Three Body Isospin Eigenstates

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(Dated: October 16, 2024)

The three body isospin combinations $I_A \otimes I_B \otimes I_C$ that have definite total I, I_3 and I_{AB}, the isospin of the first two particles subsystem, are presented in the following pages. The operators I^2 and I^2_{AB} have been simultaneously diagonalized to obtain the desired results. The notation is selfexplanatory and coincides with the one used in the *Hadron Spectroscopy in Lattice QCD* notes by Colin Morningstar, with the addition of a third particle, C. As in such reference, conventional phases have been ignored.

The results have been obtained thanks to Mathematica's symbolic diagonalization. Find the code at github.com/FernandoAlvarado1996/Three_Isospin_combination/tree/main .

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$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes 1 \otimes 1$:

I	I_3	I_{AB}	
3	3	2	$\bar{A}_1\bar{B}_1\bar{C}_1$
3	2	2	$\frac{\bar{A}_1\bar{B}_1\bar{C}_0}{\sqrt{3}} + \frac{\bar{A}_1\bar{B}_0\bar{C}_1}{\sqrt{3}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_1}{\sqrt{3}}$
3	1	2	$\frac{\bar{A}_1\bar{B}_1\bar{C}_{-1}}{\sqrt{15}} + \frac{2\bar{A}_1\bar{B}_0\bar{C}_0}{\sqrt{15}} + \frac{2\bar{A}_0\bar{B}_1\bar{C}_0}{\sqrt{15}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_1}{\sqrt{15}} + \frac{2\bar{A}_0\bar{B}_0\bar{C}_1}{\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_1}{\sqrt{15}}$
3	0	2	$\frac{\bar{A}_1\bar{B}_0\bar{C}_{-1}}{\sqrt{10}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-1}}{\sqrt{10}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_0}{\sqrt{10}} + \sqrt{\frac{2}{5}}\bar{A}_0\bar{B}_0\bar{C}_0 + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_0}{\sqrt{10}} + \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_1}{\sqrt{10}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_1}{\sqrt{10}}$
3	-1	2	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-1}}{\sqrt{15}} + \frac{2\bar{A}_0\bar{B}_0\bar{C}_{-1}}{\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-1}}{\sqrt{15}} + \frac{2\bar{A}_0\bar{B}_{-1}\bar{C}_0}{\sqrt{15}} + \frac{2\bar{A}_{-1}\bar{B}_0\bar{C}_0}{\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_{-1}\bar{C}_1}{\sqrt{15}}$
3	-2	2	$\frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-1}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-1}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{-1}\bar{C}_0}{\sqrt{3}}$
3	-3	2	$\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{-1}$
2	2	2	$-\sqrt{\frac{2}{3}}\bar{A}_1\bar{B}_1\bar{C}_0 + \frac{\bar{A}_1\bar{B}_0\bar{C}_1}{\sqrt{6}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_1}{\sqrt{6}}$
2	2	1	$\frac{\bar{A}_0\bar{B}_1\bar{C}_1}{\sqrt{2}} - \frac{\bar{A}_1\bar{B}_0\bar{C}_1}{\sqrt{2}}$
2	1	2	$-\frac{\bar{A}_1\bar{B}_1\bar{C}_{-1}}{\sqrt{3}} - \frac{\bar{A}_1\bar{B}_0\bar{C}_0}{2\sqrt{3}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_0}{2\sqrt{3}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_1}{2\sqrt{3}} + \frac{\bar{A}_0\bar{B}_0\bar{C}_1}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_1}{2\sqrt{3}}$
2	1	1	$-\frac{1}{2}\bar{A}_1\bar{B}_0\bar{C}_0 + \frac{1}{2}\bar{A}_0\bar{B}_1\bar{C}_0 - \frac{1}{2}\bar{A}_1\bar{B}_{-1}\bar{C}_1 + \frac{1}{2}\bar{A}_{-1}\bar{B}_1\bar{C}_1$
2	0	2	$-\frac{1}{2}\bar{A}_1\bar{B}_0\bar{C}_{-1} - \frac{1}{2}\bar{A}_0\bar{B}_1\bar{C}_{-1} + \frac{1}{2}\bar{A}_0\bar{B}_{-1}\bar{C}_1 + \frac{1}{2}\bar{A}_{-1}\bar{B}_0\bar{C}_1$
2	0	1	$-\frac{\bar{A}_1\bar{B}_0\bar{C}_{-1}}{2\sqrt{3}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-1}}{2\sqrt{3}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_0}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_0}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_1}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_1}{2\sqrt{3}}$
2	-1	2	$-\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-1}}{2\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{-1}}{\sqrt{3}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-1}}{2\sqrt{3}} + \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_0}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_0}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{-1}\bar{C}_1}{\sqrt{3}}$
2	-1	1	$-\frac{1}{2}\bar{A}_1\bar{B}_{-1}\bar{C}_{-1} + \frac{1}{2}\bar{A}_{-1}\bar{B}_1\bar{C}_{-1} - \frac{1}{2}\bar{A}_0\bar{B}_{-1}\bar{C}_0 + \frac{1}{2}\bar{A}_{-1}\bar{B}_0\bar{C}_0$
2	-2	2	$-\frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-1}}{\sqrt{6}} - \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-1}}{\sqrt{6}} + \sqrt{\frac{2}{3}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_0$
2	-2	1	$\frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-1}}{\sqrt{2}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-1}}{\sqrt{2}}$
1	1	2	$\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_1\bar{C}_{-1} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_0\bar{C}_0 - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_1\bar{C}_0 + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_1}{2\sqrt{15}} + \frac{\bar{A}_0\bar{B}_0\bar{C}_1}{\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_1}{2\sqrt{15}}$
1	1	1	$\frac{1}{2}\bar{A}_1\bar{B}_0\bar{C}_0 - \frac{1}{2}\bar{A}_0\bar{B}_1\bar{C}_0 - \frac{1}{2}\bar{A}_1\bar{B}_{-1}\bar{C}_1 + \frac{1}{2}\bar{A}_{-1}\bar{B}_1\bar{C}_1$
1	1	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_1}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_1}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_1}{\sqrt{3}}$
1	0	2	$\frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_0\bar{C}_{-1} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_1\bar{C}_{-1} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_0}{\sqrt{15}} - \frac{2\bar{A}_0\bar{B}_0\bar{C}_0}{\sqrt{15}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_0}{\sqrt{15}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-1}\bar{C}_1 + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_0\bar{C}_1$
1	0	1	$\frac{1}{2}\bar{A}_1\bar{B}_0\bar{C}_{-1} - \frac{1}{2}\bar{A}_0\bar{B}_1\bar{C}_{-1} - \frac{1}{2}\bar{A}_0\bar{B}_{-1}\bar{C}_1 + \frac{1}{2}\bar{A}_{-1}\bar{B}_0\bar{C}_1$
1	0	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_0}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_0}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_0}{\sqrt{3}}$
1	-1	2	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-1}}{2\sqrt{15}} + \frac{\bar{A}_0\bar{B}_0\bar{C}_{-1}}{\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-1}}{2\sqrt{15}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-1}\bar{C}_0 - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_0\bar{C}_0 + \sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_1$
1	-1	1	$\frac{1}{2}\bar{A}_1\bar{B}_{-1}\bar{C}_{-1} - \frac{1}{2}\bar{A}_{-1}\bar{B}_1\bar{C}_{-1} - \frac{1}{2}\bar{A}_0\bar{B}_{-1}\bar{C}_0 + \frac{1}{2}\bar{A}_{-1}\bar{B}_0\bar{C}_0$
1	-1	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-1}}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{-1}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-1}}{\sqrt{3}}$
0	0	1	$-\frac{\bar{A}_1\bar{B}_0\bar{C}_{-1}}{\sqrt{6}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-1}}{\sqrt{6}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_0}{\sqrt{6}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_0}{\sqrt{6}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_1}{\sqrt{6}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_1}{\sqrt{6}}$

