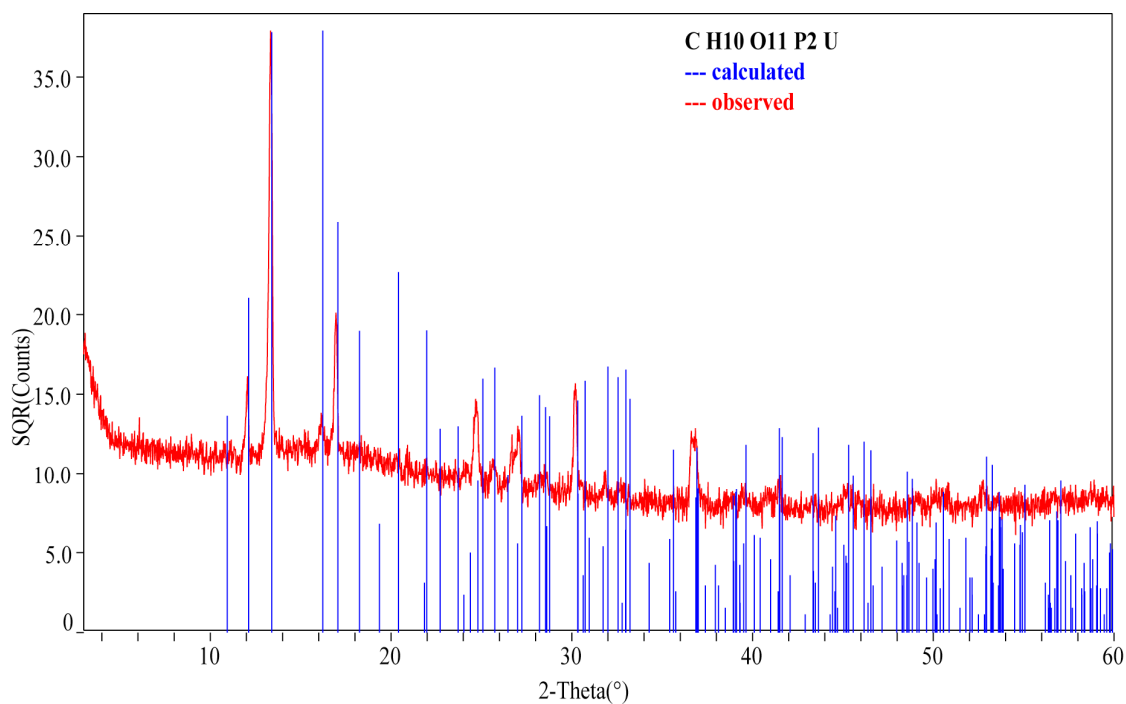


Supplementary Material (ESI) for Dalton Transactions  
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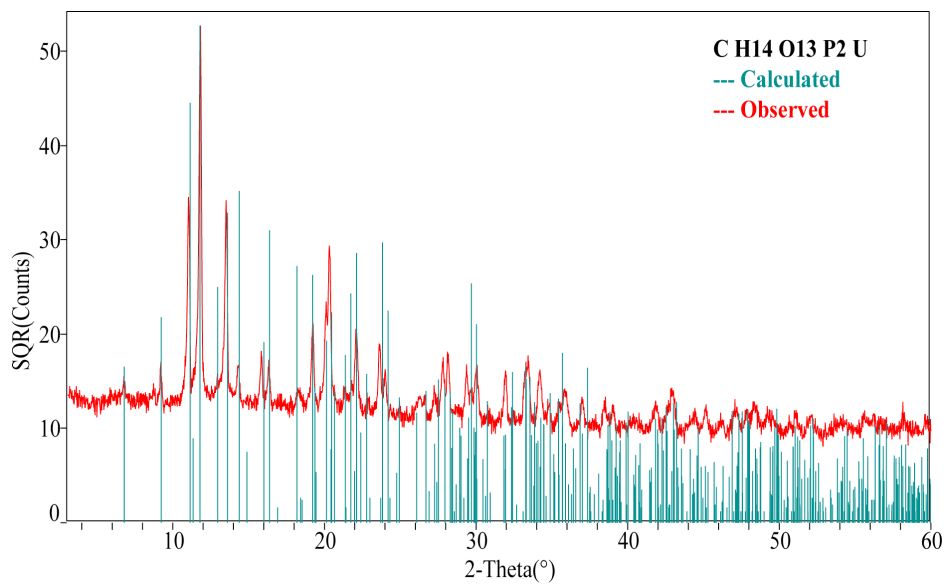
Homometallic  $\text{UO}_2^{2+}$  diphosphonates assembled under ambient  
and hydrothermal conditions

