	+E3	+6E	+E1	+E8	+6B	+E5
e_{F3}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	−F2	−F1	−7E	−F9	−7C	−F6	−63	+EB	+EA	−60	−68	−67	+EF	−65	−64	+ED	−E2	−E1	+6E	−E9	+6C	−E6
e_{F4}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	−7D	−F6	−F5	−7A	−F7	−F1	−64	+EF	−69	−68	−60	+EC	+EB	+EE	−63	−62	+6D	−E6	−E5	+6A	−E7	−E1
e_{F5}	+75	−79	+FF	+77	−FC	+70	+FA	+73	−FE	−71	−F6	+7D	+F4	+7B	+F8	−F2	−65	+69	+EF	−67	−EC	−60	+EA	−63	−EE	+61	−E6	−6D	+E4	−6B	+E8	−E2
e_{F6}	+76	+78	+77	−FF	−FB	−FA	+70	+72	+71	−FE	+F5	+F4	−7D	−7C	+F9	+F3	−66	−68	−67	−EF	−EB	−EA	−60	−62	−61	−EE	+E5	+E4	+6D	+6C	+E9	+E3
e_{F7}	+77	−FD	+76	+75	−FE	+73	+72	+70	−FC	−FB	−7F	+F9	+F8	+F1	+F4	−7A	−67	−ED	−66	−65	−EE	−63	−62	−60	−EC	−EB	+6F	+E9	+E8	+E1	+E4	+6A
e_{F8}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	−F9	−7F	−F7	−F2	−F5	−7B	−68	−66	+ED	−64	−63	+EE	−61	+EC	−60	+EA	−E9	+6F	−E7	−E2	−E5	+6B
e_{F9}	+79	−75	+74	−FD	+72	−71	+FE	+FB	−FA	+70	+F8	−F7	+7F	+F3	−F6	+7C	−69	+65	−64	−ED	−62	+61	+EE	+EB	−EA	−60	+E8	−E7	−6F	+E3	−E6	−6C
e_{FA}	−7A	+7E	−F3	+F2	−7D	+F6	−F5	−7F	+F9	−F8	+70	−FC	+FB	+74	−71	+77	+6A	−6E	−E3	+E2	+6D	+E6	−E5	+6F	+E9	−E8	−60	−EC	+EB	−64	+61	−67
e_{FB}	−7B	−F3	−7E	+F1	+F6	+7D	−F4	−F9	−7F	+F7	+FC	+70	−FA	−75	+72	+78	+6B	−E3	+6E	+E1	+E6	−6D	−E4	−E9	+6F	+E7	+EC	−60	−EA	+65	−62	−68
e_{FC}	−7C	+F2	−F1	−7E	+F5	−F4	−7D	−F8	+F7	+7F	−FB	+FA	+70	+76	+73	−79	+6C	+E2	−E1	+6E	+E5	−E4	+6D	−E8	+E7	−6F	−EB	+EA	−60	−66	−63	+69
e_{FD}	−7D	+F7	−F8	+F9	−7A	+7B	−7C	−F1	+F2	−F3	+74	−75	+76	+70	−FF	+FE	+6D	+E7	−E8	+E9	+6A	−6B	+6C	−E1	+E2	−E3	−64	+65	−66	−60	−EF	+EE
e_{FE}	−7E	+7A	−7B	−7C	+F7	−F8	−F9	−F4	+F5	+F6	−71	+72	+73	+FF	+70	−FD	+6E	−6A	+6B	+6C	−E7	+E8	+E9	−E4	+E5	+E6	+61	−62	−63	+EF	−60	−ED
e_{FF}	−7F	−F4	−F5	+F6	+F1	+F2	−F3	−7A	−7B	+7C	+77	+78	−79	−FE	+FD	+70	+6F	−E4	−E5	+E6	+E1	+E2	−E3	+6A	+6B	−6C	−67	−68	+69	−EE	+ED	−60

TABLE 21. $Ka^3(1, 4)$ multiplication table, part F1

	e_{A0}	e_{A1}	e_{A2}	e_{A3}	e_{A4}	e_{A5}	e_{A6}	e_{A7}	e_{A8}	e_{A9}	e_{AA}	e_{AB}	e_{AC}	e_{AD}	e_{AE}	e_{AF}	e_{B0}	e_{B1}	e_{B2}	e_{B3}	e_{B4}	e_{B5}	e_{B6}	e_{B7}	e_{B8}	e_{B9}	e_{BA}	e_{BB}	e_{BC}	e_{BD}	e_{BE}	e_{BF}
e_0	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	+AA	+AB	+AC	+AD	+AE	+AF	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	+BA	+BB	+BC	+BD	+BE	+BF
e_1	+A1	+A0	−2C	+2B	+2F	−A9	+A8	−2D	+A6	−A5	−AE	+23	−22	−27	−AA	+24	+B1	+B0	−3C	+3B	+3F	−B9	+B8	−3D	+B6	−B5	−BE	+33	−32	−37	−BA	+34
e_2	+A2	+2C	+A0	+2A	+A9	+2F	+A7	+A6	+2D	+A4	+23	+AE	+21	+28	+AB	+25	+B2	+3C	+B0	+3A	+B9	+3F	+B7	+B6	+3D	+B4	+33	+BE	+31	+38	+BB	+35
e_3	+A3	−2B	−2A	+A0	+A8	+A7	−2F	+A5	+A4	−2D	−22	−21	+AE	−29	+AC	−26	+B3	−3B	−3A	+B0	+B8	+B7	−3F	+B5	+B4	−3D	−32	−31	+BE	−39	+BC	−36
e_4	+A4	−2F	+A9	+A8	+A0	−2C	−2B	−2E	+A3	+A2	+AD	−26	−25	+AA	−27	−21	+B4	−3F	+B9	+B8	+B0	−3C	−3B	−3E	+B3	+B2	+BD	−36	−35	+BA	−37	−31
e_5	+A5	−A9	−2F	+A7	+2C	+A0	−2A	+A3	+2E	−A1	−26	−AD	+24	−AB	+28	−22	+B5	−B9	−3F	+B7	+3C	+B0	−3A	+B3	+3E	−B1	−36	−BD	+34	−BB	+38	−32
e_6	+A6	+A8	+A7	+2F	+2B	+2A	+A0	+A2	+A1	+2E	+25	+24	+AD	+AC	+29	+23	+B6	+B8	+B7	+3F	+3B	+3A	+B0	+B2	+B1	+3E	+35	+34	+BD	+BC	+39	+33
e_7	+A7	+2D	+A6	+A5	+2E	+A3	+A2	+A0	+2C	+2B	+AF	+29	+28	+21	+24	+AA	+B7	+3D	+B6	+B5	+3E	+B3	+B2	+B0	+3C	+3B	+BF	+39	+38	+31	+34	+BA
e_8	+A8	+A6	−2D	+A4	+A3	−2E	+A1	−2C	+A0	−2A	−29	+AF	−27	−22	−25	+AB	+B8	+B6	−3D	+B4	+B3	−3E	+B1	−3C	+B0	−3A	−39	+BF	−37	−32	−35	+BB
e_9	+A9	−A5	+A4	+2D	+A2	−A1	−2E	−2B	+2A	+A0	+28	−27	−AF	+23	−26	−AC	+B9	−B5	+B4	+3D	+B2	−B1	−3E	−3B	+3A	+B0	+38	−37	−BF	+33	−36	−BC
e_A	−AA	+AE	+23	−22	−AD	−26	+25	−AF	−29	+28	−A0	−2C	+2B	−A4	+A1	−A7	−BA	+BE	+33	−32	−BD	−36	+35	−BF	−39	+38	−B0	−3C	+3B	−B4	+B1	−B7
e_B	−AB	+23	−AE	−21	−26	+AD	+24	+29	−AF	−27	+2C	−A0	−2A	+A5	−A2	−A8	−BB	+33	−BE	−31	−36	+BD	+34	+39	−BF	−37	+3C	−B0	−3A	+B5	−B2	−B8
e_C	−AC	−22	+21	−AE	−25	+24	−AD	+28	−27	+AF	−2B	+2A	−A0	−A6	−A3	+A9	−BC	−32	+31	−BE	−35	+34	−BD	+38	−37	+BF	−3B	+3A	−B0	−B6	−B3	+B9
e_D	−AD	−27	+28	−29	−AA	+AB	−AC	+21	−22	+23	−A4	+A5	−A6	−A0	−2F	+2E	−BD	−37	+38	−39	−BA	+BB	−BC	+31	−32	+33	−B4	+B5	−B6	−B0	−3F	+3E
e_E	−AE	+AA	−AB	−AC	−27	+28	+29	+24	−25	−26	+A1	−A2	−A3	+2F	−A0	−2D	−BE	+BA	−BB	−BC	−37	+38	+39	+34	−35	−36	+B1	−B2	−B3	+3F	−B0	−3D
e_F	−AF	+24	+25	−26	−21	−22	+23	−AA	−AB	+AC	−A7	−A8	+A9	−2E	+2D	−A0	−BF	+34	+35	−36	−31	−32	+33	−BA	−BB	+BC	−B7	−B8	+B9	−3E	+3D	−B0
e_{10}	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	+BA	+BB	+BC	+BD	+BE	+BF	−A0	−A1	−A2	−A3	−A4	−A5	−A6	−A7	−A8	−A9	−AA	−AB	−AC	−AD	−AE	−AF
e_{11}	+B1	+B0	+3C	−3B	−3F	−B9	+B8	+3D	+B6	−B5	−BE	−33	+32	+37	−BA	−34	−A1	−A0	−2C	+2B	+2F	+A9	−A8	−2D	−A6	+A5	+AE	+23	−22	−27	+AA	+24
e_{12}	+B2	−3C	+B0	−3A	+B9	−3F	+B7	+B6	−3D	+B4	−33	+BE	−31	−38	+BB	−35	−A2	+2C	−A0	+2A	−A9	+2F	−A7	−A6	+2D	−A4	+23	−AE	+21	+28	−AB	+25
e_{13}	+B3	+3B	+3A	+B0	+B8	+B7	+3F	+B5	+B4	+3D	+32	+31	+BE	+39	+BC	+36	−A3	−2B	−2A	−A0	−A8	−A7	−2F	−A5	−A4	−2D	−22	−21	−AE	−29	−AC	−26
e_{14}	+B4	+3F	+B9	+B8	+B0	+3C	+3B	+3E	+B3	+B2	+BD	+36	+35	+BA	+37	+31	−A4	−2F	−A9	−A8	−A0	−2C	−2B	−2E	−A3	−A2	−AD	−26	−25	−AA	−27	−21
e_{15}	+B5	−B9	+3F	+B7	−3C	+B0	+3A	+B3	−3E	−B1	+36	−BD	−34	−BB	−38	+32	−A5	+A9	−2F	−A7	+2C	−A0	−2A	−A3	+2E	+A1	−26	+AD	+24	+AB	+28	−22
e_{16}	+B6	+B8	+B7	−3F	−3B	−3A	+B0	+B2	+B1	−3E	−35	−34	+BD	+BC	−39	−33	−A6	−A8	−A7	+2F	+2B	+2A	−A0	−A2	−A1	+2E	+25	+24	−AD	−AC	+29	+23
e_{17}	+B7	−3D	+B6	+B5	−3E	+B3	+B2	+B0	−3C	−3B	+BF	−39	−38	−31	−34	+BA	−A7	+2D	−A6	−A5	+2E	−A3	−A2	−A0	+2C	+2B	−AF	+29	+28	+21	+24	−AA
e_{18}	+B8	+B6	+3D	+B4	+B3	+3E	+B1	+3C	+B0	+3A	+39	+BF	+37	+32	+35	+BB	−A8	−A6	−2D	−A4	−A3	−2E	−A1	−2C	−A0	−2A	−29	−AF	−27	−22	−25	−AB
e_{19}	+B9	−B5	+B4	−3D	+B2	−B1	+3E	+3B	−3A	+B0	−38	+37	−BF	−33	+36	−BC	−A9	+A5	−A4	+2D	−A2	+A1	−2E	−2B	+2A	−A0	+28	−27	+AF	+23	−26	+AC
e_{1A}	−BA	+BE	−33	+32	−BD	+36	−35	−BF	+39	−38	−B0	+3C	−3B	−B4	+B1	−B7	+AA	−AE	+23	−22	+AD	−26	+25	+AF	−29	+28	+A0	−2C	+2B	+A4	−A1	+A7
e_{1B}	−BB	−33	−BE	+31	+36	+BD	−34	−39	−BF	+37	−3C	−B0	+3A	+B5	−B2	−B8	+AB	+23	+AE	−21	−26	−AD	+24	+29	+AF	−27	+2C	+A0	−2A	−A5	+A2	+A8
e_{1C}	−BC	+32	−31	−BE	+35	−34	−BD	−38	+37	+BF	+3B	−3A	−B0	−B6	−B3	+B9	+AC	−22	+21	+AE	−25	+24	+AD	+28	−27	−AF	−2B	+2A	+A0	+A6	+A3	−A9
e_{1D}	−BD	+37	−38	+39	−BA	+BB	−BC	−31	+32	−33	−B4	+B5	−B6	−B0	+3F	−3E	+AD	−27	+28	−29	+AA	−AB	+AC	+21	−22	+23	+A4	−A5	+A6	+A0	−2F	+2E
e_{1E}	−BE	+BA	−BB	−BC	+37	−38	−39	−34	+35	+36	+B1	−B2	−B3	−3F	−B0	+3D	+AE	−AA	+AB	+AC	−27	+28	+29	+24	−25	−26	−A1	+A2	+A3	+2F	+A0	−2D
e_{1F}	−BF	−34	−35	+36	+31	+32	−33	−BA	−BB	+BC	−B7	−B8	+B9	+3E	−3D	−B0	+AF	+24	+25	−26	−21	−22	+23	+AA	+AB	−AC	+A7	+A8	−A9	−2E	+2D	+A0
e_{20}	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+8A	+8B	+8C	+8D	+8E	+8F	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+9A	+9B	+9C	+9D	+9E	+9F
e_{21}	+81	+80	−C	+B	+F	−89	+88	−D	+86	−85	−8E	+3	−2	−7	−8A	+4	+91	+90	−1C	+1B	+1F	−99	+98	−1D	+96	−95	−9E	+13	−12	−17	−9A	+14
e_{22}	+82	+C	+80	+A	+89	+F	+87	+86	+D	+84	+3	+8E	+1	+8	+8B	+5	+92	+1C	+90	+1A	+99	+1F	+97	+96	+1D	+94	+13	+9E	+11	+18	+9B	+15
e_{23}	+83	−B	−A	+80	+88	+87	−F	+85	+84	−D	−2	−1	+8E	−9	+8C	−6	+93	−1B	−1A	+90	+98	+97	−1F	+95	+94	−1D	−12	−11	+9E	−19	+9C	−16
e_{24}	+84	−F	+89	+88	+80	−C	−B	−E	+83	+82	+8D	−6	−5	+8A	−7	−1	+94	−1F	+99	+98	+90	−1C	−1B	−1E	+93	+92	+9D	−16	−15	+9A	−17	−11
e_{25}	+85	−89	−F	+87	+C	+80	−A	+83	+E	−81	−6	−8D	+4	−8B	+8	−2	+95	−99	−1F	+97	+1C	+90	−1A	+93	+1E	−91	−16	−9D	+14	−9B	+18	−12
e_{26}	+86	+88	+87	+F	+B	+A	+80	+82	+81	+E	+5	+4	+8D	+8C	+9	+3	+96	+98	+97	+1F	+1B	+1A	+90	+92	+91	+1E	+15	+14	+9D	+9C	+19	+13
e_{27}	+87	+D	+86	+85	+E	+83	+82	+80	+C	+B	+8F	+9	+8	+1	+4	+8A	+97	+1D	+96	+95	+1E	+93	+92	+90	+1C	+1B	+9F	+19	+18	+11	+14	+9A
e_{28}	+88	+86	−D	+84	+83	−E	+81	−C	+80	−A	−9	+8F	−7	−2	−5	+8B	+98	+96	−1D	+94	+93	−1E	+91	−1C	+90	−1A	−19	+9F	−17	−12	−15	+9B
e_{29}	+89	−85	+84	+D	+82	−81	−E	−B	+A	+80	+8	−7	−8F	+3	−6	−8C	+99	−95	+94	+1D	+92	−91	−1E	−1B	+1A	+90	+18	−17	−9F	+13	−16	−9C
e_{2A}	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	−80	−C	+B	−84	+81	−87	−9A	+9E	+13	−12	−9D	−16	+15	−9F	−19	+18	−90	−1C	+1B	−94	+91	−97
e_{2B}	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	+C	−80	−A	+85	−82	−88	−9B	+13	−9E	−11	−16	+9D	+14	+19	−9F	−17	+1C	−90	−1A	+95	−92	−98
e_{2C}	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	−B	+A	−80	−86	−83	+89	−9C	−12	+11	−9E	−15	+14	−9D	+18	−17	+9F	−1B	+1A	−90	−96	−93	+99
e_{2D}	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	−84	+85	−86	−80	−F	+E	−9D	−17	+18	−19	−9A	+9B	−9C	+11	−12	+13	−94	+95	−96	−90	−1F	+1E
e_{2E}	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	+F	−80	−D	−9E	+9A	−9B	−9C	−17	+18	+19	+14	−15	−16	+91	−92	−93	+1F	−90	−1D
e_{2F}	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	−87	−88	+89	−E	+D	−80	−9F	+14	+15	−16	−11	−12	+13	−9A	−9B	+9C	−97	−98	+99	−1E	+1D	−90
e_{30}	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+9A	+9B	+9C	+9D	+9E	+9F	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	−8A	−8B	−8C	−8D	−8E	−8F
e_{31}	+91	+90	+1C	−1B	−1F	−99	+98	+1D	+96	−95	−9E	−13	+12	+17	−9A	−14	−81	−80	−C	+B	+F	+89	−88	−D	−86	+85	+8E	+3	−2	−7	+8A	+4
e_{32}	+92	−1C	+90	−1A	+99	−1F	+97	+96	−1D	+94	−13	+9E	−11	−18	+9B	−15	−82	+C	−80	+A	−89	+F	−87	−86	+D	−84	+3	−8E	+1	+8	−8B	+5
e_{33}	+93	+1B	+1A	+90	+98	+97	+1F	+95	+94	+1D	+12	+11	+9E	+19	+9C	+16	−83	−B	−A	−80	−88	−87	−F	−85	−84	−D	−2	−1	−8E	−9	−8C	−6
e_{34}	+94	+1F	+99	+98	+90	+1C	+1B	+1E	+93	+92	+9D	+16	+15	+9A	+17	+11	−84	−F	−89	−88	−80	−C	−B	−E	−83	−82	−8D	−6	−5	−8A	−7	−1
e_{35}	+95	−99	+1F	+97	−1C	+90	+1A	+93	−1E	−91	+16	−9D	−14	−9B	−18	+12	−85	+89	−F	−87	+C	−80	−A	−83	+E	+81	−6	+8D	+4	+8B	+8	−2
e_{36}	+96	+98	+97	−1F	−1B	−1A	+90	+92	+91	−1E	−15	−14	+9D	+9C	−19	−13	−86	−88	−87	+F	+B	+A	−80	−82	−81	+E	+5	+4	−8D	−8C	+9	+3
e_{37}	+97	−1D	+96	+95	−1E	+93	+92	+90	−1C	−1B	+9F	−19	−18	−11	−14	+9A	−87	+D	−86	−85	+E	−83	−82	−80	+C	+B	−8F	+9	+8	+1	+4	−8A
e_{38}	+98	+96	+1D	+94	+93	+1E	+91	+1C	+90	+1A	+19	+9F	+17	+12	+15	+9B	−88	−86	−D	−84	−83	−E	−81	−C	−80	−A	−9	−8F	−7	−2	−5	−8B
e_{39}	+99	−95	+94	−1D	+92	−91	+1E	+1B	−1A	+90	−18	+17	−9F	−13	+16	−9C	−89	+85	−84	+D	−82	+81	−E	−B	+A	−80	+8	−7	+8F	+3	−6	+8C
e_{3A}	−9A	+9E	−13	+12	−9D	+16	−15	−9F	+19	−18	−90	+1C	−1B	−94	+91	−97	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	+80	−C	+B	+84	−81	+87
e_{3B}	−9B	−13	−9E	+11	+16	+9D	−14	−19	−9F	+17	−1C	−90	+1A	+95	−92	−98	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	+C	+80	−A	−85	+82	+88
e_{3C}	−9C	+12	−11	−9E	+15	−14	−9D	−18	+17	+9F	+1B	−1A	−90	−96	−93	+99	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	−B	+A	+80	+86	+83	−89
e_{3D}	−9D	+17	−18	+19	−9A	+9B	−9C	−11	+12	−13	−94	+95	−96	−90	+1F	−1E	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	+84	−85	+86	+80	−F	+E
e_{3E}	−9E	+9A	−9B	−9C	+17	−18	−19	−14	+15	+16	+91	−92	−93	−1F	−90	+1D	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	+F	+80	−D
e_{3F}	−9F	−14	−15	+16	+11	+12	−13	−9A	−9B	+9C	−97	−98	+99	+1E	−1D	−90	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	+87	+88	−89	−E	+D	+80

TABLE 22. $Ka^3(1,4)$ multiplication table, part F2

	e_{A0}	e_{A1}	e_{A2}	e_{A3}	e_{A4}	e_{A5}	e_{A6}	e_{A7}	e_{A8}	e_{A9}	e_{AA}	e_{AB}	e_{AC}	e_{AD}	e_{AE}	e_{AF}	e_{B0}	e_{B1}	e_{B2}	e_{B3}	e_{B4}	e_{B5}	e_{B6}	e_{B7}	e_{B8}	e_{B9}	e_{BA}	e_{BB}	e_{BC}	e_{BD}	e_{BE}	e_{BF}
e_{40}	−E0	−E1	−E2	−E3	−E4	−E5	−E6	−E7	−E8	−E9	−EA	−EB	−EC	−ED	−EE	−EF	−F0	−F1	−F2	−F3	−F4	−F5	−F6	−F7	−F8	−F9	−FA	−FB	−FC	−FD	−FE	−FF
e_{41}	−E1	−E0	+6C	−6B	−6F	+E9	−E8	+6D	−E6	+E5	+EE	−63	+62	+67	+EA	−64	−F1	−F0	+7C	−7B	−7F	+F9	−F8	+7D	−F6	+F5	+FE	−73	+72	+77	+FA	−74
e_{42}	−E2	−6C	−E0	−6A	−E9	−6F	−E7	−E6	−6D	−E4	−63	−EE	−61	−68	−EB	−65	−F2	−7C	−F0	−7A	−F9	−7F	−F7	−F6	−7D	−F4	−73	−FE	−71	−78	−FB	−75
e_{43}	−E3	+6B	+6A	−E0	−E8	−E7	+6F	−E5	−E4	+6D	+62	+61	−EE	+69	−EC	+66	−F3	+7B	+7A	−F0	−F8	−F7	+7F	−F5	−F4	+7D	+72	+71	−FE	+79	−FC	+76
e_{44}	−E4	+6F	−E9	−E8	−E0	+6C	+6B	+6E	−E3	−E2	−ED	+66	+65	−EA	+67	+61	−F4	+7F	−F9	−F8	−F0	+7C	+7B	+7E	−F3	−F2	−FD	+76	+75	−FA	+77	+71
e_{45}	−E5	+E9	+6F	−E7	−6C	−E0	+6A	−E3	−6E	+E1	+66	+ED	−64	+EB	−68	+62	−F5	+F9	+7F	−F7	−7C	−F0	+7A	−F3	−7E	+F1	+76	+FD	−74	+FB	−78	+72
e_{46}	−E6	−E8	−E7	−6F	−6B	−6A	−E0	−E2	−E1	−6E	−65	−64	−ED	−EC	−69	−63	−F6	−F8	−F7	−7F	−7B	−7A	−F0	−F2	−F1	−7E	−75	−74	−FD	−FC	−79	−73
e_{47}	−E7	−6D	−E6	−E5	−6E	−E3	−E2	−E0	−6C	−6B	−EF	−69	−68	−61	−64	−EA	−F7	−7D	−F6	−F5	−7E	−F3	−F2	−F0	−7C	−7B	−FF	−79	−78	−71	−74	−FA
e_{48}	−E8	−E6	+6D	−E4	−E3	+6E	−E1	+6C	−E0	+6A	+69	−EF	+67	+62	+65	−EB	−F8	−F6	+7D	−F4	−F3	+7E	−F1	+7C	−F0	+7A	+79	−FF	+77	+72	+75	−FB
e_{49}	−E9	+E5	−E4	−6D	−E2	+E1	+6E	+6B	−6A	−E0	−68	+67	+EF	−63	+66	+EC	−F9	+F5	−F4	−7D	−F2	+F1	+7E	+7B	−7A	−F0	−78	+77	+FF	−73	+76	+FC
e_{4A}	+EA	−EE	−63	+62	+ED	+66	−65	+EF	+69	−68	+E0	+6C	−6B	+E4	−E1	+E7	+FA	−FE	−73	+72	+FD	+76	−75	+FF	+79	−78	+F0	+7C	−7B	+F4	−F1	+F7
e_{4B}	+EB	−63	+EE	+61	+66	−ED	−64	−69	+EF	+67	−6C	+E0	+6A	−E5	+E2	+E8	+FB	−73	+FE	+71	+76	−FD	−74	−79	+FF	+77	−7C	+F0	+7A	−F5	+F2	+F8
e_{4C}	+EC	+62	−61	+EE	+65	−64	+ED	−68	+67	−EF	+6B	−6A	+E0	+E6	+E3	−E9	+FC	+72	−71	+FE	+75	−74	+FD	−78	+77	−FF	+7B	−7A	+F0	+F6	+F3	−F9
e_{4D}	+ED	+67	−68	+69	+EA	−EB	+EC	−61	+62	−63	+E4	−E5	+E6	+E0	+6F	−6E	+FD	+77	−78	+79	+FA	−FB	+FC	−71	+72	−73	+F4	−F5	+F6	+F0	+7F	−7E
e_{4E}	+EE	−EA	+EB	+EC	+67	−68	−69	−64	+65	+66	−E1	+E2	+E3	−6F	+E0	+6D	+FE	−FA	+FB	+FC	+77	−78	−79	−74	+75	+76	−F1	+F2	+F3	−7F	+F0	+7D
e_{4F}	+EF	−64	−65	+66	+61	+62	−63	+EA	+EB	−EC	+E7	+E8	−E9	+6E	−6D	+E0	+FF	−74	−75	+76	+71	+72	−73	+FA	+FB	−FC	+F7	+F8	−F9	+7E	−7D	+F0
e_{50}	−F0	−F1	−F2	−F3	−F4	−F5	−F6	−F7	−F8	−F9	−FA	−FB	−FC	−FD	−FE	−FF	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{51}	−F1	−F0	−7C	+7B	+7F	+F9	−F8	−7D	−F6	+F5	+FE	+73	−72	−77	+FA	+74	+E1	+E0	+6C	−6B	−6F	−E9	+E8	+6D	+E6	−E5	−EE	−63	+62	+67	−EA	−64
e_{52}	−F2	+7C	−F0	+7A	−F9	+7F	−F7	−F6	+7D	−F4	+73	−FE	+71	+78	−FB	+75	+E2	−6C	+E0	−6A	+E9	−6F	+E7	+E6	−6D	+E4	−63	+EE	−61	−68	+EB	−65
e_{53}	−F3	−7B	−7A	−F0	−F8	−F7	−7F	−F5	−F4	−7D	−72	−71	−FE	−79	−FC	−76	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	+62	+61	+EE	+69	+EC	+66
e_{54}	−F4	−7F	−F9	−F8	−F0	−7C	−7B	−7E	−F3	−F2	−FD	−76	−75	−FA	−77	−71	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	+ED	+66	+65	+EA	+67	+61
e_{55}	−F5	+F9	−7F	−F7	+7C	−F0	−7A	−F3	+7E	+F1	−76	+FD	+74	+FB	+78	−72	+E5	−E9	+6F	+E7	−6C	+E0	+6A	+E3	−6E	−E1	+66	−ED	−64	−EB	−68	+62
e_{56}	−F6	−F8	−F7	+7F	+7B	+7A	−F0	−F2	−F1	+7E	+75	+74	−FD	−FC	+79	+73	+E6	+E8	+E7	−6F	−6B	−6A	+E0	+E2	+E1	−6E	−65	−64	+ED	+EC	−69	−63
e_{57}	−F7	+7D	−F6	−F5	+7E	−F3	−F2	−F0	+7C	+7B	−FF	+79	+78	+71	+74	−FA	+E7	−6D	+E6	+E5	−6E	+E3	+E2	+E0	−6C	−6B	+EF	−69	−68	−61	−64	+EA
e_{58}	−F8	−F6	−7D	−F4	−F3	−7E	−F1	−7C	−F0	−7A	−79	−FF	−77	−72	−75	−FB	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	+69	+EF	+67	+62	+65	+EB
e_{59}	−F9	+F5	−F4	+7D	−F2	+F1	−7E	−7B	+7A	−F0	+78	−77	+FF	+73	−76	+FC	+E9	−E5	+E4	−6D	+E2	−E1	+6E	+6B	−6A	+E0	−68	+67	−EF	−63	+66	−EC
e_{5A}	+FA	−FE	+73	−72	+FD	−76	+75	+FF	−79	+78	+F0	−7C	+7B	+F4	−F1	+F7	−EA	+EE	−63	+62	−ED	+66	−65	−EF	+69	−68	−E0	+6C	−6B	−E4	+E1	−E7
e_{5B}	+FB	+73	+FE	−71	−76	−FD	+74	+79	+FF	−77	+7C	+F0	−7A	−F5	+F2	+F8	−EB	−63	−EE	+61	+66	+ED	−64	−69	−EF	+67	−6C	−E0	+6A	+E5	−E2	−E8
e_{5C}	+FC	−72	+71	+FE	−75	+74	+FD	+78	−77	−FF	−7B	+7A	+F0	+F6	+F3	−F9	−EC	+62	−61	−EE	+65	−64	−ED	−68	+67	+EF	+6B	−6A	−E0	−E6	−E3	+E9
e_{5D}	+FD	−77	+78	−79	+FA	−FB	+FC	+71	−72	+73	+F4	−F5	+F6	+F0	−7F	+7E	−ED	+67	−68	+69	−EA	+EB	−EC	−61	+62	−63	−E4	+E5	−E6	−E0	+6F	−6E
e_{5E}	+FE	−FA	+FB	+FC	−77	+78	+79	+74	−75	−76	−F1	+F2	+F3	+7F	+F0	−7D	−EE	+EA	−EB	−EC	+67	−68	−69	−64	+65	+66	+E1	−E2	−E3	−6F	−E0	+6D
e_{5F}	+FF	+74	+75	−76	−71	−72	+73	+FA	+FB	−FC	+F7	+F8	−F9	−7E	+7D	+F0	−EF	−64	−65	+66	+61	+62	−63	−EA	−EB	+EC	−E7	−E8	+E9	+6E	−6D	−E0
e_{60}	−C0	−C1	−C2	−C3	−C4	−C5	−C6	−C7	−C8	−C9	−CA	−CB	−CC	−CD	−CE	−CF	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	−DA	−DB	−DC	−DD	−DE	−DF
e_{61}	−C1	−C0	+4C	−4B	−4F	+C9	−C8	+4D	−C6	+C5	+CE	−43	+42	+47	+CA	−44	−D1	−D0	+5C	−5B	−5F	+D9	−D8	+5D	−D6	+D5	+DE	−53	+52	+57	+DA	−54
e_{62}	−C2	−4C	−C0	−4A	−C9	−4F	−C7	−C6	−4D	−C4	−43	−CE	−41	−48	−CB	−45	−D2	−5C	−D0	−5A	−D9	−5F	−D7	−D6	−5D	−D4	−53	−DE	−51	−58	−DB	−55
e_{63}	−C3	+4B	+4A	−C0	−C8	−C7	+4F	−C5	−C4	+4D	+42	+41	−CE	+49	−CC	+46	−D3	+5B	+5A	−D0	−D8	−D7	+5F	−D5	−D4	+5D	+52	+51	−DE	+59	−DC	+56
e_{64}	−C4	+4F	−C9	−C8	−C0	+4C	+4B	+4E	−C3	−C2	−CD	+46	+45	−CA	+47	+41	−D4	+5F	−D9	−D8	−D0	+5C	+5B	+5E	−D3	−D2	−DD	+56	+55	−DA	+57	+51
e_{65}	−C5	+C9	+4F	−C7	−4C	−C0	+4A	−C3	−4E	+C1	+46	+CD	−44	+CB	−48	+42	−D5	+D9	+5F	−D7	−5C	−D0	+5A	−D3	−5E	+D1	+56	+DD	−54	+DB	−58	+52
e_{66}	−C6	−C8	−C7	−4F	−4B	−4A	−C0	−C2	−C1	−4E	−45	−44	−CD	−CC	−49	−43	−D6	−D8	−D7	−5F	−5B	−5A	−D0	−D2	−D1	−5E	−55	−54	−DD	−DC	−59	−53
e_{67}	−C7	−4D	−C6	−C5	−4E	−C3	−C2	−C0	−4C	−4B	−CF	−49	−48	−41	−44	−CA	−D7	−5D	−D6	−D5	−5E	−D3	−D2	−D0	−5C	−5B	−DF	−59	−58	−51	−54	−DA
e_{68}	−C8	−C6	+4D	−C4	−C3	+4E	−C1	+4C	−C0	+4A	+49	−CF	+47	+42	+45	−CB	−D8	−D6	+5D	−D4	−D3	+5E	−D1	+5C	−D0	+5A	+59	−DF	+57	+52	+55	−DB
e_{69}	−C9	+C5	−C4	−4D	−C2	+C1	+4E	+4B	−4A	−C0	−48	+47	+CF	−43	+46	+CC	−D9	+D5	−D4	−5D	−D2	+D1	+5E	+5B	−5A	−D0	−58	+57	+DF	−53	+56	+DC
e_{6A}	+CA	−CE	−43	+42	+CD	+46	−45	+CF	+49	−48	+C0	+4C	−4B	+C4	−C1	+C7	+DA	−DE	−53	+52	+DD	+56	−55	+DF	+59	−58	+D0	+5C	−5B	+D4	−D1	+D7
e_{6B}	+CB	−43	+CE	+41	+46	−CD	−44	−49	+CF	+47	−4C	+C0	+4A	−C5	+C2	+C8	+DB	−53	+DE	+51	+56	−DD	−54	−59	+DF	+57	−5C	+D0	+5A	−D5	+D2	+D8
e_{6C}	+CC	+42	−41	+CE	+45	−44	+CD	−48	+47	−CF	+4B	−4A	+C0	+C6	+C3	−C9	+DC	+52	−51	+DE	+55	−54	+DD	−58	+57	−DF	+5B	−5A	+D0	+D6	+D3	−D9
e_{6D}	+CD	+47	−48	+49	+CA	−CB	+CC	−41	+42	−43	+C4	−C5	+C6	+C0	+4F	−4E	+DD	+57	−58	+59	+DA	−DB	+DC	−51	+52	−53	+D4	−D5	+D6	+D0	+5F	−5E
e_{6E}	+CE	−CA	+CB	+CC	+47	−48	−49	−44	+45	+46	−C1	+C2	+C3	−4F	+C0	+4D	+DE	−DA	+DB	+DC	+57	−58	−59	−54	+55	+56	−D1	+D2	+D3	−5F	+D0	+5D
e_{6F}	+CF	−44	−45	+46	+41	+42	−43	+CA	+CB	−CC	+C7	+C8	−C9	+4E	−4D	+C0	+DF	−54	−55	+56	+51	+52	−53	+DA	+DB	−DC	+D7	+D8	−D9	+5E	−5D	+D0
e_{70}	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	−DA	−DB	−DC	−DD	−DE	−DF	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	+CA	+CB	+CC	+CD	+CE	+CF
e_{71}	−D1	−D0	−5C	+5B	+5F	+D9	−D8	−5D	−D6	+D5	+DE	+53	−52	−57	+DA	+54	+C1	+C0	+4C	−4B	−4F	−C9	+C8	+4D	+C6	−C5	−CE	−43	+42	+47	−CA	−44
e_{72}	−D2	+5C	−D0	+5A	−D9	+5F	−D7	−D6	+5D	−D4	+53	−DE	+51	+58	−DB	+55	+C2	−4C	+C0	−4A	+C9	−4F	+C7	+C6	−4D	+C4	−43	+CE	−41	−48	+CB	−45
e_{73}	−D3	−5B	−5A	−D0	−D8	−D7	−5F	−D5	−D4	−5D	−52	−51	−DE	−59	−DC	−56	+C3	+4B	+4A	+C0	+C8	+C7	+4F	+C5	+C4	+4D	+42	+41	+CE	+49	+CC	+46
e_{74}	−D4	−5F	−D9	−D8	−D0	−5C	−5B	−5E	−D3	−D2	−DD	−56	−55	−DA	−57	−51	+C4	+4F	+C9	+C8	+C0	+4C	+4B	+4E	+C3	+C2	+CD	+46	+45	+CA	+47	+41
e_{75}	−D5	+D9	−5F	−D7	+5C	−D0	−5A	−D3	+5E	+D1	−56	+DD	+54	+DB	+58	−52	+C5	−C9	+4F	+C7	−4C	+C0	+4A	+C3	−4E	−C1	+46	−CD	−44	−CB	−48	+42
e_{76}	−D6	−D8	−D7	+5F	+5B	+5A	−D0	−D2	−D1	+5E	+55	+54	−DD	−DC	+59	+53	+C6	+C8	+C7	−4F	−4B	−4A	+C0	+C2	+C1	−4E	−45	−44	+CD	+CC	−49	−43
e_{77}	−D7	+5D	−D6	−D5	+5E	−D3	−D2	−D0	+5C	+5B	−DF	+59	+58	+51	+54	−DA	+C7	−4D	+C6	+C5	−4E	+C3	+C2	+C0	−4C	−4B	+CF	−49	−48	−41	−44	+CA
e_{78}	−D8	−D6	−5D	−D4	−D3	−5E	−D1	−5C	−D0	−5A	−59	−DF	−57	−52	−55	−DB	+C8	+C6	+4D	+C4	+C3	+4E	+C1	+4C	+C0	+4A	+49	+CF	+47	+42	+45	+CB
e_{79}	−D9	+D5	−D4	+5D	−D2	+D1	−5E	−5B	+5A	−D0	+58	−57	+DF	+53	−56	+DC	+C9	−C5	+C4	−4D	+C2	−C1	+4E	+4B	−4A	+C0	−48	+47	−CF	−43	+46	−CC
e_{7A}	+DA	−DE	+53	−52	+DD	−56	+55	+DF	−59	+58	+D0	−5C	+5B	+D4	−D1	+D7	−CA	+CE	−43	+42	−CD	+46	−45	−CF	+49	−48	−C0	+4C	−4B	−C4	+C1	−C7
e_{7B}	+DB	+53	+DE	−51	−56	−DD	+54	+59	+DF	−57	+5C	+D0	−5A	−D5	+D2	+D8	−CB	−43	−CE	+41	+46	+CD	−44	−49	−CF	+47	−4C	−C0	+4A	+C5	−C2	−C8
e_{7C}	+DC	−52	+51	+DE	−55	+54	+DD	+58	−57	−DF	−5B	+5A	+D0	+D6	+D3	−D9	−CC	+42	−41	−CE	+45	−44	−CD	−48	+47	+CF	+4B	−4A	−C0	−C6	−C3	+C9
e_{7D}	+DD	−57	+58	−59	+DA	−DB	+DC	+51	−52	+53	+D4	−D5	+D6	+D0	−5F	+5E	−CD	+47	−48	+49	−CA	+CB	−CC	−41	+42	−43	−C4	+C5	−C6	−C0	+4F	−4E
e_{7E}	+DE	−DA	+DB	+DC	−57	+58	+59	+54	−55	−56	−D1	+D2	+D3	+5F	+D0	−5D	−CE	+CA	−CB	−CC	+47	−48	−49	−44	+45	+46	+C1	−C2	−C3	−4F	−C0	+4D
e_{7F}	+DF	+54	+55	−56	−51	−52	+53	+DA	+DB	−DC	+D7	+D8	−D9	−5E	+5D	+D0	−CF	−44	−45	+46	+41	+42	−43	−CA	−CB	+CC	−C7	−C8	+C9	+4E	−4D	−C0

TABLE 23. $Ka^3(1, 4)$ multiplication table, part F3

	e_{20}	e_{A1}	e_{A2}	e_{A3}	e_{A4}	e_{A5}	e_{A6}	e_{A7}	e_{A8}	e_{A9}	e_{AA}	e_{AB}	e_{AC}	e_{AD}	e_{AE}	e_{AF}	e_{B0}	e_{B1}	e_{B2}	e_{B3}	e_{B4}	e_{B5}	e_{B6}	e_{B7}	e_{B8}	e_{B9}	e_{BA}	e_{BB}	e_{BC}	e_{BD}	e_{BE}	e_{BF}
e_{80}	−20	−21	−22	−23	−24	−25	−26	−27	−28	−29	+2A	+2B	+2C	+2D	+2E	+2F	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	−3A	−3B	−3C	−3D	−3E	−3F
e_{81}	−21	−20	+AC	−AB	−AF	+29	−28	+AD	−26	+25	−2E	+A3	−A2	−A7	−2A	+A4	+31	+30	−BC	+BB	+BF	−39	+38	−BD	+36	−35	+3E	−B3	+B2	+B7	+3A	−B4
e_{82}	−22	−AC	−20	−AA	−29	−AF	−27	−26	−AD	−24	+A3	+2E	+A1	+A8	+2B	+A5	+32	+BC	+30	+BA	+39	+BF	+37	+36	+BD	+34	−B3	−3E	−B1	−B8	−3B	−B5
e_{83}	−23	+AB	+AA	−20	−28	−27	+AF	−25	−24	+AD	−A2	−A1	+2E	−A9	+2C	−A6	+33	−BB	−BA	+30	+38	+37	−BF	+35	+34	−BD	+B2	+B1	−3E	+B9	−3C	+B6
e_{84}	−24	+AF	−29	−28	−20	+AC	+AB	+AE	−23	−22	+2D	−A6	−A5	+2A	−A7	−A1	+34	−BF	+39	+38	+30	−BC	−BB	−BE	+33	+32	−3D	+B6	+B5	−3A	+B7	+B1
e_{85}	−25	+29	+AF	−27	−AC	−20	+AA	−23	−AE	+21	−A6	−2D	+A4	−2B	+A8	−A2	+35	−39	−BF	+37	+BC	+30	−BA	+33	+BE	−31	+B6	+3D	−B4	+3B	−B8	+B2
e_{86}	−26	−28	−27	−AF	−AB	−AA	−20	−22	−21	−AE	+A5	+A4	+2D	+2C	+A9	+A3	+36	+38	+37	+BF	+BB	+BA	+30	+32	+31	+BE	−B5	−B4	−3D	−3C	−B9	−B3
e_{87}	−27	−AD	−26	−25	−AE	−23	−22	−20	−AC	−AB	+2F	+A9	+A8	+A1	+A4	+2A	+37	+BD	+36	+35	+BE	+33	+32	+30	+BC	+BB	−3F	−B9	−B8	−B1	−B4	−3A
e_{88}	−28	−26	+AD	−24	−23	+AE	−21	+AC	−20	+AA	−A9	+2F	−A7	−A2	−A5	+2B	+38	+36	−BD	+34	+33	−BE	+31	−BC	+30	−BA	+B9	−3F	+B7	+B2	+B5	−3B
e_{89}	−29	+25	−24	−AD	−22	+21	+AE	+AB	−AA	−20	+A8	−A7	−2F	+A3	−A6	−2C	+39	−35	+34	+BD	+32	−31	−BE	−BB	+BA	+30	−B8	+B7	+3F	−B3	+B6	+3C
e_{8A}	+2A	−2E	−A3	+A2	+2D	+A6	−A5	+2F	+A9	−A8	−20	−AC	+AB	−24	+21	−27	−3A	+3E	+B3	−B2	−3D	−B6	+B5	−3F	−B9	+B8	+30	+BC	−BB	+34	−31	+37
e_{8B}	+2B	−A3	+2E	+A1	+A6	−2D	−A4	−A9	+2F	+A7	+AC	−20	−AA	+25	−22	−28	−3B	+B3	−3E	−B1	−B6	+3D	+B4	+B9	−3F	−B7	−BC	+30	+BA	−35	+32	+38
e_{8C}	+2C	+A2	−A1	+2E	+A5	−A4	+2D	−A8	+A7	−2F	−AB	+AA	−20	−26	−23	+29	−3C	−B2	+B1	−3E	−B5	+B4	−3D	+B8	−B7	+3F	+BB	−BA	+30	+36	+33	−39
e_{8D}	+2D	+A7	−A8	+A9	+2A	−2B	+2C	−A1	+A2	−A3	−24	+25	−26	−20	−AF	+AE	−3D	−B7	+B8	−B9	−3A	+3B	−3C	+B1	−B2	+B3	+34	−35	+36	+30	+BF	−BE
e_{8E}	+2E	−2A	+2B	+2C	+A7	−A8	−A9	−A4	+A5	+A6	+21	−22	−23	+AF	−20	−AD	−3E	+3A	−3B	−3C	−B7	+B8	+B9	+B4	−B5	−B6	−31	+32	+33	−BF	+30	+BD
e_{8F}	+2F	−A4	−A5	+A6	+A1	+A2	−A3	+2A	+2B	−2C	−27	−28	+29	−AE	+AD	−20	−3F	+B4	+B5	−B6	−B1	−B2	+B3	−3A	−3B	+3C	+37	+38	−39	+BE	−BD	+30
e_{90}	−30	−31	−32	−33	−34	−35	−36	−37	−38	−39	+3A	+3B	+3C	+3D	+3E	+3F	−20	−21	−22	−23	−24	−25	−26	−27	−28	−29	+2A	+2B	+2C	+2D	+2E	+2F
e_{91}	−31	−30	−BC	+BB	+BF	+39	−38	−BD	−36	+35	−3E	−B3	+B2	+B7	−3A	−B4	−21	−20	−AC	+AB	+AF	+29	−28	−AD	−26	+25	−2E	−A3	+A2	+A7	−2A	−A4
e_{92}	−32	+BC	−30	+BA	−39	+BF	−37	−36	+BD	−34	−B3	+3E	−B1	−B8	+3B	−B5	−22	+AC	−20	+AA	−29	+AF	−27	−26	+AD	−24	−A3	+2E	−A1	−A8	+2B	−A5
e_{93}	−33	−BB	−BA	−30	−38	−37	−BF	−35	−34	−BD	+B2	+B1	+3E	+B9	+3C	+B6	−23	−AB	−AA	−20	−28	−27	−AF	−25	−24	−AD	+A2	+A1	+2E	+A9	+2C	+A6
e_{94}	−34	−BF	−39	−38	−30	−BC	−BB	−BE	−33	−32	+3D	+B6	+B5	+3A	+B7	+B1	−24	−AF	−29	−28	−20	−AC	−AB	−AE	−23	−22	+2D	+A6	+A5	+2A	+A7	+A1
e_{95}	−35	+39	−BF	−37	+BC	−30	−BA	−33	+BE	+31	+B6	−3D	−B4	−3B	−B8	+B2	−25	+29	−AF	−27	+AC	−20	−AA	−23	+AE	+21	+A6	−2D	−A4	−2B	−A8	+A2
e_{96}	−36	−38	−37	+BF	+BB	+BA	−30	−32	−31	+BE	−B5	−B4	+3D	+3C	−B9	−B3	−26	−28	−27	+AF	+AB	+AA	−20	−22	−21	+AE	−A5	−A4	+2D	+2C	−A9	−A3
e_{97}	−37	+BD	−36	−35	+BE	−33	−32	−30	+BC	+BB	+3F	−B9	−B8	−B1	−B4	+3A	−27	+AD	−26	−25	+AE	−23	−22	−20	+AC	+AB	+2F	−A9	−A8	−A1	−A4	+2A
e_{98}	−38	−36	−BD	−34	−33	−BE	−31	−BC	−30	−BA	+B9	+3F	+B7	+B2	+B5	+3B	−28	−26	−AD	−24	−23	−AE	−21	−AC	−20	−AA	+A9	+2F	+A7	+A2	+A5	+2B
e_{99}	−39	+35	−34	+BD	−32	+31	−BE	−BB	+BA	−30	−B8	+B7	−3F	−B3	+B6	−3C	−29	+25	−24	+AD	−22	+21	−AE	−AB	+AA	−20	−A8	+A7	−2F	−A3	+A6	−2C
e_{9A}	+3A	−3E	+B3	−B2	+3D	−B6	+B5	+3F	−B9	+B8	−30	+BC	−BB	−34	+31	−37	+2A	−2E	+A3	−A2	+2D	−A6	+A5	+2F	−A9	+A8	−20	+AC	−AB	−24	+21	−27
e_{9B}	+3B	+B3	+3E	−B1	−B6	−3D	+B4	+B9	+3F	−B7	−BC	−30	+BA	+35	−32	−38	+2B	+A3	+2E	−A1	−A6	−2D	+A4	+A9	+2F	−A7	−AC	−20	+AA	+25	−22	−28
e_{9C}	+3C	−B2	+B1	+3E	−B5	+B4	+3D	+B8	−B7	−3F	+BB	−BA	−30	−36	−33	+39	+2C	−A2	+A1	+2E	−A5	+A4	+2D	+A8	−A7	−2F	+AB	−AA	−20	−26	−23	+29
e_{9D}	+3D	−B7	+B8	−B9	+3A	−3B	+3C	+B1	−B2	+B3	−34	+35	−36	−30	+BF	−BE	+2D	−A7	+A8	−A9	+2A	−2B	+2C	+A1	−A2	+A3	−24	+25	−26	−20	+AF	−AE
e_{9E}	+3E	−3A	+3B	+3C	−B7	+B8	+B9	+B4	−B5	−B6	+31	−32	−33	−BF	−30	+BD	+2E	−2A	+2B	+2C	−A7	+A8	+A9	+A4	−A5	−A6	+21	−22	−23	−AF	−20	+AD
e_{9F}	+3F	+B4	+B5	−B6	−B1	−B2	+B3	+3A	+3B	−3C	−37	−38	+39	+BE	−BD	−30	+2F	+A4	+A5	−A6	−A1	−A2	+A3	+2A	+2B	−2C	−27	−28	+29	+AE	−AD	−20
e_{A0}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	−1A	−1B	−1C	−1D	−1E	−1F
e_{A1}	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	−E	+83	−82	−87	−A	+84	+11	+10	−9C	+9B	+9F	−19	+18	−9D	+16	−15	+1E	−93	+92	+97	+1A	−94
e_{A2}	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	+83	+E	+81	+88	+B	+85	+12	+9C	+10	+9A	+19	+9F	+17	+16	+9D	+14	−93	−1E	−91	−98	−1B	−95
e_{A3}	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	−82	−81	+E	−89	+C	−86	+13	−9B	−9A	+10	+18	+17	−9F	+15	+14	−9D	+92	+91	−1E	+99	−1C	+96
e_{A4}	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	+D	−86	−85	+A	−87	−81	+14	−9F	+19	+18	+10	−9C	−9B	−9E	+13	+12	−1D	+96	+95	−1A	+97	+91
e_{A5}	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	−86	−D	+84	−B	+88	−82	+15	−19	−9F	+17	+9C	+10	−9A	+13	+9E	−11	+96	+1D	−94	+1B	−98	+92
e_{A6}	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	+85	+84	+D	+C	+89	+83	+16	+18	+17	+9F	+9B	+9A	+10	+12	+11	+9E	−95	−94	−1D	−1C	−99	−93
e_{A7}	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	+F	+89	+88	+81	+84	+A	+17	+9D	+16	+15	+9E	+13	+12	+10	+9C	+9B	−1F	−99	−98	−91	−94	−1A
e_{A8}	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	−89	+F	−87	−82	−85	+B	+18	+16	−9D	+14	+13	−9E	+11	−9C	+10	−9A	+99	−1F	+97	+92	+95	−1B
e_{A9}	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	+88	−87	−F	+83	−86	−C	+19	−15	+14	+9D	+12	−11	−9E	−9B	+9A	+10	−98	+97	+1F	−93	+96	+1C
e_{AA}	+A	−E	−83	+82	+D	+86	−85	+F	+89	−88	−0	−8C	+8B	−4	+1	−7	−1A	+1E	+93	−92	−1D	−96	+95	−1F	−99	+98	+10	+9C	−9B	+14	−11	+17
e_{AB}	+B	−83	+E	+81	+86	−D	−84	−89	+F	+87	+8C	−0	−8A	+5	−2	−8	−1B	+93	−1E	−91	−96	+1D	+94	+99	−1F	−97	−9C	+10	+9A	−15	+12	+18
e_{AC}	+C	+82	−81	+E	+85	−84	+D	−88	+87	−F	−8B	+8A	−0	−6	−3	+9	−1C	−92	+91	−1E	−95	+94	−1D	+98	−97	+1F	+9B	−9A	+10	+16	+13	−19
e_{AD}	+D	+87	−88	+89	+A	−B	+C	−81	+82	−83	−4	+5	−6	−0	−8F	+8E	−1D	−97	+98	−99	−1A	+1B	−1C	+91	−92	+93	+14	−15	+16	+10	+9F	−9E
e_{AE}	+E	−A	+B	+C	+87	−88	−89	−84	+85	+86	+1	−2	−3	+8F	−0	−8D	−1E	+1A	−1B	−1C	−97	+98	+99	+94	−95	−96	−11	+12	+13	−9F	+10	+9D
e_{AF}	+F	−84	−85	+86	+81	+82	−83	+A	+B	−C	−7	−8	+9	−8E	+8D	−0	−1F	+94	+95	−96	−91	−92	+93	−1A	−1B	+1C	+17	+18	−19	+9E	−9D	+10
e_{B0}	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	+1A	+1B	+1C	+1D	+1E	+1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F
e_{B1}	−11	−10	−9C	+9B	+9F	+19	−18	−9D	−16	+15	−1E	−93	+92	+97	−1A	−94	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	−E	−83	+82	+87	−A	−84
e_{B2}	−12	+9C	−10	+9A	−19	+9F	−17	−16	+9D	−14	−93	+1E	−91	−98	+1B	−95	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	−83	+E	−81	−88	+B	−85
e_{B3}	−13	−9B	−9A	−10	−18	−17	−9F	−15	−14	−9D	+92	+91	+1E	+99	+1C	+96	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	+82	+81	+E	+89	+C	+86
e_{B4}	−14	−9F	−19	−18	−10	−9C	−9B	−9E	−13	−12	+1D	+96	+95	+1A	+97	+91	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	+D	+86	+85	+A	+87	+81
e_{B5}	−15	+19	−9F	−17	+9C	−10	−9A	−13	+9E	+11	+96	−1D	−94	−1B	−98	+92	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	+86	−D	−84	−B	−88	+82
e_{B6}	−16	−18	−17	+9F	+9B	+9A	−10	−12	−11	+9E	−95	−94	+1D	+1C	−99	−93	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	−85	−84	+D	+C	−89	−83
e_{B7}	−17	+9D	−16	−15	+9E	−13	−12	−10	+9C	+9B	+1F	−99	−98	−91	−94	+1A	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	+F	−89	−88	−81	−84	+A
e_{B8}	−18	−16	−9D	−14	−13	−9E	−11	−9C	−10	−9A	+99	+1F	+97	+92	+95	+1B	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	+89	+F	+87	+82	+85	+B
e_{B9}	−19	+15	−14	+9D	−12	+11	−9E	−9B	+9A	−10	−98	+97	−1F	−93	+96	−1C	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	−88	+87	−F	−83	+86	−C
e_{BA}	+1A	−1E	+93	−92	+1D	−96	+95	+1F	−99	+98	−10	+9C	−9B	−14	+11	−17	+A	−E	+83	−82	+D	−86	+85	+F	−89	+88	−0	+8C	−8B	−4	+1	−7
e_{BB}	+1B	+93	+1E	−91	−96	−1D	+94	+99	+1F	−97	−9C	−10	+9A	+15	−12	−18	+B	+83	+E	−81	−86	−D	+84	+89	+F	−87	−8C	−0	+8A	+5	−2	−8
e_{BC}	+1C	−92	+91	+1E	−95	+94	+1D	+98	−97	−1F	+9B	−9A	−10	−16	−13	+19	+C	−82	+81	+E	−85	+84	+D	+88	−87	−F	+8B	−8A	−0	−6	−3	+9
e_{BD}	+1D	−97	+98	−99	+1A	−1B	+1C	+91	−92	+93	−14	+15	−16	−10	+9F	−9E	+D	−87	+88	−89	+A	−B	+C	+81	−82	+83	−4	+5	−6	−0	+8F	−8E
e_{BE}	+1E	−1A	+1B	+1C	−97	+98	+99	+94	−95	−96	+11	−12	−13	−9F	−10	+9D	+E	−A	+B	+C	−87	+88	+89	+84	−85	−86	+1	−2	−3	−8F	−0	+8D
e_{BF}	+1F	+94	+95	−96	−91	−92	+93	+1A	+1B	−1C	−17	−18	+19	+9E	−9D	−10	+F	+84	+85	−86	−81	−82	+83	+A	+B	−C	−7	−8	+9	+8E	−8D	−0

TABLE 24. $Ka^3(1,4)$ multiplication table, part F4

	e_{20}	e_{A1}	e_{A2}	e_{A3}	e_{A4}	e_{A5}	e_{A6}	e_{A7}	e_{A8}	e_{A9}	e_{AA}	e_{AB}	e_{AC}	e_{AD}	e_{AE}	e_{AF}	e_{B0}	e_{B1}	e_{B2}	e_{B3}	e_{B4}	e_{B5}	e_{B6}	e_{B7}	e_{B8}	e_{B9}	e_{BA}	e_{BB}	e_{BC}	e_{BD}	e_{BE}	e_{BF}
e_{C0}	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	−6A	−6B	−6C	−6D	−6E	−6F	−70	−71	−72	−73	−74	−75	−76	−77	−78	−79	+7A	+7B	+7C	+7D	+7E	+7F
e_{C1}	+61	+60	−EC	+EB	+EF	−69	+68	−ED	+66	−65	+6E	−E3	+E2	+E7	+6A	−E4	−71	−70	+FC	−FB	−FF	+79	−78	+FD	−76	+75	−7E	+F3	−F2	−F7	−7A	+F4
e_{C2}	+62	+EC	+60	+EA	+69	+EF	+67	+66	+ED	+64	−E3	−6E	−E1	−E8	−6B	−E5	−72	−FC	−70	−FA	−79	−FF	−77	−76	−FD	−74	+F3	+7E	+F1	+F8	+7B	+F5
e_{C3}	+63	−EB	−EA	+60	+68	+67	−EF	+65	+64	−ED	+E2	+E1	−6E	+E9	−6C	+E6	−73	+FB	+FA	−70	−78	−77	+FF	−75	−74	+FD	−F2	−F1	+7E	−F9	+7C	−F6
e_{C4}	+64	−EF	+69	+68	+60	−EC	−EB	−EE	+63	+62	−6D	+E6	+E5	−6A	+E7	+E1	−74	+FF	−79	−78	−70	+FC	+FB	+FE	−73	−72	+7D	−F6	−F5	+7A	−F7	−F1
e_{C5}	+65	−69	−EF	+67	+EC	+60	−EA	+63	+EE	−61	+E6	+6D	−E4	+6B	−E8	+E2	−75	+79	+FF	−77	−FC	−70	+FA	−73	−FE	+71	−F6	−7D	+F4	−7B	+F8	−F2
e_{C6}	+66	+68	+67	+EF	+EB	+EA	+60	+62	+61	+EE	−E5	−E4	−6D	−6C	−E9	−E3	−76	−78	−77	−FF	−FB	−FA	−70	−72	−71	−FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{C7}	+67	+ED	+66	+65	+EE	+63	+62	+60	+EC	+EB	−6F	−E9	−E8	−E1	−E4	−6A	−77	−FD	−76	−75	−FE	−73	−72	−70	−FC	−FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{C8}	+68	+66	−ED	+64	+63	−EE	+61	−EC	+60	−EA	+E9	−6F	+E7	+E2	+E5	−6B	−78	−76	+FD	−74	−73	+FE	−71	+FC	−70	+FA	−F9	+7F	−F7	−F2	−F5	+7B
e_{C9}	+69	−65	+64	+ED	+62	−61	−EE	−EB	+EA	+60	−E8	+E7	+6F	−E3	+E6	+6C	−79	+75	−74	−FD	−72	+71	+FE	+FB	−FA	−70	+F8	−F7	−7F	+F3	−F6	−7C
e_{CA}	−6A	+6E	+E3	−E2	−6D	−E6	+E5	−6F	−E9	+E8	+60	+EC	−EB	+64	−61	+67	+7A	−7E	−F3	+F2	+7D	+F6	−F5	+7F	+F9	−F8	−70	−FC	+FB	−74	+71	−77
e_{CB}	−6B	+E3	−6E	−E1	−E6	+6D	+E4	+E9	−6F	−E7	−EC	+60	+EA	−65	+62	+68	+7B	−F3	+7E	+F1	+F6	−7D	−F4	−F9	+7F	+F7	+FC	−70	−FA	+75	−72	−78
e_{CC}	−6C	−E2	+E1	−6E	−E5	+E4	−6D	+E8	−E7	+6F	+EB	−EA	+60	+66	+63	−69	+7C	+F2	−F1	+7E	+F5	−F4	+7D	−F8	+F7	−7F	−FB	+FA	−70	−76	−73	+79
e_{CD}	−6D	−E7	+E8	−E9	−6A	+6B	−6C	+E1	−E2	+E3	+64	−65	+66	+60	+EF	−EE	+7D	+F7	−F8	+F9	+7A	−7B	+7C	−F1	+F2	−F3	−74	+75	−76	−70	−FF	+FE
e_{CE}	−6E	+6A	−6B	−6C	−E7	+E8	+E9	+E4	−E5	−E6	−61	+62	+63	−EF	+60	+ED	+7E	−7A	+7B	+7C	+F7	−F8	−F9	−F4	+F5	+F6	+71	−72	−73	+FF	−70	−FD
e_{CF}	−6F	+E4	+E5	−E6	−E1	−E2	+E3	−6A	−6B	+6C	+67	+68	−69	+EE	−ED	+60	+7F	−F4	−F5	+F6	+F1	+F2	−F3	+7A	+7B	−7C	−77	−78	+79	−FE	+FD	−70
e_{D0}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	−7A	−7B	−7C	−7D	−7E	−7F	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	−6A	−6B	−6C	−6D	−6E	−6F
e_{D1}	+71	+70	+FC	−FB	−FF	−79	+78	+FD	+76	−75	+7E	+F3	−F2	−F7	+7A	+F4	+61	+60	+EC	−EB	−EF	−69	+68	+ED	+66	−65	+6E	+E3	−E2	−E7	+6A	+E4
e_{D2}	+72	−FC	+70	−FA	+79	−FF	+77	+76	−FD	+74	+F3	−7E	+F1	+F8	−7B	+F5	+62	−EC	+60	−EA	+69	−EF	+67	+66	−ED	+64	+E3	−6E	+E1	+E8	−6B	+E5
e_{D3}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	−F2	−F1	−7E	−F9	−7C	−F6	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	−E2	−E1	−6E	−E9	−6C	−E6
e_{D4}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	−7D	−F6	−F5	−7A	−F7	−F1	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	−6D	−E6	−E5	−6A	−E7	−E1
e_{D5}	+75	−79	+FF	+77	−FC	+70	+FA	+73	−FE	−71	−F6	+7D	+F4	+7B	+F8	−F2	+65	−69	+EF	+67	−EC	+60	+EA	+63	−EE	−61	−E6	+6D	+E4	+6B	+E8	−E2
e_{D6}	+76	+78	+77	−FF	−FB	−FA	+70	+72	+71	−FE	+F5	+F4	−7D	−7C	+F9	+F3	+66	+68	+67	−EF	−EB	−EA	+60	+62	+61	−EE	+E5	+E4	−6D	−6C	+E9	+E3
e_{D7}	+77	−FD	+76	+75	−FE	+73	+72	+70	−FC	−FB	−7F	+F9	+F8	+F1	+F4	−7A	+67	−ED	+66	+65	−EE	+63	+62	+60	−EC	−EB	−6F	+E9	+E8	+E1	+E4	−6A
e_{D8}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	−F9	−7F	−F7	−F2	−F5	−7B	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	−E9	−6F	−E7	−E2	−E5	−6B
e_{D9}	+79	−75	+74	−FD	+72	−71	+FE	+FB	−FA	+70	+F8	−F7	+7F	+F3	−F6	+7C	+69	−65	+64	−ED	+62	−61	+EE	+EB	−EA	+60	+E8	−E7	+6F	+E3	−E6	+6C
e_{DA}	−7A	+7E	−F3	+F2	−7D	+F6	−F5	−7F	+F9	−F8	+70	−FC	+FB	+74	−71	+77	−6A	+6E	−E3	+E2	−6D	+E6	−E5	−6F	+E9	−E8	+60	−EC	+EB	+64	−61	+67
e_{DB}	−7B	−F3	−7E	+F1	+F6	+7D	−F4	−F9	−7F	+F7	+FC	+70	−FA	−75	+72	+78	−6B	−E3	−6E	+E1	+E6	+6D	−E4	−E9	−6F	+E7	+EC	+60	−EA	−65	+62	+68
e_{DC}	−7C	+F2	−F1	−7E	+F5	−F4	−7D	−F8	+F7	+7F	−FB	+FA	+70	+76	+73	−79	−6C	+E2	−E1	−6E	+E5	−E4	−6D	−E8	+E7	+6F	−EB	+EA	+60	+66	+63	−69
e_{DD}	−7D	+F7	−F8	+F9	−7A	+7B	−7C	−F1	+F2	−F3	+74	−75	+76	+70	−FF	+FE	−6D	+E7	−E8	+E9	−6A	+6B	−6C	−E1	+E2	−E3	+64	−65	+66	+60	−EF	+EE
e_{DE}	−7E	+7A	−7B	−7C	+F7	−F8	−F9	−F4	+F5	+F6	−71	+72	+73	+FF	+70	−FD	−6E	+6A	−6B	−6C	+E7	−E8	−E9	−E4	+E5	+E6	−61	+62	+63	+EF	+60	−ED
e_{DF}	−7F	−F4	−F5	+F6	+F1	+F2	−F3	−7A	−7B	+7C	+77	+78	−79	−FE	+FD	+70	−6F	−E4	−E5	+E6	+E1	+E2	−E3	−6A	−6B	+6C	+67	+68	−69	−EE	+ED	+60
e_{E0}	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	−4A	−4B	−4C	−4D	−4E	−4F	−50	−51	−52	−53	−54	−55	−56	−57	−58	−59	+5A	+5B	+5C	+5D	+5E	+5F
e_{E1}	+41	+40	−CC	+CB	+CF	−49	+48	−CD	+46	−45	+4E	−C3	+C2	+C7	+4A	−C4	−51	−50	+DC	−DB	−DF	+59	−58	+DD	−56	+55	−5E	+D3	−D2	−D7	−5A	+D4
e_{E2}	+42	+CC	+40	+CA	+49	+CF	+47	+46	+CD	+44	−C3	−4E	−C1	−C8	−4B	−C5	−52	−DC	−50	−DA	−59	−DF	−57	−56	−DD	−54	+D3	+5E	+D1	+D8	+5B	+D5
e_{E3}	+43	−CB	−CA	+40	+48	+47	−CF	+45	+44	−CD	+C2	+C1	−4E	+C9	−4C	+C6	−53	+DB	+DA	−50	−58	−57	+DF	−55	−54	+DD	−D2	−D1	+5E	−D9	+5C	−D6
e_{E4}	+44	−CF	+49	+48	+40	−CC	−CB	−CE	+43	+42	−4D	+C6	+C5	−4A	+C7	+C1	−54	+DF	−59	−58	−50	+DC	+DB	+DE	−53	−52	+5D	−D6	−D5	+5A	−D7	−D1
e_{E5}	+45	−49	−CF	+47	+CC	+40	−CA	+43	+CE	−41	+C6	+4D	−C4	+4B	−C8	+C2	−55	+59	+DF	−57	−DC	−50	+DA	−53	−DE	+51	−D6	−5D	+D4	−5B	+D8	−D2
e_{E6}	+46	+48	+47	+CF	+CB	+CA	+40	+42	+41	+CE	−C5	−C4	−4D	−4C	−C9	−C3	−56	−58	−57	−DF	−DB	−DA	−50	−52	−51	−DE	+D5	+D4	+5D	+5C	+D9	+D3
e_{E7}	+47	+CD	+46	+45	+CE	+43	+42	+40	+CC	+CB	−4F	−C9	−C8	−C1	−C4	−4A	−57	−DD	−56	−55	−DE	−53	−52	−50	−DC	−DB	+5F	+D9	+D8	+D1	+D4	+5A
e_{E8}	+48	+46	−CD	+44	+43	−CE	+41	−CC	+40	−CA	+C9	−4F	+C7	+C2	+C5	−4B	−58	−56	+DD	−54	−53	+DE	−51	+DC	−50	+DA	−D9	+5F	−D7	−D2	−D5	+5B
e_{E9}	+49	−45	+44	+CD	+42	−41	−CE	−CB	+CA	+40	−C8	+C7	+4F	−C3	+C6	+4C	−59	+55	−54	−DD	−52	+51	+DE	+DB	−DA	−50	+D8	−D7	−5F	+D3	−D6	−5C
e_{EA}	−4A	+4E	+C3	−C2	−4D	−C6	+C5	−4F	−C9	+C8	+40	+CC	−CB	+44	−41	+47	+5A	−5E	−D3	+D2	+5D	+D6	−D5	+5F	+D9	−D8	−50	−DC	+DB	−54	+51	−57
e_{EB}	−4B	+C3	−4E	−C1	−C6	+4D	+C4	+C9	−4F	−C7	−CC	+40	+CA	−45	+42	+48	+5B	−D3	+5E	+D1	+D6	−5D	−D4	−D9	+5F	+D7	+DC	−50	−DA	+55	−52	−58
e_{EC}	−4C	−C2	+C1	−4E	−C5	+C4	−4D	+C8	−C7	+4F	+CB	−CA	+40	+46	+43	−49	+5C	+D2	−D1	+5E	+D5	−D4	+5D	−D8	+D7	−5F	−DB	+DA	−50	−56	−53	+59
e_{ED}	−4D	−C7	+C8	−C9	−4A	+4B	−4C	+C1	−C2	+C3	+44	−45	+46	+40	+CF	−CE	+5D	+D7	−D8	+D9	+5A	−5B	+5C	−D1	+D2	−D3	−54	+55	−56	−50	−DF	+DE
e_{EE}	−4E	+4A	−4B	−4C	−C7	+C8	+C9	+C4	−C5	−C6	−41	+42	+43	−CF	+40	+CD	+5E	−5A	+5B	+5C	+D7	−D8	−D9	−D4	+D5	+D6	+51	−52	−53	+DF	−50	−DD
e_{EF}	−4F	+C4	+C5	−C6	−C1	−C2	+C3	−4A	−4B	+4C	+47	+48	−49	+CE	−CD	+40	+5F	−D4	−D5	+D6	+D1	+D2	−D3	+5A	+5B	−5C	−57	−58	+59	−DE	+DD	−50
e_{F0}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	−5A	−5B	−5C	−5D	−5E	−5F	+40	+41	+42	+43	+44	+45	+46	+47	+48	+49	−4A	−4B	−4C	−4D	−4E	−4F
e_{F1}	+51	+50	+DC	−DB	−DF	−59	+58	+DD	+56	−55	+5E	+D3	−D2	−D7	+5A	+D4	+41	+40	+CC	−CB	−CF	−49	+48	+CD	+46	−45	+4E	+C3	−C2	−C7	+4A	+C4
e_{F2}	+52	−DC	+50	−DA	+59	−DF	+57	+56	−DD	+54	+D3	−5E	+D1	+D8	−5B	+D5	+42	−CC	+40	−CA	+49	−CF	+47	+46	−CD	+44	+C3	−4E	+C1	+C8	−4B	+C5
e_{F3}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	−D2	−D1	−5E	−D9	−5C	−D6	+43	+CB	+CA	+40	+48	+47	+CF	+45	+44	+CD	−C2	−C1	−4E	−C9	−4C	−C6
e_{F4}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	−5D	−D6	−D5	−5A	−D7	−D1	+44	+CF	+49	+48	+40	+CC	+CB	+CE	+43	+42	−4D	−C6	−C5	−4A	−C7	−C1
e_{F5}	+55	−59	+DF	+57	−DC	+50	+DA	+53	−DE	−51	−D6	+5D	+D4	+5B	+D8	−D2	+45	−49	+CF	+47	−CC	+40	+CA	+43	−CE	−41	−C6	+4D	+C4	+4B	+C8	−C2
e_{F6}	+56	+58	+57	−DF	−DB	−DA	+50	+52	+51	−DE	+D5	+D4	−5D	−5C	+D9	+D3	+46	+48	+47	−CF	−CB	−CA	+40	+42	+41	−CE	+C5	+C4	−4D	−4C	+C9	+C3
e_{F7}	+57	−DD	+56	+55	−DE	+53	+52	+50	−DC	−DB	−5F	+D9	+D8	+D1	+D4	−5A	+47	−CD	+46	+45	−CE	+43	+42	+40	−CC	−CB	−4F	+C9	+C8	+C1	+C4	−4A
e_{F8}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	−D9	−5F	−D7	−D2	−D5	−5B	+48	+46	+CD	+44	+43	+CE	+41	+CC	+40	+CA	−C9	−4F	−C7	−C2	−C5	−4B
e_{F9}	+59	−55	+54	−DD	+52	−51	+DE	+DB	−DA	+50	+D8	−D7	+5F	+D3	−D6	+5C	+49	−45	+44	−CD	+42	−41	+CE	+CB	−CA	+40	+C8	−C7	+4F	+C3	−C6	+4C
e_{FA}	−5A	+5E	−D3	+D2	−5D	+D6	−D5	−5F	+D9	−D8	+50	−DC	+DB	+54	−51	+57	−4A	+4E	−C3	+C2	−4D	+C6	−C5	−4F	+C9	−C8	+40	−CC	+CB	+44	−41	+47
e_{FB}	−5B	−D3	−5E	+D1	+D6	+5D	−D4	−D9	−5F	+D7	+DC	+50	−DA	−55	+52	+58	−4B	−C3	−4E	+C1	+C6	+4D	−C4	−C9	−4F	+C7	+CC	+40	−CA	−45	+42	+48
e_{FC}	−5C	+D2	−D1	−5E	+D5	−D4	−5D	−D8	+D7	+5F	−DB	+DA	+50	+56	+53	−59	−4C	+C2	−C1	−4E	+C5	−C4	−4D	−C8	+C7	+4F	−CB	+CA	+40	+46	+43	−49
e_{FD}	−5D	+D7	−D8	+D9	−5A	+5B	−5C	−D1	+D2	−D3	+54	−55	+56	+50	−DF	+DE	−4D	+C7	−C8	+C9	−4A	+4B	−4C	−C1	+C2	−C3	+44	−45	+46	+40	−CF	+CE
e_{FE}	−5E	+5A	−5B	−5C	+D7	−D8	−D9	−D4	+D5	+D6	−51	+52	+53	+DF	+50	−DD	−4E	+4A	−4B	−4C	+C7	−C8	−C9	−C4	+C5	+C6	−41	+42	+43	+CF	+40	−CD
e_{FF}	−5F	−D4	−D5	+D6	+D1	+D2	−D3	−5A	−5B	+5C	+57	+58	−59	−DE	+DD	+50	−4F	−C4	−C5	+C6	+C1	+C2	−C3	−4A	−4B	+4C	+47	+48	−49	−CE	+CD	+40

