

$$\begin{aligned}
& \frac{3/2\langle 34\rangle^2[34][35]^2\langle 4|5+6|4\rangle}{\langle 12\rangle\langle 23\rangle[56]\langle 3|5+6|3\rangle^3} + \\
& \frac{-1/2[12]\langle 13\rangle[45]^2s_{123}}{\langle 12\rangle[56]\langle 3|1+2|4\rangle^3} + \\
& \frac{-2[34]\langle 36\rangle\langle 46\rangle\langle 4|1+2|3\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle\langle 3|5+6|3\rangle^2} + \\
& \frac{2\langle 34\rangle[35][45]\langle 4|1+2|3\rangle}{\langle 12\rangle\langle 23\rangle[56]\langle 3|5+6|3\rangle^2} + \\
& \frac{1/4\langle 34\rangle[34]^2\langle 36\rangle\langle 46\rangle\langle 4|5+6|4\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle\langle 3|5+6|3\rangle^2\langle 3|1+2|4\rangle} + \\
& \frac{3/4\langle 34\rangle^2[34][35][45]\langle 4|5+6|4\rangle}{\langle 12\rangle\langle 23\rangle[56]\langle 3|5+6|3\rangle^2\langle 3|1+2|4\rangle} + \\
& \frac{s_{123}[45](-1/2\langle 23\rangle[25]+1/4\langle 34\rangle[45]+1/2\langle 13\rangle[15])}{\langle 12\rangle\langle 23\rangle[56]\langle 3|1+2|4\rangle^2} + \\
& \frac{[45]\langle 3|1+2|5\rangle(-1/2\langle 13\rangle[13]+1/2\langle 23\rangle[23])}{\langle 12\rangle\langle 23\rangle[56]\langle 3|1+2|4\rangle^2} + \\
& \frac{1/4[14]\langle 34\rangle^2[45]^2s_{123}}{\langle 12\rangle\langle 23\rangle[56]\langle 3|2+4|1\rangle\langle 3|1+2|4\rangle^2} + \\
& \frac{1/2[12][13]\langle 46\rangle^2}{\langle 23\rangle\langle 56\rangle\langle 4|2+3|1\rangle s_{123}} + \\
& \frac{1/2[13]\langle 14\rangle\langle 46\rangle\langle 6|1+3|2\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle\langle 4|1+3|2\rangle s_{123}} + \\
& \frac{1\langle 13\rangle[34]\langle 3|1+2|5\rangle\langle 2|1+3|5\rangle}{\langle 12\rangle\langle 23\rangle^2[56]\langle 1|2+3|4\rangle\langle 3|1+2|4\rangle} + \\
& \frac{-3/2[34]\langle 3|1+2|5\rangle^2}{\langle 23\rangle^2[56]\langle 1|2+3|4\rangle\langle 3|1+2|4\rangle} + \\
& \frac{3/2[23]\langle 46\rangle\langle 2|1+3|5\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle[56]s_{123}} + \\
& \frac{1/2\langle 13\rangle[13]\langle 46\rangle\langle 2|1+3|5\rangle}{\langle 12\rangle\langle 23\rangle^2\langle 56\rangle[56]s_{123}} + \\
& \frac{1/2\langle 14\rangle\langle 6|2+3|1\rangle\langle 2|1+3|5\rangle}{\langle 12\rangle\langle 23\rangle^2\langle 56\rangle[56]s_{123}} + \\
& \frac{-1[13]\langle 23\rangle\langle 34\rangle[45]\langle 3|1+2|5\rangle s_{123}}{\langle 12\rangle\langle 23\rangle^2[56]\langle 3|2+4|1\rangle\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{-1/4[13]\langle 23\rangle\langle 34\rangle^2[45]^2s_{123}}{\langle 12\rangle\langle 23\rangle^2[56]\langle 3|2+4|1\rangle\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{\langle 23\rangle^2[25][13]s_{123}(-1/2\langle 23\rangle[25]-1\langle 13\rangle[15])}{\langle 12\rangle\langle 23\rangle^2[56]\langle 3|2+4|1\rangle\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{-1/2\langle 13\rangle^2[13][15]^2\langle 23\rangle s_{123}}{\langle 12\rangle\langle 23\rangle^2[56]\langle 3|2+4|1\rangle\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{-1/2[15]\langle 46\rangle}{\langle 23\rangle^2\langle 56\rangle[56]} + \\
& \frac{-1/2[15]\langle 36\rangle\langle 1|2+4|1\rangle}{\langle 23\rangle^2\langle 56\rangle[56]\langle 3|1+2|4\rangle} + \\
& \frac{9/4\langle 34\rangle[45]^2\langle 4|1+2|3\rangle}{\langle 12\rangle\langle 23\rangle[56]\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{1\langle 34\rangle[35][45]\langle 4|5+6|4\rangle}{\langle 12\rangle\langle 23\rangle[56]\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{1/2[35]\langle 36\rangle\langle 56\rangle[56]}{\langle 12\rangle\langle 23\rangle\langle 3|5+6|3\rangle\langle 3|1+2|4\rangle} + \\
& \frac{\langle 2|1+3|5\rangle\langle 3|2|23\rangle\langle 36\rangle+1/2[24]\langle 46\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle[56]\langle 3|1+2|4\rangle} + \\
& \frac{1/2[35]\langle 46\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle[56]} + \\
& \frac{1/2\langle 12\rangle[12][15]\langle 16\rangle+1/2\langle 13\rangle[14][35]\langle 46\rangle-1/2\langle 14\rangle[14][35]\langle 36\rangle+1/2\langle 13\rangle[13][35]\langle 36\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle[56]\langle 3|1+2|4\rangle} + \\
& \frac{-1/2[23]\langle 26\rangle\langle 36\rangle\ldots\langle 3\text{ terms}\rangle\ldots-1[35]\langle 36\rangle\langle 56\rangle}{\langle 12\rangle\langle 23\rangle\langle 56\rangle\langle 3|1+2|4\rangle} + \\
& \frac{-1/2\langle 23\rangle[25][35]-3/2\langle 24\rangle[25][45]+1\langle 34\rangle[35][45]}{\langle 12\rangle\langle 23\rangle[56]\langle 3|1+2|4\rangle}
\end{aligned}$$