*Karah E. Knope<sup>†</sup> and Christopher L. Cahill<sup>\*†</sup>*

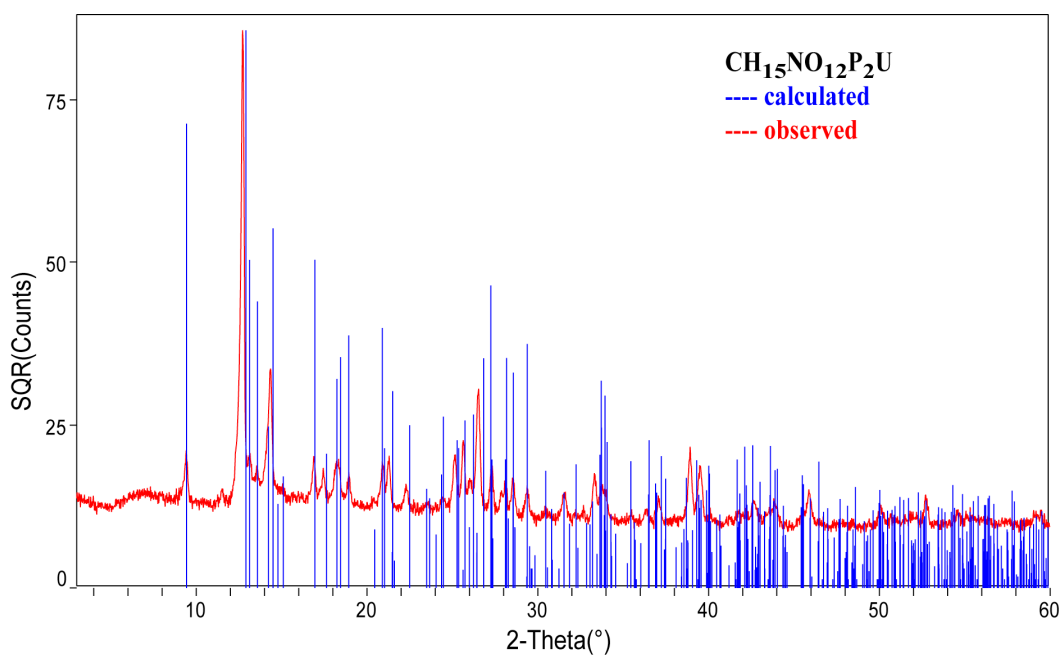
*Supporting Information*



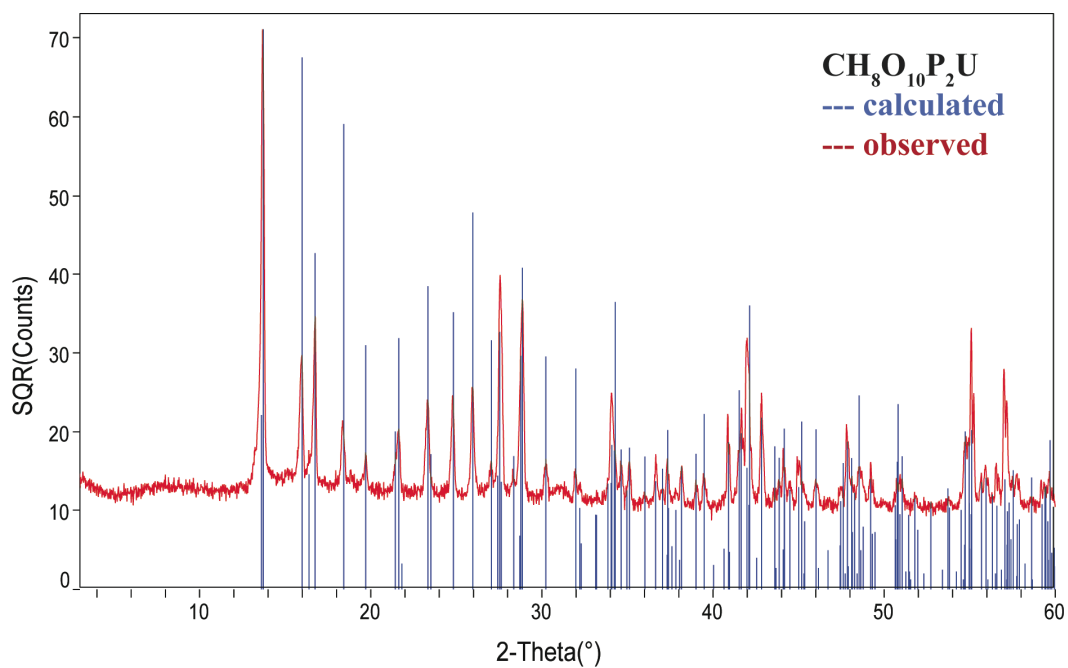
SI 1. Powder diffraction spectrum for **1** (3-60 ° 2-theta, Cu K $\infty$ ).



