

$$\begin{aligned}
& \frac{-1/3[24]^2[14]\langle 46 \rangle^2(34)}{[34]\langle 56 \rangle s_{123}[4]2+3[4]^2} + \\
& \frac{-2/3[24]^3\langle 2|1+3|5\rangle[13]\langle 34 \rangle(46)}{(23)[23][34]^2(56)[56]s_{123}[4]2+3[4]} + \\
& \frac{[24]\langle 34 \rangle(46)\langle 3|1+2|5\rangle(-4/3[24][13]+2/3[34][12])}{(23)[23][34]\langle 56 \rangle[56]s_{123}[4]2+3[4]} + \\
& \frac{3(46)[12]^2\langle 3|1+2|5\rangle}{[13]\langle 23 \rangle[23]\langle 56 \rangle[56]s_{123}} + \\
& \frac{3[35](s_{124}-s_{134})[14]\langle 14 \rangle(4|2+3|1)\langle 26 \rangle}{\Delta_{14|23|56}(2|1+4|3)^3} + \\
& \frac{3[14]\langle 24 \rangle^2(1|2+3|4)[35]^2}{(12)[34][56](2|1+4|3)^3} + \\
& \frac{-15[35]^2[24](s_{124}-s_{134})[13]\langle 24 \rangle}{[23][34][56](2|1+4|3)^3} + \\
& \frac{12(4|5+6|4)\langle 24 \rangle[12][35]^2}{[23][56](2|1+4|3)^3} + \\
& \frac{(26)(-14[23]^2(12)^2[24]\langle 36 \rangle[13]^2 \dots \langle 8 \text{ terms} \rangle \dots -115/6[12]\langle 16 \rangle[34]^2[13]^2(14)\langle 13 \rangle)}{(12)[23][34]^2(56)(2|5+6|2)(2|1+4|3)^2} + \\
& \frac{[35](104/3[35][12]^2(12)^3[24][13] \dots \langle 14 \text{ terms} \rangle \dots -44/3(23)^3[23]^3[35]\langle 34 \rangle)}{(12)[23][34]^2[56](2|5+6|2)(2|1+4|3)^2} + \\
& \frac{-5/2[35]\langle 3|1+4|2\rangle(s_{124}-s_{134})\langle 4|2+3|1\rangle s_{14}\langle 26 \rangle}{\Delta_{14|23|56}^2(2|1+4|3)^2} + \\
& \frac{(s_{124}-s_{134})(s_{13}-s_{24})\langle 36 \rangle(s_{23}-s_{14})(1/8[23]\langle 26 \rangle+7/16[34]\langle 46 \rangle)}{(56)\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{1/16(s_{14}-s_{23})(s_{124}-s_{134})[25][45]\langle 24 \rangle(s_{13}-s_{24})}{[56]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{(26)(-1[14][13][25]\langle 14 \rangle\langle 34 \rangle \dots \langle 11 \text{ terms} \rangle \dots -1(14)[15][12]^2(12))}{\Delta_{14|23|56}(2|1+4|3)^2} + \\
& \frac{[35](17/4[23][13]\langle 36 \rangle(23)\langle 34 \rangle+9/4(23)^2[23]\langle 46 \rangle[12]-2[14][13]\langle 36 \rangle(14)\langle 34 \rangle)}{\Delta_{14|23|56}(2|1+4|3)^2} + \\
& \frac{[45][24]\langle 14 \rangle(26)(s_{13}-s_{24})(-1(34)[13]-1(24)[12])}{\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{(s_{124}-s_{134})(9/16[35]\langle 12 \rangle[24][13]\langle 36 \rangle\langle 34 \rangle \dots \langle 36 \text{ terms} \rangle \dots +1/8[23][35][34]\langle 36 \rangle(23)\langle 34 \rangle)}{\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{[45](-65/4[23](12)^3[24][13]^2[25] \dots \langle 4 \text{ terms} \rangle \dots +25/4[12][34]^3(14)^2(24)\langle 45 \rangle)}{(12)[23][34]^2[56](1|2+3|4)(2|1+4|3)^2} + \\
