

# Supplementary Material (ESI) for New Journal of Chemistry

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### Electronic Supplementary Information

## Formation of oxo-bridged tetrairon(III) complexes mediated by oxygen activation. Structure, spectroscopy, magnetism and electrochemistry

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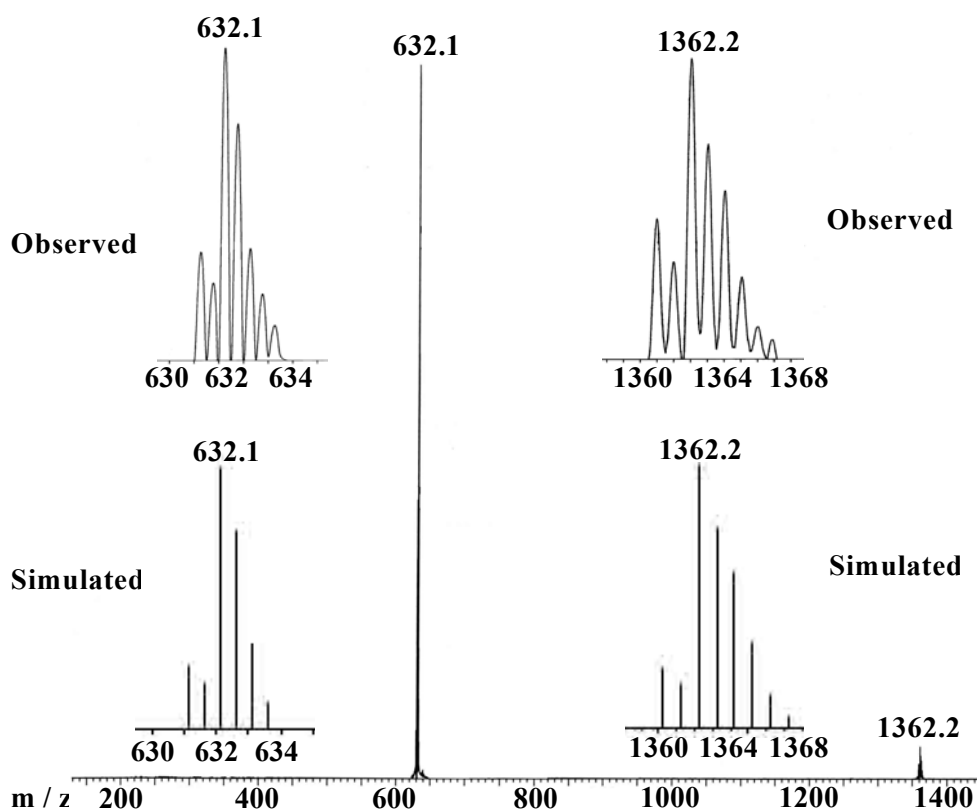
| Item                                                                                                                                                                                                                                                                                                                                                   | Page |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| <b>Fig. S1</b> The isotopic distribution of the observed and simulated ESI (positive)<br>–MS of [ {Fe <sub>2</sub> L(μ–O <sub>2</sub> C(CH <sub>3</sub> ) <sub>3</sub> ) <sub>2</sub> (μ–O) <sub>2</sub> ](ClO <sub>4</sub> ) <sub>2</sub> ( <b>5</b> ) in acetonitrile.                                                                               | S2   |
| <b>Fig. S2</b> Molar magnetic susceptibility (○) and effective magnetic moment (□)<br>vs temperature for [ {Fe <sub>2</sub> L(μ–O <sub>2</sub> CC <sub>6</sub> H <sub>5</sub> ) <sub>2</sub> (μ–O) <sub>2</sub> ](ClO <sub>4</sub> ) <sub>2</sub> ( <b>6</b> ). The solid<br>lines result from a least-squares fit to the theoretical expression given | S3   |

in equation 3.

**Fig. S3** Error-surface plot for  $[\{\text{Fe}_2\text{L}(\mu\text{-O}_2\text{CCH}_3)\}_2(\mu\text{-O})_2](\text{ClO}_4)_2$  (**3**).

