

$$\begin{aligned}
& -\frac{3/2\langle 34\rangle\langle 31+2|3\rangle\langle 36\rangle^2 s_{123}}{(12)\langle 23\rangle\langle 56\rangle\langle 3|5+6|3|^3} + \\
& \frac{[34]\langle 34\rangle\langle 36\rangle s_{123}\langle 3/4\langle 23\rangle\langle 46\rangle+1/2\langle 24\rangle\langle 36\rangle\rangle}{(12)\langle 23\rangle\langle 56\rangle\langle 2|1+4|3\rangle\langle 3|5+6|3|^2} + \\
& \frac{1/4\langle 34\rangle^2[35][45]s_{123}}{(12)[56]\langle 2|1+4|3\rangle\langle 3|5+6|3|^2} + \\
& \frac{-1/4\langle 34\rangle\langle 36\rangle^2 s_{123}}{(12)\langle 23\rangle\langle 56\rangle\langle 3|5+6|3|^2} + \\
& \frac{3\langle 34\rangle[35]s_{123}\langle 26\rangle[13]}{(2|1+4|3|^3\langle 3|5+6|3\rangle} + \\
& \frac{[34]\langle 34\rangle\langle 26\rangle s_{123}\langle -3/2\langle 23\rangle\langle 46\rangle+2\langle 24\rangle\langle 36\rangle\rangle}{(12)\langle 23\rangle\langle 56\rangle\langle 2|1+4|3|^2\langle 3|5+6|3\rangle} + \\
& \frac{\langle 34\rangle[35]s_{123}\langle -1/2\langle 24\rangle[45]-1/2\langle 23\rangle[35]\rangle}{(12)[56]\langle 2|1+4|3|^2\langle 3|5+6|3\rangle} + \\
& \frac{\langle 46\rangle\langle -3/4\langle 24\rangle\langle 34\rangle[14]\langle 12\rangle\langle 36\rangle[13]\dots\langle 5\text{ terms}\rangle\dots+3\langle 24\rangle^2\langle 36\rangle[13]\langle 23\rangle[24]\rangle}{(12)[13]\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 2|1+4|3\rangle\langle 3|5+6|3\rangle} + \\
& \frac{\langle 34\rangle^2[35]\langle 9/4\langle 24\rangle\langle 12\rangle[15][14+17/4|13]\langle 12\rangle\langle 23\rangle[15]+2\langle 24\rangle\langle 23\rangle[35][14]\rangle}{(12)[13]\langle 23\rangle\langle 24\rangle[56]\langle 2|1+4|3\rangle\langle 3|5+6|3\rangle} + \\
& \frac{-5/4[13]\langle 34\rangle\langle 4|5+6|4\rangle\langle 46\rangle^2}{\langle 24\rangle\langle 56\rangle\langle 2|1+4|3\rangle\langle 3|5+6|3\rangle\langle 4|1+2|3\rangle} + \\
& \frac{\langle 34\rangle\langle 46\rangle\langle -3/4\langle 24\rangle\langle 36\rangle[14]+5/4|13]\langle 23\rangle\langle 36\rangle-9/4[14]\langle 23\rangle\langle 46\rangle+3/4\langle 26\rangle\langle 23\rangle[12]\rangle}{(12)[13]\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 3|5+6|3\rangle} + \\
& \frac{\langle 36\rangle\langle 34\rangle\langle -2|13]\langle 36\rangle+9/4\langle 26\rangle[12]\rangle}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 3|5+6|3\rangle} + \\
& \frac{9/4\langle 34\rangle^2[15][45]}{(12)[13]\langle 23\rangle[56]\langle 3|5+6|3\rangle} + \\
& \frac{17/4\langle 34\rangle^2[15][35]}{(12)[13]\langle 24\rangle[56]\langle 3|5+6|3\rangle} + \\
& \frac{\langle 34\rangle\langle 46\rangle^2\langle -5/4|13]\langle 13\rangle-5/4\langle 23\rangle[23]+3/4\langle 12\rangle[12]\rangle}{(12)\langle 24\rangle\langle 56\rangle\langle 3|5+6|3\rangle\langle 4|1+2|3\rangle} + \\
& \frac{1\langle 26\rangle^2\langle 34\rangle s_{123}}{(12)\langle 23\rangle\langle 56\rangle\langle 2|1+4|3|^2} + \\
& \frac{\langle 46\rangle\langle 11/2\langle 24\rangle\langle 23\rangle[13]\langle 36\rangle-5/4|13]\langle 23\rangle^2\langle 46\rangle-3\langle 24\rangle^2\langle 36\rangle[14]\rangle}{(12)[13]\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 2|1+4|3\rangle} + \\
& \frac{-17/4\langle 24\rangle\langle 36\rangle^2}{(12)\langle 23\rangle\langle 56\rangle\langle 2|1+4|3\rangle} + \\
& \frac{-115/72\langle 24\rangle\langle 13\rangle[15]^2[12]^2}{[13]^2\langle 23\rangle[56]\langle 1|2+3|1\rangle\langle 1|5+6|1\rangle} + \\
