

SUPPLEMENTARY MATERIAL

One-dimensional supramolecular chain based on $[\text{H}_2\text{V}_{10}\text{O}_{28}]^{4-}$ units decorated with 4-dimethylaminopyridinium ions: An experimental and theoretical characterization

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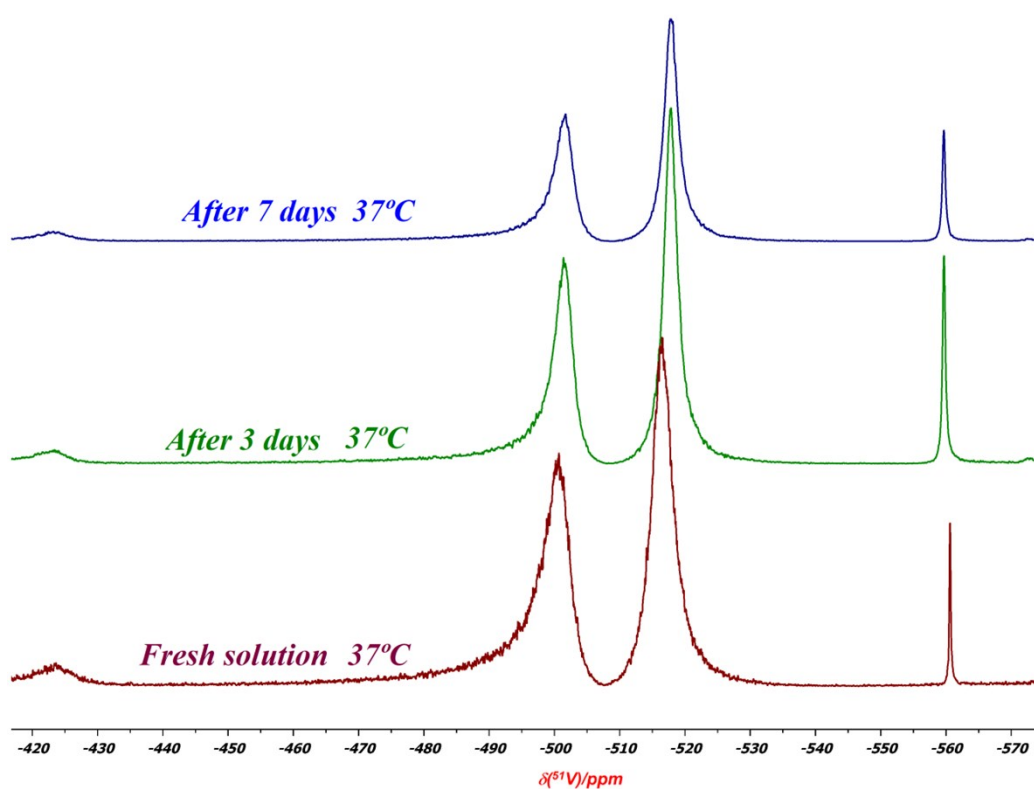


Fig. S1. Time-dependent ^{51}V NMR spectra on the representative compound **1** dissolved in water- d_2 showing on the stability of the complex.