& \frac{(26)(9/4[23](12)^2[24]^2[13]\langle 46 \rangle \dots \langle 19 \text{ terms} \rangle \dots +2[34]^3(14)^2[12]\langle 36 \rangle)}{(12)[23][34]\langle 56 \rangle(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{(36)(65/4[23][34]^2(36)\langle 14 \rangle(24) \dots \langle 4 \text{ terms} \rangle \dots -2[23][12]\langle 16 \rangle(12)^2[13])}{(12)[23]\langle 56 \rangle(1|2+3|4)(2|1+4|3)^2} + \\
& \frac{[45]\langle 14 \rangle[35](-131/12(13)^2[13]^2-53/6[24]\langle 14 \rangle(24)\langle 14 \rangle)}{(12)[23][56](1|2+3|4)(2|1+4|3)^2} + \\
& \frac{(26)(88/3[23]^2(12)[24][13]\langle 26 \rangle \dots \langle 13 \text{ terms} \rangle \dots -15/4[12]\langle 16 \rangle[34]^2[13]\langle 14 \rangle)}{(12)[23][34]^2(56)(2|1+4|3)^2} + \\
& \frac{[35](-86[35]12^2[24][13] \dots \langle 9 \text{ terms} \rangle \dots -131/12[34]^2[13]\langle 14 \rangle[45]\langle 34 \rangle)}{(12)[23][34]^2[56](2|1+4|3)^2} + \\
& \frac{[45][13]^2(25/4[34]\langle 14 \rangle^2[45]+16(14)[45][23]\langle 12 \rangle+65/4[23][25]\langle 12 \rangle^2)}{(12)[23][34]^2[56](2|1+4|3)^2} + \\
& \frac{(36)(7/4[34][23]\langle 24 \rangle(46)-131/12[34]\langle 14 \rangle(46)[13]+131/12(14)[13]^2(16))}{(12)[23]\langle 56 \rangle(2|1+4|3)^2} + \\
& \frac{-2(4|5+6|4)[12][25]^2(24)}{[23][56](2|5+6|2)^2(2|1+4|3)} + \\
& \frac{-5/2[35][12]\langle 3|1+4|2\rangle[25]\langle 24 \rangle}{[23][56](2|5+6|2)^2(2|1+4|3)} + \\
& \frac{5/18[35][34]^2[13]^4(36)(13)^3 \dots \langle 65 \text{ terms} \rangle \dots -7/3[23][24][34]^3[13]\langle 36 \rangle[45]\langle 24 \rangle^2(34)}{(12)[13][23][34]^2(56)[56](2|5+6|2)(2|1+4|3)(2|1+3|4)} + \\
& \frac{-53/6[23][35][12][34]^2[13]\langle 23 \rangle(13)\langle 46 \rangle \dots \langle 77 \text{ terms} \rangle \dots +10/9[23][35][34]^3[13]\langle 36 \rangle(34)^2}{(12)[13][23][34]^2(56)[56](2|5+6|2)(2|1+4|3)} + \\
& \frac{35/32(s_{25}+s_{26}+s_{35}+s_{36})\langle 3|1+4|2\rangle(s_{124}-s_{134})\langle 4|2+3|1\rangle(6|1+4|5)s_{14}}{\Delta_{14|23|56}^3(2|1+4|3)} + \\
& \frac{-7/8(16)\langle 3|1+4|2\rangle[13][45](s_{13}-s_{24})\langle 4|2+3|1\rangle(13)}{\Delta_{14|23|56}^2(1|2+3|4)(2|1+4|3)} + \\
& \frac{1/4(s_{123}-s_{234})\langle 3|1+4|2\rangle[34]\langle 4|2+3|1\rangle(6|1+4|5)\langle 13 \rangle}{\Delta_{14|23|56}^2(1|2+3|4)(2|1+4|3)} + \\
& \frac{(s_{123}-s_{234})\langle 3|1+4|2\rangle(4|2+3|1)(-1/8[45](16)12+1/4(13)[45][13](16)-3/8[14]\langle 16 \rangle[25](12)-1/8[24]\langle 14 \rangle[45]\langle 26 \rangle)}{\Delta_{14|23|56}^2(1|2+3|4)(2|1+4|3)} + \\
& \frac{3/8(s_{25}+s_{26}+s_{35}+s_{36})\langle 3|1+4|2\rangle(26)\langle 36 \rangle(4|2+3|1)[56]}{(23)\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{-3/8(s_{25}+s_{26}+s_{35}+s_{36})\langle 3|1+4|2\rangle[13][25]\langle 14 \rangle(6|2+3|1)}{[23]\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{3/8(s_{25}+s_{26}+s_{35}+s_{36})\langle 3|1+4|2\rangle[14]\langle 2|5+6|2\rangle(46)^2}{(56)\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{-3/8(s_{25}+s_{26}+s_{35}+s_{36})\langle 