When 2+2 isn't 4

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Recently much work has gone into examining the photoexcited HS state of iron(II) spin crossover compounds in full structural detail[1]. So far this work has focused on compounds closely related to the early work with either two neutral tridentate ligands or two neutral didentate and two mononegative ligands (usually thiocyanate)[1,2].

Using a single tetradentate ligand [3] we present variable temperature results on [(tpa)Fe(NCS)2] (tpa = tris(pyridine-2-ylmethyl)amine) crystallised with a variety of solvents. The variation in solvent with the concomitant change in the hydrogen bonding significantly affects the position of the HS $\leftrightarrow$ LS crossover. Furthermore we report on our initial results from determining the structures of photoinduced metastable HS states.

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