Electronic Supporting Information File

The effect of the orientation of the Jahn-Teller distortion on the magnetic interactions of trinuclear mixed-valence Mn(II)/Mn(III) complexes

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Fig. S1. FT-IR spectrum of the ligand $H_4L^1$ recorded as KBr disk.
Fig. S2. FT-IR spectrum of the ligand H₄L² recorded as KBr disk.

Fig. S3. FT-IR spectrum of complex 1 recorded as KBr disk.
Fig. S4. FT-IR spectrum of complex 2 recorded as KBr disk.

Fig. S5. Comparison of the electronic spectra of H₄L¹ and complex 1 in methanol.
Fig. S6. Comparison of the electronic spectra of H₄L² and complex 2 in methanol.

Fig. S7. Two-fold rotation axis in the crystal structure of complex 1.
Scheme 2. Model for the magnetic exchange within a trinuclear complex adapted to complexes 1 and 2 ($J = J_{12} = J_{23}, J_{13} = 0$).

Fig S8. Surface plot of the d$_{z^2}$ centered molecular orbital of Mn1 for complex 2. The z axis is defined by the line N1T-Mn1-O2.
Fig. S9. Surface plot of the d_{z^2} centered molecular orbital of Mn3 for complex 2
Table S1. Selected bond angles (°) for complexes 1 and 2

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Symmetry code: i) $-x+2, y, -z+1/2$. 

7
**Table S2.** Bond Valence Sum calculations for the Mn ions in crystal structure of complex 1

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**Table S3.** Bond Valence Sum calculations for the Mn ions in crystal structure of complex 2

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