TABLE 25. $Ka^3(1,4)$ multiplication table, part G1

	e_{C0}	e_{C1}	e_{C2}	e_{C3}	e_{C4}	e_{C5}	e_{C6}	e_{C7}	e_{C8}	e_{C9}	e_{CA}	e_{CB}	e_{CC}	e_{CD}	e_{CE}	e_{CF}	e_{D0}	e_{D1}	e_{D2}	e_{D3}	e_{D4}	e_{D5}	e_{D6}	e_{D7}	e_{D8}	e_{D9}	e_{DA}	e_{DB}	e_{DC}	e_{DD}	e_{DE}	e_{DF}
e_{0}	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	+CA	+CB	+CC	+CD	+CE	+CF	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	+DA	+DB	+DC	+DD	+DE	+DF
e_{1}	+C1	+C0	-4C	+4B	+4F	-C9	+C8	-4D	+C6	-C5	-CE	+43	-42	-47	-CA	+44	+D1	+D0	-5C	+5B	+5F	-D9	+D8	-5D	+D6	-D5	-DE	+53	-52	-57	-DA	+54
e_{2}	+C2	+4C	+C0	+4A	+C9	+4F	+C7	+C6	+4D	+C4	+43	+CE	+41	+48	+CB	+45	+D2	+5C	+D0	+5A	+D9	+5F	+D7	+D6	+5D	+D4	+53	+DE	+51	+58	+DB	+55
e_{3}	+C3	-4B	-4A	+C0	+C8	+C7	-4F	+C5	+C4	-4D	-42	-41	+CE	-49	+CC	-46	+D3	-5B	-5A	+D0	+D8	+D7	-5F	+D5	+D4	-5D	-52	-51	+DE	-59	+DC	-56
e_{4}	+C4	-4F	+C9	+C8	+C0	-4C	-4B	-4E	+C3	+C2	+CD	-46	-45	+CA	-47	-41	+D4	-5F	+D9	+D8	+D0	-5C	-5B	-5E	+D3	+D2	+DD	-56	-55	+DA	-57	-51
e_{5}	+C5	-C9	-4F	+C7	+4C	+C0	-4A	+C3	+4E	-C1	-46	-CD	+44	-CB	+48	-42	+D5	-D9	-5F	+D7	+5C	+D0	-5A	+D3	+5E	-D1	-56	-DD	+54	-DB	+58	-52
e_{6}	+C6	+C8	+C7	+4F	+4B	+4A	+C0	+C2	+C1	+4E	+45	+44	+CD	+CC	+49	+43	+D6	+D8	+D7	+5F	+5B	+5A	+D0	+D2	+D1	+5E	+55	+54	+DD	+DC	+59	+53
e_{7}	+C7	+4D	+C6	+C5	+4E	+C3	+C2	+C0	+4C	+4B	+CF	+49	+48	+41	+44	+CA	+D7	+5D	+D6	+D5	+5E	+D3	+D2	+D0	+5C	+5B	+DF	+59	+58	+51	+54	+DA
e_{8}	+C8	+C6	-4D	+C4	+C3	-4E	+C1	-4C	+C0	-4A	-49	+CF	-47	-42	-45	+CB	+D8	+D6	-5D	+D4	+D3	-5E	+D1	-5C	+D0	-5A	-59	+DF	-57	-52	-55	+DB
e_{9}	+C9	-C5	+C4	+4D	+C2	-C1	-4E	-4B	+4A	+C0	+48	-47	-CF	+43	-46	-CC	+D9	-D5	+D4	+5D	+D2	-D1	-5E	-5B	+5A	+D0	+58	-57	-DF	+53	-56	-DC
e_{A}	-CA	+CE	+43	-42	-CD	-46	+45	-CF	-49	+48	-C0	-4C	+4B	-C4	+C1	-C7	-DA	+DE	+53	-52	-DD	-56	+55	-DF	-59	+58	-D0	-5C	+5B	-D4	+D1	-D7
e_{B}	-CB	+43	-CE	-41	-46	+CD	+44	+49	-CF	-47	+4C	-C0	-4A	+C5	-C2	-C8	-DB	+53	-DE	-51	-56	+DD	+54	+59	-DF	-57	+5C	-D0	-5A	+D5	-D2	-D8
e_{C}	-CC	-42	+41	-CE	-45	+44	-CD	+48	-47	+CF	-4B	+4A	-C0	-C6	-C3	+C9	-DC	-52	+51	-DE	-55	+54	-DD	+58	-57	+DF	-5B	+5A	-D0	-D6	-D3	+D9
e_{D}	-CD	-47	+48	-49	-CA	+CB	-CC	+41	-42	+43	-C4	+C5	-C6	-C0	-4F	+4E	-DD	-57	+58	-59	-DA	+DB	-DC	+51	-52	+53	-D4	+D5	-D6	-D0	-5F	+5E
e_{E}	-CE	+CA	-CB	-CC	-47	+48	+49	+44	-45	-46	+C1	-C2	-C3	+4F	-C0	-4D	-DE	+DA	-DB	-DC	-57	+58	+59	+54	-55	-56	+D1	-D2	-D3	+5F	-D0	-5D
e_{F}	-CF	+44	+45	-46	-41	-42	+43	-CA	-CB	+CC	-C7	-C8	+C9	-4E	+4D	-C0	-DF	+54	+55	-56	-51	-52	+53	-DA	-DB	+DC	-D7	-D8	+D9	-5E	+5D	-D0
e_{10}	+D0	+D1	+D2	+D3	+D4	+D5	+D6	+D7	+D8	+D9	+DA	+DB	+DC	+DD	+DE	+DF	-C0	-C1	-C2	-C3	-C4	-C5	-C6	-C7	-C8	-C9	-CA	-CB	-CC	-CD	-CE	-CF
e_{11}	+D1	+D0	+5C	-5B	-5F	-D9	+D8	+5D	+D6	-D5	-DE	-53	+52	+57	-DA	-54	-C1	-C0	-4C	+4B	+4F	+C9	-C8	-4D	-C6	+C5	+CE	+43	-42	-47	+CA	+44
e_{12}	+D2	-5C	+D0	-5A	+D9	-5F	+D7	+D6	-5D	+D4	-53	+DE	-51	-58	+DB	-55	-C2	+4C	-C0	+4A	-C9	+4F	-C7	-C6	+4D	-C4	+43	-CE	+41	+48	-CB	+45
e_{13}	+D3	+5B	+5A	+D0	+D8	+D7	+5F	+D5	+D4	+5D	+52	+51	+DE	+59	+DC	+56	-C3	-4B	-4A	-C0	-C8	-C7	-4F	-C5	-C4	-4D	-42	-41	-CE	-49	-CC	-46
e_{14}	+D4	+5F	+D9	+D8	+D0	+5C	+5B	+5E	+D3	+D2	+DD	+56	+55	+DA	+57	+51	-C4	-4F	-C9	-C8	-C0	-4C	-4B	-4E	-C3	-C2	-CD	-46	-45	-CA	-47	-41
e_{15}	+D5	-D9	+5F	+D7	-5C	+D0	+5A	+D3	-5E	-D1	+56	-DD	-54	-DB	-58	+52	-C5	+C9	-4F	-C7	+4C	-C0	-4A	-C3	+4E	+C1	-46	+CD	+44	+CB	+48	-42
e_{16}	+D6	+D8	+D7	-5F	-5B	-5A	+D0	+D2	+D1	-5E	-55	-54	+DD	+DC	-59	-53	-C6	-C8	-C7	+4F	+4B	+4A	-C0	-C2	-C1	+4E	+45	+44	-CD	-CC	+49	+43
e_{17}	+D7	-5D	+D6	+D5	-5E	+D3	+D2	+D0	-5C	-5B	+DF	-59	-58	-51	-54	+DA	-C7	+4D	-C6	-C5	+4E	-C3	-C2	-C0	+4C	+4B	-CF	+49	+48	+41	+44	-CA
e_{18}	+D8	+D6	+5D	+D4	+D3	+5E	+D1	+5C	+D0	+5A	+59	+DF	+57	+52	+55	+DB	-C8	-C6	-4D	-C4	-C3	-4E	-C1	-4C	-C0	-4A	-49	-CF	-47	-42	-45	-CB
e_{19}	+D9	-D5	+D4	-5D	+D2	-D1	+5E	+5B	-5A	+D0	-58	+57	-DF	-53	+56	-DC	-C9	+C5	-C4	+4D	-C2	+C1	-4E	-4B	+4A	-C0	+48	-47	+CF	+43	-46	+CC
e_{1A}	-DA	+DE	-53	+52	-DD	+56	-55	-DF	+59	-58	-D0	+5C	-5B	-D4	+D1	-D7	+CA	-CE	+43	-42	+CD	-46	+45	+CF	-49	+48	+C0	-4C	+4B	+C4	-C1	+C7
e_{1B}	-DB	-53	-DE	+51	+56	+DD	-54	-59	-DF	+57	-5C	-D0	+5A	+D5	-D2	-D8	+CB	+43	+CE	-41	-46	-CD	+44	+49	+CF	-47	+4C	+C0	-4A	-C5	+C2	+C8
e_{1C}	-DC	+52	-51	-DE	+55	-54	-DD	-58	+57	+DF	+5B	-5A	-D0	-D6	-D3	+D9	+CC	-42	+41	+CE	-45	+44	+CD	+48	-47	-CF	-4B	+4A	+C0	+C6	+C3	-C9
e_{1D}	-DD	+57	-58	+59	-DA	+DB	-DC	-51	+52	-53	-D4	+D5	-D6	-D0	+5F	-5E	+CD	-47	+48	-49	+CA	-CB	+CC	+41	-42	+43	+C4	-C5	+C6	+C0	-4F	+4E
e_{1E}	-DE	+DA	-DB	-DC	+57	-58	-59	-54	+55	+56	+D1	-D2	-D3	-5F	-D0	+5D	+CE	-CA	+CB	+CC	-47	+48	+49	+44	-45	-46	-C1	+C2	+C3	+4F	+C0	-4D
e_{1F}	-DF	-54	-55	+56	+51	+52	-53	-DA	-DB	+DC	-D7	-D8	+D9	+5E	-5D	-D0	+CF	+44	+45	-46	-41	-42	+43	+CA	+CB	-CC	+C7	+C8	-C9	-4E	+4D	+C0
e_{20}	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	+FA	+FB	+FC	+FD	+FE	+FF
e_{21}	+E1	+E0	+6C	-6B	-6F	-E9	+E8	+6D	+E6	-E5	-EE	-63	+62	+67	-EA	-64	+F1	+F0	-7C	+7B	+7F	-F9	+F8	-7D	+F6	-F5	-FE	+73	-72	-77	-FA	+74
e_{22}	+E2	-6C	+E0	-6A	+E9	-6F	+E7	+E6	-6D	+E4	-63	+EE	-61	-68	+EB	-65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	+73	+FE	+71	+78	+FB	+75
e_{23}	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	+62	+61	+EE	+69	+EC	+66	+F3	-7B	-7A	+F0	+F8	+F7	-7F	+F5	+F4	-7D	-72	-71	+FE	-79	+FC	-76
e_{24}	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	+ED	+66	+65	+EA	+67	+61	+F4	-7F	+F9	+F8	+F0	-7C	-7B	-7E	+F3	+F2	+FD	-76	-75	+FA	-77	-71
e_{25}	+E5	-E9	+6F	+E7	-6C	+E0	+6A	+E3	-6E	-E1	+66	-ED	-64	-EB	-68	+62	+F5	-F9	-7F	+F7	+7C	+F0	-7A	+F3	+7E	-F1	-76	-FD	+74	-FB	+78	-72
e_{26}	+E6	+E8	+E7	-6F	-6B	-6A	+E0	+E2	+E1	-6E	-65	-64	+ED	+EC	-69	-63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	+75	+74	+FD	+FC	+79	+73
e_{27}	+E7	-6D	+E6	+E5	-6E	+E3	+E2	+E0	-6C	-6B	+EF	-69	-68	-61	-64	+EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	+FF	+79	+78	+71	+74	+FA
e_{28}	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	+69	+EF	+67	+62	+65	+EB	+F8	+F6	-7D	+F4	+F3	-7E	+F1	-7C	+F0	-7A	-79	+FF	-77	-72	-75	+FB
e_{29}	+E9	-E5	+E4	-6D	+E2	-E1	+6E	+6B	-6A	+E0	-68	+67	-EF	-63	+66	-EC	+F9	-F5	+F4	+7D	+F2	-F1	-7E	-7B	+7A	+F0	+78	-77	-FF	+73	-76	-FC
e_{2A}	-EA	+EE	-63	+62	-ED	+66	-65	-EF	+69	-68	-E0	+6C	-6B	-E4	+E1	-E7	-FA	+FE	+73	-72	-FD	-76	+75	-FF	-79	+78	-F0	-7C	+7B	-F4	+F1	-F7
e_{2B}	-EB	-63	-EE	+61	+66	+ED	-64	-69	-EF	+67	-6C	-E0	+6A	+E5	-E2	-E8	-FB	+73	-FE	-71	-76	+FD	+74	+79	-FF	-77	+7C	-F0	-7A	+F5	-F2	-F8
e_{2C}	-EC	+62	-61	-EE	+65	-64	-ED	-68	+67	+EF	+6B	-6A	-E0	-E6	-E3	+E9	-FC	-72	+71	-FE	-75	+74	-FD	+78	-77	+FF	-7B	+7A	-F0	-F6	-F3	+F9
e_{2D}	-ED	+67	-68	+69	-EA	+EB	-EC	-61	+62	-63	-E4	+E5	-E6	-E0	+6F	-6E	-FD	-77	+78	-79	-FA	+FB	-FC	+71	-72	+73	-F4	+F5	-F6	-F0	-7F	+7E
e_{2E}	-EE	+EA	-EB	-EC	+67	-68	-69	-64	+65	+66	+E1	-E2	-E3	-6F	-E0	+6D	-FE	+FA	-FB	-FC	-77	+78	+79	+74	-75	-76	+F1	-F2	-F3	+7F	-F0	-7D
e_{2F}	-EF	-64	-65	+66	+61	+62	-63	-EA	-EB	+EC	-E7	-E8	+E9	+6E	-6D	-E0	-FF	+74	+75	-76	-71	-72	+73	-FA	-FB	+FC	-F7	-F8	+F9	-7E	+7D	-F0
e_{30}	-F0	-F1	-F2	-F3	-F4	-F5	-F6	-F7	-F8	-F9	-FA	-FB	-FC	-FD	-FE	-FF	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{31}	-F1	-F0	-7C	+7B	+7F	+F9	-F8	-7D	-F6	+F5	+FE	+73	-72	-77	+FA	+74	+E1	+E0	-6C	+6B	+6F	-E9	+E8	-6D	+E6	-E5	-EE	+63	-62	-67	-EA	+64
e_{32}	-F2	+7C	-F0	+7A	-F9	+7F	-F7	-F6	+7D	-F4	+73	-FE	+71	+78	-FB	+75	+E2	+6C	+E0	+6A	+E9	+6F	+E7	+E6	+6D	+E4	+63	+EE	+61	+68	+EB	+65
e_{33}	-F3	-7B	-7A	-F0	-F8	-F7	-7F	-F5	-F4	-7D	-72	-71	-FE	-79	-FC	-76	+E3	-6B	-6A	+E0	+E8	+E7	-6F	+E5	+E4	-6D	-62	-61	+EE	-69	+EC	-66
e_{34}	-F4	-7F	-F9	-F8	-F0	-7C	-7B	-7E	-F3	-F2	-FD	-76	-75	-FA	-77	-71	+E4	-6F	+E9	+E8	+E0	-6C	-6B	-6E	+E3	+E2	+ED	-66	-65	+EA	-67	-61
e_{35}	-F5	+F9	-7F	-F7	+7C	-F0	-7A	-F3	+7E	+F1	-76	+FD	+74	+FB	+78	-72	+E5	-E9	-6F	+E7	+6C	+E0	-6A	+E3	+6E	-E1	-66	-ED	+64	-EB	+68	-62
e_{36}	-F6	-F8	-F7	+7F	+7B	+7A	-F0	-F2	-F1	+7E	+75	+74	-FD	-FC	+79	+73	+E6	+E8	+E7	+6F	+6B	+6A	+E0	+E2	+E1	+6E	+65	+64	+ED	+EC	+69	+63
e_{37}	-F7	+7D	-F6	-F5	+7E	-F3	-F2	-F0	+7C	+7B	-FF	+79	+78	+71	+74	-FA	+E7	+6D	+E6	+E5	+6E	+E3	+E2	+E0	+6C	+6B	+EF	+69	+68	+61	+64	+EA
e_{38}	-F8	-F6	-7D	-F4	-F3	-7E	-F1	-7C	-F0	-7A	-79	-FF	-77	-72	-75	-FB	+E8	+E6	-6D	+E4	+E3	-6E	+E1	-6C	+E0	-6A	-69	+EF	-67	-62	-65	+EB
e_{39}	-F9	+F5	-F4	+7D	-F2	+F1	-7E	-7B	+7A	-F0	+78	-77	+FF	+73	-76	+FC	+E9	-E5	+E4	+6D	+E2	-E1	-6E	-6B	+6A	+E0	+68	-67	-EF	+63	-66	-EC
e_{3A}	+FA	-FE	+73	-72	+FD	-76	+75	+FF	-79	+78	+F0	-7C	+7B	+F4	-F1	+F7	-EA	+EE	+63	-62	-ED	-66	+65	-EF	-69	+68	-E0	-6C	+6B	-E4	+E1	-E7
e_{3B}	+FB	+73	+FE	-71	-76	-FD	+74	+79	+FF	-77	+7C	+F0	-7A	-F5	+F2	+F8	-EB	+63	-EE	-61	-66	+ED	+64	+69	-EF	-67	+6C	-E0	-6A	+E5	-E2	-E8
e_{3C}	+FC	-72	+71	+FE	-75	+74	+FD	+78	-77	-FF	-7B	+7A	+F0	+F6	+F3	-F9	-EC	-62	+61	-EE	-65	+64	-ED	+68	-67	+EF	-6B	+6A	-E0	-E6	-E3	+E9
e_{3D}	+FD	-77	+78	-79	+FA	-FB	+FC	+71	-72	+73	+F4	-F5	+F6	+F0	-7F	+7E	-ED	-67	+68	-69	-EA	+EB	-EC	+61	-62	+63	-E4	+E5	-E6	-E0	-6F	+6E
e_{3E}	+FE	-FA	+FB	+FC	-77	+78	+79	+74	-75	-76	-F1	+F2	+F3	+7F	+F0	-7D	-EE	+EA	-EB	-EC	-67	+68	+69	+64	-65	-66	+E1	-E2	-E3	+6F	-E0	-6D
e_{3F}	+FF	+74	+75	-76	-71	-72	+73	+FA	+FB	-FC	+F7	+F8	-F9	-7E	+7D	+F0	-EF	+64	+65	-66	-61	-62	+63	-EA	-EB	+EC	-E7	-E8	+E9	-6E	+6D	-E0

TABLE 26. $Ka^3(1,4)$ multiplication table, part G2

	e_{C0}	e_{C1}	e_{C2}	e_{C3}	e_{C4}	e_{C5}	e_{C6}	e_{C7}	e_{C8}	e_{C9}	e_{CA}	e_{CB}	e_{CC}	e_{CD}	e_{CE}	e_{CF}	e_{D0}	e_{D1}	e_{D2}	e_{D3}	e_{D4}	e_{D5}	e_{D6}	e_{D7}	e_{D8}	e_{D9}	e_{DA}	e_{DB}	e_{DC}	e_{DD}	e_{DE}	e_{DF}
e_{40}	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+8A	+8B	+8C	+8D	+8E	+8F	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+9A	+9B	+9C	+9D	+9E	+9F
e_{41}	+81	+80	−C	+B	+F	−89	+88	−D	+86	−85	−8E	+3	−2	−7	−8A	+4	+91	+90	−1C	+1B	+1F	−99	+98	−1D	+96	−95	−9E	+13	−12	−17	−9A	+14
e_{42}	+82	+C	+80	+A	+89	+F	+87	+86	+D	+84	+3	+8E	+1	+8	+8B	+5	+92	+1C	+90	+1A	+99	+1F	+97	+96	+1D	+94	+13	+9E	+11	+18	+9B	+15
e_{43}	+83	−B	−A	+80	+88	+87	−F	+85	+84	−D	−2	−1	+8E	−9	+8C	−6	+93	−1B	−1A	+90	+98	+97	−1F	+95	+94	−1D	−12	−11	+9E	−19	+9C	−16
e_{44}	+84	−F	+89	+88	+80	−C	−B	−E	+83	+82	+8D	−6	−5	+8A	−7	−1	+94	−1F	+99	+98	+90	−1C	−1B	−1E	+93	+92	+9D	−16	−15	+9A	−17	−11
e_{45}	+85	−89	−F	+87	+C	+80	−A	+83	+E	−81	−6	−8D	+4	−8B	+8	−2	+95	−99	−1F	+97	+1C	+90	−1A	+93	+1E	−91	−16	−9D	+14	−9B	+18	−12
e_{46}	+86	+88	+87	+F	+B	+A	+80	+82	+81	+E	+5	+4	+8D	+8C	+9	+3	+96	+98	+97	+1F	+1B	+1A	+90	+92	+91	+1E	+15	+14	+9D	+9C	+19	+13
e_{47}	+87	+D	+86	+85	+E	+83	+82	+80	+C	+B	+8F	+9	+8	+1	+4	+8A	+97	+1D	+96	+95	+1E	+93	+92	+90	+1C	+1B	+9F	+19	+18	+11	+14	+9A
e_{48}	+88	+86	−D	+84	+83	−E	+81	−C	+80	−A	−9	+8F	−7	−2	−5	+8B	+98	+96	−1D	+94	+93	−1E	+91	−1C	+90	−1A	−19	+9F	−17	−12	−15	+9B
e_{49}	+89	−85	+84	+D	+82	−81	−E	−B	+A	+80	+8	−7	−8F	+3	−6	−8C	+99	−95	+94	+1D	+92	−91	−1E	−1B	+1A	+90	+18	−17	−9F	+13	−16	−9C
e_{4A}	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	−80	−C	+B	−84	+81	−87	−9A	+9E	+13	−12	−9D	−16	+15	−9F	−19	+18	−90	−1C	+1B	−94	+91	−97
e_{4B}	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	+C	−80	−A	+85	−82	−88	−9B	+13	−9E	−11	−16	+9D	+14	+19	−9F	−17	+1C	−90	−1A	+95	−92	−98
e_{4C}	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	−B	+A	−80	−86	−83	+89	−9C	−12	+11	−9E	−15	+14	−9D	+18	−17	+9F	−1B	+1A	−90	−96	−93	+99
e_{4D}	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	−84	+85	−86	−80	−F	+E	−9D	−17	+18	−19	−9A	+9B	−9C	+11	−12	+13	−94	+95	−96	−90	−1F	+1E
e_{4E}	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	+F	−80	−D	−9E	+9A	−9B	−9C	−17	+18	+19	+14	−15	−16	+91	−92	−93	+1F	−90	−1D
e_{4F}	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	−87	−88	+89	−E	+D	−80	−9F	+14	+15	−16	−11	−12	+13	−9A	−9B	+9C	−97	−98	+99	−1E	+1D	−90
e_{50}	+90	+91	+92	+93	+94	+95	+96	+97	+98	+99	+9A	+9B	+9C	+9D	+9E	+9F	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	−8A	−8B	−8C	−8D	−8E	−8F
e_{51}	+91	+90	+1C	−1B	−1F	−99	+98	+1D	+96	−95	−9E	−13	+12	+17	−9A	−14	−81	−80	−C	+B	+F	+89	−88	−D	−86	+85	+8E	+3	−2	−7	+8A	+4
e_{52}	+92	−1C	+90	−1A	+99	−1F	+97	+96	−1D	+94	−13	+9E	−11	−18	+9B	−15	−82	+C	−80	+A	−89	+F	−87	−86	+D	−84	+3	−8E	+1	+8	−8B	+5
e_{53}	+93	+1B	+1A	+90	+98	+97	+1F	+95	+94	+1D	+12	+11	+9E	+19	+9C	+16	−83	−B	−A	−80	−88	−87	−F	−85	−84	−D	−2	−1	−8E	−9	−8C	−6
e_{54}	+94	+1F	+99	+98	+90	+1C	+1B	+1E	+93	+92	+9D	+16	+15	+9A	+17	+11	−84	−F	−89	−88	−80	−C	−B	−E	−83	−82	−8D	−6	−5	−8A	−7	−1
e_{55}	+95	−99	+1F	+97	−1C	+90	+1A	+93	−1E	−91	+16	−9D	−14	−9B	−18	+12	−85	+89	−F	−87	+C	−80	−A	−83	+E	+81	−6	+8D	+4	+8B	+8	−2
e_{56}	+96	+98	+97	−1F	−1B	−1A	+90	+92	+91	−1E	−15	−14	+9D	+9C	−19	−13	−86	−88	−87	+F	+B	+A	−80	−82	−81	+E	+5	+4	−8D	−8C	+9	+3
e_{57}	+97	−1D	+96	+95	−1E	+93	+92	+90	−1C	−1B	+9F	−19	−18	−11	−14	+9A	−87	+D	−86	−85	+E	−83	−82	−80	+C	+B	−8F	+9	+8	+1	+4	−8A
e_{58}	+98	+96	+1D	+94	+93	+1E	+91	+1C	+90	+1A	+19	+9F	+17	+12	+15	+9B	−88	−86	−D	−84	−83	−E	−81	−C	−80	−A	−9	−8F	−7	−2	−5	−8B
e_{59}	+99	−95	+94	−1D	+92	−91	+1E	+1B	−1A	+90	−18	+17	−9F	−13	+16	−9C	−89	+85	−84	+D	−82	+81	−E	−B	+A	−80	+8	−7	+8F	+3	−6	+8C
e_{5A}	−9A	+9E	−13	+12	−9D	+16	−15	−9F	+19	−18	−90	+1C	−1B	−94	+91	−97	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	+80	−C	+B	+84	−81	+87
e_{5B}	−9B	−13	−9E	+11	+16	+9D	−14	−19	−9F	+17	−1C	−90	+1A	+95	−92	−98	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	+C	+80	−A	−85	+82	+88
e_{5C}	−9C	+12	−11	−9E	+15	−14	−9D	−18	+17	+9F	+1B	−1A	−90	−96	−93	+99	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	−B	+A	+80	+86	+83	−89
e_{5D}	−9D	+17	−18	+19	−9A	+9B	−9C	−11	+12	−13	−94	+95	−96	−90	+1F	−1E	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	+84	−85	+86	+80	−F	+E
e_{5E}	−9E	+9A	−9B	−9C	+17	−18	−19	−14	+15	+16	+91	−92	−93	−1F	−90	+1D	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	+F	+80	−D
e_{5F}	−9F	−14	−15	+16	+11	+12	−13	−9A	−9B	+9C	−97	−98	+99	+1E	−1D	−90	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	+87	+88	−89	−E	+D	+80
e_{60}	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	+AA	+AB	+AC	+AD	+AE	+AF	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	+BA	+BB	+BC	+BD	+BE	+BF
e_{61}	+A1	+A0	+2C	−2B	−2F	−A9	+A8	+2D	+A6	−A5	−AE	−23	+22	+27	−AA	−24	+B1	+B0	−3C	+3B	+3F	−B9	+B8	−3D	+B6	−B5	−BE	+33	−32	−37	−BA	+34
e_{62}	+A2	−2C	+A0	−2A	+A9	−2F	+A7	+A6	−2D	+A4	−23	+AE	−21	−28	+AB	−25	+B2	+3C	+B0	+3A	+B9	+3F	+B7	+B6	+3D	+B4	+33	+BE	+31	+38	+BB	+35
e_{63}	+A3	+2B	+2A	+A0	+A8	+A7	+2F	+A5	+A4	+2D	+22	+21	+AE	+29	+AC	+26	+B3	−3B	−3A	+B0	+B8	+B7	−3F	+B5	+B4	−3D	−32	−31	+BE	−39	+BC	−36
e_{64}	+A4	+2F	+A9	+A8	+A0	+2C	+2B	+2E	+A3	+A2	+AD	+26	+25	+AA	+27	+21	+B4	−3F	+B9	+B8	+B0	−3C	−3B	−3E	+B3	+B2	+BD	−36	−35	+BA	−37	−31
e_{65}	+A5	−A9	+2F	+A7	−2C	+A0	+2A	+A3	−2E	−A1	+26	−AD	−24	−AB	−28	+22	+B5	−B9	−3F	+B7	+3C	+B0	−3A	+B3	+3E	−B1	−36	−BD	+34	−BB	+38	−32
e_{66}	+A6	+A8	+A7	−2F	−2B	−2A	+A0	+A2	+A1	−2E	−25	−24	+AD	+AC	−29	−23	+B6	+B8	+B7	+3F	+3B	+3A	+B0	+B2	+B1	+3E	+35	+34	+BD	+BC	+39	+33
e_{67}	+A7	−2D	+A6	+A5	−2E	+A3	+A2	+A0	−2C	−2B	+AF	−29	−28	−21	−24	+AA	+B7	+3D	+B6	+B5	+3E	+B3	+B2	+B0	+3C	+3B	+BF	+39	+38	+31	+34	+BA
e_{68}	+A8	+A6	+2D	+A4	+A3	+2E	+A1	+2C	+A0	+2A	+29	+AF	+27	+22	+25	+AB	+B8	+B6	−3D	+B4	+B3	−3E	+B1	−3C	+B0	−3A	−39	+BF	−37	−32	−35	+BB
e_{69}	+A9	−A5	+A4	−2D	+A2	−A1	+2E	+2B	−2A	+A0	−28	+27	−AF	−23	+26	−AC	+B9	−B5	+B4	+3D	+B2	−B1	−3E	−3B	+3A	+B0	+38	−37	−BF	+33	−36	−BC
e_{6A}	−AA	+AE	−23	+22	−AD	+26	−25	−AF	+29	−28	−A0	+2C	−2B	−A4	+A1	−A7	−BA	+BE	+33	−32	−BD	−36	+35	−BF	−39	+38	−B0	−3C	+3B	−B4	+B1	−B7
e_{6B}	−AB	−23	−AE	+21	+26	+AD	−24	−29	−AF	+27	−2C	−A0	+2A	+A5	−A2	−A8	−BB	+33	−BE	−31	−36	+BD	+34	+39	−BF	−37	+3C	−B0	−3A	+B5	−B2	−B8
e_{6C}	−AC	+22	−21	−AE	+25	−24	−AD	−28	+27	+AF	+2B	−2A	−A0	−A6	−A3	+A9	−BC	−32	+31	−BE	−35	+34	−BD	+38	−37	+BF	−3B	+3A	−B0	−B6	−B3	+B9
e_{6D}	−AD	+27	−28	+29	−AA	+AB	−AC	−21	+22	−23	−A4	+A5	−A6	−A0	+2F	−2E	−BD	−37	+38	−39	−BA	+BB	−BC	+31	−32	+33	−B4	+B5	−B6	−B0	−3F	+3E
e_{6E}	−AE	+AA	−AB	−AC	+27	−28	−29	−24	+25	+26	+A1	−A2	−A3	−2F	−A0	+2D	−BE	+BA	−BB	−BC	−37	+38	+39	+34	−35	−36	+B1	−B2	−B3	+3F	−B0	−3D
e_{6F}	−AF	−24	−25	+26	+21	+22	−23	−AA	−AB	+AC	−A7	−A8	+A9	+2E	−2D	−A0	−BF	+34	+35	−36	−31	−32	+33	−BA	−BB	+BC	−B7	−B8	+B9	−3E	+3D	−B0
e_{70}	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	−BA	−BB	−BC	−BD	−BE	−BF	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	+AA	+AB	+AC	+AD	+AE	+AF
e_{71}	−B1	−B0	−3C	+3B	+3F	+B9	−B8	−3D	−B6	+B5	+BE	+33	−32	−37	+BA	+34	+A1	+A0	−2C	+2B	+2F	−A9	+A8	−2D	+A6	−A5	−AE	+23	−22	−27	−AA	+24
e_{72}	−B2	+3C	−B0	+3A	−B9	+3F	−B7	−B6	+3D	−B4	+33	−BE	+31	+38	−BB	+35	+A2	+2C	+A0	+2A	+A9	+2F	+A7	+A6	+2D	+A4	+23	+AE	+21	+28	+AB	+25
e_{73}	−B3	−3B	−3A	−B0	−B8	−B7	−3F	−B5	−B4	−3D	−32	−31	−BE	−39	−BC	−36	+A3	−2B	−2A	+A0	+A8	+A7	−2F	+A5	+A4	−2D	−22	−21	+AE	−29	+AC	−26
e_{74}	−B4	−3F	−B9	−B8	−B0	−3C	−3B	−3E	−B3	−B2	−BD	−36	−35	−BA	−37	−31	+A4	−2F	+A9	+A8	+A0	−2C	−2B	−2E	+A3	+A2	+AD	−26	−25	+AA	−27	−21
e_{75}	−B5	+B9	−3F	−B7	+3C	−B0	−3A	−B3	+3E	+B1	−36	+BD	+34	+BB	+38	−32	+A5	−A9	−2F	+A7	+2C	+A0	−2A	+A3	+2E	−A1	−26	−AD	+24	−AB	+28	−22
e_{76}	−B6	−B8	−B7	+3F	+3B	+3A	−B0	−B2	−B1	+3E	+35	+34	−BD	−BC	+39	+33	+A6	+A8	+A7	+2F	+2B	+2A	+A0	+A2	+A1	+2E	+25	+24	+AD	+AC	+29	+23
e_{77}	−B7	+3D	−B6	−B5	+3E	−B3	−B2	−B0	+3C	+3B	−BF	+39	+38	+31	+34	−BA	+A7	+2D	+A6	+A5	+2E	+A3	+A2	+A0	+2C	+2B	+AF	+29	+28	+21	+24	+AA
e_{78}	−B8	−B6	−3D	−B4	−B3	−3E	−B1	−3C	−B0	−3A	−39	−BF	−37	−32	−35	−BB	+A8	+A6	−2D	+A4	+A3	−2E	+A1	−2C	+A0	−2A	−29	+AF	−27	−22	−25	+AB
e_{79}	−B9	+B5	−B4	+3D	−B2	+B1	−3E	−3B	+3A	−B0	+38	−37	+BF	+33	−36	+BC	+A9	−A5	+A4	+2D	+A2	−A1	−2E	−2B	+2A	+A0	+28	−27	−AF	+23	−26	−AC
e_{7A}	+BA	−BE	+33	−32	+BD	−36	+35	+BF	−39	+38	+B0	−3C	+3B	+B4	−B1	+B7	−AA	+AE	+23	−22	−AD	−26	+25	−AF	−29	+28	−A0	−2C	+2B	−A4	+A1	−A7
e_{7B}	+BB	+33	+BE	−31	−36	−BD	+34	+39	+BF	−37	+3C	+B0	−3A	−B5	+B2	+B8	−AB	+23	−AE	−21	−26	+AD	+24	+29	−AF	−27	+2C	−A0	−2A	+A5	−A2	−A8
e_{7C}	+BC	−32	+31	+BE	−35	+34	+BD	+38	−37	−BF	−3B	+3A	+B0	+B6	+B3	−B9	−AC	−22	+21	−AE	−25	+24	−AD	+28	−27	+AF	−2B	+2A	−A0	−A6	−A3	+A9
e_{7D}	+BD	−37	+38	−39	+BA	−BB	+BC	+31	−32	+33	+B4	−B5	+B6	+B0	−3F	+3E	−AD	−27	+28	−29	−AA	+AB	−AC	+21	−22	+23	−A4	+A5	−A6	−A0	−2F	+2E
e_{7E}	+BE	−BA	+BB	+BC	−37	+38	+39	+34	−35	−36	−B1	+B2	+B3	+3F	+B0	−3D	−AE	+AA	−AB	−AC	−27	+28	+29	+24	−25	−26	+A1	−A2	−A3	+2F	−A0	−2D
e_{7F}	+BF	+34	+35	−36	−31	−32	+33	+BA	+BB	−BC	+B7	+B8	−B9	−3E	+3D	+B0	−AF	+24	+25	−26	−21	−22	+23	−AA	−AB	+AC	−A7	−A8	+A9	−2E	+2D	−A0

TABLE 27. $Ka^3(1,4)$ multiplication table, part G3

	e_{C0}	e_{C1}	e_{C2}	e_{C3}	e_{C4}	e_{C5}	e_{C6}	e_{C7}	e_{C8}	e_{C9}	e_{CA}	e_{CB}	e_{CC}	e_{CD}	e_{CE}	e_{CF}	e_{D0}	e_{D1}	e_{D2}	e_{D3}	e_{D4}	e_{D5}	e_{D6}	e_{D7}	e_{D8}	e_{D9}	e_{DA}	e_{DB}	e_{DC}	e_{DD}	e_{DE}	e_{DF}
e_{80}	−40	−41	−42	−43	−44	−45	−46	−47	−48	−49	+4A	+4B	+4C	+4D	+4E	+4F	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	−5A	−5B	−5C	−5D	−5E	−5F
e_{81}	−41	−40	+CC	−CB	−CF	+49	−48	+CD	−46	+45	−4E	+C3	−C2	−C7	−4A	+C4	+51	+50	−DC	+DB	+DF	−59	+58	−DD	+56	−55	+5E	−D3	+D2	+D7	+5A	−D4
e_{82}	−42	−CC	−40	−CA	−49	−CF	−47	−46	−CD	−44	+C3	+4E	+C1	+C8	+4B	+C5	+52	+DC	+50	+DA	+59	+DF	+57	+56	+DD	+54	−D3	−5E	−D1	−D8	−5B	−D5
e_{83}	−43	+CB	+CA	−40	−48	−47	+CF	−45	−44	+CD	−C2	−C1	+4E	−C9	+4C	−C6	+53	−DB	−DA	+50	+58	+57	−DF	+55	+54	−DD	+D2	+D1	−5E	+D9	−5C	+D6
e_{84}	−44	+CF	−49	−48	−40	+CC	+CB	+CE	−43	−42	+4D	−C6	−C5	+4A	−C7	−C1	+54	−DF	+59	+58	+50	−DC	−DB	−DE	+53	+52	−5D	+D6	+D5	−5A	+D7	+D1
e_{85}	−45	+49	+CF	−47	−CC	−40	+CA	−43	−CE	+41	−C6	−4D	+C4	−4B	+C8	−C2	+55	−59	−DF	+57	+DC	+50	−DA	+53	+DE	−51	+D6	+5D	−D4	+5B	−D8	+D2
e_{86}	−46	−48	−47	−CF	−CB	−CA	−40	−42	−41	−CE	+C5	+C4	+4D	+4C	+C9	+C3	+56	+58	+57	+DF	+DB	+DA	+50	+52	+51	+DE	−D5	−D4	−5D	−5C	−D9	−D3
e_{87}	−47	−CD	−46	−45	−CE	−43	−42	−40	−CC	−CB	+4F	+C9	+C8	+C1	+C4	+4A	+57	+DD	+56	+55	+DE	+53	+52	+50	+DC	+DB	−5F	−D9	−D8	−D1	−D4	−5A
e_{88}	−48	−46	+CD	−44	−43	+CE	−41	+CC	−40	+CA	−C9	+4F	−C7	−C2	−C5	+4B	+58	+56	−DD	+54	+53	−DE	+51	−DC	+50	−DA	+D9	−5F	+D7	+D2	+D5	−5B
e_{89}	−49	+45	−44	−CD	−42	+41	+CE	+CB	−CA	−40	+C8	−C7	−4F	+C3	−C6	−4C	+59	−55	+54	+DD	+52	−51	−DE	−DB	+DA	+50	−D8	+D7	+5F	−D3	+D6	+5C
e_{8A}	+4A	−4E	−C3	+C2	+4D	+C6	−C5	+4F	+C9	−C8	−40	−CC	+CB	−44	+41	−47	−5A	+5E	+D3	−D2	−5D	−D6	+D5	−5F	−D9	+D8	+50	+DC	−DB	+54	−51	+57
e_{8B}	+4B	−C3	+4E	+C1	+C6	−4D	−C4	−C9	+4F	+C7	+CC	−40	−CA	+45	−42	−48	−5B	+D3	−5E	−D1	−D6	+5D	+D4	+D9	−5F	−D7	−DC	+50	+DA	−55	+52	+58
e_{8C}	+4C	+C2	−C1	+4E	+C5	−C4	+4D	−C8	+C7	−4F	−CB	+CA	−40	−46	−43	+49	−5C	−D2	+D1	−5E	−D5	+D4	−5D	+D8	−D7	+5F	+DB	−DA	+50	+56	+53	−59
e_{8D}	+4D	+C7	−C8	+C9	+4A	−4B	+4C	−C1	+C2	−C3	−44	+45	−46	−40	−CF	+CE	−5D	−D7	+D8	−D9	−5A	+5B	−5C	+D1	−D2	+D3	+54	−55	+56	+50	+DF	−DE
e_{8E}	+4E	−4A	+4B	+4C	+C7	−C8	−C9	−C4	+C5	+C6	+41	−42	−43	+CF	−40	−CD	−5E	+5A	−5B	−5C	−D7	+D8	+D9	+D4	−D5	−D6	−51	+52	+53	−DF	+50	+DD
e_{8F}	+4F	−C4	−C5	+C6	+C1	+C2	−C3	+4A	+4B	−4C	−47	−48	+49	−CE	+CD	−40	−5F	+D4	+D5	−D6	−D1	−D2	+D3	−5A	−5B	+5C	+57	+58	−59	+DE	−DD	+50
e_{90}	−50	−51	−52	−53	−54	−55	−56	−57	−58	−59	+5A	+5B	+5C	+5D	+5E	+5F	−40	−41	−42	−43	−44	−45	−46	−47	−48	−49	+4A	+4B	+4C	+4D	+4E	+4F
e_{91}	−51	−50	−DC	+DB	+DF	+59	−58	−DD	−56	+55	−5E	−D3	+D2	+D7	−5A	−D4	−41	−40	−CC	+CB	+CF	+49	−48	−CD	−46	+45	−4E	−C3	+C2	+C7	−4A	−C4
e_{92}	−52	+DC	−50	+DA	−59	+DF	−57	−56	+DD	−54	−D3	+5E	−D1	−D8	+5B	−D5	−42	+CC	−40	+CA	−49	+CF	−47	−46	+CD	−44	−C3	+4E	−C1	−C8	+4B	−C5
e_{93}	−53	−DB	−DA	−50	−58	−57	−DF	−55	−54	−DD	+D2	+D1	+5E	+D9	+5C	+D6	−43	−CB	−CA	−40	−48	−47	−CF	−45	−44	−CD	+C2	+C1	+4E	+C9	+4C	+C6
e_{94}	−54	−DF	−59	−58	−50	−DC	−DB	−DE	−53	−52	+5D	+D6	+D5	+5A	+D7	+D1	−44	−CF	−49	−48	−40	−CC	−CB	−CE	−43	−42	+4D	+C6	+C5	+4A	+C7	+C1
e_{95}	−55	+59	−DF	−57	+DC	−50	−DA	−53	+DE	+51	+D6	−5D	−D4	−5B	−D8	+D2	−45	+49	−CF	−47	+CC	−40	−CA	−43	+CE	+41	+C6	−4D	−C4	−4B	−C8	+C2
e_{96}	−56	−58	−57	+DF	+DB	+DA	−50	−52	−51	+DE	−D5	−D4	+5D	+5C	−D9	−D3	−46	−48	−47	+CF	+CB	+CA	−40	−42	−41	+CE	−C5	−C4	+4D	+4C	−C9	−C3
e_{97}	−57	+DD	−56	−55	+DE	−53	−52	−50	+DC	+DB	+5F	−D9	−D8	−D1	−D4	+5A	−47	+CD	−46	−45	+CE	−43	−42	−40	+CC	+CB	+4F	−C9	−C8	−C1	−C4	+4A
e_{98}	−58	−56	−DD	−54	−53	−DE	−51	−DC	−50	−DA	+D9	+5F	+D7	+D2	+D5	+5B	−48	−46	−CD	−44	−43	−CE	−41	−CC	−40	−CA	+C9	+4F	+C7	+C2	+C5	+4B
e_{99}	−59	+55	−54	+DD	−52	+51	−DE	−DB	+DA	−50	−D8	+D7	−5F	−D3	+D6	−5C	−49	+45	−44	+CD	−42	+41	−CE	−CB	+CA	−40	−C8	+C7	−4F	−C3	+C6	−4C
e_{9A}	+5A	−5E	+D3	−D2	+5D	−D6	+D5	+5F	−D9	+D8	−50	+DC	−DB	−54	+51	−57	+4A	−4E	+C3	−C2	+4D	−C6	+C5	+4F	−C9	+C8	−40	+CC	−CB	−44	+41	−47
e_{9B}	+5B	+D3	+5E	−D1	−D6	−5D	+D4	+D9	+5F	−D7	−DC	−50	+DA	+55	−52	−58	+4B	+C3	+4E	−C1	−C6	−4D	+C4	+C9	+4F	−C7	−CC	−40	+CA	+45	−42	−48
e_{9C}	+5C	−D2	+D1	+5E	−D5	+D4	+5D	+D8	−D7	−5F	+DB	−DA	−50	−56	−53	+59	+4C	−C2	+C1	+4E	−C5	+C4	+4D	+C8	−C7	−4F	+CB	−CA	−40	−46	−43	+49
e_{9D}	+5D	−D7	+D8	−D9	+5A	−5B	+5C	+D1	−D2	+D3	−54	+55	−56	−50	+DF	−DE	+4D	−C7	+C8	−C9	+4A	−4B	+4C	+C1	−C2	+C3	−44	+45	−46	−40	+CF	−CE
e_{9E}	+5E	−5A	+5B	+5C	−D7	+D8	+D9	+D4	−D5	−D6	+51	−52	−53	−DF	−50	+DD	+4E	−4A	+4B	+4C	−C7	+C8	+C9	+C4	−C5	−C6	+41	−42	−43	−CF	−40	+CD
e_{9F}	+5F	+D4	+D5	−D6	−D1	−D2	+D3	+5A	+5B	−5C	−57	−58	+59	+DE	−DD	−50	+4F	+C4	+C5	−C6	−C1	−C2	+C3	+4A	+4B	−4C	−47	−48	+49	+CE	−CD	−40
e_{A0}	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	+6A	+6B	+6C	+6D	+6E	+6F	−70	−71	−72	−73	−74	−75	−76	−77	−78	−79	+7A	+7B	+7C	+7D	+7E	+7F
e_{A1}	−61	−60	−EC	+EB	+EF	+69	−68	−ED	−66	+65	−6E	−E3	+E2	+E7	−6A	−E4	−71	−70	+FC	−FB	−FF	+79	−78	+FD	−76	+75	−7E	+F3	−F2	−F7	−7A	+F4
e_{A2}	−62	+EC	−60	+EA	−69	+EF	−67	−66	+ED	−64	−E3	+6E	−E1	−E8	+6B	−E5	−72	−FC	−70	−FA	−79	−FF	−77	−76	−FD	−74	+F3	+7E	+F1	+F8	+7B	+F5
e_{A3}	−63	−EB	−EA	−60	−68	−67	−EF	−65	−64	−ED	+E2	+E1	+6E	+E9	+6C	+E6	−73	+FB	+FA	−70	−78	−77	+FF	−75	−74	+FD	−F2	−F1	+7E	−F9	+7C	−F6
e_{A4}	−64	−EF	−69	−68	−60	−EC	−EB	−EE	−63	−62	+6D	+E6	+E5	+6A	+E7	+E1	−74	+FF	−79	−78	−70	+FC	+FB	+FE	−73	−72	+7D	−F6	−F5	+7A	−F7	−F1
e_{A5}	−65	+69	−EF	−67	+EC	−60	−EA	−63	+EE	+61	+E6	−6D	−E4	−6B	−E8	+E2	−75	+79	+FF	−77	−FC	−70	+FA	−73	−FE	+71	−F6	−7D	+F4	−7B	+F8	−F2
e_{A6}	−66	−68	−67	+EF	+EB	+EA	−60	−62	−61	+EE	−E5	−E4	+6D	+6C	−E9	−E3	−76	−78	−77	−FF	−FB	−FA	−70	−72	−71	−FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{A7}	−67	+ED	−66	−65	+EE	−63	−62	−60	+EC	+EB	+6F	−E9	−E8	−E1	−E4	+6A	−77	−FD	−76	−75	−FE	−73	−72	−70	−FC	−FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{A8}	−68	−66	−ED	−64	−63	−EE	−61	−EC	−60	−EA	+E9	+6F	+E7	+E2	+E5	+6B	−78	−76	+FD	−74	−73	+FE	−71	+FC	−70	+FA	−F9	+7F	−F7	−F2	−F5	+7B
e_{A9}	−69	+65	−64	+ED	−62	+61	−EE	−EB	+EA	−60	−E8	+E7	−6F	−E3	+E6	−6C	−79	+75	−74	−FD	−72	+71	+FE	+FB	−FA	−70	+F8	−F7	−7F	+F3	−F6	−7C
e_{AA}	+6A	−6E	+E3	−E2	+6D	−E6	+E5	+6F	−E9	+E8	−60	+EC	−EB	−64	+61	−67	+7A	−7E	−F3	+F2	+7D	+F6	−F5	+7F	+F9	−F8	−70	−FC	+FB	−74	+71	−77
e_{AB}	+6B	+E3	+6E	−E1	−E6	−6D	+E4	+E9	+6F	−E7	−EC	−60	+EA	+65	−62	−68	+7B	−F3	+7E	+F1	+F6	−7D	−F4	−F9	+7F	+F7	+FC	−70	−FA	+75	−72	−78
e_{AC}	+6C	−E2	+E1	+6E	−E5	+E4	+6D	+E8	−E7	−6F	+EB	−EA	−60	−66	−63	+69	+7C	+F2	−F1	+7E	+F5	−F4	+7D	−F8	+F7	−7F	−FB	+FA	−70	−76	−73	+79
e_{AD}	+6D	−E7	+E8	−E9	+6A	−6B	+6C	+E1	−E2	+E3	−64	+65	−66	−60	+EF	−EE	+7D	+F7	−F8	+F9	+7A	−7B	+7C	−F1	+F2	−F3	−74	+75	−76	−70	−FF	+FE
e_{AE}	+6E	−6A	+6B	+6C	−E7	+E8	+E9	+E4	−E5	−E6	+61	−62	−63	−EF	−60	+ED	+7E	−7A	+7B	+7C	+F7	−F8	−F9	−F4	+F5	+F6	+71	−72	−73	+FF	−70	−FD
e_{AF}	+6F	+E4	+E5	−E6	−E1	−E2	+E3	+6A	+6B	−6C	−67	−68	+69	+EE	−ED	−60	+7F	−F4	−F5	+F6	+F1	+F2	−F3	+7A	+7B	−7C	−77	−78	+79	−FE	+FD	−70
e_{B0}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	−7A	−7B	−7C	−7D	−7E	−7F	−60	−61	−62	−63	−64	−65	−66	−67	−68	−69	+6A	+6B	+6C	+6D	+6E	+6F
e_{B1}	+71	+70	+FC	−FB	−FF	−79	+78	+FD	+76	−75	+7E	+F3	−F2	−F7	+7A	+F4	−61	−60	+EC	−EB	−EF	+69	−68	+ED	−66	+65	−6E	+E3	−E2	−E7	−6A	+E4
e_{B2}	+72	−FC	+70	−FA	+79	−FF	+77	+76	−FD	+74	+F3	−7E	+F1	+F8	−7B	+F5	−62	−EC	−60	−EA	−69	−EF	−67	−66	−ED	−64	+E3	+6E	+E1	+E8	+6B	+E5
e_{B3}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	−F2	−F1	−7E	−F9	−7C	−F6	−63	+EB	+EA	−60	−68	−67	+EF	−65	−64	+ED	−E2	−E1	+6E	−E9	+6C	−E6
e_{B4}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	−7D	−F6	−F5	−7A	−F7	−F1	−64	+EF	−69	−68	−60	+EC	+EB	+EE	−63	−62	+6D	−E6	−E5	+6A	−E7	−E1
e_{B5}	+75	−79	+FF	+77	−FC	+70	+FA	+73	−FE	−71	−F6	+7D	+F4	+7B	+F8	−F2	−65	+69	+EF	−67	−EC	−60	+EA	−63	−EE	+61	−E6	−6D	+E4	−6B	+E8	−E2
e_{B6}	+76	+78	+77	−FF	−FB	−FA	+70	+72	+71	−FE	+F5	+F4	−7D	−7C	+F9	+F3	−66	−68	−67	−EF	−EB	−EA	−60	−62	−61	−EE	+E5	+E4	+6D	+6C	+E9	+E3
e_{B7}	+77	−FD	+76	+75	−FE	+73	+72	+70	−FC	−FB	−7F	+F9	+F8	+F1	+F4	−7A	−67	−ED	−66	−65	−EE	−63	−62	−60	−EC	−EB	+6F	+E9	+E8	+E1	+E4	+6A
e_{B8}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	−F9	−7F	−F7	−F2	−F5	−7B	−68	−66	+ED	−64	−63	+EE	−61	+EC	−60	+EA	−E9	+6F	−E7	−E2	−E5	+6B
e_{B9}	+79	−75	+74	−FD	+72	−71	+FE	+FB	−FA	+70	+F8	−F7	+7F	+F3	−F6	+7C	−69	+65	−64	−ED	−62	+61	+EE	+EB	−EA	−60	+E8	−E7	−6F	+E3	−E6	−6C
e_{BA}	−7A	+7E	−F3	+F2	−7D	+F6	−F5	−7F	+F9	−F8	+70	−FC	+FB	+74	−71	+77	+6A	−6E	−E3	+E2	+6D	+E6	−E5	+6F	+E9	−E8	−60	−EC	+EB	−64	+61	−67
e_{BB}	−7B	−F3	−7E	+F1	+F6	+7D	−F4	−F9	−7F	+F7	+FC	+70	−FA	−75	+72	+78	+6B	−E3	+6E	+E1	+E6	−6D	−E4	−E9	+6F	+E7	+EC	−60	−EA	+65	−62	−68
e_{BC}	−7C	+F2	−F1	−7E	+F5	−F4	−7D	−F8	+F7	+7F	−FB	+FA	+70	+76	+73	−79	+6C	+E2	−E1	+6E	+E5	−E4	+6D	−E8	+E7	−6F	−EB	+EA	−60	−66	−63	+69
e_{BD}	−7D	+F7	−F8	+F9	−7A	+7B	−7C	−F1	+F2	−F3	+74	−75	+76	+70	−FF	+FE	+6D	+E7	−E8	+E9	+6A	−6B	+6C	−E1	+E2	−E3	−64	+65	−66	−60	−EF	+EE
e_{BE}	−7E	+7A	−7B	−7C	+F7	−F8	−F9	−F4	+F5	+F6	−71	+72	+73	+FF	+70	−FD	+6E	−6A	+6B	+6C	+E7	−E8	−E9	−E4	+E5	+E6	+61	−62	−63	+EF	−60	−ED
e_{BF}	−7F	−F4	−F5	+F6	+F1	+F2	−F3	−7A	−7B	+7C	+77	+78	−79	−FE	+FD	+70	+6F	−E4	−E5	+E6	+E1	+E2	−E3	+6A	+6B	−6C	−67	−68	+69	−EE	+ED	−60

TABLE 28. $Ka^3(1,4)$ multiplication table, part G4

	e_{C0}	e_{C1}	e_{C2}	e_{C3}	e_{C4}	e_{C5}	e_{C6}	e_{C7}	e_{C8}	e_{C9}	e_{CA}	e_{CB}	e_{CC}	e_{CD}	e_{CE}	e_{CF}	e_{D0}	e_{D1}	e_{D2}	e_{D3}	e_{D4}	e_{D5}	e_{D6}	e_{D7}	e_{D8}	e_{D9}	e_{DA}	e_{DB}	e_{DC}	e_{DD}	e_{DE}	e_{DF}
e_{C0}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	−1A	−1B	−1C	−1D	−1E	−1F
e_{C1}	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	−E	+83	−82	−87	−A	+84	+11	+10	−9C	+9B	+9F	−19	+18	−9D	+16	−15	+1E	−93	+92	+97	+1A	−94
e_{C2}	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	+83	+E	+81	+88	+B	+85	+12	+9C	+10	+9A	+19	+9F	+17	+16	+9D	+14	−93	−1E	−91	−98	−1B	−95
e_{C3}	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	−82	−81	+E	−89	+C	−86	+13	−9B	−9A	+10	+18	+17	−9F	+15	+14	−9D	+92	+91	−1E	+99	−1C	+96
e_{C4}	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	+D	−86	−85	+A	−87	−81	+14	−9F	+19	+18	+10	−9C	−9B	−9E	+13	+12	−1D	+96	+95	−1A	+97	+91
e_{C5}	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	−86	−D	+84	−B	+88	−82	+15	−19	−9F	+17	+9C	+10	−9A	+13	+9E	−11	+96	+1D	−94	+1B	−98	+92
e_{C6}	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	+85	+84	+D	+C	+89	+83	+16	+18	+17	+9F	+9B	+9A	+10	+12	+11	+9E	−95	−94	−1D	−1C	−99	−93
e_{C7}	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	+F	+89	+88	+81	+84	+A	+17	+9D	+16	+15	+9E	+13	+12	+10	+9C	+9B	−1F	−99	−98	−91	−94	−1A
e_{C8}	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	−89	+F	−87	−82	−85	+B	+18	+16	−9D	+14	+13	−9E	+11	−9C	+10	−9A	+99	−1F	+97	+92	+95	−1B
e_{C9}	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	+88	−87	−F	+83	−86	−C	+19	−15	+14	+9D	+12	−11	−9E	−9B	+9A	+10	−98	+97	+1F	−93	+96	+1C
e_{CA}	+A	−E	−83	+82	+D	+86	−85	+F	+89	−88	−0	−8C	+8B	−4	+1	−7	−1A	+1E	+93	−92	−1D	−96	+95	−1F	−99	+98	+10	+9C	−9B	+14	−11	+17
e_{CB}	+B	−83	+E	+81	+86	−D	−84	−89	+F	+87	+8C	−0	−8A	+5	−2	−8	−1B	+93	−1E	−91	−96	+1D	+94	+99	−1F	−97	−9C	+10	+9A	−15	+12	+18
e_{CC}	+C	+82	−81	+E	+85	−84	+D	−88	+87	−F	−8B	+8A	−0	−6	−3	+9	−1C	−92	+91	−1E	−95	+94	−1D	+98	−97	+1F	+9B	−9A	+10	+16	+13	−19
e_{CD}	+D	+87	−88	+89	+A	−B	+C	−81	+82	−83	−4	+5	−6	−0	−8F	+8E	−1D	−97	+98	−99	−1A	+1B	−1C	+91	−92	+93	+14	−15	+16	+10	+9F	−9E
e_{CE}	+E	−A	+B	+C	+87	−88	−89	−84	+85	+86	+1	−2	−3	+8F	−0	−8D	−1E	+1A	−1B	−1C	−97	+98	+99	+94	−95	−96	−11	+12	+13	−9F	+10	+9D
e_{CF}	+F	−84	−85	+86	+81	+82	−83	+A	+B	−C	−7	−8	+9	−8E	+8D	−0	−1F	+94	+95	−96	−91	−92	+93	−1A	−1B	+1C	+17	+18	−19	+9E	−9D	+10
e_{D0}	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	+1A	+1B	+1C	+1D	+1E	+1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F
e_{D1}	−11	−10	−9C	+9B	+9F	+19	−18	−9D	−16	+15	−1E	−93	+92	+97	−1A	−94	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	−E	−83	+82	+87	−A	−84
e_{D2}	−12	+9C	−10	+9A	−19	+9F	−17	−16	+9D	−14	−93	+1E	−91	−98	+1B	−95	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	−83	+E	−81	−88	+B	−85
e_{D3}	−13	−9B	−9A	−10	−18	−17	−9F	−15	−14	−9D	+92	+91	+1E	+99	+1C	+96	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	+82	+81	+E	+89	+C	+86
e_{D4}	−14	−9F	−19	−18	−10	−9C	−9B	−9E	−13	−12	+1D	+96	+95	+1A	+97	+91	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	+D	+86	+85	+A	+87	+81
e_{D5}	−15	+19	−9F	−17	+9C	−10	−9A	−13	+9E	+11	+96	−1D	−94	−1B	−98	+92	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	+86	−D	−84	−B	−88	+82
e_{D6}	−16	−18	−17	+9F	+9B	+9A	−10	−12	−11	+9E	−95	−94	+1D	+1C	−99	−93	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	−85	−84	+D	+C	−89	−83
e_{D7}	−17	+9D	−16	−15	+9E	−13	−12	−10	+9C	+9B	+1F	−99	−98	−91	−94	+1A	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	+F	−89	−88	−81	−84	+A
e_{D8}	−18	−16	−9D	−14	−13	−9E	−11	−9C	−10	−9A	+99	+1F	+97	+92	+95	+1B	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	+89	+F	+87	+82	+85	+B
e_{D9}	−19	+15	−14	+9D	−12	+11	−9E	−9B	+9A	−10	−98	+97	−1F	−93	+96	−1C	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	−88	+87	−F	−83	+86	−C
e_{DA}	+1A	−1E	+93	−92	+1D	−96	+95	+1F	−99	+98	−10	+9C	−9B	−14	+11	−17	+A	−E	+83	−82	+D	−86	+85	+F	−89	+88	−0	+8C	−8B	−4	+1	−7
e_{DB}	+1B	+93	+1E	−91	−96	−1D	+94	+99	+1F	−97	−9C	−10	+9A	+15	−12	−18	+B	+83	+E	−81	−86	−D	+84	+89	+F	−87	−8C	−0	+8A	+5	−2	−8
e_{DC}	+1C	−92	+91	+1E	−95	+94	+1D	+98	−97	−1F	+9B	−9A	−10	−16	−13	+19	+C	−82	+81	+E	−85	+84	+D	+88	−87	−F	+8B	−8A	−0	−6	−3	+9
e_{DD}	+1D	−97	+98	−99	+1A	−1B	+1C	+91	−92	+93	−14	+15	−16	−10	+9F	−9E	+D	−87	+88	−89	+A	−B	+C	+81	−82	+83	−4	+5	−6	−0	+8F	−8E
e_{DE}	+1E	−1A	+1B	+1C	−97	+98	+99	+94	−95	−96	+11	−12	−13	−9F	−10	+9D	+E	−A	+B	+C	−87	+88	+89	+84	−85	−86	+1	−2	−3	−8F	−0	+8D
e_{DF}	+1F	+94	+95	−96	−91	−92	+93	+1A	+1B	−1C	−17	−18	+19	+9E	−9D	−10	+F	+84	+85	−86	−81	−82	+83	+A	+B	−C	−7	−8	+9	+8E	−8D	−0
e_{E0}	−20	−21	−22	−23	−24	−25	−26	−27	−28	−29	+2A	+2B	+2C	+2D	+2E	+2F	−30	−31	−32	−33	−34	−35	−36	−37	−38	−39	+3A	+3B	+3C	+3D	+3E	+3F
e_{E1}	−21	−20	−AC	+AB	+AF	+29	−28	−AD	−26	+25	−2E	−A3	+A2	+A7	−2A	−A4	−31	−30	+BC	−BB	−BF	+39	−38	+BD	−36	+35	−3E	+B3	−B2	−B7	−3A	+B4
e_{E2}	−22	+AC	−20	+AA	−29	+AF	−27	−26	+AD	−24	−A3	+2E	−A1	−A8	+2B	−A5	−32	−BC	−30	−BA	−39	−BF	−37	−36	−BD	−34	+B3	+3E	+B1	+B8	+3B	+B5
e_{E3}	−23	−AB	−AA	−20	−28	−27	−AF	−25	−24	−AD	+A2	+A1	+2E	+A9	+2C	+A6	−33	+BB	+BA	−30	−38	−37	+BF	−35	−34	+BD	−B2	−B1	+3E	−B9	+3C	−B6
e_{E4}	−24	−AF	−29	−28	−20	−AC	−AB	−AE	−23	−22	+2D	+A6	+A5	+2A	+A7	+A1	−34	+BF	−39	−38	−30	+BC	+BB	+BE	−33	−32	+3D	−B6	−B5	+3A	−B7	−B1
e_{E5}	−25	+29	−AF	−27	+AC	−20	−AA	−23	+AE	+21	+A6	−2D	−A4	−2B	−A8	+A2	−35	+39	+BF	−37	−BC	−30	+BA	−33	−BE	+31	−B6	−3D	+B4	−3B	+B8	−B2
e_{E6}	−26	−28	−27	+AF	+AB	+AA	−20	−22	−21	+AE	−A5	−A4	+2D	+2C	−A9	−A3	−36	−38	−37	−BF	−BB	−BA	−30	−32	−31	−BE	+B5	+B4	+3D	+3C	+B9	+B3
e_{E7}	−27	+AD	−26	−25	+AE	−23	−22	−20	+AC	+AB	+2F	−A9	−A8	−A1	−A4	+2A	−37	−BD	−36	−35	−BE	−33	−32	−30	−BC	−BB	+3F	+B9	+B8	+B1	+B4	+3A
e_{E8}	−28	−26	−AD	−24	−23	−AE	−21	−AC	−20	−AA	+A9	+2F	+A7	+A2	+A5	+2B	−38	−36	+BD	−34	−33	+BE	−31	+BC	−30	+BA	−B9	+3F	−B7	−B2	−B5	+3B
e_{E9}	−29	+25	−24	+AD	−22	+21	−AE	−AB	+AA	−20	−A8	+A7	−2F	−A3	+A6	−2C	−39	+35	−34	−BD	−32	+31	+BE	+BB	−BA	−30	+B8	−B7	−3F	+B3	−B6	−3C
e_{EA}	+2A	−2E	+A3	−A2	+2D	−A6	+A5	+2F	−A9	+A8	−20	+AC	−AB	−24	+21	−27	+3A	−3E	−B3	+B2	+3D	+B6	−B5	+3F	+B9	−B8	−30	−BC	+BB	−34	+31	−37
e_{EB}	+2B	+A3	+2E	−A1	−A6	−2D	+A4	+A9	+2F	−A7	−AC	−20	+AA	+25	−22	−28	+3B	−B3	+3E	+B1	+B6	−3D	−B4	−B9	+3F	+B7	+BC	−30	−BA	+35	−32	−38
e_{EC}	+2C	−A2	+A1	+2E	−A5	+A4	+2D	+A8	−A7	−2F	+AB	−AA	−20	−26	−23	+29	+3C	+B2	−B1	+3E	+B5	−B4	+3D	−B8	+B7	−3F	−BB	+BA	−30	−36	−33	+39
e_{ED}	+2D	−A7	+A8	−A9	+2A	−2B	+2C	+A1	−A2	+A3	−24	+25	−26	−20	+AF	−AE	+3D	+B7	−B8	+B9	+3A	−3B	+3C	−B1	+B2	−B3	−34	+35	−36	−30	−BF	+BE
e_{EE}	+2E	−2A	+2B	+2C	−A7	+A8	+A9	+A4	−A5	−A6	+21	−22	−23	−AF	−20	+AD	+3E	−3A	+3B	+3C	+B7	−B8	−B9	−B4	+B5	+B6	+31	−32	−33	+BF	−30	−BD
e_{EF}	+2F	+A4	+A5	−A6	−A1	−A2	+A3	+2A	+2B	−2C	−27	−28	+29	+AE	−AD	−20	+3F	−B4	−B5	+B6	+B1	+B2	−B3	+3A	+3B	−3C	−37	−38	+39	−BE	+BD	−30
e_{F0}	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	−3A	−3B	−3C	−3D	−3E	−3F	−20	−21	−22	−23	−24	−25	−26	−27	−28	−29	+2A	+2B	+2C	+2D	+2E	+2F
e_{F1}	+31	+30	+BC	−BB	−BF	−39	+38	+BD	+36	−35	+3E	+B3	−B2	−B7	+3A	+B4	−21	−20	+AC	−AB	−AF	+29	−28	+AD	−26	+25	−2E	+A3	−A2	−A7	−2A	+A4
e_{F2}	+32	−BC	+30	−BA	+39	−BF	+37	+36	−BD	+34	+B3	−3E	+B1	+B8	−3B	+B5	−22	−AC	−20	−AA	−29	−AF	−27	−26	−AD	−24	+A3	+2E	+A1	+A8	+2B	+A5
e_{F3}	+33	+BB	+BA	+30	+38	+37	+BF	+35	+34	+BD	−B2	−B1	−3E	−B9	−3C	−B6	−23	+AB	+AA	−20	−28	−27	+AF	−25	−24	+AD	−A2	−A1	+2E	−A9	+2C	−A6
e_{F4}	+34	+BF	+39	+38	+30	+BC	+BB	+BE	+33	+32	−3D	−B6	−B5	−3A	−B7	−B1	−24	+AF	−29	−28	−20	+AC	+AB	+AE	−23	−22	+2D	−A6	−A5	+2A	−A7	−A1
e_{F5}	+35	−39	+BF	+37	−BC	+30	+BA	+33	−BE	−31	−B6	+3D	+B4	+3B	+B8	−B2	−25	+29	+AF	−27	−AC	−20	+AA	−23	−AE	+21	−A6	−2D	+A4	−2B	+A8	−A2
e_{F6}	+36	+38	+37	−BF	−BB	−BA	+30	+32	+31	−BE	+B5	+B4	−3D	−3C	+B9	+B3	−26	−28	−27	−AF	−AB	−AA	−20	−22	−21	−AE	+A5	+A4	+2D	+2C	+A9	+A3
e_{F7}	+37	−BD	+36	+35	−BE	+33	+32	+30	−BC	−BB	−3F	+B9	+B8	+B1	+B4	−3A	−27	−AD	−26	−25	−AE	−23	−22	−20	−AC	−AB	+2F	+A9	+A8	+A1	+A4	+2A
e_{F8}	+38	+36	+BD	+34	+33	+BE	+31	+BC	+30	+BA	−B9	−3F	−B7	−B2	−B5	−3B	−28	−26	+AD	−24	−23	+AE	−21	+AC	−20	+AA	−A9	+2F	−A7	−A2	−A5	+2B
e_{F9}	+39	−35	+34	−BD	+32	−31	+BE	+BB	−BA	+30	+B8	−B7	+3F	+B3	−B6	+3C	−29	+25	−24	−AD	−22	+21	+AE	+AB	−AA	−20	+A8	−A7	−2F	+A3	−A6	−2C
e_{FA}	−3A	+3E	−B3	+B2	−3D	+B6	−B5	−3F	+B9	−B8	+30	−BC	+BB	+34	−31	+37	+2A	−2E	−A3	+A2	+2D	+A6	−A5	+2F	+A9	−A8	−20	−AC	+AB	−24	+21	−27
e_{FB}	−3B	−B3	−3E	+B1	+B6	+3D	−B4	−B9	−3F	+B7	+BC	+30	−BA	−35	+32	+38	+2B	−A3	+2E	+A1	+A6	−2D	−A4	−A9	+2F	+A7	+AC	−20	−AA	+25	−22	−28
e_{FC}	−3C	+B2	−B1	−3E	+B5	−B4	−3D	−B8	+B7	+3F	−BB	+BA	+30	+36	+33	−39	+2C	+A2	−A1	+2E	+A5	−A4	+2D	−A8	+A7	−2F	−AB	+AA	−20	−26	−23	+29
e_{FD}	−3D	+B7	−B8	+B9	−3A	+3B	−3C	−B1	+B2	−B3	+34	−35	+36	+30	−BF	+BE	+2D	+A7	−A8	+A9	+2A	−2B	+2C	−A1	+A2	−A3	−24	+25	−26	−20	−AF	+AE
e_{FE}	−3E	+3A	−3B	−3C	+B7	−B8	−B9	−B4	+B5	+B6	−31	+32	+33	+BF	+30	−BD	+2E	−2A	+2B	+2C	+A7	−A8	−A9	−A4	+A5	+A6	+21	−22	−23	+AF	−20	−AD
e_{FF}	−3F	−B4	−B5	+B6	+B1	+B2	−B3	−3A	−3B	+3C	+37	+38	−39	−BE	+BD	+30	+2F	−A4	−A5	+A6	+A1	+A2	−A3	+2A	+2B	−2C	−27	−28	+29	−AE	+AD	−20

