Algebra is Clifford(1,4) over the reals : $Cl_{1,4}(\mathbb{R})$ The five dimensions are (t, x, y, z, w). It defines two sets of quaternions with one imaginary unit

CoQuaternions $(1, \mathbf{i}, \mathbf{j}, \mathbf{k})$

$\mathbf{i} = \gamma_t$

$\mathbf{j} = \gamma_t \gamma_x \gamma_y \gamma_z$

$\mathbf{k} = \gamma_x \gamma_y \gamma_z$

$\mathbf{i}^2 = 1$

$\mathbf{j}^2 = -1$

$\mathbf{k}^2 = 1$

$\mathbf{ij} = \gamma_x \gamma_y \gamma_z$

$\mathbf{ji} = -\gamma_x \gamma_y \gamma_z$

$\mathbf{jk} = \gamma_t$

$\mathbf{kj} = -\gamma_t$

$\mathbf{ki} = -\gamma_t \gamma_x \gamma_y \gamma_z$

$\mathbf{ik} = \gamma_t \gamma_x \gamma_y \gamma_z$

$\mathbf{ijk} = 1$

Quaternions $(1, \boldsymbol{i}, \boldsymbol{j}, \boldsymbol{k})$

$\boldsymbol{i} = \gamma_y \gamma_z$

$\boldsymbol{j} = -\gamma_x \gamma_z$

$\boldsymbol{k} = \gamma_x \gamma_y$

$\boldsymbol{i}^2 = -1$

$\boldsymbol{j}^2 = -1$

$\boldsymbol{k}^2 = -1$

$\boldsymbol{ij} = \gamma_x \gamma_y$

$\boldsymbol{ji} = -\gamma_x \gamma_y$

$\boldsymbol{jk} = \gamma_y \gamma_z$

$\boldsymbol{kj} = -\gamma_y \gamma_z$

$\boldsymbol{ki} = -\gamma_x \gamma_z$

$\boldsymbol{ik} = \gamma_x \gamma_z$

$\boldsymbol{ijk} = -1$

Imaginary unit i

$$i = \gamma_w$$

$$i^2 = -1$$

Gradient

$$\nabla = (\gamma_t \frac{\partial}{\partial t} + \gamma_x \frac{\partial}{\partial x} + \gamma_y \frac{\partial}{\partial y} + \gamma_z \frac{\partial}{\partial z} + \gamma_w \frac{\partial}{\partial w})$$

Wavefunction : A is a constant and f is a function of (t, x, y, z, w)

$$\psi = Ae^f$$

$$\nabla \psi = A(\nabla f)e^f$$

The following symbols are defined : (a positive value is NOT required)
E is for energy, $E \in \mathbb{R}$
m is for mass, $m \in \mathbb{R}$
$\mathbf{p}$ is the momentum. $p_x, p_y, p_z \in \mathbb{R}$

$$\mathbf{p} = p_x \boldsymbol{i} + p_y \boldsymbol{j} + p_z \boldsymbol{k}$$

$$\mathbf{p} = p_z \gamma_x \gamma_y - p_y \gamma_x \gamma_z + p_x \gamma_y \gamma_z$$

Exponential function f

$$f_1 = -mw + (p_y y + p_x x + p_z z - Et)\gamma_w$$

$$f_2 = mw + (-p_z z - p_y y - p_x x - Et)\gamma_w$$

$$f_3 = mw + (p_y y + p_x x + p_z z - Et)\gamma_w$$

$$f_4 = -mw + (-p_z z - p_y y - p_x x - Et)\gamma_w$$

Gradient for f

$$\nabla f_1 = m\gamma_w - E\gamma_t \gamma_w - p_x \gamma_x \gamma_w - p_y \gamma_y \gamma_w - p_z \gamma_z \gamma_w$$

$$\nabla f_2 = -m\gamma_w - E\gamma_t \gamma_w + p_x \gamma_x \gamma_w + p_y \gamma_y \gamma_w + p_z \gamma_z \gamma_w$$

$$\nabla f_3 = -m\gamma_w - E\gamma_t \gamma_w - p_x \gamma_x \gamma_w - p_y \gamma_y \gamma_w - p_z \gamma_z \gamma_w$$

$$\nabla f_4 = m\gamma_w - E\gamma_t \gamma_w + p_x \gamma_x \gamma_w + p_y \gamma_y \gamma_w + p_z \gamma_z \gamma_w$$

Square of the gradient

$$\nabla f_1^2 = -m^2 - p_z{}^2 + E^2 - p_y{}^2 - p_x{}^2$$

$$\nabla f_2^2 = -m^2 - p_z{}^2 + E^2 - p_y{}^2 - p_x{}^2$$

$$\nabla f_3^2 = -m^2 - p_z{}^2 + E^2 - p_y{}^2 - p_x{}^2$$

$$\nabla f_4^2 = -m^2 - p_z{}^2 + E^2 - p_y{}^2 - p_x{}^2$$

Dirac

$$0 = (\gamma_0 \frac{\partial}{\partial t} + \gamma_1 \frac{\partial}{\partial x} + \gamma_2 \frac{\partial}{\partial y} + \gamma_3 \frac{\partial}{\partial z} + im)\psi$$

With the above gradients, identify the Dirac algebra aka gamma matrices

$\gamma_0 = \gamma_t \gamma_w$

$\gamma_0^2 = 1$

$\gamma_1 = -\gamma_x \gamma_w$

$\gamma_1^2 = -1$

$\gamma_2 = -\gamma_y \gamma_w$

$\gamma_2^2 = -1$

$\gamma_3 = -\gamma_z \gamma_w$

$\gamma_3^2 = -1$

$\gamma_5 = -\gamma_t \gamma_x \gamma_y \gamma_z \gamma_w$

$\gamma_5^2 = 1$

Simple Constants K (exactly the gradient)

