

Evidence of field-assisted slow magnetic relaxation in Cu(II) complexes with pentaheterocyclic triphenodioxazines

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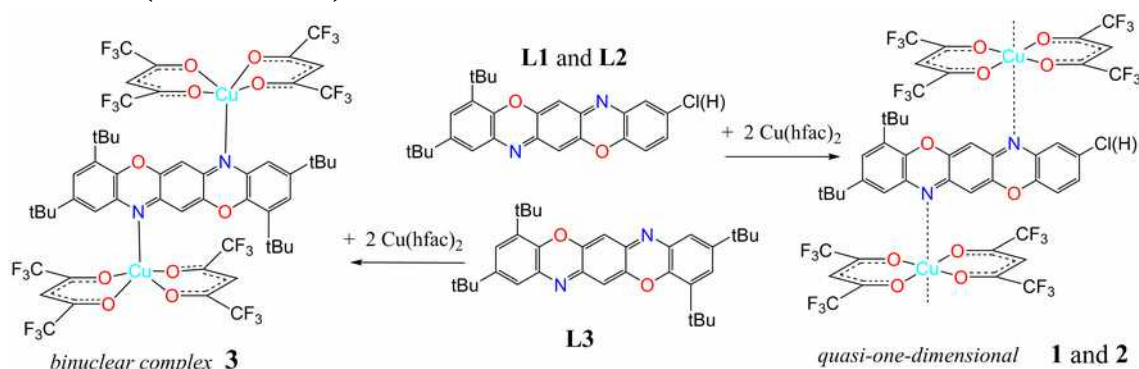
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Novel copper(II) complexes were obtained by the reaction of sterically crowded triphenodioxazines with Cu(II) hexafluoroacetylacetonate. Compound with L1 (**1**) and L2 (**2**) are quasi-one-dimensional complexes in which Cu(hfac)₂ moieties are co-crystallized with triphenodioxazine molecules through only weak Cu...N intermolecular interactions (Cu...N 2.69-2.75 Å). At the same time, a binuclear Cu(II) complex (**3**) is formed with the L3 ligand, in which Cu(II) ions are bound to the ligand by covalent interactions (Cu...N 2.33 Å).



The magnetic AC susceptibility data show that in spite of the absence of zero-field splitting in the Cu(II) ions with $S=1/2$, all complexes demonstrate slow magnetic relaxation behaviour at a weak applied magnetic field ($H_{DC} \sim 500$ Oe) for **1,2** and $H_{DC} = 2500$ Oe for **3**. The studied systems represent a new examples of quite rare family of the $S = 1/2$ systems exhibiting slow magnetic relaxation with a potential of promising applications in molecular spin devices or as molecular quantum bits.

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