$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes 1 \otimes \frac{1}{2}$:

I	I_3	I_{AB}	
$\frac{5}{2}$	$\frac{5}{2}$	2	$\bar{A}_1 \bar{B}_1 \bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	2	$\dfrac{\bar{A}_1 \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \sqrt{\frac{2}{5}}\bar{A}_1 \bar{B}_0 \bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{5}}\bar{A}_0 \bar{B}_1 \bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$\frac{1}{2}$	2	$\dfrac{\bar{A}_1 \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_0 \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \sqrt{\frac{2}{5}}\bar{A}_0 \bar{B}_0 \bar{C}_{\frac{1}{2}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{10}}$
$\frac{5}{2}$	$-\frac{1}{2}$	2	$\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \sqrt{\frac{2}{5}}\bar{A}_0 \bar{B}_0 \bar{C}_{-\frac{1}{2}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \dfrac{\bar{A}_0 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_{-1} \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{5}}$
$\frac{5}{2}$	$-\frac{3}{2}$	2	$\sqrt{\frac{2}{5}}\bar{A}_0 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}} + \sqrt{\frac{2}{5}}\bar{A}_{-1} \bar{B}_0 \bar{C}_{-\frac{1}{2}} + \dfrac{\bar{A}_{-1} \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{5}}$
$\frac{5}{2}$	$-\frac{5}{2}$	2	$\bar{A}_{-1} \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	2	$-\dfrac{2\bar{A}_1 \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_1 \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \dfrac{\bar{A}_0 \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{10}}$
$\frac{3}{2}$	$\frac{3}{2}$	1	$\dfrac{\bar{A}_0 \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_1 \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	2	$-\sqrt{\frac{3}{10}}\bar{A}_1 \bar{B}_0 \bar{C}_{-\frac{1}{2}} - \sqrt{\frac{3}{10}}\bar{A}_0 \bar{B}_1 \bar{C}_{-\frac{1}{2}} + \dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{15}} + \dfrac{2\bar{A}_0 \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{15}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{15}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$-\dfrac{\bar{A}_1 \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_0 \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$-\frac{1}{2}$	2	$-\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{15}} - \dfrac{2\bar{A}_0 \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{15}} - \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{15}} + \sqrt{\frac{3}{10}}\bar{A}_0 \bar{B}_{-1} \bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-1} \bar{B}_0 \bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$-\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \dfrac{\bar{A}_0 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_{-1} \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
$\frac{3}{2}$	$-\frac{3}{2}$	2	$-\dfrac{\bar{A}_0 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{10}} - \dfrac{\bar{A}_{-1} \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \dfrac{2\bar{A}_{-1} \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$\dfrac{\bar{A}_{-1} \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_0 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{2}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$\dfrac{\bar{A}_1 \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \dfrac{\bar{A}_0 \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
$\frac{1}{2}$	$\frac{1}{2}$	0	$\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} - \dfrac{\bar{A}_0 \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_0 \bar{B}_{-1} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-1} \bar{B}_0 \bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{1}{2}$	$-\frac{1}{2}$	0	$\dfrac{\bar{A}_1 \bar{B}_{-1} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \dfrac{\bar{A}_0 \bar{B}_0 \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-1} \bar{B}_1 \bar{C}_{-\frac{1}{2}}}{\sqrt{3}}$