$K_1 = \mathbf{j}i(\mathbf{k}E - \mathbf{j}m + \mathbf{i}p)$

$K_1 = m\gamma_w - E\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$

$K_2 = \mathbf{j}i(\mathbf{k}E + \mathbf{j}m - \mathbf{i}p)$

$K_2 = -m\gamma_w - E\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$

$K_3 = \mathbf{j}i(\mathbf{k}E + \mathbf{j}m + \mathbf{i}p)$

$K_3 = -m\gamma_w - E\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$

$K_4 = \mathbf{j}i(\mathbf{k}E - \mathbf{j}m - \mathbf{i}p)$

$K_4 = m\gamma_w - E\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$

Mixed Constants A (built from simple constants and the coquaternions)
A_1

$$\begin{pmatrix} A_1^1 \\ A_1^2 \\ A_1^3 \\ A_1^4 \end{pmatrix} = \begin{pmatrix} +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} \\ +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} \\ -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} \\ -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} \end{pmatrix}$$

A_2

$$\begin{pmatrix} A_2^1 \\ A_2^2 \\ A_2^3 \\ A_2^4 \end{pmatrix} = \begin{pmatrix} +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} \\ +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} \\ -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} \\ -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} \end{pmatrix}$$

A_3

$$\begin{pmatrix} A_3^1 \\ A_3^2 \\ A_3^3 \\ A_3^4 \end{pmatrix} = \begin{pmatrix} +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} \\ +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} \\ -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} \\ -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} \end{pmatrix}$$

A_4

$$\begin{pmatrix} A_4^1 \\ A_4^2 \\ A_4^3 \\ A_4^4 \end{pmatrix} = \begin{pmatrix} +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} \\ +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} \\ -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} \\ -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} \end{pmatrix}$$

Details about full solutions (built from mixed constants and the imaginary unit)
ψ_1

$$\psi_1^1 \equiv (A_1^1 + iA_1^1) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned} \psi_1^1 = {}& E - m \\ & + (-E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w \\ & + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\ & + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\ & + (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\ & + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w \end{aligned}$$

$$\psi_1^1 K_1 = 0$$

$$\psi_1^2 \equiv (A_1^1 - iA_1^1) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^2 = -E + m$$
$$+ (E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^2 K_1 = 0$$
$$\psi_1^3 \equiv (A_1^1 + iA_1^2) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^3 = -E - m$$
$$+ (-E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^3 K_1 = 0$$
$$\psi_1^4 \equiv (A_1^1 - iA_1^2) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^4 = E + m$$
$$+ (E + m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^4 K_1 = 0$$
$$\psi_1^5 \equiv (A_1^1 + iA_1^3) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^5 = -E + m$$
$$+ (E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^5 K_1 = 0$$

$$\psi_1^6 \equiv (A_1^1 - iA_1^3) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^6 = E - m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^6 K_1 = 0$$
$$\psi_1^7 \equiv (A_1^1 + iA_1^4) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^7 = E + m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^7 K_1 = 0$$
$$\psi_1^8 \equiv (A_1^1 - iA_1^4) = +K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^8 = -E - m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^8 K_1 = 0$$
$$\psi_1^9 \equiv (A_1^2 + iA_1^1) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^9 = E - m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^9 K_1 = 0$$

$$\psi_1^{10} \equiv (A_1^2 - iA_1^1) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{10} = -E + m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{10} K_1 = 0$$

$$\psi_1^{11} \equiv (A_1^2 + iA_1^2) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{11} = -E - m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{11} K_1 = 0$$

$$\psi_1^{12} \equiv (A_1^2 - iA_1^2) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{12} = E + m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{12} K_1 = 0$$

$$\psi_1^{13} \equiv (A_1^2 + iA_1^3) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{13} = -E + m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{13} K_1 = 0$$
$$\psi_1^{14} \equiv (A_1^2 - iA_1^3) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{14} = {}& E - m \\
& + (-E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{14} K_1 = 0$$
$$\psi_1^{15} \equiv (A_1^2 + iA_1^4) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{15} = {}& E + m \\
& + (E + m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{15} K_1 = 0$$
$$\psi_1^{16} \equiv (A_1^2 - iA_1^4) = +K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{16} = {}& -E - m \\
& + (-E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{16} K_1 = 0$$
$$\psi_1^{17} \equiv (A_1^3 + iA_1^1) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{17} = {}& E - m \\
& + (-E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{17} K_1 = 0$$

$$\psi_1^{18} \equiv (A_1^3 - iA_1^1) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{18} = &-E + m \\
&+ (E-m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E-m)\gamma_w \\
&- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{18} K_1 = 0$$

$$\psi_1^{19} \equiv (A_1^3 + iA_1^2) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{19} = &-E - m \\
&+ (-E-m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E-m)\gamma_w \\
&- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{19} K_1 = 0$$

$$\psi_1^{20} \equiv (A_1^3 - iA_1^2) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{20} = &E + m \\
&+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E-m)\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{20} K_1 = 0$$

$$\psi_1^{21} \equiv (A_1^3 + iA_1^3) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\begin{aligned}
\psi_1^{21} = &-E + m \\
&+ (E-m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E-m)\gamma_w \\
&- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_1^{21} K_1 = 0$$
$$\psi_1^{22} \equiv (A_1^3 - iA_1^3) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{22} = E - m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{22} K_1 = 0$$
$$\psi_1^{23} \equiv (A_1^3 + iA_1^4) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{23} = E + m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{23} K_1 = 0$$
$$\psi_1^{24} \equiv (A_1^3 - iA_1^4) = -K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{24} = -E - m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{24} K_1 = 0$$
$$\psi_1^{25} \equiv (A_1^4 + iA_1^1) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{25} = E - m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{25} K_1 = 0$$

$$\psi_1^{26} \equiv (A_1^4 - iA_1^1) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 - K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{26} = -E + m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{26} K_1 = 0$$

$$\psi_1^{27} \equiv (A_1^4 + iA_1^2) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{27} = -E - m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{27} K_1 = 0$$

$$\psi_1^{28} \equiv (A_1^4 - iA_1^2) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(+K_1 + K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{28} = E + m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{28} K_1 = 0$$

$$\psi_1^{29} \equiv (A_1^4 + iA_1^3) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{29} = -E + m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{29} K_1 = 0$$

$$\psi_1^{30} \equiv (A_1^4 - iA_1^3) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 + K_4\mathbf{i} - K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{30} = E - m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{30} K_1 = 0$$

$$\psi_1^{31} \equiv (A_1^4 + iA_1^4) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} + i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{31} = E + m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{31} K_1 = 0$$

$$\psi_1^{32} \equiv (A_1^4 - iA_1^4) = -K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k} - i(-K_1 - K_4\mathbf{i} + K_3\mathbf{j} + K_2\mathbf{k})$$

$$\psi_1^{32} = -E - m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_1^{32} K_1 = 0$$