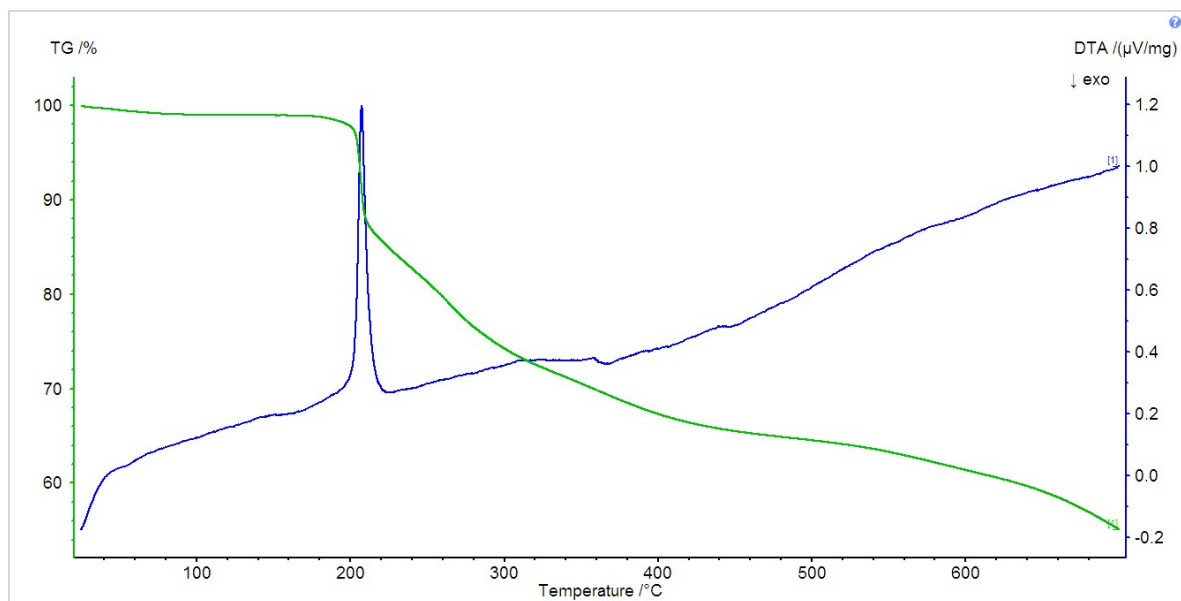


Fig S2. TGA curve for compound $[\text{DMAPH}]_4[\text{H}_2\text{V}_{10}\text{O}_{28}] \cdot 5\text{H}_2\text{O}$

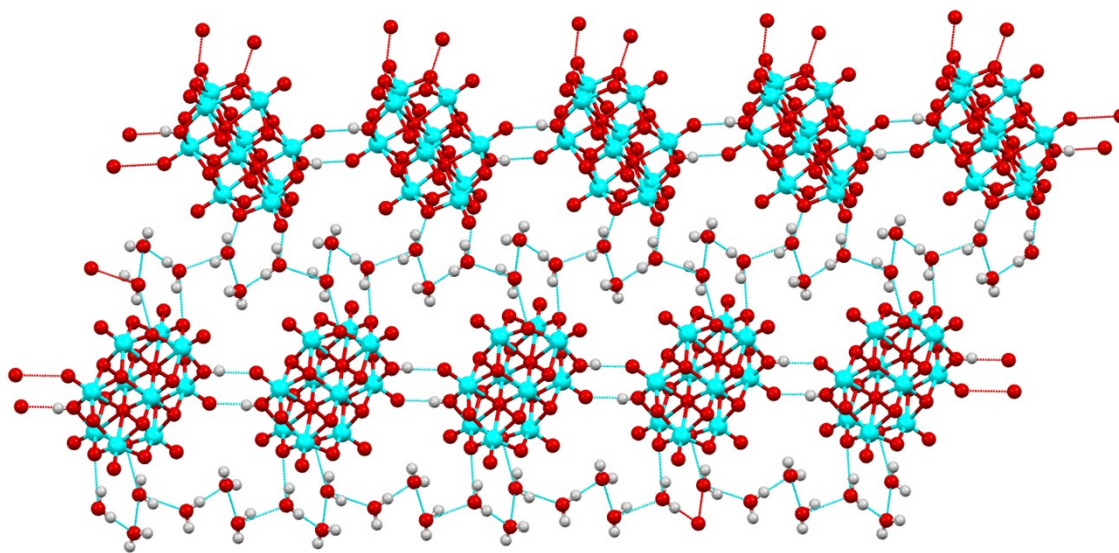


Figure S3. Extended representation of the hydrogen bonds of $[\text{DMAPH}]_4[\text{H}_2\text{V}_{10}\text{O}_{28}] \cdot 5\text{H}_2\text{O}$. DMAPH are omitted for clarity

