Nominal State Label	Calculated Admixture $ J,F_1,F\rangle$	r_{JJ-3}	r_{JJ-2}	r_{JJ-1}	r_{JJ}	r_{JJ+1}	r_{JJ+2}	r_{JJ+3}
$ \tilde{J}=1,F_1=\frac{1}{2},F=0\rangle$	$ 1,rac{1}{2},0 angle$			0.667	1	0.333		
$\begin{array}{l} \tilde{J}=1,F_1=\frac{1}{2},F=1\rangle\\ \tilde{J}=1,F_1=\frac{3}{2},F=1\rangle\\ \tilde{J}=2,F_1=\frac{3}{2},F=1\rangle \end{array}$	$\begin{array}{l} +0.9996 \mid 1, \frac{1}{2}, 1\rangle + 0.0203 \mid 1, \frac{3}{2}, 1\rangle + 0.0180 \mid 2, \frac{3}{2}, 1\rangle \\ +0.0267 \mid 1, \frac{1}{2}, 1\rangle - 0.8519 \mid 1, \frac{3}{2}, 1\rangle - 0.5231 \mid 2, \frac{3}{2}, 1\rangle \\ -0.0047 \mid 1, \frac{1}{2}, 1\rangle - 0.5234 \mid 1, \frac{3}{2}, 1\rangle + 0.8521 \mid 2, \frac{3}{2}, 1\rangle \end{array}$		0.1826	0.6665 0.4843 0.7096	0.9999 0.8906 0.8174	0.3335 0.5158 0.2904	0.0001 0.1094	
$\begin{array}{l} \tilde{J}=1,F_1=\frac{3}{2},F=2\rangle\\ \tilde{J}=2,F_1=\frac{5}{2},F=2\rangle\\ \tilde{J}=2,F_1=\frac{5}{2},F=2\rangle\\ \tilde{J}=3,F_1=\frac{5}{2},F=2\rangle \end{array}$	$\begin{array}{l} +0.8483\left 1,\frac{3}{2},2\right\rangle+0.5293\left 2,\frac{3}{2},2\right\rangle+0.0138\left 2,\frac{5}{2},2\right\rangle+0.0064\left 3,\frac{5}{2},2\right\rangle\\ +0.0103\left 1,\frac{3}{2},2\right\rangle+0.0120\left 2,\frac{3}{2},2\right\rangle-0.9353\left 2,\frac{5}{2},2\right\rangle-0.3534\left 3,\frac{5}{2},2\right\rangle\\ +0.5294\left 1,\frac{3}{2},2\right\rangle-0.8483\left 2,\frac{3}{2},2\right\rangle-0.0011\left 2,\frac{5}{2},2\right\rangle-0.0103\left 3,\frac{5}{2},2\right\rangle\\ -0.0040\left 1,\frac{3}{2},2\right\rangle+0.0085\left 2,\frac{3}{2},2\right\rangle+0.3535\left 2,\frac{5}{2},2\right\rangle-0.9354\left 3,\frac{5}{2},2\right\rangle \end{array}$	0.00001	0.00007 0.1869 0.0750	0.4797 0.5251 0.7121 0.6250	0.8878 0.9464 0.8131 0.9250	0.5203 0.4749 0.2880 0.3750	0.1122 0.0535 0.00005	0.00002
$ \tilde{J} = 2, F_1 = \frac{5}{2}, F = 3\rangle$ $ \tilde{J} = 3, F_1 = \frac{7}{2}, F = 3\rangle$	$ \begin{array}{l} +0.9342 2,\frac{5}{2},3\rangle + 0.3567 3,\frac{5}{2},3\rangle + 0.0100 3,\frac{7}{2},3\rangle + 0.0032 4,\frac{7}{2},3\rangle \\ +0.0084 2,\frac{5}{2},3\rangle + 0.0074 3,\frac{5}{2},3\rangle - 0.9638 3,\frac{7}{2},3\rangle - 0.2665 4,\frac{7}{2},3\rangle \end{array}$		0.00004	0.5236 0.5309	0.9454 0.9684	$0.4764 \\ 0.4691$	$0.0546 \\ 0.0316$	
$ \tilde{J} = 3, F_1 = \frac{5}{2}, F = 3\rangle$ $ \tilde{J} = 4, F_1 = \frac{7}{2}, F = 3\rangle$	$ \begin{array}{l} +0.3567 2,\frac{5}{2},3\rangle - 0.9342 3,\frac{5}{2},3\rangle - 0.0017 3,\frac{7}{2},3\rangle - 0.0084 4,\frac{7}{2},3\rangle \\ +0.0023 2,\frac{5}{2},3\rangle - 0.0073 3,\frac{5}{2},3\rangle - 0.2665 3,\frac{7}{2},3\rangle + 0.9638 4,\frac{7}{2},3\rangle \end{array}$		$0.0764 \\ 0.0406$	0.6259 0.5872	$0.9236 \\ 0.9594$	$0.3741 \\ 0.4129$	0.00003	

