$$\frac{-1/3i\langle 12\rangle^3[15]^3\langle 23\rangle[23]^2 s_{123}}{[45]\langle 1|2+3|1]^3\langle 1|2+3|4]\langle 1|2+3|6]\langle 3|1+2|6]} +$$

$$\frac{-1/3i\langle 12\rangle^3[15]^3[23]\langle 3|1+2|5]s_{123}}{\langle 13\rangle[45][56]\langle 1|2+3|1]^3\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{1/2i\langle 12\rangle^3[15]^2\langle 23\rangle[23]^2[56]s_{123}}{[45]\langle 1|2+3|1]^2\langle 1|2+3|4]\langle 1|2+3|6]^2\langle 3|1+2|6]} +$$

$$\frac{-2/3i\langle 12\rangle^3[15]^3\langle 23\rangle[23]^2}{[45]\langle 1|2+3|1]^2\langle 1|2+3|4]\langle 1|2+3|6]\langle 3|1+2|6]} +$$

$$\frac{-1/2i[15]^2\langle 12\rangle^3\langle 23\rangle[23][25]\langle 3|1+2|5]}{\langle 13\rangle^2[45][56]\langle 1|2+3|1]^2\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{-5/6i[15]^3\langle 12\rangle^3[23]\langle 3|1+2|5]}{\langle 13\rangle[45][56]\langle 1|2+3|1]^2\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{1i\langle 12\rangle^3[15][23][56]^2 s_{123}^2}{[45]\langle 1|2+3|1]\langle 1|2+3|4]\langle 1|2+3|6]^3\langle 3|1+2|6]} +$$

$$\frac{-1i\langle 12\rangle^3[15]^2[23][56]s_{123}}{[45]\langle 1|2+3|1]\langle 1|2+3|4]\langle 1|2+3|6]^2\langle 3|1+2|6]} +$$

$$\frac{1i\langle 12\rangle^3[15]^3[23]}{[45]\langle 1|2+3|1]\langle 1|2+3|4]\langle 1|2+3|6]\langle 3|1+2|6]} +$$

$$\frac{-1i\langle 12\rangle^3[15]\langle 23\rangle^2[25]^3}{\langle 13\rangle^3[45][56]\langle 1|2+3|1]\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{7/2i\langle 12\rangle^3[15]^2[25]\langle 3|1+2|5]}{\langle 13\rangle^2[45][56]\langle 1|2+3|1]\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{-5/6i\langle 12\rangle^3[15]^3[25]}{\langle 13\rangle[45][56]\langle 1|2+3|1]\langle 1|2+3|4]\langle 3|1+2|6]} +$$

$$\frac{11/6i\langle 12\rangle^3[15]^4[23]}{[45][56]\langle 1|2+3|1]\langle 1|2+3|4]\langle 3|1+2|6]s_{123}} +$$

$$\frac{-1/3i\langle 12\rangle^2[12][13]^2\langle 23\rangle[35]\langle 3|1+2|5]^2}{[56]\langle 1|2+3|4]\langle 3|1+2|3]^3\langle 3|1+2|4]\langle 3|1+2|6]} +$$

$$\frac{1/3i\langle 12\rangle[12][13]\langle 23\rangle^2[35]^2\langle 1|2+3|5]\langle 3|1+2|5]}{\langle 13\rangle[45][56]\langle 1|2+3|4]\langle 3|1+2|3]^3\langle 3|1+2|6]} +$$

$$\frac{1/2i\langle 12\rangle^2[13]^2[14]\langle 3|1+2|5]^3}{[56]\langle 1|2+3|4]\langle 3|1+2|3]^2\langle 3|1+2|4]^2\langle 3|1+2|6]} +$$

$$\frac{\langle 12\rangle[13]^2\langle 3|1+2|5]^2(5/6i\langle 12\rangle[15]-1i\langle 23\rangle[35])}{[56]\langle 1|2+3|4]\langle 3|1+2|3]^2\langle 3|1+2|4]\langle 3|1+2|6]} +$$

$$\frac{-1/2i\langle 12\rangle[13]\langle 23\rangle^2[25][35]\langle 1|2+3|5]\langle 3|1+2|5]}{\langle 13\rangle^2[45][56]\langle 1|2+3|4]\langle 3|1+2|3]^2\langle 3|1+2|6]} +$$

$$\frac{[13]\langle 23\rangle[35]\langle 1|2+3|5]\langle 3|1+2|5](-5/3i\langle 12\rangle[15]+5/6i\langle 23\rangle[35])}{\langle 13\rangle[45][56]\langle 1|2+3|4]\langle 3|1+2|3]^2\langle 3|1+2|6]} +$$

