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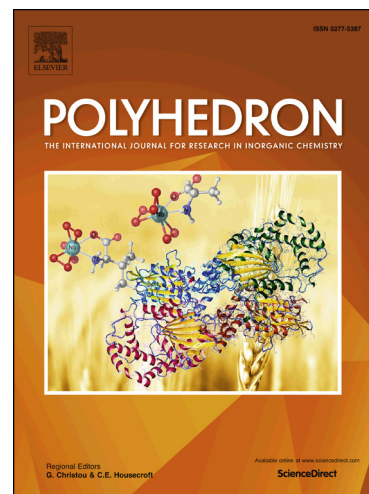
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# A new phenylthiourea grafted Mn-Anderson polyoxometalate cluster: synthesis, crystal structure and characterization

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**Abstract:** A novel phenylthiourea modified Mn-Anderson polyoxometalate,  $[N(C_4H_9)_4]_3[MnMo_6O_{18}\{(OCH_2)_3CNHCSNHPh\}\{(OCH_2)_3CNH_2\}]$  (**1**) has been synthesized and characterized by IR, NMR, UV-vis spectroscopy, thermogravimetric electrochemical and single-crystal X-ray diffraction analysis. Structural analysis reveals that compound **1** crystallizes in the orthorhombic crystal system, space group *Pcab* with  $a = 17.7477(9)$  Å,  $b = 33.6245(16)$  Å,  $c = 32.322(2)$  Å,  $V = 19288.7(19)$  Å<sup>3</sup> and  $Z = 8$ . Noticeably, the asymmetric POM cluster with terminal modification could be connected through H-bonding interactions of C-H $\cdots$ O to form an infinite supramolecular chain. Furthermore, the adjacent 1D chains are linked by H-bonding interactions of N-H $\cdots$ O to generate a 2D supramolecular layer.

**Keywords:** polyoxometalate; Mn-Anderson cluster; phenylthiourea; post-functionalization

## 1. Introduction

Polyoxometalates (POMs) are a class of early transition metal oxygen anion

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