

$$\frac{m_t^2(\langle(2|3|1+2|4|1)-(2|4|1+2|3|1)\rangle\Delta_{12}|\mathbf{34}|5\text{tr}(1+2|\mathbf{3}+\mathbf{4})(3/8|\mathbf{24})|\mathbf{34}|2|\dots\langle\text{3 terms}\rangle\dots-3/8|\mathbf{34})\langle\mathbf{24}|2|)}{(12)|12|\Delta_{12}^2|\mathbf{23}|4|5}+$$

$$\frac{m_t^2(\langle(2|3|1+2|4|1)-(2|4|1+2|3|1)\rangle\text{tr}(1+2|\mathbf{3}-\mathbf{4})\text{tr}(1+2|\mathbf{3}+\mathbf{4})+(-9/32|\mathbf{34})\langle\mathbf{14}|2|\langle\mathbf{24}|1|\dots\langle\text{14 terms}\rangle\dots+3/32|\mathbf{14})\langle\mathbf{31}|1|\mathbf{34}|1|)}{(12)|12|\Delta_{12}^2|\mathbf{23}|4|5}+$$

$$\frac{m_t^3|12|^2(12)^2\langle\mathbf{23}|1|\langle\mathbf{98}|\mathbf{32})|\mathbf{24}|+9/16|\mathbf{31})|\mathbf{14}|)}{(s_{123}-m_t^2)\Delta_{12}^2|\mathbf{23}|4|5}+$$

$$\frac{m_t^2|12|^2(12)^2\langle\mathbf{23}|1|\langle-9/16|\mathbf{62})|\mathbf{23}|4|-9/16|\mathbf{13}|1|\langle\mathbf{34})|)}{(s_{123}-m_t^2)\Delta_{12}^2|\mathbf{23}|4|5}+$$

$$\frac{m_t\langle\mathbf{23}|4|2\rangle(-3/8|\mathbf{13}|1)|\mathbf{24}|(\mathbf{32})|\dots\langle\text{7 terms}\rangle\dots+9/8\langle\mathbf{24}|2|\mathbf{14}|(\mathbf{31})|)}{(12)\Delta_{12}|\mathbf{23}|4|5}+$$

$$\frac{m_t\langle\mathbf{23}|4|2\rangle\langle\mathbf{34}|4|\mathbf{24})|\mathbf{13}|1|\mathbf{32}|+3/8\langle\mathbf{23}|2|\mathbf{24})|\mathbf{32}-3/8\langle\mathbf{24}|2|\mathbf{24})|\mathbf{32}|+3/8\langle\mathbf{14}|1|\mathbf{31}|1|\mathbf{31}|)}{(12)\Delta_{12}|\mathbf{23}|4|5}+$$

$$\frac{\langle\mathbf{23}|4|2\rangle\langle\mathbf{38}|1|\mathbf{34}|2\rangle\langle\mathbf{34}|12|\dots\langle\text{7 terms}\rangle\dots-3/4\langle\mathbf{34})\langle\mathbf{23}|2|\langle\mathbf{13}|1|)}{(12)\Delta_{12}|\mathbf{23}|4|5}+$$

$$\frac{\text{tr}(\mathbf{34})\langle\mathbf{23}|4|2\rangle(-3/8\langle\mathbf{23}|4|\mathbf{32}|2|-3/8|\mathbf{34}|1|\mathbf{31}|)}{(12)\Delta_{12}|\mathbf{23}|4|5}+$$

$$\frac{\langle\mathbf{23}|4|m_t(-3/4|\mathbf{14}|1|^2|\mathbf{32})|\dots\langle\text{4 terms}\rangle\dots-3/4\langle\mathbf{24}|2|^2|\mathbf{32})|)}{(12)\Delta_{12}|\mathbf{23}|4|5}+$$

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

$$\frac{(\mathbf{31})m_t(s_{1\mathbf{3}}-s_{2\mathbf{3}})(-1/3\langle\mathbf{23}|2|\mathbf{24}|+7/6|\mathbf{13}|4|\mathbf{12}|+7/6|\mathbf{14}|1|\mathbf{24}|2|-7/6|\mathbf{14}|1|\mathbf{4}|2|)}{(s_{123}-m_t^2)\langle\mathbf{13}|2|^2}+$$

$$\frac{1/3\langle\mathbf{12})\langle\mathbf{23}|4|\mathbf{32}|m_t(s_{1\mathbf{3}}-s_{2\mathbf{3}})}{(s_{123}-m_t^2)\langle\mathbf{13}|2|^2}+$$