Table 29. $Ka^3(1,4)$ multiplication table, part H1

	e_{E0}	e_{E1}	e_{E2}	e_{E3}	e_{E4}	e_{E5}	e_{E6}	e_{E7}	e_{E8}	e_{E9}	e_{EA}	e_{EB}	e_{EC}	e_{ED}	e_{EE}	e_{EF}	e_{F0}	e_{F1}	e_{F2}	e_{F3}	e_{F4}	e_{F5}	e_{F6}	e_{F7}	e_{F8}	e_{F9}	e_{FA}	e_{FB}	e_{FC}	e_{FD}	e_{FE}	e_{FF}
e_{0}	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF	+F0	+F1	+F2	+F3	+F4	+F5	+F6	+F7	+F8	+F9	+FA	+FB	+FC	+FD	+FE	+FF
e_{1}	+E1	+E0	−6C	+6B	+6F	−E9	+E8	−6D	+E6	−E5	−EE	+63	−62	−67	−EA	+64	+F1	+F0	−7C	+7B	+7F	−F9	+F8	−7D	+F6	−F5	−FE	+73	−72	−77	−FA	+74
e_{2}	+E2	+6C	+E0	+6A	+E9	+6F	+E7	+E6	+6D	+E4	+63	+EE	+61	+68	+EB	+65	+F2	+7C	+F0	+7A	+F9	+7F	+F7	+F6	+7D	+F4	+73	+FE	+71	+78	+FB	+75
e_{3}	+E3	−6B	−6A	+E0	+E8	+E7	−6F	+E5	+E4	−6D	−62	−61	+EE	−69	+EC	−66	+F3	−7B	−7A	+F0	+F8	+F7	−7F	+F5	+F4	−7D	−72	−71	+FE	−79	+FC	−76
e_{4}	+E4	−6F	+E9	+E8	+E0	−6C	−6B	−6E	+E3	+E2	+ED	−66	−65	+EA	−67	−61	+F4	−7F	+F9	+F8	+F0	−7C	−7B	−7E	+F3	+F2	+FD	−76	−75	+FA	−77	−71
e_{5}	+E5	−E9	−6F	+E7	+6C	+E0	−6A	+E3	+6E	−E1	−66	−ED	+64	−EB	+68	−62	+F5	−F9	−7F	+F7	+7C	+F0	−7A	+F3	+7E	−F1	−76	−FD	+74	−FB	+78	−72
e_{6}	+E6	+E8	+E7	+6F	+6B	+6A	+E0	+E2	+E1	+6E	+65	+64	+ED	+EC	+69	+63	+F6	+F8	+F7	+7F	+7B	+7A	+F0	+F2	+F1	+7E	+75	+74	+FD	+FC	+79	+73
e_{7}	+E7	+6D	+E6	+E5	+6E	+E3	+E2	+E0	+6C	+6B	+EF	+69	+68	+61	+64	+EA	+F7	+7D	+F6	+F5	+7E	+F3	+F2	+F0	+7C	+7B	+FF	+79	+78	+71	+74	+FA
e_{8}	+E8	+E6	−6D	+E4	+E3	−6E	+E1	−6C	+E0	−6A	−69	+EF	−67	−62	−65	+EB	+F8	+F6	−7D	+F4	+F3	−7E	+F1	−7C	+F0	−7A	−79	+FF	−77	−72	−75	+FB
e_{9}	+E9	−E5	+E4	+6D	+E2	−E1	−6E	−6B	+6A	+E0	+68	−67	−EF	+63	−66	−EC	+F9	−F5	+F4	+7D	+F2	−F1	−7E	−7B	+7A	+F0	+78	−77	−FF	+73	−76	−FC
e_{A}	−EA	+EE	+63	−62	−ED	−66	+65	−EF	−69	+68	−E0	−6C	+6B	−E4	+E1	−E7	−FA	+FE	+73	−72	−FD	−76	+75	−FF	−79	+78	−F0	−7C	+7B	−F4	+F1	−F7
e_{B}	−EB	+63	−EE	−61	−66	+ED	+64	+69	−EF	−67	+6C	−E0	−6A	+E5	−E2	−E8	−FB	+73	−FE	−71	−76	+FD	+74	+79	−FF	−77	+7C	−F0	−7A	+F5	−F2	−F8
e_{C}	−EC	−62	+61	−EE	−65	+64	−ED	+68	−67	+EF	−6B	+6A	−E0	−E6	−E3	+E9	−FC	−72	+71	−FE	−75	+74	−FD	+78	−77	+FF	−7B	+7A	−F0	−F6	−F3	+F9
e_{D}	−ED	−67	+68	−69	−EA	+EB	−EC	+61	−62	+63	−E4	+E5	−E6	−E0	−6F	+6E	−FD	−77	+78	−79	−FA	+FB	−FC	+71	−72	+73	−F4	+F5	−F6	−F0	−7F	+7E
e_{E}	−EE	+EA	−EB	−EC	−67	+68	+69	+64	−65	−66	+E1	−E2	−E3	+6F	−E0	−6D	−FE	+FA	−FB	−FC	−77	+78	+79	+74	−75	−76	+F1	−F2	−F3	+7F	−F0	−7D
e_{F}	−EF	+64	+65	−66	−61	−62	+63	−EA	−EB	+EC	−E7	−E8	+E9	−6E	+6D	−E0	−FF	+74	+75	−76	−71	−72	+73	−FA	−FB	+FC	−F7	−F8	+F9	−7E	+7D	−F0
e_{10}	−F0	−F1	−F2	−F3	−F4	−F5	−F6	−F7	−F8	−F9	−FA	−FB	−FC	−FD	−FE	−FF	+E0	+E1	+E2	+E3	+E4	+E5	+E6	+E7	+E8	+E9	+EA	+EB	+EC	+ED	+EE	+EF
e_{11}	−F1	−F0	−7C	+7B	+7F	+F9	−F8	−7D	−F6	+F5	+FE	+73	−72	−77	+FA	+74	+E1	+E0	+6C	−6B	−6F	−E9	+E8	+6D	+E6	−E5	−EE	−63	+62	+67	−EA	−64
e_{12}	−F2	+7C	−F0	+7A	−F9	+7F	−F7	−F6	+7D	−F4	+73	−FE	+71	+78	−FB	+75	+E2	−6C	+E0	−6A	+E9	−6F	+E7	+E6	−6D	+E4	−63	+EE	−61	−68	+EB	−65
e_{13}	−F3	−7B	−7A	−F0	−F8	−F7	−7F	−F5	−F4	−7D	−72	−71	−FE	−79	−FC	−76	+E3	+6B	+6A	+E0	+E8	+E7	+6F	+E5	+E4	+6D	+62	+61	+EE	+69	+EC	+66
e_{14}	−F4	−7F	−F9	−F8	−F0	−7C	−7B	−7E	−F3	−F2	−FD	−76	−75	−FA	−77	−71	+E4	+6F	+E9	+E8	+E0	+6C	+6B	+6E	+E3	+E2	+ED	+66	+65	+EA	+67	+61
e_{15}	−F5	+F9	−7F	−F7	+7C	−F0	−7A	−F3	+7E	+F1	−76	+FD	+74	+FB	+78	−72	+E5	−E9	+6F	+E7	−6C	+E0	+6A	+E3	−6E	−E1	+66	−ED	−64	−EB	−68	+62
e_{16}	−F6	−F8	−F7	+7F	+7B	+7A	−F0	−F2	−F1	+7E	+75	+74	−FD	−FC	+79	+73	+E6	+E8	+E7	−6F	−6B	−6A	+E0	+E2	+E1	−6E	−65	−64	+ED	+EC	−69	−63
e_{17}	−F7	+7D	−F6	−F5	+7E	−F3	−F2	−F0	+7C	+7B	−FF	+79	+78	+71	+74	−FA	+E7	−6D	+E6	+E5	−6E	+E3	+E2	+E0	−6C	−6B	+EF	−69	−68	−61	−64	+EA
e_{18}	−F8	−F6	−7D	−F4	−F3	−7E	−F1	−7C	−F0	−7A	−79	−FF	−77	−72	−75	−FB	+E8	+E6	+6D	+E4	+E3	+6E	+E1	+6C	+E0	+6A	+69	+EF	+67	+62	+65	+EB
e_{19}	−F9	+F5	−F4	+7D	−F2	+F1	−7E	−7B	+7A	−F0	+78	−77	+FF	+73	−76	+FC	+E9	−E5	+E4	−6D	+E2	−E1	+6E	+6B	−6A	+E0	−68	+67	−EF	−63	+66	−EC
e_{1A}	+FA	−FE	+73	−72	+FD	−76	+75	+FF	−79	+78	+F0	−7C	+7B	+F4	−F1	+F7	−EA	+EE	−63	+62	−ED	+66	−65	−EF	+69	−68	−E0	+6C	−6B	−E4	+E1	−E7
e_{1B}	+FB	+73	+FE	−71	−76	−FD	+74	+79	+FF	−77	+7C	+F0	−7A	−F5	+F2	+F8	−EB	−63	−EE	+61	+66	+ED	−64	−69	−EF	+67	−6C	−E0	+6A	+E5	−E2	−E8
e_{1C}	+FC	−72	+71	+FE	−75	+74	+FD	+78	−77	−FF	−7B	+7A	+F0	+F6	+F3	−F9	−EC	+62	−61	−EE	+65	−64	−ED	−68	+67	+EF	+6B	−6A	−E0	−E6	−E3	+E9
e_{1D}	+FD	−77	+78	−79	+FA	−FB	+FC	+71	−72	+73	+F4	−F5	+F6	+F0	−7F	+7E	−ED	+67	−68	+69	−EA	+EB	−EC	−61	+62	−63	−E4	+E5	−E6	−E0	+6F	−6E
e_{1E}	+FE	−FA	+FB	+FC	−77	+78	+79	+74	−75	−76	−F1	+F2	+F3	+7F	+F0	−7D	−EE	+EA	−EB	−EC	+67	−68	−69	−64	+65	+66	+E1	−E2	−E3	−6F	−E0	+6D
e_{1F}	+FF	+74	+75	−76	−71	−72	+73	+FA	+FB	−FC	+F7	+F8	−F9	−7E	+7D	+F0	−EF	−64	−65	+66	+61	+62	−63	−EA	−EB	+EC	−E7	−E8	+E9	+6E	−6D	−E0
e_{20}	−C0	−C1	−C2	−C3	−C4	−C5	−C6	−C7	−C8	−C9	−CA	−CB	−CC	−CD	−CE	−CF	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	−DA	−DB	−DC	−DD	−DE	−DF
e_{21}	−C1	−C0	−4C	+4B	+4F	+C9	−C8	−4D	−C6	+C5	+CE	+43	−42	−47	+CA	+44	−D1	−D0	+5C	−5B	−5F	+D9	−D8	+5D	−D6	+D5	+DE	−53	+52	+57	+DA	−54
e_{22}	−C2	+4C	−C0	+4A	−C9	+4F	−C7	−C6	+4D	−C4	+43	−CE	+41	+48	−CB	+45	−D2	−5C	−D0	−5A	−D9	−5F	−D7	−D6	−5D	−D4	−53	−DE	−51	−58	−DB	−55
e_{23}	−C3	−4B	−4A	−C0	−C8	−C7	−4F	−C5	−C4	−4D	−42	−41	−CE	−49	−CC	−46	−D3	+5B	+5A	−D0	−D8	−D7	+5F	−D5	−D4	+5D	+52	+51	−DE	+59	−DC	+56
e_{24}	−C4	−4F	−C9	−C8	−C0	−4C	−4B	−4E	−C3	−C2	−CD	−46	−45	−CA	−47	−41	−D4	+5F	−D9	−D8	−D0	+5C	+5B	+5E	−D3	−D2	−DD	+56	+55	−DA	+57	+51
e_{25}	−C5	+C9	−4F	−C7	+4C	−C0	−4A	−C3	+4E	+C1	−46	+CD	+44	+CB	+48	−42	−D5	+D9	+5F	−D7	−5C	−D0	+5A	−D3	−5E	+D1	+56	+DD	−54	+DB	−58	+52
e_{26}	−C6	−C8	−C7	+4F	+4B	+4A	−C0	−C2	−C1	+4E	+45	+44	−CD	−CC	+49	+43	−D6	−D8	−D7	−5F	−5B	−5A	−D0	−D2	−D1	−5E	−55	−54	−DD	−DC	−59	−53
e_{27}	−C7	+4D	−C6	−C5	+4E	−C3	−C2	−C0	+4C	+4B	−CF	+49	+48	+41	+44	−CA	−D7	−5D	−D6	−D5	−5E	−D3	−D2	−D0	−5C	−5B	−DF	−59	−58	−51	−54	−DA
e_{28}	−C8	−C6	−4D	−C4	−C3	−4E	−C1	−4C	−C0	−4A	−49	−CF	−47	−42	−45	−CB	−D8	−D6	+5D	−D4	−D3	+5E	−D1	+5C	−D0	+5A	+59	−DF	+57	+52	+55	−DB
e_{29}	−C9	+C5	−C4	+4D	−C2	+C1	−4E	−4B	+4A	−C0	+48	−47	+CF	+43	−46	+CC	−D9	+D5	−D4	−5D	−D2	+D1	+5E	+5B	−5A	−D0	−58	+57	+DF	−53	+56	+DC
e_{2A}	+CA	−CE	+43	−42	+CD	−46	+45	+CF	−49	+48	+C0	−4C	+4B	+C4	−C1	+C7	+DA	−DE	−53	+52	+DD	+56	−55	+DF	+59	−58	+D0	+5C	−5B	+D4	−D1	+D7
e_{2B}	+CB	+43	+CE	−41	−46	−CD	+44	+49	+CF	−47	+4C	+C0	−4A	−C5	+C2	+C8	+DB	−53	+DE	+51	+56	−DD	−54	−59	+DF	+57	−5C	+D0	+5A	−D5	+D2	+D8
e_{2C}	+CC	−42	+41	+CE	−45	+44	+CD	+48	−47	−CF	−4B	+4A	+C0	+C6	+C3	−C9	+DC	+52	−51	+DE	+55	−54	+DD	−58	+57	−DF	+5B	−5A	+D0	+D6	+D3	−D9
e_{2D}	+CD	−47	+48	−49	+CA	−CB	+CC	+41	−42	+43	+C4	−C5	+C6	+C0	−4F	+4E	+DD	+57	−58	+59	+DA	−DB	+DC	−51	+52	−53	+D4	−D5	+D6	+D0	+5F	−5E
e_{2E}	+CE	−CA	+CB	+CC	−47	+48	+49	+44	−45	−46	−C1	+C2	+C3	+4F	+C0	−4D	+DE	−DA	+DB	+DC	+57	−58	−59	−54	+55	+56	−D1	+D2	+D3	−5F	+D0	+5D
e_{2F}	+CF	+44	+45	−46	−41	−42	+43	+CA	+CB	−CC	+C7	+C8	−C9	−4E	+4D	+C0	+DF	−54	−55	+56	+51	+52	−53	+DA	+DB	−DC	+D7	+D8	−D9	+5E	−5D	+D0
e_{30}	−D0	−D1	−D2	−D3	−D4	−D5	−D6	−D7	−D8	−D9	−DA	−DB	−DC	−DD	−DE	−DF	+C0	+C1	+C2	+C3	+C4	+C5	+C6	+C7	+C8	+C9	+CA	+CB	+CC	+CD	+CE	+CF
e_{31}	−D1	−D0	−5C	+5B	+5F	+D9	−D8	−5D	−D6	+D5	+DE	+53	−52	−57	+DA	+54	+C1	+C0	−4C	+4B	+4F	−C9	+C8	−4D	+C6	−C5	−CE	+43	−42	−47	−CA	+44
e_{32}	−D2	+5C	−D0	+5A	−D9	+5F	−D7	−D6	+5D	−D4	+53	−DE	+51	+58	−DB	+55	+C2	+4C	+C0	+4A	+C9	+4F	+C7	+C6	+4D	+C4	+43	+CE	+41	+48	+CB	+45
e_{33}	−D3	−5B	−5A	−D0	−D8	−D7	−5F	−D5	−D4	−5D	−52	−51	−DE	−59	−DC	−56	+C3	−4B	−4A	+C0	+C8	+C7	−4F	+C5	+C4	−4D	−42	−41	+CE	−49	+CC	−46
e_{34}	−D4	−5F	−D9	−D8	−D0	−5C	−5B	−5E	−D3	−D2	−DD	−56	−55	−DA	−57	−51	+C4	−4F	+C9	+C8	+C0	−4C	−4B	−4E	+C3	+C2	+CD	−46	−45	+CA	−47	−41
e_{35}	−D5	+D9	−5F	−D7	+5C	−D0	−5A	−D3	+5E	+D1	−56	+DD	+54	+DB	+58	−52	+C5	−C9	−4F	+C7	+4C	+C0	−4A	+C3	+4E	−C1	−46	−CD	+44	−CB	+48	−42
e_{36}	−D6	−D8	−D7	+5F	+5B	+5A	−D0	−D2	−D1	+5E	+55	+54	−DD	−DC	+59	+53	+C6	+C8	+C7	+4F	+4B	+4A	+C0	+C2	+C1	+4E	+45	+44	+CD	+CC	+49	+43
e_{37}	−D7	+5D	−D6	−D5	+5E	−D3	−D2	−D0	+5C	+5B	−DF	+59	+58	+51	+54	−DA	+C7	+4D	+C6	+C5	+4E	+C3	+C2	+C0	+4C	+4B	+CF	+49	+48	+41	+44	+CA
e_{38}	−D8	−D6	−5D	−D4	−D3	−5E	−D1	−5C	−D0	−5A	−59	−DF	−57	−52	−55	−DB	+C8	+C6	−4D	+C4	+C3	−4E	+C1	−4C	+C0	−4A	−49	+CF	−47	−42	−45	+CB
e_{39}	−D9	+D5	−D4	+5D	−D2	+D1	−5E	−5B	+5A	−D0	+58	−57	+DF	+53	−56	+DC	+C9	−C5	+C4	+4D	+C2	−C1	−4E	−4B	+4A	+C0	+48	−47	−CF	+43	−46	−CC
e_{3A}	+DA	−DE	+53	−52	+DD	−56	+55	+DF	−59	+58	+D0	−5C	+5B	+D4	−D1	+D7	−CA	+CE	+43	−42	−CD	−46	+45	−CF	−49	+48	−C0	−4C	+4B	−C4	+C1	−C7
e_{3B}	+DB	+53	+DE	−51	−56	−DD	+54	+59	+DF	−57	+5C	+D0	−5A	−D5	+D2	+D8	−CB	+43	−CE	−41	−46	+CD	+44	+49	−CF	−47	+4C	−C0	−4A	+C5	−C2	−C8
e_{3C}	+DC	−52	+51	+DE	−55	+54	+DD	+58	−57	−DF	−5B	+5A	+D0	+D6	+D3	−D9	−CC	−42	+41	−CE	−45	+44	−CD	+48	−47	+CF	−4B	+4A	−C0	−C6	−C3	+C9
e_{3D}	+DD	−57	+58	−59	+DA	−DB	+DC	+51	−52	+53	+D4	−D5	+D6	+D0	−5F	+5E	−CD	−47	+48	−49	−CA	+CB	−CC	+41	−42	+43	−C4	+C5	−C6	−C0	−4F	+4E
e_{3E}	+DE	−DA	+DB	+DC	−57	+58	+59	+54	−55	−56	−D1	+D2	+D3	+5F	+D0	−5D	−CE	+CA	−CB	−CC	−47	+48	+49	+44	−45	−46	+C1	−C2	−C3	+4F	−C0	−4D
e_{3F}	+DF	+54	+55	−56	−51	−52	+53	+DA	+DB	−DC	+D7	+D8	−D9	−5E	+5D	+D0	−CF	+44	+45	−46	−41	−42	+43	−CA	−CB	+CC	−C7	−C8	+C9	−4E	+4D	−C0

TABLE 30. $Ka^3(1,4)$ multiplication table, part H2

	e_{E0}	e_{E1}	e_{E2}	e_{E3}	e_{E4}	e_{E5}	e_{E6}	e_{E7}	e_{E8}	e_{E9}	e_{EA}	e_{EB}	e_{EC}	e_{ED}	e_{EE}	e_{EF}	e_{F0}	e_{F1}	e_{F2}	e_{F3}	e_{F4}	e_{F5}	e_{F6}	e_{F7}	e_{F8}	e_{F9}	e_{FA}	e_{FB}	e_{FC}	e_{FD}	e_{FE}	e_{FF}
e_{40}	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	+AA	+AB	+AC	+AD	+AE	+AF	+B0	+B1	+B2	+B3	+B4	+B5	+B6	+B7	+B8	+B9	+BA	+BB	+BC	+BD	+BE	+BF
e_{41}	+A1	+A0	−2C	+2B	+2F	−A9	+A8	−2D	+A6	−A5	−AE	+23	−22	−27	−AA	+24	+B1	+B0	−3C	+3B	+3F	−B9	+B8	−3D	+B6	−B5	−BE	+33	−32	−37	−BA	+34
e_{42}	+A2	+2C	+A0	+2A	+A9	+2F	+A7	+A6	+2D	+A4	+23	+AE	+21	+28	+AB	+25	+B2	+3C	+B0	+3A	+B9	+3F	+B7	+B6	+3D	+B4	+33	+BE	+31	+38	+BB	+35
e_{43}	+A3	−2B	−2A	+A0	+A8	+A7	−2F	+A5	+A4	−2D	−22	−21	+AE	−29	+AC	−26	+B3	−3B	−3A	+B0	+B8	+B7	−3F	+B5	+B4	−3D	−32	−31	+BE	−39	+BC	−36
e_{44}	+A4	−2F	+A9	+A8	+A0	−2C	−2B	−2E	+A3	+A2	+AD	−26	−25	+AA	−27	−21	+B4	−3F	+B9	+B8	+B0	−3C	−3B	−3E	+B3	+B2	+BD	−36	−35	+BA	−37	−31
e_{45}	+A5	−A9	−2F	+A7	+2C	+A0	−2A	+A3	+2E	−A1	−26	−AD	+24	−AB	+28	−22	+B5	−B9	−3F	+B7	+3C	+B0	−3A	+B3	+3E	−B1	−36	−BD	+34	−BB	+38	−32
e_{46}	+A6	+A8	+A7	+2F	+2B	+2A	+A0	+A2	+A1	+2E	+25	+24	+AD	+AC	+29	+23	+B6	+B8	+B7	+3F	+3B	+3A	+B0	+B2	+B1	+3E	+35	+34	+BD	+BC	+39	+33
e_{47}	+A7	+2D	+A6	+A5	+2E	+A3	+A2	+A0	+2C	+2B	+AF	+29	+28	+21	+24	+AA	+B7	+3D	+B6	+B5	+3E	+B3	+B2	+B0	+3C	+3B	+BF	+39	+38	+31	+34	+BA
e_{48}	+A8	+A6	−2D	+A4	+A3	−2E	+A1	−2C	+A0	−2A	−29	+AF	−27	−22	−25	+AB	+B8	+B6	−3D	+B4	+B3	−3E	+B1	−3C	+B0	−3A	−39	+BF	−37	−32	−35	+BB
e_{49}	+A9	−A5	+A4	+2D	+A2	−A1	−2E	−2B	+2A	+A0	+28	−27	−AF	+23	−26	−AC	+B9	−B5	+B4	+3D	+B2	−B1	−3E	−3B	+3A	+B0	+38	−37	−BF	+33	−36	−BC
e_{4A}	−AA	+AE	+23	−22	−AD	−26	+25	−AF	−29	+28	−A0	−2C	+2B	−A4	+A1	−A7	−BA	+BE	+33	−32	−BD	−36	+35	−BF	−39	+38	−B0	−3C	+3B	−B4	+B1	−B7
e_{4B}	−AB	+23	−AE	−21	−26	+AD	+24	+29	−AF	−27	+2C	−A0	−2A	+A5	−A2	−A8	−BB	+33	−BE	−31	−36	+BD	+34	+39	−BF	−37	+3C	−B0	−3A	+B5	−B2	−B8
e_{4C}	−AC	−22	+21	−AE	−25	+24	−AD	+28	−27	+AF	−2B	+2A	−A0	−A6	−A3	+A9	−BC	−32	+31	−BE	−35	+34	−BD	+38	−37	+BF	−3B	+3A	−B0	−B6	−B3	+B9
e_{4D}	−AD	−27	+28	−29	−AA	+AB	−AC	+21	−22	+23	−A4	+A5	−A6	−A0	−2F	+2E	−BD	−37	+38	−39	−BA	+BB	−BC	+31	−32	+33	−B4	+B5	−B6	−B0	−3F	+3E
e_{4E}	−AE	+AA	−AB	−AC	−27	+28	+29	+24	−25	−26	+A1	−A2	−A3	+2F	−A0	−2D	−BE	+BA	−BB	−BC	−37	+38	+39	+34	−35	−36	+B1	−B2	−B3	+3F	−B0	−3D
e_{4F}	−AF	+24	+25	−26	−21	−22	+23	−AA	−AB	+AC	−A7	−A8	+A9	−2E	+2D	−A0	−BF	+34	+35	−36	−31	−32	+33	−BA	−BB	+BC	−B7	−B8	+B9	−3E	+3D	−B0
e_{50}	−B0	−B1	−B2	−B3	−B4	−B5	−B6	−B7	−B8	−B9	−BA	−BB	−BC	−BD	−BE	−BF	+A0	+A1	+A2	+A3	+A4	+A5	+A6	+A7	+A8	+A9	+AA	+AB	+AC	+AD	+AE	+AF
e_{51}	−B1	−B0	−3C	+3B	+3F	+B9	−B8	−3D	−B6	+B5	+BE	+33	−32	−37	+BA	+34	+A1	+A0	+2C	−2B	−2F	−A9	+A8	+2D	+A6	−A5	−AE	−23	+22	+27	−AA	−24
e_{52}	−B2	+3C	−B0	+3A	−B9	+3F	−B7	−B6	+3D	−B4	+33	−BE	+31	+38	−BB	+35	+A2	−2C	+A0	−2A	+A9	−2F	+A7	+A6	−2D	+A4	−23	+AE	−21	−28	+AB	−25
e_{53}	−B3	−3B	−3A	−B0	−B8	−B7	−3F	−B5	−B4	−3D	−32	−31	−BE	−39	−BC	−36	+A3	+2B	+2A	+A0	+A8	+A7	+2F	+A5	+A4	+2D	+22	+21	+AE	+29	+AC	+26
e_{54}	−B4	−3F	−B9	−B8	−B0	−3C	−3B	−3E	−B3	−B2	−BD	−36	−35	−BA	−37	−31	+A4	+2F	+A9	+A8	+A0	+2C	+2B	+2E	+A3	+A2	+AD	+26	+25	+AA	+27	+21
e_{55}	−B5	+B9	−3F	−B7	+3C	−B0	−3A	−B3	+3E	+B1	−36	+BD	+34	+BB	+38	−32	+A5	−A9	+2F	+A7	−2C	+A0	+2A	+A3	−2E	−A1	+26	−AD	−24	−AB	−28	+22
e_{56}	−B6	−B8	−B7	+3F	+3B	+3A	−B0	−B2	−B1	+3E	+35	+34	−BD	−BC	+39	+33	+A6	+A8	+A7	−2F	−2B	−2A	+A0	+A2	+A1	−2E	−25	−24	+AD	+AC	−29	−23
e_{57}	−B7	+3D	−B6	−B5	+3E	−B3	−B2	−B0	+3C	+3B	−BF	+39	+38	+31	+34	−BA	+A7	−2D	+A6	+A5	−2E	+A3	+A2	+A0	−2C	−2B	+AF	−29	−28	−21	−24	+AA
e_{58}	−B8	−B6	−3D	−B4	−B3	−3E	−B1	−3C	−B0	−3A	−39	−BF	−37	−32	−35	−BB	+A8	+A6	+2D	+A4	+A3	+2E	+A1	+2C	+A0	+2A	+29	+AF	+27	+22	+25	+AB
e_{59}	−B9	+B5	−B4	+3D	−B2	+B1	−3E	−3B	+3A	−B0	+38	−37	+BF	+33	−36	+BC	+A9	−A5	+A4	−2D	+A2	−A1	+2E	+2B	−2A	+A0	−28	+27	−AF	−23	+26	−AC
e_{5A}	+BA	−BE	+33	−32	+BD	−36	+35	+BF	−39	+38	+B0	−3C	+3B	+B4	−B1	+B7	−AA	+AE	−23	+22	−AD	+26	−25	−AF	+29	−28	−A0	+2C	−2B	−A4	+A1	−A7
e_{5B}	+BB	+33	+BE	−31	−36	−BD	+34	+39	+BF	−37	+3C	+B0	−3A	−B5	+B2	+B8	−AB	−23	−AE	+21	+26	+AD	−24	−29	−AF	+27	−2C	−A0	+2A	+A5	−A2	−A8
e_{5C}	+BC	−32	+31	+BE	−35	+34	+BD	+38	−37	−BF	−3B	+3A	+B0	+B6	+B3	−B9	−AC	+22	−21	−AE	+25	−24	−AD	−28	+27	+AF	+2B	−2A	−A0	−A6	−A3	+A9
e_{5D}	+BD	−37	+38	−39	+BA	−BB	+BC	+31	−32	+33	+B4	−B5	+B6	+B0	−3F	+3E	−AD	+27	−28	+29	−AA	+AB	−AC	−21	+22	−23	−A4	+A5	−A6	−A0	+2F	−2E
e_{5E}	+BE	−BA	+BB	+BC	−37	+38	+39	+34	−35	−36	−B1	+B2	+B3	+3F	+B0	−3D	−AE	+AA	−AB	−AC	+27	−28	−29	−24	+25	+26	+A1	−A2	−A3	−2F	−A0	+2D
e_{5F}	+BF	+34	+35	−36	−31	−32	+33	+BA	+BB	−BC	+B7	+B8	−B9	−3E	+3D	+B0	−AF	−24	−25	+26	+21	+22	−23	−AA	−AB	+AC	−A7	−A8	+A9	+2E	−2D	−A0
e_{60}	−80	−81	−82	−83	−84	−85	−86	−87	−88	−89	−8A	−8B	−8C	−8D	−8E	−8F	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	−9A	−9B	−9C	−9D	−9E	−9F
e_{61}	−81	−80	−C	+B	+F	+89	−88	−D	−86	+85	+8E	+3	−2	−7	+8A	+4	−91	−90	+1C	−1B	−1F	+99	−98	+1D	−96	+95	+9E	−13	+12	+17	+9A	−14
e_{62}	−82	+C	−80	+A	−89	+F	−87	−86	+D	−84	+3	−8E	+1	+8	−8B	+5	−92	−1C	−90	−1A	−99	−1F	−97	−96	−1D	−94	−13	−9E	−11	−18	−9B	−15
e_{63}	−83	−B	−A	−80	−88	−87	−F	−85	−84	−D	−2	−1	−8E	−9	−8C	−6	−93	+1B	+1A	−90	−98	−97	+1F	−95	−94	+1D	+12	+11	−9E	+19	−9C	+16
e_{64}	−84	−F	−89	−88	−80	−C	−B	−E	−83	−82	−8D	−6	−5	−8A	−7	−1	−94	+1F	−99	−98	−90	+1C	+1B	+1E	−93	−92	−9D	+16	+15	−9A	+17	+11
e_{65}	−85	+89	−F	−87	+C	−80	−A	−83	+E	+81	−6	+8D	+4	+8B	+8	−2	−95	+99	+1F	−97	−1C	−90	+1A	−93	−1E	+91	+16	+9D	−14	+9B	−18	+12
e_{66}	−86	−88	−87	+F	+B	+A	−80	−82	−81	+E	+5	+4	−8D	−8C	+9	+3	−96	−98	−97	−1F	−1B	−1A	−90	−92	−91	−1E	−15	−14	−9D	−9C	−19	−13
e_{67}	−87	+D	−86	−85	+E	−83	−82	−80	+C	+B	−8F	+9	+8	+1	+4	−8A	−97	−1D	−96	−95	−1E	−93	−92	−90	−1C	−1B	−9F	−19	−18	−11	−14	−9A
e_{68}	−88	−86	−D	−84	−83	−E	−81	−C	−80	−A	−9	−8F	−7	−2	−5	−8B	−98	−96	+1D	−94	−93	+1E	−91	+1C	−90	+1A	+19	−9F	+17	+12	+15	−9B
e_{69}	−89	+85	−84	+D	−82	+81	−E	−B	+A	−80	+8	−7	+8F	+3	−6	+8C	−99	+95	−94	−1D	−92	+91	+1E	+1B	−1A	−90	−18	+17	+9F	−13	+16	+9C
e_{6A}	+8A	−8E	+3	−2	+8D	−6	+5	+8F	−9	+8	+80	−C	+B	+84	−81	+87	+9A	−9E	−13	+12	+9D	+16	−15	+9F	+19	−18	+90	+1C	−1B	+94	−91	+97
e_{6B}	+8B	+3	+8E	−1	−6	−8D	+4	+9	+8F	−7	+C	+80	−A	−85	+82	+88	+9B	−13	+9E	+11	+16	−9D	−14	−19	+9F	+17	−1C	+90	+1A	−95	+92	+98
e_{6C}	+8C	−2	+1	+8E	−5	+4	+8D	+8	−7	−8F	−B	+A	+80	+86	+83	−89	+9C	+12	−11	+9E	+15	−14	+9D	−18	+17	−9F	+1B	−1A	+90	+96	+93	−99
e_{6D}	+8D	−7	+8	−9	+8A	−8B	+8C	+1	−2	+3	+84	−85	+86	+80	−F	+E	+9D	+17	−18	+19	+9A	−9B	+9C	−11	+12	−13	+94	−95	+96	+90	+1F	−1E
e_{6E}	+8E	−8A	+8B	+8C	−7	+8	+9	+4	−5	−6	−81	+82	+83	+F	+80	−D	+9E	−9A	+9B	+9C	+17	−18	−19	−14	+15	+16	−91	+92	+93	−1F	+90	+1D
e_{6F}	+8F	+4	+5	−6	−1	−2	+3	+8A	+8B	−8C	+87	+88	−89	−E	+D	+80	+9F	−14	−15	+16	+11	+12	−13	+9A	+9B	−9C	+97	+98	−99	+1E	−1D	+90
e_{70}	−90	−91	−92	−93	−94	−95	−96	−97	−98	−99	−9A	−9B	−9C	−9D	−9E	−9F	+80	+81	+82	+83	+84	+85	+86	+87	+88	+89	+8A	+8B	+8C	+8D	+8E	+8F
e_{71}	−91	−90	−1C	+1B	+1F	+99	−98	−1D	−96	+95	+9E	+13	−12	−17	+9A	+14	+81	+80	−C	+B	+F	−89	+88	−D	+86	−85	−8E	+3	−2	−7	−8A	+4
e_{72}	−92	+1C	−90	+1A	−99	+1F	−97	−96	+1D	−94	+13	−9E	+11	+18	−9B	+15	+82	+C	+80	+A	+89	+F	+87	+86	+D	+84	+3	+8E	+1	+8	+8B	+5
e_{73}	−93	−1B	−1A	−90	−98	−97	−1F	−95	−94	−1D	−12	−11	−9E	−19	−9C	−16	+83	−B	−A	+80	+88	+87	−F	+85	+84	−D	−2	−1	+8E	−9	+8C	−6
e_{74}	−94	−1F	−99	−98	−90	−1C	−1B	−1E	−93	−92	−9D	−16	−15	−9A	−17	−11	+84	−F	+89	+88	+80	−C	−B	−E	+83	+82	+8D	−6	−5	+8A	−7	−1
e_{75}	−95	+99	−1F	−97	+1C	−90	−1A	−93	+1E	+91	−16	+9D	+14	+9B	+18	−12	+85	−89	−F	+87	+C	+80	−A	+83	+E	−81	−6	−8D	+4	−8B	+8	−2
e_{76}	−96	−98	−97	+1F	+1B	+1A	−90	−92	−91	+1E	+15	+14	−9D	−9C	+19	+13	+86	+88	+87	+F	+B	+A	+80	+82	+81	+E	+5	+4	+8D	+8C	+9	+3
e_{77}	−97	+1D	−96	−95	+1E	−93	−92	−90	+1C	+1B	−9F	+19	+18	+11	+14	−9A	+87	+D	+86	+85	+E	+83	+82	+80	+C	+B	+8F	+9	+8	+1	+4	+8A
e_{78}	−98	−96	−1D	−94	−93	−1E	−91	−1C	−90	−1A	−19	−9F	−17	−12	−15	−9B	+88	+86	−D	+84	+83	−E	+81	−C	+80	−A	−9	+8F	−7	−2	−5	+8B
e_{79}	−99	+95	−94	+1D	−92	+91	−1E	−1B	+1A	−90	+18	−17	+9F	+13	−16	+9C	+89	−85	+84	+D	+82	−81	−E	−B	+A	+80	+8	−7	−8F	+3	−6	−8C
e_{7A}	+9A	−9E	+13	−12	+9D	−16	+15	+9F	−19	+18	+90	−1C	+1B	+94	−91	+97	−8A	+8E	+3	−2	−8D	−6	+5	−8F	−9	+8	−80	−C	+B	−84	+81	−87
e_{7B}	+9B	+13	+9E	−11	−16	−9D	+14	+19	+9F	−17	+1C	+90	−1A	−95	+92	+98	−8B	+3	−8E	−1	−6	+8D	+4	+9	−8F	−7	+C	−80	−A	+85	−82	−88
e_{7C}	+9C	−12	+11	+9E	−15	+14	+9D	+18	−17	−9F	−1B	+1A	+90	+96	+93	−99	−8C	−2	+1	−8E	−5	+4	−8D	+8	−7	+8F	−B	+A	−80	−86	−83	+89
e_{7D}	+9D	−17	+18	−19	+9A	−9B	+9C	+11	−12	+13	+94	−95	+96	+90	−1F	+1E	−8D	−7	+8	−9	−8A	+8B	−8C	+1	−2	+3	−84	+85	−86	−80	−F	+E
e_{7E}	+9E	−9A	+9B	+9C	−17	+18	+19	+14	−15	−16	−91	+92	+93	+1F	+90	−1D	−8E	+8A	−8B	−8C	−7	+8	+9	+4	−5	−6	+81	−82	−83	+F	−80	−D
e_{7F}	+9F	+14	+15	−16	−11	−12	+13	+9A	+9B	−9C	+97	+98	−99	−1E	+1D	+90	−8F	+4	+5	−6	−1	−2	+3	−8A	−8B	+8C	−87	−88	+89	−E	+D	−80

TABLE 31. $Ka^3(1,4)$ multiplication table, part H3

	e_{E0}	e_{E1}	e_{E2}	e_{E3}	e_{E4}	e_{E5}	e_{E6}	e_{E7}	e_{E8}	e_{E9}	e_{EA}	e_{EB}	e_{EC}	e_{ED}	e_{EE}	e_{EF}	e_{F0}	e_{F1}	e_{F2}	e_{F3}	e_{F4}	e_{F5}	e_{F6}	e_{F7}	e_{F8}	e_{F9}	e_{FA}	e_{FB}	e_{FC}	e_{FD}	e_{FE}	e_{FF}
e_{80}	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	-6A	-6B	-6C	-6D	-6E	-6F	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	+7A	+7B	+7C	+7D	+7E	+7F
e_{81}	+61	+60	-EC	+EB	+EF	-69	+68	-ED	+66	-65	+6E	-E3	+E2	+E7	+6A	-E4	-71	-70	+FC	-FB	-FF	+79	-78	+FD	-76	+75	-7E	+F3	-F2	-F7	-7A	+F4
e_{82}	+62	+EC	+60	+EA	+69	+EF	+67	+66	+ED	+64	-E3	-6E	-E1	-E8	-6B	-E5	-72	-FC	-70	-FA	-79	-FF	-77	-76	-FD	-74	+F3	+7E	+F1	+F8	+7B	+F5
e_{83}	+63	-EB	-EA	+60	+68	+67	-EF	+65	+64	-ED	+E2	+E1	-6E	+E9	-6C	+E6	-73	+FB	+FA	-70	-78	-77	+FF	-75	-74	+FD	-F2	-F1	+7E	-F9	+7C	-F6
e_{84}	+64	-EF	+69	+68	+60	-EC	-EB	-EE	+63	+62	-6D	+E6	+E5	-6A	+E7	+E1	-74	+FF	-79	-78	-70	+FC	+FB	+FE	-73	-72	+7D	-F6	-F5	+7A	-F7	-F1
e_{85}	+65	-69	-EF	+67	+EC	+60	-EA	+63	+EE	-61	+E6	+6D	-E4	+6B	-E8	+E2	-75	+79	+FF	-77	-FC	-70	+FA	-73	-FE	+71	-F6	-7D	+F4	-7B	+F8	-F2
e_{86}	+66	+68	+67	+EF	+EB	+EA	+60	+62	+61	+EE	-E5	-E4	-6D	-6C	-E9	-E3	-76	-78	-77	-FF	-FB	-FA	-70	-72	-71	-FE	+F5	+F4	+7D	+7C	+F9	+F3
e_{87}	+67	+ED	+66	+65	+EE	+63	+62	+60	+EC	+EB	-6F	-E9	-E8	-E1	-E4	-6A	-77	-FD	-76	-75	-FE	-73	-72	-70	-FC	-FB	+7F	+F9	+F8	+F1	+F4	+7A
e_{88}	+68	+66	-ED	+64	+63	-EE	+61	-EC	+60	-EA	+E9	-6F	+E7	+E2	+E5	-6B	-78	-76	+FD	-74	-73	+FE	-71	+FC	-70	+FA	-F9	+7F	-F7	-F2	-F5	+7B
e_{89}	+69	-65	+64	+ED	+62	-61	-EE	-EB	+EA	+60	-E8	+E7	+6F	-E3	+E6	+6C	-79	+75	-74	-FD	-72	+71	+FE	+FB	-FA	-70	+F8	-F7	-7F	+F3	-F6	-7C
e_{8A}	-6A	+6E	+E3	-E2	-6D	-E6	+E5	-6F	-E9	+E8	+60	+EC	-EB	+64	-61	+67	+7A	-7E	-F3	+F2	+7D	+F6	-F5	+7F	+F9	-F8	-70	-FC	+FB	-74	+71	-77
e_{8B}	-6B	+E3	-6E	-E1	-E6	+6D	+E4	+E9	-6F	-E7	-EC	+60	+EA	-65	+62	+68	+7B	-F3	+7E	+F1	+F6	-7D	-F4	-F9	+7F	+F7	+FC	-70	-FA	+75	-72	-78
e_{8C}	-6C	-E2	+E1	-6E	-E5	+E4	-6D	+E8	-E7	+6F	+EB	-EA	+60	+66	+63	-69	+7C	+F2	-F1	+7E	+F5	-F4	+7D	-F8	+F7	-7F	-FB	+FA	-70	-76	-73	+79
e_{8D}	-6D	-E7	+E8	-E9	-6A	+6B	-6C	+E1	-E2	+E3	+64	-65	+66	+60	+EF	-EE	+7D	+F7	-F8	+F9	+7A	-7B	+7C	-F1	+F2	-F3	-74	+75	-76	-70	-FF	+FE
e_{8E}	-6E	+6A	-6B	-6C	-E7	+E8	+E9	+E4	-E5	-E6	-61	+62	+63	-EF	+60	+ED	+7E	-7A	+7B	+7C	+F7	-F8	-F9	-F4	+F5	+F6	+71	-72	-73	+FF	-70	-FD
e_{8F}	-6F	+E4	+E5	-E6	-E1	-E2	+E3	-6A	-6B	+6C	+67	+68	-69	+EE	-ED	+60	+7F	-F4	-F5	+F6	+F1	+F2	-F3	+7A	+7B	-7C	-77	-78	+79	-FE	+FD	-70
e_{90}	+70	+71	+72	+73	+74	+75	+76	+77	+78	+79	-7A	-7B	-7C	-7D	-7E	-7F	+60	+61	+62	+63	+64	+65	+66	+67	+68	+69	-6A	-6B	-6C	-6D	-6E	-6F
e_{91}	+71	+70	+FC	-FB	-FF	-79	+78	+FD	+76	-75	+7E	+F3	-F2	-F7	+7A	+F4	+61	+60	+EC	-EB	-EF	-69	+68	+ED	+66	-65	+6E	+E3	-E2	-E7	+6A	+E4
e_{92}	+72	-FC	+70	-FA	+79	-FF	+77	+76	-FD	+74	+F3	-7E	+F1	+F8	-7B	+F5	+62	-EC	+60	-EA	+69	-EF	+67	+66	-ED	+64	+E3	-6E	+E1	+E8	-6B	+E5
e_{93}	+73	+FB	+FA	+70	+78	+77	+FF	+75	+74	+FD	-F2	-F1	-7E	-F9	-7C	-F6	+63	+EB	+EA	+60	+68	+67	+EF	+65	+64	+ED	-E2	-E1	-6E	-E9	-6C	-E6
e_{94}	+74	+FF	+79	+78	+70	+FC	+FB	+FE	+73	+72	-7D	-F6	-F5	-7A	-F7	-F1	+64	+EF	+69	+68	+60	+EC	+EB	+EE	+63	+62	-6D	-E6	-E5	-6A	-E7	-E1
e_{95}	+75	-79	+FF	+77	-FC	+70	+FA	+73	-FE	-71	-F6	+7D	+F4	+7B	+F8	-F2	+65	-69	+EF	+67	-EC	+60	+EA	+63	-EE	-61	-E6	+6D	+E4	+6B	+E8	-E2
e_{96}	+76	+78	+77	-FF	-FB	-FA	+70	+72	+71	-FE	+F5	+F4	-7D	-7C	+F9	+F3	+66	+68	+67	-EF	-EB	-EA	+60	+62	+61	-EE	+E5	+E4	-6D	-6C	+E9	+E3
e_{97}	+77	-FD	+76	+75	-FE	+73	+72	+70	-FC	-FB	-7F	+F9	+F8	+F1	+F4	-7A	+67	-ED	+66	+65	-EE	+63	+62	+60	-EC	-EB	-6F	+E9	+E8	+E1	+E4	-6A
e_{98}	+78	+76	+FD	+74	+73	+FE	+71	+FC	+70	+FA	-F9	-7F	-F7	-F2	-F5	-7B	+68	+66	+ED	+64	+63	+EE	+61	+EC	+60	+EA	-E9	-6F	-E7	-E2	-E5	-6B
e_{99}	+79	-75	+74	-FD	+72	-71	+FE	+FB	-FA	+70	+F8	-F7	+7F	+F3	-F6	+7C	+69	-65	+64	-ED	+62	-61	+EE	+EB	-EA	+60	+E8	-E7	+6F	+E3	-E6	+6C
e_{9A}	-7A	+7E	-F3	+F2	-7D	+F6	-F5	-7F	+F9	-F8	+70	-FC	+FB	+74	-71	+77	-6A	+6E	-E3	+E2	-6D	+E6	-E5	-6F	+E9	-E8	+60	-EC	+EB	+64	-61	+67
e_{9B}	-7B	-F3	-7E	+F1	+F6	+7D	-F4	-F9	-7F	+F7	+FC	+70	-FA	-75	+72	+78	-6B	-E3	-6E	+E1	+E6	+6D	-E4	-E9	-6F	+E7	+EC	+60	-EA	-65	+62	+68
e_{9C}	-7C	+F2	-F1	-7E	+F5	-F4	-7D	-F8	+F7	+7F	-FB	+FA	+70	+76	+73	-79	-6C	+E2	-E1	-6E	+E5	-E4	-6D	-E8	+E7	+6F	-EB	+EA	+60	+66	+63	-69
e_{9D}	-7D	+F7	-F8	+F9	-7A	+7B	-7C	-F1	+F2	-F3	+74	-75	+76	+70	-FF	+FE	-6D	+E7	-E8	+E9	-6A	+6B	-6C	-E1	+E2	-E3	+64	-65	+66	+60	-EF	+EE
e_{9E}	-7E	+7A	-7B	-7C	+F7	-F8	-F9	-F4	+F5	+F6	-71	+72	+73	+FF	+70	-FD	-6E	+6A	-6B	-6C	+E7	-E8	-E9	-E4	+E5	+E6	-61	+62	+63	+EF	+60	-ED
e_{9F}	-7F	-F4	-F5	+F6	+F1	+F2	-F3	-7A	-7B	+7C	+77	+78	-79	-FE	+FD	+70	-6F	-E4	-E5	+E6	+E1	+E2	-E3	-6A	-6B	+6C	+67	+68	-69	-EE	+ED	+60
e_{A0}	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	+4A	+4B	+4C	+4D	+4E	+4F	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59	+5A	+5B	+5C	+5D	+5E	+5F
e_{A1}	-41	-40	-CC	+CB	+CF	+49	-48	-CD	-46	+45	-4E	-C3	+C2	+C7	-4A	-C4	-51	-50	+DC	-DB	-DF	+59	-58	+DD	-56	+55	-5E	+D3	-D2	-D7	-5A	+D4
e_{A2}	-42	+CC	-40	+CA	-49	+CF	-47	-46	+CD	-44	-C3	+4E	-C1	-C8	+4B	-C5	-52	-DC	-50	-DA	-59	-DF	-57	-56	-DD	-54	+D3	+5E	+D1	+D8	+5B	+D5
e_{A3}	-43	-CB	-CA	-40	-48	-47	-CF	-45	-44	-CD	+C2	+C1	+4E	+C9	+4C	+C6	-53	+DB	+DA	-50	-58	-57	+DF	-55	-54	+DD	-D2	-D1	+5E	-D9	+5C	-D6
e_{A4}	-44	-CF	-49	-48	-40	-CC	-CB	-CE	-43	-42	+4D	+C6	+C5	+4A	+C7	+C1	-54	+DF	-59	-58	-50	+DC	+DB	+DE	-53	-52	+5D	-D6	-D5	+5A	-D7	-D1
e_{A5}	-45	+49	-CF	-47	+CC	-40	-CA	-43	+CE	+41	+C6	-4D	-C4	-4B	-C8	+C2	-55	+59	+DF	-57	-DC	-50	+DA	-53	-DE	+51	-D6	-5D	+D4	-5B	+D8	-D2
e_{A6}	-46	-48	-47	+CF	+CB	+CA	-40	-42	-41	+CE	-C5	-C4	+4D	+4C	-C9	-C3	-56	-58	-57	-DF	-DB	-DA	-50	-52	-51	-DE	+D5	+D4	+5D	+5C	+D9	+D3
e_{A7}	-47	+CD	-46	-45	+CE	-43	-42	-40	+CC	+CB	+4F	-C9	-C8	-C1	-C4	+4A	-57	-DD	-56	-55	-DE	-53	-52	-50	-DC	-DB	+5F	+D9	+D8	+D1	+D4	+5A
e_{A8}	-48	-46	-CD	-44	-43	-CE	-41	-CC	-40	-CA	+C9	+4F	+C7	+C2	+C5	+4B	-58	-56	+DD	-54	-53	+DE	-51	+DC	-50	+DA	-D9	+5F	-D7	-D2	-D5	+5B
e_{A9}	-49	+45	-44	+CD	-42	+41	-CE	-CB	+CA	-40	-C8	+C7	-4F	-C3	+C6	-4C	-59	+55	-54	-DD	-52	+51	+DE	+DB	-DA	-50	+D8	-D7	-5F	+D3	-D6	-5C
e_{AA}	+4A	-4E	+C3	-C2	+4D	-C6	+C5	+4F	-C9	+C8	-40	+CC	-CB	-44	+41	-47	+5A	-5E	-D3	+D2	+5D	+D6	-D5	+5F	+D9	-D8	-50	-DC	+DB	-54	+51	-57
e_{AB}	+4B	+C3	+4E	-C1	-C6	-4D	+C4	+C9	+4F	-C7	-CC	-40	+CA	+45	-42	-48	+5B	-D3	+5E	+D1	+D6	-5D	-D4	-D9	+5F	+D7	+DC	-50	-DA	+55	-52	-58
e_{AC}	+4C	-C2	+C1	+4E	-C5	+C4	+4D	+C8	-C7	-4F	+CB	-CA	-40	-46	-43	+49	+5C	+D2	-D1	+5E	+D5	-D4	+5D	-D8	+D7	-5F	-DB	+DA	-50	-56	-53	+59
e_{AD}	+4D	-C7	+C8	-C9	+4A	-4B	+4C	+C1	-C2	+C3	-44	+45	-46	-40	+CF	-CE	+5D	+D7	-D8	+D9	+5A	-5B	+5C	-D1	+D2	-D3	-54	+55	-56	-50	-DF	+DE
e_{AE}	+4E	-4A	+4B	+4C	-C7	+C8	+C9	+C4	-C5	-C6	+41	-42	-43	-CF	-40	+CD	+5E	-5A	+5B	+5C	+D7	-D8	-D9	-D4	+D5	+D6	+51	-52	-53	+DF	-50	-DD
e_{AF}	+4F	+C4	+C5	-C6	-C1	-C2	+C3	+4A	+4B	-4C	-47	-48	+49	+CE	-CD	-40	+5F	-D4	-D5	+D6	+D1	+D2	-D3	+5A	+5B	-5C	-57	-58	+59	-DE	+DD	-50
e_{B0}	+50	+51	+52	+53	+54	+55	+56	+57	+58	+59	-5A	-5B	-5C	-5D	-5E	-5F	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49	+4A	+4B	+4C	+4D	+4E	+4F
e_{B1}	+51	+50	+DC	-DB	-DF	-59	+58	+DD	+56	-55	+5E	+D3	-D2	-D7	+5A	+D4	-41	-40	+CC	-CB	-CF	+49	-48	+CD	-46	+45	-4E	+C3	-C2	-C7	-4A	+C4
e_{B2}	+52	-DC	+50	-DA	+59	-DF	+57	+56	-DD	+54	+D3	-5E	+D1	+D8	-5B	+D5	-42	-CC	-40	-CA	-49	-CF	-47	-46	-CD	-44	+C3	+4E	+C1	+C8	+4B	+C5
e_{B3}	+53	+DB	+DA	+50	+58	+57	+DF	+55	+54	+DD	-D2	-D1	-5E	-D9	-5C	-D6	-43	+CB	+CA	-40	-48	-47	+CF	-45	-44	+CD	-C2	-C1	+4E	-C9	+4C	-C6
e_{B4}	+54	+DF	+59	+58	+50	+DC	+DB	+DE	+53	+52	-5D	-D6	-D5	-5A	-D7	-D1	-44	+CF	-49	-48	-40	+CC	+CB	+CE	-43	-42	+4D	-C6	-C5	+4A	-C7	-C1
e_{B5}	+55	-59	+DF	+57	-DC	+50	+DA	+53	-DE	-51	-D6	+5D	+D4	+5B	+D8	-D2	-45	+49	+CF	-47	-CC	-40	+CA	-43	-CE	+41	-C6	-4D	+C4	-4B	+C8	-C2
e_{B6}	+56	+58	+57	-DF	-DB	-DA	+50	+52	+51	-DE	+D5	+D4	-5D	-5C	+D9	+D3	-46	-48	-47	-CF	-CB	-CA	-40	-42	-41	-CE	+C5	+C4	+4D	+4C	+C9	+C3
e_{B7}	+57	-DD	+56	+55	-DE	+53	+52	+50	-DC	-DB	-5F	+D9	+D8	+D1	+D4	-5A	-47	-CD	-46	-45	-CE	-43	-42	-40	-CC	-CB	+4F	+C9	+C8	+C1	+C4	+4A
e_{B8}	+58	+56	+DD	+54	+53	+DE	+51	+DC	+50	+DA	-D9	-5F	-D7	-D2	-D5	-5B	-48	-46	+CD	-44	-43	+CE	-41	+CC	-40	+CA	-C9	+4F	-C7	-C2	-C5	+4B
e_{B9}	+59	-55	+54	-DD	+52	-51	+DE	+DB	-DA	+50	+D8	-D7	+5F	+D3	-D6	+5C	-49	+45	-44	-CD	-42	+41	+CE	+CB	-CA	-40	+C8	-C7	-4F	+C3	-C6	-4C
e_{BA}	-5A	+5E	-D3	+D2	-5D	+D6	-D5	-5F	+D9	-D8	+50	-DC	+DB	+54	-51	+57	+4A	-4E	-C3	+C2	+4D	+C6	-C5	+4F	+C9	-C8	-40	-CC	+CB	-44	+41	-47
e_{BB}	-5B	-D3	-5E	+D1	+D6	+5D	-D4	-D9	-5F	+D7	+DC	+50	-DA	-55	+52	+58	+4B	-C3	+4E	+C1	+C6	-4D	-C4	-C9	+4F	+C7	+CC	-40	-CA	+45	-42	-48
e_{BC}	-5C	+D2	-D1	-5E	+D5	-D4	-5D	-D8	+D7	+5F	-DB	+DA	+50	+56	+53	-59	+4C	+C2	-C1	+4E	+C5	-C4	+4D	-C8	+C7	-4F	-CB	+CA	-40	-46	-43	+49
e_{BD}	-5D	+D7	-D8	+D9	-5A	+5B	-5C	-D1	+D2	-D3	+54	-55	+56	+50	-DF	+DE	+4D	+C7	-C8	+C9	+4A	-4B	+4C	-C1	+C2	-C3	-44	+45	-46	-40	-CF	+CE
e_{BE}	-5E	+5A	-5B	-5C	+D7	-D8	-D9	-D4	+D5	+D6	-51	+52	+53	+DF	+50	-DD	+4E	-4A	+4B	+4C	+C7	-C8	-C9	-C4	+C5	+C6	+41	-42	-43	+CF	-40	-CD
e_{BF}	-5F	-D4	-D5	+D6	+D1	+D2	-D3	-5A	-5B	+5C	+57	+58	-59	-DE	+DD	+50	+4F	-C4	-C5	+C6	+C1	+C2	-C3	+4A	+4B	-4C	-47	-48	+49	-CE	+CD	-40

TABLE 32. $Ka^3(1,4)$ multiplication table, part H4

	e_{E0}	e_{E1}	e_{E2}	e_{E3}	e_{E4}	e_{E5}	e_{E6}	e_{E7}	e_{E8}	e_{E9}	e_{EA}	e_{EB}	e_{EC}	e_{ED}	e_{EE}	e_{EF}	e_{F0}	e_{F1}	e_{F2}	e_{F3}	e_{F4}	e_{F5}	e_{F6}	e_{F7}	e_{F8}	e_{F9}	e_{FA}	e_{FB}	e_{FC}	e_{FD}	e_{FE}	e_{FF}
e_{C0}	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	−2A	−2B	−2C	−2D	−2E	−2F	−30	−31	−32	−33	−34	−35	−36	−37	−38	−39	+3A	+3B	+3C	+3D	+3E	+3F
e_{C1}	+21	+20	−AC	+AB	+AF	−29	+28	−AD	+26	−25	+2E	−A3	+A2	+A7	+2A	−A4	−31	−30	+BC	−BB	−BF	+39	−38	+BD	−36	+35	−3E	+B3	−B2	−B7	−3A	+B4
e_{C2}	+22	+AC	+20	+AA	+29	+AF	+27	+26	+AD	+24	−A3	−2E	−A1	−A8	−2B	−A5	−32	−BC	−30	−BA	−39	−BF	−37	−36	−BD	−34	+B3	+3E	+B1	+B8	+3B	+B5
e_{C3}	+23	−AB	−AA	+20	+28	+27	−AF	+25	+24	−AD	+A2	+A1	−2E	+A9	−2C	+A6	−33	+BB	+BA	−30	−38	−37	+BF	−35	−34	+BD	−B2	−B1	+3E	−B9	+3C	−B6
e_{C4}	+24	−AF	+29	+28	+20	−AC	−AB	−AE	+23	+22	−2D	+A6	+A5	−2A	+A7	+A1	−34	+BF	−39	−38	−30	+BC	+BB	+BE	−33	−32	+3D	−B6	−B5	+3A	−B7	−B1
e_{C5}	+25	−29	−AF	+27	+AC	+20	−AA	+23	+AE	−21	+A6	+2D	−A4	+2B	−A8	+A2	−35	+39	+BF	−37	−BC	−30	+BA	−33	−BE	+31	−B6	−3D	+B4	−3B	+B8	−B2
e_{C6}	+26	+28	+27	+AF	+AB	+AA	+20	+22	+21	+AE	−A5	−A4	−2D	−2C	−A9	−A3	−36	−38	−37	−BF	−BB	−BA	−30	−32	−31	−BE	+B5	+B4	+3D	+3C	+B9	+B3
e_{C7}	+27	+AD	+26	+25	+AE	+23	+22	+20	+AC	+AB	−2F	−A9	−A8	−A1	−A4	−2A	−37	−BD	−36	−35	−BE	−33	−32	−30	−BC	−BB	+3F	+B9	+B8	+B1	+B4	+3A
e_{C8}	+28	+26	−AD	+24	+23	−AE	+21	−AC	+20	−AA	+A9	−2F	+A7	+A2	+A5	−2B	−38	−36	+BD	−34	−33	+BE	−31	+BC	−30	+BA	−B9	+3F	−B7	−B2	−B5	+3B
e_{C9}	+29	−25	+24	+AD	+22	−21	−AE	−AB	+AA	+20	−A8	+A7	+2F	−A3	+A6	+2C	−39	+35	−34	−BD	−32	+31	+BE	+BB	−BA	−30	+B8	−B7	−3F	+B3	−B6	−3C
e_{CA}	−2A	+2E	+A3	−A2	−2D	−A6	+A5	−2F	−A9	+A8	+20	+AC	−AB	+24	−21	+27	+3A	−3E	−B3	+B2	+3D	+B6	−B5	+3F	+B9	−B8	−30	−BC	+BB	−34	+31	−37
e_{CB}	−2B	+A3	−2E	−A1	−A6	+2D	+A4	+A9	−2F	−A7	−AC	+20	+AA	−25	+22	+28	+3B	−B3	+3E	+B1	+B6	−3D	−B4	−B9	+3F	+B7	+BC	−30	−BA	+35	−32	−38
e_{CC}	−2C	−A2	+A1	−2E	−A5	+A4	−2D	+A8	−A7	+2F	+AB	−AA	+20	+26	+23	−29	+3C	+B2	−B1	+3E	+B5	−B4	+3D	−B8	+B7	−3F	−BB	+BA	−30	−36	−33	+39
e_{CD}	−2D	−A7	+A8	−A9	−2A	+2B	−2C	+A1	−A2	+A3	+24	−25	+26	+20	+AF	−AE	+3D	+B7	−B8	+B9	+3A	−3B	+3C	−B1	+B2	−B3	−34	+35	−36	−30	−BF	+BE
e_{CE}	−2E	+2A	−2B	−2C	−A7	+A8	+A9	+A4	−A5	−A6	−21	+22	+23	−AF	+20	+AD	+3E	−3A	+3B	+3C	+B7	−B8	−B9	−B4	+B5	+B6	+31	−32	−33	+BF	−30	−BD
e_{CF}	−2F	+A4	+A5	−A6	−A1	−A2	+A3	−2A	−2B	+2C	+27	+28	−29	+AE	−AD	+20	+3F	−B4	−B5	+B6	+B1	+B2	−B3	+3A	+3B	−3C	−37	−38	+39	−BE	+BD	−30
e_{D0}	+30	+31	+32	+33	+34	+35	+36	+37	+38	+39	−3A	−3B	−3C	−3D	−3E	−3F	+20	+21	+22	+23	+24	+25	+26	+27	+28	+29	−2A	−2B	−2C	−2D	−2E	−2F
e_{D1}	+31	+30	+BC	−BB	−BF	−39	+38	+BD	+36	−35	+3E	+B3	−B2	−B7	+3A	+B4	+21	+20	+AC	−AB	−AF	−29	+28	+AD	+26	−25	+2E	+A3	−A2	−A7	+2A	+A4
e_{D2}	+32	−BC	+30	−BA	+39	−BF	+37	+36	−BD	+34	+B3	−3E	+B1	+B8	−3B	+B5	+22	−AC	+20	−AA	+29	−AF	+27	+26	−AD	+24	+A3	−2E	+A1	+A8	−2B	+A5
e_{D3}	+33	+BB	+BA	+30	+38	+37	+BF	+35	+34	+BD	−B2	−B1	−3E	−B9	−3C	−B6	+23	+AB	+AA	+20	+28	+27	+AF	+25	+24	+AD	−A2	−A1	−2E	−A9	−2C	−A6
e_{D4}	+34	+BF	+39	+38	+30	+BC	+BB	+BE	+33	+32	−3D	−B6	−B5	−3A	−B7	−B1	+24	+AF	+29	+28	+20	+AC	+AB	+AE	+23	+22	−2D	−A6	−A5	−2A	−A7	−A1
e_{D5}	+35	−39	+BF	+37	−BC	+30	+BA	+33	−BE	−31	−B6	+3D	+B4	+3B	+B8	−B2	+25	−29	+AF	+27	−AC	+20	+AA	+23	−AE	−21	−A6	+2D	+A4	+2B	+A8	−A2
e_{D6}	+36	+38	+37	−BF	−BB	−BA	+30	+32	+31	−BE	+B5	+B4	−3D	−3C	+B9	+B3	+26	+28	+27	−AF	−AB	−AA	+20	+22	+21	−AE	+A5	+A4	−2D	−2C	+A9	+A3
e_{D7}	+37	−BD	+36	+35	−BE	+33	+32	+30	−BC	−BB	−3F	+B9	+B8	+B1	+B4	−3A	+27	−AD	+26	+25	−AE	+23	+22	+20	−AC	−AB	−2F	+A9	+A8	+A1	+A4	−2A
e_{D8}	+38	+36	+BD	+34	+33	+BE	+31	+BC	+30	+BA	−B9	−3F	−B7	−B2	−B5	−3B	+28	+26	+AD	+24	+23	+AE	+21	+AC	+20	+AA	−A9	−2F	−A7	−A2	−A5	−2B
e_{D9}	+39	−35	+34	−BD	+32	−31	+BE	+BB	−BA	+30	+B8	−B7	+3F	+B3	−B6	+3C	+29	−25	+24	−AD	+22	−21	+AE	+AB	−AA	+20	+A8	−A7	+2F	+A3	−A6	+2C
e_{DA}	−3A	+3E	−B3	+B2	−3D	+B6	−B5	−3F	+B9	−B8	+30	−BC	+BB	+34	−31	+37	−2A	+2E	−A3	+A2	−2D	+A6	−A5	−2F	+A9	−A8	+20	−AC	+AB	+24	−21	+27
e_{DB}	−3B	−B3	−3E	+B1	+B6	+3D	−B4	−B9	−3F	+B7	+BC	+30	−BA	−35	+32	+38	−2B	−A3	−2E	+A1	+A6	+2D	−A4	−A9	−2F	+A7	+AC	+20	−AA	−25	+22	+28
e_{DC}	−3C	+B2	−B1	−3E	+B5	−B4	−3D	−B8	+B7	+3F	−BB	+BA	+30	+36	+33	−39	−2C	+A2	−A1	−2E	+A5	−A4	−2D	−A8	+A7	+2F	−AB	+AA	+20	+26	+23	−29
e_{DD}	−3D	+B7	−B8	+B9	−3A	+3B	−3C	−B1	+B2	−B3	+34	−35	+36	+30	−BF	+BE	−2D	+A7	−A8	+A9	−2A	+2B	−2C	−A1	+A2	−A3	+24	−25	+26	+20	−AF	+AE
e_{DE}	−3E	+3A	−3B	−3C	+B7	−B8	−B9	−B4	+B5	+B6	−31	+32	+33	+BF	+30	−BD	−2E	+2A	−2B	−2C	+A7	−A8	−A9	−A4	+A5	+A6	−21	+22	+23	+AF	+20	−AD
e_{DF}	−3F	−B4	−B5	+B6	+B1	+B2	−B3	−3A	−3B	+3C	+37	+38	−39	−BE	+BD	+30	−2F	−A4	−A5	+A6	+A1	+A2	−A3	−2A	−2B	+2C	+27	+28	−29	−AE	+AD	+20
e_{E0}	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F	−10	−11	−12	−13	−14	−15	−16	−17	−18	−19	+1A	+1B	+1C	+1D	+1E	+1F
e_{E1}	−1	−0	−8C	+8B	+8F	+9	−8	−8D	−6	+5	−E	−83	+82	+87	−A	−84	−11	−10	+9C	−9B	−9F	+19	−18	+9D	−16	+15	−1E	+93	−92	−97	−1A	+94
e_{E2}	−2	+8C	−0	+8A	−9	+8F	−7	−6	+8D	−4	−83	+E	−81	−88	+B	−85	−12	−9C	−10	−9A	−19	−9F	−17	−16	−9D	−14	+93	+1E	+91	+98	+1B	+95
e_{E3}	−3	−8B	−8A	−0	−8	−7	−8F	−5	−4	−8D	+82	+81	+E	+89	+C	+86	−13	+9B	+9A	−10	−18	−17	+9F	−15	−14	+9D	−92	−91	+1E	−99	+1C	−96
e_{E4}	−4	−8F	−9	−8	−0	−8C	−8B	−8E	−3	−2	+D	+86	+85	+A	+87	+81	−14	+9F	−19	−18	−10	+9C	+9B	+9E	−13	−12	+1D	−96	−95	+1A	−97	−91
e_{E5}	−5	+9	−8F	−7	+8C	−0	−8A	−3	+8E	+1	+86	−D	−84	−B	−88	+82	−15	+19	+9F	−17	−9C	−10	+9A	−13	−9E	+11	−96	−1D	+94	−1B	+98	−92
e_{E6}	−6	−8	−7	+8F	+8B	+8A	−0	−2	−1	+8E	−85	−84	+D	+C	−89	−83	−16	−18	−17	−9F	−9B	−9A	−10	−12	−11	−9E	+95	+94	+1D	+1C	+99	+93
e_{E7}	−7	+8D	−6	−5	+8E	−3	−2	−0	+8C	+8B	+F	−89	−88	−81	−84	+A	−17	−9D	−16	−15	−9E	−13	−12	−10	−9C	−9B	+1F	+99	+98	+91	+94	+1A
e_{E8}	−8	−6	−8D	−4	−3	−8E	−1	−8C	−0	−8A	+89	+F	+87	+82	+85	+B	−18	−16	+9D	−14	−13	+9E	−11	+9C	−10	+9A	−99	+1F	−97	−92	−95	+1B
e_{E9}	−9	+5	−4	+8D	−2	+1	−8E	−8B	+8A	−0	−88	+87	−F	−83	+86	−C	−19	+15	−14	−9D	−12	+11	+9E	+9B	−9A	−10	+98	−97	−1F	+93	−96	−1C
e_{EA}	+A	−E	+83	−82	+D	−86	+85	+F	−89	+88	−0	+8C	−8B	−4	+1	−7	+1A	−1E	−93	+92	+1D	+96	−95	+1F	+99	−98	−10	−9C	+9B	−14	+11	−17
e_{EB}	+B	+83	+E	−81	−86	−D	+84	+89	+F	−87	−8C	−0	+8A	+5	−2	−8	+1B	−93	+1E	+91	+96	−1D	−94	−99	+1F	+97	+9C	−10	−9A	+15	−12	−18
e_{EC}	+C	−82	+81	+E	−85	+84	+D	+88	−87	−F	+8B	−8A	−0	−6	−3	+9	+1C	+92	−91	+1E	+95	−94	+1D	−98	+97	−1F	−9B	+9A	−10	−16	−13	+19
e_{ED}	+D	−87	+88	−89	+A	−B	+C	+81	−82	+83	−4	+5	−6	−0	+8F	−8E	+1D	+97	−98	+99	+1A	−1B	+1C	−91	+92	−93	−14	+15	−16	−10	−9F	+9E
e_{EE}	+E	−A	+B	+C	−87	+88	+89	+84	−85	−86	+1	−2	−3	−8F	−0	+8D	+1E	−1A	+1B	+1C	+97	−98	−99	−94	+95	+96	+11	−12	−13	+9F	−10	−9D
e_{EF}	+F	+84	+85	−86	−81	−82	+83	+A	+B	−C	−7	−8	+9	+8E	−8D	−0	+1F	−94	−95	+96	+91	+92	−93	+1A	+1B	−1C	−17	−18	+19	−9E	+9D	−10
e_{F0}	+10	+11	+12	+13	+14	+15	+16	+17	+18	+19	−1A	−1B	−1C	−1D	−1E	−1F	−0	−1	−2	−3	−4	−5	−6	−7	−8	−9	+A	+B	+C	+D	+E	+F
e_{F1}	+11	+10	+9C	−9B	−9F	−19	+18	+9D	+16	−15	+1E	+93	−92	−97	+1A	+94	−1	−0	+8C	−8B	−8F	+9	−8	+8D	−6	+5	−E	+83	−82	−87	−A	+84
e_{F2}	+12	−9C	+10	−9A	+19	−9F	+17	+16	−9D	+14	+93	−1E	+91	+98	−1B	+95	−2	−8C	−0	−8A	−9	−8F	−7	−6	−8D	−4	+83	+E	+81	+88	+B	+85
e_{F3}	+13	+9B	+9A	+10	+18	+17	+9F	+15	+14	+9D	−92	−91	−1E	−99	−1C	−96	−3	+8B	+8A	−0	−8	−7	+8F	−5	−4	+8D	−82	−81	+E	−89	+C	−86
e_{F4}	+14	+9F	+19	+18	+10	+9C	+9B	+9E	+13	+12	−1D	−96	−95	−1A	−97	−91	−4	+8F	−9	−8	−0	+8C	+8B	+8E	−3	−2	+D	−86	−85	+A	−87	−81
e_{F5}	+15	−19	+9F	+17	−9C	+10	+9A	+13	−9E	−11	−96	+1D	+94	+1B	+98	−92	−5	+9	+8F	−7	−8C	−0	+8A	−3	−8E	+1	−86	−D	+84	−B	+88	−82
e_{F6}	+16	+18	+17	−9F	−9B	−9A	+10	+12	+11	−9E	+95	+94	−1D	−1C	+99	+93	−6	−8	−7	−8F	−8B	−8A	−0	−2	−1	−8E	+85	+84	+D	+C	+89	+83
e_{F7}	+17	−9D	+16	+15	−9E	+13	+12	+10	−9C	−9B	−1F	+99	+98	+91	+94	−1A	−7	−8D	−6	−5	−8E	−3	−2	−0	−8C	−8B	+F	+89	+88	+81	+84	+A
e_{F8}	+18	+16	+9D	+14	+13	+9E	+11	+9C	+10	+9A	−99	−1F	−97	−92	−95	−1B	−8	−6	+8D	−4	−3	+8E	−1	+8C	−0	+8A	−89	+F	−87	−82	−85	+B
e_{F9}	+19	−15	+14	−9D	+12	−11	+9E	+9B	−9A	+10	+98	−97	+1F	+93	−96	+1C	−9	+5	−4	−8D	−2	+1	+8E	+8B	−8A	−0	+88	−87	−F	+83	−86	−C
e_{FA}	−1A	+1E	−93	+92	−1D	+96	−95	−1F	+99	−98	+10	−9C	+9B	+14	−11	+17	+A	−E	−83	+82	+D	+86	−85	+F	+89	−88	−0	−8C	+8B	−4	+1	−7
e_{FB}	−1B	−93	−1E	+91	+96	+1D	−94	−99	−1F	+97	+9C	+10	−9A	−15	+12	+18	+B	−83	+E	+81	+86	−D	−84	−89	+F	+87	+8C	−0	−8A	+5	−2	−8
e_{FC}	−1C	+92	−91	−1E	+95	−94	−1D	−98	+97	+1F	−9B	+9A	+10	+16	+13	−19	+C	+82	−81	+E	+85	−84	+D	−88	+87	−F	−8B	+8A	−0	−6	−3	+9
e_{FD}	−1D	+97	−98	+99	−1A	+1B	−1C	−91	+92	−93	+14	−15	+16	+10	−9F	+9E	+D	+87	−88	+89	+A	−B	+C	−81	+82	−83	−4	+5	−6	−0	−8F	+8E
e_{FE}	−1E	+1A	−1B	−1C	+97	−98	−99	−94	‘	+96	−11	+12	+13	+9F	+10	−9D	+E	−A	+B	+C	+87	−88	−89	−84	+85	+86	+1	−2	−3	+8F	−0	−8D
e_{FF}	−1F	−94	−95	+96	+91	+92	−93	−1A	−1B	+1C	+17	+18	−19	−9E	+9D	+10	+F	−84	−85	+86	+81	+82	−83	+A	+B	−C	−7	−8	+9	−8E	+8D	−0