& \frac{[12][16]\langle -2|14]^2\langle 12\rangle\langle 46\rangle\langle 34\rangle\dots\langle 7\text{ terms}\rangle\dots-2\langle 26\rangle\langle 12\rangle\langle 23\rangle[12]^2\rangle}{(12)[13]^2\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{\langle 46\rangle\langle -41/12\langle 36\rangle\langle 23\rangle^2[13][23][24]\dots\langle 23\text{ terms}\rangle\dots-1/2[14]^2\langle 13\rangle\langle 12\rangle\langle 46\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|2+3|4\rangle} + \\
& \frac{[45]\langle -115/72\langle 34\rangle^2[35][13]\langle 23\rangle[24]\dots\langle 14\text{ terms}\rangle\dots+1/2[14]\langle 34\rangle^2\langle 12\rangle[13][25]\rangle}{(12)[13]^2\langle 23\rangle[56]\langle 1|2+3|4\rangle\langle 4|2+3|4\rangle} + \\
& \frac{-1/2[45]\langle 14\rangle^2[15][34][12]^2}{(12)[13]^2[23][56]\langle 1|2+3|4\rangle\langle 4|2+3|4\rangle} + \\
& \frac{[45]\langle 2\langle 24\rangle\langle 34\rangle^2[14][35][24]\dots\langle 7\text{ terms}\rangle\dots+1/2\langle 13\rangle\langle 34\rangle^2[13]^2[45]\rangle}{(12)[13]^2\langle 23\rangle[56]\langle 1|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{\langle 34\rangle\langle 46\rangle\langle -1/12\langle 24\rangle\langle 34\rangle\langle 36\rangle[13]\langle 23\rangle[12]\dots\langle 8\text{ terms}\rangle\dots+2[14]\langle 12\rangle\langle 46\rangle[13]\langle 23\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 4|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{\langle 46\rangle\langle 65/12[13]\langle 34\rangle\langle 36\rangle[14]\dots\langle 3\text{ terms}\rangle\dots+7/2\langle 24\rangle\langle 36\rangle[12][14]\rangle}{(12)[13]^2\langle 23\rangle\langle 56\rangle\langle 4|2+3|4\rangle} + \\
& \frac{\langle 36\rangle\langle 1\langle 24\rangle\langle 26\rangle[12]^2+41/12[13]^2\langle 34\rangle\langle 36\rangle+53/12\langle 24\rangle[13]\langle 36\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle\langle 56\rangle\langle 4|2+3|4\rangle} + \\
& \frac{\langle 34\rangle[15][35]\langle 2[14]\langle 34\rangle+2\langle 23\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle[56]\langle 4|2+3|4\rangle} + \\
& \frac{\langle 34\rangle[15][45]\langle 325/72[13]\langle 34\rangle-7/72\langle 24\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle[56]\langle 4|2+3|4\rangle} + \\
& \frac{[15][25]\langle -83/12[13]\langle 34\rangle\langle 23\rangle+2\langle 24\rangle\langle 34\rangle[14]+1\langle 24\rangle\langle 23\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle[56]\langle 4|2+3|4\rangle} + \\
& \frac{-61/9\langle 24\rangle\langle 46\rangle^2[34][12]^2}{(12)[13]^2\langle 56\rangle\langle 4|1+2|3\rangle\langle 4|5+6|4\rangle} + \\
& \frac{\langle 46\rangle\langle 2\langle 24\rangle\langle 34\rangle\langle 46\rangle[14]^2\dots\langle 5\text{ terms}\rangle\dots+3/2[13]\langle 23\rangle^2\langle 46\rangle[12]\rangle}{(12)[13]^2\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 4|5+6|4\rangle} + \\
& \frac{-47/36\langle 13\rangle^2[23][15]^2[12]}{[13][56]\langle 1|2+3|1\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{-41/12\langle 13\rangle^2[15]^2[12]}{[13]\langle 23\rangle[56]\langle 1|2+3|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{\langle 24\rangle\langle 13\rangle\langle 16\rangle[12][24]\langle -151/72[13]\langle 36\rangle-115/72[14]\langle 46\rangle\rangle}{(12)[13]\langle 23\rangle\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{[12]\langle 16\rangle\langle -35/12[13]\langle 13\rangle\langle 46\rangle[24]+41/12[13]\langle 13\rangle[12]\langle 16\rangle+151/72[13]\langle 36\rangle\langle 14\rangle[24]+1/2[14]\langle 16\rangle[12]\langle 14\rangle\rangle}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{47/36\langle 13\rangle^2[15][12][35]}{(12)[13][56]\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{\langle 34\rangle[12]\langle 16\rangle\langle 151/72[13]\langle 36\rangle+115/72[14]\langle 46\rangle\rangle}{(12)[13]\langle 23\rangle\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle} + \\
