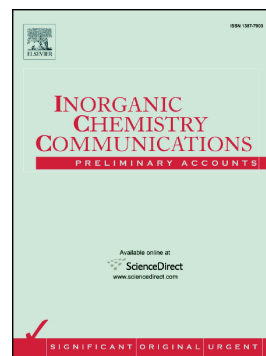


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**A  $\mu_3$ -oxo-centered mixed-valence triiron coordination polymer  
constructed by 5-bromonicotinato ligands**

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**Abstract**

A new oxo-centred, carboxylate bridged trinuclear mixed-valence iron coordination polymer has been obtained under hydrothermal conditions,  $[(\text{Fe}^{\text{III}})_2\text{Fe}^{\text{II}}(\mu_3\text{-O})(\text{BNA})_6]_n$  (**1**). Single crystal X-ray diffraction analysis of the black crystal reveals that three iron atoms occupy the vertices of a non-equilateral triangle with the Fe...Fe distance in the range of 3.245 Å ~ 3.343 Å and are bonded by the  $\mu_3$ -oxo-centred and BNA<sup>-</sup> ligands. The crystal belongs to the monoclinic crystal system with  $a = 11.2904(6)$  Å,  $b = 18.4960(11)$  Å,  $c = 21.4349(12)$  Å,  $\beta = 91.029(1)^\circ$ , space group  $P2_1/c$ ,  $GOF = 1.028$ , final  $R_1 = 0.0156$ ,  $wR_2 [I > 2\sigma(I)] = 0.0405$ .

**Keywords:** Coordination polymer; Crystal structure; 5-bromonicotinic acid;  $\mu_3$ -oxo-centred; Trinuclear mixed-valence iron

Coordination polymers (CPs) constructed with polynuclear clusters have received considerable attention due to the potential applications in several fields [1-4]. The

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