S4

S2



**Fig. S1**

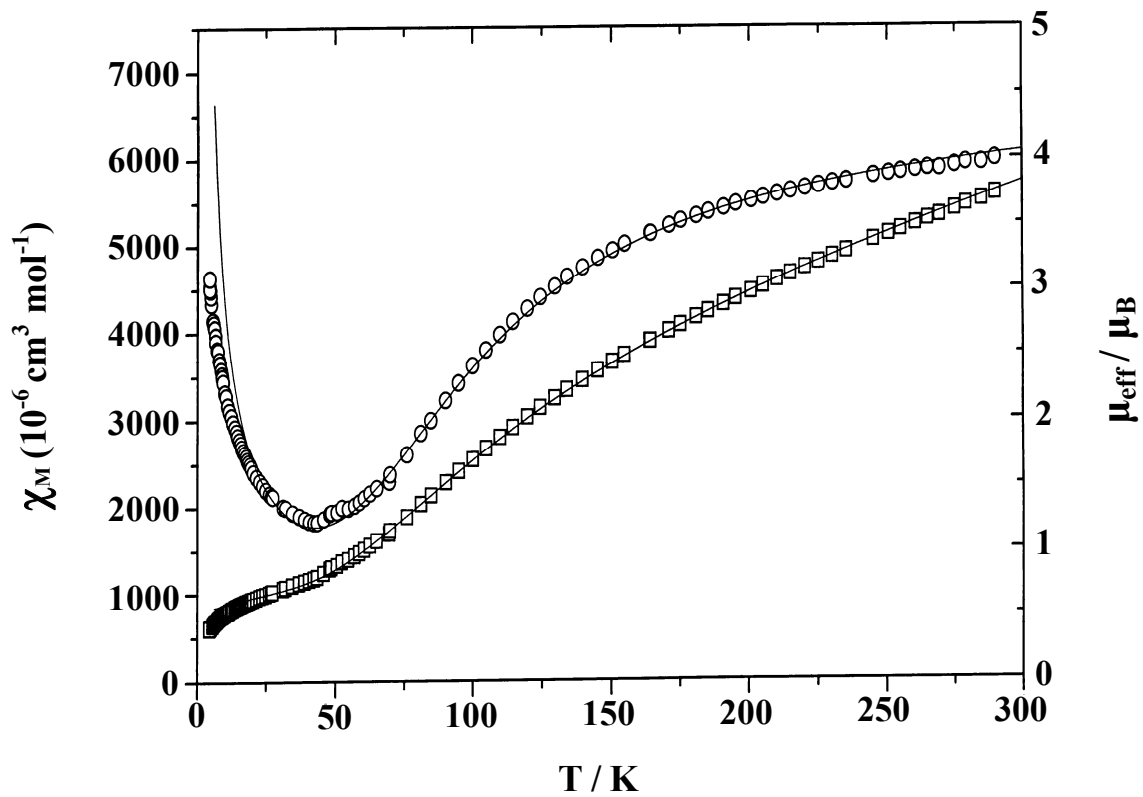


Fig. S2

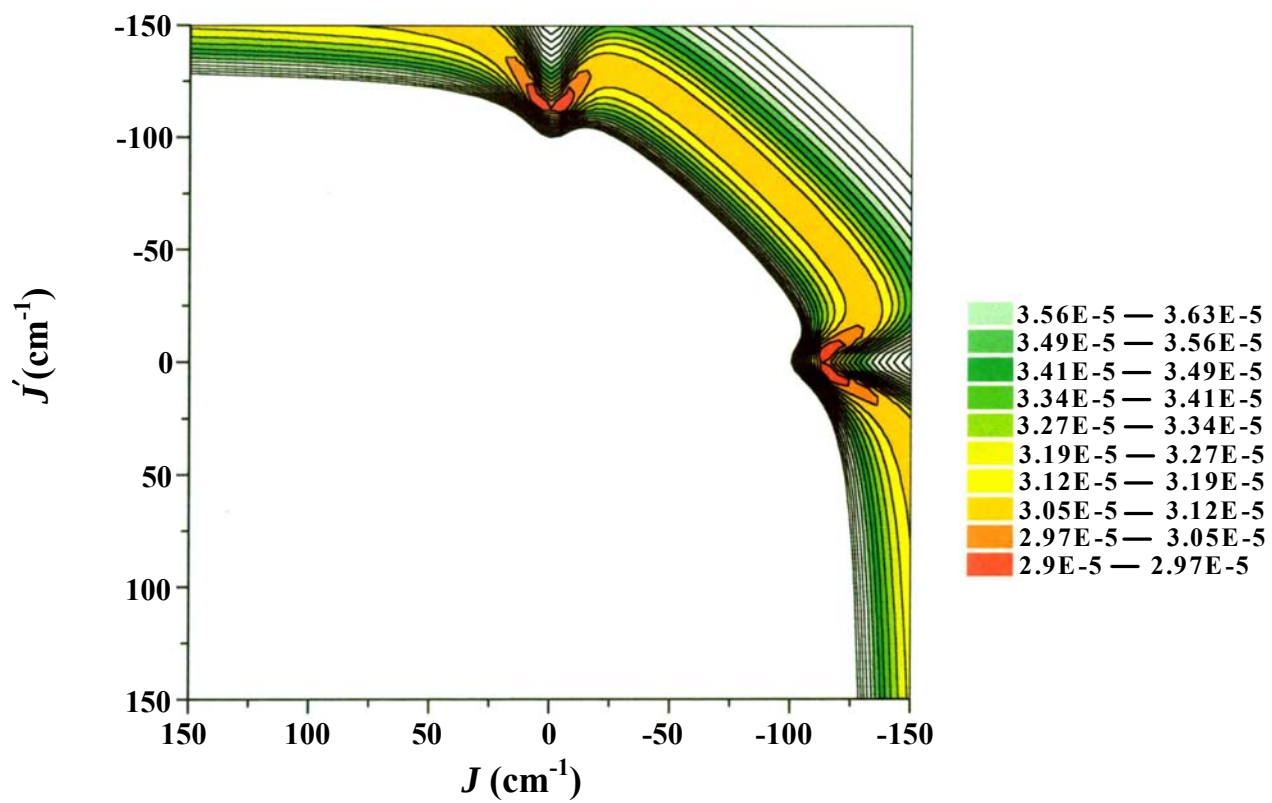


Fig. S3