Supplementary Information

Coordination chemistry of the hexavacant tungstophosphate \([H_2P_2W_{12}O_{48}]^{12-}\): synthesis and characterization of iron(III) complexes derived from the unprecedented \([P_2W_{14}O_{54}]\) fragment

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1. Magnetic data

Figure S1. Field dependence of the magnetization of \(Na_{10}K_6\cdot3a\cdot28H_2O\) at 2 K

Figure S2. Field dependence of the magnetization of \(K_{12}4a\cdot30H_2O\) at 2 K
2. Electrochemical data

Figure S3. Cyclic voltammograms of 4a and 4b at a glassy carbon electrode. Scan rate: 20 mVs⁻¹.

3. Raman spectra

Figure S4. Raman spectra of Na₁₀K₆3a·28H₂O (red) and 3b (blue)

5. Crystal data for 3b

Only a small amount of crystals (10 mg) was obtained and analytical data are not available. Li⁺, Na⁺ and K⁺ are possible cations.

Crystal data: \( a = 12.789(3), b = 15.130(3), c = 19.828(1) \) Å, \( \alpha = 72.94(1), \beta = 85.46(1), \gamma = 67.35(1) \)°, \( V = 3382(1) \) Å³, space group \( P-1, Z = 1, T = 298 \) K, 36223 measured reflections, 15451 independent, 6361 with \( I > 3\sigma(I) \), 450 parameters, \( R = 0.060, wR = 0.068 \).