ψ_2

$$\psi_2^1 \equiv (A_2^1 + iA_2^1) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^1 = E + m$$
$$+ (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^1 K_2 = 0$$

$$\psi_2^2 \equiv (A_2^1 - iA_2^1) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^2 = -E - m$$
$$+ (E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^2 K_2 = 0$$

$$\psi_2^3 \equiv (A_2^1 + iA_2^2) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^3 = -E + m$$
$$+ (-E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E-m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^3 K_2 = 0$$

$$\psi_2^4 \equiv (A_2^1 - iA_2^2) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^4 = E - m$$
$$+ (E-m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^4 K_2 = 0$$

$$\psi_2^5 \equiv (A_2^1 + iA_2^3) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^5 = -E - m$$
$$+ (E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^5 K_2 = 0$$

$$\psi_2^6 \equiv (A_2^1 - iA_2^3) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^6 = {}& E + m \\
& + (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^6 K_2 = 0$$

$$\psi_2^7 \equiv (A_2^1 + iA_2^4) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^7 = {}& E - m \\
& + (E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^7 K_2 = 0$$

$$\psi_2^8 \equiv (A_2^1 - iA_2^4) = +K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^8 = {}& -E + m \\
& + (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^8 K_2 = 0$$

$$\psi_2^9 \equiv (A_2^2 + iA_2^1) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^9 = {}& E + m \\
& + (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^9 K_2 = 0$$

$$\psi_2^{10} \equiv (A_2^2 - iA_2^1) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{10} = -E - m$$
$$+ (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E-m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{10} K_2 = 0$$

$$\psi_2^{11} \equiv (A_2^2 + iA_2^2) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{11} = -E + m$$
$$+ (-E+m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E-m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{11} K_2 = 0$$

$$\psi_2^{12} \equiv (A_2^2 - iA_2^2) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{12} = E - m$$
$$+ (E-m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E-m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{12} K_2 = 0$$

$$\psi_2^{13} \equiv (A_2^2 + iA_2^3) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{13} = -E - m$$
$$+ (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E-m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{13} K_2 = 0$$

$$\psi_2^{14} \equiv (A_2^2 - iA_2^3) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{14} = E + m$$
$$+ (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{14} K_2 = 0$$

$$\psi_2^{15} \equiv (A_2^2 + iA_2^4) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{15} = E - m$$
$$+ (E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{15} K_2 = 0$$

$$\psi_2^{16} \equiv (A_2^2 - iA_2^4) = +K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{16} = -E + m$$
$$+ (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{16} K_2 = 0$$

$$\psi_2^{17} \equiv (A_2^3 + iA_2^1) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{17} = E + m$$
$$+ (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{17} K_2 = 0$$
$$\psi_2^{18} \equiv (A_2^3 - iA_2^1) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{18} = -E - m$$
$$+ (E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E+m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{18} K_2 = 0$$
$$\psi_2^{19} \equiv (A_2^3 + iA_2^2) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{19} = -E + m$$
$$+ (-E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E+m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{19} K_2 = 0$$
$$\psi_2^{20} \equiv (A_2^3 - iA_2^2) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{20} = E - m$$
$$+ (E-m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{20} K_2 = 0$$
$$\psi_2^{21} \equiv (A_2^3 + iA_2^3) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{21} = -E - m$$
$$+ (E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E+m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{21} K_2 = 0$$

$$\psi_2^{22} \equiv (A_2^3 - iA_2^3) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{22} = {}& E + m \\
& + (-E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{22} K_2 = 0$$

$$\psi_2^{23} \equiv (A_2^3 + iA_2^4) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{23} = {}& E - m \\
& + (E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{23} K_2 = 0$$

$$\psi_2^{24} \equiv (A_2^3 - iA_2^4) = -K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{24} = {}& -E + m \\
& + (-E + m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{24} K_2 = 0$$

$$\psi_2^{25} \equiv (A_2^4 + iA_2^1) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{25} = {}& E + m \\
& + (-E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{25} K_2 = 0$$

$$\psi_2^{26} \equiv (A_2^4 - iA_2^1) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 - K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{26} = -E - m$$
$$+ (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E+m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{26} K_2 = 0$$

$$\psi_2^{27} \equiv (A_2^4 + iA_2^2) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{27} = -E + m$$
$$+ (-E+m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{27} K_2 = 0$$

$$\psi_2^{28} \equiv (A_2^4 - iA_2^2) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(+K_2 + K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{28} = E - m$$
$$+ (E-m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E+m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{28} K_2 = 0$$

$$\psi_2^{29} \equiv (A_2^4 + iA_2^3) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\psi_2^{29} = -E - m$$
$$+ (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E+m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_2^{29} K_2 = 0$$

$$\psi_2^{30} \equiv (A_2^4 - iA_2^3) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 + K_3\mathbf{i} - K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{30} = {}& E + m \\
& + (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{30} K_2 = 0$$

$$\psi_2^{31} \equiv (A_2^4 + iA_2^4) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} + i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{31} = {}& E - m \\
& + (E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{31} K_2 = 0$$

$$\psi_2^{32} \equiv (A_2^4 - iA_2^4) = -K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k} - i(-K_2 - K_3\mathbf{i} + K_4\mathbf{j} + K_1\mathbf{k})$$

$$\begin{aligned}
\psi_2^{32} = {}& -E + m \\
& + (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_2^{32} K_2 = 0$$