$$\frac{7/6\langle\mathbf{14})\langle\mathbf{31}|12|\langle\mathbf{13}|1|\langle\mathbf{13}-s_{2\mathbf{3}})}{(s_{123}-m_t^2)\langle\mathbf{13}|2|^2}+$$

$$\frac{1/3\langle\mathbf{12})\langle\mathbf{23}|2|\mathbf{24}|2|\langle\mathbf{13}-s_{2\mathbf{3}})}{(s_{123}-m_t^2)\langle\mathbf{13}|2|^2}+$$

$$\frac{m_t(1/2|\mathbf{13}|1)|\mathbf{24}|(\mathbf{32})|\dots\langle\text{9 terms}\rangle\dots+1\langle\mathbf{24}|2|\mathbf{14}|(\mathbf{31})|)}{\langle\mathbf{13}|2|\langle\mathbf{123}-m_t^2)}+$$

$$\frac{m_t(7/6\langle\mathbf{12})\langle\mathbf{24}|12|\mathbf{32}|\dots\langle\text{4 terms}\rangle\dots+5/3\text{tr}(\mathbf{34})\langle\mathbf{14}|1|\mathbf{31}|)}{\langle\mathbf{13}|2|\langle\mathbf{123}-m_t^2)}+$$

$$\frac{(-5/3\langle\mathbf{14}|1|\mathbf{34})m_t^2|\dots\langle\text{3 terms}\rangle\dots+11/6\langle\mathbf{23}|2|\langle\mathbf{31})\langle\mathbf{24}|12|)}{\langle\mathbf{13}|2|\langle\mathbf{123}-m_t^2)}+$$

$$\frac{(8/3\langle\mathbf{23}|4|\langle\mathbf{13}|1|\mathbf{32}|2|-1/3\langle\mathbf{23}|4|\langle\mathbf{23}|2|\mathbf{32}|2|-8/3\langle\mathbf{12})\langle\mathbf{14}|1|\mathbf{32}|1|-1/3\langle\mathbf{12})\langle\mathbf{23}|2|\mathbf{24}|1|\mathbf{31}|)}{\langle\mathbf{13}|2|\langle\mathbf{123}-m_t^2)}+$$

$$\frac{m_t(-5/3\langle\mathbf{24}|2|\mathbf{14}|m_t^2|\mathbf{32})|\dots\langle\text{22 terms}\rangle\dots-7/3\langle\mathbf{23}|4|\langle\mathbf{31}|12|\langle\mathbf{23}|1|)}{\Delta_{12}|\mathbf{345}(s_{123}-m_t^2)}+$$

$$\frac{\langle\mathbf{31})m_t(s_{1\mathbf{3}}-s_{2\mathbf{3}})(-5/6|\mathbf{14}|1|\mathbf{14}|m_t^2|\dots\langle\text{4 terms}\rangle\dots+5/12\langle\mathbf{23}|2|\mathbf{12}|2|\mathbf{34}|)}{\Delta_{12}|\mathbf{345}(1|\mathbf{3}|2|\langle\mathbf{123}-m_t^2)}+$$

$$\frac{m_t\langle\mathbf{32}|12|\mathbf{32})\langle\mathbf{23}|4|\dots\langle\text{5 terms}\rangle\dots-11/6\langle\mathbf{23}|1|\langle\mathbf{31}|1|\mathbf{4}|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(-3/4\langle\mathbf{24})\langle\mathbf{23}|2|\mathbf{31}|\dots\langle\text{4 terms}\rangle\dots+5/6\langle\mathbf{24})m_t^2|\mathbf{31}|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(s_{1\mathbf{3}}-s_{2\mathbf{3}})(7/12|\mathbf{14}|1|\mathbf{24}|(\mathbf{32})|\dots\langle\text{4 terms}\rangle\dots-7/12\langle\mathbf{31})\langle\mathbf{24}|2|\mathbf{14}|)}{\langle\mathbf{13}|2|\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(s_{1\mathbf{3}}-s_{2\mathbf{3}})(-5/12\langle\mathbf{24}|32|m_t^2+7/12\langle\mathbf{12}|2|\mathbf{34}|31|-5/12\langle\mathbf{14})m_t^2|\mathbf{31}|)}{\langle\mathbf{13}|2|\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(\text{tr}(\mathbf{34})\text{tr}(1+2|\mathbf{3})-2m_t^2\text{tr}(1+2|\mathbf{4}))\langle\mathbf{316}|1|\mathbf{3}|1|\mathbf{24}|1|\mathbf{24}|(\mathbf{32})|\dots\langle\text{12 terms}\rangle\dots+3/8\langle\mathbf{23}|1|\langle\mathbf{31}|12|\langle\mathbf{23}|4|)}{\Delta_{12}|\mathbf{345}\Delta_{12}|\mathbf{345}}+$$

