
The dipole moment was taken from H. M. Heise, H. Lutz, and H. Dreizler, 1974, Z. Naturforsch. 29a, 1345.

The methyl torsion and the $^{14}$N hyperfine have been resolved in ethyl cyanide, but were not included in the calculation since the effects are small and usually not observable in the millimeter and submillimeter wavelengths. For analysis see Heise et al. and D. Boucher, A. Dubrulle, J. Demaison, and H. Dreizler, 1980, Z. Naturforsch. 35a, 1136.

Note: The partition function in the rotational partition function for the ground state only.