& \frac{-115/72\langle 46\rangle[12]^2\langle 16\rangle}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle} + \\
& \frac{\langle 46\rangle\langle 24\rangle[12]\langle -5/2\langle 13\rangle\langle 46\rangle\langle 34\rangle-151/72\langle 34\rangle\langle 36\rangle\langle 14\rangle-115/72\langle 26\rangle\langle 14\rangle[24]-1/2[14]\langle 16\rangle\langle 14\rangle\rangle}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|2+3|4\rangle} + \\
& \frac{41/12\langle 3|1+2|3\rangle\langle 46\rangle\langle 36\rangle[24]}{(12)[13]\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{41/12\langle 46\rangle\langle 6|1+4|2\rangle[12][24]}{[13]\langle 23\rangle\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{[14]\langle 34\rangle^2\langle 46\rangle\langle -5/2[14]\langle 34\rangle[13]\langle 46\rangle-1/2[13]^2\langle 34\rangle\langle 36\rangle+1/2\langle 24\rangle\langle 26\rangle[12]^2\rangle}{[13]\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 4|2+3|1\rangle\langle 4|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{2[14]\langle 34\rangle^2[45]\langle 4|1+6|5\rangle}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 4|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{67/8\langle 46\rangle^2[12][24]}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 4|2+3|4\rangle} + \\
& \frac{\langle 46\rangle\langle 3/2\langle 23\rangle\langle 46\rangle[12]-131/18[14]\langle 34\rangle\langle 46\rangle-1/2[13]\langle 34\rangle\langle 36\rangle\rangle}{(12)[13]\langle 24\rangle\langle 56\rangle\langle 4|2+3|4\rangle} + \\
& \frac{-41/12\langle 46\rangle\langle 6|1+4|2\rangle[12]}{(12)[13]\langle 23\rangle\langle 56\rangle\langle 4|5+6|4\rangle} + \\
& \frac{-47/36[45]\langle 14\rangle\langle 13\rangle^2[15][12]}{(12)[56]\langle 1|2+3|1\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{151/72\langle 34\rangle\langle 13\rangle^2[15]^2}{(12)\langle 23\rangle\langle 56\rangle\langle 1|2+3|1\rangle\langle 1|5+6|1\rangle} + \\
& \frac{-35/12\langle 14\rangle\langle 13\rangle[15][25][12]}{(12)\langle 23\rangle\langle 56\rangle\langle 1|2+3|1\rangle\langle 1|5+6|1\rangle} + \\
& \frac{151/72\langle 34\rangle\langle 13\rangle[24]\langle 16\rangle\langle 6|2+5|1\rangle}{(12)\langle 23\rangle\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 1|2+3|4\rangle} + \\
& \frac{1/2[14]\langle 34\rangle^2\langle 16\rangle\langle 46\rangle[12]}{(12)\langle 23\rangle\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 4|2+3|1\rangle} + \\
& \frac{-1/2\langle 34\rangle\langle 46\rangle[12]^2\langle 16\rangle}{(12)\langle 23\rangle\langle 56\rangle\langle 1|5+6|1\rangle\langle 4|2+3|1\rangle} + \\
& \frac{-1/2\langle 3|1+2|4\rangle\langle 13\rangle\langle 46\rangle^2[24]}{(12)\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{-41/12[45]\langle 14\rangle\langle 13\rangle[25][12]}{(12)\langle 23\rangle\langle 56\rangle\langle 1|2+3|4\rangle\langle 4|5+6|4\rangle} + \\
& \frac{\langle 46\rangle[14]\langle 34\rangle^2\langle 43/9\langle 23\rangle\langle 46\rangle-1/2\langle 24\rangle\langle 36\rangle\rangle}{(12)\langle 23\rangle\langle 24\rangle\langle 56\rangle\langle 4|2+3|1\rangle\langle 4|2+3|4\rangle} + \\
& \frac{77/18[14]\langle 34\rangle^2\langle 46\rangle^2}{(12)\langle 24\rangle\langle 56\rangle\langle 4|2+3|1\rangle\langle 4|5+6|4\rangle} + \\
& \frac{1/2\langle 34\rangle\langle 46\rangle^2[12]}{\langle 24\rangle\langle 56\rangle\langle 4|1+2|3\rangle\langle 4|5+6|4\rangle}
\end{aligned}$$