$$\frac{|\mathbf{31})m_t(\text{tr}(\mathbf{34})\text{tr}(1+2|\mathbf{3})-2m_t^2\text{tr}(1+2|\mathbf{4}))(-3/32\langle\mathbf{24})\langle\mathbf{23}|2|^2+3/32\langle\mathbf{24})\langle\mathbf{13}|1|^2-3/16\langle\mathbf{23}|1|\langle\mathbf{14})\langle\mathbf{23}|2|-3/16\langle\mathbf{23}|1|\langle\mathbf{14})\langle\mathbf{13}|1|)}{\Delta_{12}|\mathbf{345}\Delta_{12}|\mathbf{345}}+$$

$$\frac{\langle\mathbf{34})m_t^2(-19/6\langle\mathbf{23}|1|-3/2\langle\mathbf{24}|1|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{5/12\langle\mathbf{34})\langle\mathbf{23}|2|m_t^2(s_{1\mathbf{3}}-s_{2\mathbf{3}})}{\langle\mathbf{13}|2|\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(-1/3\langle\mathbf{24}|(\mathbf{32})+2\langle\mathbf{31}|1|\mathbf{14}|)}{\langle\mathbf{13}|2|}+$$

$$\frac{m_t(1/2\langle\mathbf{32})\langle\mathbf{24}|+7/6\langle\mathbf{14}|1|\mathbf{31}|)}{\langle\mathbf{13}|2|}+$$

$$\frac{m_t(53/24m_t^2|\mathbf{14}|2|\mathbf{4}|2|\mathbf{32})|\dots\langle\text{28 terms}\rangle\dots+9/8\langle\mathbf{23}|4|\langle\mathbf{34}|2|\langle\mathbf{23}|1|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(-5/12\langle\mathbf{34}|1|\mathbf{13}|4|\mathbf{24}|1|\dots\langle\text{12 terms}\rangle\dots-3/4\langle\mathbf{13}|1|\text{tr}(\mathbf{34})\mathbf{31}|(\mathbf{24})|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{m_t(\langle\mathbf{3}\otimes(|12|\mathbf{34}|\mathbf{43})-|\mathbf{13}|1|\mathbf{43})+|\mathbf{13}|3|\mathbf{4}|1+2|-|\mathbf{3}|2|\mathbf{34}|1+2|)\otimes|\mathbf{4}|)(7/12\langle\mathbf{13}|1|-7/12\langle\mathbf{23}|2|-1/6\langle\mathbf{14}|1|)}{\langle\mathbf{13}|2|\Delta_{12}|\mathbf{345}}+$$

$$\frac{1/6\langle\mathbf{23}|2|m_t(\langle\mathbf{4}\otimes(|12|\mathbf{34}|\mathbf{43})-|\mathbf{13}|1|\mathbf{43})+|\mathbf{13}|3|\mathbf{4}|1+2|-|\mathbf{3}|2|\mathbf{34}|1+2|)\otimes|\mathbf{3}|)}{\langle\mathbf{13}|2|\Delta_{12}|\mathbf{345}}+$$

$$\frac{\langle\mathbf{34})(-7/6|\mathbf{13}|1|+5/2m_t^2)}{\langle\mathbf{13}|2|}+$$

$$\frac{\langle\mathbf{34})(-1/3\langle\mathbf{23}|2|+5/6m_t^2)}{\langle\mathbf{13}|2|}+$$

$$\frac{\text{tr}(\mathbf{34})(-3/4|12|\langle\mathbf{23}|4|2\rangle\langle\mathbf{34})|\dots\langle\text{5 terms}\rangle\dots+3/8\langle\mathbf{13}|1|\langle\mathbf{34})\langle\mathbf{23}|1|)}{\Delta_{12}|\mathbf{345}}+$$

$$\frac{(3/8|12|\langle\mathbf{23}|4|2\rangle\text{tr}(\mathbf{34})|\mathbf{34})|\dots\langle\text{4 terms}\rangle\dots+3/8\langle\mathbf{13}|1|\text{tr}(\mathbf{34})\mathbf{31}|2|\mathbf{34}|)}{\Delta_{12}|\mathbf{345}}$$