$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes 1 \otimes \frac{3}{2}$:

I	I_3	I_{AB}	
$\frac{7}{2}$	$\frac{7}{2}$	2	$\bar{A}_1\bar{B}_1\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{5}{2}$	2	$\sqrt{\frac{3}{7}}\bar{A}_1\bar{B}_1\bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{7}}\bar{A}_1\bar{B}_0\bar{C}_{\frac{3}{2}} + \sqrt{\frac{2}{7}}\bar{A}_0\bar{B}_1\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{3}{2}$	2	$\frac{\bar{A}_1\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{7}} + \sqrt{\frac{2}{7}}\bar{A}_1\bar{B}_0\bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{7}}\bar{A}_0\bar{B}_1\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{21}} + \frac{2\bar{A}_0\bar{B}_0\bar{C}_{\frac{3}{2}}}{\sqrt{21}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}}{\sqrt{21}}$
$\frac{7}{2}$	$\frac{1}{2}$	2	$\frac{\bar{A}_1\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \sqrt{\frac{6}{35}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}} + 2\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_0\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{35}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{2}{35}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$-\frac{1}{2}$	2	$\sqrt{\frac{2}{35}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{2}{35}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}} + 2\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{35}}$
$\frac{7}{2}$	$-\frac{3}{2}$	2	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}}{\sqrt{21}} + \frac{2\bar{A}_0\bar{B}_0\bar{C}_{-\frac{3}{2}}}{\sqrt{21}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{21}} + \sqrt{\frac{2}{7}}\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{2}{7}}\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{7}}$
$\frac{7}{2}$	$-\frac{5}{2}$	2	$\sqrt{\frac{2}{7}}\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{2}{7}}\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{3}{7}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}$
$\frac{7}{2}$	$-\frac{7}{2}$	2	$\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	2	$-\frac{2\bar{A}_1\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{7}} + \sqrt{\frac{3}{14}}\bar{A}_1\bar{B}_0\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_1\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	1	$\frac{\bar{A}_0\bar{B}_1\bar{C}_{\frac{3}{2}}}{\sqrt{2}} - \frac{\bar{A}_1\bar{B}_0\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	2	$-\frac{4\bar{A}_1\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} - \frac{\bar{A}_1\bar{B}_0\bar{C}_{\frac{1}{2}}}{\sqrt{70}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{70}} + \sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}} + 2\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_0\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	1	$-\sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_0\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_1\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{5}{2}$	$\frac{1}{2}$	2	$-\sqrt{\frac{6}{35}}\bar{A}_1\bar{B}_1\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{70}} + \sqrt{\frac{2}{35}}\bar{A}_0\bar{B}_0\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{70}} + \frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}} + \frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{1}{2}$	1	$-\frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}} - \sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}}{2\sqrt{5}}$
$\frac{5}{2}$	$-\frac{1}{2}$	2	$-\frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}} - \frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} - \sqrt{\frac{2}{35}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} + \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$-\frac{1}{2}$	1	$-\frac{\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{3}{2}$	2	$-\sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}} - 2\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} + \frac{4\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{35}}$
$\frac{5}{2}$	$-\frac{3}{2}$	1	$-\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	2	$-\sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{14}}\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{3}{2}} + \frac{2\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}}$
$\frac{5}{2}$	$-\frac{5}{2}$	1	$\frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{3}{2}}}{\sqrt{2}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	2	$\sqrt{\frac{2}{5}}\bar{A}_1\bar{B}_1\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_1\bar{B}_0\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{30}} + \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}}{\sqrt{30}}$
$\frac{3}{2}$	$\frac{3}{2}$	1	$\frac{\bar{A}_1\bar{B}_0\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{\frac{3}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{3}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$\frac{1}{2}$	2	$\sqrt{\frac{2}{5}}\bar{A}_1\bar{B}_1\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} + \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$\frac{2\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}}}{\sqrt{15}} - \frac{2\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{15}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{30}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$\frac{1}{2}$	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$-\frac{1}{2}$	2	$\frac{\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} + \sqrt{\frac{2}{5}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$\frac{\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \frac{2\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{15}} + \frac{2\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}}}{\sqrt{15}}$
$\frac{3}{2}$	$-\frac{1}{2}$	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$-\frac{3}{2}$	2	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}}{\sqrt{30}} + \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{30}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \sqrt{\frac{2}{5}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$\sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{-\frac{1}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$-\frac{3}{2}$	0	$\frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{3}{2}}}{\sqrt{3}} - \frac{\bar{A}_0\bar{B}_0\bar{C}_{-\frac{3}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{3}{2}}}{\sqrt{3}}$
$\frac{1}{2}$	$\frac{1}{2}$	2	$-\sqrt{\frac{2}{5}}\bar{A}_1\bar{B}_1\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} - \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}}{2\sqrt{5}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$-\frac{\bar{A}_1\bar{B}_0\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_0\bar{B}_1\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{\frac{1}{2}}}{\sqrt{6}} - \frac{1}{2}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{3}{2}} + \frac{1}{2}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{3}{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	2	$-\frac{\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \frac{\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} + \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_0\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{5}}\bar{A}_{-1}\bar{B}_{-1}\bar{C}_{\frac{3}{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$-\frac{1}{2}\bar{A}_1\bar{B}_0\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\bar{A}_0\bar{B}_1\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_1\bar{B}_{-1}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{-1}\bar{B}_1\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_0\bar{B}_{-1}\bar{C}_{\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_0\bar{C}_{\frac{1}{2}}}{2\sqrt{3}}$

