

$$\begin{aligned}
& \frac{-5/6s_{23}m_t((\mathbf{3}|1\mathbf{4}]-[\mathbf{3}|1\mathbf{4}])}{(1|2+\mathbf{3}|1)(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& \frac{-5/6s_{23}[\mathbf{3}|2|1\mathbf{4}]}{(1|2+\mathbf{3}|1)(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& \frac{5/48m_t(\mathbf{3}|2\mathbf{4})(s_{13}-s_{23})s_{12}}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{-5/48s_{12}(s_{13}-s_{23})((\mathbf{3}|2|\mathbf{3}|4)+(\mathbf{34})(s_{13}+m_t^2))}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{5/48m_t(s_{13}-s_{23})(\mathbf{3}|1+2\mathbf{4})}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-5/12m_t(\mathbf{3}|1+2\mathbf{4})}{(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& \frac{(-5/12(\mathbf{34})(s_{12}+2s_{13})+5/6(\mathbf{3}|1|2\mathbf{4}))}{(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& (12345 \rightarrow \overline{21345}) + \\
& \frac{3/2s_{23}m_t((\mathbf{3}|1\mathbf{4}]-[\mathbf{3}|1\mathbf{4}])}{(1|2+\mathbf{3}|1)(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& \frac{3/2s_{23}[\mathbf{3}|2|1\mathbf{4}]}{(1|2+\mathbf{3}|1)(1|\mathbf{3}|2)(s_{123}-m_t^2)} + \\
& \frac{(\mathbf{32})m_t(s_{12}-m_t^2)(-1/3(2|\mathbf{3}|4)+2/3[14](12))}{(12)s_{123}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(s_{12}-m_t^2)(-1/3[12](\mathbf{32})(24)-1/3(\mathbf{34})(2|\mathbf{3}|1))}{s_{123}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-16/3m_t^2(\mathbf{32})(24)}{(12)(s_{123}-m_t^2)^2} + \\
& \frac{-16/3(\mathbf{34})(2|\mathbf{3}|1)m_t^2}{(12)[12](s_{123}-m_t^2)^2} + \\
& \frac{1/2m_t^2s_{12}(s_{12}-m_t^2+3/2s_{123})((\mathbf{34})(2|\mathbf{3}|1)-2[1|\mathbf{3}|4](\mathbf{32}))}{\Delta_{12|\mathbf{3}|45}^2(s_{123}-m_t^2)} + \\
& \frac{1/8m_t[12](\mathbf{32})((2|\mathbf{3}|4]-m_t(24))((s_{12}-m_t^2)(s_{123}-m_t^2)+5s_{12}(s_{12}-m_t^2)-6s_{12}s_{123})}{\Delta_{12|\mathbf{3}|45}^2(s_{123}-m_t^2)} + \\
& \frac{1/6m_t^2(\text{tr}(\mathbf{5}|\mathbf{3})\text{tr}(\mathbf{5}|\mathbf{4})-2m_h^2\text{tr}(\mathbf{3}|\mathbf{4})) (m_t^2-m_h^2+2s_{123})(\mathbf{32})(24)}{(12)/\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-1/6m_t^2(\text{tr}(\mathbf{5}|\mathbf{4})\text{tr}(\mathbf{3}|\mathbf{4})-2m_t^2\text{tr}(\mathbf{5}|\mathbf{3}))(m_t^2-m_h^2)(\mathbf{32})(24)}{(12)\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(\mathbf{5}|\mathbf{3})\text{tr}(\mathbf{5}|\mathbf{4})-2m_h^2\text{tr}(\mathbf{3}|\mathbf{4}))(m_t^2-m_h^2+s_{123})(-1/12(\mathbf{32})(2|\mathbf{3}|4)+1/3(\mathbf{32})[14](12)+1/4[\mathbf{3}|4|2](24))}{(12)\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(\mathbf{5}|\mathbf{4})\text{tr}(\mathbf{3}|\mathbf{4})-2m_t^2\text{tr}(\mathbf{5}|\mathbf{3}))(m_t^2-m_h^2)(1/6(\mathbf{32})(2|\mathbf{3}|4)-2/3(\mathbf{32})[14](12)-1/6[\mathbf{3}|4|2](24))}{(12)\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