

$$\begin{aligned}
& \frac{-23/6\langle 1|3+4|2\rangle\langle 4|1+2|3\rangle(s_{124}-s_{234})\langle 16\rangle\langle 6|1+5|3\rangle}{(56)\langle 1|2+4|3\rangle^3\langle 2|1+4|3\rangle} + \\
& \frac{23\langle 16\rangle\langle 26\rangle(-16/3\langle 34\rangle\langle 34\rangle[14][13]\langle 14\rangle^2 \dots \langle 14 \text{ terms} \rangle \dots -29/6\langle 24\rangle\langle 13\rangle[13]^2\langle 14\rangle\langle 24\rangle)}{(56)\langle 1|2+4|3\rangle^2\langle 2|1+4|3\rangle^2} + \\
& \frac{23\langle 16\rangle\langle 35/6\langle 23\rangle\langle 13\rangle[13]\langle 46\rangle\langle 23\rangle \dots \langle 29 \text{ terms} \rangle \dots +13/3\langle 12\rangle\langle 36\rangle[12][13]\langle 14\rangle)}{(56)\langle 1|2+4|3\rangle^2\langle 2|1+4|3\rangle} + \\
& \frac{-13/24\langle 4|1+2|3\rangle(s_{124}-s_{234})\langle 6|1+3|5\rangle[24](s_{14}-s_{23})\langle 13\rangle}{\Delta_{13|24|56}\langle 1|2+4|3\rangle^2\langle 2|1+3|4\rangle} + \\
& \frac{\langle 24\rangle[23]\langle 26\rangle[35](9[13]\langle 13\rangle\langle 24\rangle[24] \dots \langle 5 \text{ terms} \rangle \dots -9/2\langle 34\rangle^2\langle 34\rangle^2)}{(1|2+4|3)\langle 2|1+4|3\rangle^3} + \\
& \frac{\langle 26\rangle(-27/4\langle 16\rangle[13]^4\langle 13\rangle^3 \dots \langle 20 \text{ terms} \rangle \dots -97/12\langle 26\rangle[24]\langle 13\rangle[14][13]^2\langle 14\rangle^2)}{(56)\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle^2\langle 2|1+3|4\rangle} + \\
& \frac{\langle 26\rangle(19/2\langle 36\rangle[34][12][13]^2\langle 14\rangle^2 \dots \langle 40 \text{ terms} \rangle \dots -45/4\langle 23\rangle[24]^2\langle 46\rangle[13]\langle 24\rangle^2)}{[13]\langle 56\rangle\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle^2} + \\
& \frac{[35](7/6\langle 34\rangle[14][45][13]\langle 14\rangle^2\langle 24\rangle \dots \langle 9 \text{ terms} \rangle \dots +51/4\langle 24\rangle\langle 34\rangle^3[35]\langle 34\rangle^2)}{\langle 24\rangle[56]\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle^2} + \\
& \frac{23\langle 23\rangle[35]\langle 24\rangle[13]\langle 46\rangle\langle 23\rangle^2 \dots \langle 32 \text{ terms} \rangle \dots -1/2\langle 36\rangle[34]\langle 23\rangle[35][12]\langle 23\rangle\langle 24\rangle}{[13]\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{\langle 26\rangle(-123/8\langle 24\rangle\langle 46\rangle\langle 34\rangle^2\langle 34\rangle^2 \dots \langle 11 \text{ terms} \rangle \dots -13/12\langle 36\rangle[34]\langle 34\rangle[24][13]\langle 14\rangle)}{(56)\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{\langle 36\rangle(-27/4\langle 46\rangle\langle 34\rangle^2\langle 34\rangle^3 \dots \langle 4 \text{ terms} \rangle \dots -27/4\langle 24\rangle^2\langle 46\rangle\langle 24\rangle^2\langle 34\rangle)}{(56)\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{-1417/12\langle 36\rangle[13]^2\langle 14\rangle\langle 25\rangle \dots \langle 17 \text{ terms} \rangle \dots -1/2\langle 23\rangle[45][12]\langle 46\rangle\langle 24\rangle}{[13]\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{\langle 26\rangle(-215/6\langle 16\rangle[12]^2[13]\langle 14\rangle \dots \langle 6 \text{ terms} \rangle \dots +803/24\langle 23\rangle\langle 13\rangle[12]\langle 46\rangle[13])}{[13]\langle 56\rangle\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{-49/24\langle 34\rangle[45]\langle 46\rangle[13]\langle 14\rangle \dots \langle 8 \text{ terms} \rangle \dots -251/12\langle 23\rangle\langle 34\rangle[35]\langle 46\rangle\langle 