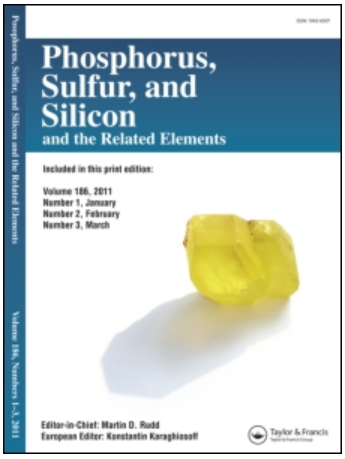

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THE ORGANIC FERROMAGNET *p*-$O_2NC_6F_4CNSSN$

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THE ORGANIC FERROMAGNET *p*-$O_2NC_6F_4CNSSN$

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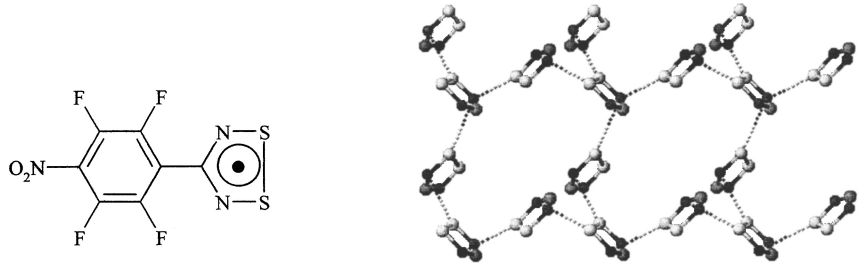
The title compound, *p*-$O_2NC_6F_4CNSSN$, **1** (Figure 1a) has been found to order as a ferromagnet below 1.3 K,[1] the first sulfur-nitrogen system to order as a ferromagnet, and only the second neutral organic ferromagnet with an ordering temperature above 1 K.[2]



a) b)

FIGURE 1 a) *p*-$O_2NC_6F_4CNSSN$; b) magnetic exchange pathway in **1**.

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EPR, polarized neutron, and DFT studies have shown that the unpaired spin density is located on the S and N atoms of the heterocyclic ring. From an analysis of the crystal structure we propose that the magnetic exchange pathway responsible for the ferromagnetic phase transition is a network of almost orthogonal S···N contacts in a distorted tetrahedral arrangement (Figure 1b).

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