TABLE 33. $Ka^2(1,4)$ multiplication table, part A1

	S	X	Y	Z	P	Q	R	D	E	F	iL	iM	iN	iT	iU	iV	${}^{\nu}S$	${}^{\nu}X$	${}^{\nu}Y$	${}^{\nu}Z$	${}^{\nu}P$	${}^{\nu}Q$	${}^{\nu}R$	${}^{\nu}D$	${}^{\nu}E$	${}^{\nu}F$	${}^{\nu}iL$	${}^{\nu}iM$	${}^{\nu}iN$	${}^{\nu}iT$	${}^{\nu}iU$	${}^{\nu}iV$
S	$+S$	$+X$	$+Y$	$+Z$	$+P$	$+Q$	$+R$	$+D$	$+E$	$+F$	$+iL$	$+iM$	$+iN$	$+iT$	$+iU$	$+iV$	$+{}^{\nu}S$	$+{}^{\nu}X$	$+{}^{\nu}Y$	$+{}^{\nu}Z$	$+{}^{\nu}P$	$+{}^{\nu}Q$	$+{}^{\nu}R$	$+{}^{\nu}D$	$+{}^{\nu}E$	$+{}^{\nu}F$	$+{}^{\nu}iL$	$+{}^{\nu}iM$	$+{}^{\nu}iN$	$+{}^{\nu}iT$	$+{}^{\nu}iU$	$+{}^{\nu}iV$
X	$+X$	$+S$	$+N$	$-M$	$-V$	$-F$	$+E$	$+T$	$+R$	$-Q$	$-iU$	$-iZ$	$+iY$	$+iD$	$-iL$	$-iP$	$+{}^{\nu}X$	$+{}^{\nu}S$	$-{}^{\nu}N$	$+{}^{\nu}M$	$+{}^{\nu}V$	$-{}^{\nu}F$	$+{}^{\nu}E$	$-{}^{\nu}T$	$+{}^{\nu}R$	$-{}^{\nu}Q$	$-{}^{\nu}iU$	$+{}^{\nu}iZ$	$-{}^{\nu}iY$	$-{}^{\nu}iD$	$-{}^{\nu}iL$	$+{}^{\nu}iP$
Y	$+Y$	$-N$	$+S$	$-L$	$+F$	$-V$	$+D$	$+R$	$-T$	$+P$	$-iZ$	$+iU$	$-iX$	$-iE$	$+iM$	$-iQ$	$+{}^{\nu}Y$	$+{}^{\nu}N$	$+{}^{\nu}S$	$+{}^{\nu}L$	$+{}^{\nu}F$	$+{}^{\nu}V$	$+{}^{\nu}D$	$+{}^{\nu}R$	$+{}^{\nu}T$	$+{}^{\nu}P$	$+{}^{\nu}iZ$	$+{}^{\nu}iU$	$+{}^{\nu}iX$	$+{}^{\nu}iE$	$+{}^{\nu}iM$	$+{}^{\nu}iQ$
Z	$+Z$	$+M$	$+L$	$+S$	$+E$	$+D$	$+V$	$+Q$	$+P$	$+T$	$+iY$	$+iX$	$+iU$	$+iF$	$+iN$	$+iR$	$+{}^{\nu}Z$	$-{}^{\nu}M$	$-{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}E$	$+{}^{\nu}D$	$-{}^{\nu}V$	$+{}^{\nu}Q$	$+{}^{\nu}P$	$-{}^{\nu}T$	$-{}^{\nu}iY$	$-{}^{\nu}iX$	$+{}^{\nu}iU$	$-{}^{\nu}iF$	$+{}^{\nu}iN$	$-{}^{\nu}iR$
P	$+P$	$+V$	$+F$	$+E$	$+S$	$+N$	$+M$	$+U$	$+Z$	$+Y$	$+iT$	$+iR$	$+iQ$	$+iL$	$+iD$	$+iX$	$+{}^{\nu}P$	$-{}^{\nu}V$	$+{}^{\nu}F$	$+{}^{\nu}E$	$+{}^{\nu}S$	$-{}^{\nu}N$	$-{}^{\nu}M$	$-{}^{\nu}U$	$+{}^{\nu}Z$	$+{}^{\nu}Y$	$+{}^{\nu}iT$	$-{}^{\nu}iR$	$-{}^{\nu}iQ$	$+{}^{\nu}iL$	$-{}^{\nu}iD$	$-{}^{\nu}iX$
Q	$+Q$	$-F$	$+V$	$+D$	$-N$	$+S$	$+L$	$+Z$	$-U$	$-X$	$+iR$	$-iT$	$-iP$	$-iM$	$-iE$	$+iY$	$+{}^{\nu}Q$	$-{}^{\nu}F$	$-{}^{\nu}V$	$+{}^{\nu}D$	$+{}^{\nu}N$	$+{}^{\nu}S$	$-{}^{\nu}L$	$+{}^{\nu}Z$	$+{}^{\nu}U$	$-{}^{\nu}X$	$-{}^{\nu}iR$	$-{}^{\nu}iT$	$+{}^{\nu}iP$	$-{}^{\nu}iM$	$+{}^{\nu}iE$	$-{}^{\nu}iY$
R	$+R$	$+E$	$+D$	$-V$	$-M$	$-L$	$+S$	$+Y$	$+X$	$-U$	$-iQ$	$-iP$	$+iT$	$+iN$	$-iF$	$-iZ$	$+{}^{\nu}R$	$+{}^{\nu}E$	$+{}^{\nu}D$	$+{}^{\nu}V$	$+{}^{\nu}M$	$+{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}Y$	$+{}^{\nu}X$	$+{}^{\nu}U$	$+{}^{\nu}iQ$	$+{}^{\nu}iP$	$+{}^{\nu}iT$	$+{}^{\nu}iN$	$+{}^{\nu}iF$	$+{}^{\nu}iZ$
D	$+D$	$-T$	$+R$	$+Q$	$-U$	$+Z$	$+Y$	$+S$	$-N$	$-M$	$+iV$	$-iF$	$-iE$	$-iX$	$-iP$	$+iL$	$+{}^{\nu}D$	$+{}^{\nu}T$	$+{}^{\nu}R$	$+{}^{\nu}Q$	$+{}^{\nu}U$	$+{}^{\nu}Z$	$+{}^{\nu}Y$	$+{}^{\nu}S$	$+{}^{\nu}N$	$+{}^{\nu}M$	$+{}^{\nu}iV$	$+{}^{\nu}iF$	$+{}^{\nu}iE$	$+{}^{\nu}iX$	$+{}^{\nu}iP$	$+{}^{\nu}iL$
E	$+E$	$+R$	$+T$	$+P$	$+Z$	$+U$	$+X$	$+N$	$+S$	$+L$	$+iF$	$+iV$	$+iD$	$+iY$	$+iQ$	$+iM$	$+{}^{\nu}E$	$+{}^{\nu}R$	$-{}^{\nu}T$	$+{}^{\nu}P$	$+{}^{\nu}Z$	$-{}^{\nu}U$	$+{}^{\nu}X$	$-{}^{\nu}N$	$+{}^{\nu}S$	$-{}^{\nu}L$	$-{}^{\nu}iF$	$+{}^{\nu}iV$	$-{}^{\nu}iD$	$-{}^{\nu}iY$	$-{}^{\nu}iQ$	$+{}^{\nu}iM$
F	$+F$	$-Q$	$+P$	$-T$	$+Y$	$-X$	$+U$	$+M$	$-L$	$+S$	$-iE$	$+iD$	$-iV$	$-iZ$	$+iR$	$-iN$	$+{}^{\nu}F$	$-{}^{\nu}Q$	$+{}^{\nu}P$	$+{}^{\nu}T$	$+{}^{\nu}Y$	$-{}^{\nu}X$	$-{}^{\nu}U$	$-{}^{\nu}M$	$+{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}iE$	$-{}^{\nu}iD$	$-{}^{\nu}iV$	$+{}^{\nu}iZ$	$-{}^{\nu}iR$	$-{}^{\nu}iN$
iL	$+iL$	$-iU$	$+iZ$	$-iY$	$+iT$	$-iR$	$+iQ$	$+iV$	$-iF$	$+iE$	$+S$	$-N$	$+M$	$+P$	$-X$	$+D$	$+{}^{\nu}iL$	$-{}^{\nu}iU$	$-{}^{\nu}iZ$	$+{}^{\nu}iY$	$+{}^{\nu}iT$	$+{}^{\nu}iR$	$-{}^{\nu}iQ$	$+{}^{\nu}iV$	$+{}^{\nu}iF$	$-{}^{\nu}iE$	$+{}^{\nu}S$	$+{}^{\nu}N$	$-{}^{\nu}M$	$+{}^{\nu}P$	$-{}^{\nu}X$	$+{}^{\nu}D$
iM	$+iM$	$+iZ$	$+iU$	$-iX$	$-iR$	$-iT$	$+iP$	$+iF$	$+iV$	$-iD$	$+N$	$+S$	$-L$	$-Q$	$+Y$	$+E$	$+{}^{\nu}iM$	$-{}^{\nu}iZ$	$+{}^{\nu}iU$	$+{}^{\nu}iX$	$+{}^{\nu}iR$	$-{}^{\nu}iT$	$-{}^{\nu}iP$	$-{}^{\nu}iF$	$+{}^{\nu}iV$	$+{}^{\nu}iD$	$-{}^{\nu}N$	$+{}^{\nu}S$	$+{}^{\nu}L$	$-{}^{\nu}Q$	$+{}^{\nu}Y$	$+{}^{\nu}E$
iN	$+iN$	$-iY$	$+iX$	$+iU$	$-iQ$	$+iP$	$+iT$	$+iE$	$-iD$	$-iV$	$-M$	$+L$	$+S$	$+R$	$+Z$	$-F$	$+{}^{\nu}iN$	$+{}^{\nu}iY$	$-{}^{\nu}iX$	$+{}^{\nu}iU$	$+{}^{\nu}iQ$	$-{}^{\nu}iP$	$+{}^{\nu}iT$	$-{}^{\nu}iE$	$+{}^{\nu}iD$	$-{}^{\nu}iV$	$+{}^{\nu}M$	$-{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}R$	$+{}^{\nu}Z$	$-{}^{\nu}F$
iT	$+iT$	$-iD$	$+iE$	$-iF$	$+iL$	$-iM$	$+iN$	$+iX$	$-iY$	$+iZ$	$+P$	$-Q$	$+R$	$+S$	$-V$	$+U$	$+{}^{\nu}iT$	$+{}^{\nu}iD$	$-{}^{\nu}iE$	$+{}^{\nu}iF$	$+{}^{\nu}iL$	$-{}^{\nu}iM$	$+{}^{\nu}iN$	$-{}^{\nu}iX$	$+{}^{\nu}iY$	$-{}^{\nu}iZ$	$+{}^{\nu}P$	$-{}^{\nu}Q$	$+{}^{\nu}R$	$+{}^{\nu}S$	$+{}^{\nu}V$	$-{}^{\nu}U$
iU	$+iU$	$-iL$	$+iM$	$+iN$	$-iD$	$+iE$	$+iF$	$+iP$	$-iQ$	$-iR$	$-X$	$+Y$	$+Z$	$+V$	$+S$	$-T$	$+{}^{\nu}iU$	$-{}^{\nu}iL$	$+{}^{\nu}iM$	$+{}^{\nu}iN$	$+{}^{\nu}iD$	$-{}^{\nu}iE$	$-{}^{\nu}iF$	$-{}^{\nu}iP$	$+{}^{\nu}iQ$	$+{}^{\nu}iR$	$-{}^{\nu}X$	$+{}^{\nu}Y$	$+{}^{\nu}Z$	$-{}^{\nu}V$	$+{}^{\nu}S$	$+{}^{\nu}T$
iV	$+iV$	$+iP$	$+iQ$	$-iR$	$-iX$	$-iY$	$+iZ$	$+iL$	$+iM$	$-iN$	$+D$	$+E$	$-F$	$-U$	$+T$	$+S$	$+{}^{\nu}iV$	$-{}^{\nu}iP$	$-{}^{\nu}iQ$	$+{}^{\nu}iR$	$+{}^{\nu}iX$	$+{}^{\nu}iY$	$-{}^{\nu}iZ$	$+{}^{\nu}iL$	$+{}^{\nu}iM$	$-{}^{\nu}iN$	$+{}^{\nu}D$	$+{}^{\nu}E$	$-{}^{\nu}F$	$+{}^{\nu}U$	$-{}^{\nu}T$	$+{}^{\nu}S$
${}^{\nu}S$	$+{}^{\nu}S$	$+{}^{\nu}X$	$+{}^{\nu}Y$	$+{}^{\nu}Z$	$+{}^{\nu}P$	$+{}^{\nu}Q$	$+{}^{\nu}R$	$+{}^{\nu}D$	$+{}^{\nu}E$	$+{}^{\nu}F$	$+{}^{\nu}iL$	$+{}^{\nu}iM$	$+{}^{\nu}iN$	$+{}^{\nu}iT$	$+{}^{\nu}iU$	$+{}^{\nu}iV$	$-S$	$-X$	$-Y$	$-Z$	$-P$	$-Q$	$-R$	$-D$	$-E$	$-F$	$-iL$	$-iM$	$-iN$	$-iT$	$-iU$	$-iV$
${}^{\nu}X$	$+{}^{\nu}X$	$+{}^{\nu}S$	$+{}^{\nu}N$	$-{}^{\nu}M$	$-{}^{\nu}V$	$-{}^{\nu}F$	$+{}^{\nu}E$	$+{}^{\nu}T$	$+{}^{\nu}R$	$-{}^{\nu}Q$	$-{}^{\nu}iU$	$-{}^{\nu}iZ$	$+{}^{\nu}iY$	$+{}^{\nu}iD$	$-{}^{\nu}iL$	$-{}^{\nu}iP$	$-X$	$-S$	$+N$	$-M$	$-V$	$+F$	$-E$	$+T$	$-R$	$+Q$	$+iU$	$-iZ$	$+iY$	$+iD$	$+iL$	$-iP$
${}^{\nu}Y$	$+{}^{\nu}Y$	$-{}^{\nu}N$	$+{}^{\nu}S$	$-{}^{\nu}L$	$+{}^{\nu}F$	$-{}^{\nu}V$	$+{}^{\nu}D$	$+{}^{\nu}R$	$-{}^{\nu}T$	$+{}^{\nu}P$	$-{}^{\nu}iZ$	$+{}^{\nu}iU$	$-{}^{\nu}iX$	$-{}^{\nu}iE$	$+{}^{\nu}iM$	$-{}^{\nu}iQ$	$-Y$	$-N$	$-S$	$-L$	$-F$	$-V$	$-D$	$-R$	$-T$	$-P$	$-iZ$	$-iU$	$-iX$	$-iE$	$-iM$	$-iQ$
${}^{\nu}Z$	$+{}^{\nu}Z$	$+{}^{\nu}M$	$+{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}E$	$+{}^{\nu}D$	$+{}^{\nu}V$	$+{}^{\nu}Q$	$+{}^{\nu}P$	$+{}^{\nu}T$	$+{}^{\nu}iY$	$+{}^{\nu}iX$	$+{}^{\nu}iU$	$+{}^{\nu}iF$	$+{}^{\nu}iN$	$+{}^{\nu}iR$	$-Z$	$+M$	$+L$	$-S$	$-E$	$-D$	$+V$	$-Q$	$-P$	$+T$	$+iY$	$+iX$	$-iU$	$+iF$	$-iN$	$+iR$
${}^{\nu}P$	$+{}^{\nu}P$	$+{}^{\nu}V$	$+{}^{\nu}F$	$+{}^{\nu}E$	$+{}^{\nu}S$	$+{}^{\nu}N$	$+{}^{\nu}M$	$+{}^{\nu}U$	$+{}^{\nu}Z$	$+{}^{\nu}Y$	$+{}^{\nu}iT$	$+{}^{\nu}iR$	$+{}^{\nu}iQ$	$+{}^{\nu}iL$	$+{}^{\nu}iD$	$+{}^{\nu}iX$	$-P$	$+V$	$-F$	$-E$	$-S$	$+N$	$+M$	$+U$	$-Z$	$-Y$	$-iT$	$+iR$	$+iQ$	$-iL$	$+iD$	$+iX$
${}^{\nu}Q$	$+{}^{\nu}Q$	$-{}^{\nu}F$	$+{}^{\nu}V$	$+{}^{\nu}D$	$-{}^{\nu}N$	$+{}^{\nu}S$	$+{}^{\nu}L$	$+{}^{\nu}Z$	$-{}^{\nu}U$	$-{}^{\nu}X$	$+{}^{\nu}iR$	$-{}^{\nu}iT$	$-{}^{\nu}iP$	$-{}^{\nu}iM$	$-{}^{\nu}iE$	$+{}^{\nu}iY$	$-Q$	$+F$	$+V$	$-D$	$-N$	$-S$	$+L$	$-Z$	$-U$	$+X$	$+iR$	$+iT$	$-iP$	$+iM$	$-iE$	$+iY$
${}^{\nu}R$	$+{}^{\nu}R$	$+{}^{\nu}E$	$+{}^{\nu}D$	$-{}^{\nu}V$	$-{}^{\nu}M$	$-{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}Y$	$+{}^{\nu}X$	$-{}^{\nu}U$	$-{}^{\nu}iQ$	$-{}^{\nu}iP$	$+{}^{\nu}iT$	$+{}^{\nu}iN$	$-{}^{\nu}iF$	$-{}^{\nu}iZ$	$-R$	$-E$	$-D$	$-V$	$-M$	$-L$	$-S$	$-Y$	$-X$	$-U$	$-iQ$	$-iP$	$-iT$	$-iN$	$-iF$	$-iZ$
${}^{\nu}D$	$+{}^{\nu}D$	$-{}^{\nu}T$	$+{}^{\nu}R$	$+{}^{\nu}Q$	$-{}^{\nu}U$	$+{}^{\nu}Z$	$+{}^{\nu}Y$	$+{}^{\nu}S$	$-{}^{\nu}N$	$-{}^{\nu}M$	$+{}^{\nu}iV$	$-{}^{\nu}iF$	$-{}^{\nu}iE$	$-{}^{\nu}iX$	$-{}^{\nu}iP$	$+{}^{\nu}iL$	$-D$	$-T$	$-R$	$-Q$	$-U$	$-Z$	$-Y$	$-S$	$-N$	$-M$	$-iV$	$-iF$	$-iE$	$-iX$	$-iP$	$-iL$
${}^{\nu}E$	$+{}^{\nu}E$	$+{}^{\nu}R$	$+{}^{\nu}T$	$+{}^{\nu}P$	$+{}^{\nu}Z$	$+{}^{\nu}U$	$+{}^{\nu}X$	$+{}^{\nu}N$	$+{}^{\nu}S$	$+{}^{\nu}L$	$+{}^{\nu}iF$	$+{}^{\nu}iV$	$+{}^{\nu}iD$	$+{}^{\nu}iY$	$+{}^{\nu}iQ$	$+{}^{\nu}iM$	$-E$	$-R$	$+T$	$-P$	$-Z$	$+U$	$-X$	$+N$	$-S$	$+L$	$+iF$	$-iV$	$+iD$	$+iY$	$+iQ$	$-iM$
${}^{\nu}F$	$+{}^{\nu}F$	$-{}^{\nu}Q$	$+{}^{\nu}P$	$-{}^{\nu}T$	$+{}^{\nu}Y$	$-{}^{\nu}X$	$+{}^{\nu}U$	$+{}^{\nu}M$	$-{}^{\nu}L$	$+{}^{\nu}S$	$-{}^{\nu}iE$	$+{}^{\nu}iD$	$-{}^{\nu}iV$	$-{}^{\nu}iZ$	$+{}^{\nu}iR$	$-{}^{\nu}iN$	$-F$	$+Q$	$-P$	$-T$	$-Y$	$+X$	$+U$	$+M$	$-L$	$-S$	$-iE$	$+iD$	$+iV$	$-iZ$	$+iR$	$+iN$
${}^{\nu}iL$	$+{}^{\nu}iL$	$-{}^{\nu}iU$	$+{}^{\nu}iZ$	$-{}^{\nu}iY$	$+{}^{\nu}iT$	$-{}^{\nu}iR$	$+{}^{\nu}iQ$	$+{}^{\nu}iV$	$-{}^{\nu}iF$	$+{}^{\nu}iE$	$+{}^{\nu}S$	$-{}^{\nu}N$	$+{}^{\nu}M$	$+{}^{\nu}P$	$-{}^{\nu}X$	$+{}^{\nu}D$	$-iL$	$+iU$	$+iZ$	$-iY$	$-iT$	$-iR$	$+iQ$	$-iV$	$-iF$	$+iE$	$-S$	$-N$	$+M$	$-P$	$+X$	$-D$
${}^{\nu}iM$	$+{}^{\nu}iM$	$+{}^{\nu}iZ$	$+{}^{\nu}iU$	$-{}^{\nu}iX$	$-{}^{\nu}iR$	$-{}^{\nu}iT$	$+{}^{\nu}iP$	$+{}^{\nu}iF$	$+{}^{\nu}iV$	$-{}^{\nu}iD$	$+{}^{\nu}N$	$+{}^{\nu}S$	$-{}^{\nu}L$	$-{}^{\nu}Q$	$+{}^{\nu}Y$	$+{}^{\nu}E$	$-iM$	$+iZ$	$-iU$	$-iX$	$-iR$	$+iT$	$+iP$	$+iF$	$-iV$	$-iD$	$+N$	$-S$	$-L$	$+Q$	$-Y$	$-E$
${}^{\nu}iN$	$+{}^{\nu}iN$	$-{}^{\nu}iY$	$+{}^{\nu}iX$	$+{}^{\nu}iU$	$-{}^{\nu}iQ$	$+{}^{\nu}iP$	$+{}^{\nu}iT$	$+{}^{\nu}iE$	$-{}^{\nu}iD$	$-{}^{\nu}iV$	$-{}^{\nu}M$	$+{}^{\nu}L$	$+{}^{\nu}S$	$+{}^{\nu}R$	$+{}^{\nu}Z$	$-{}^{\nu}F$	$-iN$	$-iY$	$+iX$	$-iU$	$-iQ$	$+iP$	$-iT$	$+iE$	$-iD$	$+iV$	$-M$	$+L$	$-S$	$-R$	$-Z$	$+F$
${}^{\nu}iT$	$+{}^{\nu}iT$	$-{}^{\nu}iD$	$+{}^{\nu}iE$	$-{}^{\nu}iF$	$+{}^{\nu}iL$	$-{}^{\nu}iM$	$+{}^{\nu}iN$	$+{}^{\nu}iX$	$-{}^{\nu}iY$	$+{}^{\nu}iZ$	$+{}^{\nu}P$	$-{}^{\nu}Q$	$+{}^{\nu}R$	$+{}^{\nu}S$	$-{}^{\nu}V$	$+{}^{\nu}U$	$-iT$	$-iD$	$+iE$	$-iF$	$-iL$	$+iM$	$-iN$	$+iX$	$-iY$	$+iZ$	$-P$	$+Q$	$-R$	$-S$	$-V$	$+U$
${}^{\nu}iU$	$+{}^{\nu}iU$	$-{}^{\nu}iL$	$+{}^{\nu}iM$	$+{}^{\nu}iN$	$-{}^{\nu}iD$	$+{}^{\nu}iE$	$+{}^{\nu}iF$	$+{}^{\nu}iP$	$-{}^{\nu}iQ$	$-{}^{\nu}iR$	$-{}^{\nu}X$	$+{}^{\nu}Y$	$+{}^{\nu}Z$	$+{}^{\nu}V$	$+{}^{\nu}S$	$-{}^{\nu}T$	$-iU$	$+iL$	$-iM$	$-iN$	$-iD$	$+iE$	$+iF$	$+iP$	$-iQ$	$-iR$	$+X$	$-Y$	$-Z$	$+V$	$-S$	$-T$
${}^{\nu}iV$	$+{}^{\nu}iV$	$+{}^{\nu}iP$	$+{}^{\nu}iQ$	$-{}^{\nu}iR$	$-{}^{\nu}iX$	$-{}^{\nu}iY$	$+{}^{\nu}iZ$	$+{}^{\nu}iL$	$+{}^{\nu}iM$	$-{}^{\nu}iN$	$+{}^{\nu}D$	$+{}^{\nu}E$	$-{}^{\nu}F$	$-{}^{\nu}U$	$+{}^{\nu}T$	$+{}^{\nu}S$	$-iV$	$+iP$	$+iQ$	$-iR$	$-iX$	$-iY$	$+iZ$	$-iL$	$-iM$	$+iN$	$-D$	$-E$	$+F$	$-U$	$+T$	$-S$
${}^{\mu}S$	$+{}^{\mu}S$	$+{}^{\mu}X$	$+{}^{\mu}Y$	$+{}^{\mu}Z$	$+{}^{\mu}P$	$+{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}D$	$+{}^{\mu}E$	$+{}^{\mu}F$	$+{}^{\mu}iL$	$+{}^{\mu}iM$	$+{}^{\mu}iN$	$+{}^{\mu}iT$	$+{}^{\mu}iU$	$+{}^{\mu}iV$	$-{}^{\lambda}S$	$-{}^{\lambda}X$	$-{}^{\lambda}Y$	$-{}^{\lambda}Z$	$-{}^{\lambda}P$	$-{}^{\lambda}Q$	$-{}^{\lambda}R$	$-{}^{\lambda}D$	$-{}^{\lambda}E$	$-{}^{\lambda}F$	$-{}^{\lambda}iL$	$-{}^{\lambda}iM$	$-{}^{\lambda}iN$	$-{}^{\lambda}iT$	$-{}^{\lambda}iU$	$-{}^{\lambda}iV$
${}^{\mu}X$	$+{}^{\mu}X$	$+{}^{\mu}S$	$+{}^{\mu}N$	$-{}^{\mu}M$	$-{}^{\mu}V$	$-{}^{\mu}F$	$+{}^{\mu}E$	$+{}^{\mu}T$	$+{}^{\mu}R$	$-{}^{\mu}Q$	$-{}^{\mu}iU$	$-{}^{\mu}iZ$	$+{}^{\mu}iY$	$+{}^{\mu}iD$	$-{}^{\mu}iL$	$-{}^{\mu}iP$	$-{}^{\lambda}X$	$-{}^{\lambda}S$	$+{}^{\lambda}N$	$-{}^{\lambda}M$	$-{}^{\lambda}V$	$+{}^{\lambda}F$	$-{}^{\lambda}E$	$+{}^{\lambda}T$	$-{}^{\lambda}R$	$+{}^{\lambda}Q$	$+{}^{\lambda}iU$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iY$	$+{}^{\lambda}iD$	$+{}^{\lambda}iL$	$-{}^{\lambda}iP$
${}^{\mu}Y$	$+{}^{\mu}Y$	$-{}^{\mu}N$	$+{}^{\mu}S$	$-{}^{\mu}L$	$+{}^{\mu}F$	$-{}^{\mu}V$	$+{}^{\mu}D$	$+{}^{\mu}R$	$-{}^{\mu}T$	$+{}^{\mu}P$	$-{}^{\mu}iZ$	$+{}^{\mu}iU$	$-{}^{\mu}iX$	$-{}^{\mu}iE$	$+{}^{\mu}iM$	$-{}^{\mu}iQ$	$-{}^{\lambda}Y$	$-{}^{\lambda}N$	$-{}^{\lambda}S$	$-{}^{\lambda}L$	$-{}^{\lambda}F$	$-{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}R$	$-{}^{\lambda}T$	$-{}^{\lambda}P$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iU$	$-{}^{\lambda}iX$	$-{}^{\lambda}iE$	$-{}^{\lambda}iM$	$-{}^{\lambda}iQ$
${}^{\mu}Z$	$+{}^{\mu}Z$	$+{}^{\mu}M$	$+{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}E$	$+{}^{\mu}D$	$+{}^{\mu}V$	$+{}^{\mu}Q$	$+{}^{\mu}P$	$+{}^{\mu}T$	$+{}^{\mu}iY$	$+{}^{\mu}iX$	$+{}^{\mu}iU$	$+{}^{\mu}iF$	$+{}^{\mu}iN$	$+{}^{\mu}iR$	$-{}^{\lambda}Z$	$+{}^{\lambda}M$	$+{}^{\lambda}L$	$-{}^{\lambda}S$	$-{}^{\lambda}E$	$-{}^{\lambda}D$	$+{}^{\lambda}V$	$-{}^{\lambda}Q$	$-{}^{\lambda}P$	$+{}^{\lambda}T$	$+{}^{\lambda}iY$	$+{}^{\lambda}iX$	$-{}^{\lambda}iU$	$+{}^{\lambda}iF$	$-{}^{\lambda}iN$	$+{}^{\lambda}iR$
${}^{\mu}P$	$+{}^{\mu}P$	$+{}^{\mu}V$	$+{}^{\mu}F$	$+{}^{\mu}E$	$+{}^{\mu}S$	$+{}^{\mu}N$	$+{}^{\mu}M$	$+{}^{\mu}U$	$+{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}iT$	$+{}^{\mu}iR$	$+{}^{\mu}iQ$	$+{}^{\mu}iL$	$+{}^{\mu}iD$	$+{}^{\mu}iX$	$-{}^{\lambda}P$	$+{}^{\lambda}V$	$-{}^{\lambda}F$	$-{}^{\lambda}E$	$-{}^{\lambda}S$	$+{}^{\lambda}N$	$+{}^{\lambda}M$	$+{}^{\lambda}U$	$-{}^{\lambda}Z$	$-{}^{\lambda}Y$	$-{}^{\lambda}iT$	$+{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iL$	$+{}^{\lambda}iD$	$+{}^{\lambda}iX$
${}^{\mu}Q$	$+{}^{\mu}Q$	$-{}^{\mu}F$	$+{}^{\mu}V$	$+{}^{\mu}D$	$-{}^{\mu}N$	$+{}^{\mu}S$	$+{}^{\mu}L$	$+{}^{\mu}Z$	$-{}^{\mu}U$	$-{}^{\mu}X$	$+{}^{\mu}iR$	$-{}^{\mu}iT$	$-{}^{\mu}iP$	$-{}^{\mu}iM$	$-{}^{\mu}iE$	$+{}^{\mu}iY$	$-{}^{\lambda}Q$	$+{}^{\lambda}F$	$+{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}N$	$-{}^{\lambda}S$	$+{}^{\lambda}L$	$-{}^{\lambda}Z$	$-{}^{\lambda}U$	$+{}^{\lambda}X$	$+{}^{\lambda}iR$	$+{}^{\lambda}iT$	$-{}^{\lambda}iP$	$+{}^{\lambda}iM$	$-{}^{\lambda}iE$	$+{}^{\lambda}iY$
${}^{\mu}R$	$+{}^{\mu}R$	$+{}^{\mu}E$	$+{}^{\mu}D$	$-{}^{\mu}V$	$-{}^{\mu}M$	$-{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}Y$	$+{}^{\mu}X$	$-{}^{\mu}U$	$-{}^{\mu}iQ$	$-{}^{\mu}iP$	$+{}^{\mu}iT$	$+{}^{\mu}iN$	$-{}^{\mu}iF$	$-{}^{\mu}iZ$	$-{}^{\lambda}R$	$-{}^{\lambda}E$	$-{}^{\lambda}D$	$-{}^{\lambda}V$	$-{}^{\lambda}M$	$-{}^{\lambda}L$	$-{}^{\lambda}S$	$-{}^{\lambda}Y$	$-{}^{\lambda}X$	$-{}^{\lambda}U$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iP$	$-{}^{\lambda}iT$	$-{}^{\lambda}iN$	$-{}^{\lambda}iF$	$-{}^{\lambda}iZ$
${}^{\mu}D$	$+{}^{\mu}D$	$-{}^{\mu}T$	$+{}^{\mu}R$	$+{}^{\mu}Q$	$-{}^{\mu}U$	$+{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}S$	$-{}^{\mu}N$	$-{}^{\mu}M$	$+{}^{\mu}iV$	$-{}^{\mu}iF$	$-{}^{\mu}iE$	$-{}^{\mu}iX$	$-{}^{\mu}iP$	$+{}^{\mu}iL$	$-{}^{\lambda}D$	$-{}^{\lambda}T$	$-{}^{\lambda}R$	$-{}^{\lambda}Q$	$-{}^{\lambda}U$	$-{}^{\lambda}Z$	$-{}^{\lambda}Y$	$-{}^{\lambda}S$	$-{}^{\lambda}N$	$-{}^{\lambda}M$	$-{}^{\lambda}iV$	$-{}^{\lambda}iF$	$-{}^{\lambda}iE$	$-{}^{\lambda}iX$	$-{}^{\lambda}iP$	$-{}^{\lambda}iL$
${}^{\mu}E$	$+{}^{\mu}E$	$+{}^{\mu}R$	$+{}^{\mu}T$	$+{}^{\mu}P$	$+{}^{\mu}Z$	$+{}^{\mu}U$	$+{}^{\mu}X$	$+{}^{\mu}N$	$+{}^{\mu}S$	$+{}^{\mu}L$	$+{}^{\mu}iF$	$+{}^{\mu}iV$	$+{}^{\mu}iD$	$+{}^{\mu}iY$	$+{}^{\mu}iQ$	$+{}^{\mu}iM$	$-{}^{\lambda}E$	$-{}^{\lambda}R$	$+{}^{\lambda}T$	$-{}^{\lambda}P$	$-{}^{\lambda}Z$	$+{}^{\lambda}U$	$-{}^{\lambda}X$	$+{}^{\lambda}N$	$-{}^{\lambda}S$	$+{}^{\lambda}L$	$+{}^{\lambda}iF$	$-{}^{\lambda}iV$	$+{}^{\lambda}iD$	$+{}^{\lambda}iY$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iM$
${}^{\mu}F$	$+{}^{\mu}F$	$-{}^{\mu}Q$	$+{}^{\mu}P$	$-{}^{\mu}T$	$+{}^{\mu}Y$	$-{}^{\mu}X$	$+{}^{\mu}U$	$+{}^{\mu}M$	$-{}^{\mu}L$	$+{}^{\mu}S$	$-{}^{\mu}iE$	$+{}^{\mu}iD$	$-{}^{\mu}iV$	$-{}^{\mu}iZ$	$+{}^{\mu}iR$	$-{}^{\mu}iN$	$-{}^{\lambda}F$	$+{}^{\lambda}Q$	$-{}^{\lambda}P$	$-{}^{\lambda}T$	$-{}^{\lambda}Y$	$+{}^{\lambda}X$	$+{}^{\lambda}U$	$+{}^{\lambda}M$	$-{}^{\lambda}L$	$-{}^{\lambda}S$	$-{}^{\lambda}iE$	$+{}^{\lambda}iD$	$+{}^{\lambda}iV$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iR$	$+{}^{\lambda}iN$
${}^{\mu}iL$	$+{}^{\mu}iL$	$-{}^{\mu}iU$	$+{}^{\mu}iZ$	$-{}^{\mu}iY$	$+{}^{\mu}iT$	$-{}^{\mu}iR$	$+{}^{\mu}iQ$	$+{}^{\mu}iV$	$-{}^{\mu}iF$	$+{}^{\mu}iE$	$+{}^{\mu}S$	$-{}^{\mu}N$	$+{}^{\mu}M$	$+{}^{\mu}P$	$-{}^{\mu}X$	$+{}^{\mu}D$	$-{}^{\lambda}iL$	$+{}^{\lambda}iU$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iY$	$-{}^{\lambda}iT$	$-{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iV$	$-{}^{\lambda}iF$	$+{}^{\lambda}iE$	$-{}^{\lambda}S$	$-{}^{\lambda}N$	$+{}^{\lambda}M$	$-{}^{\lambda}P$	$+{}^{\lambda}X$	$-{}^{\lambda}D$
${}^{\mu}iM$	$+{}^{\mu}iM$	$+{}^{\mu}iZ$	$+{}^{\mu}iU$	$-{}^{\mu}iX$	$-{}^{\mu}iR$	$-{}^{\mu}iT$	$+{}^{\mu}iP$	$+{}^{\mu}iF$	$+{}^{\mu}iV$	$-{}^{\mu}iD$	$+{}^{\mu}N$	$+{}^{\mu}S$	$-{}^{\mu}L$	$-{}^{\mu}Q$	$+{}^{\mu}Y$	$+{}^{\mu}E$	$-{}^{\lambda}iM$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iU$	$-{}^{\lambda}iX$	$-{}^{\lambda}iR$	$+{}^{\lambda}iT$	$+{}^{\lambda}iP$	$+{}^{\lambda}iF$	$-{}^{\lambda}iV$	$-{}^{\lambda}iD$	$+{}^{\lambda}N$	$-{}^{\lambda}S$	$-{}^{\lambda}L$	$+{}^{\lambda}Q$	$-{}^{\lambda}Y$	$-{}^{\lambda}E$
${}^{\mu}iN$	$+{}^{\mu}iN$	$-{}^{\mu}iY$	$+{}^{\mu}iX$	$+{}^{\mu}iU$	$-{}^{\mu}iQ$	$+{}^{\mu}iP$	$+{}^{\mu}iT$	$+{}^{\mu}iE$	$-{}^{\mu}iD$	$-{}^{\mu}iV$	$-{}^{\mu}M$	$+{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}R$	$+{}^{\mu}Z$	$-{}^{\mu}F$	$-{}^{\lambda}iN$	$-{}^{\lambda}iY$	$+{}^{\lambda}iX$	$-{}^{\lambda}iU$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iP$	$-{}^{\lambda}iT$	$+{}^{\lambda}iE$	$-{}^{\lambda}iD$	$+{}^{\lambda}iV$	$-{}^{\lambda}M$	$+{}^{\lambda}L$	$-{}^{\lambda}S$	$-{}^{\lambda}R$	$-{}^{\lambda}Z$	$+{}^{\lambda}F$
${}^{\mu}iT$	$+{}^{\mu}iT$	$-{}^{\mu}iD$	$+{}^{\mu}iE$	$-{}^{\mu}iF$	$+{}^{\mu}iL$	$-{}^{\mu}iM$	$+{}^{\mu}iN$	$+{}^{\mu}iX$	$-{}^{\mu}iY$	$+{}^{\mu}iZ$	$+{}^{\mu}P$	$-{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}S$	$-{}^{\mu}V$	$+{}^{\mu}U$	$-{}^{\lambda}iT$	$-{}^{\lambda}iD$	$+{}^{\lambda}iE$	$-{}^{\lambda}iF$	$-{}^{\lambda}iL$	$+{}^{\lambda}iM$	$-{}^{\lambda}iN$	$+{}^{\lambda}iX$	$-{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$-{}^{\lambda}P$	$+{}^{\lambda}Q$	$-{}^{\lambda}R$	$-{}^{\lambda}S$	$-{}^{\lambda}V$	$+{}^{\lambda}U$
${}^{\mu}iU$	$+{}^{\mu}iU$	$-{}^{\mu}iL$	$+{}^{\mu}iM$	$+{}^{\mu}iN$	$-{}^{\mu}iD$	$+{}^{\mu}iE$	$+{}^{\mu}iF$	$+{}^{\mu}iP$	$-{}^{\mu}iQ$	$-{}^{\mu}iR$	$-{}^{\mu}X$	$+{}^{\mu}Y$	$+{}^{\mu}Z$	$+{}^{\mu}V$	$+{}^{\mu}S$	$-{}^{\mu}T$	$-{}^{\lambda}iU$	$+{}^{\lambda}iL$	$-{}^{\lambda}iM$	$-{}^{\lambda}iN$	$-{}^{\lambda}iD$	$+{}^{\lambda}iE$	$+{}^{\lambda}iF$	$+{}^{\lambda}iP$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$+{}^{\lambda}X$	$-{}^{\lambda}Y$	$-{}^{\lambda}Z$	$+{}^{\lambda}V$	$-{}^{\lambda}S$	$-{}^{\lambda}T$
${}^{\mu}iV$	$+{}^{\mu}iV$	$+{}^{\mu}iP$	$+{}^{\mu}iQ$	$-{}^{\mu}iR$	$-{}^{\mu}iX$	$-{}^{\mu}iY$	$+{}^{\mu}iZ$	$+{}^{\mu}iL$	$+{}^{\mu}iM$	$-{}^{\mu}iN$	$+{}^{\mu}D$	$+{}^{\mu}E$	$-{}^{\mu}F$	$-{}^{\mu}U$	$+{}^{\mu}T$	$+{}^{\mu}S$	$-{}^{\lambda}iV$	$+{}^{\lambda}iP$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$-{}^{\lambda}iX$	$-{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iL$	$-{}^{\lambda}iM$	$+{}^{\lambda}iN$	$-{}^{\lambda}D$	$-{}^{\lambda}E$	$+{}^{\lambda}F$	$-{}^{\lambda}U$	$+{}^{\lambda}T$	$-{}^{\lambda}S$
${}^{\lambda}S$	$+{}^{\lambda}S$	$+{}^{\lambda}X$	$+{}^{\lambda}Y$	$+{}^{\lambda}Z$	$+{}^{\lambda}P$	$+{}^{\lambda}Q$	$+{}^{\lambda}R$	$+{}^{\lambda}D$	$+{}^{\lambda}E$	$+{}^{\lambda}F$	$+{}^{\lambda}iL$	$+{}^{\lambda}iM$	$+{}^{\lambda}iN$	$+{}^{\lambda}iT$	$+{}^{\lambda}iU$	$+{}^{\lambda}iV$	$+{}^{\mu}S$	$+{}^{\mu}X$	$+{}^{\mu}Y$	$+{}^{\mu}Z$	$+{}^{\mu}P$	$+{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}D$	$+{}^{\mu}E$	$+{}^{\mu}F$	$+{}^{\mu}iL$	$+{}^{\mu}iM$	$+{}^{\mu}iN$	$+{}^{\mu}iT$	$+{}^{\mu}iU$	$+{}^{\mu}iV$
${}^{\lambda}X$	$+{}^{\lambda}X$	$+{}^{\lambda}S$	$+{}^{\lambda}N$	$-{}^{\lambda}M$	$-{}^{\lambda}V$	$-{}^{\lambda}F$	$+{}^{\lambda}E$	$+{}^{\lambda}T$	$+{}^{\lambda}R$	$-{}^{\lambda}Q$	$-{}^{\lambda}iU$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iY$	$+{}^{\lambda}iD$	$-{}^{\lambda}iL$	$-{}^{\lambda}iP$	$+{}^{\mu}X$	$+{}^{\mu}S$	$-{}^{\mu}N$	$+{}^{\mu}M$	$+{}^{\mu}V$	$-{}^{\mu}F$	$+{}^{\mu}E$	$-{}^{\mu}T$	$+{}^{\mu}R$	$-{}^{\mu}Q$	$-{}^{\mu}iU$	$+{}^{\mu}iZ$	$-{}^{\mu}iY$	$-{}^{\mu}iD$	$-{}^{\mu}iL$	$+{}^{\mu}iP$
${}^{\lambda}Y$	$+{}^{\lambda}Y$	$-{}^{\lambda}N$	$+{}^{\lambda}S$	$-{}^{\lambda}L$	$+{}^{\lambda}F$	$-{}^{\lambda}V$	$+{}^{\lambda}D$	$+{}^{\lambda}R$	$-{}^{\lambda}T$	$+{}^{\lambda}P$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iU$	$-{}^{\lambda}iX$	$-{}^{\lambda}iE$	$+{}^{\lambda}iM$	$-{}^{\lambda}iQ$	$+{}^{\mu}Y$	$+{}^{\mu}N$	$+{}^{\mu}S$	$+{}^{\mu}L$	$+{}^{\mu}F$	$+{}^{\mu}V$	$+{}^{\mu}D$	$+{}^{\mu}R$	$+{}^{\mu}T$	$+{}^{\mu}P$	$+{}^{\mu}iZ$	$+{}^{\mu}iU$	$+{}^{\mu}iX$	$+{}^{\mu}iE$	$+{}^{\mu}iM$	$+{}^{\mu}iQ$
${}^{\lambda}Z$	$+{}^{\lambda}Z$	$+{}^{\lambda}M$	$+{}^{\lambda}L$	$+{}^{\lambda}S$	$+{}^{\lambda}E$	$+{}^{\lambda}D$	$+{}^{\lambda}V$	$+{}^{\lambda}Q$	$+{}^{\lambda}P$	$+{}^{\lambda}T$	$+{}^{\lambda}iY$	$+{}^{\lambda}iX$	$+{}^{\lambda}iU$	$+{}^{\lambda}iF$	$+{}^{\lambda}iN$	$+{}^{\lambda}iR$	$+{}^{\mu}Z$	$-{}^{\mu}M$	$-{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}E$	$+{}^{\mu}D$	$-{}^{\mu}V$	$+{}^{\mu}Q$	$+{}^{\mu}P$	$-{}^{\mu}T$	$-{}^{\mu}iY$	$-{}^{\mu}iX$	$+{}^{\mu}iU$	$-{}^{\mu}iF$	$+{}^{\mu}iN$	$-{}^{\mu}iR$
${}^{\lambda}P$	$+{}^{\lambda}P$	$+{}^{\lambda}V$	$+{}^{\lambda}F$	$+{}^{\lambda}E$	$+{}^{\lambda}S$	$+{}^{\lambda}N$	$+{}^{\lambda}M$	$+{}^{\lambda}U$	$+{}^{\lambda}Z$	$+{}^{\lambda}Y$	$+{}^{\lambda}iT$	$+{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$+{}^{\lambda}iL$	$+{}^{\lambda}iD$	$+{}^{\lambda}iX$	$+{}^{\mu}P$	$-{}^{\mu}V$	$+{}^{\mu}F$	$+{}^{\mu}E$	$+{}^{\mu}S$	$-{}^{\mu}N$	$-{}^{\mu}M$	$-{}^{\mu}U$	$+{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}iT$	$-{}^{\mu}iR$	$-{}^{\mu}iQ$	$+{}^{\mu}iL$	$-{}^{\mu}iD$	$-{}^{\mu}iX$
${}^{\lambda}Q$	$+{}^{\lambda}Q$	$-{}^{\lambda}F$	$+{}^{\lambda}V$	$+{}^{\lambda}D$	$-{}^{\lambda}N$	$+{}^{\lambda}S$	$+{}^{\lambda}L$	$+{}^{\lambda}Z$	$-{}^{\lambda}U$	$-{}^{\lambda}X$	$+{}^{\lambda}iR$	$-{}^{\lambda}iT$	$-{}^{\lambda}iP$	$-{}^{\lambda}iM$	$-{}^{\lambda}iE$	$+{}^{\lambda}iY$	$+{}^{\mu}Q$	$-{}^{\mu}F$	$-{}^{\mu}V$	$+{}^{\mu}D$	$+{}^{\mu}N$	$+{}^{\mu}S$	$-{}^{\mu}L$	$+{}^{\mu}Z$	$+{}^{\mu}U$	$-{}^{\mu}X$	$-{}^{\mu}iR$	$-{}^{\mu}iT$	$+{}^{\mu}iP$	$-{}^{\mu}iM$	$+{}^{\mu}iE$	$-{}^{\mu}iY$
${}^{\lambda}R$	$+{}^{\lambda}R$	$+{}^{\lambda}E$	$+{}^{\lambda}D$	$-{}^{\lambda}V$	$-{}^{\lambda}M$	$-{}^{\lambda}L$	$+{}^{\lambda}S$	$+{}^{\lambda}Y$	$+{}^{\lambda}X$	$-{}^{\lambda}U$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iP$	$+{}^{\lambda}iT$	$+{}^{\lambda}iN$	$-{}^{\lambda}iF$	$-{}^{\lambda}iZ$	$+{}^{\mu}R$	$+{}^{\mu}E$	$+{}^{\mu}D$	$+{}^{\mu}V$	$+{}^{\mu}M$	$+{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}Y$	$+{}^{\mu}X$	$+{}^{\mu}U$	$+{}^{\mu}iQ$	$+{}^{\mu}iP$	$+{}^{\mu}iT$	$+{}^{\mu}iN$	$+{}^{\mu}iF$	$+{}^{\mu}iZ$
${}^{\lambda}D$	$+{}^{\lambda}D$	$-{}^{\lambda}T$	$+{}^{\lambda}R$	$+{}^{\lambda}Q$	$-{}^{\lambda}U$	$+{}^{\lambda}Z$	$+{}^{\lambda}Y$	$+{}^{\lambda}S$	$-{}^{\lambda}N$	$-{}^{\lambda}M$	$+{}^{\lambda}iV$	$-{}^{\lambda}iF$	$-{}^{\lambda}iE$	$-{}^{\lambda}iX$	$-{}^{\lambda}iP$	$+{}^{\lambda}iL$	$+{}^{\mu}D$	$+{}^{\mu}T$	$+{}^{\mu}R$	$+{}^{\mu}Q$	$+{}^{\mu}U$	$+{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}S$	$+{}^{\mu}N$	$+{}^{\mu}M$	$+{}^{\mu}iV$	$+{}^{\mu}iF$	$+{}^{\mu}iE$	$+{}^{\mu}iX$	$+{}^{\mu}iP$	$+{}^{\mu}iL$
${}^{\lambda}E$	$+{}^{\lambda}E$	$+{}^{\lambda}R$	$+{}^{\lambda}T$	$+{}^{\lambda}P$	$+{}^{\lambda}Z$	$+{}^{\lambda}U$	$+{}^{\lambda}X$	$+{}^{\lambda}N$	$+{}^{\lambda}S$	$+{}^{\lambda}L$	$+{}^{\lambda}iF$	$+{}^{\lambda}iV$	$+{}^{\lambda}iD$	$+{}^{\lambda}iY$	$+{}^{\lambda}iQ$	$+{}^{\lambda}iM$	$+{}^{\mu}E$	$+{}^{\mu}R$	$-{}^{\mu}T$	$+{}^{\mu}P$	$+{}^{\mu}Z$	$-{}^{\mu}U$	$+{}^{\mu}X$	$-{}^{\mu}N$	$+{}^{\mu}S$	$-{}^{\mu}L$	$-{}^{\mu}iF$	$+{}^{\mu}iV$	$-{}^{\mu}iD$	$-{}^{\mu}iY$	$-{}^{\mu}iQ$	$+{}^{\mu}iM$
${}^{\lambda}F$	$+{}^{\lambda}F$	$-{}^{\lambda}Q$	$+{}^{\lambda}P$	$-{}^{\lambda}T$	$+{}^{\lambda}Y$	$-{}^{\lambda}X$	$+{}^{\lambda}U$	$+{}^{\lambda}M$	$-{}^{\lambda}L$	$+{}^{\lambda}S$	$-{}^{\lambda}iE$	$+{}^{\lambda}iD$	$-{}^{\lambda}iV$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iR$	$-{}^{\lambda}iN$	$+{}^{\mu}F$	$-{}^{\mu}Q$	$+{}^{\mu}P$	$+{}^{\mu}T$	$+{}^{\mu}Y$	$-{}^{\mu}X$	$-{}^{\mu}U$	$-{}^{\mu}M$	$+{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}iE$	$-{}^{\mu}iD$	$-{}^{\mu}iV$	$+{}^{\mu}iZ$	$-{}^{\mu}iR$	$-{}^{\mu}iN$
${}^{\lambda}iL$	$+{}^{\lambda}iL$	$-{}^{\lambda}iU$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iY$	$+{}^{\lambda}iT$	$-{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$+{}^{\lambda}iV$	$-{}^{\lambda}iF$	$+{}^{\lambda}iE$	$+{}^{\lambda}S$	$-{}^{\lambda}N$	$+{}^{\lambda}M$	$+{}^{\lambda}P$	$-{}^{\lambda}X$	$+{}^{\lambda}D$	$+{}^{\mu}iL$	$-{}^{\mu}iU$	$-{}^{\mu}iZ$	$+{}^{\mu}iY$	$+{}^{\mu}iT$	$+{}^{\mu}iR$	$-{}^{\mu}iQ$	$+{}^{\mu}iV$	$+{}^{\mu}iF$	$-{}^{\mu}iE$	$+{}^{\mu}S$	$+{}^{\mu}N$	$-{}^{\mu}M$	$+{}^{\mu}P$	$-{}^{\mu}X$	$+{}^{\mu}D$
${}^{\lambda}iM$	$+{}^{\lambda}iM$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iU$	$-{}^{\lambda}iX$	$-{}^{\lambda}iR$	$-{}^{\lambda}iT$	$+{}^{\lambda}iP$	$+{}^{\lambda}iF$	$+{}^{\lambda}iV$	$-{}^{\lambda}iD$	$+{}^{\lambda}N$	$+{}^{\lambda}S$	$-{}^{\lambda}L$	$-{}^{\lambda}Q$	$+{}^{\lambda}Y$	$+{}^{\lambda}E$	$+{}^{\mu}iM$	$-{}^{\mu}iZ$	$+{}^{\mu}iU$	$+{}^{\mu}iX$	$+{}^{\mu}iR$	$-{}^{\mu}iT$	$-{}^{\mu}iP$	$-{}^{\mu}iF$	$+{}^{\mu}iV$	$+{}^{\mu}iD$	$-{}^{\mu}N$	$+{}^{\mu}S$	$+{}^{\mu}L$	$-{}^{\mu}Q$	$+{}^{\mu}Y$	$+{}^{\mu}E$
${}^{\lambda}iN$	$+{}^{\lambda}iN$	$-{}^{\lambda}iY$	$+{}^{\lambda}iX$	$+{}^{\lambda}iU$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iP$	$+{}^{\lambda}iT$	$+{}^{\lambda}iE$	$-{}^{\lambda}iD$	$-{}^{\lambda}iV$	$-{}^{\lambda}M$	$+{}^{\lambda}L$	$+{}^{\lambda}S$	$+{}^{\lambda}R$	$+{}^{\lambda}Z$	$-{}^{\lambda}F$	$+{}^{\mu}iN$	$+{}^{\mu}iY$	$-{}^{\mu}iX$	$+{}^{\mu}iU$	$+{}^{\mu}iQ$	$-{}^{\mu}iP$	$+{}^{\mu}iT$	$-{}^{\mu}iE$	$+{}^{\mu}iD$	$-{}^{\mu}iV$	$+{}^{\mu}M$	$-{}^{\mu}L$	$+{}^{\mu}S$	$+{}^{\mu}R$	$+{}^{\mu}Z$	$-{}^{\mu}F$
${}^{\lambda}iT$	$+{}^{\lambda}iT$	$-{}^{\lambda}iD$	$+{}^{\lambda}iE$	$-{}^{\lambda}iF$	$+{}^{\lambda}iL$	$-{}^{\lambda}iM$	$+{}^{\lambda}iN$	$+{}^{\lambda}iX$	$-{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$+{}^{\lambda}P$	$-{}^{\lambda}Q$	$+{}^{\lambda}R$	$+{}^{\lambda}S$	$-{}^{\lambda}V$	$+{}^{\lambda}U$	$+{}^{\mu}iT$	$+{}^{\mu}iD$	$-{}^{\mu}iE$	$+{}^{\mu}iF$	$+{}^{\mu}iL$	$-{}^{\mu}iM$	$+{}^{\mu}iN$	$-{}^{\mu}iX$	$+{}^{\mu}iY$	$-{}^{\mu}iZ$	$+{}^{\mu}P$	$-{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}S$	$+{}^{\mu}V$	$-{}^{\mu}U$
${}^{\lambda}iU$	$+{}^{\lambda}iU$	$-{}^{\lambda}iL$	$+{}^{\lambda}iM$	$+{}^{\lambda}iN$	$-{}^{\lambda}iD$	$+{}^{\lambda}iE$	$+{}^{\lambda}iF$	$+{}^{\lambda}iP$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$-{}^{\lambda}X$	$+{}^{\lambda}Y$	$+{}^{\lambda}Z$	$+{}^{\lambda}V$	$+{}^{\lambda}S$	$-{}^{\lambda}T$	$+{}^{\mu}iU$	$-{}^{\mu}iL$	$+{}^{\mu}iM$	$+{}^{\mu}iN$	$+{}^{\mu}iD$	$-{}^{\mu}iE$	$-{}^{\mu}iF$	$-{}^{\mu}iP$	$+{}^{\mu}iQ$	$+{}^{\mu}iR$	$-{}^{\mu}X$	$+{}^{\mu}Y$	$+{}^{\mu}Z$	$-{}^{\mu}V$	$+{}^{\mu}S$	$+{}^{\mu}T$
${}^{\lambda}iV$	$+{}^{\lambda}iV$	$+{}^{\lambda}iP$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$-{}^{\lambda}iX$	$-{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iL$	$+{}^{\lambda}iM$	$-{}^{\lambda}iN$	$+{}^{\lambda}D$	$+{}^{\lambda}E$	$-{}^{\lambda}F$	$-{}^{\lambda}U$	$+{}^{\lambda}T$	$+{}^{\lambda}S$	$+{}^{\mu}iV$	$-{}^{\mu}iP$	$-{}^{\mu}iQ$	$+{}^{\mu}iR$	$+{}^{\mu}iX$	$+{}^{\mu}iY$	$-{}^{\mu}iZ$	$+{}^{\mu}iL$	$+{}^{\mu}iM$	$-{}^{\mu}iN$	$+{}^{\mu}D$	$+{}^{\mu}E$	$-{}^{\mu}F$	$+{}^{\mu}U$	$-{}^{\mu}T$	$+{}^{\mu}S$