ψ_3

$$\psi_3^1 \equiv (A_3^1 + iA_3^1) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^1 = {}& E + m \\
& + (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^1 K_3 = 0$$
$$\psi_3^2 \equiv (A_3^1 - iA_3^1) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^2 = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E-m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^2 K_3 = 0$$
$$\psi_3^3 \equiv (A_3^1 + iA_3^2) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^3 = -E + m$$
$$+ (-E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^3 K_3 = 0$$
$$\psi_3^4 \equiv (A_3^1 - iA_3^2) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^4 = E - m$$
$$+ (E-m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E-m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^4 K_3 = 0$$
$$\psi_3^5 \equiv (A_3^1 + iA_3^3) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^5 = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E-m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E-m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^5 K_3 = 0$$
$$\psi_3^6 \equiv (A_3^1 - iA_3^3) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^6 = {}& E + m \\
&+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^6 K_3 = 0$$
$$\psi_3^7 \equiv (A_3^1 + iA_3^4) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^7 = {}& E - m \\
&+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^7 K_3 = 0$$
$$\psi_3^8 \equiv (A_3^1 - iA_3^4) = +K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^8 = {}& -E + m \\
&+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\gamma_w \\
&- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^8 K_3 = 0$$
$$\psi_3^9 \equiv (A_3^2 + iA_3^1) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^9 = {}& E + m \\
&+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^9 K_3 = 0$$

$$\psi_3^{10} \equiv (A_3^2 - iA_3^1) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{10} = -E - m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{10} K_3 = 0$$

$$\psi_3^{11} \equiv (A_3^2 + iA_3^2) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{11} = -E + m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{11} K_3 = 0$$

$$\psi_3^{12} \equiv (A_3^2 - iA_3^2) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{12} = E - m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{12} K_3 = 0$$

$$\psi_3^{13} \equiv (A_3^2 + iA_3^3) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{13} = -E - m$$
$$+ (E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{13} K_3 = 0$$

$$\psi_3^{14} \equiv (A_3^2 - iA_3^3) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{14} = E + m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{14} K_3 = 0$$

$$\psi_3^{15} \equiv (A_3^2 + iA_3^4) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{15} = E - m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{15} K_3 = 0$$

$$\psi_3^{16} \equiv (A_3^2 - iA_3^4) = +K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{16} = -E + m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{16} K_3 = 0$$

$$\psi_3^{17} \equiv (A_3^3 + iA_3^1) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{17} = E + m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{17} K_3 = 0$$

$$\psi_3^{18} \equiv (A_3^3 - iA_3^1) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{18} = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{18} K_3 = 0$$

$$\psi_3^{19} \equiv (A_3^3 + iA_3^2) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{19} = -E + m$$
$$+ (-E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{19} K_3 = 0$$

$$\psi_3^{20} \equiv (A_3^3 - iA_3^2) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{20} = E - m$$
$$+ (E-m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E+m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{20} K_3 = 0$$

$$\psi_3^{21} \equiv (A_3^3 + iA_3^3) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{21} = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{21} K_3 = 0$$

$$\psi_3^{22} \equiv (A_3^3 - iA_3^3) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^{22} = {}& E + m \\
& + (-E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^{22} K_3 = 0$$

$$\psi_3^{23} \equiv (A_3^3 + iA_3^4) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^{23} = {}& E - m \\
& + (E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^{23} K_3 = 0$$

$$\psi_3^{24} \equiv (A_3^3 - iA_3^4) = -K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^{24} = {}& -E + m \\
& + (-E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^{24} K_3 = 0$$

$$\psi_3^{25} \equiv (A_3^4 + iA_3^1) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\begin{aligned}
\psi_3^{25} = {}& E + m \\
& + (-E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_3^{25} K_3 = 0$$

$$\psi_3^{26} \equiv (A_3^4 - iA_3^1) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 - K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{26} = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{26} K_3 = 0$$

$$\psi_3^{27} \equiv (A_3^4 + iA_3^2) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{27} = -E + m$$
$$+ (-E+m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E-m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{27} K_3 = 0$$

$$\psi_3^{28} \equiv (A_3^4 - iA_3^2) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(+K_3 + K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{28} = E - m$$
$$+ (E-m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E+m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{28} K_3 = 0$$

$$\psi_3^{29} \equiv (A_3^4 + iA_3^3) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{29} = -E - m$$
$$+ (E+m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E-m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E-m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E+m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E-m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E+m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{29} K_3 = 0$$

$$\psi_3^{30} \equiv (A_3^4 - iA_3^3) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 + K_2\mathbf{i} - K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{30} = E + m$$
$$+ (-E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{30} K_3 = 0$$

$$\psi_3^{31} \equiv (A_3^4 + iA_3^4) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} + i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{31} = E - m$$
$$+ (E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{31} K_3 = 0$$

$$\psi_3^{32} \equiv (A_3^4 - iA_3^4) = -K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k} - i(-K_3 - K_2\mathbf{i} + K_1\mathbf{j} + K_4\mathbf{k})$$

$$\psi_3^{32} = -E + m$$
$$+ (-E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w + p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w - p_y\gamma_x\gamma_z\gamma_w + p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_3^{32} K_3 = 0$$

