$$
\begin{aligned}
\boldsymbol{H}_{\boldsymbol{rot}}^{(s)} = {} & \boldsymbol{B}_{\boldsymbol{x}}^{(s)} \boldsymbol{N}_{\boldsymbol{x}}^{2} + \boldsymbol{B}_{\boldsymbol{y}}^{(s)} \boldsymbol{N}_{\boldsymbol{y}}^{2} + \boldsymbol{B}_{\boldsymbol{z}}^{(s)} \boldsymbol{N}_{\boldsymbol{z}}^{2} - \boldsymbol{D}_{\boldsymbol{N}} \boldsymbol{N}^{4} - \boldsymbol{D}_{\boldsymbol{NK}} \boldsymbol{N}^{2} \boldsymbol{N}_{\boldsymbol{z}}^{2} - \boldsymbol{D}_{\boldsymbol{K}} \boldsymbol{N}_{\boldsymbol{z}}^{4} \\
& + \boldsymbol{d}_1 \boldsymbol{N}^{2} \left(\boldsymbol{N}_{+}^{2} + \boldsymbol{N}_{-}^{2} \right) + \boldsymbol{d}_2 \left(\boldsymbol{N}_{+}^{4} + \boldsymbol{N}_{-}^{4} \right) + \boldsymbol{H}_{\boldsymbol{N}} \boldsymbol{N}^{6} + \boldsymbol{H}_{\boldsymbol{NK}} \boldsymbol{N}^{4} \boldsymbol{N}_{\boldsymbol{z}}^{2} \\
& + \boldsymbol{H}_{\boldsymbol{KN}} \boldsymbol{N}^{2} \boldsymbol{N}_{\boldsymbol{z}}^{4} + \boldsymbol{H}_{\boldsymbol{K}} \boldsymbol{N}_{\boldsymbol{z}}^{6} \\
& + \boldsymbol{h}_1 \boldsymbol{N}^{4} \left(\boldsymbol{N}_{+}^{2} + \boldsymbol{N}_{-}^{2} \right) + \boldsymbol{h}_2 \boldsymbol{N}^{2} \left(\boldsymbol{N}_{+}^{4} + \boldsymbol{N}_{-}^{4} \right) + \boldsymbol{h}_3 \left(\boldsymbol{N}_{+}^{6} + \boldsymbol{N}_{-}^{6} \right) \\
& + \boldsymbol{L}_{\boldsymbol{NK}} \boldsymbol{N}^{4} \boldsymbol{N}_{\boldsymbol{z}}^{4} + \boldsymbol{L}_{\boldsymbol{KKN}} \boldsymbol{N}^{2} \boldsymbol{N}_{\boldsymbol{z}}^{6} + \boldsymbol{L}_{\boldsymbol{NNK}} \boldsymbol{N}^{6} \boldsymbol{N}_{\boldsymbol{z}}^{2} + \boldsymbol{P}_{\boldsymbol{NNK}} \boldsymbol{N}^{6} \boldsymbol{N}_{\boldsymbol{z}}^{4} \\
& + \boldsymbol{P}_{\boldsymbol{NKK}} \boldsymbol{N}^{4} \boldsymbol{N}_{\boldsymbol{z}}^{6} + \boldsymbol{P}_{\boldsymbol{KN}} \boldsymbol{N}^{2} \boldsymbol{N}_{\boldsymbol{z}}^{8}
\end{aligned}
$$

* This Hamiltonian is known as the Watson s-reduced Hamiltonian.