

Pressure Dependence of the Chlorine NQR in Chloro Pyridines

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The ³⁵Cl NQR frequency (ν_Q) and spin lattice relaxation time (T_1) in 2,6-dichloropyridine, 2 amino 3,5-dichloropyridine and 6 chloro 2-pyridinol have been measured as a function of pressure up to 5.1 kbar at 300 K, and the data have been analysed to estimate the temperature coefficients of the NQR frequency at constant volume. All the three compounds show a non linear variation of the NQR frequency with pressure which can be described by a 2nd order polynomial in pressure. The rate of change of the NQR frequency with pressure is positive and decreases with increasing pressure. The spin lattice relaxation time T_1 in all the three compounds shows a small increase with pressure, indicating that the relaxation is mainly due to the torsional motions.

Key words: Chlorine NQR; Spin-Lattice Relaxation Time; Pressure Dependence; 2,6 dichloropyridine; 2-amino 3,5-dichloropyridine; 6-chloro 2-pyridinol.