TABLE 34. $Ka^2(1,4)$ multiplication table, part A2

	S	X	Y	Z	P	Q	R	D	E	F	iL	iM	iN	iT	iU	iV	${}^\nu S$	${}^\nu X$	${}^\nu Y$	${}^\nu Z$	${}^\nu P$	${}^\nu Q$	${}^\nu R$	${}^\nu D$	${}^\nu E$	${}^\nu F$	${}^\nu iL$	${}^\nu iM$	${}^\nu iN$	${}^\nu iT$	${}^\nu iU$	${}^\nu iV$
iS	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$-L$	$-M$	$-N$	$-T$	$-U$	$-V$	$+{}^\nu iS$	$+{}^\nu iX$	$+{}^\nu iY$	$+{}^\nu iZ$	$+{}^\nu iP$	$+{}^\nu iQ$	$+{}^\nu iR$	$+{}^\nu iD$	$+{}^\nu iE$	$+{}^\nu iF$	$-{}^\nu L$	$-{}^\nu M$	$-{}^\nu N$	$-{}^\nu T$	$-{}^\nu U$	$-{}^\nu V$
iX	$+iX$	$+iS$	$+iN$	$-iM$	$-iV$	$-iF$	$+iE$	$+iT$	$+iR$	$-iQ$	$+U$	$+Z$	$-Y$	$-D$	$+L$	$+P$	$+{}^\nu iX$	$+{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu iV$	$-{}^\nu iF$	$+{}^\nu iE$	$-{}^\nu iT$	$+{}^\nu iR$	$-{}^\nu iQ$	$+{}^\nu U$	$-{}^\nu Z$	$+{}^\nu Y$	$+{}^\nu D$	$+{}^\nu L$	$-{}^\nu P$
iY	$+iY$	$-iN$	$+iS$	$-iL$	$+iF$	$-iV$	$+iD$	$+iR$	$-iT$	$+iP$	$+Z$	$-U$	$+X$	$+E$	$-M$	$+Q$	$+{}^\nu iY$	$+{}^\nu iN$	$+{}^\nu iS$	$+{}^\nu iL$	$+{}^\nu iF$	$+{}^\nu iV$	$+{}^\nu iD$	$+{}^\nu iR$	$+{}^\nu iT$	$+{}^\nu iP$	$-{}^\nu Z$	$-{}^\nu U$	$-{}^\nu X$	$-{}^\nu E$	$-{}^\nu M$	$-{}^\nu Q$
iZ	$+iZ$	$+iM$	$+iL$	$+iS$	$+iE$	$+iD$	$+iV$	$+iQ$	$+iP$	$+iT$	$-Y$	$-X$	$-U$	$-F$	$-N$	$-R$	$+{}^\nu iZ$	$-{}^\nu iM$	$-{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iE$	$+{}^\nu iD$	$-{}^\nu iV$	$+{}^\nu iQ$	$+{}^\nu iP$	$-{}^\nu iT$	$+{}^\nu Y$	$+{}^\nu X$	$-{}^\nu U$	$+{}^\nu F$	$-{}^\nu N$	$+{}^\nu R$
iP	$+iP$	$+iV$	$+iF$	$+iE$	$+iS$	$+iN$	$+iM$	$+iU$	$+iZ$	$+iY$	$-T$	$-R$	$-Q$	$-L$	$-D$	$-X$	$+{}^\nu iP$	$-{}^\nu iV$	$+{}^\nu iF$	$+{}^\nu iE$	$+{}^\nu iS$	$-{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$-{}^\nu T$	$+{}^\nu R$	$+{}^\nu Q$	$-{}^\nu L$	$+{}^\nu D$	$+{}^\nu X$
iQ	$+iQ$	$-iF$	$+iV$	$+iD$	$-iN$	$+iS$	$+iL$	$+iZ$	$-iU$	$-iX$	$-R$	$+T$	$+P$	$+M$	$+E$	$-Y$	$+{}^\nu iQ$	$-{}^\nu iF$	$-{}^\nu iV$	$+{}^\nu iD$	$+{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu iZ$	$+{}^\nu iU$	$-{}^\nu iX$	$+{}^\nu R$	$+{}^\nu T$	$-{}^\nu P$	$+{}^\nu M$	$-{}^\nu E$	$+{}^\nu Y$
iR	$+iR$	$+iE$	$+iD$	$-iV$	$-iM$	$-iL$	$+iS$	$+iY$	$+iX$	$-iU$	$+Q$	$+P$	$-T$	$-N$	$+F$	$+Z$	$+{}^\nu iR$	$+{}^\nu iE$	$+{}^\nu iD$	$+{}^\nu iV$	$+{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iY$	$+{}^\nu iX$	$+{}^\nu iU$	$-{}^\nu Q$	$-{}^\nu P$	$-{}^\nu T$	$-{}^\nu N$	$-{}^\nu F$	$-{}^\nu Z$
iD	$+iD$	$-iT$	$+iR$	$+iQ$	$-iU$	$+iZ$	$+iY$	$+iS$	$-iN$	$-iM$	$-V$	$+F$	$+E$	$+X$	$+P$	$-L$	$+{}^\nu iD$	$+{}^\nu iT$	$+{}^\nu iR$	$+{}^\nu iQ$	$+{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$+{}^\nu iS$	$+{}^\nu iN$	$+{}^\nu iM$	$-{}^\nu V$	$-{}^\nu F$	$-{}^\nu E$	$-{}^\nu X$	$-{}^\nu P$	$-{}^\nu L$
iE	$+iE$	$+iR$	$+iT$	$+iP$	$+iZ$	$+iU$	$+iX$	$+iN$	$+iS$	$+iL$	$-F$	$-V$	$-D$	$-Y$	$-Q$	$-M$	$+{}^\nu iE$	$+{}^\nu iR$	$-{}^\nu iT$	$+{}^\nu iP$	$+{}^\nu iZ$	$-{}^\nu iU$	$+{}^\nu iX$	$-{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu F$	$-{}^\nu V$	$+{}^\nu D$	$+{}^\nu Y$	$+{}^\nu Q$	$-{}^\nu M$
iF	$+iF$	$-iQ$	$+iP$	$-iT$	$+iY$	$-iX$	$+iU$	$+iM$	$-iL$	$+iS$	$+E$	$-D$	$+V$	$+Z$	$-R$	$+N$	$+{}^\nu iF$	$-{}^\nu iQ$	$+{}^\nu iP$	$+{}^\nu iT$	$+{}^\nu iY$	$-{}^\nu iX$	$-{}^\nu iU$	$-{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$-{}^\nu E$	$+{}^\nu D$	$+{}^\nu V$	$-{}^\nu Z$	$+{}^\nu R$	$+{}^\nu N$
L	$+L$	$-U$	$+Z$	$-Y$	$+T$	$-R$	$+Q$	$+V$	$-F$	$+E$	$-iS$	$+iN$	$-iM$	$-iP$	$+iX$	$-iD$	$+{}^\nu L$	$-{}^\nu U$	$-{}^\nu Z$	$+{}^\nu Y$	$+{}^\nu T$	$+{}^\nu R$	$-{}^\nu Q$	$+{}^\nu V$	$+{}^\nu F$	$-{}^\nu E$	$-{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$-{}^\nu iP$	$+{}^\nu iX$	$-{}^\nu iD$
M	$+M$	$+Z$	$+U$	$-X$	$-R$	$-T$	$+P$	$+F$	$+V$	$-D$	$-iN$	$-iS$	$+iL$	$+iQ$	$-iY$	$-iE$	$+{}^\nu M$	$-{}^\nu Z$	$+{}^\nu U$	$+{}^\nu X$	$+{}^\nu R$	$-{}^\nu T$	$-{}^\nu P$	$-{}^\nu F$	$+{}^\nu V$	$+{}^\nu D$	$+{}^\nu iN$	$-{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu iQ$	$-{}^\nu iY$	$-{}^\nu iE$
N	$+N$	$-Y$	$+X$	$+U$	$-Q$	$+P$	$+T$	$+E$	$-D$	$-V$	$+iM$	$-iL$	$-iS$	$-iR$	$-iZ$	$+iF$	$+{}^\nu N$	$+{}^\nu Y$	$-{}^\nu X$	$+{}^\nu U$	$+{}^\nu Q$	$-{}^\nu P$	$+{}^\nu T$	$-{}^\nu E$	$+{}^\nu D$	$-{}^\nu V$	$-{}^\nu iM$	$+{}^\nu iL$	$-{}^\nu iS$	$-{}^\nu iR$	$-{}^\nu iZ$	$+{}^\nu iF$
T	$+T$	$-D$	$+E$	$-F$	$+L$	$-M$	$+N$	$+X$	$-Y$	$+Z$	$-iP$	$+iQ$	$-iR$	$-iS$	$+iV$	$-iU$	$+{}^\nu T$	$+{}^\nu D$	$-{}^\nu E$	$+{}^\nu F$	$+{}^\nu L$	$-{}^\nu M$	$+{}^\nu N$	$-{}^\nu X$	$+{}^\nu Y$	$-{}^\nu Z$	$-{}^\nu iP$	$+{}^\nu iQ$	$-{}^\nu iR$	$-{}^\nu iS$	$-{}^\nu iV$	$+{}^\nu iU$
U	$+U$	$-L$	$+M$	$+N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$+iX$	$-iY$	$-iZ$	$-iV$	$-iS$	$+iT$	$+{}^\nu U$	$-{}^\nu L$	$+{}^\nu M$	$+{}^\nu N$	$+{}^\nu D$	$-{}^\nu E$	$-{}^\nu F$	$-{}^\nu P$	$+{}^\nu Q$	$+{}^\nu R$	$+{}^\nu iX$	$-{}^\nu iY$	$-{}^\nu iZ$	$+{}^\nu iV$	$-{}^\nu iS$	$-{}^\nu iT$
V	$+V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$+L$	$+M$	$-N$	$-iD$	$-iE$	$+iF$	$+iU$	$-iT$	$-iS$	$+{}^\nu V$	$-{}^\nu P$	$-{}^\nu Q$	$+{}^\nu R$	$+{}^\nu X$	$+{}^\nu Y$	$-{}^\nu Z$	$+{}^\nu L$	$+{}^\nu M$	$-{}^\nu N$	$-{}^\nu iD$	$-{}^\nu iE$	$+{}^\nu iF$	$-{}^\nu iU$	$+{}^\nu iT$	$-{}^\nu iS$
${}^\nu iS$	$+{}^\nu iS$	$+{}^\nu iX$	$+{}^\nu iY$	$+{}^\nu iZ$	$+{}^\nu iP$	$+{}^\nu iQ$	$+{}^\nu iR$	$+{}^\nu iD$	$+{}^\nu iE$	$+{}^\nu iF$	$-{}^\nu L$	$-{}^\nu M$	$-{}^\nu N$	$-{}^\nu T$	$-{}^\nu U$	$-{}^\nu V$	$-iS$	$-iX$	$-iY$	$-iZ$	$-iP$	$-iQ$	$-iR$	$-iD$	$-iE$	$-iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$
${}^\nu iX$	$+{}^\nu iX$	$+{}^\nu iS$	$+{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu iV$	$-{}^\nu iF$	$+{}^\nu iE$	$+{}^\nu iT$	$+{}^\nu iR$	$-{}^\nu iQ$	$+{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$-{}^\nu D$	$+{}^\nu L$	$+{}^\nu P$	$-iX$	$-iS$	$+iN$	$-iM$	$-iV$	$+iF$	$-iE$	$+iT$	$-iR$	$+iQ$	$-U$	$+Z$	$-Y$	$-D$	$-L$	$+P$
${}^\nu iY$	$+{}^\nu iY$	$-{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu iF$	$-{}^\nu iV$	$+{}^\nu iD$	$+{}^\nu iR$	$-{}^\nu iT$	$+{}^\nu iP$	$+{}^\nu Z$	$-{}^\nu U$	$+{}^\nu X$	$+{}^\nu E$	$-{}^\nu M$	$+{}^\nu Q$	$-iY$	$-iN$	$-iS$	$-iL$	$-iF$	$-iV$	$-iD$	$-iR$	$-iT$	$-iP$	$+Z$	$+U$	$+X$	$+E$	$+M$	$+Q$
${}^\nu iZ$	$+{}^\nu iZ$	$+{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iE$	$+{}^\nu iD$	$+{}^\nu iV$	$+{}^\nu iQ$	$+{}^\nu iP$	$+{}^\nu iT$	$-{}^\nu Y$	$-{}^\nu X$	$-{}^\nu U$	$-{}^\nu F$	$-{}^\nu N$	$-{}^\nu R$	$-iZ$	$+iM$	$+iL$	$-iS$	$-iE$	$-iD$	$+iV$	$-iQ$	$-iP$	$+iT$	$-Y$	$-X$	$+U$	$-F$	$+N$	$-R$
${}^\nu iP$	$+{}^\nu iP$	$+{}^\nu iV$	$+{}^\nu iF$	$+{}^\nu iE$	$+{}^\nu iS$	$+{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$-{}^\nu T$	$-{}^\nu R$	$-{}^\nu Q$	$-{}^\nu L$	$-{}^\nu D$	$-{}^\nu X$	$-iP$	$+iV$	$-iF$	$-iE$	$-iS$	$+iN$	$+iM$	$+iU$	$-iZ$	$-iY$	$+T$	$-R$	$-Q$	$+L$	$-D$	$-X$
${}^\nu iQ$	$+{}^\nu iQ$	$-{}^\nu iF$	$+{}^\nu iV$	$+{}^\nu iD$	$-{}^\nu iN$	$+{}^\nu iS$	$+{}^\nu iL$	$+{}^\nu iZ$	$-{}^\nu iU$	$-{}^\nu iX$	$-{}^\nu R$	$+{}^\nu T$	$+{}^\nu P$	$+{}^\nu M$	$+{}^\nu E$	$-{}^\nu Y$	$-iQ$	$+iF$	$+iV$	$-iD$	$-iN$	$-iS$	$+iL$	$-iZ$	$-iU$	$+iX$	$-R$	$-T$	$+P$	$-M$	$+E$	$-Y$
${}^\nu iR$	$+{}^\nu iR$	$+{}^\nu iE$	$+{}^\nu iD$	$-{}^\nu iV$	$-{}^\nu iM$	$-{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iY$	$+{}^\nu iX$	$-{}^\nu iU$	$+{}^\nu Q$	$+{}^\nu P$	$-{}^\nu T$	$-{}^\nu N$	$+{}^\nu F$	$+{}^\nu Z$	$-iR$	$-iE$	$-iD$	$-iV$	$-iM$	$-iL$	$-iS$	$-iY$	$-iX$	$-iU$	$+Q$	$+P$	$+T$	$+N$	$+F$	$+Z$
${}^\nu iD$	$+{}^\nu iD$	$-{}^\nu iT$	$+{}^\nu iR$	$+{}^\nu iQ$	$-{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$+{}^\nu iS$	$-{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu V$	$+{}^\nu F$	$+{}^\nu E$	$+{}^\nu X$	$+{}^\nu P$	$-{}^\nu L$	$-iD$	$-iT$	$-iR$	$-iQ$	$-iU$	$-iZ$	$-iY$	$-iS$	$-iN$	$-iM$	$+V$	$+F$	$+E$	$+X$	$+P$	$+L$
${}^\nu iE$	$+{}^\nu iE$	$+{}^\nu iR$	$+{}^\nu iT$	$+{}^\nu iP$	$+{}^\nu iZ$	$+{}^\nu iU$	$+{}^\nu iX$	$+{}^\nu iN$	$+{}^\nu iS$	$+{}^\nu iL$	$-{}^\nu F$	$-{}^\nu V$	$-{}^\nu D$	$-{}^\nu Y$	$-{}^\nu Q$	$-{}^\nu M$	$-iE$	$-iR$	$+iT$	$-iP$	$-iZ$	$+iU$	$-iX$	$+iN$	$-iS$	$+iL$	$-F$	$+V$	$-D$	$-Y$	$-Q$	$+M$
${}^\nu iF$	$+{}^\nu iF$	$-{}^\nu iQ$	$+{}^\nu iP$	$-{}^\nu iT$	$+{}^\nu iY$	$-{}^\nu iX$	$+{}^\nu iU$	$+{}^\nu iM$	$-{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu E$	$-{}^\nu D$	$+{}^\nu V$	$+{}^\nu Z$	$-{}^\nu R$	$+{}^\nu N$	$-iF$	$+iQ$	$-iP$	$-iT$	$-iY$	$+iX$	$+iU$	$+iM$	$-iL$	$-iS$	$+E$	$-D$	$-V$	$+Z$	$-R$	$-N$
${}^\nu L$	$+{}^\nu L$	$-{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$+{}^\nu T$	$-{}^\nu R$	$+{}^\nu Q$	$+{}^\nu V$	$-{}^\nu F$	$+{}^\nu E$	$-{}^\nu iS$	$+{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu iP$	$+{}^\nu iX$	$-{}^\nu iD$	$-L$	$+U$	$+Z$	$-Y$	$-T$	$-R$	$+Q$	$-V$	$-F$	$+E$	$+iS$	$+iN$	$-iM$	$+iP$	$-iX$	$+iD$
${}^\nu M$	$+{}^\nu M$	$+{}^\nu Z$	$+{}^\nu U$	$-{}^\nu X$	$-{}^\nu R$	$-{}^\nu T$	$+{}^\nu P$	$+{}^\nu F$	$+{}^\nu V$	$-{}^\nu D$	$-{}^\nu iN$	$-{}^\nu iS$	$+{}^\nu iL$	$+{}^\nu iQ$	$-{}^\nu iY$	$-{}^\nu iE$	$-M$	$+Z$	$-U$	$-X$	$-R$	$+T$	$+P$	$+F$	$-V$	$-D$	$-iN$	$+iS$	$+iL$	$-iQ$	$+iY$	$+iE$
${}^\nu N$	$+{}^\nu N$	$-{}^\nu Y$	$+{}^\nu X$	$+{}^\nu U$	$-{}^\nu Q$	$+{}^\nu P$	$+{}^\nu T$	$+{}^\nu E$	$-{}^\nu D$	$-{}^\nu V$	$+{}^\nu iM$	$-{}^\nu iL$	$-{}^\nu iS$	$-{}^\nu iR$	$-{}^\nu iZ$	$+{}^\nu iF$	$-N$	$-Y$	$+X$	$-U$	$-Q$	$+P$	$-T$	$+E$	$-D$	$+V$	$+iM$	$-iL$	$+iS$	$+iR$	$+iZ$	$-iF$
${}^\nu T$	$+{}^\nu T$	$-{}^\nu D$	$+{}^\nu E$	$-{}^\nu F$	$+{}^\nu L$	$-{}^\nu M$	$+{}^\nu N$	$+{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$-{}^\nu iP$	$+{}^\nu iQ$	$-{}^\nu iR$	$-{}^\nu iS$	$+{}^\nu iV$	$-{}^\nu iU$	$-T$	$-D$	$+E$	$-F$	$-L$	$+M$	$-N$	$+X$	$-Y$	$+Z$	$+iP$	$-iQ$	$+iR$	$+iS$	$+iV$	$-iU$
${}^\nu U$	$+{}^\nu U$	$-{}^\nu L$	$+{}^\nu M$	$+{}^\nu N$	$-{}^\nu D$	$+{}^\nu E$	$+{}^\nu F$	$+{}^\nu P$	$-{}^\nu Q$	$-{}^\nu R$	$+{}^\nu iX$	$-{}^\nu iY$	$-{}^\nu iZ$	$-{}^\nu iV$	$-{}^\nu iS$	$+{}^\nu iT$	$-U$	$+L$	$-M$	$-N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$-iX$	$+iY$	$+iZ$	$-iV$	$+iS$	$+iT$
${}^\nu V$	$+{}^\nu V$	$+{}^\nu P$	$+{}^\nu Q$	$-{}^\nu R$	$-{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$+{}^\nu L$	$+{}^\nu M$	$-{}^\nu N$	$-{}^\nu iD$	$-{}^\nu iE$	$+{}^\nu iF$	$+{}^\nu iU$	$-{}^\nu iT$	$-{}^\nu iS$	$-V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$-L$	$-M$	$+N$	$+iD$	$+iE$	$-iF$	$+iU$	$-iT$	$+iS$
${}^\mu iS$	$+{}^\mu iS$	$+{}^\mu iX$	$+{}^\mu iY$	$+{}^\mu iZ$	$+{}^\mu iP$	$+{}^\mu iQ$	$+{}^\mu iR$	$+{}^\mu iD$	$+{}^\mu iE$	$+{}^\mu iF$	$-{}^\mu L$	$-{}^\mu M$	$-{}^\mu N$	$-{}^\mu T$	$-{}^\mu U$	$-{}^\mu V$	$-{}^\lambda iS$	$-{}^\lambda iX$	$-{}^\lambda iY$	$-{}^\lambda iZ$	$-{}^\lambda iP$	$-{}^\lambda iQ$	$-{}^\lambda iR$	$-{}^\lambda iD$	$-{}^\lambda iE$	$-{}^\lambda iF$	$+{}^\lambda L$	$+{}^\lambda M$	$+{}^\lambda N$	$+{}^\lambda T$	$+{}^\lambda U$	$+{}^\lambda V$
${}^\mu iX$	$+{}^\mu iX$	$+{}^\mu iS$	$+{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu iV$	$-{}^\mu iF$	$+{}^\mu iE$	$+{}^\mu iT$	$+{}^\mu iR$	$-{}^\mu iQ$	$+{}^\mu U$	$+{}^\mu Z$	$-{}^\mu Y$	$-{}^\mu D$	$+{}^\mu L$	$+{}^\mu P$	$-{}^\lambda iX$	$-{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iV$	$+{}^\lambda iF$	$-{}^\lambda iE$	$+{}^\lambda iT$	$-{}^\lambda iR$	$+{}^\lambda iQ$	$-{}^\lambda U$	$+{}^\lambda Z$	$-{}^\lambda Y$	$-{}^\lambda D$	$-{}^\lambda L$	$+{}^\lambda P$
${}^\mu iY$	$+{}^\mu iY$	$-{}^\mu iN$	$+{}^\mu iS$	$-{}^\mu iL$	$+{}^\mu iF$	$-{}^\mu iV$	$+{}^\mu iD$	$+{}^\mu iR$	$-{}^\mu iT$	$+{}^\mu iP$	$+{}^\mu Z$	$-{}^\mu U$	$+{}^\mu X$	$+{}^\mu E$	$-{}^\mu M$	$+{}^\mu Q$	$-{}^\lambda iY$	$-{}^\lambda iN$	$-{}^\lambda iS$	$-{}^\lambda iL$	$-{}^\lambda iF$	$-{}^\lambda iV$	$-{}^\lambda iD$	$-{}^\lambda iR$	$-{}^\lambda iT$	$-{}^\lambda iP$	$+{}^\lambda Z$	$+{}^\lambda U$	$+{}^\lambda X$	$+{}^\lambda E$	$+{}^\lambda M$	$+{}^\lambda Q$
${}^\mu iZ$	$+{}^\mu iZ$	$+{}^\mu iM$	$+{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iE$	$+{}^\mu iD$	$+{}^\mu iV$	$+{}^\mu iQ$	$+{}^\mu iP$	$+{}^\mu iT$	$-{}^\mu Y$	$-{}^\mu X$	$-{}^\mu U$	$-{}^\mu F$	$-{}^\mu N$	$-{}^\mu R$	$-{}^\lambda iZ$	$+{}^\lambda iM$	$+{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iE$	$-{}^\lambda iD$	$+{}^\lambda iV$	$-{}^\lambda iQ$	$-{}^\lambda iP$	$+{}^\lambda iT$	$-{}^\lambda Y$	$-{}^\lambda X$	$+{}^\lambda U$	$-{}^\lambda F$	$+{}^\lambda N$	$-{}^\lambda R$
${}^\mu iP$	$+{}^\mu iP$	$+{}^\mu iV$	$+{}^\mu iF$	$+{}^\mu iE$	$+{}^\mu iS$	$+{}^\mu iN$	$+{}^\mu iM$	$+{}^\mu iU$	$+{}^\mu iZ$	$+{}^\mu iY$	$-{}^\mu T$	$-{}^\mu R$	$-{}^\mu Q$	$-{}^\mu L$	$-{}^\mu D$	$-{}^\mu X$	$-{}^\lambda iP$	$+{}^\lambda iV$	$-{}^\lambda iF$	$-{}^\lambda iE$	$-{}^\lambda iS$	$+{}^\lambda iN$	$+{}^\lambda iM$	$+{}^\lambda iU$	$-{}^\lambda iZ$	$-{}^\lambda iY$	$+{}^\lambda T$	$-{}^\lambda R$	$-{}^\lambda Q$	$+{}^\lambda L$	$-{}^\lambda D$	$-{}^\lambda X$
${}^\mu iQ$	$+{}^\mu iQ$	$-{}^\mu iF$	$+{}^\mu iV$	$+{}^\mu iD$	$-{}^\mu iN$	$+{}^\mu iS$	$+{}^\mu iL$	$+{}^\mu iZ$	$-{}^\mu iU$	$-{}^\mu iX$	$-{}^\mu R$	$+{}^\mu T$	$+{}^\mu P$	$+{}^\mu M$	$+{}^\mu E$	$-{}^\mu Y$	$-{}^\lambda iQ$	$+{}^\lambda iF$	$+{}^\lambda iV$	$-{}^\lambda iD$	$-{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda iZ$	$-{}^\lambda iU$	$+{}^\lambda iX$	$-{}^\lambda R$	$-{}^\lambda T$	$+{}^\lambda P$	$-{}^\lambda M$	$+{}^\lambda E$	$-{}^\lambda Y$
${}^\mu iR$	$+{}^\mu iR$	$+{}^\mu iE$	$+{}^\mu iD$	$-{}^\mu iV$	$-{}^\mu iM$	$-{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iY$	$+{}^\mu iX$	$-{}^\mu iU$	$+{}^\mu Q$	$+{}^\mu P$	$-{}^\mu T$	$-{}^\mu N$	$+{}^\mu F$	$+{}^\mu Z$	$-{}^\lambda iR$	$-{}^\lambda iE$	$-{}^\lambda iD$	$-{}^\lambda iV$	$-{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iY$	$-{}^\lambda iX$	$-{}^\lambda iU$	$+{}^\lambda Q$	$+{}^\lambda P$	$+{}^\lambda T$	$+{}^\lambda N$	$+{}^\lambda F$	$+{}^\lambda Z$
${}^\mu iD$	$+{}^\mu iD$	$-{}^\mu iT$	$+{}^\mu iR$	$+{}^\mu iQ$	$-{}^\mu iU$	$+{}^\mu iZ$	$+{}^\mu iY$	$+{}^\mu iS$	$-{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu V$	$+{}^\mu F$	$+{}^\mu E$	$+{}^\mu X$	$+{}^\mu P$	$-{}^\mu L$	$-{}^\lambda iD$	$-{}^\lambda iT$	$-{}^\lambda iR$	$-{}^\lambda iQ$	$-{}^\lambda iU$	$-{}^\lambda iZ$	$-{}^\lambda iY$	$-{}^\lambda iS$	$-{}^\lambda iN$	$-{}^\lambda iM$	$+{}^\lambda V$	$+{}^\lambda F$	$+{}^\lambda E$	$+{}^\lambda X$	$+{}^\lambda P$	$+{}^\lambda L$
${}^\mu iE$	$+{}^\mu iE$	$+{}^\mu iR$	$+{}^\mu iT$	$+{}^\mu iP$	$+{}^\mu iZ$	$+{}^\mu iU$	$+{}^\mu iX$	$+{}^\mu iN$	$+{}^\mu iS$	$+{}^\mu iL$	$-{}^\mu F$	$-{}^\mu V$	$-{}^\mu D$	$-{}^\mu Y$	$-{}^\mu Q$	$-{}^\mu M$	$-{}^\lambda iE$	$-{}^\lambda iR$	$+{}^\lambda iT$	$-{}^\lambda iP$	$-{}^\lambda iZ$	$+{}^\lambda iU$	$-{}^\lambda iX$	$+{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda F$	$+{}^\lambda V$	$-{}^\lambda D$	$-{}^\lambda Y$	$-{}^\lambda Q$	$+{}^\lambda M$
${}^\mu iF$	$+{}^\mu iF$	$-{}^\mu iQ$	$+{}^\mu iP$	$-{}^\mu iT$	$+{}^\mu iY$	$-{}^\mu iX$	$+{}^\mu iU$	$+{}^\mu iM$	$-{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu E$	$-{}^\mu D$	$+{}^\mu V$	$+{}^\mu Z$	$-{}^\mu R$	$+{}^\mu N$	$-{}^\lambda iF$	$+{}^\lambda iQ$	$-{}^\lambda iP$	$-{}^\lambda iT$	$-{}^\lambda iY$	$+{}^\lambda iX$	$+{}^\lambda iU$	$+{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$+{}^\lambda E$	$-{}^\lambda D$	$-{}^\lambda V$	$+{}^\lambda Z$	$-{}^\lambda R$	$-{}^\lambda N$
${}^\mu L$	$+{}^\mu L$	$-{}^\mu U$	$+{}^\mu Z$	$-{}^\mu Y$	$+{}^\mu T$	$-{}^\mu R$	$+{}^\mu Q$	$+{}^\mu V$	$-{}^\mu F$	$+{}^\mu E$	$-{}^\mu iS$	$+{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu iP$	$+{}^\mu iX$	$-{}^\mu iD$	$-{}^\lambda L$	$+{}^\lambda U$	$+{}^\lambda Z$	$-{}^\lambda Y$	$-{}^\lambda T$	$-{}^\lambda R$	$+{}^\lambda Q$	$-{}^\lambda V$	$-{}^\lambda F$	$+{}^\lambda E$	$+{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$+{}^\lambda iP$	$-{}^\lambda iX$	$+{}^\lambda iD$
${}^\mu M$	$+{}^\mu M$	$+{}^\mu Z$	$+{}^\mu U$	$-{}^\mu X$	$-{}^\mu R$	$-{}^\mu T$	$+{}^\mu P$	$+{}^\mu F$	$+{}^\mu V$	$-{}^\mu D$	$-{}^\mu iN$	$-{}^\mu iS$	$+{}^\mu iL$	$+{}^\mu iQ$	$-{}^\mu iY$	$-{}^\mu iE$	$-{}^\lambda M$	$+{}^\lambda Z$	$-{}^\lambda U$	$-{}^\lambda X$	$-{}^\lambda R$	$+{}^\lambda T$	$+{}^\lambda P$	$+{}^\lambda F$	$-{}^\lambda V$	$-{}^\lambda D$	$-{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda iQ$	$+{}^\lambda iY$	$+{}^\lambda iE$
${}^\mu N$	$+{}^\mu N$	$-{}^\mu Y$	$+{}^\mu X$	$+{}^\mu U$	$-{}^\mu Q$	$+{}^\mu P$	$+{}^\mu T$	$+{}^\mu E$	$-{}^\mu D$	$-{}^\mu V$	$+{}^\mu iM$	$-{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iR$	$-{}^\mu iZ$	$+{}^\mu iF$	$-{}^\lambda N$	$-{}^\lambda Y$	$+{}^\lambda X$	$-{}^\lambda U$	$-{}^\lambda Q$	$+{}^\lambda P$	$-{}^\lambda T$	$+{}^\lambda E$	$-{}^\lambda D$	$+{}^\lambda V$	$+{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iR$	$+{}^\lambda iZ$	$-{}^\lambda iF$
${}^\mu T$	$+{}^\mu T$	$-{}^\mu D$	$+{}^\mu E$	$-{}^\mu F$	$+{}^\mu L$	$-{}^\mu M$	$+{}^\mu N$	$+{}^\mu X$	$-{}^\mu Y$	$+{}^\mu Z$	$-{}^\mu iP$	$+{}^\mu iQ$	$-{}^\mu iR$	$-{}^\mu iS$	$+{}^\mu iV$	$-{}^\mu iU$	$-{}^\lambda T$	$-{}^\lambda D$	$+{}^\lambda E$	$-{}^\lambda F$	$-{}^\lambda L$	$+{}^\lambda M$	$-{}^\lambda N$	$+{}^\lambda X$	$-{}^\lambda Y$	$+{}^\lambda Z$	$+{}^\lambda iP$	$-{}^\lambda iQ$	$+{}^\lambda iR$	$+{}^\lambda iS$	$+{}^\lambda iV$	$-{}^\lambda iU$
${}^\mu U$	$+{}^\mu U$	$-{}^\mu L$	$+{}^\mu M$	$+{}^\mu N$	$-{}^\mu D$	$+{}^\mu E$	$+{}^\mu F$	$+{}^\mu P$	$-{}^\mu Q$	$-{}^\mu R$	$+{}^\mu iX$	$-{}^\mu iY$	$-{}^\mu iZ$	$-{}^\mu iV$	$-{}^\mu iS$	$+{}^\mu iT$	$-{}^\lambda U$	$+{}^\lambda L$	$-{}^\lambda M$	$-{}^\lambda N$	$-{}^\lambda D$	$+{}^\lambda E$	$+{}^\lambda F$	$+{}^\lambda P$	$-{}^\lambda Q$	$-{}^\lambda R$	$-{}^\lambda iX$	$+{}^\lambda iY$	$+{}^\lambda iZ$	$-{}^\lambda iV$	$+{}^\lambda iS$	$+{}^\lambda iT$
${}^\mu V$	$+{}^\mu V$	$+{}^\mu P$	$+{}^\mu Q$	$-{}^\mu R$	$-{}^\mu X$	$-{}^\mu Y$	$+{}^\mu Z$	$+{}^\mu L$	$+{}^\mu M$	$-{}^\mu N$	$-{}^\mu iD$	$-{}^\mu iE$	$+{}^\mu iF$	$+{}^\mu iU$	$-{}^\mu iT$	$-{}^\mu iS$	$-{}^\lambda V$	$+{}^\lambda P$	$+{}^\lambda Q$	$-{}^\lambda R$	$-{}^\lambda X$	$-{}^\lambda Y$	$+{}^\lambda Z$	$-{}^\lambda L$	$-{}^\lambda M$	$+{}^\lambda N$	$+{}^\lambda iD$	$+{}^\lambda iE$	$-{}^\lambda iF$	$+{}^\lambda iU$	$-{}^\lambda iT$	$+{}^\lambda iS$
${}^\lambda iS$	$+{}^\lambda iS$	$+{}^\lambda iX$	$+{}^\lambda iY$	$+{}^\lambda iZ$	$+{}^\lambda iP$	$+{}^\lambda iQ$	$+{}^\lambda iR$	$+{}^\lambda iD$	$+{}^\lambda iE$	$+{}^\lambda iF$	$-{}^\lambda L$	$-{}^\lambda M$	$-{}^\lambda N$	$-{}^\lambda T$	$-{}^\lambda U$	$-{}^\lambda V$	$+{}^\mu iS$	$+{}^\mu iX$	$+{}^\mu iY$	$+{}^\mu iZ$	$+{}^\mu iP$	$+{}^\mu iQ$	$+{}^\mu iR$	$+{}^\mu iD$	$+{}^\mu iE$	$+{}^\mu iF$	$-{}^\mu L$	$-{}^\mu M$	$-{}^\mu N$	$-{}^\mu T$	$-{}^\mu U$	$-{}^\mu V$
${}^\lambda iX$	$+{}^\lambda iX$	$+{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iV$	$-{}^\lambda iF$	$+{}^\lambda iE$	$+{}^\lambda iT$	$+{}^\lambda iR$	$-{}^\lambda iQ$	$+{}^\lambda U$	$+{}^\lambda Z$	$-{}^\lambda Y$	$-{}^\lambda D$	$+{}^\lambda L$	$+{}^\lambda P$	$+{}^\mu iX$	$+{}^\mu iS$	$-{}^\mu iN$	$+{}^\mu iM$	$+{}^\mu iV$	$-{}^\mu iF$	$+{}^\mu iE$	$-{}^\mu iT$	$+{}^\mu iR$	$-{}^\mu iQ$	$+{}^\mu U$	$-{}^\mu Z$	$+{}^\mu Y$	$+{}^\mu D$	$+{}^\mu L$	$-{}^\mu P$
${}^\lambda iY$	$+{}^\lambda iY$	$-{}^\lambda iN$	$+{}^\lambda iS$	$-{}^\lambda iL$	$+{}^\lambda iF$	$-{}^\lambda iV$	$+{}^\lambda iD$	$+{}^\lambda iR$	$-{}^\lambda iT$	$+{}^\lambda iP$	$+{}^\lambda Z$	$-{}^\lambda U$	$+{}^\lambda X$	$+{}^\lambda E$	$-{}^\lambda M$	$+{}^\lambda Q$	$+{}^\mu iY$	$+{}^\mu iN$	$+{}^\mu iS$	$+{}^\mu iL$	$+{}^\mu iF$	$+{}^\mu iV$	$+{}^\mu iD$	$+{}^\mu iR$	$+{}^\mu iT$	$+{}^\mu iP$	$-{}^\mu Z$	$-{}^\mu U$	$-{}^\mu X$	$-{}^\mu E$	$-{}^\mu M$	$-{}^\mu Q$
${}^\lambda iZ$	$+{}^\lambda iZ$	$+{}^\lambda iM$	$+{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iE$	$+{}^\lambda iD$	$+{}^\lambda iV$	$+{}^\lambda iQ$	$+{}^\lambda iP$	$+{}^\lambda iT$	$-{}^\lambda Y$	$-{}^\lambda X$	$-{}^\lambda U$	$-{}^\lambda F$	$-{}^\lambda N$	$-{}^\lambda R$	$+{}^\mu iZ$	$-{}^\mu iM$	$-{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iE$	$+{}^\mu iD$	$-{}^\mu iV$	$+{}^\mu iQ$	$+{}^\mu iP$	$-{}^\mu iT$	$+{}^\mu Y$	$+{}^\mu X$	$-{}^\mu U$	$+{}^\mu F$	$-{}^\mu N$	$+{}^\mu R$
${}^\lambda iP$	$+{}^\lambda iP$	$+{}^\lambda iV$	$+{}^\lambda iF$	$+{}^\lambda iE$	$+{}^\lambda iS$	$+{}^\lambda iN$	$+{}^\lambda iM$	$+{}^\lambda iU$	$+{}^\lambda iZ$	$+{}^\lambda iY$	$-{}^\lambda T$	$-{}^\lambda R$	$-{}^\lambda Q$	$-{}^\lambda L$	$-{}^\lambda D$	$-{}^\lambda X$	$+{}^\mu iP$	$-{}^\mu iV$	$+{}^\mu iF$	$+{}^\mu iE$	$+{}^\mu iS$	$-{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu iU$	$+{}^\mu iZ$	$+{}^\mu iY$	$-{}^\mu T$	$+{}^\mu R$	$+{}^\mu Q$	$-{}^\mu L$	$+{}^\mu D$	$+{}^\mu X$
${}^\lambda iQ$	$+{}^\lambda iQ$	$-{}^\lambda iF$	$+{}^\lambda iV$	$+{}^\lambda iD$	$-{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda iZ$	$-{}^\lambda iU$	$-{}^\lambda iX$	$-{}^\lambda R$	$+{}^\lambda T$	$+{}^\lambda P$	$+{}^\lambda M$	$+{}^\lambda E$	$-{}^\lambda Y$	$+{}^\mu iQ$	$-{}^\mu iF$	$-{}^\mu iV$	$+{}^\mu iD$	$+{}^\mu iN$	$+{}^\mu iS$	$-{}^\mu iL$	$+{}^\mu iZ$	$+{}^\mu iU$	$-{}^\mu iX$	$+{}^\mu R$	$+{}^\mu T$	$-{}^\mu P$	$+{}^\mu M$	$-{}^\mu E$	$+{}^\mu Y$
${}^\lambda iR$	$+{}^\lambda iR$	$+{}^\lambda iE$	$+{}^\lambda iD$	$-{}^\lambda iV$	$-{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iY$	$+{}^\lambda iX$	$-{}^\lambda iU$	$+{}^\lambda Q$	$+{}^\lambda P$	$-{}^\lambda T$	$-{}^\lambda N$	$+{}^\lambda F$	$+{}^\lambda Z$	$+{}^\mu iR$	$+{}^\mu iE$	$+{}^\mu iD$	$+{}^\mu iV$	$+{}^\mu iM$	$+{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iY$	$+{}^\mu iX$	$+{}^\mu iU$	$-{}^\mu Q$	$-{}^\mu P$	$-{}^\mu T$	$-{}^\mu N$	$-{}^\mu F$	$-{}^\mu Z$
${}^\lambda iD$	$+{}^\lambda iD$	$-{}^\lambda iT$	$+{}^\lambda iR$	$+{}^\lambda iQ$	$-{}^\lambda iU$	$+{}^\lambda iZ$	$+{}^\lambda iY$	$+{}^\lambda iS$	$-{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda V$	$+{}^\lambda F$	$+{}^\lambda E$	$+{}^\lambda X$	$+{}^\lambda P$	$-{}^\lambda L$	$+{}^\mu iD$	$+{}^\mu iT$	$+{}^\mu iR$	$+{}^\mu iQ$	$+{}^\mu iU$	$+{}^\mu iZ$	$+{}^\mu iY$	$+{}^\mu iS$	$+{}^\mu iN$	$+{}^\mu iM$	$-{}^\mu V$	$-{}^\mu F$	$-{}^\mu E$	$-{}^\mu X$	$-{}^\mu P$	$-{}^\mu L$
${}^\lambda iE$	$+{}^\lambda iE$	$+{}^\lambda iR$	$+{}^\lambda iT$	$+{}^\lambda iP$	$+{}^\lambda iZ$	$+{}^\lambda iU$	$+{}^\lambda iX$	$+{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda F$	$-{}^\lambda V$	$-{}^\lambda D$	$-{}^\lambda Y$	$-{}^\lambda Q$	$-{}^\lambda M$	$+{}^\mu iE$	$+{}^\mu iR$	$-{}^\mu iT$	$+{}^\mu iP$	$+{}^\mu iZ$	$-{}^\mu iU$	$+{}^\mu iX$	$-{}^\mu iN$	$+{}^\mu iS$	$-{}^\mu iL$	$+{}^\mu F$	$-{}^\mu V$	$+{}^\mu D$	$+{}^\mu Y$	$+{}^\mu Q$	$-{}^\mu M$
${}^\lambda iF$	$+{}^\lambda iF$	$-{}^\lambda iQ$	$+{}^\lambda iP$	$-{}^\lambda iT$	$+{}^\lambda iY$	$-{}^\lambda iX$	$+{}^\lambda iU$	$+{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda E$	$-{}^\lambda D$	$+{}^\lambda V$	$+{}^\lambda Z$	$-{}^\lambda R$	$+{}^\lambda N$	$+{}^\mu iF$	$-{}^\mu iQ$	$+{}^\mu iP$	$+{}^\mu iT$	$+{}^\mu iY$	$-{}^\mu iX$	$-{}^\mu iU$	$-{}^\mu iM$	$+{}^\mu iL$	$+{}^\mu iS$	$-{}^\mu E$	$+{}^\mu D$	$+{}^\mu V$	$-{}^\mu Z$	$+{}^\mu R$	$+{}^\mu N$
${}^\lambda L$	$+{}^\lambda L$	$-{}^\lambda U$	$+{}^\lambda Z$	$-{}^\lambda Y$	$+{}^\lambda T$	$-{}^\lambda R$	$+{}^\lambda Q$	$+{}^\lambda V$	$-{}^\lambda F$	$+{}^\lambda E$	$-{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iP$	$+{}^\lambda iX$	$-{}^\lambda iD$	$+{}^\mu L$	$-{}^\mu U$	$-{}^\mu Z$	$+{}^\mu Y$	$+{}^\mu T$	$+{}^\mu R$	$-{}^\mu Q$	$+{}^\mu V$	$+{}^\mu F$	$-{}^\mu E$	$-{}^\mu iS$	$-{}^\mu iN$	$+{}^\mu iM$	$-{}^\mu iP$	$+{}^\mu iX$	$-{}^\mu iD$
${}^\lambda M$	$+{}^\lambda M$	$+{}^\lambda Z$	$+{}^\lambda U$	$-{}^\lambda X$	$-{}^\lambda R$	$-{}^\lambda T$	$+{}^\lambda P$	$+{}^\lambda F$	$+{}^\lambda V$	$-{}^\lambda D$	$-{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda iQ$	$-{}^\lambda iY$	$-{}^\lambda iE$	$+{}^\mu M$	$-{}^\mu Z$	$+{}^\mu U$	$+{}^\mu X$	$+{}^\mu R$	$-{}^\mu T$	$-{}^\mu P$	$-{}^\mu F$	$+{}^\mu V$	$+{}^\mu D$	$+{}^\mu iN$	$-{}^\mu iS$	$-{}^\mu iL$	$+{}^\mu iQ$	$-{}^\mu iY$	$-{}^\mu iE$
${}^\lambda N$	$+{}^\lambda N$	$-{}^\lambda Y$	$+{}^\lambda X$	$+{}^\lambda U$	$-{}^\lambda Q$	$+{}^\lambda P$	$+{}^\lambda T$	$+{}^\lambda E$	$-{}^\lambda D$	$-{}^\lambda V$	$+{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iR$	$-{}^\lambda iZ$	$+{}^\lambda iF$	$+{}^\mu N$	$+{}^\mu Y$	$-{}^\mu X$	$+{}^\mu U$	$+{}^\mu Q$	$-{}^\mu P$	$+{}^\mu T$	$-{}^\mu E$	$+{}^\mu D$	$-{}^\mu V$	$-{}^\mu iM$	$+{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iR$	$-{}^\mu iZ$	$+{}^\mu iF$
${}^\lambda T$	$+{}^\lambda T$	$-{}^\lambda D$	$+{}^\lambda E$	$-{}^\lambda F$	$+{}^\lambda L$	$-{}^\lambda M$	$+{}^\lambda N$	$+{}^\lambda X$	$-{}^\lambda Y$	$+{}^\lambda Z$	$-{}^\lambda iP$	$+{}^\lambda iQ$	$-{}^\lambda iR$	$-{}^\lambda iS$	$+{}^\lambda iV$	$-{}^\lambda iU$	$+{}^\mu T$	$+{}^\mu D$	$-{}^\mu E$	$+{}^\mu F$	$+{}^\mu L$	$-{}^\mu M$	$+{}^\mu N$	$-{}^\mu X$	$+{}^\mu Y$	$-{}^\mu Z$	$-{}^\mu iP$	$+{}^\mu iQ$	$-{}^\mu iR$	$-{}^\mu iS$	$-{}^\mu iV$	$+{}^\mu iU$
${}^\lambda U$	$+{}^\lambda U$	$-{}^\lambda L$	$+{}^\lambda M$	$+{}^\lambda N$	$-{}^\lambda D$	$+{}^\lambda E$	$+{}^\lambda F$	$+{}^\lambda P$	$-{}^\lambda Q$	$-{}^\lambda R$	$+{}^\lambda iX$	$-{}^\lambda iY$	$-{}^\lambda iZ$	$-{}^\lambda iV$	$-{}^\lambda iS$	$+{}^\lambda iT$	$+{}^\mu U$	$-{}^\mu L$	$+{}^\mu M$	$+{}^\mu N$	$+{}^\mu D$	$-{}^\mu E$	$-{}^\mu F$	$-{}^\mu P$	$+{}^\mu Q$	$+{}^\mu R$	$+{}^\mu iX$	$-{}^\mu iY$	$-{}^\mu iZ$	$+{}^\mu iV$	$-{}^\mu iS$	$-{}^\mu iT$
${}^\lambda V$	$+{}^\lambda V$	$+{}^\lambda P$	$+{}^\lambda Q$	$-{}^\lambda R$	$-{}^\lambda X$	$-{}^\lambda Y$	$+{}^\lambda Z$	$+{}^\lambda L$	$+{}^\lambda M$	$-{}^\lambda N$	$-{}^\lambda iD$	$-{}^\lambda iE$	$+{}^\lambda iF$	$+{}^\lambda iU$	$-{}^\lambda iT$	$-{}^\lambda iS$	$+{}^\mu V$	$-{}^\mu P$	$-{}^\mu Q$	$+{}^\mu R$	$+{}^\mu X$	$+{}^\mu Y$	$-{}^\mu Z$	$+{}^\mu L$	$+{}^\mu M$	$-{}^\mu N$	$-{}^\mu iD$	$-{}^\mu iE$	$+{}^\mu iF$	$-{}^\mu iU$	$+{}^\mu iT$	$-{}^\mu iS$

TABLE 35. $Ka^2(1,4)$ multiplication table, part B1

	$^{\mu}S$	$^{\mu}X$	$^{\mu}Y$	$^{\mu}Z$	$^{\mu}P$	$^{\mu}Q$	$^{\mu}R$	$^{\mu}D$	$^{\mu}E$	$^{\mu}F$	$^{\mu}iL$	$^{\mu}iM$	$^{\mu}iN$	$^{\mu}iT$	$^{\mu}iU$	$^{\mu}iV$	$^{\lambda}S$	$^{\lambda}X$	$^{\lambda}Y$	$^{\lambda}Z$	$^{\lambda}P$	$^{\lambda}Q$	$^{\lambda}R$	$^{\lambda}D$	$^{\lambda}E$	$^{\lambda}F$	$^{\lambda}iL$	$^{\lambda}iM$	$^{\lambda}iN$	$^{\lambda}iT$	$^{\lambda}iU$	$^{\lambda}iV$
S	$+^{\mu}S$	$+^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}P$	$+^{\mu}Q$	$+^{\mu}R$	$+^{\mu}D$	$+^{\mu}E$	$+^{\mu}F$	$+^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iT$	$+^{\mu}iU$	$+^{\mu}iV$	$+^{\lambda}S$	$+^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$+^{\lambda}P$	$+^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}D$	$+^{\lambda}E$	$+^{\lambda}F$	$+^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iT$	$+^{\lambda}iU$	$+^{\lambda}iV$
X	$+^{\mu}X$	$+^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$+^{\mu}V$	$-^{\mu}F$	$+^{\mu}E$	$-^{\mu}T$	$+^{\mu}R$	$-^{\mu}Q$	$-^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iD$	$-^{\mu}iL$	$+^{\mu}iP$	$+^{\lambda}X$	$+^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}V$	$-^{\lambda}F$	$+^{\lambda}E$	$-^{\lambda}T$	$+^{\lambda}R$	$-^{\lambda}Q$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$-^{\lambda}iD$	$-^{\lambda}iL$	$+^{\lambda}iP$
Y	$+^{\mu}Y$	$+^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$+^{\mu}F$	$+^{\mu}V$	$+^{\mu}D$	$+^{\mu}R$	$+^{\mu}T$	$+^{\mu}P$	$+^{\mu}iZ$	$+^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iE$	$+^{\mu}iM$	$+^{\mu}iQ$	$+^{\lambda}Y$	$+^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}F$	$+^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}R$	$+^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$+^{\lambda}iX$	$+^{\lambda}iE$	$+^{\lambda}iM$	$+^{\lambda}iQ$
Z	$+^{\mu}Z$	$-^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}E$	$+^{\mu}D$	$-^{\mu}V$	$+^{\mu}Q$	$+^{\mu}P$	$-^{\mu}T$	$-^{\mu}iY$	$-^{\mu}iX$	$+^{\mu}iU$	$-^{\mu}iF$	$+^{\mu}iN$	$-^{\mu}iR$	$+^{\lambda}Z$	$-^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}E$	$+^{\lambda}D$	$-^{\lambda}V$	$+^{\lambda}Q$	$+^{\lambda}P$	$-^{\lambda}T$	$-^{\lambda}iY$	$-^{\lambda}iX$	$+^{\lambda}iU$	$-^{\lambda}iF$	$+^{\lambda}iN$	$-^{\lambda}iR$
P	$+^{\mu}P$	$-^{\mu}V$	$+^{\mu}F$	$+^{\mu}E$	$+^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$-^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$+^{\mu}iT$	$-^{\mu}iR$	$-^{\mu}iQ$	$+^{\mu}iL$	$-^{\mu}iD$	$-^{\mu}iX$	$+^{\lambda}P$	$-^{\lambda}V$	$+^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}iT$	$-^{\lambda}iR$	$-^{\lambda}iQ$	$+^{\lambda}iL$	$-^{\lambda}iD$	$-^{\lambda}iX$
Q	$+^{\mu}Q$	$-^{\mu}F$	$-^{\mu}V$	$+^{\mu}D$	$+^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$+^{\mu}Z$	$+^{\mu}U$	$-^{\mu}X$	$-^{\mu}iR$	$-^{\mu}iT$	$+^{\mu}iP$	$-^{\mu}iM$	$+^{\mu}iE$	$-^{\mu}iY$	$+^{\lambda}Q$	$-^{\lambda}F$	$-^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}Z$	$+^{\lambda}U$	$-^{\lambda}X$	$-^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$-^{\lambda}iM$	$+^{\lambda}iE$	$-^{\lambda}iY$
R	$+^{\mu}R$	$+^{\mu}E$	$+^{\mu}D$	$+^{\mu}V$	$+^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$+^{\mu}Y$	$+^{\mu}X$	$+^{\mu}U$	$+^{\mu}iQ$	$+^{\mu}iP$	$+^{\mu}iT$	$+^{\mu}iN$	$+^{\mu}iF$	$+^{\mu}iZ$	$+^{\lambda}R$	$+^{\lambda}E$	$+^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}Y$	$+^{\lambda}X$	$+^{\lambda}U$	$+^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iN$	$+^{\lambda}iF$	$+^{\lambda}iZ$
D	$+^{\mu}D$	$+^{\mu}T$	$+^{\mu}R$	$+^{\mu}Q$	$+^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$+^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$+^{\mu}iV$	$+^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}iX$	$+^{\mu}iP$	$+^{\mu}iL$	$+^{\lambda}D$	$+^{\lambda}T$	$+^{\lambda}R$	$+^{\lambda}Q$	$+^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}iV$	$+^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}iX$	$+^{\lambda}iP$	$+^{\lambda}iL$
E	$+^{\mu}E$	$+^{\mu}R$	$-^{\mu}T$	$+^{\mu}P$	$+^{\mu}Z$	$-^{\mu}U$	$+^{\mu}X$	$-^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$-^{\mu}iF$	$+^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}iY$	$-^{\mu}iQ$	$+^{\mu}iM$	$+^{\lambda}E$	$+^{\lambda}R$	$-^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}Z$	$-^{\lambda}U$	$+^{\lambda}X$	$-^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$-^{\lambda}iF$	$+^{\lambda}iV$	$-^{\lambda}iD$	$-^{\lambda}iY$	$-^{\lambda}iQ$	$+^{\lambda}iM$
F	$+^{\mu}F$	$-^{\mu}Q$	$+^{\mu}P$	$+^{\mu}T$	$+^{\mu}Y$	$-^{\mu}X$	$-^{\mu}U$	$-^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$+^{\mu}iE$	$-^{\mu}iD$	$-^{\mu}iV$	$+^{\mu}iZ$	$-^{\mu}iR$	$-^{\mu}iN$	$+^{\lambda}F$	$-^{\lambda}Q$	$+^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}Y$	$-^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}iE$	$-^{\lambda}iD$	$-^{\lambda}iV$	$+^{\lambda}iZ$	$-^{\lambda}iR$	$-^{\lambda}iN$
iL	$+^{\mu}iL$	$-^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}iT$	$+^{\mu}iR$	$-^{\mu}iQ$	$+^{\mu}iV$	$+^{\mu}iF$	$-^{\mu}iE$	$+^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$+^{\mu}P$	$-^{\mu}X$	$+^{\mu}D$	$+^{\lambda}iL$	$-^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iT$	$+^{\lambda}iR$	$-^{\lambda}iQ$	$+^{\lambda}iV$	$+^{\lambda}iF$	$-^{\lambda}iE$	$+^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$+^{\lambda}P$	$-^{\lambda}X$	$+^{\lambda}D$
iM	$+^{\mu}iM$	$-^{\mu}iZ$	$+^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iR$	$-^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iF$	$+^{\mu}iV$	$+^{\mu}iD$	$-^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$-^{\mu}Q$	$+^{\mu}Y$	$+^{\mu}E$	$+^{\lambda}iM$	$-^{\lambda}iZ$	$+^{\lambda}iU$	$+^{\lambda}iX$	$+^{\lambda}iR$	$-^{\lambda}iT$	$-^{\lambda}iP$	$-^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$-^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$-^{\lambda}Q$	$+^{\lambda}Y$	$+^{\lambda}E$
iN	$+^{\mu}iN$	$+^{\mu}iY$	$-^{\mu}iX$	$+^{\mu}iU$	$+^{\mu}iQ$	$-^{\mu}iP$	$+^{\mu}iT$	$-^{\mu}iE$	$+^{\mu}iD$	$-^{\mu}iV$	$+^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}R$	$+^{\mu}Z$	$-^{\mu}F$	$+^{\lambda}iN$	$+^{\lambda}iY$	$-^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}iQ$	$-^{\lambda}iP$	$+^{\lambda}iT$	$-^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$+^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}R$	$+^{\lambda}Z$	$-^{\lambda}F$
iT	$+^{\mu}iT$	$+^{\mu}iD$	$-^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$-^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$+^{\mu}P$	$-^{\mu}Q$	$+^{\mu}R$	$+^{\mu}S$	$+^{\mu}V$	$-^{\mu}U$	$+^{\lambda}iT$	$+^{\lambda}iD$	$-^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$-^{\lambda}iX$	$+^{\lambda}iY$	$-^{\lambda}iZ$	$+^{\lambda}P$	$-^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}S$	$+^{\lambda}V$	$-^{\lambda}U$
iU	$+^{\mu}iU$	$-^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iD$	$-^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$-^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$-^{\mu}V$	$+^{\mu}S$	$+^{\mu}T$	$+^{\lambda}iU$	$-^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iD$	$-^{\lambda}iE$	$-^{\lambda}iF$	$-^{\lambda}iP$	$+^{\lambda}iQ$	$+^{\lambda}iR$	$-^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$-^{\lambda}V$	$+^{\lambda}S$	$+^{\lambda}T$
iV	$+^{\mu}iV$	$-^{\mu}iP$	$-^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$+^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$+^{\mu}D$	$+^{\mu}E$	$-^{\mu}F$	$+^{\mu}U$	$-^{\mu}T$	$+^{\mu}S$	$+^{\lambda}iV$	$-^{\lambda}iP$	$-^{\lambda}iQ$	$+^{\lambda}iR$	$+^{\lambda}iX$	$+^{\lambda}iY$	$-^{\lambda}iZ$	$+^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$+^{\lambda}D$	$+^{\lambda}E$	$-^{\lambda}F$	$+^{\lambda}U$	$-^{\lambda}T$	$+^{\lambda}S$
$^{\nu}S$	$+^{\lambda}S$	$+^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$+^{\lambda}P$	$+^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}D$	$+^{\lambda}E$	$+^{\lambda}F$	$+^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iT$	$+^{\lambda}iU$	$+^{\lambda}iV$	$-^{\mu}S$	$-^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$-^{\mu}P$	$-^{\mu}Q$	$-^{\mu}R$	$-^{\mu}D$	$-^{\mu}E$	$-^{\mu}F$	$-^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iT$	$-^{\mu}iU$	$-^{\mu}iV$
$^{\nu}X$	$+^{\lambda}X$	$+^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}V$	$-^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}T$	$+^{\lambda}R$	$-^{\lambda}Q$	$-^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iD$	$-^{\lambda}iL$	$-^{\lambda}iP$	$-^{\mu}X$	$-^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$+^{\mu}V$	$+^{\mu}F$	$-^{\mu}E$	$-^{\mu}T$	$-^{\mu}R$	$+^{\mu}Q$	$+^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iD$	$+^{\mu}iL$	$+^{\mu}iP$
$^{\nu}Y$	$+^{\lambda}Y$	$-^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}F$	$-^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}R$	$-^{\lambda}T$	$+^{\lambda}P$	$-^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iE$	$+^{\lambda}iM$	$-^{\lambda}iQ$	$-^{\mu}Y$	$+^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$-^{\mu}F$	$+^{\mu}V$	$-^{\mu}D$	$-^{\mu}R$	$+^{\mu}T$	$-^{\mu}P$	$+^{\mu}iZ$	$-^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iE$	$-^{\mu}iM$	$+^{\mu}iQ$
$^{\nu}Z$	$+^{\lambda}Z$	$+^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}E$	$+^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}Q$	$+^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}iF$	$+^{\lambda}iN$	$+^{\lambda}iR$	$-^{\mu}Z$	$-^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$-^{\mu}E$	$-^{\mu}D$	$-^{\mu}V$	$-^{\mu}Q$	$-^{\mu}P$	$-^{\mu}T$	$-^{\mu}iY$	$-^{\mu}iX$	$-^{\mu}iU$	$-^{\mu}iF$	$-^{\mu}iN$	$-^{\mu}iR$
$^{\nu}P$	$+^{\lambda}P$	$+^{\lambda}V$	$+^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iL$	$+^{\lambda}iD$	$+^{\lambda}iX$	$-^{\mu}P$	$-^{\mu}V$	$-^{\mu}F$	$-^{\mu}E$	$-^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$-^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}iT$	$-^{\mu}iR$	$-^{\mu}iQ$	$-^{\mu}iL$	$-^{\mu}iD$	$-^{\mu}iX$
$^{\nu}Q$	$+^{\lambda}Q$	$-^{\lambda}F$	$+^{\lambda}V$	$+^{\lambda}D$	$-^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}Z$	$-^{\lambda}U$	$-^{\lambda}X$	$+^{\lambda}iR$	$-^{\lambda}iT$	$-^{\lambda}iP$	$-^{\lambda}iM$	$-^{\lambda}iE$	$+^{\lambda}iY$	$-^{\mu}Q$	$+^{\mu}F$	$-^{\mu}V$	$-^{\mu}D$	$+^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$-^{\mu}Z$	$+^{\mu}U$	$+^{\mu}X$	$-^{\mu}iR$	$+^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}iM$	$+^{\mu}iE$	$-^{\mu}iY$
$^{\nu}R$	$+^{\lambda}R$	$+^{\lambda}E$	$+^{\lambda}D$	$-^{\lambda}V$	$-^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}Y$	$+^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}iQ$	$-^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iN$	$-^{\lambda}iF$	$-^{\lambda}iZ$	$-^{\mu}R$	$-^{\mu}E$	$-^{\mu}D$	$+^{\mu}V$	$+^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$-^{\mu}Y$	$-^{\mu}X$	$+^{\mu}U$	$+^{\mu}iQ$	$+^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}iN$	$+^{\mu}iF$	$+^{\mu}iZ$
$^{\nu}D$	$+^{\lambda}D$	$-^{\lambda}T$	$+^{\lambda}R$	$+^{\lambda}Q$	$-^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$+^{\lambda}iV$	$-^{\lambda}iF$	$-^{\lambda}iE$	$-^{\lambda}iX$	$-^{\lambda}iP$	$+^{\lambda}iL$	$-^{\mu}D$	$+^{\mu}T$	$-^{\mu}R$	$-^{\mu}Q$	$+^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$-^{\mu}iV$	$+^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}iX$	$+^{\mu}iP$	$-^{\mu}iL$
$^{\nu}E$	$+^{\lambda}E$	$+^{\lambda}R$	$+^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}Z$	$+^{\lambda}U$	$+^{\lambda}X$	$+^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iY$	$+^{\lambda}iQ$	$+^{\lambda}iM$	$-^{\mu}E$	$-^{\mu}R$	$-^{\mu}T$	$-^{\mu}P$	$-^{\mu}Z$	$-^{\mu}U$	$-^{\mu}X$	$-^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$-^{\mu}iF$	$-^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}iY$	$-^{\mu}iQ$	$-^{\mu}iM$
$^{\nu}F$	$+^{\lambda}F$	$-^{\lambda}Q$	$+^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}Y$	$-^{\lambda}X$	$+^{\lambda}U$	$+^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$-^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$-^{\lambda}iZ$	$+^{\lambda}iR$	$-^{\lambda}iN$	$-^{\mu}F$	$+^{\mu}Q$	$-^{\mu}P$	$+^{\mu}T$	$-^{\mu}Y$	$+^{\mu}X$	$-^{\mu}U$	$-^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$+^{\mu}iE$	$-^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}iZ$	$-^{\mu}iR$	$+^{\mu}iN$
$^{\nu}iL$	$+^{\lambda}iL$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$+^{\lambda}iT$	$-^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}P$	$-^{\lambda}X$	$+^{\lambda}D$	$-^{\mu}iL$	$+^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$-^{\mu}iT$	$+^{\mu}iR$	$-^{\mu}iQ$	$-^{\mu}iV$	$+^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$-^{\mu}P$	$+^{\mu}X$	$-^{\mu}D$
$^{\nu}iM$	$+^{\lambda}iM$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iF$	$+^{\lambda}iV$	$-^{\lambda}iD$	$+^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$-^{\lambda}Q$	$+^{\lambda}Y$	$+^{\lambda}E$	$-^{\mu}iM$	$-^{\mu}iZ$	$-^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iR$	$+^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iF$	$-^{\mu}iV$	$+^{\mu}iD$	$-^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$+^{\mu}Q$	$-^{\mu}Y$	$-^{\mu}E$
$^{\nu}iN$	$+^{\lambda}iN$	$-^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iE$	$-^{\lambda}iD$	$-^{\lambda}iV$	$-^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}R$	$+^{\lambda}Z$	$-^{\lambda}F$	$-^{\mu}iN$	$+^{\mu}iY$	$-^{\mu}iX$	$-^{\mu}iU$	$+^{\mu}iQ$	$-^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}iE$	$+^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$-^{\mu}R$	$-^{\mu}Z$	$+^{\mu}F$
$^{\nu}iT$	$+^{\lambda}iT$	$-^{\lambda}iD$	$+^{\lambda}iE$	$-^{\lambda}iF$	$+^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}P$	$-^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}S$	$-^{\lambda}V$	$+^{\lambda}U$	$-^{\mu}iT$	$+^{\mu}iD$	$-^{\mu}iE$	$+^{\mu}iF$	$-^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$-^{\mu}P$	$+^{\mu}Q$	$-^{\mu}R$	$-^{\mu}S$	$+^{\mu}V$	$-^{\mu}U$
$^{\nu}iU$	$+^{\lambda}iU$	$-^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$-^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iP$	$-^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$+^{\lambda}V$	$+^{\lambda}S$	$-^{\lambda}T$	$-^{\mu}iU$	$+^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$+^{\mu}iD$	$-^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$-^{\mu}V$	$-^{\mu}S$	$+^{\mu}T$
$^{\nu}iV$	$+^{\lambda}iV$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$+^{\lambda}D$	$+^{\lambda}E$	$-^{\lambda}F$	$-^{\lambda}U$	$+^{\lambda}T$	$+^{\lambda}S$	$-^{\mu}iV$	$-^{\mu}iP$	$-^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$-^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$-^{\mu}D$	$-^{\mu}E$	$+^{\mu}F$	$+^{\mu}U$	$-^{\mu}T$	$-^{\mu}S$
$^{\mu}S$	$-S$	$-X$	$-Y$	$-Z$	$-P$	$-Q$	$-R$	$-D$	$-E$	$-F$	$-iL$	$-iM$	$-iN$	$-iT$	$-iU$	$-iV$	$+^{\nu}S$	$+^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$+^{\nu}P$	$+^{\nu}Q$	$+^{\nu}R$	$+^{\nu}D$	$+^{\nu}E$	$+^{\nu}F$	$+^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iT$	$+^{\nu}iU$	$+^{\nu}iV$
$^{\mu}X$	$-X$	$-S$	$+N$	$-M$	$-V$	$+F$	$-E$	$+T$	$-R$	$+Q$	$+iU$	$-iZ$	$+iY$	$+iD$	$+iL$	$-iP$	$+^{\nu}X$	$+^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$+^{\nu}V$	$-^{\nu}F$	$+^{\nu}E$	$-^{\nu}T$	$+^{\nu}R$	$-^{\nu}Q$	$-^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$-^{\nu}iD$	$-^{\nu}iL$	$+^{\nu}iP$
$^{\mu}Y$	$-Y$	$-N$	$-S$	$-L$	$-F$	$-V$	$-D$	$-R$	$-T$	$-P$	$-iZ$	$-iU$	$-iX$	$-iE$	$-iM$	$-iQ$	$+^{\nu}Y$	$+^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$+^{\nu}F$	$+^{\nu}V$	$+^{\nu}D$	$+^{\nu}R$	$+^{\nu}T$	$+^{\nu}P$	$+^{\nu}iZ$	$+^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iE$	$+^{\nu}iM$	$+^{\nu}iQ$
$^{\mu}Z$	$-Z$	$+M$	$+L$	$-S$	$-E$	$-D$	$+V$	$-Q$	$-P$	$+T$	$+iY$	$+iX$	$-iU$	$+iF$	$-iN$	$+iR$	$+^{\nu}Z$	$-^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}E$	$+^{\nu}D$	$-^{\nu}V$	$+^{\nu}Q$	$+^{\nu}P$	$-^{\nu}T$	$-^{\nu}iY$	$-^{\nu}iX$	$+^{\nu}iU$	$-^{\nu}iF$	$+^{\nu}iN$	$-^{\nu}iR$
$^{\mu}P$	$-P$	$+V$	$-F$	$-E$	$-S$	$+N$	$+M$	$+U$	$-Z$	$-Y$	$-iT$	$+iR$	$+iQ$	$-iL$	$+iD$	$+iX$	$+^{\nu}P$	$-^{\nu}V$	$+^{\nu}F$	$+^{\nu}E$	$+^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$-^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$+^{\nu}iT$	$-^{\nu}iR$	$-^{\nu}iQ$	$+^{\nu}iL$	$-^{\nu}iD$	$-^{\nu}iX$
$^{\mu}Q$	$-Q$	$+F$	$+V$	$-D$	$-N$	$-S$	$+L$	$-Z$	$-U$	$+X$	$+iR$	$+iT$	$-iP$	$+iM$	$-iE$	$+iY$	$+^{\nu}Q$	$-^{\nu}F$	$-^{\nu}V$	$+^{\nu}D$	$+^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$+^{\nu}Z$	$+^{\nu}U$	$-^{\nu}X$	$-^{\nu}iR$	$-^{\nu}iT$	$+^{\nu}iP$	$-^{\nu}iM$	$+^{\nu}iE$	$-^{\nu}iY$
$^{\mu}R$	$-R$	$-E$	$-D$	$-V$	$-M$	$-L$	$-S$	$-Y$	$-X$	$-U$	$-iQ$	$-iP$	$-iT$	$-iN$	$-iF$	$-iZ$	$+^{\nu}R$	$+^{\nu}E$	$+^{\nu}D$	$+^{\nu}V$	$+^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$+^{\nu}Y$	$+^{\nu}X$	$+^{\nu}U$	$+^{\nu}iQ$	$+^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}iN$	$+^{\nu}iF$	$+^{\nu}iZ$
$^{\mu}D$	$-D$	$-T$	$-R$	$-Q$	$-U$	$-Z$	$-Y$	$-S$	$-N$	$-M$	$-iV$	$-iF$	$-iE$	$-iX$	$-iP$	$-iL$	$+^{\nu}D$	$+^{\nu}T$	$+^{\nu}R$	$+^{\nu}Q$	$+^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$+^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$+^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iX$	$+^{\nu}iP$	$+^{\nu}iL$
$^{\mu}E$	$-E$	$-R$	$+T$	$-P$	$-Z$	$+U$	$-X$	$+N$	$-S$	$+L$	$+iF$	$-iV$	$+iD$	$+iY$	$+iQ$	$-iM$	$+^{\nu}E$	$+^{\nu}R$	$-^{\nu}T$	$+^{\nu}P$	$+^{\nu}Z$	$-^{\nu}U$	$+^{\nu}X$	$-^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$-^{\nu}iF$	$+^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}iY$	$-^{\nu}iQ$	$+^{\nu}iM$
$^{\mu}F$	$-F$	$+Q$	$-P$	$-T$	$-Y$	$+X$	$+U$	$+M$	$-L$	$-S$	$-iE$	$+iD$	$+iV$	$-iZ$	$+iR$	$+iN$	$+^{\nu}F$	$-^{\nu}Q$	$+^{\nu}P$	$+^{\nu}T$	$+^{\nu}Y$	$-^{\nu}X$	$-^{\nu}U$	$-^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$+^{\nu}iE$	$-^{\nu}iD$	$-^{\nu}iV$	$+^{\nu}iZ$	$-^{\nu}iR$	$-^{\nu}iN$
$^{\mu}iL$	$-iL$	$+iU$	$+iZ$	$-iY$	$-iT$	$-iR$	$+iQ$	$-iV$	$-iF$	$+iE$	$-S$	$-N$	$+M$	$-P$	$+X$	$-D$	$+^{\nu}iL$	$-^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$+^{\nu}iV$	$+^{\nu}iF$	$-^{\nu}iE$	$+^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$+^{\nu}P$	$-^{\nu}X$	$+^{\nu}D$
$^{\mu}iM$	$-iM$	$+iZ$	$-iU$	$-iX$	$-iR$	$+iT$	$+iP$	$+iF$	$-iV$	$-iD$	$+N$	$-S$	$-L$	$+Q$	$-Y$	$-E$	$+^{\nu}iM$	$-^{\nu}iZ$	$+^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iR$	$-^{\nu}iT$	$-^{\nu}iP$	$-^{\nu}iF$	$+^{\nu}iV$	$+^{\nu}iD$	$-^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$-^{\nu}Q$	$+^{\nu}Y$	$+^{\nu}E$
$^{\mu}iN$	$-iN$	$-iY$	$+iX$	$-iU$	$-iQ$	$+iP$	$-iT$	$+iE$	$-iD$	$+iV$	$-M$	$+L$	$-S$	$-R$	$-Z$	$+F$	$+^{\nu}iN$	$+^{\nu}iY$	$-^{\nu}iX$	$+^{\nu}iU$	$+^{\nu}iQ$	$-^{\nu}iP$	$+^{\nu}iT$	$-^{\nu}iE$	$+^{\nu}iD$	$-^{\nu}iV$	$+^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}R$	$+^{\nu}Z$	$-^{\nu}F$
$^{\mu}iT$	$-iT$	$-iD$	$+iE$	$-iF$	$-iL$	$+iM$	$-iN$	$+iX$	$-iY$	$+iZ$	$-P$	$+Q$	$-R$	$-S$	$-V$	$+U$	$+^{\nu}iT$	$+^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$-^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$+^{\nu}P$	$-^{\nu}Q$	$+^{\nu}R$	$+^{\nu}S$	$+^{\nu}V$	$-^{\nu}U$
$^{\mu}iU$	$-iU$	$+iL$	$-iM$	$-iN$	$-iD$	$+iE$	$+iF$	$+iP$	$-iQ$	$-iR$	$+X$	$-Y$	$-Z$	$+V$	$-S$	$-T$	$+^{\nu}iU$	$-^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iD$	$-^{\nu}iE$	$-^{\nu}iF$	$-^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$-^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$-^{\nu}V$	$+^{\nu}S$	$+^{\nu}T$
$^{\mu}iV$	$-iV$	$+iP$	$+iQ$	$-iR$	$-iX$	$-iY$	$+iZ$	$-iL$	$-iM$	$+iN$	$-D$	$-E$	$+F$	$-U$	$+T$	$-S$	$+^{\nu}iV$	$-^{\nu}iP$	$-^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$+^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$+^{\nu}D$	$+^{\nu}E$	$-^{\nu}F$	$+^{\nu}U$	$-^{\nu}T$	$+^{\nu}S$
$^{\lambda}S$	$-^{\nu}S$	$-^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}P$	$-^{\nu}Q$	$-^{\nu}R$	$-^{\nu}D$	$-^{\nu}E$	$-^{\nu}F$	$-^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iT$	$-^{\nu}iU$	$-^{\nu}iV$	$-S$	$-X$	$-Y$	$-Z$	$-P$	$-Q$	$-R$	$-D$	$-E$	$-F$	$-iL$	$-iM$	$-iN$	$-iT$	$-iU$	$-iV$
$^{\lambda}X$	$-^{\nu}X$	$-^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$+^{\nu}V$	$+^{\nu}F$	$-^{\nu}E$	$-^{\nu}T$	$-^{\nu}R$	$+^{\nu}Q$	$+^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$-^{\nu}iD$	$+^{\nu}iL$	$+^{\nu}iP$	$-X$	$-S$	$-N$	$+M$	$+V$	$+F$	$-E$	$-T$	$-R$	$+Q$	$+iU$	$+iZ$	$-iY$	$-iD$	$+iL$	$+iP$
$^{\lambda}Y$	$-^{\nu}Y$	$+^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$-^{\nu}F$	$+^{\nu}V$	$-^{\nu}D$	$-^{\nu}R$	$+^{\nu}T$	$-^{\nu}P$	$+^{\nu}iZ$	$-^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iE$	$-^{\nu}iM$	$+^{\nu}iQ$	$-Y$	$+N$	$-S$	$+L$	$-F$	$+V$	$-D$	$-R$	$+T$	$-P$	$+iZ$	$-iU$	$+iX$	$+iE$	$-iM$	$+iQ$
$^{\lambda}Z$	$-^{\nu}Z$	$-^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$-^{\nu}E$	$-^{\nu}D$	$-^{\nu}V$	$-^{\nu}Q$	$-^{\nu}P$	$-^{\nu}T$	$-^{\nu}iY$	$-^{\nu}iX$	$-^{\nu}iU$	$-^{\nu}iF$	$-^{\nu}iN$	$-^{\nu}iR$	$-Z$	$-M$	$-L$	$-S$	$-E$	$-D$	$-V$	$-Q$	$-P$	$-T$	$-iY$	$-iX$	$-iU$	$-iF$	$-iN$	$-iR$
$^{\lambda}P$	$-^{\nu}P$	$-^{\nu}V$	$-^{\nu}F$	$-^{\nu}E$	$-^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$-^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}iT$	$-^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}iL$	$-^{\nu}iD$	$-^{\nu}iX$	$-P$	$-V$	$-F$	$-E$	$-S$	$-N$	$-M$	$-U$	$-Z$	$-Y$	$-iT$	$-iR$	$-iQ$	$-iL$	$-iD$	$-iX$
$^{\lambda}Q$	$-^{\nu}Q$	$+^{\nu}F$	$-^{\nu}V$	$-^{\nu}D$	$+^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$-^{\nu}Z$	$+^{\nu}U$	$+^{\nu}X$	$-^{\nu}iR$	$+^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iM$	$+^{\nu}iE$	$-^{\nu}iY$	$-Q$	$+F$	$-V$	$-D$	$+N$	$-S$	$-L$	$-Z$	$+U$	$+X$	$-iR$	$+iT$	$+iP$	$+iM$	$+iE$	$-iY$
$^{\lambda}R$	$-^{\nu}R$	$-^{\nu}E$	$-^{\nu}D$	$+^{\nu}V$	$+^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$-^{\nu}Y$	$-^{\nu}X$	$+^{\nu}U$	$+^{\nu}iQ$	$+^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}iN$	$+^{\nu}iF$	$+^{\nu}iZ$	$-R$	$-E$	$-D$	$+V$	$+M$	$+L$	$-S$	$-Y$	$-X$	$+U$	$+iQ$	$+iP$	$-iT$	$-iN$	$+iF$	$+iZ$
$^{\lambda}D$	$-^{\nu}D$	$+^{\nu}T$	$-^{\nu}R$	$-^{\nu}Q$	$+^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$-^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iX$	$+^{\nu}iP$	$-^{\nu}iL$	$-D$	$+T$	$-R$	$-Q$	$+U$	$-Z$	$-Y$	$-S$	$+N$	$+M$	$-iV$	$+iF$	$+iE$	$+iX$	$+iP$	$-iL$
$^{\lambda}E$	$-^{\nu}E$	$-^{\nu}R$	$-^{\nu}T$	$-^{\nu}P$	$-^{\nu}Z$	$-^{\nu}U$	$-^{\nu}X$	$-^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$-^{\nu}iF$	$-^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}iY$	$-^{\nu}iQ$	$-^{\nu}iM$	$-E$	$-R$	$-T$	$-P$	$-Z$	$-U$	$-X$	$-N$	$-S$	$-L$	$-iF$	$-iV$	$-iD$	$-iY$	$-iQ$	$-iM$
$^{\lambda}F$	$-^{\nu}F$	$+^{\nu}Q$	$-^{\nu}P$	$+^{\nu}T$	$-^{\nu}Y$	$+^{\nu}X$	$-^{\nu}U$	$-^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$+^{\nu}iE$	$-^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}iZ$	$-^{\nu}iR$	$+^{\nu}iN$	$-F$	$+Q$	$-P$	$+T$	$-Y$	$+X$	$-U$	$-M$	$+L$	$-S$	$+iE$	$-iD$	$+iV$	$+iZ$	$-iR$	$+iN$
$^{\lambda}iL$	$-^{\nu}iL$	$+^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$-^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}iV$	$+^{\nu}iF$	$-^{\nu}iE$	$-^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$-^{\nu}P$	$+^{\nu}X$	$-^{\nu}D$	$-iL$	$+iU$	$-iZ$	$+iY$	$-iT$	$+iR$	$-iQ$	$-iV$	$+iF$	$-iE$	$-S$	$+N$	$-M$	$-P$	$+X$	$-D$
$^{\lambda}iM$	$-^{\nu}iM$	$-^{\nu}iZ$	$-^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iR$	$+^{\nu}iT$	$-^{\nu}iP$	$-^{\nu}iF$	$-^{\nu}iV$	$+^{\nu}iD$	$-^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$+^{\nu}Q$	$-^{\nu}Y$	$-^{\nu}E$	$-iM$	$-iZ$	$-iU$	$+iX$	$+iR$	$+iT$	$-iP$	$-iF$	$-iV$	$+iD$	$-N$	$-S$	$+L$	$+Q$	$-Y$	$-E$
$^{\lambda}iN$	$-^{\nu}iN$	$+^{\nu}iY$	$-^{\nu}iX$	$-^{\nu}iU$	$+^{\nu}iQ$	$-^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}iE$	$+^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$-^{\nu}R$	$-^{\nu}Z$	$+^{\nu}F$	$-iN$	$+iY$	$-iX$	$-iU$	$+iQ$	$-iP$	$-iT$	$-iE$	$+iD$	$+iV$	$+M$	$-L$	$-S$	$-R$	$-Z$	$+F$
$^{\lambda}iT$	$-^{\nu}iT$	$+^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$-^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$-^{\nu}P$	$+^{\nu}Q$	$-^{\nu}R$	$-^{\nu}S$	$+^{\nu}V$	$-^{\nu}U$	$-iT$	$+iD$	$-iE$	$+iF$	$-iL$	$+iM$	$-iN$	$-iX$	$+iY$	$-iZ$	$-P$	$+Q$	$-R$	$-S$	$+V$	$-U$
$^{\lambda}iU$	$-^{\nu}iU$	$+^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$+^{\nu}iD$	$-^{\nu}iE$	$-^{\nu}iF$	$-^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}V$	$-^{\nu}S$	$+^{\nu}T$	$-iU$	$+iL$	$-iM$	$-iN$	$+iD$	$-iE$	$-iF$	$-iP$	$+iQ$	$+iR$	$+X$	$-Y$	$-Z$	$-V$	$-S$	$+T$
$^{\lambda}iV$	$-^{\nu}iV$	$-^{\nu}iP$	$-^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$-^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$-^{\nu}D$	$-^{\nu}E$	$+^{\nu}F$	$+^{\nu}U$	$-^{\nu}T$	$-^{\nu}S$	$-iV$	$-iP$	$-iQ$	$+iR$	$+iX$	$+iY$	$-iZ$	$-iL$	$-iM$	$+iN$	$-D$	$-E$	$+F$	$+U$	$-T$	$-S$

