State $\Omega^{\pm}_{g/u}$	ABO States $\lvert L\Lambda S\Sigma\sigma\rangle$	ABO Type $^{2s+1}\Lambda^{(\pm)}_{g/u}$	Potential Matrix	Eigenvalues
0_g^-	$\frac{1}{\sqrt{2}}(\lvert 111,-1g\rangle + \lvert 1,-111g\rangle)$ $\lvert 1010g\rangle$	$^3\Pi_g$ $^3\Sigma_g^-$	$\begin{bmatrix} \frac{C_3}{R^3}-\frac{2\Delta}{3} & \frac{\sqrt{2}\Delta}{3} \\ \frac{\sqrt{2}\Delta}{3} & -\frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	$-\frac{\Delta}{2}-\frac{C_3}{2R^3}\pm\frac{\sqrt{9C_3^2-2C_3\Delta R^3+\Delta^2R^6}}{2R^3}$
0_g^+	$\frac{1}{\sqrt{2}}(\lvert 111,-1g\rangle - \lvert 1,-111g\rangle)$ $\lvert 1000g\rangle$	$^3\Pi_g$ $^1\Sigma_g^+$	$\begin{bmatrix} \frac{C_3}{R^3}-\frac{2\Delta}{3} & \frac{\sqrt{2}\Delta}{3} \\ \frac{\sqrt{2}\Delta}{3} & \frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	$-\frac{\Delta}{2}+\frac{3C_3}{2R^3}\pm\frac{\sqrt{9C_3^2+6C_3\Delta R^3+9\Delta^2R^6}}{6R^3}$
0_u^-	$\frac{1}{\sqrt{2}}(\lvert 111,-1u\rangle - \lvert 1,-111u\rangle)$ $\lvert 1000u\rangle$	$^3\Pi_u$ $^1\Sigma_u^-$	$\begin{bmatrix} -\frac{C_3}{R^3}-\frac{2\Delta}{3} & -\frac{\sqrt{2}\Delta}{3} \\ -\frac{\sqrt{2}\Delta}{3} & -\frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	$-\frac{\Delta}{2}-\frac{3C_3}{2R^3}\pm\frac{\sqrt{9C_3^2-6C_3\Delta R^3+9\Delta^2R^6}}{6R^3}$
0_u^+	$\frac{1}{\sqrt{2}}(\lvert 111,-1u\rangle + \lvert 1,-111u\rangle)$ $\lvert 1010u\rangle$	$^3\Pi_u$ $^3\Sigma_u^+$	$\begin{bmatrix} -\frac{C_3}{R^3}-\frac{2\Delta}{3} & -\frac{\sqrt{2}\Delta}{3} \\ -\frac{\sqrt{2}\Delta}{3} & \frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	$-\frac{\Delta}{2}+\frac{C_3}{2R^3}\pm\frac{\sqrt{9C_3^2+2C_3\Delta R^3+\Delta^2R^6}}{2R^3}$
1_g	$\lvert 1110g\rangle$ $\lvert 1100g\rangle$ $\lvert 1011g\rangle$	$^3\Pi_g$ $^1\Pi_g$ $^3\Sigma_g^+$	$\begin{bmatrix} \frac{C_3}{R^3}-\frac{\Delta}{3} & -\frac{\Delta}{3} & \frac{\Delta}{3} \\ -\frac{\Delta}{3} & -\frac{C_3}{R^3}-\frac{\Delta}{3} & \frac{\Delta}{3} \\ \frac{\Delta}{3} & \frac{\Delta}{3} & -\frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	Analytical solutions exist but are too horrific to be useful.
1_u	$\lvert 1110u\rangle$ $\lvert 1100u\rangle$ $\lvert 1011u\rangle$	$^3\Pi_u$ $^1\Pi_u$ $^3\Sigma_u^-$	$\begin{bmatrix} -\frac{C_3}{R^3}-\frac{\Delta}{3} & -\frac{\Delta}{3} & \frac{\Delta}{3} \\ -\frac{\Delta}{3} & \frac{C_3}{R^3}-\frac{\Delta}{3} & \frac{\Delta}{3} \\ \frac{\Delta}{3} & \frac{\Delta}{3} & \frac{2C_3}{R^3}-\frac{\Delta}{3} \end{bmatrix}$	Analytical solutions exist but are too horrific to be useful.
2_g	$\lvert 1111g\rangle$	$^3\Pi_g$	$\frac{C_3}{R^3}$	$\frac{C_3}{R^3}$
2_u	$\lvert 1111u\rangle$	$^3\Pi_u$	$-\frac{C_3}{R^3}$	$-\frac{C_3}{R^3}$