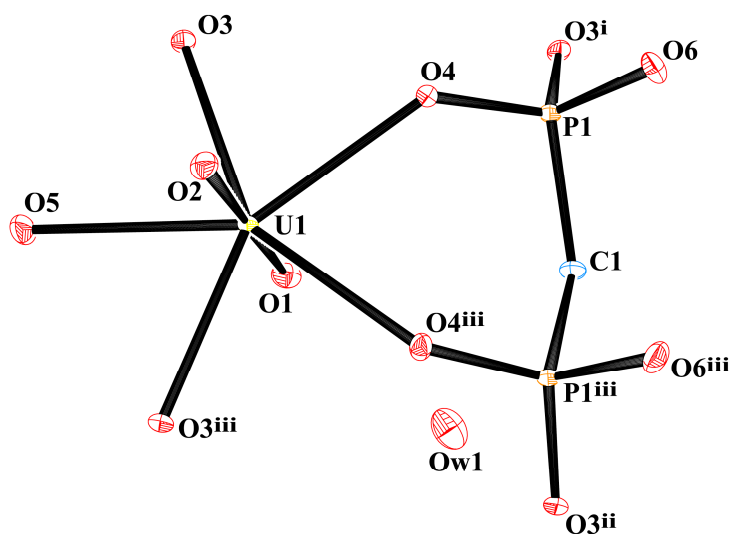
SI 2. Powder diffraction spectrum for **2** (3-60 ° 2-theta, Cu K $\infty$ ).



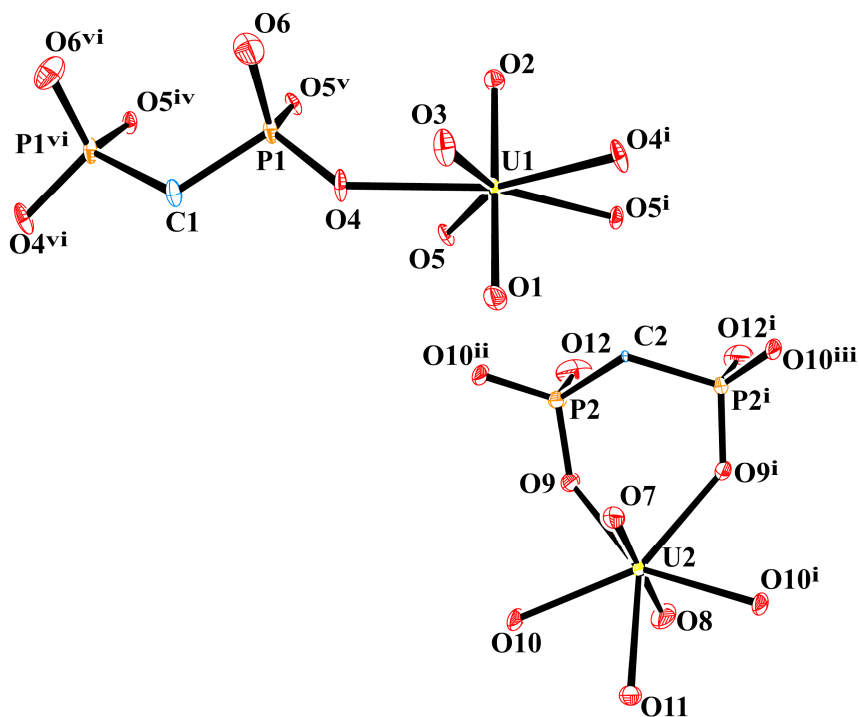
SI 3. Powder diffraction spectrum for **3** (3-60 ° 2-theta, Cu K $\infty$ ).



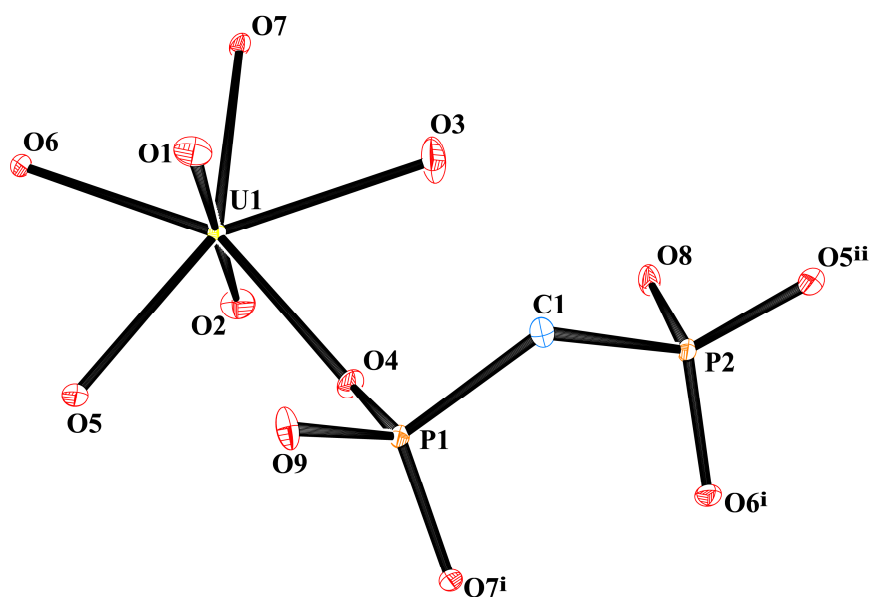
SI 4. Powder diffraction spectrum for **4** (3-60 ° 2-theta, Cu K $\infty$ ).