ψ_4

$$\psi_4^1 \equiv (A_4^1 + iA_4^1) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^1 = E - m$$
$$+ (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^1 K_4 = 0$$
$$\psi_4^2 \equiv (A_4^1 - iA_4^1) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^2 = -E + m$$
$$+ (E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^2 K_4 = 0$$
$$\psi_4^3 \equiv (A_4^1 + iA_4^2) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^3 = -E - m$$
$$+ (-E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^3 K_4 = 0$$
$$\psi_4^4 \equiv (A_4^1 - iA_4^2) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^4 = E + m$$
$$+ (E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^4 K_4 = 0$$
$$\psi_4^5 \equiv (A_4^1 + iA_4^3) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^5 = -E + m$$
$$+ (E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E + m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^5 K_4 = 0$$
$$\psi_4^6 \equiv (A_4^1 - iA_4^3) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^6 =\ & E - m \\
& + (-E+m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^6 K_4 = 0$$
$$\psi_4^7 \equiv (A_4^1 + iA_4^4) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^7 =\ & E + m \\
& + (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E+m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^7 K_4 = 0$$
$$\psi_4^8 \equiv (A_4^1 - iA_4^4) = +K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^8 =\ & -E - m \\
& + (-E-m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E+m)\,\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E+m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^8 K_4 = 0$$
$$\psi_4^9 \equiv (A_4^2 + iA_4^1) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^9 =\ & E - m \\
& + (-E+m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E+m)\,\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E-m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^9 K_4 = 0$$

$$\psi_4^{10} \equiv (A_4^2 - iA_4^1) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{10} = -E + m$$
$$+ (E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{10} K_4 = 0$$

$$\psi_4^{11} \equiv (A_4^2 + iA_4^2) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{11} = -E - m$$
$$+ (-E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{11} K_4 = 0$$

$$\psi_4^{12} \equiv (A_4^2 - iA_4^2) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{12} = E + m$$
$$+ (E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{12} K_4 = 0$$

$$\psi_4^{13} \equiv (A_4^2 + iA_4^3) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{13} = -E + m$$
$$+ (E - m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\,\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\,\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{13} K_4 = 0$$

$$\psi_4^{14} \equiv (A_4^2 - iA_4^3) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{14} =\ & E - m \\
& + (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E - m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{14} K_4 = 0$$

$$\psi_4^{15} \equiv (A_4^2 + iA_4^4) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{15} =\ & E + m \\
& + (E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E + m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& + p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{15} K_4 = 0$$

$$\psi_4^{16} \equiv (A_4^2 - iA_4^4) = +K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{16} =\ & -E - m \\
& + (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E + m)\gamma_w \\
& + p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (-E - m)\gamma_t\gamma_w + p_x\gamma_x\gamma_w + p_y\gamma_y\gamma_w + p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E - m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{16} K_4 = 0$$

$$\psi_4^{17} \equiv (A_4^3 + iA_4^1) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{17} =\ & E - m \\
& + (-E + m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w \\
& - p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
& - p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
& + (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w \\
& + (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{17} K_4 = 0$$
$$\psi_4^{18} \equiv (A_4^3 - iA_4^1) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{18} = -E + m$$
$$+ (E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{18} K_4 = 0$$
$$\psi_4^{19} \equiv (A_4^3 + iA_4^2) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{19} = -E - m$$
$$+ (-E - m)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{19} K_4 = 0$$
$$\psi_4^{20} \equiv (A_4^3 - iA_4^2) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{20} = E + m$$
$$+ (E + m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{20} K_4 = 0$$
$$\psi_4^{21} \equiv (A_4^3 + iA_4^3) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{21} = -E + m$$
$$+ (E - m)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (E - m)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E - m)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E + m)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E - m)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + (E + m)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{21} K_4 = 0$$

$$\psi_4^{22} \equiv (A_4^3 - iA_4^3) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{22} = E - m$$
$$+ \left(-E + m\right)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + \left(E - m\right)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + \left(E - m\right)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + \left(-E - m\right)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E + m\right)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + \left(E + m\right)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E + m\right)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{22} K_4 = 0$$

$$\psi_4^{23} \equiv (A_4^3 + iA_4^4) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{23} = E + m$$
$$+ \left(E + m\right)\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + \left(E - m\right)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + \left(E - m\right)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + \left(-E + m\right)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(-E + m\right)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + \left(E + m\right)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E + m\right)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{23} K_4 = 0$$

$$\psi_4^{24} \equiv (A_4^3 - iA_4^4) = -K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{24} = -E - m$$
$$+ \left(-E - m\right)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + \left(E - m\right)\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + \left(E - m\right)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + \left(E - m\right)\gamma_x\gamma_y\gamma_z - p_x\gamma_t\gamma_x\gamma_w - p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w - p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E - m\right)\gamma_t\gamma_x\gamma_y\gamma_z - p_z\gamma_t\gamma_x\gamma_y\gamma_w + p_y\gamma_t\gamma_x\gamma_z\gamma_w - p_x\gamma_t\gamma_y\gamma_z\gamma_w + \left(E + m\right)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E + m\right)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{24} K_4 = 0$$

$$\psi_4^{25} \equiv (A_4^4 + iA_4^1) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{25} = E - m$$
$$+ \left(-E + m\right)\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + \left(-E - m\right)\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + \left(E + m\right)\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + \left(E + m\right)\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(-E - m\right)\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + \left(-E + m\right)\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ \left(E - m\right)\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{25} K_4 = 0$$

$$\psi_4^{26} \equiv (A_4^4 - iA_4^1) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 - K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{26} = &-E + m \\
&+ (E-m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\,\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
&+ (E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{26} K_4 = 0$$

$$\psi_4^{27} \equiv (A_4^4 + iA_4^2) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{27} = &-E - m \\
&+ (-E-m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E-m)\,\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E+m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E+m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{27} K_4 = 0$$

$$\psi_4^{28} \equiv (A_4^4 - iA_4^2) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(+K_4 + K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{28} = &\,E + m \\
&+ (E+m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\,\gamma_w \\
&- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E+m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E-m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{28} K_4 = 0$$

$$\psi_4^{29} \equiv (A_4^4 + iA_4^3) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\begin{aligned}
\psi_4^{29} = &-E + m \\
&+ (E-m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E-m)\,\gamma_w \\
&+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E+m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w \\
&- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E+m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w \\
&+ (-E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E+m)\,\gamma_x\gamma_y\gamma_z\gamma_w \\
&+ (E-m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w
\end{aligned}$$