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Nominal State Label
                                                                                               Calculated Admixture |J, F_1, F\rangle
|\tilde{J} = 1, F_1 = \frac{1}{2}, F = 0\rangle
                                                                                           |1,\frac{1}{2},0\rangle
\begin{array}{l} |\tilde{J}=1,F_{1}=\frac{1}{2},F=1\rangle \\ |\tilde{J}=1,F_{1}=\frac{3}{2},F=1\rangle \\ |\tilde{J}=2,F_{1}=\frac{3}{2},F=1\rangle \end{array}
                                                                                            \begin{array}{l} +0.9996\,|1,\frac{1}{2},1\rangle +0.0203\,|1,\frac{3}{2},1\rangle +0.0180\,|2,\frac{3}{2},1\rangle \\ +0.0267\,|1,\frac{1}{2},1\rangle -0.8519\,|1,\frac{3}{2},1\rangle -0.5231\,|2,\frac{3}{2},1\rangle \\ -0.0047\,|1,\frac{1}{2},1\rangle -0.5234\,|1,\frac{3}{2},1\rangle +0.8521\,|2,\frac{3}{2},1\rangle \end{array}
\begin{array}{l} |\tilde{J}=1,F_1=\frac{3}{2},F=2\rangle \\ |\tilde{J}=2,F_1=\frac{5}{2},F=2\rangle \\ |\tilde{J}=2,F_1=\frac{3}{2},F=2\rangle \\ |\tilde{J}=3,F_1=\frac{5}{2},F=2\rangle \end{array}
                                                                                              +0.8483 |1, \frac{3}{2}, 2\rangle + 0.5293 |2, \frac{3}{2}, 2\rangle + 0.0138 |2, \frac{5}{2}, 2\rangle + 0.0064 |3, \frac{5}{2}, 2\rangle
                                                                                             +0.0103 \begin{vmatrix} 1, \frac{3}{2}, 2 \rangle + 0.0120 \begin{vmatrix} 2, \frac{3}{2}, 2 \rangle - 0.9353 \begin{vmatrix} 2, \frac{5}{2}, 2 \rangle - 0.3534 \begin{vmatrix} 3, \frac{5}{2}, 2 \rangle \\ +0.5294 \begin{vmatrix} 1, \frac{3}{2}, 2 \rangle - 0.8483 \begin{vmatrix} 2, \frac{3}{2}, 2 \rangle - 0.0011 \begin{vmatrix} 2, \frac{5}{2}, 2 \rangle - 0.0103 \begin{vmatrix} 3, \frac{5}{2}, 2 \rangle \end{vmatrix}
                                                                                              -0.0040 \left| 1, \frac{5}{2}, 2 \right\rangle + 0.0085 \left| 2, \frac{5}{2}, 2 \right\rangle + 0.3535 \left| 2, \frac{5}{2}, 2 \right\rangle - 0.9354 \left| 3, \frac{5}{2}, 2 \right\rangle
|\tilde{J}=2,F_1=\frac{5}{2},F=3\rangle
                                                                                              +0.9342 |2, \frac{5}{2}, 3\rangle + 0.3567 |3, \frac{5}{2}, 3\rangle + 0.0100 |3, \frac{7}{2}, 3\rangle + 0.0032 |4, \frac{7}{2}, 3\rangle
|\tilde{J} = 3, F_1 = \frac{7}{2}, F = 3\rangle
|\tilde{J} = 3, F_1 = \frac{5}{2}, F = 3\rangle