23\rangle}{\langle 24\rangle\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{[35](383/12[14]\langle 14\rangle\langle 34\rangle^2[35] \dots \langle 7 \text{ terms} \rangle \dots -26\langle 12\rangle\langle 34\rangle\langle 24\rangle[12]\langle 25\rangle)}{\langle 24\rangle[56]\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{\langle 36\rangle(-677/12\langle 46\rangle[13]\langle 14\rangle[24] \dots \langle 3 \text{ terms} \rangle \dots +781/24\langle 23\rangle\langle 46\rangle\langle 24\rangle[24])}{(56)\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{[12]\langle 16\rangle\langle 46\rangle(-53/24\langle 12\rangle[12]+163/8[13]\langle 13\rangle)}{(56)\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{[25](-35/12[15]\langle 14\rangle^2[14]-14[15]\langle 14\rangle[13]\langle 13\rangle+15/2\langle 23\rangle\langle 23\rangle\langle 24\rangle[25]+89/12\langle 25\rangle\langle 24\rangle^2\langle 24\rangle)}{[56]\langle 1|2+4|3\rangle\langle 2|1+4|3\rangle} + \\
& \frac{-1/8\langle 4|1+2|3\rangle\langle 6|1+3|5\rangle\langle 13\rangle(s_{24}-s_{56})[14][12]}{[13]\Delta_{13|24|56}\langle 1|2+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{1/4\langle 36\rangle\langle 1|3+4|2\rangle\langle 3|1+2|4\rangle\langle 46\rangle[13](s_{24}-s_{13})}{(56)\Delta_{13|24|56}\langle 1|2+4|3\rangle\langle 2|1+3|4\rangle} + \\
& \frac{\langle 36\rangle\langle 1|3+4|2\rangle\langle 4|1+2|3\rangle(-1\langle 23\rangle[14]\langle 25\rangle-5/24\langle 45\rangle[12]\langle 23\rangle-3/2\langle 45\rangle\langle 34\rangle[14])}{(1|2+4|3)\langle 2|1+3|4\rangle\Delta_{13|24|56}} + \\
& \frac{[24]\langle 6|1+3|5\rangle(-5/2\langle 14\rangle^2\langle 34\rangle[14]^2 \dots \langle 12 \text{ terms} \rangle \dots +17/24\langle 23\rangle\langle 23\rangle\langle 34\rangle\langle 13\rangle[13])}{(1|2+4|3)\langle 2|1+3|4\rangle\Delta_{13|24|56}} + \\
& \frac{\langle 4|1+2|3\rangle(-29/12\langle 36\rangle\langle 34\rangle[24]\langle 13\rangle[45][13] \dots \langle 10 \text{ terms} \rangle \dots +31/24\langle 36\rangle\langle 23\rangle[24]\langle 13\rangle[13]\langle 25\rangle)}{(1|2+4|3)\langle 2|1+3|4\rangle\Delta_{13|24|56}} + \\
& \frac{(1|3+4|2\rangle(-3/2\langle 36\rangle\langle 23\rangle\langle 24\rangle[24][13]\langle 25\rangle \dots \langle 8 \text{ terms} \rangle \dots -17/24\langle 34\rangle[14]^2\langle 45\rangle\langle 46\rangle\langle 14\rangle)}{(1|2+4|3)\langle 2|1+3|4\rangle\Delta_{13|24|56}} + \\
& \frac{6\langle 1+3|5\rangle(-7/24\langle 23\rangle\langle 34\rangle^2\langle 24\rangle+5/12[12]\langle 14\rangle\langle 34\rangle[24]+23/24[12]\langle 23\rangle\langle 34\rangle\langle 13\rangle-1/6[12]^2\langle 14\rangle\langle 13\rangle)}{(1|2+4|3)\Delta_{13|24|56}} + \\
& \frac{\langle 36\rangle\langle 25\rangle\langle 4|1+2|3\rangle(-17/12[12]\langle 13\rangle-2\langle 34\rangle[24])}{(1|2+4|3)\Delta_{13|24|56}} + \\
& \frac{\langle 1|3+4|2\rangle(1/6\langle 46\rangle\langle 34\rangle[14]\langle 25\rangle \dots \langle 3 \text{ terms} \rangle \dots +1/4[15][12]\langle 46\rangle\langle 13\rangle)}{(1|2+4|3)\Delta_{13|24|56}} + \\
& \frac{[12]\langle 14\rangle(-11/6\langle 36\rangle[45][12]\langle 14\rangle-1/3\langle 36\rangle[12]\langle 13\rangle[35]+11/6\langle 36\rangle\langle 14\rangle[14]\langle 25\rangle+3/2\langle 46\rangle\langle 13\rangle[14]\langle 25\rangle)}{(1|2+4|3)\Delta_{13|24|56}} + \\
& \frac{[23]\langle 26\rangle[35]\langle 24\rangle(9\langle 34\rangle[14]-9[12]\langle 23\rangle)}{(2|1+4|3)^3} +
\end{aligned}$$

$$(123456 \rightarrow \overline{432165})$$