$$\psi_4^{29} K_4 = 0$$

$$\psi_4^{30} \equiv (A_4^4 - iA_4^3) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 + K_1\mathbf{i} - K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{30} = E - m$$
$$+ (-E + m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{30} K_4 = 0$$

$$\psi_4^{31} \equiv (A_4^4 + iA_4^4) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} + i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{31} = E + m$$
$$+ (E + m)\,\gamma_t - p_x\gamma_x - p_y\gamma_y - p_z\gamma_z + (-E - m)\,\gamma_w$$
$$- p_x\gamma_t\gamma_x - p_y\gamma_t\gamma_y + p_z\gamma_x\gamma_y - p_z\gamma_t\gamma_z - p_y\gamma_x\gamma_z + p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$+ p_z\gamma_t\gamma_x\gamma_y - p_y\gamma_t\gamma_x\gamma_z + p_x\gamma_t\gamma_y\gamma_z + (-E + m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (-E + m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{31} K_4 = 0$$

$$\psi_4^{32} \equiv (A_4^4 - iA_4^4) = -K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k} - i(-K_4 - K_1\mathbf{i} + K_2\mathbf{j} + K_3\mathbf{k})$$

$$\psi_4^{32} = -E - m$$
$$+ (-E - m)\,\gamma_t + p_x\gamma_x + p_y\gamma_y + p_z\gamma_z + (-E - m)\,\gamma_w$$
$$+ p_x\gamma_t\gamma_x + p_y\gamma_t\gamma_y - p_z\gamma_x\gamma_y + p_z\gamma_t\gamma_z + p_y\gamma_x\gamma_z - p_x\gamma_y\gamma_z + (E + m)\,\gamma_t\gamma_w - p_x\gamma_x\gamma_w - p_y\gamma_y\gamma_w - p_z\gamma_z\gamma_w$$
$$- p_z\gamma_t\gamma_x\gamma_y + p_y\gamma_t\gamma_x\gamma_z - p_x\gamma_t\gamma_y\gamma_z + (E - m)\,\gamma_x\gamma_y\gamma_z + p_x\gamma_t\gamma_x\gamma_w + p_y\gamma_t\gamma_y\gamma_w - p_z\gamma_x\gamma_y\gamma_w + p_z\gamma_t\gamma_z\gamma_w + p_y\gamma_x\gamma_z\gamma_w - p_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z + p_z\gamma_t\gamma_x\gamma_y\gamma_w - p_y\gamma_t\gamma_x\gamma_z\gamma_w + p_x\gamma_t\gamma_y\gamma_z\gamma_w + (-E + m)\,\gamma_x\gamma_y\gamma_z\gamma_w$$
$$+ (E - m)\,\gamma_t\gamma_x\gamma_y\gamma_z\gamma_w$$

$$\psi_4^{32} K_4 = 0$$

Symmetry with ψ_1 solutions
[1, 2, 3, 4, 9, 10, 11, 12]

$$i\psi_1^1 + \psi_1^2 = 0$$

$$i\psi_1^{11} + \psi_1^{12} = 0$$

$$i\psi_1^3 + \psi_1^{10} = 0$$

$$i\psi_1^9 + \psi_1^4 = 0$$

[1, 2, 11, 12]

$$\mathbf{i}\psi_1^1 - \psi_1^2 = 0$$
$$\mathbf{j}\psi_1^1 + \psi_1^{11} = 0$$
$$\mathbf{k}\psi_1^1 - \psi_1^{12} = 0$$

[3, 10]

$$\mathbf{i}\psi_1^3 - \psi_1^3 = 0$$
$$\mathbf{j}\psi_1^3 + \psi_1^{10} = 0$$
$$\mathbf{k}\psi_1^3 - \psi_1^{10} = 0$$

[4, 9]

$$\mathbf{i}\psi_1^4 - \psi_1^4 = 0$$
$$\mathbf{j}\psi_1^4 + \psi_1^9 = 0$$
$$\mathbf{k}\psi_1^4 - \psi_1^9 = 0$$

[5, 6, 15, 16, 17, 18, 27, 28]

$$i\psi_1^5 + \psi_1^{18} = 0$$
$$i\psi_1^{17} + \psi_1^6 = 0$$
$$i\psi_1^{15} + \psi_1^{28} = 0$$
$$i\psi_1^{27} + \psi_1^{16} = 0$$

[7, 8, 13, 14, 19, 20, 25, 26]

$$i\psi_1^7 + \psi_1^{26} = 0$$
$$i\psi_1^{25} + \psi_1^8 = 0$$
$$i\psi_1^{13} + \psi_1^{20} = 0$$
$$i\psi_1^{19} + \psi_1^{14} = 0$$

[5, 6, 16, 15]

$$\mathbf{i}\psi_1^5 - \psi_1^6 = 0$$
$$\mathbf{j}\psi_1^5 + \psi_1^{16} = 0$$
$$\mathbf{k}\psi_1^5 - \psi_1^{15} = 0$$

[7, 13]

$$\mathbf{i}\psi_1^7 - \psi_1^7 = 0$$

$$\mathbf{j}\psi_1^7 + \psi_1^{13} = 0$$
$$\mathbf{k}\psi_1^7 - \psi_1^{13} = 0$$

[8, 14]

$$\mathbf{i}\psi_1^8 - \psi_1^8 = 0$$
$$\mathbf{j}\psi_1^8 + \psi_1^{14} = 0$$
$$\mathbf{k}\psi_1^8 - \psi_1^{14} = 0$$

[17, 18, 28, 27]

$$\mathbf{i}\psi_1^{17} - \psi_1^{18} = 0$$
$$\mathbf{j}\psi_1^{17} - \psi_1^{28} = 0$$
$$\mathbf{k}\psi_1^{17} + \psi_1^{27} = 0$$