                                                                                             +0.0084 \begin{vmatrix} 2, \frac{5}{2}, 3 \rangle + 0.0074 \begin{vmatrix} 3, \frac{5}{2}, 3 \rangle - 0.9638 \begin{vmatrix} 3, \frac{7}{2}, 3 \rangle - 0.2665 \begin{vmatrix} 4, \frac{7}{2}, 3 \rangle \\ +0.3567 \begin{vmatrix} 2, \frac{5}{2}, 3 \rangle - 0.9342 \begin{vmatrix} 3, \frac{5}{2}, 3 \rangle - 0.0017 \begin{vmatrix} 3, \frac{7}{2}, 3 \rangle - 0.0084 \begin{vmatrix} 4, \frac{7}{2}, 3 \rangle \end{vmatrix}
 |\tilde{J}=4, F_1=\frac{7}{2}, F=3\rangle
                                                                                             +0.0023 |2, \frac{5}{2}, 3\rangle - 0.0073 |3, \frac{5}{2}, 3\rangle - 0.2665 |3, \frac{7}{2}, 3\rangle + 0.9638 |4, \frac{7}{2}, 3\rangle
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Nominal State Label	r_{JJ-3}	r_{JJ-2}	r_{JJ-1}	r_{JJ}	r_{JJ+1}	r_{JJ+2}	r_{JJ+3}
$ \tilde{J} = 1, F_1 = \frac{1}{2}, F = 0\rangle$			0.667	1	0.333		
$ \tilde{J} = 1, F_1 = \frac{1}{2}, F = 1\rangle$			0.6665	0.9999	0.3335	0.0001	
$ \tilde{J} = 1, F_1 = \frac{3}{2}, F = 1\rangle$ $ \tilde{J} = 2, F_1 = \frac{3}{2}, F = 1\rangle$		0.1826	0.4843 0.7096	0.8906 0.8174	0.5158 0.2904	0.1094	
		0.1620					
$ \tilde{J} = 1, F_1 = \frac{3}{2}, F = 2\rangle$			0.4797	0.8878	0.5203	0.1122	0.00002
$ \tilde{J} = 2, F_1 = \frac{5}{2}, F = 2\rangle$		0.00007	0.5251	0.9464	0.4749	0.0535	
$ \tilde{J} = 2, F_1 = \frac{3}{2}, F = 2\rangle$ $ \tilde{J} = 3, F_1 = \frac{5}{5}, F = 2\rangle$	0.00001	0.1869	0.7121	0.8131	0.2880	0.00005	
$ J=3,F_1=\frac{3}{2},F=2\rangle$	0.00001	0.0750	0.6250	0.9250	0.3750		
$ \tilde{J} = 2, F_1 = \frac{5}{2}, F = 3\rangle$			0.5236	0.9454	0.4764	0.0546	
$ \tilde{J}=3, F_1=\frac{7}{2}, F=3\rangle$		0.00004	0.5309	0.9684	0.4691	0.0316	
$ \tilde{J} = 3, F_1 = \frac{5}{2}, F = 3\rangle$		0.0764	0.6259	0.9236	0.3741	0.00003	
$ \tilde{J} = 4, F_1 = \frac{7}{2}, F = 3\rangle$		0.0406	0.5872	0.9594	0.4129		

Nominal State Label	r_{JJ-3}	r_{JJ-2}	r_{JJ-1}	r_{JJ}	r_{JJ+1}	r_{JJ+2}	r_{JJ+3}
$ \tilde{J}=1,F_1=\frac{1}{2},F=0\rangle$			0.667	1	0.333		
$ \tilde{J} = 1, F_1 = \frac{1}{2}, F = 1\rangle$			0.6665	0.9999	0.3335	0.0001	
$ \tilde{J}=1, F_1=\frac{3}{2}, F=1\rangle$			0.4842	0.8905	0.5158	0.1095	
$ \tilde{J}=2, F_1=\frac{5}{2}, F=1\rangle$		0.1838	0.7102	0.8162	0.2897		
$ \tilde{J} = 1, F_1 = \frac{3}{2}, F = 2\rangle$			0.4797	0.8878	0.5203	0.1122	0.00002
$ \tilde{J}=2, F_1=\frac{5}{2}, F=2\rangle$		0.00007	0.5251	0.9464	0.4749	0.0535	
$ \tilde{J}=2, F_1=\frac{5}{2}, F=2\rangle$		0.1869	0.7121	0.8130	0.2880	0.00005	
$ \tilde{J} = 3, F_1 = \frac{5}{2}, F = 2\rangle$	0.00001	0.0751	0.6251	0.9249	0.3749		
$ \tilde{J}=2, F_1=\frac{5}{2}, F=3\rangle$			0.5309	0.9454	0.4691	0.0546	
$ \tilde{J} = 3, F_1 = \frac{7}{2}, F = 3\rangle$		0.00004	0.5309	0.9684	0.4691	0.0316	
$ \tilde{J}=3, F_1=\frac{5}{2}, F=3\rangle$		0.0764	0.6260	0.9236	0.3741	0.00003	
$ \tilde{J} = 4, F_1 = \frac{7}{2}, F = 3\rangle$		0.0407	0.5872	0.9594	0.4128		