TABLE 36. $Ka^2(1,4)$ multiplication table, part B2

	${}^{\mu}S$	${}^{\mu}X$	${}^{\mu}Y$	${}^{\mu}Z$	${}^{\mu}P$	${}^{\mu}Q$	${}^{\mu}R$	${}^{\mu}D$	${}^{\mu}E$	${}^{\mu}F$	${}^{\mu}iL$	${}^{\mu}iM$	${}^{\mu}iN$	${}^{\mu}iT$	${}^{\mu}iU$	${}^{\mu}iV$	${}^{\lambda}S$	${}^{\lambda}X$	${}^{\lambda}Y$	${}^{\lambda}Z$	${}^{\lambda}P$	${}^{\lambda}Q$	${}^{\lambda}R$	${}^{\lambda}D$	${}^{\lambda}E$	${}^{\lambda}F$	${}^{\lambda}iL$	${}^{\lambda}iM$	${}^{\lambda}iN$	${}^{\lambda}iT$	${}^{\lambda}iU$	${}^{\lambda}iV$
iS	$+{}^{\mu}iS$	$+{}^{\mu}iX$	$+{}^{\mu}iY$	$+{}^{\mu}iZ$	$+{}^{\mu}iP$	$+{}^{\mu}iQ$	$+{}^{\mu}iR$	$+{}^{\mu}iD$	$+{}^{\mu}iE$	$+{}^{\mu}iF$	$-{}^{\mu}L$	$-{}^{\mu}M$	$-{}^{\mu}N$	$-{}^{\mu}T$	$-{}^{\mu}U$	$-{}^{\mu}V$	$-{}^{\lambda}iS$	$-{}^{\lambda}iX$	$-{}^{\lambda}iY$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iP$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$-{}^{\lambda}iD$	$-{}^{\lambda}iE$	$-{}^{\lambda}iF$	$+{}^{\lambda}L$	$+{}^{\lambda}M$	$+{}^{\lambda}N$	$+{}^{\lambda}T$	$+{}^{\lambda}U$	$+{}^{\lambda}V$
iX	$+{}^{\mu}iX$	$+{}^{\mu}iS$	$-{}^{\mu}iN$	$+{}^{\mu}iM$	$+{}^{\mu}iV$	$-{}^{\mu}iF$	$+{}^{\mu}iE$	$-{}^{\mu}iT$	$+{}^{\mu}iR$	$-{}^{\mu}iQ$	$+{}^{\mu}U$	$-{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}D$	$+{}^{\mu}L$	$-{}^{\mu}P$	$-{}^{\lambda}iX$	$-{}^{\lambda}iS$	$+{}^{\lambda}iN$	$-{}^{\lambda}iM$	$-{}^{\lambda}iV$	$+{}^{\lambda}iF$	$-{}^{\lambda}iE$	$+{}^{\lambda}iT$	$-{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$-{}^{\lambda}U$	$+{}^{\lambda}Z$	$-{}^{\lambda}Y$	$-{}^{\lambda}D$	$-{}^{\lambda}L$	$+{}^{\lambda}P$
iY	$+{}^{\mu}iY$	$+{}^{\mu}iN$	$+{}^{\mu}iS$	$+{}^{\mu}iL$	$+{}^{\mu}iF$	$+{}^{\mu}iV$	$+{}^{\mu}iD$	$+{}^{\mu}iR$	$+{}^{\mu}iT$	$+{}^{\mu}iP$	$-{}^{\mu}Z$	$-{}^{\mu}U$	$-{}^{\mu}X$	$-{}^{\mu}E$	$-{}^{\mu}M$	$-{}^{\mu}Q$	$-{}^{\lambda}iY$	$-{}^{\lambda}iN$	$-{}^{\lambda}iS$	$-{}^{\lambda}iL$	$-{}^{\lambda}iF$	$-{}^{\lambda}iV$	$-{}^{\lambda}iD$	$-{}^{\lambda}iR$	$-{}^{\lambda}iT$	$-{}^{\lambda}iP$	$+{}^{\lambda}Z$	$+{}^{\lambda}U$	$+{}^{\lambda}X$	$+{}^{\lambda}E$	$+{}^{\lambda}M$	$+{}^{\lambda}Q$
iZ	$+{}^{\mu}iZ$	$-{}^{\mu}iM$	$-{}^{\mu}iL$	$+{}^{\mu}iS$	$+{}^{\mu}iE$	$+{}^{\mu}iD$	$-{}^{\mu}iV$	$+{}^{\mu}iQ$	$+{}^{\mu}iP$	$-{}^{\mu}iT$	$+{}^{\mu}Y$	$+{}^{\mu}X$	$-{}^{\mu}U$	$+{}^{\mu}F$	$-{}^{\mu}N$	$+{}^{\mu}R$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iM$	$+{}^{\lambda}iL$	$-{}^{\lambda}iS$	$-{}^{\lambda}iE$	$-{}^{\lambda}iD$	$+{}^{\lambda}iV$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iP$	$+{}^{\lambda}iT$	$-{}^{\lambda}Y$	$-{}^{\lambda}X$	$+{}^{\lambda}U$	$-{}^{\lambda}F$	$+{}^{\lambda}N$	$-{}^{\lambda}R$
iP	$+{}^{\mu}iP$	$-{}^{\mu}iV$	$+{}^{\mu}iF$	$+{}^{\mu}iE$	$+{}^{\mu}iS$	$-{}^{\mu}iN$	$-{}^{\mu}iM$	$-{}^{\mu}iU$	$+{}^{\mu}iZ$	$+{}^{\mu}iY$	$-{}^{\mu}T$	$+{}^{\mu}R$	$+{}^{\mu}Q$	$-{}^{\mu}L$	$+{}^{\mu}D$	$+{}^{\mu}X$	$-{}^{\lambda}iP$	$+{}^{\lambda}iV$	$-{}^{\lambda}iF$	$-{}^{\lambda}iE$	$-{}^{\lambda}iS$	$+{}^{\lambda}iN$	$+{}^{\lambda}iM$	$+{}^{\lambda}iU$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iY$	$+{}^{\lambda}T$	$-{}^{\lambda}R$	$-{}^{\lambda}Q$	$+{}^{\lambda}L$	$-{}^{\lambda}D$	$-{}^{\lambda}X$
iQ	$+{}^{\mu}iQ$	$-{}^{\mu}iF$	$-{}^{\mu}iV$	$+{}^{\mu}iD$	$+{}^{\mu}iN$	$+{}^{\mu}iS$	$-{}^{\mu}iL$	$+{}^{\mu}iZ$	$+{}^{\mu}iU$	$-{}^{\mu}iX$	$+{}^{\mu}R$	$+{}^{\mu}T$	$-{}^{\mu}P$	$+{}^{\mu}M$	$-{}^{\mu}E$	$+{}^{\mu}Y$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iF$	$+{}^{\lambda}iV$	$-{}^{\lambda}iD$	$-{}^{\lambda}iN$	$-{}^{\lambda}iS$	$+{}^{\lambda}iL$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iU$	$+{}^{\lambda}iX$	$-{}^{\lambda}R$	$-{}^{\lambda}T$	$+{}^{\lambda}P$	$-{}^{\lambda}M$	$+{}^{\lambda}E$	$-{}^{\lambda}Y$
iR	$+{}^{\mu}iR$	$+{}^{\mu}iE$	$+{}^{\mu}iD$	$+{}^{\mu}iV$	$+{}^{\mu}iM$	$+{}^{\mu}iL$	$+{}^{\mu}iS$	$+{}^{\mu}iY$	$+{}^{\mu}iX$	$+{}^{\mu}iU$	$-{}^{\mu}Q$	$-{}^{\mu}P$	$-{}^{\mu}T$	$-{}^{\mu}N$	$-{}^{\mu}F$	$-{}^{\mu}Z$	$-{}^{\lambda}iR$	$-{}^{\lambda}iE$	$-{}^{\lambda}iD$	$-{}^{\lambda}iV$	$-{}^{\lambda}iM$	$-{}^{\lambda}iL$	$-{}^{\lambda}iS$	$-{}^{\lambda}iY$	$-{}^{\lambda}iX$	$-{}^{\lambda}iU$	$+{}^{\lambda}Q$	$+{}^{\lambda}P$	$+{}^{\lambda}T$	$+{}^{\lambda}N$	$+{}^{\lambda}F$	$+{}^{\lambda}Z$
iD	$+{}^{\mu}iD$	$+{}^{\mu}iT$	$+{}^{\mu}iR$	$+{}^{\mu}iQ$	$+{}^{\mu}iU$	$+{}^{\mu}iZ$	$+{}^{\mu}iY$	$+{}^{\mu}iS$	$+{}^{\mu}iN$	$+{}^{\mu}iM$	$-{}^{\mu}V$	$-{}^{\mu}F$	$-{}^{\mu}E$	$-{}^{\mu}X$	$-{}^{\mu}P$	$-{}^{\mu}L$	$-{}^{\lambda}iD$	$-{}^{\lambda}iT$	$-{}^{\lambda}iR$	$-{}^{\lambda}iQ$	$-{}^{\lambda}iU$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iY$	$-{}^{\lambda}iS$	$-{}^{\lambda}iN$	$-{}^{\lambda}iM$	$+{}^{\lambda}V$	$+{}^{\lambda}F$	$+{}^{\lambda}E$	$+{}^{\lambda}X$	$+{}^{\lambda}P$	$+{}^{\lambda}L$
iE	$+{}^{\mu}iE$	$+{}^{\mu}iR$	$-{}^{\mu}iT$	$+{}^{\mu}iP$	$+{}^{\mu}iZ$	$-{}^{\mu}iU$	$+{}^{\mu}iX$	$-{}^{\mu}iN$	$+{}^{\mu}iS$	$-{}^{\mu}iL$	$+{}^{\mu}F$	$-{}^{\mu}V$	$+{}^{\mu}D$	$+{}^{\mu}Y$	$+{}^{\mu}Q$	$-{}^{\mu}M$	$-{}^{\lambda}iE$	$-{}^{\lambda}iR$	$+{}^{\lambda}iT$	$-{}^{\lambda}iP$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iU$	$-{}^{\lambda}iX$	$+{}^{\lambda}iN$	$-{}^{\lambda}iS$	$+{}^{\lambda}iL$	$-{}^{\lambda}F$	$+{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}Y$	$-{}^{\lambda}Q$	$+{}^{\lambda}M$
iF	$+{}^{\mu}iF$	$-{}^{\mu}iQ$	$+{}^{\mu}iP$	$+{}^{\mu}iT$	$+{}^{\mu}iY$	$-{}^{\mu}iX$	$-{}^{\mu}iU$	$-{}^{\mu}iM$	$+{}^{\mu}iL$	$+{}^{\mu}iS$	$-{}^{\mu}E$	$+{}^{\mu}D$	$+{}^{\mu}V$	$-{}^{\mu}Z$	$+{}^{\mu}R$	$+{}^{\mu}N$	$-{}^{\lambda}iF$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iP$	$-{}^{\lambda}iT$	$-{}^{\lambda}iY$	$+{}^{\lambda}iX$	$+{}^{\lambda}iU$	$+{}^{\lambda}iM$	$-{}^{\lambda}iL$	$-{}^{\lambda}iS$	$+{}^{\lambda}E$	$-{}^{\lambda}D$	$-{}^{\lambda}V$	$+{}^{\lambda}Z$	$-{}^{\lambda}R$	$-{}^{\lambda}N$
L	$+{}^{\mu}L$	$-{}^{\mu}U$	$-{}^{\mu}Z$	$+{}^{\mu}Y$	$+{}^{\mu}T$	$+{}^{\mu}R$	$-{}^{\mu}Q$	$+{}^{\mu}V$	$+{}^{\mu}F$	$-{}^{\mu}E$	$-{}^{\mu}iS$	$-{}^{\mu}iN$	$+{}^{\mu}iM$	$-{}^{\mu}iP$	$+{}^{\mu}iX$	$-{}^{\mu}iD$	$-{}^{\lambda}L$	$+{}^{\lambda}U$	$+{}^{\lambda}Z$	$-{}^{\lambda}Y$	$-{}^{\lambda}T$	$-{}^{\lambda}R$	$+{}^{\lambda}Q$	$-{}^{\lambda}V$	$-{}^{\lambda}F$	$+{}^{\lambda}E$	$+{}^{\lambda}iS$	$+{}^{\lambda}iN$	$-{}^{\lambda}iM$	$+{}^{\lambda}iP$	$-{}^{\lambda}iX$	$+{}^{\lambda}iD$
M	$+{}^{\mu}M$	$-{}^{\mu}Z$	$+{}^{\mu}U$	$+{}^{\mu}X$	$+{}^{\mu}R$	$-{}^{\mu}T$	$-{}^{\mu}P$	$-{}^{\mu}F$	$+{}^{\mu}V$	$+{}^{\mu}D$	$+{}^{\mu}iN$	$-{}^{\mu}iS$	$-{}^{\mu}iL$	$+{}^{\mu}iQ$	$-{}^{\mu}iY$	$-{}^{\mu}iE$	$-{}^{\lambda}M$	$+{}^{\lambda}Z$	$-{}^{\lambda}U$	$-{}^{\lambda}X$	$-{}^{\lambda}R$	$+{}^{\lambda}T$	$+{}^{\lambda}P$	$+{}^{\lambda}F$	$-{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}iN$	$+{}^{\lambda}iS$	$+{}^{\lambda}iL$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iY$	$+{}^{\lambda}iE$
N	$+{}^{\mu}N$	$+{}^{\mu}Y$	$-{}^{\mu}X$	$+{}^{\mu}U$	$+{}^{\mu}Q$	$-{}^{\mu}P$	$+{}^{\mu}T$	$-{}^{\mu}E$	$+{}^{\mu}D$	$-{}^{\mu}V$	$-{}^{\mu}iM$	$+{}^{\mu}iL$	$-{}^{\mu}iS$	$-{}^{\mu}iR$	$-{}^{\mu}iZ$	$+{}^{\mu}iF$	$-{}^{\lambda}N$	$-{}^{\lambda}Y$	$+{}^{\lambda}X$	$-{}^{\lambda}U$	$-{}^{\lambda}Q$	$+{}^{\lambda}P$	$-{}^{\lambda}T$	$+{}^{\lambda}E$	$-{}^{\lambda}D$	$+{}^{\lambda}V$	$+{}^{\lambda}iM$	$-{}^{\lambda}iL$	$+{}^{\lambda}iS$	$+{}^{\lambda}iR$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iF$
T	$+{}^{\mu}T$	$+{}^{\mu}D$	$-{}^{\mu}E$	$+{}^{\mu}F$	$+{}^{\mu}L$	$-{}^{\mu}M$	$+{}^{\mu}N$	$-{}^{\mu}X$	$+{}^{\mu}Y$	$-{}^{\mu}Z$	$-{}^{\mu}iP$	$+{}^{\mu}iQ$	$-{}^{\mu}iR$	$-{}^{\mu}iS$	$-{}^{\mu}iV$	$+{}^{\mu}iU$	$-{}^{\lambda}T$	$-{}^{\lambda}D$	$+{}^{\lambda}E$	$-{}^{\lambda}F$	$-{}^{\lambda}L$	$+{}^{\lambda}M$	$-{}^{\lambda}N$	$+{}^{\lambda}X$	$-{}^{\lambda}Y$	$+{}^{\lambda}Z$	$+{}^{\lambda}iP$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iR$	$+{}^{\lambda}iS$	$+{}^{\lambda}iV$	$-{}^{\lambda}iU$
U	$+{}^{\mu}U$	$-{}^{\mu}L$	$+{}^{\mu}M$	$+{}^{\mu}N$	$+{}^{\mu}D$	$-{}^{\mu}E$	$-{}^{\mu}F$	$-{}^{\mu}P$	$+{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}iX$	$-{}^{\mu}iY$	$-{}^{\mu}iZ$	$+{}^{\mu}iV$	$-{}^{\mu}iS$	$-{}^{\mu}iT$	$-{}^{\lambda}U$	$+{}^{\lambda}L$	$-{}^{\lambda}M$	$-{}^{\lambda}N$	$-{}^{\lambda}D$	$+{}^{\lambda}E$	$+{}^{\lambda}F$	$+{}^{\lambda}P$	$-{}^{\lambda}Q$	$-{}^{\lambda}R$	$-{}^{\lambda}iX$	$+{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iV$	$+{}^{\lambda}iS$	$+{}^{\lambda}iT$
V	$+{}^{\mu}V$	$-{}^{\mu}P$	$-{}^{\mu}Q$	$+{}^{\mu}R$	$+{}^{\mu}X$	$+{}^{\mu}Y$	$-{}^{\mu}Z$	$+{}^{\mu}L$	$+{}^{\mu}M$	$-{}^{\mu}N$	$-{}^{\mu}iD$	$-{}^{\mu}iE$	$+{}^{\mu}iF$	$-{}^{\mu}iU$	$+{}^{\mu}iT$	$-{}^{\mu}iS$	$-{}^{\lambda}V$	$+{}^{\lambda}P$	$+{}^{\lambda}Q$	$-{}^{\lambda}R$	$-{}^{\lambda}X$	$-{}^{\lambda}Y$	$+{}^{\lambda}Z$	$-{}^{\lambda}L$	$-{}^{\lambda}M$	$+{}^{\lambda}N$	$+{}^{\lambda}iD$	$+{}^{\lambda}iE$	$-{}^{\lambda}iF$	$+{}^{\lambda}iU$	$-{}^{\lambda}iT$	$+{}^{\lambda}iS$
${}^{\nu}iS$	$+{}^{\lambda}iS$	$+{}^{\lambda}iX$	$+{}^{\lambda}iY$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iP$	$+{}^{\lambda}iQ$	$+{}^{\lambda}iR$	$+{}^{\lambda}iD$	$+{}^{\lambda}iE$	$+{}^{\lambda}iF$	$-{}^{\lambda}L$	$-{}^{\lambda}M$	$-{}^{\lambda}N$	$-{}^{\lambda}T$	$-{}^{\lambda}U$	$-{}^{\lambda}V$	$+{}^{\mu}iS$	$+{}^{\mu}iX$	$+{}^{\mu}iY$	$+{}^{\mu}iZ$	$+{}^{\mu}iP$	$+{}^{\mu}iQ$	$+{}^{\mu}iR$	$+{}^{\mu}iD$	$+{}^{\mu}iE$	$+{}^{\mu}iF$	$-{}^{\mu}L$	$-{}^{\mu}M$	$-{}^{\mu}N$	$-{}^{\mu}T$	$-{}^{\mu}U$	$-{}^{\mu}V$
${}^{\nu}iX$	$+{}^{\lambda}iX$	$+{}^{\lambda}iS$	$+{}^{\lambda}iN$	$-{}^{\lambda}iM$	$-{}^{\lambda}iV$	$-{}^{\lambda}iF$	$+{}^{\lambda}iE$	$+{}^{\lambda}iT$	$+{}^{\lambda}iR$	$-{}^{\lambda}iQ$	$+{}^{\lambda}U$	$+{}^{\lambda}Z$	$-{}^{\lambda}Y$	$-{}^{\lambda}D$	$+{}^{\lambda}L$	$+{}^{\lambda}P$	$+{}^{\mu}iX$	$+{}^{\mu}iS$	$+{}^{\mu}iN$	$-{}^{\mu}iM$	$-{}^{\mu}iV$	$-{}^{\mu}iF$	$+{}^{\mu}iE$	$+{}^{\mu}iT$	$+{}^{\mu}iR$	$-{}^{\mu}iQ$	$+{}^{\mu}U$	$+{}^{\mu}Z$	$-{}^{\mu}Y$	$-{}^{\mu}D$	$+{}^{\mu}L$	$+{}^{\mu}P$
${}^{\nu}iY$	$+{}^{\lambda}iY$	$-{}^{\lambda}iN$	$+{}^{\lambda}iS$	$-{}^{\lambda}iL$	$+{}^{\lambda}iF$	$-{}^{\lambda}iV$	$+{}^{\lambda}iD$	$+{}^{\lambda}iR$	$-{}^{\lambda}iT$	$+{}^{\lambda}iP$	$+{}^{\lambda}Z$	$-{}^{\lambda}U$	$+{}^{\lambda}X$	$+{}^{\lambda}E$	$-{}^{\lambda}M$	$+{}^{\lambda}Q$	$+{}^{\mu}iY$	$-{}^{\mu}iN$	$+{}^{\mu}iS$	$-{}^{\mu}iL$	$+{}^{\mu}iF$	$-{}^{\mu}iV$	$+{}^{\mu}iD$	$+{}^{\mu}iR$	$-{}^{\mu}iT$	$+{}^{\mu}iP$	$+{}^{\mu}Z$	$-{}^{\mu}U$	$+{}^{\mu}X$	$+{}^{\mu}E$	$-{}^{\mu}M$	$+{}^{\mu}Q$
${}^{\nu}iZ$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iM$	$+{}^{\lambda}iL$	$+{}^{\lambda}iS$	$+{}^{\lambda}iE$	$+{}^{\lambda}iD$	$+{}^{\lambda}iV$	$+{}^{\lambda}iQ$	$+{}^{\lambda}iP$	$+{}^{\lambda}iT$	$-{}^{\lambda}Y$	$-{}^{\lambda}X$	$-{}^{\lambda}U$	$-{}^{\lambda}F$	$-{}^{\lambda}N$	$-{}^{\lambda}R$	$+{}^{\mu}iZ$	$+{}^{\mu}iM$	$+{}^{\mu}iL$	$+{}^{\mu}iS$	$+{}^{\mu}iE$	$+{}^{\mu}iD$	$+{}^{\mu}iV$	$+{}^{\mu}iQ$	$+{}^{\mu}iP$	$+{}^{\mu}iT$	$-{}^{\mu}Y$	$-{}^{\mu}X$	$-{}^{\mu}U$	$-{}^{\mu}F$	$-{}^{\mu}N$	$-{}^{\mu}R$
${}^{\nu}iP$	$+{}^{\lambda}iP$	$+{}^{\lambda}iV$	$+{}^{\lambda}iF$	$+{}^{\lambda}iE$	$+{}^{\lambda}iS$	$+{}^{\lambda}iN$	$+{}^{\lambda}iM$	$+{}^{\lambda}iU$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iY$	$-{}^{\lambda}T$	$-{}^{\lambda}R$	$-{}^{\lambda}Q$	$-{}^{\lambda}L$	$-{}^{\lambda}D$	$-{}^{\lambda}X$	$+{}^{\mu}iP$	$+{}^{\mu}iV$	$+{}^{\mu}iF$	$+{}^{\mu}iE$	$+{}^{\mu}iS$	$+{}^{\mu}iN$	$+{}^{\mu}iM$	$+{}^{\mu}iU$	$+{}^{\mu}iZ$	$+{}^{\mu}iY$	$-{}^{\mu}T$	$-{}^{\mu}R$	$-{}^{\mu}Q$	$-{}^{\mu}L$	$-{}^{\mu}D$	$-{}^{\mu}X$
${}^{\nu}iQ$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iF$	$+{}^{\lambda}iV$	$+{}^{\lambda}iD$	$-{}^{\lambda}iN$	$+{}^{\lambda}iS$	$+{}^{\lambda}iL$	$+{}^{\lambda}iZ$	$-{}^{\lambda}iU$	$-{}^{\lambda}iX$	$-{}^{\lambda}R$	$+{}^{\lambda}T$	$+{}^{\lambda}P$	$+{}^{\lambda}M$	$+{}^{\lambda}E$	$-{}^{\lambda}Y$	$+{}^{\mu}iQ$	$-{}^{\mu}iF$	$+{}^{\mu}iV$	$+{}^{\mu}iD$	$-{}^{\mu}iN$	$+{}^{\mu}iS$	$+{}^{\mu}iL$	$+{}^{\mu}iZ$	$-{}^{\mu}iU$	$-{}^{\mu}iX$	$-{}^{\mu}R$	$+{}^{\mu}T$	$+{}^{\mu}P$	$+{}^{\mu}M$	$+{}^{\mu}E$	$-{}^{\mu}Y$
${}^{\nu}iR$	$+{}^{\lambda}iR$	$+{}^{\lambda}iE$	$+{}^{\lambda}iD$	$-{}^{\lambda}iV$	$-{}^{\lambda}iM$	$-{}^{\lambda}iL$	$+{}^{\lambda}iS$	$+{}^{\lambda}iY$	$+{}^{\lambda}iX$	$-{}^{\lambda}iU$	$+{}^{\lambda}Q$	$+{}^{\lambda}P$	$-{}^{\lambda}T$	$-{}^{\lambda}N$	$+{}^{\lambda}F$	$+{}^{\lambda}Z$	$+{}^{\mu}iR$	$+{}^{\mu}iE$	$+{}^{\mu}iD$	$-{}^{\mu}iV$	$-{}^{\mu}iM$	$-{}^{\mu}iL$	$+{}^{\mu}iS$	$+{}^{\mu}iY$	$+{}^{\mu}iX$	$-{}^{\mu}iU$	$+{}^{\mu}Q$	$+{}^{\mu}P$	$-{}^{\mu}T$	$-{}^{\mu}N$	$+{}^{\mu}F$	$+{}^{\mu}Z$
${}^{\nu}iD$	$+{}^{\lambda}iD$	$-{}^{\lambda}iT$	$+{}^{\lambda}iR$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iU$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iY$	$+{}^{\lambda}iS$	$-{}^{\lambda}iN$	$-{}^{\lambda}iM$	$-{}^{\lambda}V$	$+{}^{\lambda}F$	$+{}^{\lambda}E$	$+{}^{\lambda}X$	$+{}^{\lambda}P$	$-{}^{\lambda}L$	$+{}^{\mu}iD$	$-{}^{\mu}iT$	$+{}^{\mu}iR$	$+{}^{\mu}iQ$	$-{}^{\mu}iU$	$+{}^{\mu}iZ$	$+{}^{\mu}iY$	$+{}^{\mu}iS$	$-{}^{\mu}iN$	$-{}^{\mu}iM$	$-{}^{\mu}V$	$+{}^{\mu}F$	$+{}^{\mu}E$	$+{}^{\mu}X$	$+{}^{\mu}P$	$-{}^{\mu}L$
${}^{\nu}iE$	$+{}^{\lambda}iE$	$+{}^{\lambda}iR$	$+{}^{\lambda}iT$	$+{}^{\lambda}iP$	$+{}^{\lambda}iZ$	$+{}^{\lambda}iU$	$+{}^{\lambda}iX$	$+{}^{\lambda}iN$	$+{}^{\lambda}iS$	$+{}^{\lambda}iL$	$-{}^{\lambda}F$	$-{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}Y$	$-{}^{\lambda}Q$	$-{}^{\lambda}M$	$+{}^{\mu}iE$	$+{}^{\mu}iR$	$+{}^{\mu}iT$	$+{}^{\mu}iP$	$+{}^{\mu}iZ$	$+{}^{\mu}iU$	$+{}^{\mu}iX$	$+{}^{\mu}iN$	$+{}^{\mu}iS$	$+{}^{\mu}iL$	$-{}^{\mu}F$	$-{}^{\mu}V$	$-{}^{\mu}D$	$-{}^{\mu}Y$	$-{}^{\mu}Q$	$-{}^{\mu}M$
${}^{\nu}iF$	$+{}^{\lambda}iF$	$-{}^{\lambda}iQ$	$+{}^{\lambda}iP$	$-{}^{\lambda}iT$	$+{}^{\lambda}iY$	$-{}^{\lambda}iX$	$+{}^{\lambda}iU$	$+{}^{\lambda}iM$	$-{}^{\lambda}iL$	$+{}^{\lambda}iS$	$+{}^{\lambda}E$	$-{}^{\lambda}D$	$+{}^{\lambda}V$	$+{}^{\lambda}Z$	$-{}^{\lambda}R$	$+{}^{\lambda}N$	$+{}^{\mu}iF$	$-{}^{\mu}iQ$	$+{}^{\mu}iP$	$-{}^{\mu}iT$	$+{}^{\mu}iY$	$-{}^{\mu}iX$	$+{}^{\mu}iU$	$+{}^{\mu}iM$	$-{}^{\mu}iL$	$+{}^{\mu}iS$	$+{}^{\mu}E$	$-{}^{\mu}D$	$+{}^{\mu}V$	$+{}^{\mu}Z$	$-{}^{\mu}R$	$+{}^{\mu}N$
${}^{\nu}L$	$+{}^{\lambda}L$	$-{}^{\lambda}U$	$+{}^{\lambda}Z$	$-{}^{\lambda}Y$	$+{}^{\lambda}T$	$-{}^{\lambda}R$	$+{}^{\lambda}Q$	$+{}^{\lambda}V$	$-{}^{\lambda}F$	$+{}^{\lambda}E$	$-{}^{\lambda}iS$	$+{}^{\lambda}iN$	$-{}^{\lambda}iM$	$-{}^{\lambda}iP$	$+{}^{\lambda}iX$	$-{}^{\lambda}iD$	$+{}^{\mu}L$	$-{}^{\mu}U$	$+{}^{\mu}Z$	$-{}^{\mu}Y$	$+{}^{\mu}T$	$-{}^{\mu}R$	$+{}^{\mu}Q$	$+{}^{\mu}V$	$-{}^{\mu}F$	$+{}^{\mu}E$	$-{}^{\mu}iS$	$+{}^{\mu}iN$	$-{}^{\mu}iM$	$-{}^{\mu}iP$	$+{}^{\mu}iX$	$-{}^{\mu}iD$
${}^{\nu}M$	$+{}^{\lambda}M$	$+{}^{\lambda}Z$	$+{}^{\lambda}U$	$-{}^{\lambda}X$	$-{}^{\lambda}R$	$-{}^{\lambda}T$	$+{}^{\lambda}P$	$+{}^{\lambda}F$	$+{}^{\lambda}V$	$-{}^{\lambda}D$	$-{}^{\lambda}iN$	$-{}^{\lambda}iS$	$+{}^{\lambda}iL$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iY$	$-{}^{\lambda}iE$	$+{}^{\mu}M$	$+{}^{\mu}Z$	$+{}^{\mu}U$	$-{}^{\mu}X$	$-{}^{\mu}R$	$-{}^{\mu}T$	$+{}^{\mu}P$	$+{}^{\mu}F$	$+{}^{\mu}V$	$-{}^{\mu}D$	$-{}^{\mu}iN$	$-{}^{\mu}iS$	$+{}^{\mu}iL$	$+{}^{\mu}iQ$	$-{}^{\mu}iY$	$-{}^{\mu}iE$
${}^{\nu}N$	$+{}^{\lambda}N$	$-{}^{\lambda}Y$	$+{}^{\lambda}X$	$+{}^{\lambda}U$	$-{}^{\lambda}Q$	$+{}^{\lambda}P$	$+{}^{\lambda}T$	$+{}^{\lambda}E$	$-{}^{\lambda}D$	$-{}^{\lambda}V$	$+{}^{\lambda}iM$	$-{}^{\lambda}iL$	$-{}^{\lambda}iS$	$-{}^{\lambda}iR$	$-{}^{\lambda}iZ$	$+{}^{\lambda}iF$	$+{}^{\mu}N$	$-{}^{\mu}Y$	$+{}^{\mu}X$	$+{}^{\mu}U$	$-{}^{\mu}Q$	$+{}^{\mu}P$	$+{}^{\mu}T$	$+{}^{\mu}E$	$-{}^{\mu}D$	$-{}^{\mu}V$	$+{}^{\mu}iM$	$-{}^{\mu}iL$	$-{}^{\mu}iS$	$-{}^{\mu}iR$	$-{}^{\mu}iZ$	$+{}^{\mu}iF$
${}^{\nu}T$	$+{}^{\lambda}T$	$-{}^{\lambda}D$	$+{}^{\lambda}E$	$-{}^{\lambda}F$	$+{}^{\lambda}L$	$-{}^{\lambda}M$	$+{}^{\lambda}N$	$+{}^{\lambda}X$	$-{}^{\lambda}Y$	$+{}^{\lambda}Z$	$-{}^{\lambda}iP$	$+{}^{\lambda}iQ$	$-{}^{\lambda}iR$	$-{}^{\lambda}iS$	$+{}^{\lambda}iV$	$-{}^{\lambda}iU$	$+{}^{\mu}T$	$-{}^{\mu}D$	$+{}^{\mu}E$	$-{}^{\mu}F$	$+{}^{\mu}L$	$-{}^{\mu}M$	$+{}^{\mu}N$	$+{}^{\mu}X$	$-{}^{\mu}Y$	$+{}^{\mu}Z$	$-{}^{\mu}iP$	$+{}^{\mu}iQ$	$-{}^{\mu}iR$	$-{}^{\mu}iS$	$+{}^{\mu}iV$	$-{}^{\mu}iU$
${}^{\nu}U$	$+{}^{\lambda}U$	$-{}^{\lambda}L$	$+{}^{\lambda}M$	$+{}^{\lambda}N$	$-{}^{\lambda}D$	$+{}^{\lambda}E$	$+{}^{\lambda}F$	$+{}^{\lambda}P$	$-{}^{\lambda}Q$	$-{}^{\lambda}R$	$+{}^{\lambda}iX$	$-{}^{\lambda}iY$	$-{}^{\lambda}iZ$	$-{}^{\lambda}iV$	$-{}^{\lambda}iS$	$+{}^{\lambda}iT$	$+{}^{\mu}U$	$-{}^{\mu}L$	$+{}^{\mu}M$	$+{}^{\mu}N$	$-{}^{\mu}D$	$+{}^{\mu}E$	$+{}^{\mu}F$	$+{}^{\mu}P$	$-{}^{\mu}Q$	$-{}^{\mu}R$	$+{}^{\mu}iX$	$-{}^{\mu}iY$	$-{}^{\mu}iZ$	$-{}^{\mu}iV$	$-{}^{\mu}iS$	$+{}^{\mu}iT$
${}^{\nu}V$	$+{}^{\lambda}V$	$+{}^{\lambda}P$	$+{}^{\lambda}Q$	$-{}^{\lambda}R$	$-{}^{\lambda}X$	$-{}^{\lambda}Y$	$+{}^{\lambda}Z$	$+{}^{\lambda}L$	$+{}^{\lambda}M$	$-{}^{\lambda}N$	$-{}^{\lambda}iD$	$-{}^{\lambda}iE$	$+{}^{\lambda}iF$	$+{}^{\lambda}iU$	$-{}^{\lambda}iT$	$-{}^{\lambda}iS$	$+{}^{\mu}V$	$+{}^{\mu}P$	$+{}^{\mu}Q$	$-{}^{\mu}R$	$-{}^{\mu}X$	$-{}^{\mu}Y$	$+{}^{\mu}Z$	$+{}^{\mu}L$	$+{}^{\mu}M$	$-{}^{\mu}N$	$-{}^{\mu}iD$	$-{}^{\mu}iE$	$+{}^{\mu}iF$	$+{}^{\mu}iU$	$-{}^{\mu}iT$	$-{}^{\mu}iS$
${}^{\mu}iS$	$-iS$	$-iX$	$-iY$	$-iZ$	$-iP$	$-iQ$	$-iR$	$-iD$	$-iE$	$-iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$	$-{}^{\nu}iS$	$-{}^{\nu}iX$	$-{}^{\nu}iY$	$-{}^{\nu}iZ$	$-{}^{\nu}iP$	$-{}^{\nu}iQ$	$-{}^{\nu}iR$	$-{}^{\nu}iD$	$-{}^{\nu}iE$	$-{}^{\nu}iF$	$+{}^{\nu}L$	$+{}^{\nu}M$	$+{}^{\nu}N$	$+{}^{\nu}T$	$+{}^{\nu}U$	$+{}^{\nu}V$
${}^{\mu}iX$	$-iX$	$-iS$	$+iN$	$-iM$	$-iV$	$+iF$	$-iE$	$+iT$	$-iR$	$+iQ$	$-U$	$+Z$	$-Y$	$-D$	$-L$	$+P$	$-{}^{\nu}iX$	$-{}^{\nu}iS$	$+{}^{\nu}iN$	$-{}^{\nu}iM$	$-{}^{\nu}iV$	$+{}^{\nu}iF$	$-{}^{\nu}iE$	$+{}^{\nu}iT$	$-{}^{\nu}iR$	$+{}^{\nu}iQ$	$-{}^{\nu}U$	$+{}^{\nu}Z$	$-{}^{\nu}Y$	$-{}^{\nu}D$	$-{}^{\nu}L$	$+{}^{\nu}P$
${}^{\mu}iY$	$-iY$	$-iN$	$-iS$	$-iL$	$-iF$	$-iV$	$-iD$	$-iR$	$-iT$	$-iP$	$+Z$	$+U$	$+X$	$+E$	$+M$	$+Q$	$-{}^{\nu}iY$	$-{}^{\nu}iN$	$-{}^{\nu}iS$	$-{}^{\nu}iL$	$-{}^{\nu}iF$	$-{}^{\nu}iV$	$-{}^{\nu}iD$	$-{}^{\nu}iR$	$-{}^{\nu}iT$	$-{}^{\nu}iP$	$+{}^{\nu}Z$	$+{}^{\nu}U$	$+{}^{\nu}X$	$+{}^{\nu}E$	$+{}^{\nu}M$	$+{}^{\nu}Q$
${}^{\mu}iZ$	$-iZ$	$+iM$	$+iL$	$-iS$	$-iE$	$-iD$	$+iV$	$-iQ$	$-iP$	$+iT$	$-Y$	$-X$	$+U$	$-F$	$+N$	$-R$	$-{}^{\nu}iZ$	$+{}^{\nu}iM$	$+{}^{\nu}iL$	$-{}^{\nu}iS$	$-{}^{\nu}iE$	$-{}^{\nu}iD$	$+{}^{\nu}iV$	$-{}^{\nu}iQ$	$-{}^{\nu}iP$	$+{}^{\nu}iT$	$-{}^{\nu}Y$	$-{}^{\nu}X$	$+{}^{\nu}U$	$-{}^{\nu}F$	$+{}^{\nu}N$	$-{}^{\nu}R$
${}^{\mu}iP$	$-iP$	$+iV$	$-iF$	$-iE$	$-iS$	$+iN$	$+iM$	$+iU$	$-iZ$	$-iY$	$+T$	$-R$	$-Q$	$+L$	$-D$	$-X$	$-{}^{\nu}iP$	$+{}^{\nu}iV$	$-{}^{\nu}iF$	$-{}^{\nu}iE$	$-{}^{\nu}iS$	$+{}^{\nu}iN$	$+{}^{\nu}iM$	$+{}^{\nu}iU$	$-{}^{\nu}iZ$	$-{}^{\nu}iY$	$+{}^{\nu}T$	$-{}^{\nu}R$	$-{}^{\nu}Q$	$+{}^{\nu}L$	$-{}^{\nu}D$	$-{}^{\nu}X$
${}^{\mu}iQ$	$-iQ$	$+iF$	$+iV$	$-iD$	$-iN$	$-iS$	$+iL$	$-iZ$	$-iU$	$+iX$	$-R$	$-T$	$+P$	$-M$	$+E$	$-Y$	$-{}^{\nu}iQ$	$+{}^{\nu}iF$	$+{}^{\nu}iV$	$-{}^{\nu}iD$	$-{}^{\nu}iN$	$-{}^{\nu}iS$	$+{}^{\nu}iL$	$-{}^{\nu}iZ$	$-{}^{\nu}iU$	$+{}^{\nu}iX$	$-{}^{\nu}R$	$-{}^{\nu}T$	$+{}^{\nu}P$	$-{}^{\nu}M$	$+{}^{\nu}E$	$-{}^{\nu}Y$
${}^{\mu}iR$	$-iR$	$-iE$	$-iD$	$-iV$	$-iM$	$-iL$	$-iS$	$-iY$	$-iX$	$-iU$	$+Q$	$+P$	$+T$	$+N$	$+F$	$+Z$	$-{}^{\nu}iR$	$-{}^{\nu}iE$	$-{}^{\nu}iD$	$-{}^{\nu}iV$	$-{}^{\nu}iM$	$-{}^{\nu}iL$	$-{}^{\nu}iS$	$-{}^{\nu}iY$	$-{}^{\nu}iX$	$-{}^{\nu}iU$	$+{}^{\nu}Q$	$+{}^{\nu}P$	$+{}^{\nu}T$	$+{}^{\nu}N$	$+{}^{\nu}F$	$+{}^{\nu}Z$
${}^{\mu}iD$	$-iD$	$-iT$	$-iR$	$-iQ$	$-iU$	$-iZ$	$-iY$	$-iS$	$-iN$	$-iM$	$+V$	$+F$	$+E$	$+X$	$+P$	$+L$	$-{}^{\nu}iD$	$-{}^{\nu}iT$	$-{}^{\nu}iR$	$-{}^{\nu}iQ$	$-{}^{\nu}iU$	$-{}^{\nu}iZ$	$-{}^{\nu}iY$	$-{}^{\nu}iS$	$-{}^{\nu}iN$	$-{}^{\nu}iM$	$+{}^{\nu}V$	$+{}^{\nu}F$	$+{}^{\nu}E$	$+{}^{\nu}X$	$+{}^{\nu}P$	$+{}^{\nu}L$
${}^{\mu}iE$	$-iE$	$-iR$	$+iT$	$-iP$	$-iZ$	$+iU$	$-iX$	$+iN$	$-iS$	$+iL$	$-F$	$+V$	$-D$	$-Y$	$-Q$	$+M$	$-{}^{\nu}iE$	$-{}^{\nu}iR$	$+{}^{\nu}iT$	$-{}^{\nu}iP$	$-{}^{\nu}iZ$	$+{}^{\nu}iU$	$-{}^{\nu}iX$	$+{}^{\nu}iN$	$-{}^{\nu}iS$	$+{}^{\nu}iL$	$-{}^{\nu}F$	$+{}^{\nu}V$	$-{}^{\nu}D$	$-{}^{\nu}Y$	$-{}^{\nu}Q$	$+{}^{\nu}M$
${}^{\mu}iF$	$-iF$	$+iQ$	$-iP$	$-iT$	$-iY$	$+iX$	$+iU$	$+iM$	$-iL$	$-iS$	$+E$	$-D$	$-V$	$+Z$	$-R$	$-N$	$-{}^{\nu}iF$	$+{}^{\nu}iQ$	$-{}^{\nu}iP$	$-{}^{\nu}iT$	$-{}^{\nu}iY$	$+{}^{\nu}iX$	$+{}^{\nu}iU$	$+{}^{\nu}iM$	$-{}^{\nu}iL$	$-{}^{\nu}iS$	$+{}^{\nu}E$	$-{}^{\nu}D$	$-{}^{\nu}V$	$+{}^{\nu}Z$	$-{}^{\nu}R$	$-{}^{\nu}N$
${}^{\mu}L$	$-L$	$+U$	$+Z$	$-Y$	$-T$	$-R$	$+Q$	$-V$	$-F$	$+E$	$+iS$	$+iN$	$-iM$	$+iP$	$-iX$	$+iD$	$-{}^{\nu}L$	$+{}^{\nu}U$	$+{}^{\nu}Z$	$-{}^{\nu}Y$	$-{}^{\nu}T$	$-{}^{\nu}R$	$+{}^{\nu}Q$	$-{}^{\nu}V$	$-{}^{\nu}F$	$+{}^{\nu}E$	$+{}^{\nu}iS$	$+{}^{\nu}iN$	$-{}^{\nu}iM$	$+{}^{\nu}iP$	$-{}^{\nu}iX$	$+{}^{\nu}iD$
${}^{\mu}M$	$-M$	$+Z$	$-U$	$-X$	$-R$	$+T$	$+P$	$+F$	$-V$	$-D$	$-iN$	$+iS$	$+iL$	$-iQ$	$+iY$	$+iE$	$-{}^{\nu}M$	$+{}^{\nu}Z$	$-{}^{\nu}U$	$-{}^{\nu}X$	$-{}^{\nu}R$	$+{}^{\nu}T$	$+{}^{\nu}P$	$+{}^{\nu}F$	$-{}^{\nu}V$	$-{}^{\nu}D$	$-{}^{\nu}iN$	$+{}^{\nu}iS$	$+{}^{\nu}iL$	$-{}^{\nu}iQ$	$+{}^{\nu}iY$	$+{}^{\nu}iE$
${}^{\mu}N$	$-N$	$-Y$	$+X$	$-U$	$-Q$	$+P$	$-T$	$+E$	$-D$	$+V$	$+iM$	$-iL$	$+iS$	$+iR$	$+iZ$	$-iF$	$-{}^{\nu}N$	$-{}^{\nu}Y$	$+{}^{\nu}X$	$-{}^{\nu}U$	$-{}^{\nu}Q$	$+{}^{\nu}P$	$-{}^{\nu}T$	$+{}^{\nu}E$	$-{}^{\nu}D$	$+{}^{\nu}V$	$+{}^{\nu}iM$	$-{}^{\nu}iL$	$+{}^{\nu}iS$	$+{}^{\nu}iR$	$+{}^{\nu}iZ$	$-{}^{\nu}iF$
${}^{\mu}T$	$-T$	$-D$	$+E$	$-F$	$-L$	$+M$	$-N$	$+X$	$-Y$	$+Z$	$+iP$	$-iQ$	$+iR$	$+iS$	$+iV$	$-iU$	$-{}^{\nu}T$	$-{}^{\nu}D$	$+{}^{\nu}E$	$-{}^{\nu}F$	$-{}^{\nu}L$	$+{}^{\nu}M$	$-{}^{\nu}N$	$+{}^{\nu}X$	$-{}^{\nu}Y$	$+{}^{\nu}Z$	$+{}^{\nu}iP$	$-{}^{\nu}iQ$	$+{}^{\nu}iR$	$+{}^{\nu}iS$	$+{}^{\nu}iV$	$-{}^{\nu}iU$
${}^{\mu}U$	$-U$	$+L$	$-M$	$-N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$-iX$	$+iY$	$+iZ$	$-iV$	$+iS$	$+iT$	$-{}^{\nu}U$	$+{}^{\nu}L$	$-{}^{\nu}M$	$-{}^{\nu}N$	$-{}^{\nu}D$	$+{}^{\nu}E$	$+{}^{\nu}F$	$+{}^{\nu}P$	$-{}^{\nu}Q$	$-{}^{\nu}R$	$-{}^{\nu}iX$	$+{}^{\nu}iY$	$+{}^{\nu}iZ$	$-{}^{\nu}iV$	$+{}^{\nu}iS$	$+{}^{\nu}iT$
${}^{\mu}V$	$-V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$-L$	$-M$	$+N$	$+iD$	$+iE$	$-iF$	$+iU$	$-iT$	$+iS$	$-{}^{\nu}V$	$+{}^{\nu}P$	$+{}^{\nu}Q$	$-{}^{\nu}R$	$-{}^{\nu}X$	$-{}^{\nu}Y$	$+{}^{\nu}Z$	$-{}^{\nu}L$	$-{}^{\nu}M$	$+{}^{\nu}N$	$+{}^{\nu}iD$	$+{}^{\nu}iE$	$-{}^{\nu}iF$	$+{}^{\nu}iU$	$-{}^{\nu}iT$	$+{}^{\nu}iS$
${}^{\lambda}iS$	$-{}^{\nu}iS$	$-{}^{\nu}iX$	$-{}^{\nu}iY$	$-{}^{\nu}iZ$	$-{}^{\nu}iP$	$-{}^{\nu}iQ$	$-{}^{\nu}iR$	$-{}^{\nu}iD$	$-{}^{\nu}iE$	$-{}^{\nu}iF$	$+{}^{\nu}L$	$+{}^{\nu}M$	$+{}^{\nu}N$	$+{}^{\nu}T$	$+{}^{\nu}U$	$+{}^{\nu}V$	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$-L$	$-M$	$-N$	$-T$	$-U$	$-V$
${}^{\lambda}iX$	$-{}^{\nu}iX$	$-{}^{\nu}iS$	$-{}^{\nu}iN$	$+{}^{\nu}iM$	$+{}^{\nu}iV$	$+{}^{\nu}iF$	$-{}^{\nu}iE$	$-{}^{\nu}iT$	$-{}^{\nu}iR$	$+{}^{\nu}iQ$	$-{}^{\nu}U$	$-{}^{\nu}Z$	$+{}^{\nu}Y$	$+{}^{\nu}D$	$-{}^{\nu}L$	$-{}^{\nu}P$	$+iX$	$+iS$	$+iN$	$-iM$	$-iV$	$-iF$	$+iE$	$+iT$	$+iR$	$-iQ$	$+U$	$+Z$	$-Y$	$-D$	$+L$	$+P$
${}^{\lambda}iY$	$-{}^{\nu}iY$	$+{}^{\nu}iN$	$-{}^{\nu}iS$	$+{}^{\nu}iL$	$-{}^{\nu}iF$	$+{}^{\nu}iV$	$-{}^{\nu}iD$	$-{}^{\nu}iR$	$+{}^{\nu}iT$	$-{}^{\nu}iP$	$-{}^{\nu}Z$	$+{}^{\nu}U$	$-{}^{\nu}X$	$-{}^{\nu}E$	$+{}^{\nu}M$	$-{}^{\nu}Q$	$+iY$	$-iN$	$+iS$	$-iL$	$+iF$	$-iV$	$+iD$	$+iR$	$-iT$	$+iP$	$+Z$	$-U$	$+X$	$+E$	$-M$	$+Q$
${}^{\lambda}iZ$	$-{}^{\nu}iZ$	$-{}^{\nu}iM$	$-{}^{\nu}iL$	$-{}^{\nu}iS$	$-{}^{\nu}iE$	$-{}^{\nu}iD$	$-{}^{\nu}iV$	$-{}^{\nu}iQ$	$-{}^{\nu}iP$	$-{}^{\nu}iT$	$+{}^{\nu}Y$	$+{}^{\nu}X$	$+{}^{\nu}U$	$+{}^{\nu}F$	$+{}^{\nu}N$	$+{}^{\nu}R$	$+iZ$	$+iM$	$+iL$	$+iS$	$+iE$	$+iD$	$+iV$	$+iQ$	$+iP$	$+iT$	$-Y$	$-X$	$-U$	$-F$	$-N$	$-R$
${}^{\lambda}iP$	$-{}^{\nu}iP$	$-{}^{\nu}iV$	$-{}^{\nu}iF$	$-{}^{\nu}iE$	$-{}^{\nu}iS$	$-{}^{\nu}iN$	$-{}^{\nu}iM$	$-{}^{\nu}iU$	$-{}^{\nu}iZ$	$-{}^{\nu}iY$	$+{}^{\nu}T$	$+{}^{\nu}R$	$+{}^{\nu}Q$	$+{}^{\nu}L$	$+{}^{\nu}D$	$+{}^{\nu}X$	$+iP$	$+iV$	$+iF$	$+iE$	$+iS$	$+iN$	$+iM$	$+iU$	$+iZ$	$+iY$	$-T$	$-R$	$-Q$	$-L$	$-D$	$-X$
${}^{\lambda}iQ$	$-{}^{\nu}iQ$	$+{}^{\nu}iF$	$-{}^{\nu}iV$	$-{}^{\nu}iD$	$+{}^{\nu}iN$	$-{}^{\nu}iS$	$-{}^{\nu}iL$	$-{}^{\nu}iZ$	$+{}^{\nu}iU$	$+{}^{\nu}iX$	$+{}^{\nu}R$	$-{}^{\nu}T$	$-{}^{\nu}P$	$-{}^{\nu}M$	$-{}^{\nu}E$	$+{}^{\nu}Y$	$+iQ$	$-iF$	$+iV$	$+iD$	$-iN$	$+iS$	$+iL$	$+iZ$	$-iU$	$-iX$	$-R$	$+T$	$+P$	$+M$	$+E$	$-Y$
${}^{\lambda}iR$	$-{}^{\nu}iR$	$-{}^{\nu}iE$	$-{}^{\nu}iD$	$+{}^{\nu}iV$	$+{}^{\nu}iM$	$+{}^{\nu}iL$	$-{}^{\nu}iS$	$-{}^{\nu}iY$	$-{}^{\nu}iX$	$+{}^{\nu}iU$	$-{}^{\nu}Q$	$-{}^{\nu}P$	$+{}^{\nu}T$	$+{}^{\nu}N$	$-{}^{\nu}F$	$-{}^{\nu}Z$	$+iR$	$+iE$	$+iD$	$-iV$	$-iM$	$-iL$	$+iS$	$+iY$	$+iX$	$-iU$	$+Q$	$+P$	$-T$	$-N$	$+F$	$+Z$
${}^{\lambda}iD$	$-{}^{\nu}iD$	$+{}^{\nu}iT$	$-{}^{\nu}iR$	$-{}^{\nu}iQ$	$+{}^{\nu}iU$	$-{}^{\nu}iZ$	$-{}^{\nu}iY$	$-{}^{\nu}iS$	$+{}^{\nu}iN$	$+{}^{\nu}iM$	$+{}^{\nu}V$	$-{}^{\nu}F$	$-{}^{\nu}E$	$-{}^{\nu}X$	$-{}^{\nu}P$	$+{}^{\nu}L$	$+iD$	$-iT$	$+iR$	$+iQ$	$-iU$	$+iZ$	$+iY$	$+iS$	$-iN$	$-iM$	$-V$	$+F$	$+E$	$+X$	$+P$	$-L$
${}^{\lambda}iE$	$-{}^{\nu}iE$	$-{}^{\nu}iR$	$-{}^{\nu}iT$	$-{}^{\nu}iP$	$-{}^{\nu}iZ$	$-{}^{\nu}iU$	$-{}^{\nu}iX$	$-{}^{\nu}iN$	$-{}^{\nu}iS$	$-{}^{\nu}iL$	$+{}^{\nu}F$	$+{}^{\nu}V$	$+{}^{\nu}D$	$+{}^{\nu}Y$	$+{}^{\nu}Q$	$+{}^{\nu}M$	$+iE$	$+iR$	$+iT$	$+iP$	$+iZ$	$+iU$	$+iX$	$+iN$	$+iS$	$+iL$	$-F$	$-V$	$-D$	$-Y$	$-Q$	$-M$
${}^{\lambda}iF$	$-{}^{\nu}iF$	$+{}^{\nu}iQ$	$-{}^{\nu}iP$	$+{}^{\nu}iT$	$-{}^{\nu}iY$	$+{}^{\nu}iX$	$-{}^{\nu}iU$	$-{}^{\nu}iM$	$+{}^{\nu}iL$	$-{}^{\nu}iS$	$-{}^{\nu}E$	$+{}^{\nu}D$	$-{}^{\nu}V$	$-{}^{\nu}Z$	$+{}^{\nu}R$	$-{}^{\nu}N$	$+iF$	$-iQ$	$+iP$	$-iT$	$+iY$	$-iX$	$+iU$	$+iM$	$-iL$	$+iS$	$+E$	$-D$	$+V$	$+Z$	$-R$	$+N$
${}^{\lambda}L$	$-{}^{\nu}L$	$+{}^{\nu}U$	$-{}^{\nu}Z$	$+{}^{\nu}Y$	$-{}^{\nu}T$	$+{}^{\nu}R$	$-{}^{\nu}Q$	$-{}^{\nu}V$	$+{}^{\nu}F$	$-{}^{\nu}E$	$+{}^{\nu}iS$	$-{}^{\nu}iN$	$+{}^{\nu}iM$	$+{}^{\nu}iP$	$-{}^{\nu}iX$	$+{}^{\nu}iD$	$+L$	$-U$	$+Z$	$-Y$	$+T$	$-R$	$+Q$	$+V$	$-F$	$+E$	$-iS$	$+iN$	$-iM$	$-iP$	$+iX$	$-iD$
${}^{\lambda}M$	$-{}^{\nu}M$	$-{}^{\nu}Z$	$-{}^{\nu}U$	$+{}^{\nu}X$	$+{}^{\nu}R$	$+{}^{\nu}T$	$-{}^{\nu}P$	$-{}^{\nu}F$	$-{}^{\nu}V$	$+{}^{\nu}D$	$+{}^{\nu}iN$	$+{}^{\nu}iS$	$-{}^{\nu}iL$	$-{}^{\nu}iQ$	$+{}^{\nu}iY$	$+{}^{\nu}iE$	$+M$	$+Z$	$+U$	$-X$	$-R$	$-T$	$+P$	$+F$	$+V$	$-D$	$-iN$	$-iS$	$+iL$	$+iQ$	$-iY$	$-iE$
${}^{\lambda}N$	$-{}^{\nu}N$	$+{}^{\nu}Y$	$-{}^{\nu}X$	$-{}^{\nu}U$	$+{}^{\nu}Q$	$-{}^{\nu}P$	$-{}^{\nu}T$	$-{}^{\nu}E$	$+{}^{\nu}D$	$+{}^{\nu}V$	$-{}^{\nu}iM$	$+{}^{\nu}iL$	$+{}^{\nu}iS$	$+{}^{\nu}iR$	$+{}^{\nu}iZ$	$-{}^{\nu}iF$	$+N$	$-Y$	$+X$	$+U$	$-Q$	$+P$	$+T$	$+E$	$-D$	$-V$	$+iM$	$-iL$	$-iS$	$-iR$	$-iZ$	$+iF$
${}^{\lambda}T$	$-{}^{\nu}T$	$+{}^{\nu}D$	$-{}^{\nu}E$	$+{}^{\nu}F$	$-{}^{\nu}L$	$+{}^{\nu}M$	$-{}^{\nu}N$	$-{}^{\nu}X$	$+{}^{\nu}Y$	$-{}^{\nu}Z$	$+{}^{\nu}iP$	$-{}^{\nu}iQ$	$+{}^{\nu}iR$	$+{}^{\nu}iS$	$-{}^{\nu}iV$	$+{}^{\nu}iU$	$+T$	$-D$	$+E$	$-F$	$+L$	$-M$	$+N$	$+X$	$-Y$	$+Z$	$-iP$	$+iQ$	$-iR$	$-iS$	$+iV$	$-iU$
${}^{\lambda}U$	$-{}^{\nu}U$	$+{}^{\nu}L$	$-{}^{\nu}M$	$-{}^{\nu}N$	$+{}^{\nu}D$	$-{}^{\nu}E$	$-{}^{\nu}F$	$-{}^{\nu}P$	$+{}^{\nu}Q$	$+{}^{\nu}R$	$-{}^{\nu}iX$	$+{}^{\nu}iY$	$+{}^{\nu}iZ$	$+{}^{\nu}iV$	$+{}^{\nu}iS$	$-{}^{\nu}iT$	$+U$	$-L$	$+M$	$+N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$+iX$	$-iY$	$-iZ$	$-iV$	$-iS$	$+iT$
${}^{\lambda}V$	$-{}^{\nu}V$	$-{}^{\nu}P$	$-{}^{\nu}Q$	$+{}^{\nu}R$	$+{}^{\nu}X$	$+{}^{\nu}Y$	$-{}^{\nu}Z$	$-{}^{\nu}L$	$-{}^{\nu}M$	$+{}^{\nu}N$	$+{}^{\nu}iD$	$+{}^{\nu}iE$	$-{}^{\nu}iF$	$-{}^{\nu}iU$	$+{}^{\nu}iT$	$+{}^{\nu}iS$	$+V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$+L$	$+M$	$-N$	$-iD$	$-iE$	$+iF$	$+iU$	$-iT$	$-iS$