3|1+4|2\rangle[25]\langle 23 \rangle[15]\langle 4|1+2|3\rangle}{[56]\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{\langle 3|1+4|2\rangle(3|2|12)[24][25]\langle 24 \rangle^2(26) \dots \langle 34 \text{ terms} \rangle \dots +3/2[23][13]\langle 23 \rangle[45]\langle 34 \rangle(46)}{\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{(s_{124}-s_{134})\langle 3|4|35][12][24]\langle 23 \rangle\langle 34 \rangle(46) \dots \langle 28 \text{ terms} \rangle \dots +135/16[12]^2(12)[15]\langle 13 \rangle(46)}{\Delta_{14|23|56}^2(2|1+4|3)} + \\
& \frac{-1/2(16)[24]\langle 3|1+4|2\rangle(12)[45]\langle 4|2+3|1\rangle}{\Delta_{14|23|56}(1|2+3|4)^2(2|1+4|3)} + \\
& \frac{1/2(s_{123}-s_{234})[24][45]\langle 14 \rangle(13)(6|2+3|1)}{\Delta_{14|23|56}(1|2+3|4)^2(2|1+4|3)} + \\
& \frac{1/2(s_{123}-s_{234})[24][45]\langle 4|2+3|4\rangle(13)\langle 46 \rangle}{\Delta_{14|23|56}(1|2+3|4)^2(2|1+4|3)} + \\
& \frac{-1/4[13]\langle 36 \rangle(s_{24}-s_{13})[45]\langle 34 \rangle(13)}{(23)\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{(36)(s_{14}-s_{56})(1/4[45]\langle 34 \rangle[12]\langle 12 \rangle-1/4(13)\langle 24 \rangle[14][25]+1/4(13)^2[15][13])}{(23)\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{-1/4[12][24][25](s_{24}-s_{13})\langle 14 \rangle(26)}{[23]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{1/4(s_{14}-s_{56})[24][25](s_{24}-s_{13})\langle 46 \rangle}{[23]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{1/4(3|1+4|2)[24](s_{13}-s_{24})\langle 46 \rangle(26)}{(56)\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{(36)(s_{23}-s_{14})\langle 46 \rangle(19/8(23)[23][24] \dots \langle 3 \text{ terms} \rangle \dots +3/8[24]^2(24))}{(56)\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{[45]\langle 3|1+4|2\rangle(3/8(14)[45]\langle 34 \rangle[13] \dots \langle 5 \text{ terms} \rangle \dots -9/8(23)[23]\langle 24 \rangle[25])}{[56]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{\langle 3|1+4|2\rangle(s_{14}-s_{23})[45](-1/8(24)[25]+1/4[35]\langle 34 \rangle)}{[56]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{-3/8(s_{14}-s_{23})[25][45]\langle 34 \rangle s_{234}}{[56]\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{-175/8(14)^2[14]^2[25]\langle 36 \rangle \dots \langle 56 \text{ terms} \rangle \dots -3/8[12][24][25]\langle 24 \rangle(13)\langle 26 \rangle}{\Delta_{14|23|56}(1|2+3|4)(2|1+4|3)} + \\