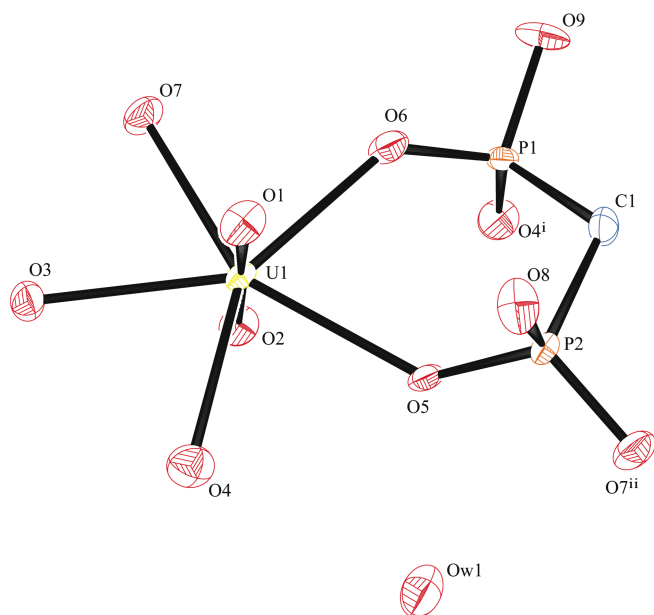
SI 5. ORTEP illustration of **1**. Ellipsoids are shown at 50% probability level. Hydrogen atoms have been omitted for clarity. Superscript denotes symmetry: i =  $-x+1, -y+1, -z+1$ ; ii =  $x+1, y-1, z$ ; iii =  $x-1/2, y+1, -z+1/2$ .



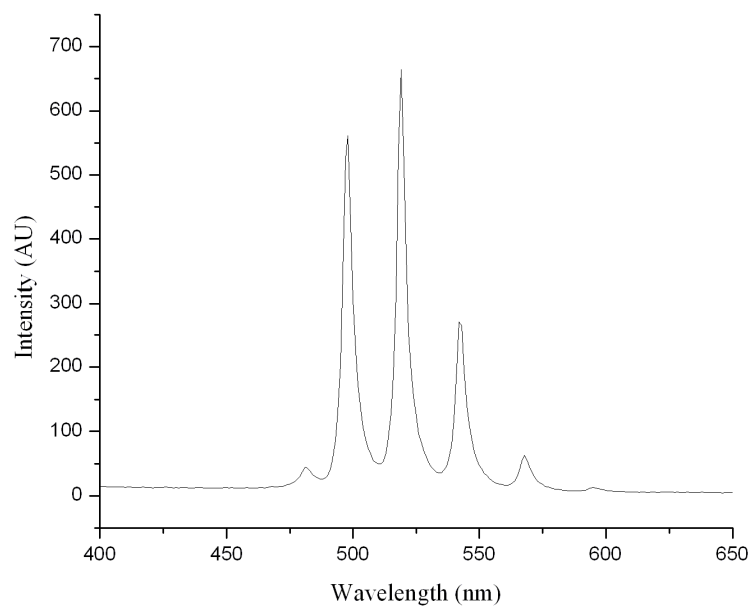
SI 6. ORTEP illustration of **2**. Ellipsoids are shown at 50% probability level. Hydrogen atoms have been omitted for clarity. Superscript denotes symmetry: i =  $-x, -y, -z+1$ ; ii =  $-x+1, -y+1, -z+1$ ; iii =  $x, y+1, z$ ; iv =  $-x+1, -y, -z+1$ ; v =  $x+1, y, z$ ; vi =  $x, y, z+1$ .



