

Тестовый прогон: Было:

$$\phi_1(-p) \times \delta_{12}[k] \times D_1^A D_{1A} \bar{D}_{4\dot{a}} \bar{D}_{4\dot{a}} \delta_{14}[p-k] \times \bar{D}_{2\dot{b}} \bar{D}_2^{\dot{b}} D_3^B D_{3B} \delta_{23}[l] \times D_2^C D_{2C} \bar{D}_{3\dot{c}} \bar{D}_3^{\dot{c}} \delta_{23}[k-l] \times \delta_{34}[k] \times \bar{\phi}_4(-p)$$

Выравниваем индекс у 0-ого слагаемого 2-ого, 3-ого и 4-ого сомножителей (дельта-функций)

$$-\phi_1(-p) \times \delta_{12}[k] \times D_1^A D_{1A} \bar{D}_1^{\dot{a}} \bar{D}_{1\dot{a}} \delta_{14}[p-k] \times \bar{D}_{2\dot{b}} \bar{D}_2^{\dot{b}} D_{2B} D_2^B \delta_{23}[l] \times D_2^C D_{2C} \bar{D}_2^{\dot{c}} \bar{D}_{2\dot{c}} \delta_{23}[k-l] \times \delta_{34}[k] \times \bar{\phi}_4(-p)$$

Опускаем индексы у 0-ого слагаемого

$$-\epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times \delta_{12}[k] \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{14}[p-k] \times \bar{D}_{2\dot{b}} \bar{D}_{2\dot{e}} D_{2B} D_{2E} \delta_{23}[l] \times D_{2F} D_{2C} \bar{D}_{2\dot{f}} \bar{D}_{2\dot{c}} \delta_{23}[k-l] \times \delta_{34}[k] \times \bar{\phi}_4(-p)$$

Избавляемся от голых дельта-функций good good nothing, *o_d o_nothing, o_d o*

$$-\epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times \bar{D}_{1\dot{b}} \bar{D}_{1\dot{e}} D_{1B} D_{1E} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p)$$

Скоммутируем производные у 0-ого слагаемого 2-ого сомножителя (дельта-функций)

$$\begin{aligned} & -\epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times D_{1B} D_{1E} \bar{D}_{1\dot{b}} \bar{D}_{1\dot{e}} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) - \\ & - 2\sigma_{Eb}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times D_{1B} \bar{D}_{1\dot{e}} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) + \\ & + 2\sigma_{Bb}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times D_{1E} \bar{D}_{1\dot{e}} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) + \\ & + 2\sigma_{E\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times D_{1B} \bar{D}_{1\dot{b}} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) + \\ & + 4\sigma_{Bb}^b(l)_b \sigma_{E\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) - \\ & - 2\sigma_{B\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times D_{1E} \bar{D}_{1\dot{b}} \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) - \\ & - 4\sigma_{E\dot{b}}^b(l)_b \sigma_{B\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times D_{1D} D_{1A} \bar{D}_{1\dot{d}} \bar{D}_{1\dot{a}} \delta_{13}[p-k] \times \delta_{13}[l] \times D_{1F} D_{1C} \bar{D}_{1\dot{f}} \bar{D}_{1\dot{c}} \delta_{13}[k-l] \times \bar{\phi}_3(-p) \end{aligned}$$

Запускаем ЦИКЛ WORKOUT-ов дельта-функций:

$$\begin{aligned} & -16\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{e},\dot{b}} \epsilon_{B,E} \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \bar{D}_{1\dot{a}} \bar{D}_{1\dot{d}} D_{1A} D_{1D} \phi_1(-p) \times \bar{\phi}_1(-p) + \\ & + 32\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{Eb}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \bar{D}_{1\dot{e}} D_{1B} \phi_1(-p) \times \bar{\phi}_1(-p) - \\ & - 32\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{Bb}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \bar{D}_{1\dot{e}} D_{1E} \phi_1(-p) \times \bar{\phi}_1(-p) - \\ & - 32\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{E\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \bar{D}_{1\dot{b}} D_{1B} \phi_1(-p) \times \bar{\phi}_1(-p) + \\ & + 64\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{Bb}^b(l)_b \sigma_{E\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times \bar{\phi}_1(-p) + \\ & + 32\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{B\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \bar{D}_{1\dot{b}} D_{1E} \phi_1(-p) \times \bar{\phi}_1(-p) - \\ & - 64\epsilon_{\dot{c},\dot{f}} \epsilon_{F,C} \epsilon_{\dot{a},\dot{d}} \epsilon_{D,A} \sigma_{E\dot{b}}^b(l)_b \sigma_{B\dot{e}}^a(l)_a \epsilon^{\dot{c},\dot{f}} \epsilon^{C,F} \epsilon^{B,E} \epsilon^{\dot{b},\dot{e}} \epsilon^{\dot{a},\dot{d}} \epsilon^{A,D} \phi_1(-p) \times \bar{\phi}_1(-p) \end{aligned}$$

Запускаем ЦИКЛ WORKOUT-ов полей:

$$\begin{aligned}
& 64\sigma_{A\dot{a}}^b(-p)_b\sigma_{D\dot{d}}^a(-p)_a\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{e},b}\epsilon_{B,E}\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 64\sigma_{D\dot{a}}^b(-p)_b\sigma_{A\dot{d}}^a(-p)_a\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{e},b}\epsilon_{B,E}\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 64\sigma_{B\dot{e}}^b(-p)_b\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{E\dot{b}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 64\sigma_{E\dot{e}}^b(-p)_b\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{B\dot{b}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 64\sigma_{B\dot{b}}^b(-p)_b\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{E\dot{e}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 64\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{B\dot{b}}^b(l)_b\sigma_{E\dot{e}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 64\sigma_{E\dot{b}}^b(-p)_b\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{B\dot{e}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 64\epsilon_{\dot{c},f}\epsilon_{F,C}\epsilon_{\dot{a},d}\epsilon_{D,A}\sigma_{E\dot{b}}^b(l)_b\sigma_{B\dot{e}}^a(l)_a\epsilon^{\dot{c},f}\epsilon^{C,F}\epsilon^{B,E}\epsilon^{b,\dot{e}}\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)
\end{aligned}$$

Свернем все индексы (эпсилонны с верхними и нижними, а также кронекеры):

$$\begin{aligned}
& 1024\sigma_{A\dot{a}}^b(-p)_b\sigma_{D\dot{d}}^a(-p)_a\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 1024\sigma_{D\dot{a}}^b(-p)_b\sigma_{A\dot{d}}^a(-p)_a\epsilon^{\dot{a},\dot{d}}\epsilon^{A,D}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 1024\sigma_{B\dot{e}}^b(-p)_b\sigma_{E\dot{b}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 1024\sigma_{E\dot{e}}^b(-p)_b\sigma_{B\dot{b}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 1024\sigma_{B\dot{b}}^b(-p)_b\sigma_{E\dot{e}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)+ \\
& + 1024\sigma_{B\dot{b}}^b(l)_b\sigma_{E\dot{e}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 1024\sigma_{E\dot{b}}^b(-p)_b\sigma_{B\dot{e}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)- \\
& - 1024\sigma_{E\dot{b}}^b(l)_b\sigma_{B\dot{e}}^a(l)_a\epsilon^{B,E}\epsilon^{b,\dot{e}}\phi_1(-p)\times\bar{\phi}_1(-p)
\end{aligned}$$