& \frac{(36)(-1/4[45]\langle 34 \rangle^2[13]+3/2[14][35]\langle 34 \rangle^2+3/2[45]\langle 24 \rangle(34)[12]-3/2(13)\langle 24 \rangle[15][12])}{(23)\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{1/4[15]\langle 36 \rangle(s_{14}-s_{56})\langle 34 \rangle}{(23)\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{[12][25](-5/4(14)[12]\langle 26 \rangle-3/2(14)[13]\langle 36 \rangle+5/4[24]\langle 24 \rangle(46)+5/4(46)[12]\langle 12 \rangle)}{[23]\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{-1/4(s_{14}-s_{56})\langle 46 \rangle[12][25]}{[23]\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{17/8(6|2+5|1)\langle 46 \rangle(3|1+4|2)}{(56)\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{5/8(3|1+4|2)\langle 46 \rangle[13]\langle 36 \rangle}{(56)\Delta_{14|23|56}(2|1+4|3)} + \\
& \frac{-2[24]^2[45]\langle 46 \rangle(12)}{[34](1|2+3|4)^2(2|1+4|3)} + \\
& \frac{57/4[24][34]^2[13]^2(36)\langle 14 \rangle^2[45] \dots \langle 48 \text{ terms} \rangle \dots -1[35][24][34]^3[13]\langle 36 \rangle(14)\langle 34 \rangle}{(12)[13][23][34]^2(56)[56](1|2+3|4)(2|1+4|3)} + \\
& \frac{8[35][12]^3(12)^2[34]^2(26) \dots \langle 50 \text{ terms} \rangle \dots +43/6(12)[24]\langle 16 \rangle[13]^4[45]\langle 13 \rangle}{(12)[13][23][34]^2(56)[56](2|1+4|3)(2|1+3|4)} + \\
& \frac{151/6(16)[24][13]^3(14)[45] \dots \langle 37 \text{ terms} \rangle \dots +172/3[12]\langle 16 \rangle[34][13]^2(14)[45]}{(12)[13][23][34]^2(56)[56](2|1+4|3)} + \\
& \frac{[13]\langle 16 \rangle(-1[24]\langle 46 \rangle(12)-1(14)[14]\langle 16 \rangle)}{(12)[34]\langle 56 \rangle(1|2+4|3)(2|1+4|3)} + \\
& \frac{-1[35][24]\langle 14 \rangle(24)[45]}{(12)[34][56](1|2+4|3)(2|1+4|3)} + \\
& \frac{6(4|5+6|4)\langle 24 \rangle[12]^2[25]^2}{[13][23][56](2|5+6|2)^3} + \\
& \frac{5[24][12][25]^2\langle 3|1+4|2\rangle}{[23][56](2|5+6|2)^2} + \\
& \frac{1(4|5+6|4)[12]^2[24]\langle 46 \rangle(26)}{[13][23]\langle 56 \rangle(2|5+6|2)^2(2|1+3|4)} + \\
& \frac{-2(4|5+6|4)\langle 2|1+3|5\rangle[12]^2[25]}{[13][23][56](2|5+6|2)^2(2|1+3|4)} + \\
& \frac{1(4|5+6|4)[12]^2[25][45]\langle 24 \rangle}{[13][23][56](2|5+6|2)^2(2|1+3|4)} + \\
& \frac{-5/2(3|1+4|2)[24][25]\langle 24 \rangle[15]}{[23][56](2|5+6|2)^2(2|1+3|4)} + \\
& \frac{-10/3(23)[13][25]^2\langle 3|1+4|2\rangle}{[23][56](2|5+6|2)^2(2|1+3|4)} + \\
& \frac{-5(46)[12]^2[25]}{[13][23](2|5+6|2)^2} + \\
& \frac{-5/2(34)[12][25]^2}{[23][56](2|5+6|2)^2} + \\
& \frac{[24]\langle 2|1+3|5\rangle[14][45](-1/3[12]\langle 12 \rangle-10/3[24]\langle 24 \rangle)}{[34]^2[56](2|5+6|2)(2|1+3|4)^2} + \\
& \frac{\langle 2|1+3|5\rangle[14][45](16/3[24]\langle 34 \rangle(12)+4(13)[12]\langle 12 \rangle-13/3[24]\langle 13 \rangle(24))}{(12)[34]\langle 56 \rangle(2|5+6|2)(2|1+3|4)^2} + \\
& \frac{(23)[14][45](-8/3[24]\langle 24 \rangle[25](12)+1(13)\langle 24 \rangle[23][45]+8/3(13)[13][25](12))}{(12)[34][56](2|5+6|2)(2|1+3|4)^2} + \\
& \frac{239/9[12][34][13]^2[45](13)^2(46) \dots \langle 33 \text{ terms} \rangle \dots -13[23][12][34]^2(23)[45]\langle 34 \rangle(46)}{(12)[13][23][34]\langle 56 \rangle[56](2|5+6|2)(2|1+3|4)} + \\