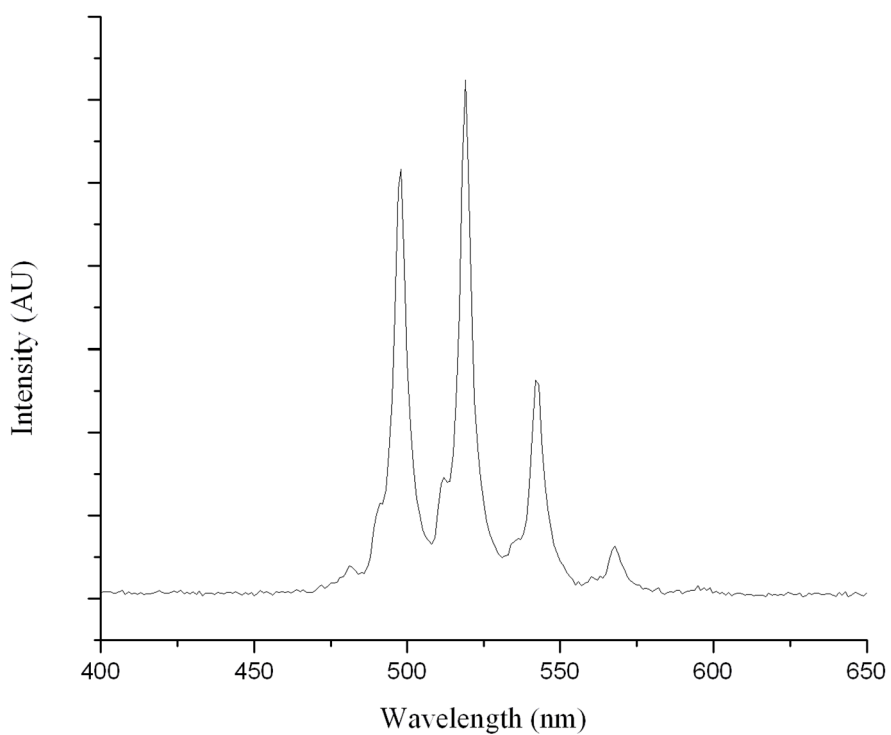
SI 7. ORTEP illustration of **3**. Ellipsoids are shown at 50% probability level. Hydrogen atoms and solvent H<sub>2</sub>O and NH<sub>4</sub> molecules have been omitted for clarity. Superscript denotes symmetry: i =  $x-1/2, -y+3/2, z-1/2$ ; ii =  $-x+1/2, y+1/2, -z+3/2$ .



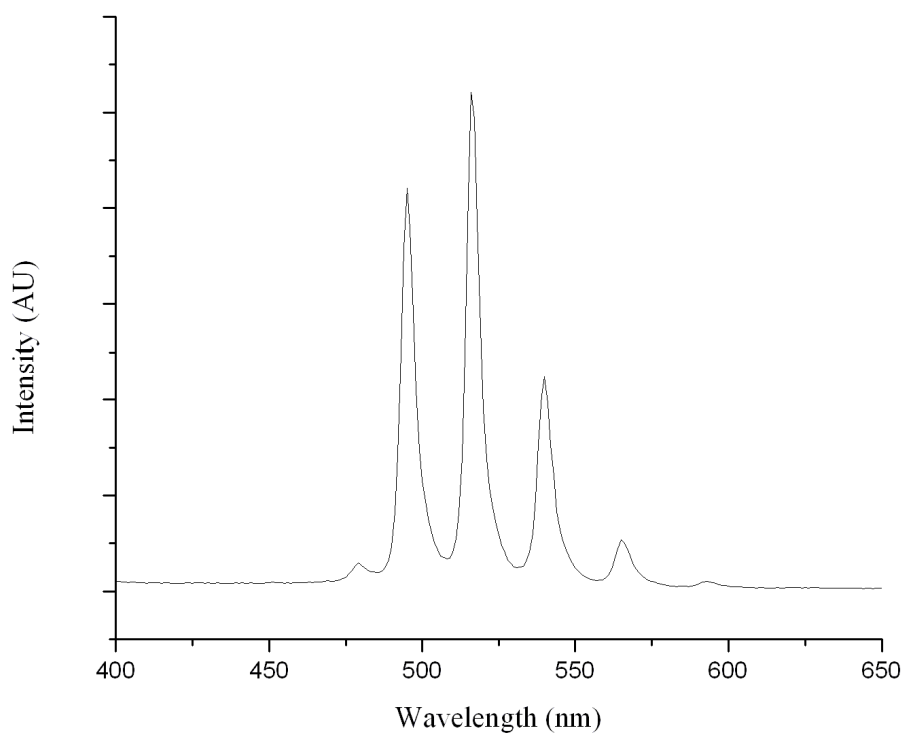
SI 8. ORTEP illustration of **4**. Ellipsoids are shown at 50% probability level. Hydrogen atoms and solvent H<sub>2</sub>O and NH<sub>4</sub> molecules have been omitted for clarity. Superscript denotes symmetry: i =  $-x+3/2, y+1/2, z-1/2$ ; ii =  $-x+2, -y+1, z-1/2$ .



