The Clebsch-Gordon coefficients for converting from $|J, m_J>$ to $|j_1, m_1>$ and $|j_2, m_2>$.
The W labels are J superscript and m_J subscript.
The U labels are j_1 superscript and m_1 subscript.
The V labels are j_2 superscript and m_2 subscript.

$\frac{1}{2} \times 1$

	$W^{3/2}_{3/2}$	$W^{3/2}_{1/2}$ $W^{1/2}_{1/2}$	$W^{3/2}_{-1/2}$ $W^{1/2}_{-1/2}$	$W^{3/2}_{-3/2}$
U^1_1 $V^{1/2}_{1/2}$	1			
U^1_1 $V^{1/2}_{-1/2}$ U^1_0 $V^{1/2}_{1/2}$		$\sqrt{\frac{1}{3}}$ $\sqrt{\frac{2}{3}}$ $\sqrt{\frac{2}{3}}$ $-\sqrt{\frac{1}{3}}$		
U^1_0 $V^{1/2}_{-1/2}$ U^1_{-1} $V^{1/2}_{1/2}$			$\sqrt{\frac{2}{3}}$ $\sqrt{\frac{1}{3}}$ $\sqrt{\frac{1}{3}}$ $-\sqrt{\frac{2}{3}}$	
U^1_{-1} $V^{1/2}_{-1/2}$				1

$\frac{1}{2} \times \frac{3}{2}$

	W^2_2	W^2_1 W^1_1	W^2_0 W^1_0	W^2_{-1} W^1_{-1}	W^2_{-2}
$U^{3/2}_{3/2}$ $V^{1/2}_{1/2}$	1				
$U^{3/2}_{3/2}$ $V^{1/2}_{-1/2}$ $U^{3/2}_{1/2}$ $V^{1/2}_{1/2}$		$\sqrt{\frac{1}{4}}$ $\sqrt{\frac{3}{4}}$ $\sqrt{\frac{3}{4}}$ $-\sqrt{\frac{1}{4}}$			
$U^{3/2}_{1/2}$ $V^{1/2}_{-1/2}$ $U^{3/2}_{-1/2}$ $V^{1/2}_{1/2}$			$\sqrt{\frac{1}{2}}$ $\sqrt{\frac{1}{2}}$ $\sqrt{\frac{1}{2}}$ $-\sqrt{\frac{1}{2}}$		
$U^{3/2}_{-1/2}$ $V^{1/2}_{-1/2}$ $U^{3/2}_{-3/2}$ $V^{1/2}_{1/2}$				$\sqrt{\frac{3}{4}}$ $\sqrt{\frac{1}{4}}$ $\sqrt{\frac{1}{4}}$ $-\sqrt{\frac{3}{4}}$	
$U^{3/2}_{-3/2}$ $V^{1/2}_{-1/2}$					1

$\frac{1}{2} \times 2$

$D_4 \times D_2$

		$W^{5/2}_{5/2}$	$W^{3/2}_{3/2}$ $W^{3/2}_{3/2}$	$W^{5/2}_{1/2}$ $W^{3/2}_{1/2}$	$W^{5/2}_{-1/2}$ $W^{3/2}_{-1/2}$	$W^{5/2}_{-3/2}$ $W^{3/2}_{-3/2}$	$W^{5/2}_{-5/2}$
U^2_2	$V^{1/2}_{1/2}$	1					
U^2_2	$V^{1/2}_{-1/2}$		$\sqrt{\frac{1}{5}}$ $\sqrt{\frac{4}{5}}$				
U^2_1	$V^{1/2}_{1/2}$		$\sqrt{\frac{4}{5}}$ $-\sqrt{\frac{1}{5}}$				
U^2_1	$V^{1/2}_{-1/2}$			$\sqrt{\frac{2}{5}}$ $\sqrt{\frac{3}{5}}$			
U^2_0	$V^{1/2}_{1/2}$			$\sqrt{\frac{3}{5}}$ $-\sqrt{\frac{2}{5}}$			
U^2_0	$V^{1/2}_{-1/2}$				$\sqrt{\frac{2}{5}}$ $\sqrt{\frac{3}{5}}$		
U^2_{-1}	$V^{1/2}_{1/2}$				$\sqrt{\frac{3}{5}}$ $-\sqrt{\frac{2}{5}}$		
U^2_{-1}	$V^{1/2}_{-1/2}$					$\sqrt{\frac{4}{5}}$ $\sqrt{\frac{1}{5}}$	
U^2_{-2}	$V^{1/2}_{1/2}$					$\sqrt{\frac{1}{5}}$ $-\sqrt{\frac{4}{5}}$	
U^2_{-2}	$V^{1/2}_{-1/2}$						1

$D_{\frac{1}{2}} \times D_3$

	$W^{7/2}_{7/2}$	$W^{7/2}_{5/2}$ $W^{5/2}_{5/2}$	$W^{7/2}_{3/2}$ $W^{5/2}_{3/2}$	$W^{7/2}_{1/2}$ $W^{5/2}_{1/2}$	$W^{7/2}_{-1/2}$ $W^{5/2}_{-1/2}$	$W^{7/2}_{-3/2}$ $W^{5/2}_{-3/2}$	$W^{7/2}_{-5/2}$ $W^{5/2}_{-5/2}$	$W^{7/2}_{-7/2}$
$U^3_3 \quad V^{1/2}_{1/2}$	1							
$U^3_3 \quad V^{1/2}_{-1/2}$ $U^3_2 \quad V^{1/2}_{1/2}$		$\sqrt{\frac{1}{7}} \quad \sqrt{\frac{6}{7}}$ $\sqrt{\frac{6}{7}} \quad -\sqrt{\frac{1}{7}}$						
$U^3_2 \quad V^{1/2}_{-1/2}$ $U^3_1 \quad V^{1/2}_{1/2}$			$\sqrt{\frac{2}{7}} \quad \sqrt{\frac{5}{7}}$ $\sqrt{\frac{5}{7}} \quad -\sqrt{\frac{2}{7}}$					
$U^3_1 \quad V^{1/2}_{-1/2}$ $U^3_0 \quad V^{1/2}_{1/2}$				$\sqrt{\frac{3}{7}} \quad \sqrt{\frac{4}{7}}$ $\sqrt{\frac{4}{7}} \quad -\sqrt{\frac{3}{7}}$				
$U^3_0 \quad V^{1/2}_{-1/2}$ $U^3_{-1} \quad V^{1/2}_{1/2}$					$\sqrt{\frac{4}{7}} \quad \sqrt{\frac{3}{7}}$ $\sqrt{\frac{3}{7}} \quad -\sqrt{\frac{4}{7}}$			
$U^3_{-1} \quad V^{1/2}_{-1/2}$ $U^3_{-2} \quad V^{1/2}_{1/2}$						$\sqrt{\frac{5}{7}} \quad \sqrt{\frac{2}{7}}$ $\sqrt{\frac{2}{7}} \quad -\sqrt{\frac{5}{7}}$		
$U^3_{-2} \quad V^{1/2}_{-1/2}$ $U^3_{-2} \quad V^{1/2}_{1/2}$							$\sqrt{\frac{6}{7}} \quad \sqrt{\frac{1}{7}}$ $\sqrt{\frac{1}{7}} \quad -\sqrt{\frac{6}{7}}$	
$U^3_{-3} \quad V^{1/2}_{-1/2}$								1

$\frac{1}{2} \times 3$