TABLE 37. $Ka^2(1,4)$ multiplication table, part C1

	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$	$+{}^\nu iS$	$+{}^\nu iX$	$+{}^\nu iY$	$+{}^\nu iZ$	$+{}^\nu iP$	$+{}^\nu iQ$	$+{}^\nu iR$	$+{}^\nu iD$	$+{}^\nu iE$	$+{}^\nu iF$	$+{}^\nu L$	$+{}^\nu M$	$+{}^\nu N$	$+{}^\nu T$	$+{}^\nu U$	$+{}^\nu V$
S	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$	$+{}^\nu iS$	$+{}^\nu iX$	$+{}^\nu iY$	$+{}^\nu iZ$	$+{}^\nu iP$	$+{}^\nu iQ$	$+{}^\nu iR$	$+{}^\nu iD$	$+{}^\nu iE$	$+{}^\nu iF$	$+{}^\nu L$	$+{}^\nu M$	$+{}^\nu N$	$+{}^\nu T$	$+{}^\nu U$	$+{}^\nu V$
X	$+iX$	$+iS$	$+iN$	$-iM$	$-iV$	$-iF$	$+iE$	$+iT$	$+iR$	$-iQ$	$-U$	$-Z$	$+Y$	$+D$	$-L$	$-P$	$+{}^\nu iX$	$+{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu iV$	$-{}^\nu iF$	$+{}^\nu iE$	$-{}^\nu iT$	$+{}^\nu iR$	$-{}^\nu iQ$	$-{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$-{}^\nu D$	$-{}^\nu L$	$+{}^\nu P$
Y	$+iY$	$-iN$	$+iS$	$-iL$	$+iF$	$-iV$	$+iD$	$+iR$	$-iT$	$+iP$	$-Z$	$+U$	$-X$	$-E$	$+M$	$-Q$	$+{}^\nu iY$	$+{}^\nu iN$	$+{}^\nu iS$	$+{}^\nu iL$	$+{}^\nu iF$	$+{}^\nu iV$	$+{}^\nu iD$	$+{}^\nu iR$	$+{}^\nu iT$	$+{}^\nu iP$	$+{}^\nu Z$	$+{}^\nu U$	$+{}^\nu X$	$+{}^\nu E$	$+{}^\nu M$	$+{}^\nu Q$
Z	$+iZ$	$+iM$	$+iL$	$+iS$	$+iE$	$+iD$	$+iV$	$+iQ$	$+iP$	$+iT$	$+Y$	$+X$	$+U$	$+F$	$+N$	$+R$	$+{}^\nu iZ$	$-{}^\nu iM$	$-{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iE$	$+{}^\nu iD$	$-{}^\nu iV$	$+{}^\nu iQ$	$+{}^\nu iP$	$-{}^\nu iT$	$-{}^\nu Y$	$-{}^\nu X$	$+{}^\nu U$	$-{}^\nu F$	$+{}^\nu N$	$-{}^\nu R$
P	$+iP$	$+iV$	$+iF$	$+iE$	$+iS$	$+iN$	$+iM$	$+iU$	$+iZ$	$+iY$	$+T$	$+R$	$+Q$	$+L$	$+D$	$+X$	$+{}^\nu iP$	$-{}^\nu iV$	$+{}^\nu iF$	$+{}^\nu iE$	$+{}^\nu iS$	$-{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$+{}^\nu T$	$-{}^\nu R$	$-{}^\nu Q$	$+{}^\nu L$	$-{}^\nu D$	$-{}^\nu X$
Q	$+iQ$	$-iF$	$+iV$	$+iD$	$-iN$	$+iS$	$+iL$	$+iZ$	$-iU$	$-iX$	$+R$	$-T$	$-P$	$-M$	$-E$	$+Y$	$+{}^\nu iQ$	$-{}^\nu iF$	$-{}^\nu iV$	$+{}^\nu iD$	$+{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu iZ$	$+{}^\nu iU$	$-{}^\nu iX$	$-{}^\nu R$	$-{}^\nu T$	$+{}^\nu P$	$-{}^\nu M$	$+{}^\nu E$	$-{}^\nu Y$
R	$+iR$	$+iE$	$+iD$	$-iV$	$-iM$	$-iL$	$+iS$	$+iY$	$+iX$	$-iU$	$-Q$	$-P$	$+T$	$+N$	$-F$	$-Z$	$+{}^\nu iR$	$+{}^\nu iE$	$+{}^\nu iD$	$+{}^\nu iV$	$+{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iY$	$+{}^\nu iX$	$+{}^\nu iU$	$+{}^\nu Q$	$+{}^\nu P$	$+{}^\nu T$	$+{}^\nu N$	$+{}^\nu F$	$+{}^\nu Z$
D	$+iD$	$-iT$	$+iR$	$+iQ$	$-iU$	$+iZ$	$+iY$	$+iS$	$-iN$	$-iM$	$+V$	$-F$	$-E$	$-X$	$-P$	$+L$	$+{}^\nu iD$	$+{}^\nu iT$	$+{}^\nu iR$	$+{}^\nu iQ$	$+{}^\nu iU$	$+{}^\nu iZ$	$+{}^\nu iY$	$+{}^\nu iS$	$+{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu V$	$+{}^\nu F$	$+{}^\nu E$	$+{}^\nu X$	$+{}^\nu P$	$+{}^\nu L$
E	$+iE$	$+iR$	$+iT$	$+iP$	$+iZ$	$+iU$	$+iX$	$+iN$	$+iS$	$+iL$	$+F$	$+V$	$+D$	$+Y$	$+Q$	$+M$	$+{}^\nu iE$	$+{}^\nu iR$	$-{}^\nu iT$	$+{}^\nu iP$	$+{}^\nu iZ$	$-{}^\nu iU$	$+{}^\nu iX$	$-{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$-{}^\nu F$	$+{}^\nu V$	$-{}^\nu D$	$-{}^\nu Y$	$-{}^\nu Q$	$+{}^\nu M$
F	$+iF$	$-iQ$	$+iP$	$-iT$	$+iY$	$-iX$	$+iU$	$+iM$	$-iL$	$+iS$	$-E$	$+D$	$-V$	$-Z$	$+R$	$-N$	$+{}^\nu iF$	$-{}^\nu iQ$	$+{}^\nu iP$	$+{}^\nu iT$	$+{}^\nu iY$	$-{}^\nu iX$	$-{}^\nu iU$	$-{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu E$	$-{}^\nu D$	$-{}^\nu V$	$+{}^\nu Z$	$-{}^\nu R$	$-{}^\nu N$
iL	$-L$	$+U$	$-Z$	$+Y$	$-T$	$+R$	$-Q$	$-V$	$+F$	$-E$	$-iS$	$+iN$	$-iM$	$-iP$	$+iX$	$-iD$	$-{}^\nu L$	$+{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$-{}^\nu T$	$-{}^\nu R$	$+{}^\nu Q$	$-{}^\nu V$	$-{}^\nu F$	$+{}^\nu E$	$-{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$-{}^\nu iP$	$+{}^\nu iX$	$-{}^\nu iD$
iM	$-M$	$-Z$	$-U$	$+X$	$+R$	$+T$	$-P$	$-F$	$-V$	$+D$	$-iN$	$-iS$	$+iL$	$+iQ$	$-iY$	$-iE$	$-{}^\nu M$	$+{}^\nu Z$	$-{}^\nu U$	$-{}^\nu X$	$-{}^\nu R$	$+{}^\nu T$	$+{}^\nu P$	$+{}^\nu F$	$-{}^\nu V$	$-{}^\nu D$	$+{}^\nu iN$	$-{}^\nu iS$	$-{}^\nu iL$	$+{}^\nu iQ$	$-{}^\nu iY$	$-{}^\nu iE$
iN	$-N$	$+Y$	$-X$	$-U$	$+Q$	$-P$	$-T$	$-E$	$+D$	$+V$	$+iM$	$-iL$	$-iS$	$-iR$	$-iZ$	$+iF$	$-{}^\nu N$	$-{}^\nu Y$	$+{}^\nu X$	$-{}^\nu U$	$-{}^\nu Q$	$+{}^\nu P$	$-{}^\nu T$	$+{}^\nu E$	$-{}^\nu D$	$+{}^\nu V$	$-{}^\nu iM$	$+{}^\nu iL$	$-{}^\nu iS$	$-{}^\nu iR$	$-{}^\nu iZ$	$+{}^\nu iF$
iT	$-T$	$+D$	$-E$	$+F$	$-L$	$+M$	$-N$	$-X$	$+Y$	$-Z$	$-iP$	$+iQ$	$-iR$	$-iS$	$+iV$	$-iU$	$-{}^\nu T$	$-{}^\nu D$	$+{}^\nu E$	$-{}^\nu F$	$-{}^\nu L$	$+{}^\nu M$	$-{}^\nu N$	$+{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$-{}^\nu iP$	$+{}^\nu iQ$	$-{}^\nu iR$	$-{}^\nu iS$	$-{}^\nu iV$	$+{}^\nu iU$
iU	$-U$	$+L$	$-M$	$-N$	$+D$	$-E$	$-F$	$-P$	$+Q$	$+R$	$+iX$	$-iY$	$-iZ$	$-iV$	$-iS$	$+iT$	$-{}^\nu U$	$+{}^\nu L$	$-{}^\nu M$	$-{}^\nu N$	$-{}^\nu D$	$+{}^\nu E$	$+{}^\nu F$	$+{}^\nu P$	$-{}^\nu Q$	$-{}^\nu R$	$+{}^\nu iX$	$-{}^\nu iY$	$-{}^\nu iZ$	$+{}^\nu iV$	$-{}^\nu iS$	$-{}^\nu iT$
iV	$-V$	$-P$	$-Q$	$+R$	$+X$	$+Y$	$-Z$	$-L$	$-M$	$+N$	$-iD$	$-iE$	$+iF$	$+iU$	$-iT$	$-iS$	$-{}^\nu V$	$+{}^\nu P$	$+{}^\nu Q$	$-{}^\nu R$	$-{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$-{}^\nu L$	$-{}^\nu M$	$+{}^\nu N$	$-{}^\nu iD$	$-{}^\nu iE$	$+{}^\nu iF$	$-{}^\nu iU$	$+{}^\nu iT$	$-{}^\nu iS$
${}^\nu S$	$-{}^\nu iS$	$-{}^\nu iX$	$-{}^\nu iY$	$-{}^\nu iZ$	$-{}^\nu iP$	$-{}^\nu iQ$	$-{}^\nu iR$	$-{}^\nu iD$	$-{}^\nu iE$	$-{}^\nu iF$	$-{}^\nu L$	$-{}^\nu M$	$-{}^\nu N$	$-{}^\nu T$	$-{}^\nu U$	$-{}^\nu V$	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$
${}^\nu X$	$-{}^\nu iX$	$-{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu iV$	$+{}^\nu iF$	$-{}^\nu iE$	$-{}^\nu iT$	$-{}^\nu iR$	$+{}^\nu iQ$	$+{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$-{}^\nu D$	$+{}^\nu L$	$+{}^\nu P$	$+iX$	$+iS$	$-iN$	$+iM$	$+iV$	$-iF$	$+iE$	$-iT$	$+iR$	$-iQ$	$-U$	$+Z$	$-Y$	$-D$	$-L$	$+P$
${}^\nu Y$	$-{}^\nu iY$	$+{}^\nu iN$	$-{}^\nu iS$	$+{}^\nu iL$	$-{}^\nu iF$	$+{}^\nu iV$	$-{}^\nu iD$	$-{}^\nu iR$	$+{}^\nu iT$	$-{}^\nu iP$	$+{}^\nu Z$	$-{}^\nu U$	$+{}^\nu X$	$+{}^\nu E$	$-{}^\nu M$	$+{}^\nu Q$	$+iY$	$+iN$	$+iS$	$+iL$	$+iF$	$+iV$	$+iD$	$+iR$	$+iT$	$+iP$	$+Z$	$+U$	$+X$	$+E$	$+M$	$+Q$
${}^\nu Z$	$-{}^\nu iZ$	$-{}^\nu iM$	$-{}^\nu iL$	$-{}^\nu iS$	$-{}^\nu iE$	$-{}^\nu iD$	$-{}^\nu iV$	$-{}^\nu iQ$	$-{}^\nu iP$	$-{}^\nu iT$	$-{}^\nu Y$	$-{}^\nu X$	$-{}^\nu U$	$-{}^\nu F$	$-{}^\nu N$	$-{}^\nu R$	$+iZ$	$-iM$	$-iL$	$+iS$	$+iE$	$+iD$	$-iV$	$+iQ$	$+iP$	$-iT$	$-Y$	$-X$	$+U$	$-F$	$+N$	$-R$
${}^\nu P$	$-{}^\nu iP$	$-{}^\nu iV$	$-{}^\nu iF$	$-{}^\nu iE$	$-{}^\nu iS$	$-{}^\nu iN$	$-{}^\nu iM$	$-{}^\nu iU$	$-{}^\nu iZ$	$-{}^\nu iY$	$-{}^\nu T$	$-{}^\nu R$	$-{}^\nu Q$	$-{}^\nu L$	$-{}^\nu D$	$-{}^\nu X$	$+iP$	$-iV$	$+iF$	$+iE$	$+iS$	$-iN$	$-iM$	$-iU$	$+iZ$	$+iY$	$+T$	$-R$	$-Q$	$+L$	$-D$	$-X$
${}^\nu Q$	$-{}^\nu iQ$	$+{}^\nu iF$	$-{}^\nu iV$	$-{}^\nu iD$	$+{}^\nu iN$	$-{}^\nu iS$	$-{}^\nu iL$	$-{}^\nu iZ$	$+{}^\nu iU$	$+{}^\nu iX$	$-{}^\nu R$	$+{}^\nu T$	$+{}^\nu P$	$+{}^\nu M$	$+{}^\nu E$	$-{}^\nu Y$	$+iQ$	$-iF$	$-iV$	$+iD$	$+iN$	$+iS$	$-iL$	$+iZ$	$+iU$	$-iX$	$-R$	$-T$	$+P$	$-M$	$+E$	$-Y$
${}^\nu R$	$-{}^\nu iR$	$-{}^\nu iE$	$-{}^\nu iD$	$+{}^\nu iV$	$+{}^\nu iM$	$+{}^\nu iL$	$-{}^\nu iS$	$-{}^\nu iY$	$-{}^\nu iX$	$+{}^\nu iU$	$+{}^\nu Q$	$+{}^\nu P$	$-{}^\nu T$	$-{}^\nu N$	$+{}^\nu F$	$+{}^\nu Z$	$+iR$	$+iE$	$+iD$	$+iV$	$+iM$	$+iL$	$+iS$	$+iY$	$+iX$	$+iU$	$+Q$	$+P$	$+T$	$+N$	$+F$	$+Z$
${}^\nu D$	$-{}^\nu iD$	$+{}^\nu iT$	$-{}^\nu iR$	$-{}^\nu iQ$	$+{}^\nu iU$	$-{}^\nu iZ$	$-{}^\nu iY$	$-{}^\nu iS$	$+{}^\nu iN$	$+{}^\nu iM$	$-{}^\nu V$	$+{}^\nu F$	$+{}^\nu E$	$+{}^\nu X$	$+{}^\nu P$	$-{}^\nu L$	$+iD$	$+iT$	$+iR$	$+iQ$	$+iU$	$+iZ$	$+iY$	$+iS$	$+iN$	$+iM$	$+V$	$+F$	$+E$	$+X$	$+P$	$+L$
${}^\nu E$	$-{}^\nu iE$	$-{}^\nu iR$	$-{}^\nu iT$	$-{}^\nu iP$	$-{}^\nu iZ$	$-{}^\nu iU$	$-{}^\nu iX$	$-{}^\nu iN$	$-{}^\nu iS$	$-{}^\nu iL$	$-{}^\nu F$	$-{}^\nu V$	$-{}^\nu D$	$-{}^\nu Y$	$-{}^\nu Q$	$-{}^\nu M$	$+iE$	$+iR$	$-iT$	$+iP$	$+iZ$	$-iU$	$+iX$	$-iN$	$+iS$	$-iL$	$-F$	$+V$	$-D$	$-Y$	$-Q$	$+M$
${}^\nu F$	$-{}^\nu iF$	$+{}^\nu iQ$	$-{}^\nu iP$	$+{}^\nu iT$	$-{}^\nu iY$	$+{}^\nu iX$	$-{}^\nu iU$	$-{}^\nu iM$	$+{}^\nu iL$	$-{}^\nu iS$	$+{}^\nu E$	$-{}^\nu D$	$+{}^\nu V$	$+{}^\nu Z$	$-{}^\nu R$	$+{}^\nu N$	$+iF$	$-iQ$	$+iP$	$+iT$	$+iY$	$-iX$	$-iU$	$-iM$	$+iL$	$+iS$	$+E$	$-D$	$-V$	$+Z$	$-R$	$-N$
${}^\nu iL$	$+{}^\nu L$	$-{}^\nu U$	$+{}^\nu Z$	$-{}^\nu Y$	$+{}^\nu T$	$-{}^\nu R$	$+{}^\nu Q$	$+{}^\nu V$	$-{}^\nu F$	$+{}^\nu E$	$+{}^\nu iS$	$-{}^\nu iN$	$+{}^\nu iM$	$+{}^\nu iP$	$-{}^\nu iX$	$+{}^\nu iD$	$-L$	$+U$	$+Z$	$-Y$	$-T$	$-R$	$+Q$	$-V$	$-F$	$+E$	$-iS$	$-iN$	$+iM$	$-iP$	$+iX$	$-iD$
${}^\nu iM$	$+{}^\nu M$	$+{}^\nu Z$	$+{}^\nu U$	$-{}^\nu X$	$-{}^\nu R$	$-{}^\nu T$	$+{}^\nu P$	$+{}^\nu F$	$+{}^\nu V$	$-{}^\nu D$	$+{}^\nu iN$	$+{}^\nu iS$	$-{}^\nu iL$	$-{}^\nu iQ$	$+{}^\nu iY$	$+{}^\nu iE$	$-M$	$+Z$	$-U$	$-X$	$-R$	$+T$	$+P$	$+F$	$-V$	$-D$	$+iN$	$-iS$	$-iL$	$+iQ$	$-iY$	$-iE$
${}^\nu iN$	$+{}^\nu N$	$-{}^\nu Y$	$+{}^\nu X$	$+{}^\nu U$	$-{}^\nu Q$	$+{}^\nu P$	$+{}^\nu T$	$+{}^\nu E$	$-{}^\nu D$	$-{}^\nu V$	$-{}^\nu iM$	$+{}^\nu iL$	$+{}^\nu iS$	$+{}^\nu iR$	$+{}^\nu iZ$	$-{}^\nu iF$	$-N$	$-Y$	$+X$	$-U$	$-Q$	$+P$	$-T$	$+E$	$-D$	$+V$	$-iM$	$+iL$	$-iS$	$-iR$	$-iZ$	$+iF$
${}^\nu iT$	$+{}^\nu T$	$-{}^\nu D$	$+{}^\nu E$	$-{}^\nu F$	$+{}^\nu L$	$-{}^\nu M$	$+{}^\nu N$	$+{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$+{}^\nu iP$	$-{}^\nu iQ$	$+{}^\nu iR$	$+{}^\nu iS$	$-{}^\nu iV$	$+{}^\nu iU$	$-T$	$-D$	$+E$	$-F$	$-L$	$+M$	$-N$	$+X$	$-Y$	$+Z$	$-iP$	$+iQ$	$-iR$	$-iS$	$-iV$	$+iU$
${}^\nu iU$	$+{}^\nu U$	$-{}^\nu L$	$+{}^\nu M$	$+{}^\nu N$	$-{}^\nu D$	$+{}^\nu E$	$+{}^\nu F$	$+{}^\nu P$	$-{}^\nu Q$	$-{}^\nu R$	$-{}^\nu iX$	$+{}^\nu iY$	$+{}^\nu iZ$	$+{}^\nu iV$	$+{}^\nu iS$	$-{}^\nu iT$	$-U$	$+L$	$-M$	$-N$	$-D$	$+E$	$-F$	$+P$	$-Q$	$-R$	$+iX$	$-iY$	$-iZ$	$+iV$	$-iS$	$-iT$
${}^\nu iV$	$+{}^\nu V$	$+{}^\nu P$	$+{}^\nu Q$	$-{}^\nu R$	$-{}^\nu X$	$-{}^\nu Y$	$+{}^\nu Z$	$+{}^\nu L$	$+{}^\nu M$	$-{}^\nu N$	$+{}^\nu iD$	$+{}^\nu iE$	$-{}^\nu iF$	$-{}^\nu iU$	$+{}^\nu iT$	$+{}^\nu iS$	$-V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$-L$	$+M$	$+N$	$-iD$	$-iE$	$+iF$	$-iU$	$+iT$	$-iS$
${}^\mu S$	$-{}^\mu iS$	$-{}^\mu iX$	$-{}^\mu iY$	$-{}^\mu iZ$	$-{}^\mu iP$	$-{}^\mu iQ$	$-{}^\mu iR$	$-{}^\mu iD$	$-{}^\mu iE$	$-{}^\mu iF$	$-{}^\mu L$	$-{}^\mu M$	$-{}^\mu N$	$-{}^\mu T$	$-{}^\mu U$	$-{}^\mu V$	$-{}^\lambda iS$	$-{}^\lambda iX$	$-{}^\lambda iY$	$-{}^\lambda iZ$	$-{}^\lambda iP$	$-{}^\lambda iQ$	$-{}^\lambda iR$	$-{}^\lambda iD$	$-{}^\lambda iE$	$-{}^\lambda iF$	$-{}^\lambda L$	$-{}^\lambda M$	$-{}^\lambda N$	$-{}^\lambda T$	$-{}^\lambda U$	$-{}^\lambda V$
${}^\mu X$	$-{}^\mu iX$	$-{}^\mu iS$	$-{}^\mu iN$	$+{}^\mu iM$	$+{}^\mu iV$	$+{}^\mu iF$	$-{}^\mu iE$	$-{}^\mu iT$	$-{}^\mu iR$	$+{}^\mu iQ$	$+{}^\mu U$	$+{}^\mu Z$	$-{}^\mu Y$	$-{}^\mu D$	$+{}^\mu L$	$+{}^\mu P$	$-{}^\lambda iX$	$-{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iV$	$+{}^\lambda iF$	$-{}^\lambda iE$	$+{}^\lambda iT$	$-{}^\lambda iR$	$+{}^\lambda iQ$	$+{}^\lambda U$	$-{}^\lambda Z$	$+{}^\lambda Y$	$+{}^\lambda D$	$+{}^\lambda L$	$-{}^\lambda P$
${}^\mu Y$	$-{}^\mu iY$	$+{}^\mu iN$	$-{}^\mu iS$	$+{}^\mu iL$	$-{}^\mu iF$	$+{}^\mu iV$	$-{}^\mu iD$	$-{}^\mu iR$	$+{}^\mu iT$	$-{}^\mu iP$	$+{}^\mu Z$	$-{}^\mu U$	$+{}^\mu X$	$+{}^\mu E$	$-{}^\mu M$	$+{}^\mu Q$	$-{}^\lambda iY$	$-{}^\lambda iN$	$-{}^\lambda iS$	$-{}^\lambda iL$	$-{}^\lambda iF$	$-{}^\lambda iV$	$-{}^\lambda iD$	$-{}^\lambda iR$	$-{}^\lambda iT$	$-{}^\lambda iP$	$-{}^\lambda Z$	$-{}^\lambda U$	$-{}^\lambda X$	$-{}^\lambda E$	$-{}^\lambda M$	$-{}^\lambda Q$
${}^\mu Z$	$-{}^\mu iZ$	$-{}^\mu iM$	$-{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iE$	$-{}^\mu iD$	$-{}^\mu iV$	$-{}^\mu iQ$	$-{}^\mu iP$	$-{}^\mu iT$	$-{}^\mu Y$	$-{}^\mu X$	$-{}^\mu U$	$-{}^\mu F$	$-{}^\mu N$	$-{}^\mu R$	$-{}^\lambda iZ$	$+{}^\lambda iM$	$+{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iE$	$-{}^\lambda iD$	$+{}^\lambda iV$	$-{}^\lambda iQ$	$-{}^\lambda iP$	$+{}^\lambda iT$	$+{}^\lambda Y$	$+{}^\lambda X$	$-{}^\lambda U$	$+{}^\lambda F$	$-{}^\lambda N$	$+{}^\lambda R$
${}^\mu P$	$-{}^\mu iP$	$-{}^\mu iV$	$-{}^\mu iF$	$-{}^\mu iE$	$-{}^\mu iS$	$-{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu iU$	$-{}^\mu iZ$	$-{}^\mu iY$	$-{}^\mu T$	$-{}^\mu R$	$-{}^\mu Q$	$-{}^\mu L$	$-{}^\mu D$	$-{}^\mu X$	$-{}^\lambda iP$	$+{}^\lambda iV$	$-{}^\lambda iF$	$-{}^\lambda iE$	$-{}^\lambda iS$	$+{}^\lambda iN$	$+{}^\lambda iM$	$+{}^\lambda iU$	$-{}^\lambda iZ$	$-{}^\lambda iY$	$-{}^\lambda T$	$+{}^\lambda R$	$+{}^\lambda Q$	$-{}^\lambda L$	$+{}^\lambda D$	$+{}^\lambda X$
${}^\mu Q$	$-{}^\mu iQ$	$+{}^\mu iF$	$-{}^\mu iV$	$-{}^\mu iD$	$+{}^\mu iN$	$-{}^\mu iS$	$-{}^\mu iL$	$-{}^\mu iZ$	$+{}^\mu iU$	$+{}^\mu iX$	$-{}^\mu R$	$+{}^\mu T$	$+{}^\mu P$	$+{}^\mu M$	$+{}^\mu E$	$-{}^\mu Y$	$-{}^\lambda iQ$	$+{}^\lambda iF$	$+{}^\lambda iV$	$-{}^\lambda iD$	$-{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda iZ$	$-{}^\lambda iU$	$+{}^\lambda iX$	$+{}^\lambda R$	$+{}^\lambda T$	$-{}^\lambda P$	$+{}^\lambda M$	$-{}^\lambda E$	$+{}^\lambda Y$
${}^\mu R$	$-{}^\mu iR$	$-{}^\mu iE$	$-{}^\mu iD$	$+{}^\mu iV$	$+{}^\mu iM$	$+{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iY$	$-{}^\mu iX$	$+{}^\mu iU$	$+{}^\mu Q$	$+{}^\mu P$	$-{}^\mu T$	$-{}^\mu N$	$+{}^\mu F$	$+{}^\mu Z$	$-{}^\lambda iR$	$-{}^\lambda iE$	$-{}^\lambda iD$	$-{}^\lambda iV$	$-{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iY$	$-{}^\lambda iX$	$-{}^\lambda iU$	$-{}^\lambda Q$	$-{}^\lambda P$	$-{}^\lambda T$	$-{}^\lambda N$	$-{}^\lambda F$	$-{}^\lambda Z$
${}^\mu D$	$-{}^\mu iD$	$+{}^\mu iT$	$-{}^\mu iR$	$-{}^\mu iQ$	$+{}^\mu iU$	$-{}^\mu iZ$	$-{}^\mu iY$	$-{}^\mu iS$	$+{}^\mu iN$	$+{}^\mu iM$	$-{}^\mu V$	$+{}^\mu F$	$+{}^\mu E$	$+{}^\mu X$	$+{}^\mu P$	$-{}^\mu L$	$-{}^\lambda iD$	$-{}^\lambda iT$	$-{}^\lambda iR$	$-{}^\lambda iQ$	$-{}^\lambda iU$	$-{}^\lambda iZ$	$-{}^\lambda iY$	$-{}^\lambda iS$	$-{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda V$	$-{}^\lambda F$	$-{}^\lambda E$	$-{}^\lambda X$	$-{}^\lambda P$	$-{}^\lambda L$
${}^\mu E$	$-{}^\mu iE$	$-{}^\mu iR$	$-{}^\mu iT$	$-{}^\mu iP$	$-{}^\mu iZ$	$-{}^\mu iU$	$-{}^\mu iX$	$-{}^\mu iN$	$-{}^\mu iS$	$-{}^\mu iL$	$-{}^\mu F$	$-{}^\mu V$	$-{}^\mu D$	$-{}^\mu Y$	$-{}^\mu Q$	$-{}^\mu M$	$-{}^\lambda iE$	$-{}^\lambda iR$	$+{}^\lambda iT$	$-{}^\lambda iP$	$-{}^\lambda iZ$	$+{}^\lambda iU$	$-{}^\lambda iX$	$+{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda F$	$-{}^\lambda V$	$+{}^\lambda D$	$+{}^\lambda Y$	$+{}^\lambda Q$	$-{}^\lambda M$
${}^\mu F$	$-{}^\mu iF$	$+{}^\mu iQ$	$-{}^\mu iP$	$+{}^\mu iT$	$-{}^\mu iY$	$+{}^\mu iX$	$-{}^\mu iU$	$-{}^\mu iM$	$+{}^\mu iL$	$-{}^\mu iS$	$+{}^\mu E$	$-{}^\mu D$	$+{}^\mu V$	$+{}^\mu Z$	$-{}^\mu R$	$+{}^\mu N$	$-{}^\lambda iF$	$+{}^\lambda iQ$	$-{}^\lambda iP$	$-{}^\lambda iT$	$-{}^\lambda iY$	$+{}^\lambda iX$	$+{}^\lambda iU$	$+{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda E$	$+{}^\lambda D$	$+{}^\lambda V$	$-{}^\lambda Z$	$+{}^\lambda R$	$+{}^\lambda N$
${}^\mu iL$	$+{}^\mu L$	$-{}^\mu U$	$+{}^\mu Z$	$-{}^\mu Y$	$+{}^\mu T$	$-{}^\mu R$	$+{}^\mu Q$	$+{}^\mu V$	$-{}^\mu F$	$+{}^\mu E$	$+{}^\mu iS$	$-{}^\mu iN$	$+{}^\mu iM$	$+{}^\mu iP$	$-{}^\mu iX$	$+{}^\mu iD$	$+{}^\lambda L$	$-{}^\lambda U$	$-{}^\lambda Z$	$+{}^\lambda Y$	$+{}^\lambda T$	$+{}^\lambda R$	$-{}^\lambda Q$	$+{}^\lambda V$	$+{}^\lambda F$	$-{}^\lambda E$	$+{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$+{}^\lambda iP$	$-{}^\lambda iX$	$+{}^\lambda iD$
${}^\mu iM$	$+{}^\mu M$	$+{}^\mu Z$	$+{}^\mu U$	$-{}^\mu X$	$-{}^\mu R$	$-{}^\mu T$	$+{}^\mu P$	$+{}^\mu F$	$+{}^\mu V$	$-{}^\mu D$	$+{}^\mu iN$	$+{}^\mu iS$	$-{}^\mu iL$	$-{}^\mu iQ$	$+{}^\mu iY$	$+{}^\mu iE$	$+{}^\lambda M$	$-{}^\lambda Z$	$+{}^\lambda U$	$+{}^\lambda X$	$+{}^\lambda R$	$-{}^\lambda T$	$-{}^\lambda P$	$-{}^\lambda F$	$+{}^\lambda V$	$+{}^\lambda D$	$-{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$-{}^\lambda iQ$	$+{}^\lambda iY$	$+{}^\lambda iE$
${}^\mu iN$	$+{}^\mu N$	$-{}^\mu Y$	$+{}^\mu X$	$+{}^\mu U$	$-{}^\mu Q$	$+{}^\mu P$	$+{}^\mu T$	$+{}^\mu E$	$-{}^\mu D$	$-{}^\mu V$	$-{}^\mu iM$	$+{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iR$	$+{}^\mu iZ$	$-{}^\mu iF$	$+{}^\lambda N$	$+{}^\lambda Y$	$-{}^\lambda X$	$+{}^\lambda U$	$+{}^\lambda Q$	$-{}^\lambda P$	$+{}^\lambda T$	$-{}^\lambda E$	$+{}^\lambda D$	$-{}^\lambda V$	$+{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iR$	$+{}^\lambda iZ$	$-{}^\lambda iF$
${}^\mu iT$	$+{}^\mu T$	$-{}^\mu D$	$+{}^\mu E$	$-{}^\mu F$	$+{}^\mu L$	$-{}^\mu M$	$+{}^\mu N$	$+{}^\mu X$	$-{}^\mu Y$	$+{}^\mu Z$	$+{}^\mu iP$	$-{}^\mu iQ$	$+{}^\mu iR$	$+{}^\mu iS$	$-{}^\mu iV$	$+{}^\mu iU$	$+{}^\lambda T$	$+{}^\lambda D$	$-{}^\lambda E$	$+{}^\lambda F$	$+{}^\lambda L$	$-{}^\lambda M$	$+{}^\lambda N$	$-{}^\lambda X$	$+{}^\lambda Y$	$-{}^\lambda Z$	$+{}^\lambda iP$	$-{}^\lambda iQ$	$+{}^\lambda iR$	$+{}^\lambda iS$	$+{}^\lambda iV$	$-{}^\lambda iU$
${}^\mu iU$	$+{}^\mu U$	$-{}^\mu L$	$+{}^\mu M$	$+{}^\mu N$	$-{}^\mu D$	$+{}^\mu E$	$+{}^\mu F$	$+{}^\mu P$	$-{}^\mu Q$	$-{}^\mu R$	$-{}^\mu iX$	$+{}^\mu iY$	$+{}^\mu iZ$	$+{}^\mu iV$	$+{}^\mu iS$	$-{}^\mu iT$	$+{}^\lambda U$	$-{}^\lambda L$	$+{}^\lambda M$	$+{}^\lambda N$	$+{}^\lambda D$	$-{}^\lambda E$	$-{}^\lambda F$	$-{}^\lambda P$	$+{}^\lambda Q$	$+{}^\lambda R$	$-{}^\lambda iX$	$+{}^\lambda iY$	$+{}^\lambda iZ$	$-{}^\lambda iV$	$+{}^\lambda iS$	$+{}^\lambda iT$
${}^\mu iV$	$+{}^\mu V$	$+{}^\mu P$	$+{}^\mu Q$	$-{}^\mu R$	$-{}^\mu X$	$-{}^\mu Y$	$+{}^\mu Z$	$+{}^\mu L$	$+{}^\mu M$	$-{}^\mu N$	$+{}^\mu iD$	$+{}^\mu iE$	$-{}^\mu iF$	$-{}^\mu iU$	$+{}^\mu iT$	$+{}^\mu iS$	$+{}^\lambda V$	$-{}^\lambda P$	$-{}^\lambda Q$	$+{}^\lambda R$	$+{}^\lambda X$	$+{}^\lambda Y$	$-{}^\lambda Z$	$+{}^\lambda L$	$+{}^\lambda M$	$-{}^\lambda N$	$+{}^\lambda iD$	$+{}^\lambda iE$	$-{}^\lambda iF$	$+{}^\lambda iU$	$-{}^\lambda iT$	$+{}^\lambda iS$
${}^\lambda S$	$+{}^\lambda iS$	$+{}^\lambda iX$	$+{}^\lambda iY$	$+{}^\lambda iZ$	$+{}^\lambda iP$	$+{}^\lambda iQ$	$+{}^\lambda iR$	$+{}^\lambda iD$	$+{}^\lambda iE$	$+{}^\lambda iF$	$+{}^\lambda L$	$+{}^\lambda M$	$+{}^\lambda N$	$+{}^\lambda T$	$+{}^\lambda U$	$+{}^\lambda V$	$-{}^\mu iS$	$-{}^\mu iX$	$-{}^\mu iY$	$-{}^\mu iZ$	$-{}^\mu iP$	$-{}^\mu iQ$	$-{}^\mu iR$	$-{}^\mu iD$	$-{}^\mu iE$	$-{}^\mu iF$	$-{}^\mu L$	$-{}^\mu M$	$-{}^\mu N$	$-{}^\mu T$	$-{}^\mu U$	$-{}^\mu V$
${}^\lambda X$	$+{}^\lambda iX$	$+{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iV$	$-{}^\lambda iF$	$+{}^\lambda iE$	$+{}^\lambda iT$	$+{}^\lambda iR$	$-{}^\lambda iQ$	$-{}^\lambda U$	$-{}^\lambda Z$	$+{}^\lambda Y$	$+{}^\lambda D$	$-{}^\lambda L$	$-{}^\lambda P$	$-{}^\mu iX$	$-{}^\mu iS$	$+{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu iV$	$+{}^\mu iF$	$-{}^\mu iE$	$+{}^\mu iT$	$-{}^\mu iR$	$+{}^\mu iQ$	$+{}^\mu U$	$-{}^\mu Z$	$+{}^\mu Y$	$+{}^\mu D$	$+{}^\mu L$	$-{}^\mu P$
${}^\lambda Y$	$+{}^\lambda iY$	$-{}^\lambda iN$	$+{}^\lambda iS$	$-{}^\lambda iL$	$+{}^\lambda iF$	$-{}^\lambda iV$	$+{}^\lambda iD$	$+{}^\lambda iR$	$-{}^\lambda iT$	$+{}^\lambda iP$	$-{}^\lambda Z$	$+{}^\lambda U$	$-{}^\lambda X$	$-{}^\lambda E$	$+{}^\lambda M$	$-{}^\lambda Q$	$-{}^\mu iY$	$-{}^\mu iN$	$-{}^\mu iS$	$-{}^\mu iL$	$-{}^\mu iF$	$-{}^\mu iV$	$-{}^\mu iD$	$-{}^\mu iR$	$-{}^\mu iT$	$-{}^\mu iP$	$-{}^\mu Z$	$-{}^\mu U$	$-{}^\mu X$	$-{}^\mu E$	$-{}^\mu M$	$-{}^\mu Q$
${}^\lambda Z$	$+{}^\lambda iZ$	$+{}^\lambda iM$	$+{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iE$	$+{}^\lambda iD$	$+{}^\lambda iV$	$+{}^\lambda iQ$	$+{}^\lambda iP$	$+{}^\lambda iT$	$+{}^\lambda Y$	$+{}^\lambda X$	$+{}^\lambda U$	$+{}^\lambda F$	$+{}^\lambda N$	$+{}^\lambda R$	$-{}^\mu iZ$	$+{}^\mu iM$	$+{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iE$	$-{}^\mu iD$	$+{}^\mu iV$	$-{}^\mu iQ$	$-{}^\mu iP$	$+{}^\mu iT$	$+{}^\mu Y$	$+{}^\mu X$	$-{}^\mu U$	$+{}^\mu F$	$-{}^\mu N$	$+{}^\mu R$
${}^\lambda P$	$+{}^\lambda iP$	$+{}^\lambda iV$	$+{}^\lambda iF$	$+{}^\lambda iE$	$+{}^\lambda iS$	$+{}^\lambda iN$	$+{}^\lambda iM$	$+{}^\lambda iU$	$+{}^\lambda iZ$	$+{}^\lambda iY$	$+{}^\lambda T$	$+{}^\lambda R$	$+{}^\lambda Q$	$+{}^\lambda L$	$+{}^\lambda D$	$+{}^\lambda X$	$-{}^\mu iP$	$+{}^\mu iV$	$-{}^\mu iF$	$-{}^\mu iE$	$-{}^\mu iS$	$+{}^\mu iN$	$+{}^\mu iM$	$+{}^\mu iU$	$-{}^\mu iZ$	$-{}^\mu iY$	$-{}^\mu T$	$+{}^\mu R$	$+{}^\mu Q$	$-{}^\mu L$	$+{}^\mu D$	$+{}^\mu X$
${}^\lambda Q$	$+{}^\lambda iQ$	$-{}^\lambda iF$	$+{}^\lambda iV$	$+{}^\lambda iD$	$-{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda iZ$	$-{}^\lambda iU$	$-{}^\lambda iX$	$+{}^\lambda R$	$-{}^\lambda T$	$-{}^\lambda P$	$-{}^\lambda M$	$-{}^\lambda E$	$+{}^\lambda Y$	$-{}^\mu iQ$	$+{}^\mu iF$	$+{}^\mu iV$	$-{}^\mu iD$	$-{}^\mu iN$	$-{}^\mu iS$	$+{}^\mu iL$	$-{}^\mu iZ$	$-{}^\mu iU$	$+{}^\mu iX$	$+{}^\mu R$	$+{}^\mu T$	$-{}^\mu P$	$+{}^\mu M$	$-{}^\mu E$	$+{}^\mu Y$
${}^\lambda R$	$+{}^\lambda iR$	$+{}^\lambda iE$	$+{}^\lambda iD$	$-{}^\lambda iV$	$-{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$+{}^\lambda iY$	$+{}^\lambda iX$	$-{}^\lambda iU$	$-{}^\lambda Q$	$-{}^\lambda P$	$+{}^\lambda T$	$+{}^\lambda N$	$-{}^\lambda F$	$-{}^\lambda Z$	$-{}^\mu iR$	$-{}^\mu iE$	$-{}^\mu iD$	$-{}^\mu iV$	$-{}^\mu iM$	$-{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu iY$	$-{}^\mu iX$	$-{}^\mu iU$	$-{}^\mu Q$	$-{}^\mu P$	$-{}^\mu T$	$-{}^\mu N$	$-{}^\mu F$	$-{}^\mu Z$
${}^\lambda D$	$+{}^\lambda iD$	$-{}^\lambda iT$	$+{}^\lambda iR$	$+{}^\lambda iQ$	$-{}^\lambda iU$	$+{}^\lambda iZ$	$+{}^\lambda iY$	$+{}^\lambda iS$	$-{}^\lambda iN$	$-{}^\lambda iM$	$+{}^\lambda V$	$-{}^\lambda F$	$-{}^\lambda E$	$-{}^\lambda X$	$-{}^\lambda P$	$+{}^\lambda L$	$-{}^\mu iD$	$-{}^\mu iT$	$-{}^\mu iR$	$-{}^\mu iQ$	$-{}^\mu iU$	$-{}^\mu iZ$	$-{}^\mu iY$	$-{}^\mu iS$	$-{}^\mu iN$	$-{}^\mu iM$	$-{}^\mu V$	$-{}^\mu F$	$-{}^\mu E$	$-{}^\mu X$	$-{}^\mu P$	$-{}^\mu L$
${}^\lambda E$	$+{}^\lambda iE$	$+{}^\lambda iR$	$+{}^\lambda iT$	$+{}^\lambda iP$	$+{}^\lambda iZ$	$+{}^\lambda iU$	$+{}^\lambda iX$	$+{}^\lambda iN$	$+{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda F$	$+{}^\lambda V$	$+{}^\lambda D$	$+{}^\lambda Y$	$+{}^\lambda Q$	$+{}^\lambda M$	$-{}^\mu iE$	$-{}^\mu iR$	$+{}^\mu iT$	$-{}^\mu iP$	$-{}^\mu iZ$	$+{}^\mu iU$	$-{}^\mu iX$	$+{}^\mu iN$	$-{}^\mu iS$	$+{}^\mu iL$	$+{}^\mu F$	$-{}^\mu V$	$+{}^\mu D$	$+{}^\mu Y$	$+{}^\mu Q$	$-{}^\mu M$
${}^\lambda F$	$+{}^\lambda iF$	$-{}^\lambda iQ$	$+{}^\lambda iP$	$-{}^\lambda iT$	$+{}^\lambda iY$	$-{}^\lambda iX$	$+{}^\lambda iU$	$+{}^\lambda iM$	$-{}^\lambda iL$	$+{}^\lambda iS$	$-{}^\lambda E$	$+{}^\lambda D$	$-{}^\lambda V$	$-{}^\lambda Z$	$+{}^\lambda R$	$-{}^\lambda N$	$-{}^\mu iF$	$+{}^\mu iQ$	$-{}^\mu iP$	$-{}^\mu iT$	$-{}^\mu iY$	$+{}^\mu iX$	$+{}^\mu iU$	$+{}^\mu iM$	$-{}^\mu iL$	$-{}^\mu iS$	$-{}^\mu E$	$+{}^\mu D$	$+{}^\mu V$	$-{}^\mu Z$	$+{}^\mu R$	$+{}^\mu N$
${}^\lambda iL$	$-{}^\lambda L$	$+{}^\lambda U$	$-{}^\lambda Z$	$+{}^\lambda Y$	$-{}^\lambda T$	$+{}^\lambda R$	$-{}^\lambda Q$	$-{}^\lambda V$	$+{}^\lambda F$	$-{}^\lambda E$	$-{}^\lambda iS$	$+{}^\lambda iN$	$-{}^\lambda iM$	$-{}^\lambda iP$	$+{}^\lambda iX$	$-{}^\lambda iD$	$+{}^\mu L$	$-{}^\mu U$	$-{}^\mu Z$	$+{}^\mu Y$	$+{}^\mu T$	$+{}^\mu R$	$-{}^\mu Q$	$+{}^\mu V$	$+{}^\mu F$	$-{}^\mu E$	$+{}^\mu iS$	$+{}^\mu iN$	$-{}^\mu iM$	$+{}^\mu iP$	$-{}^\mu iX$	$+{}^\mu iD$
${}^\lambda iM$	$-{}^\lambda M$	$-{}^\lambda Z$	$-{}^\lambda U$	$+{}^\lambda X$	$+{}^\lambda R$	$+{}^\lambda T$	$-{}^\lambda P$	$-{}^\lambda F$	$-{}^\lambda V$	$+{}^\lambda D$	$-{}^\lambda iN$	$-{}^\lambda iS$	$+{}^\lambda iL$	$+{}^\lambda iQ$	$-{}^\lambda iY$	$-{}^\lambda iE$	$+{}^\mu M$	$-{}^\mu Z$	$+{}^\mu U$	$+{}^\mu X$	$+{}^\mu R$	$-{}^\mu T$	$-{}^\mu P$	$-{}^\mu F$	$+{}^\mu V$	$+{}^\mu D$	$-{}^\mu iN$	$+{}^\mu iS$	$+{}^\mu iL$	$-{}^\mu iQ$	$+{}^\mu iY$	$+{}^\mu iE$
${}^\lambda iN$	$-{}^\lambda N$	$+{}^\lambda Y$	$-{}^\lambda X$	$-{}^\lambda U$	$+{}^\lambda Q$	$-{}^\lambda P$	$-{}^\lambda T$	$-{}^\lambda E$	$+{}^\lambda D$	$+{}^\lambda V$	$+{}^\lambda iM$	$-{}^\lambda iL$	$-{}^\lambda iS$	$-{}^\lambda iR$	$-{}^\lambda iZ$	$+{}^\lambda iF$	$+{}^\mu N$	$+{}^\mu Y$	$-{}^\mu X$	$+{}^\mu U$	$+{}^\mu Q$	$-{}^\mu P$	$+{}^\mu T$	$-{}^\mu E$	$+{}^\mu D$	$-{}^\mu V$	$+{}^\mu iM$	$-{}^\mu iL$	$+{}^\mu iS$	$+{}^\mu iR$	$+{}^\mu iZ$	$-{}^\mu iF$
${}^\lambda iT$	$-{}^\lambda T$	$+{}^\lambda D$	$-{}^\lambda E$	$+{}^\lambda F$	$-{}^\lambda L$	$+{}^\lambda M$	$-{}^\lambda N$	$-{}^\lambda X$	$+{}^\lambda Y$	$-{}^\lambda Z$	$-{}^\lambda iP$	$+{}^\lambda iQ$	$-{}^\lambda iR$	$-{}^\lambda iS$	$+{}^\lambda iV$	$-{}^\lambda iU$	$+{}^\mu T$	$+{}^\mu D$	$-{}^\mu E$	$+{}^\mu F$	$+{}^\mu L$	$-{}^\mu M$	$+{}^\mu N$	$-{}^\mu X$	$+{}^\mu Y$	$-{}^\mu Z$	$+{}^\mu iP$	$-{}^\mu iQ$	$+{}^\mu iR$	$+{}^\mu iS$	$+{}^\mu iV$	$-{}^\mu iU$
${}^\lambda iU$	$-{}^\lambda U$	$+{}^\lambda L$	$-{}^\lambda M$	$-{}^\lambda N$	$+{}^\lambda D$	$-{}^\lambda E$	$-{}^\lambda F$	$-{}^\lambda P$	$+{}^\lambda Q$	$+{}^\lambda R$	$+{}^\lambda iX$	$-{}^\lambda iY$	$-{}^\lambda iZ$	$-{}^\lambda iV$	$-{}^\lambda iS$	$+{}^\lambda iT$	$+{}^\mu U$	$-{}^\mu L$	$+{}^\mu M$	$+{}^\mu N$	$+{}^\mu D$	$-{}^\mu E$	$-{}^\mu F$	$-{}^\mu P$	$+{}^\mu Q$	$+{}^\mu R$	$-{}^\mu iX$	$+{}^\mu iY$	$+{}^\mu iZ$	$-{}^\mu iV$	$+{}^\mu iS$	$+{}^\mu iT$
${}^\lambda iV$	$-{}^\lambda V$	$-{}^\lambda P$	$-{}^\lambda Q$	$+{}^\lambda R$	$+{}^\lambda X$	$+{}^\lambda Y$	$-{}^\lambda Z$	$-{}^\lambda L$	$-{}^\lambda M$	$+{}^\lambda N$	$-{}^\lambda iD$	$-{}^\lambda iE$	$+{}^\lambda iF$	$+{}^\lambda iU$	$-{}^\lambda iT$	$-{}^\lambda iS$	$+{}^\mu V$	$-{}^\mu P$	$-{}^\mu Q$	$+{}^\mu R$	$+{}^\mu X$	$+{}^\mu Y$	$-{}^\mu Z$	$+{}^\mu L$	$+{}^\mu M$	$-{}^\mu N$	$+{}^\mu iD$	$+{}^\mu iE$	$-{}^\mu iF$	$+{}^\mu iU$	$-{}^\mu iT$	$+{}^\mu iS$

TABLE 38. $Ka^2(1,4)$ multiplication table, part C2

	+iS	+iX	+iY	+iZ	+iP	+iQ	+iR	+iD	+iE	+iF	+L	+M	+N	+T	+U	+V	$+^{\nu}iS$	$+^{\nu}iX$	$+^{\nu}iY$	$+^{\nu}iZ$	$+^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iD$	$+^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}L$	$+^{\nu}M$	$+^{\nu}N$	$+^{\nu}T$	$+^{\nu}U$	$+^{\nu}V$
iS	-S	-X	-Y	-Z	-P	-Q	-R	-D	-E	-F	+iL	+iM	+iN	+iT	+iU	+iV	$-^{\nu}S$	$-^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}P$	$-^{\nu}Q$	$-^{\nu}R$	$-^{\nu}D$	$-^{\nu}E$	$-^{\nu}F$	$+^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iT$	$+^{\nu}iU$	$+^{\nu}iV$
iX	-X	-S	-N	+M	+V	+F	-E	-T	-R	+Q	-iU	-iZ	+iY	+iD	-iL	-iP	$-^{\nu}X$	$-^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$-^{\nu}V$	$+^{\nu}F$	$-^{\nu}E$	$+^{\nu}T$	$-^{\nu}R$	$+^{\nu}Q$	$-^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$-^{\nu}iD$	$-^{\nu}iL$	$+^{\nu}iP$
iY	-Y	+N	-S	+L	-F	+V	-D	-R	+T	-P	-iZ	+iU	-iX	-iE	+iM	-iQ	$-^{\nu}Y$	$-^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$-^{\nu}F$	$-^{\nu}V$	$-^{\nu}D$	$-^{\nu}R$	$-^{\nu}T$	$-^{\nu}P$	$+^{\nu}iZ$	$+^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iE$	$+^{\nu}iM$	$+^{\nu}iQ$
iZ	-Z	-M	-L	-S	-E	-D	-V	-Q	-P	-T	+iY	+iX	+iU	+iF	+iN	+iR	$-^{\nu}Z$	$+^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$-^{\nu}E$	$-^{\nu}D$	$+^{\nu}V$	$-^{\nu}Q$	$-^{\nu}P$	$+^{\nu}T$	$-^{\nu}iY$	$-^{\nu}iX$	$+^{\nu}iU$	$-^{\nu}iF$	$+^{\nu}iN$	$-^{\nu}iR$
iP	-P	-V	-F	-E	-S	-N	-M	-U	-Z	-Y	+iT	+iR	+iQ	+iL	+iD	+iX	$-^{\nu}P$	$+^{\nu}V$	$-^{\nu}F$	$-^{\nu}E$	$-^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$+^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$+^{\nu}iT$	$-^{\nu}iR$	$-^{\nu}iQ$	$+^{\nu}iL$	$-^{\nu}iD$	$-^{\nu}iX$
iQ	-Q	+F	-V	-D	+N	-S	-L	-Z	+U	+X	+iR	-iT	-iP	-iM	-iE	+iY	$-^{\nu}Q$	$+^{\nu}F$	$+^{\nu}V$	$-^{\nu}D$	$-^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$-^{\nu}Z$	$-^{\nu}U$	$+^{\nu}X$	$-^{\nu}iR$	$-^{\nu}iT$	$+^{\nu}iP$	$-^{\nu}iM$	$+^{\nu}iE$	$-^{\nu}iY$
iR	-R	-E	-D	+V	+M	+L	-S	-Y	-X	+U	-iQ	-iP	+iT	+iN	-iF	-iZ	$-^{\nu}R$	$-^{\nu}E$	$-^{\nu}D$	$-^{\nu}V$	$-^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$-^{\nu}Y$	$-^{\nu}X$	$-^{\nu}U$	$+^{\nu}iQ$	$+^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}iN$	$+^{\nu}iF$	$+^{\nu}iZ$
iD	-D	+T	-R	-Q	+U	-Z	-Y	-S	+N	+M	+iV	-iF	-iE	-iX	-iP	+iL	$-^{\nu}D$	$-^{\nu}T$	$-^{\nu}R$	$-^{\nu}Q$	$-^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$+^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iX$	$+^{\nu}iP$	$+^{\nu}iL$
iE	-E	-R	-T	-P	-Z	-U	-X	-N	-S	-L	+iF	+iV	+iD	+iY	+iQ	+iM	$-^{\nu}E$	$-^{\nu}R$	$+^{\nu}T$	$-^{\nu}P$	$-^{\nu}Z$	$+^{\nu}U$	$-^{\nu}X$	$+^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$-^{\nu}iF$	$+^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}iY$	$-^{\nu}iQ$	$+^{\nu}iM$
iF	-F	+Q	-P	+T	-Y	+X	-U	-M	+L	-S	-iE	+iD	-iV	-iZ	+iR	-iN	$-^{\nu}F$	$+^{\nu}Q$	$-^{\nu}P$	$-^{\nu}T$	$-^{\nu}Y$	$+^{\nu}X$	$+^{\nu}U$	$+^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$+^{\nu}iE$	$-^{\nu}iD$	$-^{\nu}iV$	$+^{\nu}iZ$	$-^{\nu}iR$	$-^{\nu}iN$
L	+iL	-iU	+iZ	-iY	+iT	-iR	+iQ	+iV	-iF	+iE	-S	+N	-M	-P	+X	-D	$+^{\nu}iL$	$-^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$+^{\nu}iV$	$+^{\nu}iF$	$-^{\nu}iE$	$-^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$-^{\nu}P$	$+^{\nu}X$	$-^{\nu}D$
M	+iM	+iZ	+iU	-iX	-iR	-iT	+iP	+iF	+iV	-iD	-N	-S	+L	+Q	-Y	-E	$+^{\nu}iM$	$-^{\nu}iZ$	$+^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iR$	$-^{\nu}iT$	$-^{\nu}iP$	$-^{\nu}iF$	$+^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$+^{\nu}Q$	$-^{\nu}Y$	$-^{\nu}E$
N	+iN	-iY	+iX	+iU	-iQ	+iP	+iT	+iE	-iD	-iV	+M	-L	-S	-R	-Z	+F	$+^{\nu}iN$	$+^{\nu}iY$	$-^{\nu}iX$	$+^{\nu}iU$	$+^{\nu}iQ$	$-^{\nu}iP$	$+^{\nu}iT$	$-^{\nu}iE$	$+^{\nu}iD$	$-^{\nu}iV$	$-^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$-^{\nu}R$	$-^{\nu}Z$	$+^{\nu}F$
T	+iT	-iD	+iE	-iF	+iL	-iM	+iN	+iX	-iY	+iZ	-P	+Q	-R	-S	+V	-U	$+^{\nu}iT$	$+^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$-^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$-^{\nu}P$	$+^{\nu}Q$	$-^{\nu}R$	$-^{\nu}S$	$-^{\nu}V$	$+^{\nu}U$
U	+iU	-iL	+iM	+iN	-iD	+iE	+iF	+iP	-iQ	-iR	+X	-Y	-Z	-V	-S	+T	$+^{\nu}iU$	$-^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iD$	$-^{\nu}iE$	$-^{\nu}iF$	$-^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$+^{\nu}V$	$-^{\nu}S$	$-^{\nu}T$
V	+iV	+iP	+iQ	-iR	-iX	-iY	+iZ	+iL	+iM	-iN	-D	-E	+F	+U	-T	-S	$+^{\nu}iV$	$-^{\nu}iP$	$-^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$+^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}D$	$-^{\nu}E$	$+^{\nu}F$	$-^{\nu}U$	$+^{\nu}T$	$-^{\nu}S$
$^{\nu}iS$	$+^{\nu}S$	$+^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$+^{\nu}P$	$+^{\nu}Q$	$+^{\nu}R$	$+^{\nu}D$	$+^{\nu}E$	$+^{\nu}F$	$-^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iT$	$-^{\nu}iU$	$-^{\nu}iV$	-S	-X	-Y	-Z	-P	-Q	-R	-D	-E	-F	+iL	+iM	+iN	+iT	+iU	+iV
$^{\nu}iX$	$+^{\nu}X$	$+^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$-^{\nu}V$	$-^{\nu}F$	$+^{\nu}E$	$+^{\nu}T$	$+^{\nu}R$	$-^{\nu}Q$	$+^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$-^{\nu}iD$	$+^{\nu}iL$	$+^{\nu}iP$	-X	-S	+N	-M	-V	+F	-E	+T	-R	+Q	-iU	+iZ	-iY	-iD	-iL	+iP
$^{\nu}iY$	$+^{\nu}Y$	$-^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$+^{\nu}F$	$-^{\nu}V$	$+^{\nu}D$	$+^{\nu}R$	$-^{\nu}T$	$+^{\nu}P$	$+^{\nu}iZ$	$-^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iE$	$-^{\nu}iM$	$+^{\nu}iQ$	-Y	-N	-S	-L	-F	-V	-D	-R	-T	-P	+iZ	+iU	+iX	+iE	+iM	+iQ
$^{\nu}iZ$	$+^{\nu}Z$	$+^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$+^{\nu}E$	$+^{\nu}D$	$+^{\nu}V$	$+^{\nu}Q$	$+^{\nu}P$	$+^{\nu}T$	$-^{\nu}iY$	$-^{\nu}iX$	$-^{\nu}iU$	$-^{\nu}iF$	$-^{\nu}iN$	$-^{\nu}iR$	-Z	+M	+L	-S	-E	-D	+V	-Q	-P	+T	-iY	-iX	+iU	-iF	+iN	-iR
$^{\nu}iP$	$+^{\nu}P$	$+^{\nu}V$	$+^{\nu}F$	$+^{\nu}E$	$+^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$+^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$-^{\nu}iT$	$-^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}iL$	$-^{\nu}iD$	$-^{\nu}iX$	-P	+V	-F	-E	-S	+N	+M	+U	-Z	-Y	+iT	-iR	-iQ	+iL	-iD	-iX
$^{\nu}iQ$	$+^{\nu}Q$	$-^{\nu}F$	$+^{\nu}V$	$+^{\nu}D$	$-^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$+^{\nu}Z$	$-^{\nu}U$	$-^{\nu}X$	$-^{\nu}iR$	$+^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iM$	$+^{\nu}iE$	$-^{\nu}iY$	-Q	+F	+V	-D	-N	-S	+L	-Z	-U	+X	-iR	-iT	+iP	-iM	+iE	-iY
$^{\nu}iR$	$+^{\nu}R$	$+^{\nu}E$	$+^{\nu}D$	$-^{\nu}V$	$-^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}Y$	$+^{\nu}X$	$-^{\nu}U$	$+^{\nu}iQ$	$+^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}iN$	$+^{\nu}iF$	$+^{\nu}iZ$	-R	-E	-D	-V	-M	-L	-S	-Y	-X	-U	+iQ	+iP	+iT	+iN	+iF	+iZ
$^{\nu}iD$	$+^{\nu}D$	$-^{\nu}T$	$+^{\nu}R$	$+^{\nu}Q$	$-^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$+^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$-^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iX$	$+^{\nu}iP$	$-^{\nu}iL$	-D	-T	-R	-Q	-U	-Z	-Y	-S	-N	-M	+iV	+iF	+iE	+iX	+iP	+iL
$^{\nu}iE$	$+^{\nu}E$	$+^{\nu}R$	$+^{\nu}T$	$+^{\nu}P$	$+^{\nu}Z$	$+^{\nu}U$	$+^{\nu}X$	$+^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$-^{\nu}iF$	$-^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}iY$	$-^{\nu}iQ$	$-^{\nu}iM$	-E	-R	+T	-P	-Z	+U	-X	+N	-S	+L	-iF	+iV	-iD	-iY	-iQ	+iM
$^{\nu}iF$	$+^{\nu}F$	$-^{\nu}Q$	$+^{\nu}P$	$-^{\nu}T$	$+^{\nu}Y$	$-^{\nu}X$	$+^{\nu}U$	$+^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}iE$	$-^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}iZ$	$-^{\nu}iR$	$+^{\nu}iN$	-F	+Q	-P	-T	-Y	+X	+U	+M	-L	-S	+iE	-iD	-iV	+iZ	-iR	-iN
$^{\nu}L$	$-^{\nu}iL$	$+^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$-^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}iV$	$+^{\nu}iF$	$-^{\nu}iE$	$+^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$+^{\nu}P$	$-^{\nu}X$	$+^{\nu}D$	+iL	-iU	-iZ	+iY	+iT	+iR	-iQ	+iV	+iF	-iE	-S	-N	+M	-P	+X	-D
$^{\nu}M$	$-^{\nu}iM$	$-^{\nu}iZ$	$-^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iR$	$+^{\nu}iT$	$-^{\nu}iP$	$-^{\nu}iF$	$-^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$-^{\nu}Q$	$+^{\nu}Y$	$+^{\nu}E$	+iM	-iZ	+iU	+iX	+iR	-iT	-iP	-iF	+iV	+iD	+N	-S	-L	+Q	-Y	-E
$^{\nu}N$	$-^{\nu}iN$	$+^{\nu}iY$	$-^{\nu}iX$	$-^{\nu}iU$	$+^{\nu}iQ$	$-^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}iE$	$+^{\nu}iD$	$+^{\nu}iV$	$-^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$+^{\nu}R$	$+^{\nu}Z$	$-^{\nu}F$	+iN	+iY	-iX	+iU	+iQ	-iP	+iT	-iE	+iD	-iV	-M	+L	-S	-R	-Z	+F
$^{\nu}T$	$-^{\nu}iT$	$+^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$-^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$+^{\nu}P$	$-^{\nu}Q$	$+^{\nu}R$	$+^{\nu}S$	$-^{\nu}V$	$+^{\nu}U$	+iT	+iD	-iE	+iF	+iL	-iM	+iN	-iX	+iY	-iZ	-P	+Q	-R	-S	-V	+U
$^{\nu}U$	$-^{\nu}iU$	$+^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$+^{\nu}iD$	$-^{\nu}iE$	$-^{\nu}iF$	$-^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$-^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$+^{\nu}V$	$+^{\nu}S$	$-^{\nu}T$	+iU	-iL	+iM	+iN	+iD	-iE	-iF	-iP	+iQ	+iR	+X	-Y	-Z	+V	-S	-T
$^{\nu}V$	$-^{\nu}iV$	$-^{\nu}iP$	$-^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iX$	$+^{\nu}iY$	$-^{\nu}iZ$	$-^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}D$	$+^{\nu}E$	$-^{\nu}F$	$-^{\nu}U$	$+^{\nu}T$	$+^{\nu}S$	+iV	-iP	-iQ	+iR	+iX	+iY	-iZ	+iL	+iM	-iN	-D	-E	+F	-U	+T	-S
$^{\mu}iS$	$+^{\mu}S$	$+^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}P$	$+^{\mu}Q$	$+^{\mu}R$	$+^{\mu}D$	$+^{\mu}E$	$+^{\mu}F$	$-^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iT$	$-^{\mu}iU$	$-^{\mu}iV$	$+^{\lambda}S$	$+^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$+^{\lambda}P$	$+^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}D$	$+^{\lambda}E$	$+^{\lambda}F$	$-^{\lambda}iL$	$-^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}iT$	$-^{\lambda}iU$	$-^{\lambda}iV$
$^{\mu}iX$	$+^{\mu}X$	$+^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$-^{\mu}V$	$-^{\mu}F$	$+^{\mu}E$	$+^{\mu}T$	$+^{\mu}R$	$-^{\mu}Q$	$+^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iD$	$+^{\mu}iL$	$+^{\mu}iP$	$+^{\lambda}X$	$+^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}V$	$-^{\lambda}F$	$+^{\lambda}E$	$-^{\lambda}T$	$+^{\lambda}R$	$-^{\lambda}Q$	$+^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iD$	$+^{\lambda}iL$	$-^{\lambda}iP$
$^{\mu}iY$	$+^{\mu}Y$	$-^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$+^{\mu}F$	$-^{\mu}V$	$+^{\mu}D$	$+^{\mu}R$	$-^{\mu}T$	$+^{\mu}P$	$+^{\mu}iZ$	$-^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iE$	$-^{\mu}iM$	$+^{\mu}iQ$	$+^{\lambda}Y$	$+^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}F$	$+^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}R$	$+^{\lambda}T$	$+^{\lambda}P$	$-^{\lambda}iZ$	$-^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iE$	$-^{\lambda}iM$	$-^{\lambda}iQ$
$^{\mu}iZ$	$+^{\mu}Z$	$+^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$+^{\mu}E$	$+^{\mu}D$	$+^{\mu}V$	$+^{\mu}Q$	$+^{\mu}P$	$+^{\mu}T$	$-^{\mu}iY$	$-^{\mu}iX$	$-^{\mu}iU$	$-^{\mu}iF$	$-^{\mu}iN$	$-^{\mu}iR$	$+^{\lambda}Z$	$-^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}E$	$+^{\lambda}D$	$-^{\lambda}V$	$+^{\lambda}Q$	$+^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}iY$	$+^{\lambda}iX$	$-^{\lambda}iU$	$+^{\lambda}iF$	$-^{\lambda}iN$	$+^{\lambda}iR$
$^{\mu}iP$	$+^{\mu}P$	$+^{\mu}V$	$+^{\mu}F$	$+^{\mu}E$	$+^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$+^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$-^{\mu}iT$	$-^{\mu}iR$	$-^{\mu}iQ$	$-^{\mu}iL$	$-^{\mu}iD$	$-^{\mu}iX$	$+^{\lambda}P$	$-^{\lambda}V$	$+^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$-^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$-^{\lambda}iL$	$+^{\lambda}iD$	$+^{\lambda}iX$
$^{\mu}iQ$	$+^{\mu}Q$	$-^{\mu}F$	$+^{\mu}V$	$+^{\mu}D$	$-^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$+^{\mu}Z$	$-^{\mu}U$	$-^{\mu}X$	$-^{\mu}iR$	$+^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}iM$	$+^{\mu}iE$	$-^{\mu}iY$	$+^{\lambda}Q$	$-^{\lambda}F$	$-^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}Z$	$+^{\lambda}U$	$-^{\lambda}X$	$+^{\lambda}iR$	$+^{\lambda}iT$	$-^{\lambda}iP$	$+^{\lambda}iM$	$-^{\lambda}iE$	$+^{\lambda}iY$
$^{\mu}iR$	$+^{\mu}R$	$+^{\mu}E$	$+^{\mu}D$	$-^{\mu}V$	$-^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}Y$	$+^{\mu}X$	$-^{\mu}U$	$+^{\mu}iQ$	$+^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}iN$	$+^{\mu}iF$	$+^{\mu}iZ$	$+^{\lambda}R$	$+^{\lambda}E$	$+^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}Y$	$+^{\lambda}X$	$+^{\lambda}U$	$-^{\lambda}iQ$	$-^{\lambda}iP$	$-^{\lambda}iT$	$-^{\lambda}iN$	$-^{\lambda}iF$	$-^{\lambda}iZ$
$^{\mu}iD$	$+^{\mu}D$	$-^{\mu}T$	$+^{\mu}R$	$+^{\mu}Q$	$-^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$+^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$-^{\mu}iV$	$+^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}iX$	$+^{\mu}iP$	$-^{\mu}iL$	$+^{\lambda}D$	$+^{\lambda}T$	$+^{\lambda}R$	$+^{\lambda}Q$	$+^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$-^{\lambda}iV$	$-^{\lambda}iF$	$-^{\lambda}iE$	$-^{\lambda}iX$	$-^{\lambda}iP$	$-^{\lambda}iL$
$^{\mu}iE$	$+^{\mu}E$	$+^{\mu}R$	$+^{\mu}T$	$+^{\mu}P$	$+^{\mu}Z$	$+^{\mu}U$	$+^{\mu}X$	$+^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$-^{\mu}iF$	$-^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}iY$	$-^{\mu}iQ$	$-^{\mu}iM$	$+^{\lambda}E$	$+^{\lambda}R$	$-^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}Z$	$-^{\lambda}U$	$+^{\lambda}X$	$-^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}iF$	$-^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iY$	$+^{\lambda}iQ$	$-^{\lambda}iM$
$^{\mu}iF$	$+^{\mu}F$	$-^{\mu}Q$	$+^{\mu}P$	$-^{\mu}T$	$+^{\mu}Y$	$-^{\mu}X$	$+^{\mu}U$	$+^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}iE$	$-^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}iZ$	$-^{\mu}iR$	$+^{\mu}iN$	$+^{\lambda}F$	$-^{\lambda}Q$	$+^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}Y$	$-^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$-^{\lambda}iE$	$+^{\lambda}iD$	$+^{\lambda}iV$	$-^{\lambda}iZ$	$+^{\lambda}iR$	$+^{\lambda}iN$
$^{\mu}L$	$-^{\mu}iL$	$+^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$-^{\mu}iT$	$+^{\mu}iR$	$-^{\mu}iQ$	$-^{\mu}iV$	$+^{\mu}iF$	$-^{\mu}iE$	$+^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$+^{\mu}P$	$-^{\mu}X$	$+^{\mu}D$	$-^{\lambda}iL$	$+^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$-^{\lambda}iT$	$-^{\lambda}iR$	$+^{\lambda}iQ$	$-^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$+^{\lambda}P$	$-^{\lambda}X$	$+^{\lambda}D$
$^{\mu}M$	$-^{\mu}iM$	$-^{\mu}iZ$	$-^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iR$	$+^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iF$	$-^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$-^{\mu}Q$	$+^{\mu}Y$	$+^{\mu}E$	$-^{\lambda}iM$	$+^{\lambda}iZ$	$-^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iR$	$+^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iF$	$-^{\lambda}iV$	$-^{\lambda}iD$	$-^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$-^{\lambda}Q$	$+^{\lambda}Y$	$+^{\lambda}E$
$^{\mu}N$	$-^{\mu}iN$	$+^{\mu}iY$	$-^{\mu}iX$	$-^{\mu}iU$	$+^{\mu}iQ$	$-^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}iE$	$+^{\mu}iD$	$+^{\mu}iV$	$-^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$+^{\mu}R$	$+^{\mu}Z$	$-^{\mu}F$	$-^{\lambda}iN$	$-^{\lambda}iY$	$+^{\lambda}iX$	$-^{\lambda}iU$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$-^{\lambda}iT$	$+^{\lambda}iE$	$-^{\lambda}iD$	$+^{\lambda}iV$	$+^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}R$	$+^{\lambda}Z$	$-^{\lambda}F$
$^{\mu}T$	$-^{\mu}iT$	$+^{\mu}iD$	$-^{\mu}iE$	$+^{\mu}iF$	$-^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$+^{\mu}P$	$-^{\mu}Q$	$+^{\mu}R$	$+^{\mu}S$	$-^{\mu}V$	$+^{\mu}U$	$-^{\lambda}iT$	$-^{\lambda}iD$	$+^{\lambda}iE$	$-^{\lambda}iF$	$-^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$+^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}P$	$-^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}S$	$+^{\lambda}V$	$-^{\lambda}U$
$^{\mu}U$	$-^{\mu}iU$	$+^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$+^{\mu}iD$	$-^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$-^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}V$	$+^{\mu}S$	$-^{\mu}T$	$-^{\lambda}iU$	$+^{\lambda}iL$	$-^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iP$	$-^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$-^{\lambda}V$	$+^{\lambda}S$	$+^{\lambda}T$
$^{\mu}V$	$-^{\mu}iV$	$-^{\mu}iP$	$-^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$-^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}D$	$+^{\mu}E$	$-^{\mu}F$	$-^{\mu}U$	$+^{\mu}T$	$+^{\mu}S$	$-^{\lambda}iV$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$-^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}D$	$+^{\lambda}E$	$-^{\lambda}F$	$+^{\lambda}U$	$-^{\lambda}T$	$+^{\lambda}S$
$^{\lambda}iS$	$-^{\lambda}S$	$-^{\lambda}X$	$-^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}P$	$-^{\lambda}Q$	$-^{\lambda}R$	$-^{\lambda}D$	$-^{\lambda}E$	$-^{\lambda}F$	$+^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iT$	$+^{\lambda}iU$	$+^{\lambda}iV$	$+^{\mu}S$	$+^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}P$	$+^{\mu}Q$	$+^{\mu}R$	$+^{\mu}D$	$+^{\mu}E$	$+^{\mu}F$	$-^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iT$	$-^{\mu}iU$	$-^{\mu}iV$
$^{\lambda}iX$	$-^{\lambda}X$	$-^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}V$	$+^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}T$	$-^{\lambda}R$	$+^{\lambda}Q$	$-^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iD$	$-^{\lambda}iL$	$-^{\lambda}iP$	$+^{\mu}X$	$+^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$+^{\mu}V$	$-^{\mu}F$	$+^{\mu}E$	$-^{\mu}T$	$+^{\mu}R$	$-^{\mu}Q$	$+^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}iD$	$+^{\mu}iL$	$-^{\mu}iP$
$^{\lambda}iY$	$-^{\lambda}Y$	$+^{\lambda}N$	$-^{\lambda}S$	$+^{\lambda}L$	$-^{\lambda}F$	$+^{\lambda}V$	$-^{\lambda}D$	$-^{\lambda}R$	$+^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iE$	$+^{\lambda}iM$	$-^{\lambda}iQ$	$+^{\mu}Y$	$+^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$+^{\mu}F$	$+^{\mu}V$	$+^{\mu}D$	$+^{\mu}R$	$+^{\mu}T$	$+^{\mu}P$	$-^{\mu}iZ$	$-^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}iE$	$-^{\mu}iM$	$-^{\mu}iQ$
$^{\lambda}iZ$	$-^{\lambda}Z$	$-^{\lambda}M$	$-^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}E$	$-^{\lambda}D$	$-^{\lambda}V$	$-^{\lambda}Q$	$-^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}iF$	$+^{\lambda}iN$	$+^{\lambda}iR$	$+^{\mu}Z$	$-^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}E$	$+^{\mu}D$	$-^{\mu}V$	$+^{\mu}Q$	$+^{\mu}P$	$-^{\mu}T$	$+^{\mu}iY$	$+^{\mu}iX$	$-^{\mu}iU$	$+^{\mu}iF$	$-^{\mu}iN$	$+^{\mu}iR$
$^{\lambda}iP$	$-^{\lambda}P$	$-^{\lambda}V$	$-^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}U$	$-^{\lambda}Z$	$-^{\lambda}Y$	$+^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iL$	$+^{\lambda}iD$	$+^{\lambda}iX$	$+^{\mu}P$	$-^{\mu}V$	$+^{\mu}F$	$+^{\mu}E$	$+^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$-^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$-^{\mu}iT$	$+^{\mu}iR$	$+^{\mu}iQ$	$-^{\mu}iL$	$+^{\mu}iD$	$+^{\mu}iX$
$^{\lambda}iQ$	$-^{\lambda}Q$	$+^{\lambda}F$	$-^{\lambda}V$	$-^{\lambda}D$	$+^{\lambda}N$	$-^{\lambda}S$	$-^{\lambda}L$	$-^{\lambda}Z$	$+^{\lambda}U$	$+^{\lambda}X$	$+^{\lambda}iR$	$-^{\lambda}iT$	$-^{\lambda}iP$	$-^{\lambda}iM$	$-^{\lambda}iE$	$+^{\lambda}iY$	$+^{\mu}Q$	$-^{\mu}F$	$-^{\mu}V$	$+^{\mu}D$	$+^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$+^{\mu}Z$	$+^{\mu}U$	$-^{\mu}X$	$+^{\mu}iR$	$+^{\mu}iT$	$-^{\mu}iP$	$+^{\mu}iM$	$-^{\mu}iE$	$+^{\mu}iY$
$^{\lambda}iR$	$-^{\lambda}R$	$-^{\lambda}E$	$-^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}M$	$+^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}Y$	$-^{\lambda}X$	$+^{\lambda}U$	$-^{\lambda}iQ$	$-^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iN$	$-^{\lambda}iF$	$-^{\lambda}iZ$	$+^{\mu}R$	$+^{\mu}E$	$+^{\mu}D$	$+^{\mu}V$	$+^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$+^{\mu}Y$	$+^{\mu}X$	$+^{\mu}U$	$-^{\mu}iQ$	$-^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}iN$	$-^{\mu}iF$	$-^{\mu}iZ$
$^{\lambda}iD$	$-^{\lambda}D$	$+^{\lambda}T$	$-^{\lambda}R$	$-^{\lambda}Q$	$+^{\lambda}U$	$-^{\lambda}Z$	$-^{\lambda}Y$	$-^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}iV$	$-^{\lambda}iF$	$-^{\lambda}iE$	$-^{\lambda}iX$	$-^{\lambda}iP$	$+^{\lambda}iL$	$+^{\mu}D$	$+^{\mu}T$	$+^{\mu}R$	$+^{\mu}Q$	$+^{\mu}U$	$+^{\mu}Z$	$+^{\mu}Y$	$+^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$-^{\mu}iV$	$-^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}iX$	$-^{\mu}iP$	$-^{\mu}iL$
$^{\lambda}iE$	$-^{\lambda}E$	$-^{\lambda}R$	$-^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}Z$	$-^{\lambda}U$	$-^{\lambda}X$	$-^{\lambda}N$	$-^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iY$	$+^{\lambda}iQ$	$+^{\lambda}iM$	$+^{\mu}E$	$+^{\mu}R$	$-^{\mu}T$	$+^{\mu}P$	$+^{\mu}Z$	$-^{\mu}U$	$+^{\mu}X$	$-^{\mu}N$	$+^{\mu}S$	$-^{\mu}L$	$+^{\mu}iF$	$-^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}iY$	$+^{\mu}iQ$	$-^{\mu}iM$
$^{\lambda}iF$	$-^{\lambda}F$	$+^{\lambda}Q$	$-^{\lambda}P$	$+^{\lambda}T$	$-^{\lambda}Y$	$+^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}M$	$+^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$-^{\lambda}iZ$	$+^{\lambda}iR$	$-^{\lambda}iN$	$+^{\mu}F$	$-^{\mu}Q$	$+^{\mu}P$	$+^{\mu}T$	$+^{\mu}Y$	$-^{\mu}X$	$-^{\mu}U$	$-^{\mu}M$	$+^{\mu}L$	$+^{\mu}S$	$-^{\mu}iE$	$+^{\mu}iD$	$+^{\mu}iV$	$-^{\mu}iZ$	$+^{\mu}iR$	$+^{\mu}iN$
$^{\lambda}L$	$+^{\lambda}iL$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$+^{\lambda}iT$	$-^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$-^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}P$	$+^{\lambda}X$	$-^{\lambda}D$	$-^{\mu}iL$	$+^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iT$	$-^{\mu}iR$	$+^{\mu}iQ$	$-^{\mu}iV$	$-^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$+^{\mu}P$	$-^{\mu}X$	$+^{\mu}D$
$^{\lambda}M$	$+^{\lambda}iM$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iF$	$+^{\lambda}iV$	$-^{\lambda}iD$	$-^{\lambda}N$	$-^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}Q$	$-^{\lambda}Y$	$-^{\lambda}E$	$-^{\mu}iM$	$+^{\mu}iZ$	$-^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}iR$	$+^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}iF$	$-^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}N$	$+^{\mu}S$	$+^{\mu}L$	$-^{\mu}Q$	$+^{\mu}Y$	$+^{\mu}E$
$^{\lambda}N$	$+^{\lambda}iN$	$-^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iE$	$-^{\lambda}iD$	$-^{\lambda}iV$	$+^{\lambda}M$	$-^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}R$	$-^{\lambda}Z$	$+^{\lambda}F$	$-^{\mu}iN$	$-^{\mu}iY$	$+^{\mu}iX$	$-^{\mu}iU$	$-^{\mu}iQ$	$+^{\mu}iP$	$-^{\mu}iT$	$+^{\mu}iE$	$-^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}M$	$-^{\mu}L$	$+^{\mu}S$	$+^{\mu}R$	$+^{\mu}Z$	$-^{\mu}F$
$^{\lambda}T$	$+^{\lambda}iT$	$-^{\lambda}iD$	$+^{\lambda}iE$	$-^{\lambda}iF$	$+^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$-^{\lambda}P$	$+^{\lambda}Q$	$-^{\lambda}R$	$-^{\lambda}S$	$+^{\lambda}V$	$-^{\lambda}U$	$-^{\mu}iT$	$-^{\mu}iD$	$+^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$+^{\mu}iX$	$-^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}P$	$-^{\mu}Q$	$+^{\mu}R$	$+^{\mu}S$	$+^{\mu}V$	$-^{\mu}U$
$^{\lambda}U$	$+^{\lambda}iU$	$-^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$-^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iP$	$-^{\lambda}iQ$	$-^{\lambda}iR$	$+^{\lambda}X$	$-^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}V$	$-^{\lambda}S$	$+^{\lambda}T$	$-^{\mu}iU$	$+^{\mu}iL$	$-^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}iD$	$+^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}iP$	$-^{\mu}iQ$	$-^{\mu}iR$	$-^{\mu}X$	$+^{\mu}Y$	$+^{\mu}Z$	$-^{\mu}V$	$+^{\mu}S$	$+^{\mu}T$
$^{\lambda}V$	$+^{\lambda}iV$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}D$	$-^{\lambda}E$	$+^{\lambda}F$	$+^{\lambda}U$	$-^{\lambda}T$	$-^{\lambda}S$	$-^{\mu}iV$	$+^{\mu}iP$	$+^{\mu}iQ$	$-^{\mu}iR$	$-^{\mu}iX$	$-^{\mu}iY$	$+^{\mu}iZ$	$-^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}D$	$+^{\mu}E$	$-^{\mu}F$	$+^{\mu}U$	$-^{\mu}T$	$+^{\mu}S$