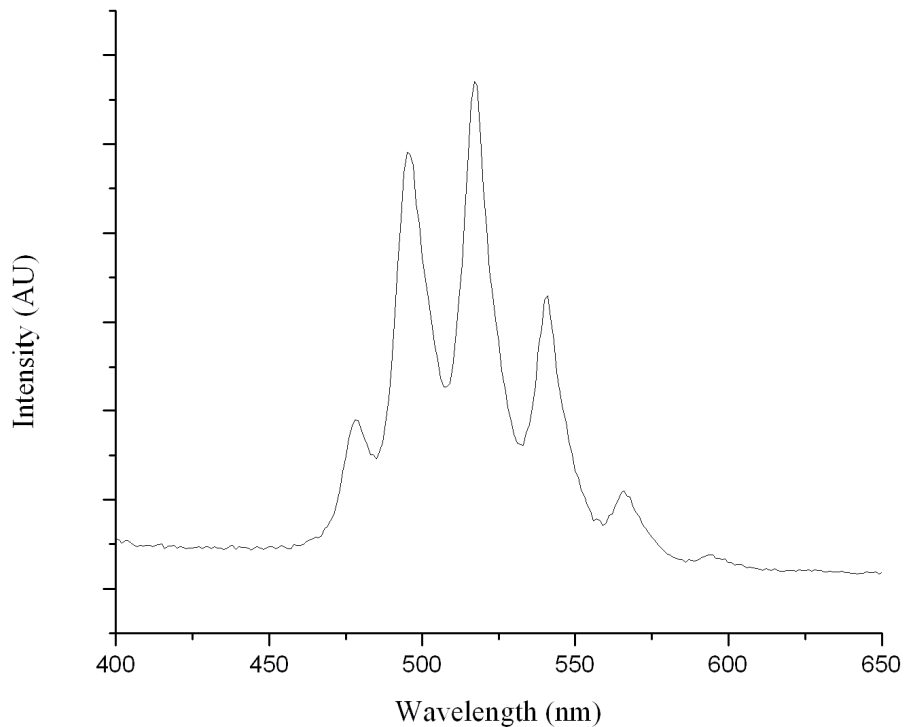
SI 9. Emission spectrum for **1** via direct uranyl excitation at 365nm.



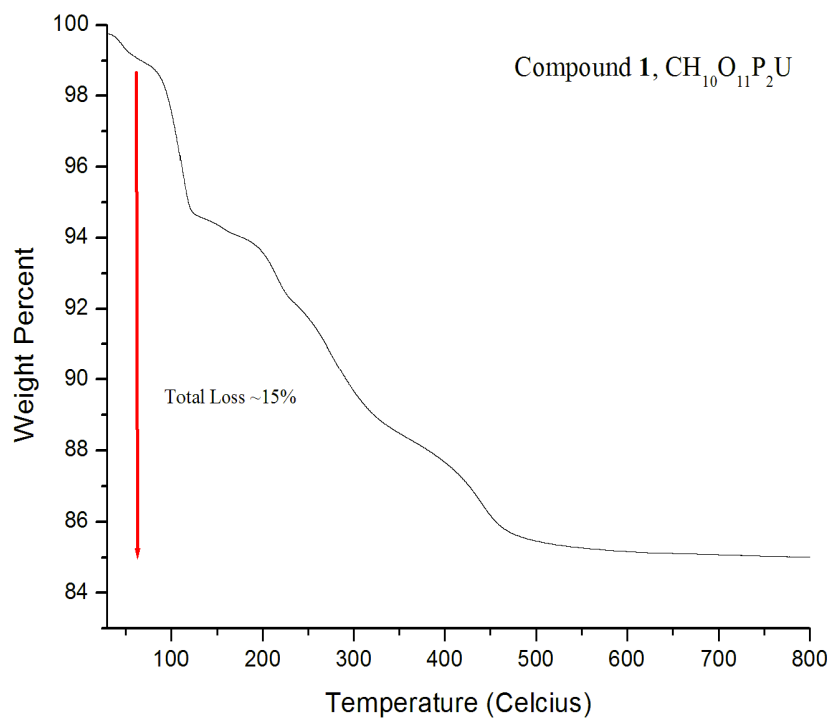
SI 10. Emission spectrum for **2** via direct uranyl excitation at 365nm.