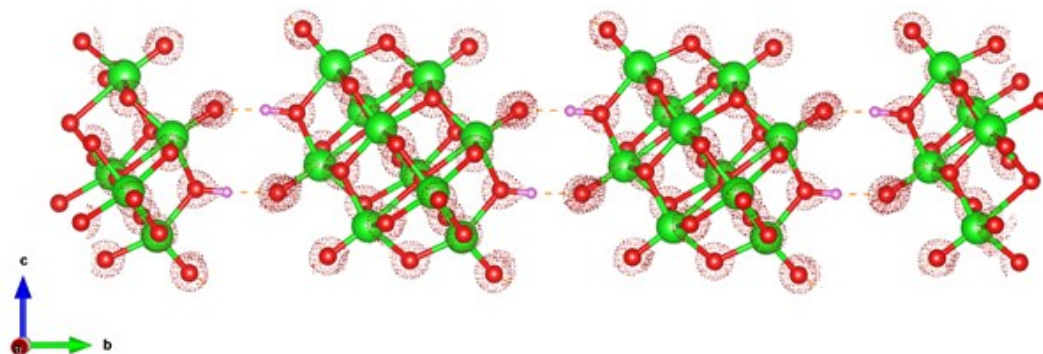


Fig. S4. The calculated solid-state structure of **1**. Hydrogen bonds are indicated in orange dashed lines. Isosurfaces, represented by red dots, indicate the electronic charge density on the atoms. DMAPH cations were removed for better visualization.

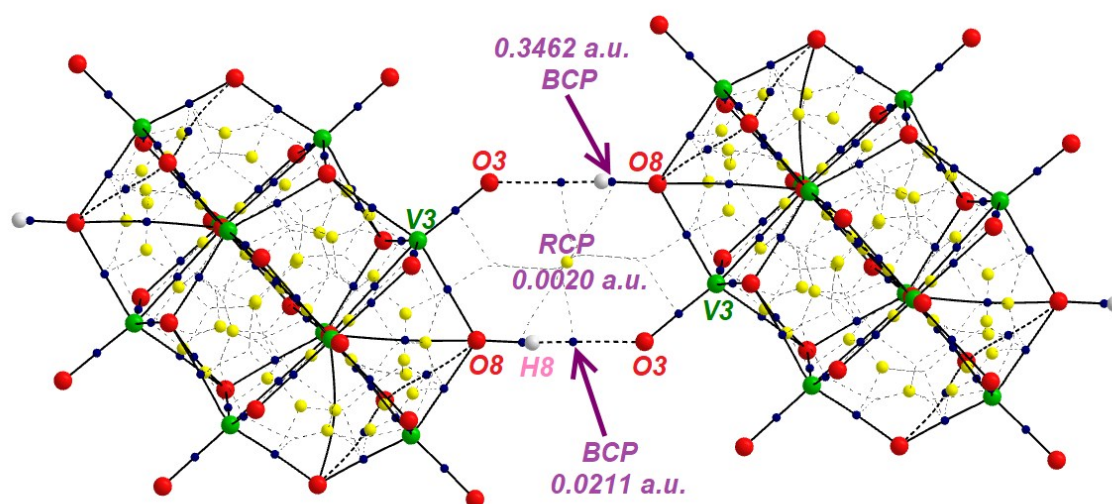


Fig. S5. AIM plot of the non-covalent and covalent interactions between $[\text{H}_2\text{V}_{10}\text{O}_{28}]^{4-}$ anions. The bond critical points (BCP) and ring critical points (RCP) are represented by the purple and yellow balls, respectively.

Photographs of the mixture of crystals.



After filtration and seedling of the mother liquor.

