Table 18: Rubidium 87 D_1 ($5^2S_{1/2} \longrightarrow 5^2P_{1/2}$) Dipole Matrix Elements for σ^+ transitions ($F = 1, m_F \longrightarrow F'$, $m'_F = m_F + 1$), expressed as multiples of $\langle J = 1/2||er||J' = 1/2\rangle$.

	$m_F = -1$	$m_F = 0$	$m_F = 1$
$F' = 2$	$-\sqrt{\frac{1}{12}}$	$-\sqrt{\frac{1}{4}}$	$-\sqrt{\frac{1}{2}}$
$F' = 1$	$-\sqrt{\frac{1}{12}}$	$-\sqrt{\frac{1}{12}}$	

Table 19: Rubidium 87 D_1 ($5^2S_{1/2} \longrightarrow 5^2P_{1/2}$) Dipole Matrix Elements for π transitions ($F = 1, m_F \longrightarrow F'$, $m'_F = m_F$), expressed as multiples of $\langle J = 1/2||er||J' = 1/2\rangle$.

	$m_F = -1$	$m_F = 0$	$m_F = 1$
$F' = 2$	$\sqrt{\frac{1}{4}}$	$\sqrt{\frac{1}{3}}$	$\sqrt{\frac{1}{4}}$
$F' = 1$	$\sqrt{\frac{1}{12}}$	0	$-\sqrt{\frac{1}{12}}$

Table 20: Rubidium 87 D_1 ($5^2S_{1/2} \longrightarrow 5^2P_{1/2}$) Dipole Matrix Elements for σ^- transitions ($F = 1, m_F \longrightarrow F'$, $m'_F = m_F - 1$), expressed as multiples of $\langle J = 1/2||er||J' = 1/2\rangle$.

	$m_F = -1$	$m_F = 0$	$m_F = 1$
$F' = 2$	$-\sqrt{\frac{1}{2}}$	$-\sqrt{\frac{1}{4}}$	$-\sqrt{\frac{1}{12}}$
$F' = 1$		$\sqrt{\frac{1}{12}}$	$\sqrt{\frac{1}{12}}$