

# Bridging the gap between solution and solid state studies in Poly-oxometalate chemistry: Discovery of a family of $[V_1M_{17}]$ -based cages encapsulating two $\{V^V O_4\}$ moieties

Haralampos N. Miras,<sup>a</sup> De-Liang Long,<sup>a</sup> Paul Kögerler<sup>b</sup> and Leroy Cronin\*<sup>a</sup>

<sup>a</sup> *University of Glasgow, Department of Chemistry, Joseph Black Building, University Avenue, Glasgow, G12 8QQ, United Kingdom. E-mail: L.Cronin@chem.gla.ac.uk*

<sup>b</sup> *Institut für Anorganische Chemie RWTH Aachen D-52074 Aachen, Germany*

## Redox Titrations

- (1) Compound 1  $Na_4(NH_4)_2H_2W_{17}V_3O_{62}$ , mass used =200 mg  
Oxidant = 0.01 M  $Ce^{IV}$  in 0.5 M of sulphuric acid solution  
Theoretical amount of oxidant for one electron reduced species in mL: 4.33  
Experimental amount required: 4.78

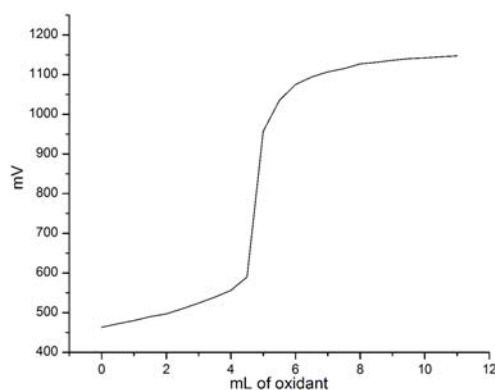


Figure S1. Redox titration of Compound 1

- (2) Compound 3  $TEAH_6H_2Mo_{17}V_3O_{62}$ , mass used =200 mg  
Oxidant = 0.01 M  $Ce^{IV}$  in 0.5 M of sulphuric acid solution  
Theoretical amount of oxidant for one electron reduced species in mL: 5.23  
Experimental amount required: 5.90

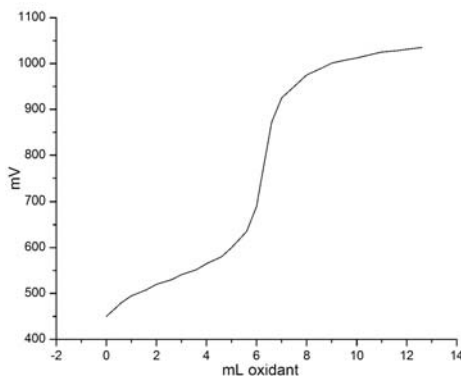


Figure S2. Redox titration of Compound 2a with TEAH cations (for solubility in water)