[19, 25]

$$\mathbf{i}\psi_1^{19} - \psi_1^{19} = 0$$
$$\mathbf{j}\psi_1^{19} - \psi_1^{25} = 0$$
$$\mathbf{k}\psi_1^{19} + \psi_1^{25} = 0$$

[20, 26]

$$\mathbf{i}\psi_1^{20} - \psi_1^{20} = 0$$
$$\mathbf{j}\psi_1^{20} - \psi_1^{26} = 0$$
$$\mathbf{k}\psi_1^{20} + \psi_1^{26} = 0$$

[21, 22, 23, 24, 29, 30, 31, 32]

$$i\psi_1^{21} + \psi_1^{22} = 0$$
$$i\psi_1^{31} + \psi_1^{32} = 0$$
$$i\psi_1^{23} + \psi_1^{30} = 0$$
$$i\psi_1^{29} + \psi_1^{24} = 0$$

[21, 22, 31, 32]

$$\mathbf{i}\psi_1^{21} - \psi_1^{22} = 0$$
$$\mathbf{j}\psi_1^{21} - \psi_1^{31} = 0$$
$$\mathbf{k}\psi_1^{21} + \psi_1^{32} = 0$$

[23, 30]

$$\mathbf{i}\psi_1^{23} - \psi_1^{23} = 0$$

$$\mathbf{j}\psi_1^{23} - \psi_1^{30} = 0$$

$$\mathbf{k}\psi_1^{23} + \psi_1^{30} = 0$$

[24, 29]