$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes \frac{1}{2} \otimes \frac{1}{2}$:

I	I_3	I_{AB}	
2	2	$\frac{3}{2}$	$\bar{A}_1 \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}$
2	1	$\frac{3}{2}$	$\frac{1}{2}\bar{A}_1 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}} + \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{2}}$
2	0	$\frac{3}{2}$	$\frac{\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} + \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
2	-1	$\frac{3}{2}$	$\frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{2}} + \frac{1}{2}\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_{-1} \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}$
2	-2	$\frac{3}{2}$	$\bar{A}_{-1} \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}$
1	1	$\frac{3}{2}$	$-\frac{1}{2}\sqrt{3}\bar{A}_1 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
1	1	$\frac{1}{2}$	$\frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} - \sqrt{\frac{2}{3}}\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}$
1	0	$\frac{3}{2}$	$-\frac{\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
1	0	$\frac{1}{2}$	$-\frac{\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \frac{\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
1	-1	$\frac{3}{2}$	$-\frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} + \frac{1}{2}\sqrt{3}\bar{A}_{-1} \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}$
1	-1	$\frac{1}{2}$	$\sqrt{\frac{2}{3}}\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}}$
0	0	$\frac{1}{2}$	$\frac{\bar{A}_1 \bar{B}_{-\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{3}} - \frac{\bar{A}_0 \bar{B}_{\frac{1}{2}} \bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_0 \bar{B}_{-\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \frac{\bar{A}_{-1} \bar{B}_{\frac{1}{2}} \bar{C}_{\frac{1}{2}}}{\sqrt{3}}$

$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes \frac{1}{2} \otimes \frac{3}{2}$:

I	I_3	I_{AB}	
3	3	$\frac32$	$\bar{A}_1\bar{B}_{\frac12}\bar{C}_{\frac32}$
3	2	$\frac32$	$\frac{\bar{A}_1\bar{B}_{\frac12}\bar{C}_{\frac12}}{\sqrt2} + \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac32}}{\sqrt6} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt3}$
3	1	$\frac32$	$\frac{\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt5} + \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt5} + \sqrt{\frac25}\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac12} + \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac32} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt{15}}$
3	0	$\frac32$	$\frac{\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac32}}{2\sqrt5} + \frac12\sqrt{\frac35}\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12} + \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12} + \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12} + \frac12\sqrt{\frac35}\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12} + \frac{\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac32}}{2\sqrt5}$
3	-1	$\frac32$	$\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt{15}} + \sqrt{\frac{2}{15}}\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac32} + \sqrt{\frac25}\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac12} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt5} + \frac{\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt5}$
3	-2	$\frac32$	$\frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt3} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac32}}{\sqrt6} + \frac{\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{\sqrt2}$
3	-3	$\frac32$	$\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{-\frac32}$
2	2	$\frac32$	$-\frac{\bar{A}_1\bar{B}_{\frac12}\bar{C}_{\frac12}}{\sqrt2} + \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac32}}{\sqrt6} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt3}$
2	2	$\frac12$	$\frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt3} - \sqrt{\frac23}\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac32}$
2	1	$\frac32$	$-\frac{\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt2} + \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac32}}{\sqrt3} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt6}$
2	1	$\frac12$	$-\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt2} + \frac12\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac12} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac32}}{2\sqrt3} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt6}$
2	0	$\frac32$	$-\frac12\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac32} - \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{2\sqrt3} - \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt6} + \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt6} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12}}{2\sqrt3} + \frac12\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac32}$
2	0	$\frac12$	$-\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{\sqrt3} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt6} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt6} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12}}{\sqrt3}$
2	-1	$\frac32$	$-\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt6} - \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac32}}{\sqrt3} + \frac{\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt2}$
2	-1	$\frac12$	$-\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt6} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac32}}{2\sqrt3} - \frac12\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac12} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt2}$
2	-2	$\frac32$	$-\frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt3} - \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac32}}{\sqrt6} + \frac{\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{\sqrt2}$
2	-2	$\frac12$	$\sqrt{\frac23}\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac32} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt3}$
1	1	$\frac32$	$\sqrt{\frac{3}{10}}\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac12} - \sqrt{\frac{2}{15}}\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac12} - \frac{2\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac12}}{\sqrt{15}} + \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac32}}{\sqrt5} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt{10}}$
1	1	$\frac12$	$\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt6} - \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{\frac12}}{2\sqrt3} - \frac12\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac32} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac32}}{\sqrt2}$
1	0	$\frac32$	$\frac{3\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac32}}{2\sqrt5} - \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{2\sqrt{15}} - \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt{30}} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt{30}} - \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12}}{2\sqrt{15}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac32}}{2\sqrt5}$
1	0	$\frac12$	$\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{\sqrt3} - \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt6} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt6} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12}}{\sqrt3}$
1	-1	$\frac32$	$\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt{10}} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac32}}{\sqrt5} - \frac{2\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{\sqrt{15}} - \sqrt{\frac{2}{15}}\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac12} + \sqrt{\frac{3}{10}}\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac12}$
1	-1	$\frac12$	$\frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac32}}{\sqrt2} - \frac12\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac32} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{2\sqrt3} + \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt6}$
0	0	$\frac32$	$-\frac12\bar{A}_1\bar{B}_{\frac12}\bar{C}_{-\frac32} + \frac{\bar{A}_1\bar{B}_{-\frac12}\bar{C}_{-\frac12}}{2\sqrt3} + \frac{\bar{A}_0\bar{B}_{\frac12}\bar{C}_{-\frac12}}{\sqrt6} - \frac{\bar{A}_0\bar{B}_{-\frac12}\bar{C}_{\frac12}}{\sqrt6} - \frac{\bar{A}_{-1}\bar{B}_{\frac12}\bar{C}_{\frac12}}{2\sqrt3} + \frac12\bar{A}_{-1}\bar{B}_{-\frac12}\bar{C}_{\frac32}$

