

$$\frac{s_{12}m_t\langle 2|3|1\rangle(\text{tr}(1+2|3\rangle+4m_t^2)(-1/16[24]\langle 32\rangle-1/32[14]\langle 31\rangle))}{\Delta_{12|3|45}^2(s_{123}-m_t^2)} +$$

$$\frac{s_{12}\langle 2|3|1\rangle(\text{tr}(1+2|3\rangle+4m_t^2)(1/32[2|3|4\rangle\langle 32\rangle+1/32[1|3|1\rangle\langle 34\rangle))}{\Delta_{12|3|45}^2(s_{123}-m_t^2)} +$$

$$\frac{\langle 32\rangle[24]\langle 2|5|1\rangle m_t(3s_{12}+3/2\text{tr}(1+2|3+4\rangle))}{\Delta_{12|34|5}^2} +$$

$$\frac{\langle 32\rangle m_t(-4/3\langle 2|4|1\rangle[24]+4/3\langle 2|4|2\rangle[14])}{\langle 12\rangle^2[12]^2(s_{123}-m_t^2)} +$$

$$\frac{-4/3\langle 2|3|1\rangle m_t^2\langle 34\rangle}{\langle 12\rangle^2[12]^2(s_{123}-m_t^2)} +$$

$$\frac{-1[12]\langle 24\rangle\langle 32\rangle m_t^2}{s_{34}\Delta_{12|34|5}} +$$

$$\frac{1[12]\langle 2|3|4\rangle\langle 32\rangle m_t}{s_{34}\Delta_{12|34|5}} +$$

$$\frac{[12]\langle 32\rangle m_t(1/6\langle 2|3|4\rangle-1/8\langle 12\rangle[14])}{\Delta_{12|3|45}(s_{123}-m_t^2)} +$$

$$\frac{(1/6\langle 34\rangle)(\langle 2|3|1\rangle\text{tr}(1+2|3\rangle+2\langle 2|3|1\rangle m_t^2)+1/24[12]\langle 24\rangle\langle 3|1+2|3|2\rangle)}{\Delta_{12|3|45}(s_{123}-m_t^2)} +$$

$$\frac{1\langle 32\rangle[14]m_t}{\Delta_{12|34|5}} +$$

$$\frac{m_t(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))(-1/96\langle 2|3|2\rangle[14]\langle 32\rangle\dots\langle 7\text{ terms}\rangle\dots+1/12m_t^2[14]\langle 32\rangle))}{\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))(1/96\langle 24\rangle\langle 2|3|2\rangle\langle 3|4|1\rangle\dots\langle 4\text{ terms}\rangle\dots-1/96\langle 2|3|1\rangle\langle 3|4|1\rangle\langle 14\rangle))}{\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{-1/96\text{tr}(3|4\rangle\langle 34\rangle\langle 2|3|1\rangle(\text{tr}(1+2|3\rangle\text{tr}(1+2|4\rangle)-2s_{12}\text{tr}(3|4\rangle))}{\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{1/48\langle 2|3|4\rangle\langle 1|3|1\rangle\langle 32\rangle m_t(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))}{\langle 12\rangle\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{-1/48\langle 24\rangle\langle 2|3|1\rangle[3|4|1]m_t(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))}{\langle 12\rangle\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{\langle 2|3|4|2\rangle m_t(\text{tr}(1+2|3\rangle\text{tr}(1+2|4\rangle)-2s_{12}\text{tr}(3|4\rangle))(1/24\langle 24\rangle[32]+1/24[31]\langle 14\rangle))}{\langle 12\rangle\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))(-1/48\langle 34\rangle\langle 2|3|2\rangle\langle 2|3|4|2\rangle+1/48\langle 24\rangle\text{tr}(3|4\rangle\langle 1|3|1\rangle\langle 32\rangle))}{\langle 12\rangle\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{[34]\langle 2|3|4|2\rangle(\text{tr}(3|4\rangle\text{tr}(1+2|3\rangle-2m_t^2\text{tr}(1+2|4\rangle))(-1/48\langle 2|3|2\rangle-1/48[1|3|1]))}{\langle 12\rangle\Delta_{12|3|45}\Delta_{12|3|4|5}} +$$

$$\frac{\langle 32\rangle m_t(-1/6\langle 2|3|4|2\rangle[24]\dots\langle 4\text{ terms}\rangle\dots-1/12\text{tr}(3|4\rangle\langle 12\rangle[14])}{\langle 12\rangle\Delta_{12|3|4|5}} +$$

$$\frac{(-1/12\langle 24\rangle\langle 3|4|1\rangle\langle 1|3|4|2\rangle-1/12\langle 2|3|4|2\rangle\langle 3|4|1\rangle\langle 14\rangle-1/6\langle 34\rangle\langle 2|3|2\rangle\langle 2|3|4|2\rangle)}{\langle 12\rangle\Delta_{12|3|4|5}} +$$

$$(12345 \rightarrow 12435) +$$

$$(12345 \rightarrow \overline{21345}) +$$

$$(12345 \rightarrow \overline{21435})$$