TABLE 39. $Ka^2(1,4)$ multiplication table, part D1

	$+^{\mu}iS$	$+^{\mu}iX$	$+^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iD$	$+^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}L$	$+^{\mu}M$	$+^{\mu}N$	$+^{\mu}T$	$+^{\mu}U$	$+^{\mu}V$	$+^{\lambda}iS$	$+^{\lambda}iX$	$+^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$+^{\lambda}iR$	$+^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}L$	$+^{\lambda}M$	$+^{\lambda}N$	$+^{\lambda}T$	$+^{\lambda}U$	$+^{\lambda}V$
S	$+^{\mu}iS$	$+^{\mu}iX$	$+^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iD$	$+^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}L$	$+^{\mu}M$	$+^{\mu}N$	$+^{\mu}T$	$+^{\mu}U$	$+^{\mu}V$	$+^{\lambda}iS$	$+^{\lambda}iX$	$+^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$+^{\lambda}iR$	$+^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}L$	$+^{\lambda}M$	$+^{\lambda}N$	$+^{\lambda}T$	$+^{\lambda}U$	$+^{\lambda}V$
X	$+^{\mu}iX$	$+^{\mu}iS$	$-^{\mu}iN$	$+^{\mu}iM$	$+^{\mu}iV$	$-^{\mu}iF$	$+^{\mu}iE$	$-^{\mu}iT$	$+^{\mu}iR$	$-^{\mu}iQ$	$-^{\mu}U$	$+^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}D$	$-^{\mu}L$	$+^{\mu}P$	$+^{\lambda}iX$	$+^{\lambda}iS$	$-^{\lambda}iN$	$+^{\lambda}iM$	$+^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$-^{\lambda}iT$	$+^{\lambda}iR$	$-^{\lambda}iQ$	$-^{\lambda}U$	$+^{\lambda}Z$	$-^{\lambda}Y$	$-^{\lambda}D$	$-^{\lambda}L$	$+^{\lambda}P$
Y	$+^{\mu}iY$	$+^{\mu}iN$	$+^{\mu}iS$	$+^{\mu}iL$	$+^{\mu}iF$	$+^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}iR$	$+^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}Z$	$+^{\mu}U$	$+^{\mu}X$	$+^{\mu}E$	$+^{\mu}M$	$+^{\mu}Q$	$+^{\lambda}iY$	$+^{\lambda}iN$	$+^{\lambda}iS$	$+^{\lambda}iL$	$+^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iR$	$+^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}Z$	$+^{\lambda}U$	$+^{\lambda}X$	$+^{\lambda}E$	$+^{\lambda}M$	$+^{\lambda}Q$
Z	$+^{\mu}iZ$	$-^{\mu}iM$	$-^{\mu}iL$	$+^{\mu}iS$	$+^{\mu}iE$	$+^{\mu}iD$	$-^{\mu}iV$	$+^{\mu}iQ$	$+^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}Y$	$-^{\mu}X$	$+^{\mu}U$	$-^{\mu}F$	$+^{\mu}N$	$-^{\mu}R$	$+^{\lambda}iZ$	$-^{\lambda}iM$	$-^{\lambda}iL$	$+^{\lambda}iS$	$+^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$+^{\lambda}iQ$	$+^{\lambda}iP$	$-^{\lambda}iT$	$-^{\lambda}Y$	$-^{\lambda}X$	$+^{\lambda}U$	$-^{\lambda}F$	$+^{\lambda}N$	$-^{\lambda}R$
P	$+^{\mu}iP$	$-^{\mu}iV$	$+^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}iS$	$-^{\mu}iN$	$-^{\mu}iM$	$-^{\mu}iU$	$+^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}T$	$-^{\mu}R$	$-^{\mu}Q$	$+^{\mu}L$	$-^{\mu}D$	$-^{\mu}X$	$+^{\lambda}iP$	$-^{\lambda}iV$	$+^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}iS$	$-^{\lambda}iN$	$-^{\lambda}iM$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}T$	$-^{\lambda}R$	$-^{\lambda}Q$	$+^{\lambda}L$	$-^{\lambda}D$	$-^{\lambda}X$
Q	$+^{\mu}iQ$	$-^{\mu}iF$	$-^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}iN$	$+^{\mu}iS$	$-^{\mu}iL$	$+^{\mu}iZ$	$+^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}R$	$-^{\mu}T$	$+^{\mu}P$	$-^{\mu}M$	$+^{\mu}E$	$-^{\mu}Y$	$+^{\lambda}iQ$	$-^{\lambda}iF$	$-^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iN$	$+^{\lambda}iS$	$-^{\lambda}iL$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}R$	$-^{\lambda}T$	$+^{\lambda}P$	$-^{\lambda}M$	$+^{\lambda}E$	$-^{\lambda}Y$
R	$+^{\mu}iR$	$+^{\mu}iE$	$+^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}iM$	$+^{\mu}iL$	$+^{\mu}iS$	$+^{\mu}iY$	$+^{\mu}iX$	$+^{\mu}iU$	$+^{\mu}Q$	$+^{\mu}P$	$+^{\mu}T$	$+^{\mu}N$	$+^{\mu}F$	$+^{\mu}Z$	$+^{\lambda}iR$	$+^{\lambda}iE$	$+^{\lambda}iD$	$+^{\lambda}iV$	$+^{\lambda}iM$	$+^{\lambda}iL$	$+^{\lambda}iS$	$+^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}Q$	$+^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}N$	$+^{\lambda}F$	$+^{\lambda}Z$
D	$+^{\mu}iD$	$+^{\mu}iT$	$+^{\mu}iR$	$+^{\mu}iQ$	$+^{\mu}iU$	$+^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}iS$	$+^{\mu}iN$	$+^{\mu}iM$	$+^{\mu}V$	$+^{\mu}F$	$+^{\mu}E$	$+^{\mu}X$	$+^{\mu}P$	$+^{\mu}L$	$+^{\lambda}iD$	$+^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iU$	$+^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iS$	$+^{\lambda}iN$	$+^{\lambda}iM$	$+^{\lambda}V$	$+^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}X$	$+^{\lambda}P$	$+^{\lambda}L$
E	$+^{\mu}iE$	$+^{\mu}iR$	$-^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}iZ$	$-^{\mu}iU$	$+^{\mu}iX$	$-^{\mu}iN$	$+^{\mu}iS$	$-^{\mu}iL$	$-^{\mu}F$	$+^{\mu}V$	$-^{\mu}D$	$-^{\mu}Y$	$-^{\mu}Q$	$+^{\mu}M$	$+^{\lambda}iE$	$+^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iZ$	$-^{\lambda}iU$	$+^{\lambda}iX$	$-^{\lambda}iN$	$+^{\lambda}iS$	$-^{\lambda}iL$	$-^{\lambda}F$	$+^{\lambda}V$	$-^{\lambda}D$	$-^{\lambda}Y$	$-^{\lambda}Q$	$+^{\lambda}M$
F	$+^{\mu}iF$	$-^{\mu}iQ$	$+^{\mu}iP$	$+^{\mu}iT$	$+^{\mu}iY$	$-^{\mu}iX$	$-^{\mu}iU$	$-^{\mu}iM$	$+^{\mu}iL$	$+^{\mu}iS$	$+^{\mu}E$	$-^{\mu}D$	$-^{\mu}V$	$+^{\mu}Z$	$-^{\mu}R$	$-^{\mu}N$	$+^{\lambda}iF$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iY$	$-^{\lambda}iX$	$-^{\lambda}iU$	$-^{\lambda}iM$	$+^{\lambda}iL$	$+^{\lambda}iS$	$+^{\lambda}E$	$-^{\lambda}D$	$-^{\lambda}V$	$+^{\lambda}Z$	$-^{\lambda}R$	$-^{\lambda}N$
iL	$-^{\mu}L$	$+^{\mu}U$	$+^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}T$	$-^{\mu}R$	$+^{\mu}Q$	$-^{\mu}V$	$-^{\mu}F$	$+^{\mu}E$	$-^{\mu}iS$	$-^{\mu}iN$	$+^{\mu}iM$	$-^{\mu}iP$	$+^{\mu}iX$	$-^{\mu}iD$	$-^{\lambda}L$	$+^{\lambda}U$	$+^{\lambda}Z$	$-^{\lambda}Y$	$-^{\lambda}T$	$-^{\lambda}R$	$+^{\lambda}Q$	$-^{\lambda}V$	$-^{\lambda}F$	$+^{\lambda}E$	$-^{\lambda}iS$	$-^{\lambda}iN$	$+^{\lambda}iM$	$-^{\lambda}iP$	$+^{\lambda}iX$	$-^{\lambda}iD$
iM	$-^{\mu}M$	$+^{\mu}Z$	$-^{\mu}U$	$-^{\mu}X$	$-^{\mu}R$	$+^{\mu}T$	$+^{\mu}P$	$+^{\mu}F$	$-^{\mu}V$	$-^{\mu}D$	$+^{\mu}iN$	$-^{\mu}iS$	$-^{\mu}iL$	$+^{\mu}iQ$	$-^{\mu}iY$	$-^{\mu}iE$	$-^{\lambda}M$	$+^{\lambda}Z$	$-^{\lambda}U$	$-^{\lambda}X$	$-^{\lambda}R$	$+^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}F$	$-^{\lambda}V$	$-^{\lambda}D$	$+^{\lambda}iN$	$-^{\lambda}iS$	$-^{\lambda}iL$	$+^{\lambda}iQ$	$-^{\lambda}iY$	$-^{\lambda}iE$
iN	$-^{\mu}N$	$-^{\mu}Y$	$+^{\mu}X$	$-^{\mu}U$	$-^{\mu}Q$	$+^{\mu}P$	$-^{\mu}T$	$+^{\mu}E$	$-^{\mu}D$	$+^{\mu}V$	$-^{\mu}iM$	$+^{\mu}iL$	$-^{\mu}iS$	$-^{\mu}iR$	$-^{\mu}iZ$	$+^{\mu}iF$	$-^{\lambda}N$	$-^{\lambda}Y$	$+^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}Q$	$+^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}E$	$-^{\lambda}D$	$+^{\lambda}V$	$-^{\lambda}iM$	$+^{\lambda}iL$	$-^{\lambda}iS$	$-^{\lambda}iR$	$-^{\lambda}iZ$	$+^{\lambda}iF$
iT	$-^{\mu}T$	$-^{\mu}D$	$+^{\mu}E$	$-^{\mu}F$	$-^{\mu}L$	$+^{\mu}M$	$-^{\mu}N$	$+^{\mu}X$	$-^{\mu}Y$	$+^{\mu}Z$	$-^{\mu}iP$	$+^{\mu}iQ$	$-^{\mu}iR$	$-^{\mu}iS$	$-^{\mu}iV$	$+^{\mu}iU$	$-^{\lambda}T$	$-^{\lambda}D$	$+^{\lambda}E$	$-^{\lambda}F$	$-^{\lambda}L$	$+^{\lambda}M$	$-^{\lambda}N$	$+^{\lambda}X$	$-^{\lambda}Y$	$+^{\lambda}Z$	$-^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iS$	$-^{\lambda}iV$	$+^{\lambda}iU$
iU	$-^{\mu}U$	$+^{\mu}L$	$-^{\mu}M$	$-^{\mu}N$	$-^{\mu}D$	$+^{\mu}E$	$+^{\mu}F$	$+^{\mu}P$	$-^{\mu}Q$	$-^{\mu}R$	$+^{\mu}iX$	$-^{\mu}iY$	$-^{\mu}iZ$	$+^{\mu}iV$	$-^{\mu}iS$	$-^{\mu}iT$	$-^{\lambda}U$	$+^{\lambda}L$	$-^{\lambda}M$	$-^{\lambda}N$	$-^{\lambda}D$	$+^{\lambda}E$	$+^{\lambda}F$	$+^{\lambda}P$	$-^{\lambda}Q$	$-^{\lambda}R$	$+^{\lambda}iX$	$-^{\lambda}iY$	$-^{\lambda}iZ$	$+^{\lambda}iV$	$-^{\lambda}iS$	$-^{\lambda}iT$
iV	$-^{\mu}V$	$+^{\mu}P$	$+^{\mu}Q$	$-^{\mu}R$	$-^{\mu}X$	$-^{\mu}Y$	$+^{\mu}Z$	$-^{\mu}L$	$-^{\mu}M$	$+^{\mu}N$	$-^{\mu}iD$	$-^{\mu}iE$	$+^{\mu}iF$	$-^{\mu}iU$	$+^{\mu}iT$	$-^{\mu}iS$	$-^{\lambda}V$	$+^{\lambda}P$	$+^{\lambda}Q$	$-^{\lambda}R$	$-^{\lambda}X$	$-^{\lambda}Y$	$+^{\lambda}Z$	$-^{\lambda}L$	$-^{\lambda}M$	$+^{\lambda}N$	$-^{\lambda}iD$	$-^{\lambda}iE$	$+^{\lambda}iF$	$-^{\lambda}iU$	$+^{\lambda}iT$	$-^{\lambda}iS$
$^{\nu}S$	$+^{\lambda}iS$	$+^{\lambda}iX$	$+^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$+^{\lambda}iR$	$+^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}L$	$+^{\lambda}M$	$+^{\lambda}N$	$+^{\lambda}T$	$+^{\lambda}U$	$+^{\lambda}V$	$-^{\mu}iS$	$-^{\mu}iX$	$-^{\mu}iY$	$-^{\mu}iZ$	$-^{\mu}iP$	$-^{\mu}iQ$	$-^{\mu}iR$	$-^{\mu}iD$	$-^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}L$	$-^{\mu}M$	$-^{\mu}N$	$-^{\mu}T$	$-^{\mu}U$	$-^{\mu}V$
$^{\nu}X$	$+^{\lambda}iX$	$+^{\lambda}iS$	$+^{\lambda}iN$	$-^{\lambda}iM$	$-^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}iT$	$+^{\lambda}iR$	$-^{\lambda}iQ$	$-^{\lambda}U$	$-^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}D$	$-^{\lambda}L$	$-^{\lambda}P$	$-^{\mu}iX$	$-^{\mu}iS$	$-^{\mu}iN$	$+^{\mu}iM$	$+^{\mu}iV$	$+^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}iT$	$-^{\mu}iR$	$+^{\mu}iQ$	$+^{\mu}U$	$+^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}D$	$+^{\mu}L$	$+^{\mu}P$
$^{\nu}Y$	$+^{\lambda}iY$	$-^{\lambda}iN$	$+^{\lambda}iS$	$-^{\lambda}iL$	$+^{\lambda}iF$	$-^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$-^{\lambda}Z$	$+^{\lambda}U$	$-^{\lambda}X$	$-^{\lambda}E$	$+^{\lambda}M$	$-^{\lambda}Q$	$-^{\mu}iY$	$+^{\mu}iN$	$-^{\mu}iS$	$+^{\mu}iL$	$-^{\mu}iF$	$+^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}iR$	$+^{\mu}iT$	$-^{\mu}iP$	$+^{\mu}Z$	$-^{\mu}U$	$+^{\mu}X$	$+^{\mu}E$	$-^{\mu}M$	$+^{\mu}Q$
$^{\nu}Z$	$+^{\lambda}iZ$	$+^{\lambda}iM$	$+^{\lambda}iL$	$+^{\lambda}iS$	$+^{\lambda}iE$	$+^{\lambda}iD$	$+^{\lambda}iV$	$+^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}Y$	$+^{\lambda}X$	$+^{\lambda}U$	$+^{\lambda}F$	$+^{\lambda}N$	$+^{\lambda}R$	$-^{\mu}iZ$	$-^{\mu}iM$	$-^{\mu}iL$	$-^{\mu}iS$	$-^{\mu}iE$	$-^{\mu}iD$	$-^{\mu}iV$	$-^{\mu}iQ$	$-^{\mu}iP$	$-^{\mu}iT$	$-^{\mu}Y$	$-^{\mu}X$	$-^{\mu}U$	$-^{\mu}F$	$-^{\mu}N$	$-^{\mu}R$
$^{\nu}P$	$+^{\lambda}iP$	$+^{\lambda}iV$	$+^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}iS$	$+^{\lambda}iN$	$+^{\lambda}iM$	$+^{\lambda}iU$	$+^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}T$	$+^{\lambda}R$	$+^{\lambda}Q$	$+^{\lambda}L$	$+^{\lambda}D$	$+^{\lambda}X$	$-^{\mu}iP$	$-^{\mu}iV$	$-^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}iS$	$-^{\mu}iN$	$-^{\mu}iM$	$-^{\mu}iU$	$-^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}T$	$-^{\mu}R$	$-^{\mu}Q$	$-^{\mu}L$	$-^{\mu}D$	$-^{\mu}X$
$^{\nu}Q$	$+^{\lambda}iQ$	$-^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$-^{\lambda}iN$	$+^{\lambda}iS$	$+^{\lambda}iL$	$+^{\lambda}iZ$	$-^{\lambda}iU$	$-^{\lambda}iX$	$+^{\lambda}R$	$-^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}M$	$-^{\lambda}E$	$+^{\lambda}Y$	$-^{\mu}iQ$	$+^{\mu}iF$	$-^{\mu}iV$	$-^{\mu}iD$	$+^{\mu}iN$	$-^{\mu}iS$	$-^{\mu}iL$	$-^{\mu}iZ$	$+^{\mu}iU$	$+^{\mu}iX$	$-^{\mu}R$	$+^{\mu}T$	$+^{\mu}P$	$+^{\mu}M$	$+^{\mu}E$	$-^{\mu}Y$
$^{\nu}R$	$+^{\lambda}iR$	$+^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$-^{\lambda}iM$	$-^{\lambda}iL$	$+^{\lambda}iS$	$+^{\lambda}iY$	$+^{\lambda}iX$	$-^{\lambda}iU$	$-^{\lambda}Q$	$-^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}N$	$-^{\lambda}F$	$-^{\lambda}Z$	$-^{\mu}iR$	$-^{\mu}iE$	$-^{\mu}iD$	$+^{\mu}iV$	$+^{\mu}iM$	$+^{\mu}iL$	$-^{\mu}iS$	$-^{\mu}iY$	$-^{\mu}iX$	$+^{\mu}iU$	$+^{\mu}Q$	$+^{\mu}P$	$-^{\mu}T$	$-^{\mu}N$	$+^{\mu}F$	$+^{\mu}Z$
$^{\nu}D$	$+^{\lambda}iD$	$-^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iS$	$-^{\lambda}iN$	$-^{\lambda}iM$	$+^{\lambda}V$	$-^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}X$	$-^{\lambda}P$	$+^{\lambda}L$	$-^{\mu}iD$	$+^{\mu}iT$	$-^{\mu}iR$	$-^{\mu}iQ$	$+^{\mu}iU$	$-^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iS$	$+^{\mu}iN$	$+^{\mu}iM$	$-^{\mu}V$	$+^{\mu}F$	$+^{\mu}E$	$+^{\mu}X$	$+^{\mu}P$	$-^{\mu}L$
$^{\nu}E$	$+^{\lambda}iE$	$+^{\lambda}iR$	$+^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$+^{\lambda}iX$	$+^{\lambda}iN$	$+^{\lambda}iS$	$+^{\lambda}iL$	$+^{\lambda}F$	$+^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}Y$	$+^{\lambda}Q$	$+^{\lambda}M$	$-^{\mu}iE$	$-^{\mu}iR$	$-^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iZ$	$-^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}iN$	$-^{\mu}iS$	$-^{\mu}iL$	$-^{\mu}F$	$-^{\mu}V$	$-^{\mu}D$	$-^{\mu}Y$	$-^{\mu}Q$	$-^{\mu}M$
$^{\nu}F$	$+^{\lambda}iF$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$-^{\lambda}iT$	$+^{\lambda}iY$	$-^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}iM$	$-^{\lambda}iL$	$+^{\lambda}iS$	$-^{\lambda}E$	$+^{\lambda}D$	$-^{\lambda}V$	$-^{\lambda}Z$	$+^{\lambda}R$	$-^{\lambda}N$	$-^{\mu}iF$	$+^{\mu}iQ$	$-^{\mu}iP$	$+^{\mu}iT$	$-^{\mu}iY$	$+^{\mu}iX$	$-^{\mu}iU$	$-^{\mu}iM$	$+^{\mu}iL$	$-^{\mu}iS$	$+^{\mu}E$	$-^{\mu}D$	$+^{\mu}V$	$+^{\mu}Z$	$-^{\mu}R$	$+^{\mu}N$
$^{\nu}iL$	$-^{\lambda}L$	$+^{\lambda}U$	$-^{\lambda}Z$	$+^{\lambda}Y$	$-^{\lambda}T$	$+^{\lambda}R$	$-^{\lambda}Q$	$-^{\lambda}V$	$+^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}iS$	$+^{\lambda}iN$	$-^{\lambda}iM$	$-^{\lambda}iP$	$+^{\lambda}iX$	$-^{\lambda}iD$	$+^{\mu}L$	$-^{\mu}U$	$+^{\mu}Z$	$-^{\mu}Y$	$+^{\mu}T$	$-^{\mu}R$	$+^{\mu}Q$	$+^{\mu}V$	$-^{\mu}F$	$+^{\mu}E$	$+^{\mu}iS$	$-^{\mu}iN$	$+^{\mu}iM$	$+^{\mu}iP$	$-^{\mu}iX$	$+^{\mu}iD$
$^{\nu}iM$	$-^{\lambda}M$	$-^{\lambda}Z$	$-^{\lambda}U$	$+^{\lambda}X$	$+^{\lambda}R$	$+^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}F$	$-^{\lambda}V$	$+^{\lambda}D$	$-^{\lambda}iN$	$-^{\lambda}iS$	$+^{\lambda}iL$	$+^{\lambda}iQ$	$-^{\lambda}iY$	$-^{\lambda}iE$	$+^{\mu}M$	$+^{\mu}Z$	$+^{\mu}U$	$-^{\mu}X$	$-^{\mu}R$	$-^{\mu}T$	$+^{\mu}P$	$+^{\mu}F$	$+^{\mu}V$	$-^{\mu}D$	$+^{\mu}iN$	$+^{\mu}iS$	$-^{\mu}iL$	$-^{\mu}iQ$	$+^{\mu}iY$	$+^{\mu}iE$
$^{\nu}iN$	$-^{\lambda}N$	$+^{\lambda}Y$	$-^{\lambda}X$	$-^{\lambda}U$	$+^{\lambda}Q$	$-^{\lambda}P$	$-^{\lambda}T$	$-^{\lambda}E$	$+^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}iM$	$-^{\lambda}iL$	$-^{\lambda}iS$	$-^{\lambda}iR$	$-^{\lambda}iZ$	$+^{\lambda}iF$	$+^{\mu}N$	$-^{\mu}Y$	$+^{\mu}X$	$+^{\mu}U$	$-^{\mu}Q$	$+^{\mu}P$	$+^{\mu}T$	$+^{\mu}E$	$-^{\mu}D$	$-^{\mu}V$	$-^{\mu}iM$	$+^{\mu}iL$	$+^{\mu}iS$	$+^{\mu}iR$	$+^{\mu}iZ$	$-^{\mu}iF$
$^{\nu}iT$	$-^{\lambda}T$	$+^{\lambda}D$	$-^{\lambda}E$	$+^{\lambda}F$	$-^{\lambda}L$	$+^{\lambda}M$	$-^{\lambda}N$	$-^{\lambda}X$	$+^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iS$	$+^{\lambda}iV$	$-^{\lambda}iU$	$+^{\mu}T$	$-^{\mu}D$	$+^{\mu}E$	$-^{\mu}F$	$+^{\mu}L$	$-^{\mu}M$	$+^{\mu}N$	$+^{\mu}X$	$-^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}iP$	$-^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iS$	$-^{\mu}iV$	$+^{\mu}iU$
$^{\nu}iU$	$-^{\lambda}U$	$+^{\lambda}L$	$-^{\lambda}M$	$-^{\lambda}N$	$+^{\lambda}D$	$-^{\lambda}E$	$-^{\lambda}F$	$-^{\lambda}P$	$+^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}iX$	$-^{\lambda}iY$	$-^{\lambda}iZ$	$-^{\lambda}iV$	$-^{\lambda}iS$	$+^{\lambda}iT$	$+^{\mu}U$	$-^{\mu}L$	$+^{\mu}M$	$+^{\mu}N$	$-^{\mu}D$	$+^{\mu}E$	$+^{\mu}F$	$+^{\mu}P$	$-^{\mu}Q$	$-^{\mu}R$	$-^{\mu}iX$	$+^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}iV$	$+^{\mu}iS$	$-^{\mu}iT$
$^{\nu}iV$	$-^{\lambda}V$	$-^{\lambda}P$	$-^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}X$	$+^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}L$	$-^{\lambda}M$	$+^{\lambda}N$	$-^{\lambda}iD$	$-^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iU$	$-^{\lambda}iT$	$-^{\lambda}iS$	$+^{\mu}V$	$+^{\mu}P$	$+^{\mu}Q$	$-^{\mu}R$	$-^{\mu}X$	$-^{\mu}Y$	$+^{\mu}Z$	$+^{\mu}L$	$+^{\mu}M$	$-^{\mu}N$	$+^{\mu}iD$	$+^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iU$	$+^{\mu}iT$	$+^{\mu}iS$
$^{\mu}S$	$+iS$	$+iX$	$+iY$	$+iZ$	$+iP$	$+iQ$	$+iR$	$+iD$	$+iE$	$+iF$	$+L$	$+M$	$+N$	$+T$	$+U$	$+V$	$+^{\nu}iS$	$+^{\nu}iX$	$+^{\nu}iY$	$+^{\nu}iZ$	$+^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iD$	$+^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}L$	$+^{\nu}M$	$+^{\nu}N$	$+^{\nu}T$	$+^{\nu}U$	$+^{\nu}V$
$^{\mu}X$	$+iX$	$+iS$	$-iN$	$+iM$	$+iV$	$-iF$	$+iE$	$-iT$	$+iR$	$-iQ$	$-U$	$+Z$	$-Y$	$-D$	$-L$	$+P$	$+^{\nu}iX$	$+^{\nu}iS$	$-^{\nu}iN$	$+^{\nu}iM$	$+^{\nu}iV$	$-^{\nu}iF$	$+^{\nu}iE$	$-^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}U$	$+^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}D$	$-^{\nu}L$	$+^{\nu}P$
$^{\mu}Y$	$+iY$	$+iN$	$+iS$	$+iL$	$+iF$	$+iV$	$+iD$	$+iR$	$+iT$	$+iP$	$+Z$	$+U$	$+X$	$+E$	$+M$	$+Q$	$+^{\nu}iY$	$+^{\nu}iN$	$+^{\nu}iS$	$+^{\nu}iL$	$+^{\nu}iF$	$+^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}iR$	$+^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}Z$	$+^{\nu}U$	$+^{\nu}X$	$+^{\nu}E$	$+^{\nu}M$	$+^{\nu}Q$
$^{\mu}Z$	$+iZ$	$-iM$	$-iL$	$+iS$	$+iE$	$+iD$	$-iV$	$+iQ$	$+iP$	$-iT$	$-Y$	$-X$	$+U$	$-F$	$+N$	$-R$	$+^{\nu}iZ$	$-^{\nu}iM$	$-^{\nu}iL$	$+^{\nu}iS$	$+^{\nu}iE$	$+^{\nu}iD$	$-^{\nu}iV$	$+^{\nu}iQ$	$+^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}Y$	$-^{\nu}X$	$+^{\nu}U$	$-^{\nu}F$	$+^{\nu}N$	$-^{\nu}R$
$^{\mu}P$	$+iP$	$-iV$	$+iF$	$+iE$	$+iS$	$-iN$	$-iM$	$-iU$	$+iZ$	$+iY$	$+T$	$-R$	$-Q$	$+L$	$-D$	$-X$	$+^{\nu}iP$	$-^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iS$	$-^{\nu}iN$	$-^{\nu}iM$	$-^{\nu}iU$	$+^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}T$	$-^{\nu}R$	$-^{\nu}Q$	$+^{\nu}L$	$-^{\nu}D$	$-^{\nu}X$
$^{\mu}Q$	$+iQ$	$-iF$	$-iV$	$+iD$	$+iN$	$+iS$	$-iL$	$+iZ$	$+iU$	$-iX$	$-R$	$-T$	$+P$	$-M$	$+E$	$-Y$	$+^{\nu}iQ$	$-^{\nu}iF$	$-^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}iN$	$+^{\nu}iS$	$-^{\nu}iL$	$+^{\nu}iZ$	$+^{\nu}iU$	$-^{\nu}iX$	$-^{\nu}R$	$-^{\nu}T$	$+^{\nu}P$	$-^{\nu}M$	$+^{\nu}E$	$-^{\nu}Y$
$^{\mu}R$	$+iR$	$+iE$	$+iD$	$+iV$	$+iM$	$+iL$	$+iS$	$+iY$	$+iX$	$+iU$	$+Q$	$+P$	$+T$	$+N$	$+F$	$+Z$	$+^{\nu}iR$	$+^{\nu}iE$	$+^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}iM$	$+^{\nu}iL$	$+^{\nu}iS$	$+^{\nu}iY$	$+^{\nu}iX$	$+^{\nu}iU$	$+^{\nu}Q$	$+^{\nu}P$	$+^{\nu}T$	$+^{\nu}N$	$+^{\nu}F$	$+^{\nu}Z$
$^{\mu}D$	$+iD$	$+iT$	$+iR$	$+iQ$	$+iU$	$+iZ$	$+iY$	$+iS$	$+iN$	$+iM$	$+V$	$+F$	$+E$	$+X$	$+P$	$+L$	$+^{\nu}iD$	$+^{\nu}iT$	$+^{\nu}iR$	$+^{\nu}iQ$	$+^{\nu}iU$	$+^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iS$	$+^{\nu}iN$	$+^{\nu}iM$	$+^{\nu}V$	$+^{\nu}F$	$+^{\nu}E$	$+^{\nu}X$	$+^{\nu}P$	$+^{\nu}L$
$^{\mu}E$	$+iE$	$+iR$	$-iT$	$+iP$	$+iZ$	$-iU$	$+iX$	$-iN$	$+iS$	$-iL$	$-F$	$+V$	$-D$	$-Y$	$-Q$	$+M$	$+^{\nu}iE$	$+^{\nu}iR$	$-^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iZ$	$-^{\nu}iU$	$+^{\nu}iX$	$-^{\nu}iN$	$+^{\nu}iS$	$-^{\nu}iL$	$-^{\nu}F$	$+^{\nu}V$	$-^{\nu}D$	$-^{\nu}Y$	$-^{\nu}Q$	$+^{\nu}M$
$^{\mu}F$	$+iF$	$-iQ$	$+iP$	$+iT$	$+iY$	$-iX$	$-iU$	$-iM$	$+iL$	$+iS$	$+E$	$-D$	$-V$	$+Z$	$-R$	$-N$	$+^{\nu}iF$	$-^{\nu}iQ$	$+^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}iY$	$-^{\nu}iX$	$-^{\nu}iU$	$-^{\nu}iM$	$+^{\nu}iL$	$+^{\nu}iS$	$+^{\nu}E$	$-^{\nu}D$	$-^{\nu}V$	$+^{\nu}Z$	$-^{\nu}R$	$-^{\nu}N$
$^{\mu}iL$	$-L$	$+U$	$+Z$	$-Y$	$-T$	$-R$	$+Q$	$-V$	$-F$	$+E$	$-iS$	$-iN$	$+iM$	$-iP$	$+iX$	$-iD$	$-^{\nu}L$	$+^{\nu}U$	$+^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}T$	$-^{\nu}R$	$+^{\nu}Q$	$-^{\nu}V$	$-^{\nu}F$	$+^{\nu}E$	$-^{\nu}iS$	$-^{\nu}iN$	$+^{\nu}iM$	$-^{\nu}iP$	$+^{\nu}iX$	$-^{\nu}iD$
$^{\mu}iM$	$-M$	$+Z$	$-U$	$-X$	$-R$	$+T$	$+P$	$+F$	$-V$	$-D$	$+iN$	$-iS$	$-iL$	$+iQ$	$-iY$	$-iE$	$-^{\nu}M$	$+^{\nu}Z$	$-^{\nu}U$	$-^{\nu}X$	$-^{\nu}R$	$+^{\nu}T$	$+^{\nu}P$	$+^{\nu}F$	$-^{\nu}V$	$-^{\nu}D$	$+^{\nu}iN$	$-^{\nu}iS$	$-^{\nu}iL$	$+^{\nu}iQ$	$-^{\nu}iY$	$-^{\nu}iE$
$^{\mu}iN$	$-N$	$-Y$	$+X$	$-U$	$-Q$	$+P$	$-T$	$+E$	$-D$	$+V$	$-iM$	$+iL$	$-iS$	$-iR$	$-iZ$	$+iF$	$-^{\nu}N$	$-^{\nu}Y$	$+^{\nu}X$	$-^{\nu}U$	$-^{\nu}Q$	$+^{\nu}P$	$-^{\nu}T$	$+^{\nu}E$	$-^{\nu}D$	$+^{\nu}V$	$-^{\nu}iM$	$+^{\nu}iL$	$-^{\nu}iS$	$-^{\nu}iR$	$-^{\nu}iZ$	$+^{\nu}iF$
$^{\mu}iT$	$-T$	$-D$	$+E$	$-F$	$-L$	$+M$	$-N$	$+X$	$-Y$	$+Z$	$-iP$	$+iQ$	$-iR$	$-iS$	$-iV$	$+iU$	$-^{\nu}T$	$-^{\nu}D$	$+^{\nu}E$	$-^{\nu}F$	$-^{\nu}L$	$+^{\nu}M$	$-^{\nu}N$	$+^{\nu}X$	$-^{\nu}Y$	$+^{\nu}Z$	$-^{\nu}iP$	$+^{\nu}iQ$	$-^{\nu}iR$	$-^{\nu}iS$	$-^{\nu}iV$	$+^{\nu}iU$
$^{\mu}iU$	$-U$	$+L$	$-M$	$-N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$+iX$	$-iY$	$-iZ$	$+iV$	$-iS$	$-iT$	$-^{\nu}U$	$+^{\nu}L$	$-^{\nu}M$	$-^{\nu}N$	$-^{\nu}D$	$+^{\nu}E$	$+^{\nu}F$	$+^{\nu}P$	$-^{\nu}Q$	$-^{\nu}R$	$+^{\nu}iX$	$-^{\nu}iY$	$-^{\nu}iZ$	$+^{\nu}iV$	$-^{\nu}iS$	$-^{\nu}iT$
$^{\mu}iV$	$-V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$-L$	$-M$	$+N$	$-iD$	$-iE$	$+iF$	$-iU$	$+iT$	$-iS$	$-^{\nu}V$	$+^{\nu}P$	$+^{\nu}Q$	$-^{\nu}R$	$-^{\nu}X$	$-^{\nu}Y$	$+^{\nu}Z$	$-^{\nu}L$	$-^{\nu}M$	$+^{\nu}N$	$-^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$-^{\nu}iU$	$+^{\nu}iT$	$-^{\nu}iS$
$^{\lambda}S$	$+^{\nu}iS$	$+^{\nu}iX$	$+^{\nu}iY$	$+^{\nu}iZ$	$+^{\nu}iP$	$+^{\nu}iQ$	$+^{\nu}iR$	$+^{\nu}iD$	$+^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}L$	$+^{\nu}M$	$+^{\nu}N$	$+^{\nu}T$	$+^{\nu}U$	$+^{\nu}V$	$-iS$	$-iX$	$-iY$	$-iZ$	$-iP$	$-iQ$	$-iR$	$-iD$	$-iE$	$-iF$	$-L$	$-M$	$-N$	$-T$	$-U$	$-V$
$^{\lambda}X$	$+^{\nu}iX$	$+^{\nu}iS$	$+^{\nu}iN$	$-^{\nu}iM$	$-^{\nu}iV$	$-^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iT$	$+^{\nu}iR$	$-^{\nu}iQ$	$-^{\nu}U$	$-^{\nu}Z$	$+^{\nu}Y$	$+^{\nu}D$	$-^{\nu}L$	$-^{\nu}P$	$-iX$	$-iS$	$-iN$	$+iM$	$+iV$	$+iF$	$-iE$	$-iT$	$-iR$	$+iQ$	$+U$	$+Z$	$-Y$	$-D$	$+L$	$+P$
$^{\lambda}Y$	$+^{\nu}iY$	$-^{\nu}iN$	$+^{\nu}iS$	$-^{\nu}iL$	$+^{\nu}iF$	$-^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}iR$	$-^{\nu}iT$	$+^{\nu}iP$	$-^{\nu}Z$	$+^{\nu}U$	$-^{\nu}X$	$-^{\nu}E$	$+^{\nu}M$	$-^{\nu}Q$	$-iY$	$+iN$	$-iS$	$+iL$	$-iF$	$+iV$	$-iD$	$-iR$	$+iT$	$-iP$	$+Z$	$-U$	$+X$	$+E$	$-M$	$+Q$
$^{\lambda}Z$	$+^{\nu}iZ$	$+^{\nu}iM$	$+^{\nu}iL$	$+^{\nu}iS$	$+^{\nu}iE$	$+^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}iQ$	$+^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}Y$	$+^{\nu}X$	$+^{\nu}U$	$+^{\nu}F$	$+^{\nu}N$	$+^{\nu}R$	$-iZ$	$-iM$	$-iL$	$-iS$	$-iE$	$-iD$	$-iV$	$-iQ$	$-iP$	$-iT$	$-Y$	$-X$	$-U$	$-F$	$-N$	$-R$
$^{\lambda}P$	$+^{\nu}iP$	$+^{\nu}iV$	$+^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}iS$	$+^{\nu}iN$	$+^{\nu}iM$	$+^{\nu}iU$	$+^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}T$	$+^{\nu}R$	$+^{\nu}Q$	$+^{\nu}L$	$+^{\nu}D$	$+^{\nu}X$	$-iP$	$-iV$	$-iF$	$-iE$	$-iS$	$-iN$	$-iM$	$-iU$	$-iZ$	$-iY$	$-T$	$-R$	$-Q$	$-L$	$-D$	$-X$
$^{\lambda}Q$	$+^{\nu}iQ$	$-^{\nu}iF$	$+^{\nu}iV$	$+^{\nu}iD$	$-^{\nu}iN$	$+^{\nu}iS$	$+^{\nu}iL$	$+^{\nu}iZ$	$-^{\nu}iU$	$-^{\nu}iX$	$+^{\nu}R$	$-^{\nu}T$	$-^{\nu}P$	$-^{\nu}M$	$-^{\nu}E$	$+^{\nu}Y$	$-iQ$	$+iF$	$-iV$	$-iD$	$+iN$	$-iS$	$-iL$	$-iZ$	$+iU$	$+iX$	$-R$	$+T$	$+P$	$+M$	$+E$	$-Y$
$^{\lambda}R$	$+^{\nu}iR$	$+^{\nu}iE$	$+^{\nu}iD$	$-^{\nu}iV$	$-^{\nu}iM$	$-^{\nu}iL$	$+^{\nu}iS$	$+^{\nu}iY$	$+^{\nu}iX$	$-^{\nu}iU$	$-^{\nu}Q$	$-^{\nu}P$	$+^{\nu}T$	$+^{\nu}N$	$-^{\nu}F$	$-^{\nu}Z$	$-iR$	$-iE$	$-iD$	$+iV$	$+iM$	$+iL$	$-iS$	$-iY$	$-iX$	$+iU$	$+Q$	$+P$	$-T$	$-N$	$+F$	$+Z$
$^{\lambda}D$	$+^{\nu}iD$	$-^{\nu}iT$	$+^{\nu}iR$	$+^{\nu}iQ$	$-^{\nu}iU$	$+^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iS$	$-^{\nu}iN$	$-^{\nu}iM$	$+^{\nu}V$	$-^{\nu}F$	$-^{\nu}E$	$-^{\nu}X$	$-^{\nu}P$	$+^{\nu}L$	$-iD$	$+iT$	$-iR$	$-iQ$	$+iU$	$-iZ$	$-iY$	$-iS$	$+iN$	$+iM$	$-V$	$+F$	$+E$	$+X$	$+P$	$-L$
$^{\lambda}E$	$+^{\nu}iE$	$+^{\nu}iR$	$+^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iZ$	$+^{\nu}iU$	$+^{\nu}iX$	$+^{\nu}iN$	$+^{\nu}iS$	$+^{\nu}iL$	$+^{\nu}F$	$+^{\nu}V$	$+^{\nu}D$	$+^{\nu}Y$	$+^{\nu}Q$	$+^{\nu}M$	$-iE$	$-iR$	$-iT$	$-iP$	$-iZ$	$-iU$	$-iX$	$-iN$	$-iS$	$-iL$	$-F$	$-V$	$-D$	$-Y$	$-Q$	$-M$
$^{\lambda}F$	$+^{\nu}iF$	$-^{\nu}iQ$	$+^{\nu}iP$	$-^{\nu}iT$	$+^{\nu}iY$	$-^{\nu}iX$	$+^{\nu}iU$	$+^{\nu}iM$	$-^{\nu}iL$	$+^{\nu}iS$	$-^{\nu}E$	$+^{\nu}D$	$-^{\nu}V$	$-^{\nu}Z$	$+^{\nu}R$	$-^{\nu}N$	$-iF$	$+iQ$	$-iP$	$+iT$	$-iY$	$+iX$	$-iU$	$-iM$	$+iL$	$-iS$	$+E$	$-D$	$+V$	$+Z$	$-R$	$+N$
$^{\lambda}iL$	$-^{\nu}L$	$+^{\nu}U$	$-^{\nu}Z$	$+^{\nu}Y$	$-^{\nu}T$	$+^{\nu}R$	$-^{\nu}Q$	$-^{\nu}V$	$+^{\nu}F$	$-^{\nu}E$	$-^{\nu}iS$	$+^{\nu}iN$	$-^{\nu}iM$	$-^{\nu}iP$	$+^{\nu}iX$	$-^{\nu}iD$	$+L$	$-U$	$+Z$	$-Y$	$+T$	$-R$	$+Q$	$+V$	$-F$	$+E$	$+iS$	$-iN$	$+iM$	$+iP$	$-iX$	$+iD$
$^{\lambda}iM$	$-^{\nu}M$	$-^{\nu}Z$	$-^{\nu}U$	$+^{\nu}X$	$+^{\nu}R$	$+^{\nu}T$	$-^{\nu}P$	$-^{\nu}F$	$-^{\nu}V$	$+^{\nu}D$	$-^{\nu}iN$	$-^{\nu}iS$	$+^{\nu}iL$	$+^{\nu}iQ$	$-^{\nu}iY$	$-^{\nu}iE$	$+M$	$+Z$	$+U$	$-X$	$-R$	$-T$	$+P$	$+F$	$+V$	$-D$	$+iN$	$+iS$	$-iL$	$-iQ$	$+iY$	$+iE$
$^{\lambda}iN$	$-^{\nu}N$	$+^{\nu}Y$	$-^{\nu}X$	$-^{\nu}U$	$+^{\nu}Q$	$-^{\nu}P$	$-^{\nu}T$	$-^{\nu}E$	$+^{\nu}D$	$+^{\nu}V$	$+^{\nu}iM$	$-^{\nu}iL$	$-^{\nu}iS$	$-^{\nu}iR$	$-^{\nu}iZ$	$+^{\nu}iF$	$+N$	$-Y$	$+X$	$+U$	$-Q$	$+P$	$+T$	$+E$	$-D$	$-V$	$-iM$	$+iL$	$+iS$	$+iR$	$+iZ$	$-iF$
$^{\lambda}iT$	$-^{\nu}T$	$+^{\nu}D$	$-^{\nu}E$	$+^{\nu}F$	$-^{\nu}L$	$+^{\nu}M$	$-^{\nu}N$	$-^{\nu}X$	$+^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}iP$	$+^{\nu}iQ$	$-^{\nu}iR$	$-^{\nu}iS$	$+^{\nu}iV$	$-^{\nu}iU$	$+T$	$-D$	$+E$	$-F$	$+L$	$-M$	$+N$	$+X$	$-Y$	$+Z$	$+iP$	$-iQ$	$+iR$	$+iS$	$-iV$	$+iU$
$^{\lambda}iU$	$-^{\nu}U$	$+^{\nu}L$	$-^{\nu}M$	$-^{\nu}N$	$+^{\nu}D$	$-^{\nu}E$	$-^{\nu}F$	$-^{\nu}P$	$+^{\nu}Q$	$+^{\nu}R$	$+^{\nu}iX$	$-^{\nu}iY$	$-^{\nu}iZ$	$-^{\nu}iV$	$-^{\nu}iS$	$+^{\nu}iT$	$+U$	$-L$	$+M$	$+N$	$-D$	$+E$	$+F$	$+P$	$-Q$	$-R$	$-iX$	$+iY$	$+iZ$	$+iV$	$+iS$	$-iT$
$^{\lambda}iV$	$-^{\nu}V$	$-^{\nu}P$	$-^{\nu}Q$	$+^{\nu}R$	$+^{\nu}X$	$+^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}L$	$-^{\nu}M$	$+^{\nu}N$	$-^{\nu}iD$	$-^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}iU$	$-^{\nu}iT$	$-^{\nu}iS$	$+V$	$+P$	$+Q$	$-R$	$-X$	$-Y$	$+Z$	$+L$	$+M$	$-N$	$+iD$	$+iE$	$-iF$	$-iU$	$+iT$	$+iS$

TABLE 40. $Ka^2(1,4)$ multiplication table, part D2

	$+^{\mu}iS$	$+^{\mu}iX$	$+^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iD$	$+^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}L$	$+^{\mu}M$	$+^{\mu}N$	$+^{\mu}T$	$+^{\mu}U$	$+^{\mu}V$	$+^{\lambda}iS$	$+^{\lambda}iX$	$+^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$+^{\lambda}iR$	$+^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}L$	$+^{\lambda}M$	$+^{\lambda}N$	$+^{\lambda}T$	$+^{\lambda}U$	$+^{\lambda}V$
iS	$-^{\mu}S$	$-^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$-^{\mu}P$	$-^{\mu}Q$	$-^{\mu}R$	$-^{\mu}D$	$-^{\mu}E$	$-^{\mu}F$	$+^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iT$	$+^{\mu}iU$	$+^{\mu}iV$	$+^{\lambda}S$	$+^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$+^{\lambda}P$	$+^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}D$	$+^{\lambda}E$	$+^{\lambda}F$	$-^{\lambda}iL$	$-^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}iT$	$-^{\lambda}iU$	$-^{\lambda}iV$
iX	$-^{\mu}X$	$-^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$-^{\mu}V$	$+^{\mu}F$	$-^{\mu}E$	$+^{\mu}T$	$-^{\mu}R$	$+^{\mu}Q$	$-^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$-^{\mu}iD$	$-^{\mu}iL$	$+^{\mu}iP$	$+^{\lambda}X$	$+^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}V$	$-^{\lambda}F$	$+^{\lambda}E$	$-^{\lambda}T$	$+^{\lambda}R$	$-^{\lambda}Q$	$+^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iD$	$+^{\lambda}iL$	$-^{\lambda}iP$
iY	$-^{\mu}Y$	$-^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$-^{\mu}F$	$-^{\mu}V$	$-^{\mu}D$	$-^{\mu}R$	$-^{\mu}T$	$-^{\mu}P$	$+^{\mu}iZ$	$+^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iE$	$+^{\mu}iM$	$+^{\mu}iQ$	$+^{\lambda}Y$	$+^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}F$	$+^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}R$	$+^{\lambda}T$	$+^{\lambda}P$	$-^{\lambda}iZ$	$-^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iE$	$-^{\lambda}iM$	$-^{\lambda}iQ$
iZ	$-^{\mu}Z$	$+^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$-^{\mu}E$	$-^{\mu}D$	$+^{\mu}V$	$-^{\mu}Q$	$-^{\mu}P$	$+^{\mu}T$	$-^{\mu}iY$	$-^{\mu}iX$	$+^{\mu}iU$	$-^{\mu}iF$	$+^{\mu}iN$	$-^{\mu}iR$	$+^{\lambda}Z$	$-^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}E$	$+^{\lambda}D$	$-^{\lambda}V$	$+^{\lambda}Q$	$+^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}iY$	$+^{\lambda}iX$	$-^{\lambda}iU$	$+^{\lambda}iF$	$-^{\lambda}iN$	$+^{\lambda}iR$
iP	$-^{\mu}P$	$+^{\mu}V$	$-^{\mu}F$	$-^{\mu}E$	$-^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$+^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$+^{\mu}iT$	$-^{\mu}iR$	$-^{\mu}iQ$	$+^{\mu}iL$	$-^{\mu}iD$	$-^{\mu}iX$	$+^{\lambda}P$	$-^{\lambda}V$	$+^{\lambda}F$	$+^{\lambda}E$	$+^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$-^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$-^{\lambda}iL$	$+^{\lambda}iD$	$+^{\lambda}iX$
iQ	$-^{\mu}Q$	$+^{\mu}F$	$+^{\mu}V$	$-^{\mu}D$	$-^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$-^{\mu}Z$	$-^{\mu}U$	$+^{\mu}X$	$-^{\mu}iR$	$-^{\mu}iT$	$+^{\mu}iP$	$-^{\mu}iM$	$+^{\mu}iE$	$-^{\mu}iY$	$+^{\lambda}Q$	$-^{\lambda}F$	$-^{\lambda}V$	$+^{\lambda}D$	$+^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}Z$	$+^{\lambda}U$	$-^{\lambda}X$	$+^{\lambda}iR$	$+^{\lambda}iT$	$-^{\lambda}iP$	$+^{\lambda}iM$	$-^{\lambda}iE$	$+^{\lambda}iY$
iR	$-^{\mu}R$	$-^{\mu}E$	$-^{\mu}D$	$-^{\mu}V$	$-^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$-^{\mu}Y$	$-^{\mu}X$	$-^{\mu}U$	$+^{\mu}iQ$	$+^{\mu}iP$	$+^{\mu}iT$	$+^{\mu}iN$	$+^{\mu}iF$	$+^{\mu}iZ$	$+^{\lambda}R$	$+^{\lambda}E$	$+^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}Y$	$+^{\lambda}X$	$+^{\lambda}U$	$-^{\lambda}iQ$	$-^{\lambda}iP$	$-^{\lambda}iT$	$-^{\lambda}iN$	$-^{\lambda}iF$	$-^{\lambda}iZ$
iD	$-^{\mu}D$	$-^{\mu}T$	$-^{\mu}R$	$-^{\mu}Q$	$-^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$+^{\mu}iV$	$+^{\mu}iF$	$+^{\mu}iE$	$+^{\mu}iX$	$+^{\mu}iP$	$+^{\mu}iL$	$+^{\lambda}D$	$+^{\lambda}T$	$+^{\lambda}R$	$+^{\lambda}Q$	$+^{\lambda}U$	$+^{\lambda}Z$	$+^{\lambda}Y$	$+^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$-^{\lambda}iV$	$-^{\lambda}iF$	$-^{\lambda}iE$	$-^{\lambda}iX$	$-^{\lambda}iP$	$-^{\lambda}iL$
iE	$-^{\mu}E$	$-^{\mu}R$	$+^{\mu}T$	$-^{\mu}P$	$-^{\mu}Z$	$+^{\mu}U$	$-^{\mu}X$	$+^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$-^{\mu}iF$	$+^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}iY$	$-^{\mu}iQ$	$+^{\mu}iM$	$+^{\lambda}E$	$+^{\lambda}R$	$-^{\lambda}T$	$+^{\lambda}P$	$+^{\lambda}Z$	$-^{\lambda}U$	$+^{\lambda}X$	$-^{\lambda}N$	$+^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}iF$	$-^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iY$	$+^{\lambda}iQ$	$-^{\lambda}iM$
iF	$-^{\mu}F$	$+^{\mu}Q$	$-^{\mu}P$	$-^{\mu}T$	$-^{\mu}Y$	$+^{\mu}X$	$+^{\mu}U$	$+^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$+^{\mu}iE$	$-^{\mu}iD$	$-^{\mu}iV$	$+^{\mu}iZ$	$-^{\mu}iR$	$-^{\mu}iN$	$+^{\lambda}F$	$-^{\lambda}Q$	$+^{\lambda}P$	$+^{\lambda}T$	$+^{\lambda}Y$	$-^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}M$	$+^{\lambda}L$	$+^{\lambda}S$	$-^{\lambda}iE$	$+^{\lambda}iD$	$+^{\lambda}iV$	$-^{\lambda}iZ$	$+^{\lambda}iR$	$+^{\lambda}iN$
L	$+^{\mu}iL$	$-^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}iT$	$+^{\mu}iR$	$-^{\mu}iQ$	$+^{\mu}iV$	$+^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$-^{\mu}P$	$+^{\mu}X$	$-^{\mu}D$	$-^{\lambda}iL$	$+^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$-^{\lambda}iT$	$-^{\lambda}iR$	$+^{\lambda}iQ$	$-^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$+^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$+^{\lambda}P$	$-^{\lambda}X$	$+^{\lambda}D$
M	$+^{\mu}iM$	$-^{\mu}iZ$	$+^{\mu}iU$	$+^{\mu}iX$	$+^{\mu}iR$	$-^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iF$	$+^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$+^{\mu}Q$	$-^{\mu}Y$	$-^{\mu}E$	$-^{\lambda}iM$	$+^{\lambda}iZ$	$-^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iR$	$+^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iF$	$-^{\lambda}iV$	$-^{\lambda}iD$	$-^{\lambda}N$	$+^{\lambda}S$	$+^{\lambda}L$	$-^{\lambda}Q$	$+^{\lambda}Y$	$+^{\lambda}E$
N	$+^{\mu}iN$	$+^{\mu}iY$	$-^{\mu}iX$	$+^{\mu}iU$	$+^{\mu}iQ$	$-^{\mu}iP$	$+^{\mu}iT$	$-^{\mu}iE$	$+^{\mu}iD$	$-^{\mu}iV$	$-^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$-^{\mu}R$	$-^{\mu}Z$	$+^{\mu}F$	$-^{\lambda}iN$	$-^{\lambda}iY$	$+^{\lambda}iX$	$-^{\lambda}iU$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$-^{\lambda}iT$	$+^{\lambda}iE$	$-^{\lambda}iD$	$+^{\lambda}iV$	$+^{\lambda}M$	$-^{\lambda}L$	$+^{\lambda}S$	$+^{\lambda}R$	$+^{\lambda}Z$	$-^{\lambda}F$
T	$+^{\mu}iT$	$+^{\mu}iD$	$-^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$-^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$-^{\mu}P$	$+^{\mu}Q$	$-^{\mu}R$	$-^{\mu}S$	$-^{\mu}V$	$+^{\mu}U$	$-^{\lambda}iT$	$-^{\lambda}iD$	$+^{\lambda}iE$	$-^{\lambda}iF$	$-^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$+^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}P$	$-^{\lambda}Q$	$+^{\lambda}R$	$+^{\lambda}S$	$+^{\lambda}V$	$-^{\lambda}U$
U	$+^{\mu}iU$	$-^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iD$	$-^{\mu}iE$	$-^{\mu}iF$	$-^{\mu}iP$	$+^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$+^{\mu}V$	$-^{\mu}S$	$-^{\mu}T$	$-^{\lambda}iU$	$+^{\lambda}iL$	$-^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iP$	$-^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}X$	$+^{\lambda}Y$	$+^{\lambda}Z$	$-^{\lambda}V$	$+^{\lambda}S$	$+^{\lambda}T$
V	$+^{\mu}iV$	$-^{\mu}iP$	$-^{\mu}iQ$	$+^{\mu}iR$	$+^{\mu}iX$	$+^{\mu}iY$	$-^{\mu}iZ$	$+^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}D$	$-^{\mu}E$	$+^{\mu}F$	$-^{\mu}U$	$+^{\mu}T$	$-^{\mu}S$	$-^{\lambda}iV$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$-^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}D$	$+^{\lambda}E$	$-^{\lambda}F$	$+^{\lambda}U$	$-^{\lambda}T$	$+^{\lambda}S$
$^{\nu}iS$	$-^{\lambda}S$	$-^{\lambda}X$	$-^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}P$	$-^{\lambda}Q$	$-^{\lambda}R$	$-^{\lambda}D$	$-^{\lambda}E$	$-^{\lambda}F$	$+^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iT$	$+^{\lambda}iU$	$+^{\lambda}iV$	$-^{\mu}S$	$-^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$-^{\mu}P$	$-^{\mu}Q$	$-^{\mu}R$	$-^{\mu}D$	$-^{\mu}E$	$-^{\mu}F$	$+^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iT$	$+^{\mu}iU$	$+^{\mu}iV$
$^{\nu}iX$	$-^{\lambda}X$	$-^{\lambda}S$	$-^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}V$	$+^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}T$	$-^{\lambda}R$	$+^{\lambda}Q$	$-^{\lambda}iU$	$-^{\lambda}iZ$	$+^{\lambda}iY$	$+^{\lambda}iD$	$-^{\lambda}iL$	$-^{\lambda}iP$	$-^{\mu}X$	$-^{\mu}S$	$-^{\mu}N$	$+^{\mu}M$	$+^{\mu}V$	$+^{\mu}F$	$-^{\mu}E$	$-^{\mu}T$	$-^{\mu}R$	$+^{\mu}Q$	$-^{\mu}iU$	$-^{\mu}iZ$	$+^{\mu}iY$	$+^{\mu}iD$	$-^{\mu}iL$	$-^{\mu}iP$
$^{\nu}iY$	$-^{\lambda}Y$	$+^{\lambda}N$	$-^{\lambda}S$	$+^{\lambda}L$	$-^{\lambda}F$	$+^{\lambda}V$	$-^{\lambda}D$	$-^{\lambda}R$	$+^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iE$	$+^{\lambda}iM$	$-^{\lambda}iQ$	$-^{\mu}Y$	$+^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$-^{\mu}F$	$+^{\mu}V$	$-^{\mu}D$	$-^{\mu}R$	$+^{\mu}T$	$-^{\mu}P$	$-^{\mu}iZ$	$+^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}iE$	$+^{\mu}iM$	$-^{\mu}iQ$
$^{\nu}iZ$	$-^{\lambda}Z$	$-^{\lambda}M$	$-^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}E$	$-^{\lambda}D$	$-^{\lambda}V$	$-^{\lambda}Q$	$-^{\lambda}P$	$-^{\lambda}T$	$+^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$+^{\lambda}iF$	$+^{\lambda}iN$	$+^{\lambda}iR$	$-^{\mu}Z$	$-^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$-^{\mu}E$	$-^{\mu}D$	$-^{\mu}V$	$-^{\mu}Q$	$-^{\mu}P$	$-^{\mu}T$	$+^{\mu}iY$	$+^{\mu}iX$	$+^{\mu}iU$	$+^{\mu}iF$	$+^{\mu}iN$	$+^{\mu}iR$
$^{\nu}iP$	$-^{\lambda}P$	$-^{\lambda}V$	$-^{\lambda}F$	$-^{\lambda}E$	$-^{\lambda}S$	$-^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}U$	$-^{\lambda}Z$	$-^{\lambda}Y$	$+^{\lambda}iT$	$+^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iL$	$+^{\lambda}iD$	$+^{\lambda}iX$	$-^{\mu}P$	$-^{\mu}V$	$-^{\mu}F$	$-^{\mu}E$	$-^{\mu}S$	$-^{\mu}N$	$-^{\mu}M$	$-^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$+^{\mu}iT$	$+^{\mu}iR$	$+^{\mu}iQ$	$+^{\mu}iL$	$+^{\mu}iD$	$+^{\mu}iX$
$^{\nu}iQ$	$-^{\lambda}Q$	$+^{\lambda}F$	$-^{\lambda}V$	$-^{\lambda}D$	$+^{\lambda}N$	$-^{\lambda}S$	$-^{\lambda}L$	$-^{\lambda}Z$	$+^{\lambda}U$	$+^{\lambda}X$	$+^{\lambda}iR$	$-^{\lambda}iT$	$-^{\lambda}iP$	$-^{\lambda}iM$	$-^{\lambda}iE$	$+^{\lambda}iY$	$-^{\mu}Q$	$+^{\mu}F$	$-^{\mu}V$	$-^{\mu}D$	$+^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$-^{\mu}Z$	$+^{\mu}U$	$+^{\mu}X$	$+^{\mu}iR$	$-^{\mu}iT$	$-^{\mu}iP$	$-^{\mu}iM$	$-^{\mu}iE$	$+^{\mu}iY$
$^{\nu}iR$	$-^{\lambda}R$	$-^{\lambda}E$	$-^{\lambda}D$	$+^{\lambda}V$	$+^{\lambda}M$	$+^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}Y$	$-^{\lambda}X$	$+^{\lambda}U$	$-^{\lambda}iQ$	$-^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iN$	$-^{\lambda}iF$	$-^{\lambda}iZ$	$-^{\mu}R$	$-^{\mu}E$	$-^{\mu}D$	$+^{\mu}V$	$+^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$-^{\mu}Y$	$-^{\mu}X$	$+^{\mu}U$	$-^{\mu}iQ$	$-^{\mu}iP$	$+^{\mu}iT$	$+^{\mu}iN$	$-^{\mu}iF$	$-^{\mu}iZ$
$^{\nu}iD$	$-^{\lambda}D$	$+^{\lambda}T$	$-^{\lambda}R$	$-^{\lambda}Q$	$+^{\lambda}U$	$-^{\lambda}Z$	$-^{\lambda}Y$	$-^{\lambda}S$	$+^{\lambda}N$	$+^{\lambda}M$	$+^{\lambda}iV$	$-^{\lambda}iF$	$-^{\lambda}iE$	$-^{\lambda}iX$	$-^{\lambda}iP$	$+^{\lambda}iL$	$-^{\mu}D$	$+^{\mu}T$	$-^{\mu}R$	$-^{\mu}Q$	$+^{\mu}U$	$-^{\mu}Z$	$-^{\mu}Y$	$-^{\mu}S$	$+^{\mu}N$	$+^{\mu}M$	$+^{\mu}iV$	$-^{\mu}iF$	$-^{\mu}iE$	$-^{\mu}iX$	$-^{\mu}iP$	$+^{\mu}iL$
$^{\nu}iE$	$-^{\lambda}E$	$-^{\lambda}R$	$-^{\lambda}T$	$-^{\lambda}P$	$-^{\lambda}Z$	$-^{\lambda}U$	$-^{\lambda}X$	$-^{\lambda}N$	$-^{\lambda}S$	$-^{\lambda}L$	$+^{\lambda}iF$	$+^{\lambda}iV$	$+^{\lambda}iD$	$+^{\lambda}iY$	$+^{\lambda}iQ$	$+^{\lambda}iM$	$-^{\mu}E$	$-^{\mu}R$	$-^{\mu}T$	$-^{\mu}P$	$-^{\mu}Z$	$-^{\mu}U$	$-^{\mu}X$	$-^{\mu}N$	$-^{\mu}S$	$-^{\mu}L$	$+^{\mu}iF$	$+^{\mu}iV$	$+^{\mu}iD$	$+^{\mu}iY$	$+^{\mu}iQ$	$+^{\mu}iM$
$^{\nu}iF$	$-^{\lambda}F$	$+^{\lambda}Q$	$-^{\lambda}P$	$+^{\lambda}T$	$-^{\lambda}Y$	$+^{\lambda}X$	$-^{\lambda}U$	$-^{\lambda}M$	$+^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}iE$	$+^{\lambda}iD$	$-^{\lambda}iV$	$-^{\lambda}iZ$	$+^{\lambda}iR$	$-^{\lambda}iN$	$-^{\mu}F$	$+^{\mu}Q$	$-^{\mu}P$	$+^{\mu}T$	$-^{\mu}Y$	$+^{\mu}X$	$-^{\mu}U$	$-^{\mu}M$	$+^{\mu}L$	$-^{\mu}S$	$-^{\mu}iE$	$+^{\mu}iD$	$-^{\mu}iV$	$-^{\mu}iZ$	$+^{\mu}iR$	$-^{\mu}iN$
$^{\nu}L$	$+^{\lambda}iL$	$-^{\lambda}iU$	$+^{\lambda}iZ$	$-^{\lambda}iY$	$+^{\lambda}iT$	$-^{\lambda}iR$	$+^{\lambda}iQ$	$+^{\lambda}iV$	$-^{\lambda}iF$	$+^{\lambda}iE$	$-^{\lambda}S$	$+^{\lambda}N$	$-^{\lambda}M$	$-^{\lambda}P$	$+^{\lambda}X$	$-^{\lambda}D$	$+^{\mu}iL$	$-^{\mu}iU$	$+^{\mu}iZ$	$-^{\mu}iY$	$+^{\mu}iT$	$-^{\mu}iR$	$+^{\mu}iQ$	$+^{\mu}iV$	$-^{\mu}iF$	$+^{\mu}iE$	$-^{\mu}S$	$+^{\mu}N$	$-^{\mu}M$	$-^{\mu}P$	$+^{\mu}X$	$-^{\mu}D$
$^{\nu}M$	$+^{\lambda}iM$	$+^{\lambda}iZ$	$+^{\lambda}iU$	$-^{\lambda}iX$	$-^{\lambda}iR$	$-^{\lambda}iT$	$+^{\lambda}iP$	$+^{\lambda}iF$	$+^{\lambda}iV$	$-^{\lambda}iD$	$-^{\lambda}N$	$-^{\lambda}S$	$+^{\lambda}L$	$+^{\lambda}Q$	$-^{\lambda}Y$	$-^{\lambda}E$	$+^{\mu}iM$	$+^{\mu}iZ$	$+^{\mu}iU$	$-^{\mu}iX$	$-^{\mu}iR$	$-^{\mu}iT$	$+^{\mu}iP$	$+^{\mu}iF$	$+^{\mu}iV$	$-^{\mu}iD$	$-^{\mu}N$	$-^{\mu}S$	$+^{\mu}L$	$+^{\mu}Q$	$-^{\mu}Y$	$-^{\mu}E$
$^{\nu}N$	$+^{\lambda}iN$	$-^{\lambda}iY$	$+^{\lambda}iX$	$+^{\lambda}iU$	$-^{\lambda}iQ$	$+^{\lambda}iP$	$+^{\lambda}iT$	$+^{\lambda}iE$	$-^{\lambda}iD$	$-^{\lambda}iV$	$+^{\lambda}M$	$-^{\lambda}L$	$-^{\lambda}S$	$-^{\lambda}R$	$-^{\lambda}Z$	$+^{\lambda}F$	$+^{\mu}iN$	$-^{\mu}iY$	$+^{\mu}iX$	$+^{\mu}iU$	$-^{\mu}iQ$	$+^{\mu}iP$	$+^{\mu}iT$	$+^{\mu}iE$	$-^{\mu}iD$	$-^{\mu}iV$	$+^{\mu}M$	$-^{\mu}L$	$-^{\mu}S$	$-^{\mu}R$	$-^{\mu}Z$	$+^{\mu}F$
$^{\nu}T$	$+^{\lambda}iT$	$-^{\lambda}iD$	$+^{\lambda}iE$	$-^{\lambda}iF$	$+^{\lambda}iL$	$-^{\lambda}iM$	$+^{\lambda}iN$	$+^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$-^{\lambda}P$	$+^{\lambda}Q$	$-^{\lambda}R$	$-^{\lambda}S$	$+^{\lambda}V$	$-^{\lambda}U$	$+^{\mu}iT$	$-^{\mu}iD$	$+^{\mu}iE$	$-^{\mu}iF$	$+^{\mu}iL$	$-^{\mu}iM$	$+^{\mu}iN$	$+^{\mu}iX$	$-^{\mu}iY$	$+^{\mu}iZ$	$-^{\mu}P$	$+^{\mu}Q$	$-^{\mu}R$	$-^{\mu}S$	$+^{\mu}V$	$-^{\mu}U$
$^{\nu}U$	$+^{\lambda}iU$	$-^{\lambda}iL$	$+^{\lambda}iM$	$+^{\lambda}iN$	$-^{\lambda}iD$	$+^{\lambda}iE$	$+^{\lambda}iF$	$+^{\lambda}iP$	$-^{\lambda}iQ$	$-^{\lambda}iR$	$+^{\lambda}X$	$-^{\lambda}Y$	$-^{\lambda}Z$	$-^{\lambda}V$	$-^{\lambda}S$	$+^{\lambda}T$	$+^{\mu}iU$	$-^{\mu}iL$	$+^{\mu}iM$	$+^{\mu}iN$	$-^{\mu}iD$	$+^{\mu}iE$	$+^{\mu}iF$	$+^{\mu}iP$	$-^{\mu}iQ$	$-^{\mu}iR$	$+^{\mu}X$	$-^{\mu}Y$	$-^{\mu}Z$	$-^{\mu}V$	$-^{\mu}S$	$+^{\mu}T$
$^{\nu}V$	$+^{\lambda}iV$	$+^{\lambda}iP$	$+^{\lambda}iQ$	$-^{\lambda}iR$	$-^{\lambda}iX$	$-^{\lambda}iY$	$+^{\lambda}iZ$	$+^{\lambda}iL$	$+^{\lambda}iM$	$-^{\lambda}iN$	$-^{\lambda}D$	$-^{\lambda}E$	$+^{\lambda}F$	$+^{\lambda}U$	$-^{\lambda}T$	$-^{\lambda}S$	$+^{\mu}iV$	$+^{\mu}iP$	$+^{\mu}iQ$	$-^{\mu}iR$	$-^{\mu}iX$	$-^{\mu}iY$	$+^{\mu}iZ$	$+^{\mu}iL$	$+^{\mu}iM$	$-^{\mu}iN$	$-^{\mu}D$	$-^{\mu}E$	$+^{\mu}F$	$+^{\mu}U$	$-^{\mu}T$	$-^{\mu}S$
$^{\mu}iS$	$-S$	$-X$	$-Y$	$-Z$	$-P$	$-Q$	$-R$	$-D$	$-E$	$-F$	$+iL$	$+iM$	$+iN$	$+iT$	$+iU$	$+iV$	$+^{\nu}S$	$+^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$+^{\nu}P$	$+^{\nu}Q$	$+^{\nu}R$	$+^{\nu}D$	$+^{\nu}E$	$+^{\nu}F$	$-^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iT$	$-^{\nu}iU$	$-^{\nu}iV$
$^{\mu}iX$	$-X$	$-S$	$+N$	$-M$	$-V$	$+F$	$-E$	$+T$	$-R$	$+Q$	$-iU$	$+iZ$	$-iY$	$-iD$	$-iL$	$+iP$	$+^{\nu}X$	$+^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$+^{\nu}V$	$-^{\nu}F$	$+^{\nu}E$	$-^{\nu}T$	$+^{\nu}R$	$-^{\nu}Q$	$+^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iD$	$+^{\nu}iL$	$-^{\nu}iP$
$^{\mu}iY$	$-Y$	$-N$	$-S$	$-L$	$-F$	$-V$	$-D$	$-R$	$-T$	$-P$	$+iZ$	$+iU$	$+iX$	$+iE$	$+iM$	$+iQ$	$+^{\nu}Y$	$+^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$+^{\nu}F$	$+^{\nu}V$	$+^{\nu}D$	$+^{\nu}R$	$+^{\nu}T$	$+^{\nu}P$	$-^{\nu}iZ$	$-^{\nu}iU$	$-^{\nu}iX$	$-^{\nu}iE$	$-^{\nu}iM$	$-^{\nu}iQ$
$^{\mu}iZ$	$-Z$	$+M$	$+L$	$-S$	$-E$	$-D$	$+V$	$-Q$	$-P$	$+T$	$-iY$	$-iX$	$+iU$	$-iF$	$+iN$	$-iR$	$+^{\nu}Z$	$-^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}E$	$+^{\nu}D$	$-^{\nu}V$	$+^{\nu}Q$	$+^{\nu}P$	$-^{\nu}T$	$+^{\nu}iY$	$+^{\nu}iX$	$-^{\nu}iU$	$+^{\nu}iF$	$-^{\nu}iN$	$+^{\nu}iR$
$^{\mu}iP$	$-P$	$+V$	$-F$	$-E$	$-S$	$+N$	$+M$	$+U$	$-Z$	$-Y$	$+iT$	$-iR$	$-iQ$	$+iL$	$-iD$	$-iX$	$+^{\nu}P$	$-^{\nu}V$	$+^{\nu}F$	$+^{\nu}E$	$+^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$-^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$-^{\nu}iT$	$+^{\nu}iR$	$+^{\nu}iQ$	$-^{\nu}iL$	$+^{\nu}iD$	$+^{\nu}iX$
$^{\mu}iQ$	$-Q$	$+F$	$+V$	$-D$	$-N$	$-S$	$+L$	$-Z$	$-U$	$+X$	$-iR$	$-iT$	$+iP$	$-iM$	$+iE$	$-iY$	$+^{\nu}Q$	$-^{\nu}F$	$-^{\nu}V$	$+^{\nu}D$	$+^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$+^{\nu}Z$	$+^{\nu}U$	$-^{\nu}X$	$+^{\nu}iR$	$+^{\nu}iT$	$-^{\nu}iP$	$+^{\nu}iM$	$-^{\nu}iE$	$+^{\nu}iY$
$^{\mu}iR$	$-R$	$-E$	$-D$	$-V$	$-M$	$-L$	$-S$	$-Y$	$-X$	$-U$	$+iQ$	$+iP$	$+iT$	$+iN$	$+iF$	$+iZ$	$+^{\nu}R$	$+^{\nu}E$	$+^{\nu}D$	$+^{\nu}V$	$+^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$+^{\nu}Y$	$+^{\nu}X$	$+^{\nu}U$	$-^{\nu}iQ$	$-^{\nu}iP$	$-^{\nu}iT$	$-^{\nu}iN$	$-^{\nu}iF$	$-^{\nu}iZ$
$^{\mu}iD$	$-D$	$-T$	$-R$	$-Q$	$-U$	$-Z$	$-Y$	$-S$	$-N$	$-M$	$+iV$	$+iF$	$+iE$	$+iX$	$+iP$	$+iL$	$+^{\nu}D$	$+^{\nu}T$	$+^{\nu}R$	$+^{\nu}Q$	$+^{\nu}U$	$+^{\nu}Z$	$+^{\nu}Y$	$+^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$-^{\nu}iV$	$-^{\nu}iF$	$-^{\nu}iE$	$-^{\nu}iX$	$-^{\nu}iP$	$-^{\nu}iL$
$^{\mu}iE$	$-E$	$-R$	$+T$	$-P$	$-Z$	$+U$	$-X$	$+N$	$-S$	$+L$	$-iF$	$+iV$	$-iD$	$-iY$	$-iQ$	$+iM$	$+^{\nu}E$	$+^{\nu}R$	$-^{\nu}T$	$+^{\nu}P$	$+^{\nu}Z$	$-^{\nu}U$	$+^{\nu}X$	$-^{\nu}N$	$+^{\nu}S$	$-^{\nu}L$	$+^{\nu}iF$	$-^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}iY$	$+^{\nu}iQ$	$-^{\nu}iM$
$^{\mu}iF$	$-F$	$+Q$	$-P$	$-T$	$-Y$	$+X$	$+U$	$+M$	$-L$	$-S$	$+iE$	$-iD$	$-iV$	$+iZ$	$-iR$	$-iN$	$+^{\nu}F$	$-^{\nu}Q$	$+^{\nu}P$	$+^{\nu}T$	$+^{\nu}Y$	$-^{\nu}X$	$-^{\nu}U$	$-^{\nu}M$	$+^{\nu}L$	$+^{\nu}S$	$-^{\nu}iE$	$+^{\nu}iD$	$+^{\nu}iV$	$-^{\nu}iZ$	$+^{\nu}iR$	$+^{\nu}iN$
$^{\mu}L$	$+iL$	$-iU$	$-iZ$	$+iY$	$+iT$	$+iR$	$-iQ$	$+iV$	$+iF$	$-iE$	$-S$	$-N$	$+M$	$-P$	$+X$	$-D$	$-^{\nu}iL$	$+^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$-^{\nu}iT$	$-^{\nu}iR$	$+^{\nu}iQ$	$-^{\nu}iV$	$-^{\nu}iF$	$+^{\nu}iE$	$+^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$+^{\nu}P$	$-^{\nu}X$	$+^{\nu}D$
$^{\mu}M$	$+iM$	$-iZ$	$+iU$	$+iX$	$+iR$	$-iT$	$-iP$	$-iF$	$+iV$	$+iD$	$+N$	$-S$	$-L$	$+Q$	$-Y$	$-E$	$-^{\nu}iM$	$+^{\nu}iZ$	$-^{\nu}iU$	$-^{\nu}iX$	$-^{\nu}iR$	$+^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iF$	$-^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}N$	$+^{\nu}S$	$+^{\nu}L$	$-^{\nu}Q$	$+^{\nu}Y$	$+^{\nu}E$
$^{\mu}N$	$+iN$	$+iY$	$-iX$	$+iU$	$+iQ$	$-iP$	$+iT$	$-iE$	$+iD$	$-iV$	$-M$	$+L$	$-S$	$-R$	$-Z$	$+F$	$-^{\nu}iN$	$-^{\nu}iY$	$+^{\nu}iX$	$-^{\nu}iU$	$-^{\nu}iQ$	$+^{\nu}iP$	$-^{\nu}iT$	$+^{\nu}iE$	$-^{\nu}iD$	$+^{\nu}iV$	$+^{\nu}M$	$-^{\nu}L$	$+^{\nu}S$	$+^{\nu}R$	$+^{\nu}Z$	$-^{\nu}F$
$^{\mu}T$	$+iT$	$+iD$	$-iE$	$+iF$	$+iL$	$-iM$	$+iN$	$-iX$	$+iY$	$-iZ$	$-P$	$+Q$	$-R$	$-S$	$-V$	$+U$	$-^{\nu}iT$	$-^{\nu}iD$	$+^{\nu}iE$	$-^{\nu}iF$	$-^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$+^{\nu}iX$	$-^{\nu}iY$	$+^{\nu}iZ$	$+^{\nu}P$	$-^{\nu}Q$	$+^{\nu}R$	$+^{\nu}S$	$+^{\nu}V$	$-^{\nu}U$
$^{\mu}U$	$+iU$	$-iL$	$+iM$	$+iN$	$+iD$	$-iE$	$-iF$	$-iP$	$+iQ$	$+iR$	$+X$	$-Y$	$-Z$	$+V$	$-S$	$-T$	$-^{\nu}iU$	$+^{\nu}iL$	$-^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}iD$	$+^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}iP$	$-^{\nu}iQ$	$-^{\nu}iR$	$-^{\nu}X$	$+^{\nu}Y$	$+^{\nu}Z$	$-^{\nu}V$	$+^{\nu}S$	$+^{\nu}T$
$^{\mu}V$	$+iV$	$-iP$	$-iQ$	$+iR$	$+iX$	$+iY$	$-iZ$	$+iL$	$+iM$	$-iN$	$-D$	$-E$	$+F$	$-U$	$+T$	$-S$	$-^{\nu}iV$	$+^{\nu}iP$	$+^{\nu}iQ$	$-^{\nu}iR$	$-^{\nu}iX$	$-^{\nu}iY$	$+^{\nu}iZ$	$-^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}D$	$+^{\nu}E$	$-^{\nu}F$	$+^{\nu}U$	$-^{\nu}T$	$+^{\nu}S$
$^{\lambda}iS$	$-^{\nu}S$	$-^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}P$	$-^{\nu}Q$	$-^{\nu}R$	$-^{\nu}D$	$-^{\nu}E$	$-^{\nu}F$	$+^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iT$	$+^{\nu}iU$	$+^{\nu}iV$	$-S$	$-X$	$-Y$	$-Z$	$-P$	$-Q$	$-R$	$-D$	$-E$	$-F$	$+iL$	$+iM$	$+iN$	$+iT$	$+iU$	$+iV$
$^{\lambda}iX$	$-^{\nu}X$	$-^{\nu}S$	$-^{\nu}N$	$+^{\nu}M$	$+^{\nu}V$	$+^{\nu}F$	$-^{\nu}E$	$-^{\nu}T$	$-^{\nu}R$	$+^{\nu}Q$	$-^{\nu}iU$	$-^{\nu}iZ$	$+^{\nu}iY$	$+^{\nu}iD$	$-^{\nu}iL$	$-^{\nu}iP$	$-X$	$-S$	$-N$	$+M$	$+V$	$+F$	$-E$	$-T$	$-R$	$+Q$	$-iU$	$-iZ$	$+iY$	$+iD$	$-iL$	$-iP$
$^{\lambda}iY$	$-^{\nu}Y$	$+^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$-^{\nu}F$	$+^{\nu}V$	$-^{\nu}D$	$-^{\nu}R$	$+^{\nu}T$	$-^{\nu}P$	$-^{\nu}iZ$	$+^{\nu}iU$	$-^{\nu}iX$	$-^{\nu}iE$	$+^{\nu}iM$	$-^{\nu}iQ$	$-Y$	$+N$	$-S$	$+L$	$-F$	$+V$	$-D$	$-R$	$+T$	$-P$	$-iZ$	$+iU$	$-iX$	$-iE$	$+iM$	$-iQ$
$^{\lambda}iZ$	$-^{\nu}Z$	$-^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$-^{\nu}E$	$-^{\nu}D$	$-^{\nu}V$	$-^{\nu}Q$	$-^{\nu}P$	$-^{\nu}T$	$+^{\nu}iY$	$+^{\nu}iX$	$+^{\nu}iU$	$+^{\nu}iF$	$+^{\nu}iN$	$+^{\nu}iR$	$-Z$	$-M$	$-L$	$-S$	$-E$	$-D$	$-V$	$-Q$	$-P$	$-T$	$+iY$	$+iX$	$+iU$	$+iF$	$+iN$	$+iR$
$^{\lambda}iP$	$-^{\nu}P$	$-^{\nu}V$	$-^{\nu}F$	$-^{\nu}E$	$-^{\nu}S$	$-^{\nu}N$	$-^{\nu}M$	$-^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$+^{\nu}iT$	$+^{\nu}iR$	$+^{\nu}iQ$	$+^{\nu}iL$	$+^{\nu}iD$	$+^{\nu}iX$	$-P$	$-V$	$-F$	$-E$	$-S$	$-N$	$-M$	$-U$	$-Z$	$-Y$	$+iT$	$+iR$	$+iQ$	$+iL$	$+iD$	$+iX$
$^{\lambda}iQ$	$-^{\nu}Q$	$+^{\nu}F$	$-^{\nu}V$	$-^{\nu}D$	$+^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$-^{\nu}Z$	$+^{\nu}U$	$+^{\nu}X$	$+^{\nu}iR$	$-^{\nu}iT$	$-^{\nu}iP$	$-^{\nu}iM$	$-^{\nu}iE$	$+^{\nu}iY$	$-Q$	$+F$	$-V$	$-D$	$+N$	$-S$	$-L$	$-Z$	$+U$	$+X$	$+iR$	$-iT$	$-iP$	$-iM$	$-iE$	$+iY$
$^{\lambda}iR$	$-^{\nu}R$	$-^{\nu}E$	$-^{\nu}D$	$+^{\nu}V$	$+^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$-^{\nu}Y$	$-^{\nu}X$	$+^{\nu}U$	$-^{\nu}iQ$	$-^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}iN$	$-^{\nu}iF$	$-^{\nu}iZ$	$-R$	$-E$	$-D$	$+V$	$+M$	$+L$	$-S$	$-Y$	$-X$	$+U$	$-iQ$	$-iP$	$+iT$	$+iN$	$-iF$	$-iZ$
$^{\lambda}iD$	$-^{\nu}D$	$+^{\nu}T$	$-^{\nu}R$	$-^{\nu}Q$	$+^{\nu}U$	$-^{\nu}Z$	$-^{\nu}Y$	$-^{\nu}S$	$+^{\nu}N$	$+^{\nu}M$	$+^{\nu}iV$	$-^{\nu}iF$	$-^{\nu}iE$	$-^{\nu}iX$	$-^{\nu}iP$	$+^{\nu}iL$	$-D$	$+T$	$-R$	$-Q$	$+U$	$-Z$	$-Y$	$-S$	$+N$	$+M$	$+iV$	$-iF$	$-iE$	$-iX$	$-iP$	$+iL$
$^{\lambda}iE$	$-^{\nu}E$	$-^{\nu}R$	$-^{\nu}T$	$-^{\nu}P$	$-^{\nu}Z$	$-^{\nu}U$	$-^{\nu}X$	$-^{\nu}N$	$-^{\nu}S$	$-^{\nu}L$	$+^{\nu}iF$	$+^{\nu}iV$	$+^{\nu}iD$	$+^{\nu}iY$	$+^{\nu}iQ$	$+^{\nu}iM$	$-E$	$-R$	$-T$	$-P$	$-Z$	$-U$	$-X$	$-N$	$-S$	$-L$	$+iF$	$+iV$	$+iD$	$+iY$	$+iQ$	$+iM$
$^{\lambda}iF$	$-^{\nu}F$	$+^{\nu}Q$	$-^{\nu}P$	$+^{\nu}T$	$-^{\nu}Y$	$+^{\nu}X$	$-^{\nu}U$	$-^{\nu}M$	$+^{\nu}L$	$-^{\nu}S$	$-^{\nu}iE$	$+^{\nu}iD$	$-^{\nu}iV$	$-^{\nu}iZ$	$+^{\nu}iR$	$-^{\nu}iN$	$-F$	$+Q$	$-P$	$+T$	$-Y$	$+X$	$-U$	$-M$	$+L$	$-S$	$-iE$	$+iD$	$-iV$	$-iZ$	$+iR$	$-iN$
$^{\lambda}L$	$+^{\nu}iL$	$-^{\nu}iU$	$+^{\nu}iZ$	$-^{\nu}iY$	$+^{\nu}iT$	$-^{\nu}iR$	$+^{\nu}iQ$	$+^{\nu}iV$	$-^{\nu}iF$	$+^{\nu}iE$	$-^{\nu}S$	$+^{\nu}N$	$-^{\nu}M$	$-^{\nu}P$	$+^{\nu}X$	$-^{\nu}D$	$+iL$	$-iU$	$+iZ$	$-iY$	$+iT$	$-iR$	$+iQ$	$+iV$	$-iF$	$+iE$	$-S$	$+N$	$-M$	$-P$	$+X$	$-D$
$^{\lambda}M$	$+^{\nu}iM$	$+^{\nu}iZ$	$+^{\nu}iU$	$-^{\nu}iX$	$-^{\nu}iR$	$-^{\nu}iT$	$+^{\nu}iP$	$+^{\nu}iF$	$+^{\nu}iV$	$-^{\nu}iD$	$-^{\nu}N$	$-^{\nu}S$	$+^{\nu}L$	$+^{\nu}Q$	$-^{\nu}Y$	$-^{\nu}E$	$+iM$	$+iZ$	$+iU$	$-iX$	$-iR$	$-iT$	$+iP$	$+iF$	$+iV$	$-iD$	$-N$	$-S$	$+L$	$+Q$	$-Y$	$-E$
$^{\lambda}N$	$+^{\nu}iN$	$-^{\nu}iY$	$+^{\nu}iX$	$+^{\nu}iU$	$-^{\nu}iQ$	$+^{\nu}iP$	$+^{\nu}iT$	$+^{\nu}iE$	$-^{\nu}iD$	$-^{\nu}iV$	$+^{\nu}M$	$-^{\nu}L$	$-^{\nu}S$	$-^{\nu}R$	$-^{\nu}Z$	$+^{\nu}F$	$+iN$	$-iY$	$+iX$	$+iU$	$-iQ$	$+iP$	$+iT$	$+iE$	$-iD$	$-iV$	$+M$	$-L$	$-S$	$-R$	$-Z$	$+F$
$^{\lambda}T$	$+^{\nu}iT$	$-^{\nu}iD$	$+^{\nu}iE$	$-^{\nu}iF$	$+^{\nu}iL$	$-^{\nu}iM$	$+^{\nu}iN$	$+^{\nu}iX$	$-^{\nu}iY$	$+^{\nu}iZ$	$-^{\nu}P$	$+^{\nu}Q$	$-^{\nu}R$	$-^{\nu}S$	$+^{\nu}V$	$-^{\nu}U$	$+iT$	$-iD$	$+iE$	$-iF$	$+iL$	$-iM$	$+iN$	$+iX$	$-iY$	$+iZ$	$-P$	$+Q$	$-R$	$-S$	$+V$	$-U$
$^{\lambda}U$	$+^{\nu}iU$	$-^{\nu}iL$	$+^{\nu}iM$	$+^{\nu}iN$	$-^{\nu}iD$	$+^{\nu}iE$	$+^{\nu}iF$	$+^{\nu}iP$	$-^{\nu}iQ$	$-^{\nu}iR$	$+^{\nu}X$	$-^{\nu}Y$	$-^{\nu}Z$	$-^{\nu}V$	$-^{\nu}S$	$+^{\nu}T$	$+iU$	$-iL$	$+iM$	$+iN$	$-iD$	$+iE$	$+iF$	$+iP$	$-iQ$	$-iR$	$+X$	$-Y$	$-Z$	$-V$	$-S$	$+T$
$^{\lambda}V$	$+^{\nu}iV$	$+^{\nu}iP$	$+^{\nu}iQ$	$-^{\nu}iR$	$-^{\nu}iX$	$-^{\nu}iY$	$+^{\nu}iZ$	$+^{\nu}iL$	$+^{\nu}iM$	$-^{\nu}iN$	$-^{\nu}D$	$-^{\nu}E$	$+^{\nu}F$	$+^{\nu}U$	$-^{\nu}T$	$-^{\nu}S$	$+iV$	$+iP$	$+iQ$	$-iR$	$-iX$	$-iY$	$+iZ$	$+iL$	$+iM$	$-iN$	$-D$	$-E$	$+F$	$+U$	$-T$	$-S$