Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Magnetic susceptibility and Mössbauer studies of $[FeX_3](ClO_4)_2 \cdot H_2O$ with X = bpz, bpy, phen or tpy J.C. HO, H.H. HAMDEH, R. KIRGAN, D.P. RILLEMA, Wichita State University — Magnetic studies have been made on several tris-chelated iron complex compounds $[FeX_3](ClO_4)_2 \cdot H_2O$ with aromatic nitrogen heterocycle ligands X = bpz (2,2'-bipyrazine), bpy (2,2'-bipyridine), phen (1,10-phenanthroline) or tpy (2,2':6,2"-terpyridine). SQUID data (2-300 K and 0.01-1 T) yielded small effective magnetic moments, which are characteristic of low-spin Fe(II), in agreement with the isomer shift and quadrupole splitting values from Mössbauer measurements (4-300 K, 0-5 T). Meanwhile, apart from the expected diamagnetism, a positive term of temperature-independent paramagnetic susceptibility prevails in most cases.

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Date submitted: 14 Nov 2007 Electronic form version 1.4