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Pressure Dependence of the Magnetic Response of the $S = 1$ Polymeric Chain $[\text{Ni}(\text{HF}_2)(3\text{-Clpy})_4]\text{BF}_4$.¹ JAYNISE PEREZ, Univ of Puerto Rico - Mayaguez, MARCUS PEPRAH, PEDRO QUINTERO, MARK MEISEL, Dept. of Physics and NHMFL, Univ. of Florida, JAMIE MANSON, Dept. of Chemistry, Eastern Washington Univ. — $[\text{Ni}(\text{HF}_2)(3\text{-Clpy})_4]\text{BF}_4$ (py = pyridine) is an $S = 1$ antiferromagnetic polymeric chain with a single-ion anisotropy (zero-field splitting) of $D/k_B = 4.3$ K and an intrachain exchange interaction value of $J/k_B = 4.86$ K at ambient pressure [1]. The ratio of these parameters ($D/J = 0.88$) places this system close to a quantum critical point at $D/J \approx 1$, which falls between the Haldane and the Large-D phases. The temperature dependence of the low-field (1 kG) magnetic susceptibility was measured as a function of pressure, up to 1.49 GPa, using a homemade piston-clamp cell [2]. The data indicate the antiferromagnetic component is suppressed with increasing pressure. [1] J.L. Manson et al., Inorg. Chem. 51 (2012) 7520. [2] M.K. Peprah, PhD thesis, University of Florida (2015).

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