Synthesis and Crystal Structure of a New 3D Copper B-Paradodecatungstate Compound:
\[[\text{Na}_2(\text{H}_2\text{O})_8][\text{Na}_8(\text{H}_2\text{O})_{20}][\text{Cu}(\text{en})_2][\text{W}_{12}\text{O}_{42}] \cdot 3\text{H}_2\text{O}\]

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A new polyoxotungstate complex \[[\text{Na}_2(\text{H}_2\text{O})_8][\text{Na}_8(\text{H}_2\text{O})_{20}][\text{Cu}(\text{en})_2][\text{W}_{12}\text{O}_{42}] \cdot 3\text{H}_2\text{O}\] (1) (en = ethylenediamine) has been synthesized in aqueous solution and characterized by elemental analysis, IR spectroscopy and TG analysis, together with a single crystal X-ray diffraction study. In compound 1, the Cu(en)_2^{2+} complex cation links the [W_{12}O_{42}]^{12-} anions to form a 1D chain, and the 1D chains are further interconnected with Na_8(H_2O)_{20}^{8+} and Na_2(H_2O)_8^{2+} cations to construct a new 3D framework.

Key words: Paradodecatungstate, 1D Chain, 3D Extended Framework, Crystal Structure, Metal Organic Complex