Supplementary Material

Magnetic Studies of Metal Ion Coordination Clusters Encapsulated with Thiacalixarene

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Fig S1: Structure of the $[Fe_3O(L)_2] \cdot 1.3CH_2CI_2 \cdot 2H_2O \cdot 5C_3H_7NO(1)$ molecule. Solvent molecules, hydrogen atoms and one part of disordered components have been omitted for clarity. Ellipsoids have been drawn at the 20% probability level.



Fig S2: Structure of the $[Cu_4(L)_2] \cdot 1.5CH_2CI_2 \cdot C_3H_7NO$ (**2**) molecule. Solvent molecules, hydrogen atoms and one part of disordered components have been omitted for clarity. Ellipsoids have been drawn at the 20% probability level.



Fig S3: Structure of the [(µ-H₂O)Eu₂(LH)₂(C₃H₇NO)₄]·2CH₃CN·1.5C₃H₇NO (**3**) molecule. Solvent molecules, hydrogen atoms and one part of disordered components have been omitted for clarity. Ellipsoids have been drawn at the 20% probability level.



Fig S4: Temperature dependent χ_M (open circle) and χ_M^{-1} for $[Fe_3O(L)_2] \cdot 1.3CH_2CI_2 \cdot 2H_2O \cdot 5C_3H_7NO$. The linear fit to χ_M^{-1} used to obtain θ_N - 99.7 K is shown as a line.



Fig S5: Temperature dependent χ_M (open circle) and χ_M^{-1} for $[Cu_4(L)_2] \cdot 1.5CH_2Cl_2 \cdot C_3H_7NO$. The linear fit to χ_M^{-1} used to obtain θ_N -111.1 K is shown as a line.