$$\mathbf{i}\psi_1^{24} - \psi_1^{24} = 0$$

$$\mathbf{j}\psi_1^{24} - \psi_1^{29} = 0$$

$$\mathbf{k}\psi_1^{24} + \psi_1^{29} = 0$$

Rotations ψ_1

$$\mathbf{i}\psi_1^1\mathbf{i} - \psi_4^{22} = 0$$

$$\mathbf{j}\psi_1^1\mathbf{j} + \psi_3^{31} = 0$$

$$\mathbf{k}\psi_1^1\mathbf{k} - \psi_2^{12} = 0$$

$$\mathbf{i}\psi_1^2\mathbf{i} - \psi_4^{21} = 0$$

$$\mathbf{j}\psi_1^2\mathbf{j} + \psi_3^{32} = 0$$

$$\mathbf{k}\psi_1^2\mathbf{k} - \psi_2^{11} = 0$$

$$\mathbf{i}\psi_1^3\mathbf{i} - \psi_4^{24} = 0$$

$$\mathbf{j}\psi_1^3\mathbf{j} + \psi_3^{29} = 0$$

$$\mathbf{k}\psi_1^3\mathbf{k} - \psi_2^{10} = 0$$

$$\mathbf{i}\psi_1^4\mathbf{i} - \psi_4^{23} = 0$$

$$\mathbf{j}\psi_1^4\mathbf{j} + \psi_3^{30} = 0$$

$$\mathbf{k}\psi_1^4\mathbf{k} - \psi_2^9 = 0$$

$$\mathbf{i}\psi_1^5\mathbf{i} - \psi_4^{18} = 0$$

$$\mathbf{j}\psi_1^5\mathbf{j} + \psi_3^{27} = 0$$

$$\mathbf{k}\psi_1^5\mathbf{k} - \psi_2^{16} = 0$$

$$\mathbf{i}\psi_1^6\mathbf{i} - \psi_4^{17} = 0$$

$$\mathbf{j}\psi_1^6\mathbf{j} + \psi_3^{28} = 0$$

$$\mathbf{k}\psi_1^6\mathbf{k} - \psi_2^{15} = 0$$

$$\mathbf{i}\psi_1^7\mathbf{i} - \psi_4^{20} = 0$$

$$\mathbf{j}\psi_1^7\mathbf{j} + \psi_3^{25} = 0$$

$$\mathbf{k}\psi_1^7\mathbf{k} - \psi_2^{14} = 0$$

$$\mathbf{i}\psi_1^8\mathbf{i} - \psi_4^{19} = 0$$

$$\mathbf{j}\psi_1^8\mathbf{j} + \psi_3^{26} = 0$$

$$\mathbf{k}\psi_1^8\mathbf{k} - \psi_2^{13} = 0$$

$$\mathbf{i}\psi_1^9\mathbf{i} - \psi_4^{30} = 0$$

$$\mathbf{j}\psi_1^9\mathbf{j} + \psi_3^{23} = 0$$

$$\mathbf{k}\psi_1^9\mathbf{k} - \psi_2^4 = 0$$

$$\mathbf{i}\psi_1^{10}\mathbf{i} - \psi_4^{29} = 0$$

$$\mathbf{j}\psi_1^{10}\mathbf{j} + \psi_3^{24} = 0$$

$$\mathbf{k}\psi_1^{10}\mathbf{k} - \psi_2^3 = 0$$

$$\mathbf{i}\psi_1^{11}\mathbf{i} - \psi_4^{32} = 0$$

$$\mathbf{j}\psi_1^{11}\mathbf{j} + \psi_3^{21} = 0$$

$$\mathbf{k}\psi_1^{11}\mathbf{k} - \psi_2^2 = 0$$

$$\mathbf{i}\psi_1^{12}\mathbf{i} - \psi_4^{31} = 0$$

$$\mathbf{j}\psi_1^{12}\mathbf{j} + \psi_3^{22} = 0$$

$$\mathbf{k}\psi_1^{12}\mathbf{k} - \psi_2^1 = 0$$

$$\mathbf{i}\psi_1^{13}\mathbf{i} - \psi_4^{26} = 0$$

$$\mathbf{j}\psi_1^{13}\mathbf{j} + \psi_3^{19} = 0$$

$$\mathbf{k}\psi_1^{13}\mathbf{k} - \psi_2^8 = 0$$

$$\mathbf{i}\psi_1^{14}\mathbf{i} - \psi_4^{25} = 0$$

$$\mathbf{j}\psi_1^{14}\mathbf{j} + \psi_3^{20} = 0$$

$$\mathbf{k}\psi_1^{14}\mathbf{k} - \psi_2^7 = 0$$

$$\mathbf{i}\psi_1^{15}\mathbf{i} - \psi_4^{28} = 0$$

$$\mathbf{j}\psi_1^{15}\mathbf{j} + \psi_3^{17} = 0$$

$$\mathbf{k}\psi_1^{15}\mathbf{k} - \psi_2^6 = 0$$

$$\mathbf{i}\psi_1^{16}\mathbf{i} - \psi_4^{27} = 0$$

$$\mathbf{j}\psi_1^{16}\mathbf{j} + \psi_3^{18} = 0$$

$$\mathbf{k}\psi_1^{16}\mathbf{k} - \psi_2^5 = 0$$

$$\mathbf{i}\psi_1^{17}\mathbf{i} - \psi_4^6 = 0$$

$$\mathbf{j}\psi_1^{17}\mathbf{j} + \psi_3^{15} = 0$$

$$\mathbf{k}\psi_1^{17}\mathbf{k} - \psi_2^{28} = 0$$

$$\mathbf{i}\psi_1^{18}\mathbf{i} - \psi_4^5 = 0$$

$$\mathbf{j}\psi_1^{18}\mathbf{j} + \psi_3^{16} = 0$$

$$\mathbf{k}\psi_1^{18}\mathbf{k} - \psi_2^{27} = 0$$

$$\mathbf{i}\psi_1^{19}\mathbf{i} - \psi_4^8 = 0$$

$$\mathbf{j}\psi_1^{19}\mathbf{j} + \psi_3^{13} = 0$$

$$\mathbf{k}\psi_1^{19}\mathbf{k} - \psi_2^{26} = 0$$

$$\mathbf{i}\psi_1^{20}\mathbf{i} - \psi_4^7 = 0$$

$$\mathbf{j}\psi_1^{20}\mathbf{j} + \psi_3^{14} = 0$$

$$\mathbf{k}\psi_1^{20}\mathbf{k} - \psi_2^{25} = 0$$

$$\mathbf{i}\psi_1^{21}\mathbf{i} - \psi_4^2 = 0$$

$$\mathbf{j}\psi_1^{21}\mathbf{j} + \psi_3^{11} = 0$$

$$\mathbf{k}\psi_1^{21}\mathbf{k} - \psi_2^{32} = 0$$

$$\mathbf{i}\psi_1^{22}\mathbf{i} - \psi_4^1 = 0$$

$$\mathbf{j}\psi_1^{22}\mathbf{j} + \psi_3^{12} = 0$$

$$\mathbf{k}\psi_1^{22}\mathbf{k} - \psi_2^{31} = 0$$

$$\mathbf{i}\psi_1^{23}\mathbf{i} - \psi_4^4 = 0$$

$$\mathbf{j}\psi_1^{23}\mathbf{j} + \psi_3^9 = 0$$

$$\mathbf{k}\psi_1^{23}\mathbf{k} - \psi_2^{30} = 0$$

$$\mathbf{i}\psi_1^{24}\mathbf{i} - \psi_4^3 = 0$$

$$\mathbf{j}\psi_1^{24}\mathbf{j} + \psi_3^{10} = 0$$

$$\mathbf{k}\psi_1^{24}\mathbf{k} - \psi_2^{29} = 0$$

$$\mathbf{i}\psi_1^{25}\mathbf{i} - \psi_4^{14} = 0$$

$$\mathbf{j}\psi_1^{25}\mathbf{j} + \psi_3^7 = 0$$

$$\mathbf{k}\psi_1^{25}\mathbf{k} - \psi_2^{20} = 0$$

$$\mathbf{i}\psi_1^{26}\mathbf{i} - \psi_4^{13} = 0$$

$$\mathbf{j}\psi_1^{26}\mathbf{j} + \psi_3^8 = 0$$

$$\mathbf{k}\psi_1^{26}\mathbf{k} - \psi_2^{19} = 0$$

$$\mathbf{i}\psi_1^{27}\mathbf{i} - \psi_4^{16} = 0$$

$$\mathbf{j}\psi_1^{27}\mathbf{j} + \psi_3^5 = 0$$

$$\mathbf{k}\psi_1^{27}\mathbf{k} - \psi_2^{18} = 0$$

$$\mathbf{i}\psi_1^{28}\mathbf{i} - \psi_4^{15} = 0$$

$$\mathbf{j}\psi_1^{28}\mathbf{j} + \psi_3^6 = 0$$

$$\mathbf{k}\psi_1^{28}\mathbf{k} - \psi_2^{17} = 0$$

$$\mathbf{i}\psi_1^{29}\mathbf{i} - \psi_4^{10} = 0$$

$$\mathbf{j}\psi_1^{29}\mathbf{j} + \psi_3^3 = 0$$

$$\mathbf{k}\psi_1^{29}\mathbf{k} - \psi_2^{24} = 0$$

$$\mathbf{i}\psi_1^{30}\mathbf{i} - \psi_4^9 = 0$$

$$\mathbf{j}\psi_1^{30}\mathbf{j} + \psi_3^4 = 0$$

$$\mathbf{k}\psi_1^{30}\mathbf{k} - \psi_2^{23} = 0$$

$$\mathbf{i}\psi_1^{31}\mathbf{i} - \psi_4^{12} = 0$$

$$\mathbf{j}\psi_1^{31}\mathbf{j} + \psi_3^1 = 0$$

$$\mathbf{k}\psi_1^{31}\mathbf{k} - \psi_2^{22} = 0$$

$$\mathbf{i}\psi_1^{32}\mathbf{i} - \psi_4^{11} = 0$$

$$\mathbf{j}\psi_1^{32}\mathbf{j} + \psi_3^2 = 0$$

$$\mathbf{k}\psi_1^{32}\mathbf{k} - \psi_2^{21} = 0$$