$|I\ I_3\ I_{AB}\rangle$ states from $1 \otimes \frac{3}{2} \otimes \frac{3}{2}$:

I	I_3	I_{AB}	
4	4	$\frac{5}{2}$	$\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
4	3	$\frac{5}{2}$	$\frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{2}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
4	2	$\frac{5}{2}$	$\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{7}} + \sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{7}}$
4	1	$\frac{5}{2}$	$\frac{\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{14}} + \frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{14}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{14}} + \frac{3\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{7}} + \frac{1}{2}\sqrt{\frac{3}{14}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{14}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{14}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
4	0	$\frac{5}{2}$	$\sqrt{\frac{3}{70}}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \frac{3\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} + \frac{3\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} + \sqrt{\frac{3}{70}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{70}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}} + \frac{\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}} + \sqrt{\frac{3}{70}}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
4	−1	$\frac{5}{2}$	$\frac{1}{2}\sqrt{\frac{3}{14}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{14}} + \frac{1}{2}\sqrt{\frac{3}{14}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{7}} + \frac{3\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{14}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{14}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{14}}$
4	−2	$\frac{5}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{7}} + \sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{3}{14}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{7}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
4	−3	$\frac{5}{2}$	$\frac{1}{2}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
4	−4	$\frac{5}{2}$	$\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$
3	3	$\frac{5}{2}$	$-\frac{1}{2}\sqrt{\frac{5}{2}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
3	3	$\frac{3}{2}$	$\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \sqrt{\frac{2}{5}}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
3	2	$\frac{5}{2}$	$-\frac{1}{2}\sqrt{\frac{5}{3}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}}$
3	2	$\frac{3}{2}$	$-\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} + \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{2\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{15}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{30}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
3	1	$\frac{5}{2}$	$-\frac{\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{2}} - \frac{7\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{2}} - \frac{7\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{3}} + \frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{2}} + \frac{1}{10}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{6}} + \frac{3\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{2}} + \frac{3}{10}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{3}{10}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
3	1	$\frac{3}{2}$	$-\frac{1}{5}\sqrt{2}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{2}{5}\sqrt{2}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{6}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{5}\sqrt{2}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{3}} + \frac{2}{5}\sqrt{\frac{2}{3}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
3	0	$\frac{5}{2}$	$-\frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}} - \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{5}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}$
3	0	$\frac{3}{2}$	$-\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}} + \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{5}\sqrt{6}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} - \frac{3\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} - \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{6}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}$
3	−1	$\frac{5}{2}$	$-\frac{3}{10}\sqrt{3}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{3}{10}\sqrt{3}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{3\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{2}} - \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{6}} - \frac{1}{10}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{2}} + \frac{7\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{3}} + \frac{7\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{2}}$
3	−1	$\frac{3}{2}$	$-\frac{2}{5}\sqrt{\frac{2}{3}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{3}} + \frac{1}{5}\sqrt{2}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{5}\sqrt{6}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{5}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{2}{5}\sqrt{2}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{2}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
3	−2	$\frac{5}{2}$	$-\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{1}{2}\sqrt{\frac{5}{3}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
3	−2	$\frac{3}{2}$	$-\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{30}} + \frac{2\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{15}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}}$
3	−3	$\frac{5}{2}$	$-\frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{5}{2}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
3	−3	$\frac{3}{2}$	$\sqrt{\frac{2}{5}}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$