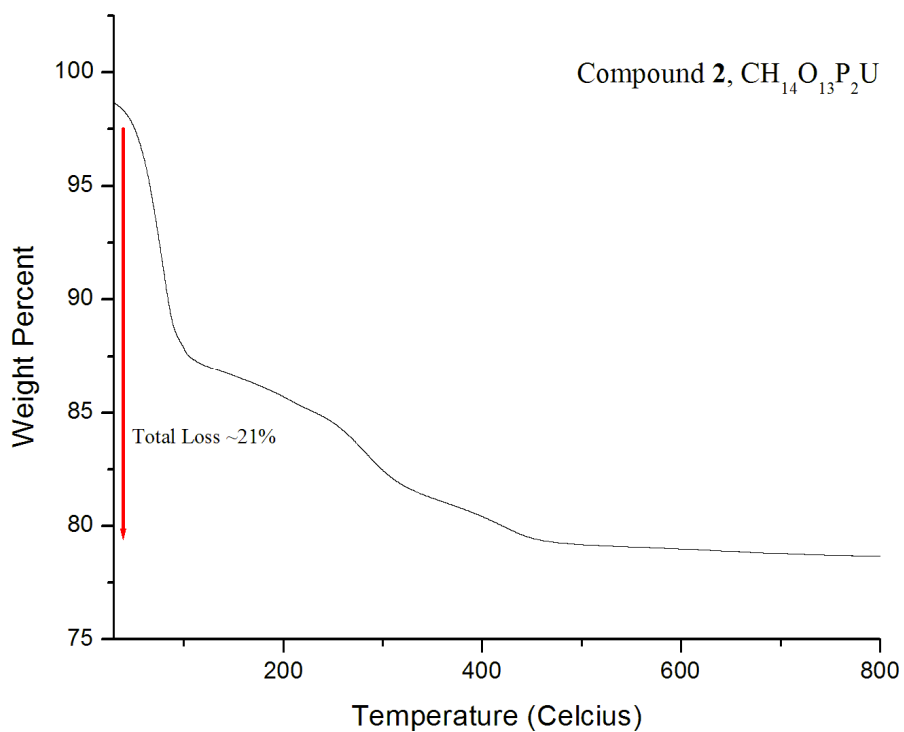
SI 11. Emission spectrum for **3** via direct uranyl excitation at 365nm.



SI 12. Emission spectrum for **4** via direct uranyl excitation at 365nm.

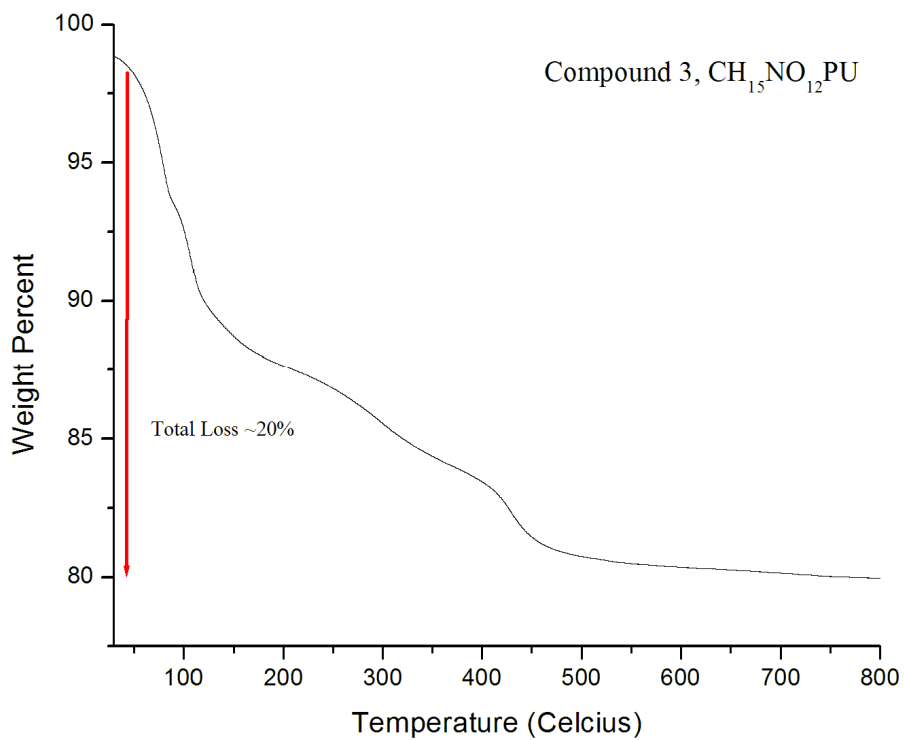


SI 13. TGA plot for **1**.

