

$$\begin{aligned}
& \frac{[13](-3[46][13][23][25]\langle 12 \rangle \dots \langle 8 \text{ terms} \rangle \dots + 7[46][35]\langle 34 \rangle \langle 23 \rangle \langle 34 \rangle)}{(2|1+4|3)^3} + \\
& \frac{[13][35]\langle 13 \rangle \langle 26 \rangle (s_{13}-s_{24})(1[13]\langle 13 \rangle - 1[14]\langle 14 \rangle)}{(1|2+3|4)(2|1+4|3)^3} + \\
& \frac{[13]\langle 26 \rangle^2 (s_{13}-s_{24})(-1[13][23]\langle 13 \rangle^2 + 2[23]\langle 13 \rangle \langle 24 \rangle \langle 24 \rangle - 1[14]\langle 14 \rangle^2 \langle 24 \rangle)}{(56)(1|2+3|4)(2|1+4|3)^3} + \\
& \frac{[13]\langle 26 \rangle (-1[13]\langle 46 \rangle [13][23]\langle 23 \rangle \dots \langle 8 \text{ terms} \rangle \dots + 2[12]\langle 46 \rangle \langle 24 \rangle \langle 24 \rangle \langle 12 \rangle)}{(56)(2|1+4|3)^3} + \\
& \frac{[35]\langle 31+4|2 \rangle (s_{124}-s_{134})(3/8[13]\langle 46 \rangle \langle 23 \rangle - 3/8[36]\langle 13 \rangle \langle 24 \rangle + 3/8\langle 24 \rangle \langle 14 \rangle \langle 46 \rangle)}{(2|1+4|3)^2 \Delta_{14|23|56}} + \\
& \frac{[15](1[12]^2[14]^2\langle 34 \rangle \langle 25 \rangle \langle 14 \rangle \dots \langle 28 \text{ terms} \rangle \dots - 1[12]\langle 13 \rangle [35]\langle 34 \rangle \langle 23 \rangle \langle 12 \rangle \langle 34 \rangle)}{(23)[56](1|2+3|4)(2|1+4|3)^2} + \\
& \frac{-1[13]^2[13]^2[35]\langle 34 \rangle \langle 23 \rangle \langle 45 \rangle}{(23)[56](1|2+3|4)(2|1+4|3)^2} + \\
& \frac{[15](-17/4[25]\langle 13 \rangle \langle 24 \rangle^2[14] \dots \langle 20 \text{ terms} \rangle \dots - 1/2[12]\langle 14 \rangle \langle 34 \rangle [15]\langle 14 \rangle)}{(23)[56](2|1+4|3)^2} + \\
& \frac{3/4[13][35]\langle 34 \rangle^2 \langle 23 \rangle \langle 45 \rangle}{(23)[56](2|1+4|3)^2} + \\
& \frac{-3/4[13][35]\langle 34 \rangle \langle 23 \rangle^2 \langle 25 \rangle}{(23)[56](2|1+4|3)^2} + \\
& \frac{9/64 s_{56} (s_{12}+s_{13}+s_{24}+s_{34}) \langle 26 \rangle \langle 31+4|2 \rangle [25]\langle 4|2+3|1 \rangle}{(2|1+4|3| \Delta_{14|23|56}^2)} + \\
& \frac{-9/64 (s_{12}+s_{13}+s_{24}+s_{34}) \langle 26 \rangle \langle 31+4|2 \rangle [25] (s_{14}-s_{23}) \langle 4|2+3|1 \rangle}{(2|1+4|3| \Delta_{14|23|56}^2)} + \\
& \frac{(3|1+4|2| (s_{123}-s_{234}) (s_{12}+s_{13}+s_{24}+s_{34})) (9/64 [13]\langle 13 \rangle [15]\langle 46 \rangle + 9/32 [34][35][13]\langle 36 \rangle + 9/64 \langle 34 \rangle \langle 46 \rangle [35][14] + 9/64 \langle 34 \rangle \langle 45 \rangle [13]\langle 46 \rangle)}{(2|1+4|3| \Delta_{14|23|56}^2)} + \\
& \frac{[13]\langle 31+4|2 \rangle (s_{12}+s_{13}+s_{24}+s_{34}) \langle 4|2+3|1 \rangle (9/16[45]\langle 13 \rangle \langle 46 \rangle + 9/16[36][35]\langle 13 \rangle + 9/16[36]\langle 25 \rangle \langle 12 \rangle)}{(2|1+4|3| \Delta_{14|23|56}^2)} + \\
& \frac{9/16[12]\langle 46 \rangle [35]\langle 24 \rangle \langle 34 \rangle \langle 23 \rangle \dots \langle 8 \text{ terms} \rangle \dots + 9/16[12]\langle 13 \rangle [13]\langle 36 \rangle [15]\langle 14 \rangle}{(2|1+4|3| \Delta_{14|23|56}^2)} + \\
& \frac{(34)[15](1[12][35]\langle 24 \rangle \langle 34 \rangle \langle 23 \rangle \langle 12 \rangle \dots \langle 6 \text{ terms} \rangle \dots + 2[12]\langle 13 \rangle [35]\langle 14 \rangle \langle 34 \rangle \langle 12 \rangle)}{(23)[56](1|2+3|4)(2|1+4|3)(4|2+3|1)} + \\
& \frac{(34)[15](1[34]\langle 25 \rangle \langle 24 \rangle \langle 23 \rangle + 1[34]\langle 25 \rangle \langle 13 \rangle [14] + 1[12]\langle 25 \rangle \langle 13 \rangle \langle 23 \rangle + 1[12]\langle 13 \rangle^2 \langle 15 \rangle)}{(23)[56](1|2+3|4)(4|2+3|1)} + \\
& (123456 \rightarrow \overline{432165}) + \\
& \frac{-9[13][35]\langle 26 \rangle \Delta_{14|23|56} \langle 24 \rangle}{(2|1+4|3|^4)} + \\
& \frac{9/8[13][35]\langle 26 \rangle \langle 31+4|2 \rangle^2 \langle 24 \rangle}{\Delta_{14|23|56} (2|1+4|3)^2}
\end{aligned}$$