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2	2	$\frac{5}{2}$	$\sqrt{\frac{10}{21}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - 2\sqrt{\frac{2}{35}}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{4\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{105}} + \sqrt{\frac{3}{70}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}$
2	2	$\frac{3}{2}$	$\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{2\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{15}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{30}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
2	2	$\frac{1}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{6}} - \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
2	1	$\frac{5}{2}$	$\sqrt{\frac{5}{14}}\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}} + \frac{\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{105}} - \frac{1}{2}\sqrt{\frac{5}{14}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{42}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{70}} + \frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{3}{2}\sqrt{\frac{3}{70}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
2	1	$\frac{3}{2}$	$\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{30}} + \frac{2\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{15}}$
2	1	$\frac{1}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{2}} - \frac{1}{2}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{6}}$
2	0	$\frac{5}{2}$	$\frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \sqrt{\frac{6}{35}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \sqrt{\frac{3}{70}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{35}} - \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{35}} - \sqrt{\frac{3}{70}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}}$
2	0	$\frac{3}{2}$	$\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{2}{15}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{15}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} - \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{15}} + \sqrt{\frac{2}{15}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}}$
2	0	$\frac{1}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} + \frac{1}{2}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{3}}$
2	-1	$\frac{5}{2}$	$\frac{3}{2}\sqrt{\frac{3}{70}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{70}} - \frac{1}{2}\sqrt{\frac{5}{42}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{14}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{105}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}} + \sqrt{\frac{5}{14}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
2	-1	$\frac{3}{2}$	$\frac{2\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{15}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{30}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}}$
2	-1	$\frac{1}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{6}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{2}}$
2	-2	$\frac{5}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}} + \sqrt{\frac{3}{35}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{3}{70}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{4\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{105}} - 2\sqrt{\frac{2}{35}}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{10}{21}}\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
2	-2	$\frac{3}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{30}} - \frac{2\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{15}} - \sqrt{\frac{3}{10}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}}$
2	-2	$\frac{1}{2}$	$\frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{6}}$
1	1	$\frac{5}{2}$	$-\frac{\bar{A}_1\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}} + \frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{3\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{2}} - \frac{3}{10}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{10}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{2}} + \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{10}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
1	1	$\frac{3}{2}$	$-\frac{1}{5}\sqrt{3}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{4\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{3}} - \frac{1}{5}\sqrt{\frac{2}{3}}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{2}{5}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{5}\sqrt{3}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}} + \frac{2}{5}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
1	1	$\frac{1}{2}$	$-\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{6}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{3}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{1}{2}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{2}}$
1	0	$\frac{5}{2}$	$-\frac{1}{5}\sqrt{3}\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{5}\sqrt{2}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{3\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{3\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{1}{10}\sqrt{3}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{3\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} - \frac{3}{5}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{2}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
1	0	$\frac{3}{2}$	$-\frac{3\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}} + \frac{3}{10}\sqrt{3}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{5}\sqrt{\frac{2}{3}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{3}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} + \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{3}} - \frac{1}{5}\sqrt{\frac{2}{3}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{3}{10}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}$
1	0	$\frac{1}{2}$	$-\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{1}{2}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{3}}$
1	-1	$\frac{5}{2}$	$-\frac{1}{10}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{2}} + \frac{1}{10}\sqrt{\frac{3}{2}}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10} + \frac{3\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{2}} - \frac{1}{5}\sqrt{3}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{3\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
1	-1	$\frac{3}{2}$	$-\frac{2}{5}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{2}{5}\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{5}\sqrt{\frac{2}{3}}\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{4\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{3}} - \frac{3\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
1	-1	$\frac{1}{2}$	$-\frac{\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{2}} + \frac{1}{2}\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} - \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{6}}$
0	0	$\frac{3}{2}$	$\frac{\bar{A}_1\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{2}{15}}\bar{A}_1\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_0\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{15}} + \frac{\bar{A}_{-1}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_1\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_0\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{15}} - \sqrt{\frac{2}{15}}\bar{A}_{-1}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_0\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-1}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}}$

$|I\ I_3\ I_{AB}\rangle$ states from $\frac{1}{2} \otimes \frac{1}{2} \otimes \frac{1}{2}$:

I	I_3	I_{AB}	
$\frac{3}{2}$	$\frac{3}{2}$	1	$\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{3}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{3}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$-\sqrt{\dfrac{2}{3}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}}$
$\frac{1}{2}$	$\frac{1}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$-\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} + \sqrt{\dfrac{2}{3}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{2}}$

$|I\ I_3\ I_{AB}\rangle$ states from $\frac{1}{2} \otimes \frac{1}{2} \otimes \frac{3}{2}$:

I	I_3	I_{AB}	
$\frac{5}{2}$	$\frac{5}{2}$	1	$\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	1	$\sqrt{\frac{3}{5}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{5}{2}$	$\frac{1}{2}$	1	$\sqrt{\frac{3}{10}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}}$
$\frac{5}{2}$	$-\frac{1}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} + \sqrt{\frac{3}{10}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{3}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \sqrt{\frac{3}{5}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	1	$\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	1	$-\sqrt{\frac{2}{5}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{10}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$-2\sqrt{\frac{2}{15}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \sqrt{\frac{2}{5}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$-\sqrt{\frac{2}{5}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} + 2\sqrt{\frac{2}{15}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$-\sqrt{\frac{3}{10}}\,\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{10}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{2}{5}}\,\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	0	$\dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$\dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}} - \dfrac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} + \dfrac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}}$

$|I\ I_3\ I_{AB}\rangle$ states from $\frac{1}{2} \otimes \frac{3}{2} \otimes \frac{3}{2}$:

I	I_3	I_{AB}	
$\frac{7}{2}$	$\frac{7}{2}$	2	$\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{5}{2}$	2	$\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}}$
$\frac{7}{2}$	$\frac{3}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}} + \sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{7}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}}$
$\frac{7}{2}$	$\frac{1}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} + \sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{35}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}} + \sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$-\frac{1}{2}$	2	$\sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} + \sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{35}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}}$
$\frac{7}{2}$	$-\frac{3}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}} + \sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{7}}$
$\frac{7}{2}$	$-\frac{5}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} + \sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{7}{2}$	$-\frac{7}{2}$	2	$\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	2	$-\frac{2\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{7}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{7}} + \frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	1	$\frac{1}{2}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	2	$-\frac{4\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{35}} - \frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{35}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{35}}$
$\frac{5}{2}$	$\frac{3}{2}$	1	$-\frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{5}{2}$	$\frac{1}{2}$	2	$-\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{15}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{5}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{70}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{70}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{3}{2}\sqrt{\frac{3}{70}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{70}}$
$\frac{5}{2}$	$\frac{1}{2}$	1	$-\frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{10}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{10}}$
$\frac{5}{2}$	$-\frac{1}{2}$	2	$-\frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{70}} - \frac{3}{2}\sqrt{\frac{3}{70}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{70}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \sqrt{\frac{3}{70}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{5}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{15}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$-\frac{1}{2}$	1	$-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{3}{2}$	2	$-\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} - \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{35}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{35}} + \frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{4\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{35}}$
$\frac{5}{2}$	$-\frac{3}{2}$	1	$-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	2	$-\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{7}} + \frac{2\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}}$
$\frac{5}{2}$	$-\frac{5}{2}$	1	$\frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	2	$\sqrt{\frac{2}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}}$
$\frac{3}{2}$	$\frac{3}{2}$	1	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} - \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	2	$\sqrt{\frac{2}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}} + \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$\sqrt{\frac{2}{15}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \sqrt{\frac{2}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{30}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{10}}$
$\frac{3}{2}$	$-\frac{1}{2}$	2	$\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \sqrt{\frac{2}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} - \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{30}} - \sqrt{\frac{2}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \sqrt{\frac{2}{15}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{10}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} - \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \sqrt{\frac{2}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}}$
$\frac{1}{2}$	$\frac{1}{2}$	2	$-\sqrt{\frac{2}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{10}} + \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{6}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{6}} - \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	2	$-\frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{10}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{10}} - \frac{1}{2}\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{10}} + \sqrt{\frac{2}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{2}} + \frac{1}{2}\sqrt{\frac{3}{2}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{6}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{6}}$