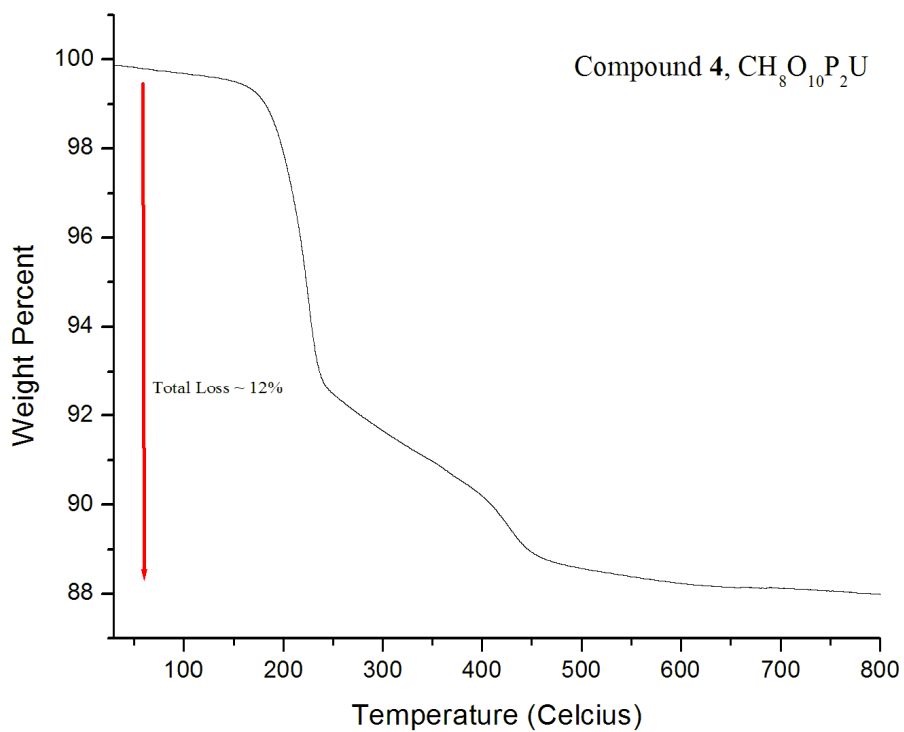


SI 14. TGA plot for **2**.

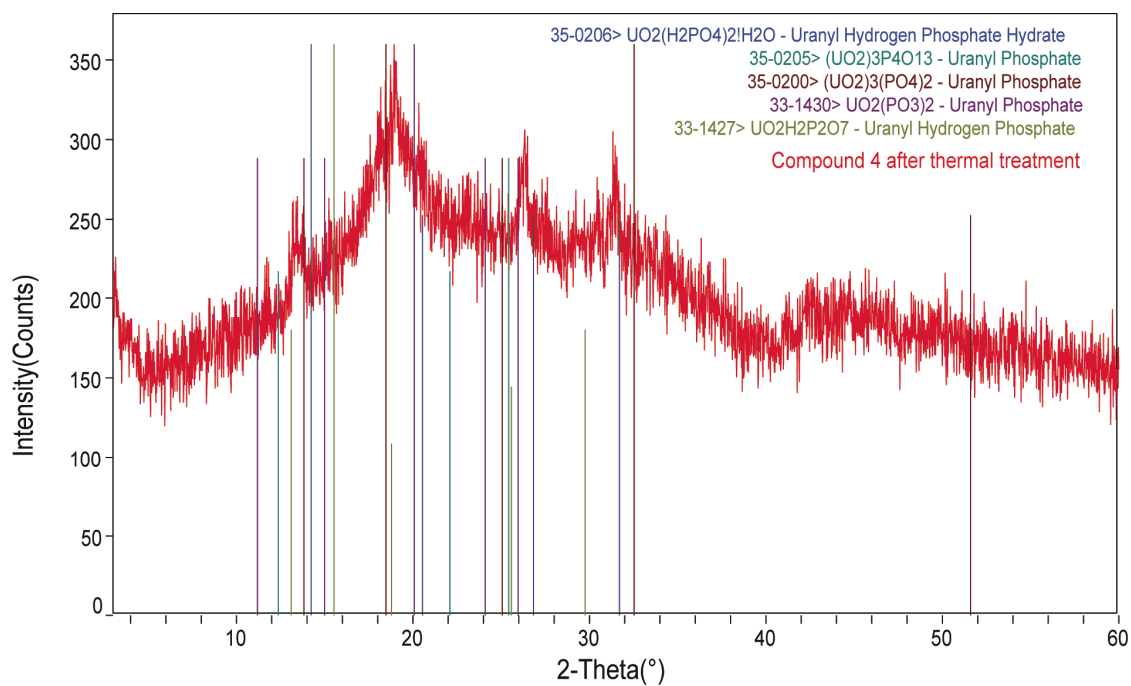




SI 15. TGA plot for **3**.



SI 16. TGA plot for **4**.



SI 17. Powder diffraction spectrum for **4** after thermal treatment (3-60 ° 2-theta, Cu K $\infty$ ).