& \frac{-1813/18[24]^2[13]^2[25]\langle 14 \rangle(26) \dots \langle 53 \text{ terms} \rangle \dots +2[23][35][12][34]^2(36)\langle 34 \rangle}{(12)[13][23][34]^2(56)[56](2|5+6|2)} + \\
& \frac{-7/8[12]\langle 3|1+4|2\rangle(16)[45]\langle 4|2+3|1\rangle(13)}{\Delta_{14|23|56}^2(1|2+3|4)} + \\
& \frac{\langle 3|1+4|2\rangle(3/2[34][13][25]\langle 36 \rangle \dots \langle 5 \text{ terms} \rangle \dots -95/4(13)\langle 46 \rangle[15][12])}{\Delta_{14|23|56}^2} + \\
& \frac{1/4[12]\langle 36 \rangle[45]\langle 34 \rangle(13)}{(23)\Delta_{14|23|56}(1|2+3|4)} + \\
& \frac{-1/4[12][24]\langle 36 \rangle[25]\langle 14 \rangle}{[23]\Delta_{14|23|56}(1|2+3|4)} + \\
& \frac{-1/4[24]\langle 46 \rangle(36)\langle 3|1+4|2\rangle}{(56)\Delta_{14|23|56}(1|2+3|4)} + \\
& \frac{9/8[45]\langle 34 \rangle[25]\langle 3|1+4|2\rangle}{[56]\Delta_{14|23|56}(1|2+3|4)} + \\
& \frac{86/45(23)[24]^3(46)^2}{[34]\langle 56 \rangle(1|2+3|4)(4|2+3|4)^2} + \\
& \frac{[24]^3(46)(172/45[23]\langle 26 \rangle-76/15[34]\langle 46 \rangle)}{[23][34]^2(56)(1|2+3|4)(4|2+3|4)} + \\
& \frac{-2/3[24]^3[45]\langle 24 \rangle(46)}{[34]^2(56)[56](1|2+3|4)(4|2+3|4)} + \\
& \frac{[24]\langle 16 \rangle(1[24][34]\langle 46 \rangle-1[34][23]\langle 36 \rangle-2[24][23]\langle 26 \rangle)}{[34]^2(56)(1|2+4|3)(1|2+3|4)} + \\
& \frac{3[35][24][14][34][13]\langle 13 \rangle^2(46) \dots \langle 16 \text{ terms} \rangle \dots -3[35][12]\langle 12 \rangle[24][14][34]\langle 13 \rangle(46)}{(12)[13]\langle 23 \rangle[23][34]^2(56)[56](1|2+3|4)} + \\
& \frac{-201/4[35][24]^2[34][13]\langle 36 \rangle(14) \dots \langle 38 \text{ terms} \rangle \dots -9/2[23][35][24][34][13]\langle 36 \rangle(13)}{(12)[13][23][34]^2(56)[56](1|2+3|4)} + \\
& \frac{\langle 2|1+3|5\rangle[14][45](-4/3[34]\langle 13 \rangle+2/3[24]\langle 12 \rangle)}{(12)[45]^2[56](2|1+3|4)^2} + \\
& \frac{[14][45]\langle 16/3(23)[24][35]-6(23)[23][45]+8/3(13)[35][14] \rangle}{[34]^2[56](2|1+3|4)^2} + \\
& \frac{-1[24][14]\langle 6|2+5|1\rangle(26)}{[34]^2(56)(2|3+4|1)(2|1+3|4)} + \\
& \frac{-49/18[35][24][14][34][13]\langle 36 \rangle(14) \dots \langle 48 \text{ terms} \rangle \dots -13[35][12]^2(16)[34][14]\langle 12 \rangle}{(12)[13][23][34]^2(56)[56](2|1+3|4)} + \\
& \frac{[12]\langle 26 \rangle[14]\langle 2|13\rangle(36)+5(14)\langle 46 \rangle}{[13][34]\langle 56 \rangle(2|3+4|1)(2|1+3|4)} + \\
& \frac{3[14][15]^2 s_{134}}{[13][34][56](2|3+4|1)(2|1+3|4)} + \\
& \frac{[15][14]\langle 1(13)[15][13]-1(14)\langle 24 \rangle[25] \rangle}{[13][34][56](2|3+4|1)(2|1+3|4)} + \\
& \frac{-1[14][23]\langle 16 \rangle^2}{(12)[34]^2(56)(1|2+4|3)} + \\
& \frac{-1219/6[23][24][13][25]\langle 26 \rangle \dots \langle 10 \text{ terms} \rangle \dots -29/4[23][12][34][45]\langle 46 \rangle}{(12)[13][23][34]^2(56)[56]} + \\
& \frac{-1[35][12][14]\langle 14 \rangle(46)}{(12)[13][34]\langle 56 \rangle[56](4|1+2|3)}
\end{aligned}$$