$|I\ I_3\ I_{AB}\rangle$ states from $\frac{3}{2}\otimes\frac{3}{2}\otimes\frac{3}{2}$:

I	I_3	I_{AB}	
$\frac{9}{2}$	$\frac{9}{2}$	3	$\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{9}{2}$	$\frac{7}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{3}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{3}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{3}}$
$\frac{9}{2}$	$\frac{5}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{3}}+\frac{1}{2}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{3}}+\frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{3}}$
$\frac{9}{2}$	$\frac{3}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{21}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{7}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{21}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{21}}$
$\frac{9}{2}$	$\frac{1}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{42}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}$
$\frac{9}{2}$	$-\frac{1}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{42}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{42}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{42}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{42}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}$
$\frac{9}{2}$	$-\frac{3}{2}$	3	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{21}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{21}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{7}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{21}}$
$\frac{9}{2}$	$-\frac{5}{2}$	3	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{3}}+\frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{3}}+\frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{1}{2}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{3}}$
$\frac{9}{2}$	$-\frac{7}{2}$	3	$\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{3}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{3}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{3}}$
$\frac{9}{2}$	$-\frac{9}{2}$	3	$\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$
$\frac{7}{2}$	$\frac{7}{2}$	3	$-\sqrt{\frac{2}{3}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{6}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{6}}$
$\frac{7}{2}$	$\frac{7}{2}$	2	$\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{2}}$
$\frac{7}{2}$	$\frac{5}{2}$	3	$-2\sqrt{\frac{2}{21}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{14}}-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{14}}+\sqrt{\frac{2}{21}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{2}{21}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{5}{2}$	2	$-\sqrt{\frac{3}{14}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\sqrt{\frac{2}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{3}{2}$	3	$-\sqrt{\frac{2}{21}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{42}}$
$\frac{7}{2}$	$\frac{3}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}-\sqrt{\frac{2}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{14}}-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{14}}$
$\frac{7}{2}$	$\frac{1}{2}$	3	$-\sqrt{\frac{5}{42}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{5}{42}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{210}}+\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{6}{70}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{210}}+2\sqrt{\frac{2}{105}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+2\sqrt{\frac{2}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+2\sqrt{\frac{2}{105}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$\frac{1}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}-\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$-\frac{1}{2}$	3	$-2\sqrt{\frac{2}{105}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-2\sqrt{\frac{2}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-2\sqrt{\frac{2}{105}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{210}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{210}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{5}{42}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{5}{42}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$-\frac{1}{2}$	2	$-\sqrt{\frac{6}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}-\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}-\sqrt{\frac{6}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{6}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}$
$\frac{7}{2}$	$-\frac{3}{2}$	3	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}-\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{42}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\sqrt{\frac{2}{21}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{7}{2}$	$-\frac{3}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{14}}-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{14}}-\sqrt{\frac{2}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{14}}$
$\frac{7}{2}$	$-\frac{5}{2}$	3	$-\sqrt{\frac{2}{21}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{2}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{2}{21}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{14}}+2\sqrt{\frac{2}{21}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{7}{2}$	$-\frac{5}{2}$	2	$-\sqrt{\frac{2}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{7}{2}$	$-\frac{7}{2}$	3	$-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{6}}-\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{6}}+\sqrt{\frac{2}{3}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{7}{2}$	$-\frac{7}{2}$	2	$\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	3	$\frac{1}{2}\sqrt{\frac{15}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{35}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	2	$\sqrt{\frac{2}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\sqrt{\frac{2}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{5}{2}$	1	$\sqrt{\frac{3}{10}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}-\sqrt{\frac{2}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{3}{10}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{3}{2}$	3	$\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{7}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{7}}+\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{7}}-\frac{1}{10}\sqrt{7}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{10}\sqrt{21}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{10}\sqrt{7}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}}+\frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}}+\frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}}$
$\frac{5}{2}$	$\frac{3}{2}$	2	$2\sqrt{\frac{2}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-2\sqrt{\frac{2}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{70}}-\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}-\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{70}}$
$\frac{5}{2}$	$\frac{3}{2}$	1	$\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}}-\frac{1}{5}\sqrt{6}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}}+\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}-\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}-\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{2}}$
$\frac{5}{2}$	$\frac{1}{2}$	3	$\sqrt{\frac{3}{14}}\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{14}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{14}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{3}{5}\sqrt{\frac{1}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{14}}+\frac{3}{5}\sqrt{\frac{1}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{1}{2}$	2	$\sqrt{\frac{3}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}+\frac{1}{2}\sqrt{\frac{7}{2}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{7}{2}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$\frac{1}{2}$	1	$\frac{3}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{5}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{10}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{3}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{5}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\frac{1}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$-\frac{1}{2}$	3	$\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}+\frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{14}}+\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{3}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{14}}-\frac{1}{5}\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{14}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$-\frac{1}{2}$	2	$\frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\frac{3}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{7}{2}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{7}{2}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}-\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}+\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{5}{2}$	$-\frac{1}{2}$	1	$\frac{1}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\frac{1}{5}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{1}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\frac{3}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\frac{1}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3}{10}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}-\frac{1}{5}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}+\frac{3}{10}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{3}{2}$	3	$\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}}+\frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}}+\frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}}-\frac{1}{10}\sqrt{7}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{10}\sqrt{21}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{10}\sqrt{7}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{7}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{7}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{7}}$
$\frac{5}{2}$	$-\frac{3}{2}$	2	$\frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}}-\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{70}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}+\frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{70}}-2\sqrt{\frac{2}{35}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+2\sqrt{\frac{2}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{3}{2}$	1	$\frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}}-\frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}}-\frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{2}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}}-\frac{1}{5}\sqrt{6}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{2}}-\frac{1}{5}\sqrt{6}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}+\frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	3	$\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}+\frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{35}}+\frac{1}{2}\sqrt{\frac{3}{35}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}-\frac{1}{2}\sqrt{\frac{5}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}+\frac{1}{2}\sqrt{\frac{15}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	2	$\sqrt{\frac{3}{14}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{3}{14}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{2}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}+\sqrt{\frac{2}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{5}{2}$	$-\frac{5}{2}$	1	$\sqrt{\frac{3}{10}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}-\sqrt{\frac{2}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}+\sqrt{\frac{3}{10}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}$