$$\frac{1i[13]\langle 23\rangle^2[45]^2\langle 3|1+2|5]s_{123}^2}{[56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|4]^3\langle 3|1+2|6]} +$$

$$\frac{\langle 23\rangle[12]\langle 3|1+2|5](1/2i\langle 12\rangle^2[13][15][45]\ldots(3\,\text{terms})\ldots-3i\langle 23\rangle^2[34][35]^2)}{[56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|4]^2\langle 3|1+2|6]} +$$

$$\frac{1/2i\langle 12\rangle[13][15]\langle 3|1+2|5]\langle 2|1+3|5]}{[56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|4]\langle 3|1+2|6]} +$$

$$\frac{-1i\langle 12\rangle^2\langle 23\rangle^3[25]^3[35]}{\langle 13\rangle^3[45][56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|6]} +$$

$$\frac{\langle 12\rangle\langle 23\rangle[25][35]\langle 3|1+2|5](7/2i\langle 12\rangle[15]-1/2i\langle 23\rangle[35])}{\langle 13\rangle^2[45][56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|6]} +$$

$$\frac{\langle 23\rangle[25][35]\langle 2|1+3|5](5/6i\langle 12\rangle[15]-1/3i\langle 23\rangle[35])}{\langle 13\rangle[45][56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|6]} +$$

$$\frac{[13][35]\langle 3|1+2|5](-13/3i\langle 12\rangle^2[15]^2+31/6i\langle 12\rangle[15]\langle 23\rangle[35]-11/6i\langle 23\rangle^2[35]^2)}{[45][56]\langle 1|2+3|4]\langle 3|1+2|3]\langle 3|1+2|6]s_{123}} +$$

$$(123456 \to \overline{654321}) +$$

$$\frac{1i\langle 12\rangle^2[56]^2\langle 2|1+4|5]s_{123}^2}{\langle 23\rangle[45]\langle 1|2+3|4]\langle 1|2+3|6]^3\langle 3|1+2|6]} +$$

$$\frac{1/2i\langle 12\rangle[56]\langle 2|1+4|5]^2 s_{123}}{\langle 23\rangle[45]\langle 1|2+3|4]\langle 1|2+3|6]^2\langle 3|1+2|6]} +$$

$$\frac{1i\langle 12\rangle\langle 23\rangle\langle 24\rangle[35][45][56]s_{123}}{\langle 23\rangle[45]\langle 1|2+3|4]\langle 1|2+3|6]^2\langle 3|1+2|6]} +$$

$$\frac{1/3i\langle 2|1+4|5]^3}{\langle 23\rangle[45]\langle 1|2+3|4]\langle 1|2+3|6]\langle 3|1+2|6]} +$$

$$\frac{\langle 24\rangle[35](-2i\langle 12\rangle[15]+1i\langle 23\rangle[35]+1i\langle 24\rangle[45])}{\langle 1|2+3|4]\langle 1|2+3|6]\langle 3|1+2|6]} +$$

$$\frac{1i\langle 23\rangle^2[45]^2\langle 2|1+3|5]s_{123}^2}{\langle 12\rangle[56]\langle 1|2+3|4]\langle 3|1+2|4]^3\langle 3|1+2|6]} +$$

$$\frac{1/2i\langle 23\rangle[45]\langle 2|1+4|5]^2 s_{123}}{\langle 12\rangle[56]\langle 1|2+3|4]\langle 3|1+2|4]^2\langle 3|1+2|6]} +$$

$$\frac{\langle 23\rangle[45]s_{123}(3i\langle 12\rangle^2[15]^2-3i\langle 12\rangle[15]\langle 23\rangle[35]-3i\langle 12\rangle[15]\langle 24\rangle[45]+4i\langle 23\rangle\langle 24\rangle[35][45])}{\langle 12\rangle[56]\langle 1|2+3|4]\langle 3|1+2|4]^2\langle 3|1+2|6]} +$$

$$\frac{\langle 2|1+3|5](-8/3i\langle 12\rangle^2[15]^2\ldots(4\,\text{terms})\ldots-1/2i\langle 24\rangle^2[45]^2)}{\langle 12\rangle[56]\langle 1|2+3|4]\langle 3|1+2|4]\langle 3|1+2|6]} +$$

$$\frac{-11/6i\langle 12\rangle^4[15]^4\ldots(13\,\text{terms})\ldots-11/6i\langle 24\rangle^4[45]^4}{\langle 12\rangle\langle 23\rangle[45][56]\langle 1|2+3|4]\langle 3|1+2|6]s_{123}}$$