

$$\begin{aligned}
& \frac{s_{\mathbf{34}}(\langle 2|\mathbf{3}|1+2|\mathbf{4}|1\rangle - \langle 2|\mathbf{4}|1+2|\mathbf{3}|1\rangle)m_t^2\Delta_{12|\mathbf{34}|\mathbf{5}}(1/4\langle 2|\mathbf{4}|2\rangle\langle 3|\mathbf{4}|2\rangle - 1/12\langle 3|\mathbf{4}|1\rangle\langle 1|\mathbf{4}\rangle - 1/3\langle 2|\mathbf{3}|2\rangle\langle 3|\mathbf{4}\rangle)}{\langle 12\rangle[12]\Delta_{12|\mathbf{34}|\mathbf{5}}^2} + \\
& \frac{m_t^2\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle\langle 3/2|2|\mathbf{3}|2\rangle\langle 32\rangle\langle 24\rangle \dots \langle 3\text{ terms}\rangle \dots - 1/2\langle 1|\mathbf{3}|1\rangle\langle 32\rangle\langle 24\rangle)}{\langle 12\rangle s_{\mathbf{34}}\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{m_t\langle 32\rangle\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle(-1/2\langle 2|\mathbf{4}\rangle\langle 2|\mathbf{3}|4\rangle 2) - 1/2\langle 2|\mathbf{3}|2\rangle\langle 2|\mathbf{3}|4\rangle - 1/2\langle 2|\mathbf{3}|4\rangle\langle 1|\mathbf{3}|1\rangle - 1/2\langle 1|\mathbf{3}|4\rangle\langle 2|\mathbf{4}|1\rangle)}{\langle 12\rangle s_{\mathbf{34}}\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{m_t^2(-2\langle 2|\mathbf{3}|2\rangle\langle 32\rangle\langle 24\rangle \dots \langle 3\text{ terms}\rangle \dots - 1\langle 1|\mathbf{3}|1\rangle\langle 32\rangle\langle 24\rangle)}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{\langle 32\rangle m_t(-1\langle 1|\mathbf{3}|4\rangle\langle 2|\mathbf{4}|1\rangle \dots \langle 3\text{ terms}\rangle \dots - 3\langle 2|\mathbf{3}|2\rangle\langle 12\rangle\langle 1|\mathbf{4}\rangle)}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{1/12\langle 34\rangle s_{\mathbf{34}}(\langle 2|\mathbf{3}|1+2|\mathbf{4}|1\rangle - \langle 2|\mathbf{4}|1+2|\mathbf{3}|1\rangle)}{\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{m_t\langle 32\rangle\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle(1/12\langle 2|\mathbf{4}\rangle\langle 2|\mathbf{3}|4\rangle 2) \dots \langle 3\text{ terms}\rangle \dots + 1/6\langle 1|\mathbf{4}|1\rangle\langle 2|\mathbf{3}|4\rangle)}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle(1/12\langle 3|\mathbf{4}|1\rangle\langle 1|\mathbf{3}|4\rangle 2) \langle 24\rangle + 1/12\langle 2|\mathbf{3}|2\rangle\langle 34\rangle\langle 2|\mathbf{3}|4\rangle 2 + 1/6\langle 32\rangle m_t^4\langle 24\rangle - 1/24\langle 32\rangle\text{tr}(\mathbf{3}|\mathbf{4}\rangle^2\langle 24\rangle))}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{[\mathbf{34}]\langle 2|\mathbf{3}|4\rangle 2\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle(1/24\text{tr}(\mathbf{3}|\mathbf{4}\rangle - 1/12m_t^2))}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{\langle 32\rangle s_{\mathbf{34}}m_t(-1/6\langle 2|\mathbf{3}|4\rangle\langle 1|\mathbf{3}|1\rangle \dots \langle 6\text{ terms}\rangle \dots - 1/2\langle 12\rangle[14]\text{tr}(\mathbf{3}|\mathbf{4}\rangle))}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& \frac{\langle 3|\mathbf{4}|1\rangle s_{\mathbf{34}}(1/6\langle 1|\mathbf{3}|4\rangle 2) \langle 24\rangle - 1/6\langle 14\rangle\langle 2|\mathbf{3}|4\rangle 2)}{\langle 12\rangle\Delta_{12|\mathbf{34}|\mathbf{5}}} + \\
& (12345 \rightarrow 12435) + \\
& (12345 \rightarrow \overline{21}345) + \\
& (12345 \rightarrow \overline{214}35) + \\
& \frac{-1/12m_t(\langle 3|1+2|\mathbf{4}\rangle - [3|1+2|\mathbf{4}\rangle]\text{tr}(\mathbf{3}|\mathbf{4}\rangle)s_{\mathbf{34}}(\langle 2|\mathbf{3}|1+2|\mathbf{4}|1\rangle - \langle 2|\mathbf{4}|1+2|\mathbf{3}|1\rangle)\Delta_{12|\mathbf{34}|\mathbf{5}})}{\langle 12\rangle[12]\Delta_{12|\mathbf{34}|\mathbf{5}}^2} + \\
& \frac{1/3m_t^4((\mathbf{34}) - [\mathbf{34}])((\langle 2|\mathbf{3}|1+2|\mathbf{4}|1\rangle - \langle 2|\mathbf{4}|1+2|\mathbf{3}|1\rangle)\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle\Delta_{12|\mathbf{34}|\mathbf{5}})}{\langle 12\rangle[12]\Delta_{12|\mathbf{34}|\mathbf{5}}^2} + \\
& \frac{-3/2m_t\langle 2|\mathbf{5}|1\rangle m_h^2\text{tr}(1+2|\mathbf{3}+\mathbf{4}\rangle(\langle 3|1+2|\mathbf{4}\rangle + [3|1+2|\mathbf{4}\rangle])}{\Delta_{12|\mathbf{34}|\mathbf{5}}^2}
\end{aligned}$$