t^2(\text{tr}(\mathbf{5}|\mathbf{3})\text{tr}(\mathbf{5}|\mathbf{4})-2m_h^2\text{tr}(\mathbf{3}|\mathbf{4}))(1/6(12)(\mathbf{34})(2|4|1]-1/6(s_{123}-m_t^2)(\mathbf{32})(24)-1/6[\mathbf{3}|4|2](2|\mathbf{3}|4))}{(12)\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t^2(\text{tr}(\mathbf{5}|\mathbf{4})\text{tr}(\mathbf{3}|\mathbf{4})-2m_t^2\text{tr}(\mathbf{5}|\mathbf{3}))(1/6(12)(\mathbf{34})(2|\mathbf{3}-4|1]-1/6s_{12}(\mathbf{32})(24)+1/6[\mathbf{3}|4|2](2|\mathbf{3}|4))}{(12)\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-4/3m_t^2m_h^2((\mathbf{32})(24)[12]+(2|\mathbf{3}|1)(\mathbf{34}))}{(12)[12]\Delta_{123|4|5}(s_{123}-m_t^2)} + \\
& \frac{m_t^3(s_{13}-s_{23})(-3/4[24](\mathbf{32})-3/8[14](\mathbf{31}))}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{m_t^2(s_{13}-s_{23})(-3/8(\mathbf{32})(2|\mathbf{3}|4)-3/8(\mathbf{34})(1|\mathbf{3}|1)+3/4(\mathbf{34})(12)[12]+9/8(\mathbf{31})[12](24))}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{[24](\mathbf{32})m_t(s_{13}-s_{23})(-3/4(1|\mathbf{3}|1]-3/8(2|\mathbf{3}|2))}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{(s_{13}-s_{23})(-3/8(\mathbf{34})(1|\mathbf{3}|1)^2+3/8(14)(2|\mathbf{3}|1)(\mathbf{31})[12])}{(1|\mathbf{3}|2)\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{(\mathbf{32})m_t(-5/3[12](2|\mathbf{3}|4)\dots\langle 4 \text{ terms} \rangle\dots-13/6m_t^2[14])}{\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{(-23/24(\mathbf{34})(2|\mathbf{3}|1)(2|\mathbf{3}|2)\dots\langle 3 \text{ terms} \rangle\dots-23/24(2|\mathbf{3}|2)[12](\mathbf{32})(24))}{\Delta_{12|\mathbf{3}|45}(s_{123}-m_t^2)} + \\
& \frac{m_t(\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))(1/4[24](2|\mathbf{3}|4|2)(\mathbf{32})\dots\langle 15 \text{ terms} \rangle\dots+1/8[14](12)^2(\mathbf{3}|4|1))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))+(-3/8(2|\mathbf{3}|4|2)[32](24)\dots\langle 5 \text{ terms} \rangle\dots-1/12m_t^2[\mathbf{3}|4|2](24))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(1+2|\mathbf{3})\text{tr}(1+2\mathbf{4}))-2s_{12}\text{tr}(\mathbf{3}|\mathbf{4}))(1/4[24](2|\mathbf{3}|4|2)(\mathbf{32})\dots\langle 8 \text{ terms} \rangle\dots-1/12[14](\mathbf{31})(2|\mathbf{3}|4|2))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(1+2|\mathbf{3})\text{tr}(1+2\mathbf{4}))-2s_{12}\text{tr}(\mathbf{3}|\mathbf{4}))+(-1/6(2|\mathbf{3}|4|2)[32](24)\dots\langle 5 \text{ terms} \rangle\dots-1/6m_t^2[\mathbf{3}|4|2](24))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))+(-1/12[14|1][24](\mathbf{32})(2|4|1)\dots\langle 15 \text{ terms} \rangle\dots-1/12(\mathbf{3}|4|1)(2|\mathbf{3}|2)(2|\mathbf{3}|4))}{(12)[12]\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(\text{tr}(1+2|\mathbf{3})\text{tr}(1+2\mathbf{4}))-2s_{12}\text{tr}(\mathbf{3}|\mathbf{4}))+(-1/4m_t^2[14](2|4|2)(\mathbf{32})\dots\langle 