$\frac{3}{2}$	$\frac{3}{2}$	3	$-\frac{2\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} + \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{7}} - \frac{2\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{7}} - \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{2\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{7}} + \frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}} + \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}} + \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{10\sqrt{7}}$
$\frac{3}{2}$	$\frac{3}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}}$
$\frac{3}{2}$	$\frac{3}{2}$	1	$-\frac{1}{5}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{2}{5}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{5}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{3}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{3}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{3}{2}$	0	$-\frac{1}{2}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} - \frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{2}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	3	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{7}} + \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{6\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{7}} + \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{7}} - \frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{7}} - \frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{7}} - \frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{7}} + \frac{2\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{7}} + \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{2\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{5\sqrt{7}}$
$\frac{3}{2}$	$\frac{1}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$\frac{1}{2}$	1	$-\frac{2}{5}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{4\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{3}} - \frac{2}{5}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{3}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{10\sqrt{3}} + \frac{1}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{2}{5}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{3}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	3	$-\frac{2\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{7}} - \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{2\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{5\sqrt{7}} + \frac{3\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{7}} + \frac{9\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{7}} + \frac{9\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{7}} + \frac{3\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{7}} - \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}}$
$\frac{3}{2}$	$-\frac{1}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$-\frac{1}{2}$	1	$-\frac{1}{5}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{2}{5}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{5}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{3}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{10\sqrt{3}} - \frac{1}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{2}{5}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{4\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{5\sqrt{3}} + \frac{2}{5}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{1}{2}$	0	$-\frac{1}{2}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} - \frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	3	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}} - \frac{3\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}} - \frac{3\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{10\sqrt{7}} + \frac{2\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{7}} + \frac{2}{5}\sqrt{\frac{3}{7}}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{2\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{5\sqrt{7}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{7}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{7}} + \frac{2\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{7}}$
$\frac{3}{2}$	$-\frac{3}{2}$	2	$-\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{5}}$
$\frac{3}{2}$	$-\frac{3}{2}$	1	$-\frac{3}{10}\sqrt{3}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{10}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{10}\sqrt{3}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{3}{10}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} - \frac{2}{5}\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{5}\sqrt{3}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}$
$\frac{3}{2}$	$-\frac{3}{2}$	0	$-\frac{1}{2}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}} + \frac{1}{2}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}$
$\frac{1}{2}$	$\frac{1}{2}$	2	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{2\sqrt{5}}$
$\frac{1}{2}$	$\frac{1}{2}$	1	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{\sqrt{15}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{15}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{15}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{\frac{1}{2}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{3}{2}}$
$\frac{1}{2}$	$-\frac{1}{2}$	2	$\frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{5}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{3}{2}}}{\sqrt{5}}$
$\frac{1}{2}$	$-\frac{1}{2}$	1	$\frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{3}{2}}}{\sqrt{5}} + \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{3}{2}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{\frac{3}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{15}} + \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{-\frac{1}{2}}}{2\sqrt{15}} - \frac{1}{2}\sqrt{\frac{3}{5}}\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{3}{2}}\bar{C}_{-\frac{1}{2}} + \frac{\bar{A}_{\frac{1}{2}}\bar{B}_{-\frac{3}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}} - \frac{\bar{A}_{-\frac{1}{2}}\bar{B}_{-\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{\sqrt{15}} + \frac{\bar{A}_{-\frac{3}{2}}\bar{B}_{\frac{1}{2}}\bar{C}_{\frac{1}{2}}}{2\sqrt{5}}$