13 \text{ terms} \rangle\dots+1/12(\mathbf{3}|4|1)(2|\mathbf{3}|2)(2|\mathbf{3}|4))}{(12)[12]\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))(1/6(2|4|2)(2|\mathbf{3}|2)(\mathbf{32})(24)\dots\langle 11 \text{ terms} \rangle\dots+1/6(2|4|2)(1|\mathbf{3}|1)(\mathbf{32})(24))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(2|\mathbf{3}|4|2)[\mathbf{34}](\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))+(-1/8(14|1]-1/8(2|4|2)-1/12(2|\mathbf{3}|2)-1/12(1|\mathbf{3}|1))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\text{tr}(1+2|\mathbf{3})\text{tr}(1+2\mathbf{4}))-2s_{12}\text{tr}(\mathbf{3}|\mathbf{4}))(1/24(\mathbf{3}|4|1)(1|\mathbf{3}|4|2)(24)+1/12(14)(\mathbf{3}|4|1)(2|\mathbf{3}|4|2)-1/6(\mathbf{34})(2|\mathbf{3}|1)(12)\text{tr}(\mathbf{3}|\mathbf{4}))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-1/8\text{tr}(\mathbf{3}|\mathbf{4})(2|\mathbf{3}|4|2)[\mathbf{34}](\text{tr}(1+2|\mathbf{3})\text{tr}(1+2\mathbf{4}))-2s_{12}\text{tr}(\mathbf{3}|\mathbf{4}))}{(12)\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\mathbf{3}|4|1)(24)(\text{tr}(\mathbf{3}|\mathbf{4})\text{tr}(1+2|\mathbf{3}))-2m_t^2\text{tr}(1+2\mathbf{4}))(1/12(2|\mathbf{3}|2)^2+1/12(1|\mathbf{3}|1)^2+1/6(2|\mathbf{3}|2)(1|\mathbf{3}|1))}{(12)[12]\Delta_{12|\mathbf{3}|45}\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\mathbf{32})m_t(1/12(2|\mathbf{3}|4]-47/24[14](12))}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{-1[\mathbf{3}|4|2](24)m_t}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{m_t(1/3(14|1][14](\mathbf{32})+1/3(2|4|1)[24](\mathbf{32})+2/3(\mathbf{3}|4|1)(2|\mathbf{3}|4]-2/3m_t^2[14](\mathbf{32}))}{(12)[12]\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(-2/3(2|\mathbf{3}|2)(\mathbf{32})(24)\dots\langle 4 \text{ terms} \rangle\dots-2/3(2|\mathbf{3}|1)(\mathbf{31})(24))}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{1[\mathbf{3}|4|2](2|\mathbf{3}|4)}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\mathbf{34})(2|\mathbf{3}|1)(-1/3(2|\mathbf{3}|2)+4/3m_t^2-1/3(1|\mathbf{3}|1))}{(12)[12]\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(\mathbf{32})m_t(-1/3(2|\mathbf{3}|2)(2|\mathbf{3}|4)-1/3(2|\mathbf{3}|4)(1|\mathbf{3}|1)+4/3[14](12)(2|\mathbf{3}|2)+4/3[14](12)(1|\mathbf{3}|1))}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& \frac{(24)m_t(1(2|\mathbf{3}|4|2)[32]+1[\mathbf{3}|4|1)(2|\mathbf{3}|1))}{(12)\Delta_{12|\mathbf{3}|45}} + \\
& (12345 \rightarrow \overline{21345}) + \\
& \frac{-1/12m_t^2((\mathbf{34})+[\mathbf{34}]) (\text{tr}(\mathbf{5}|\mathbf{3})\text{tr}(\mathbf{5}|\mathbf{4})-2m_h^2\text{tr}(\mathbf{3}|\mathbf{4})) (\text{tr}(\mathbf{4}|\mathbf{5})(2|\mathbf{3}+\mathbf{4}|1)+2m_h^2(2|4|1))}{(12)[12]\Delta_{123|4|5}\Delta_{12|\mathbf{3}|45}}
\end{aligned}$$