Electronic Supplementary Information (ESI) for

# Discrete spherical hexadecavanadates incorporating a bromide with oxidative bromination activity

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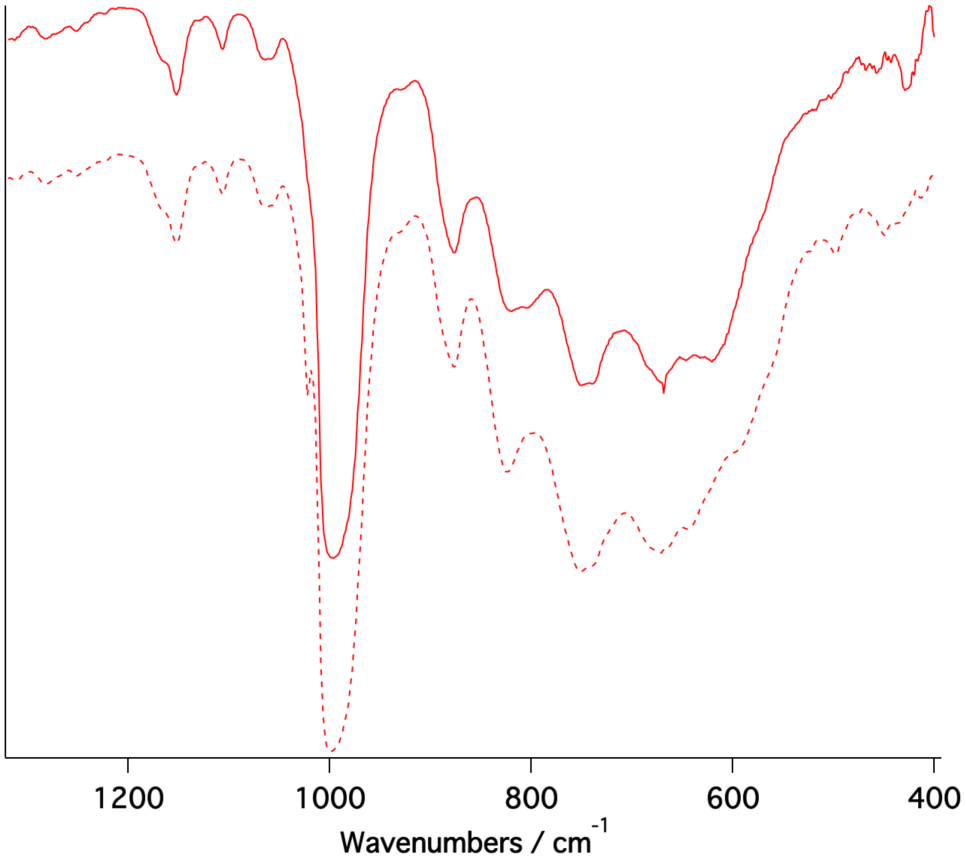


**Figure S1.** FT-IR spectra of cluster **1** (red line) and cluster **2** (dotted line).

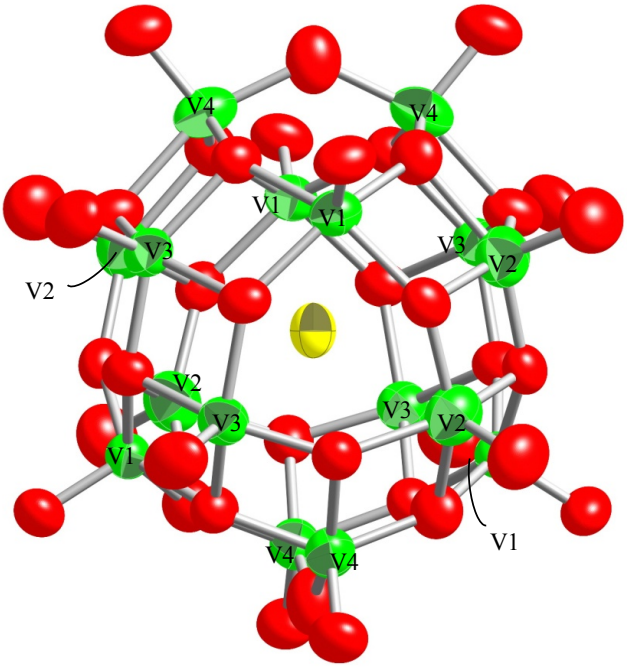


**Figure S2.** ORTEP drawing of cluster **1** with thermal ellipsoids drawn at the 50% probability level. Yellow, green and red ellipsoids represent chlorine, vanadium and oxygen atoms, respectively.

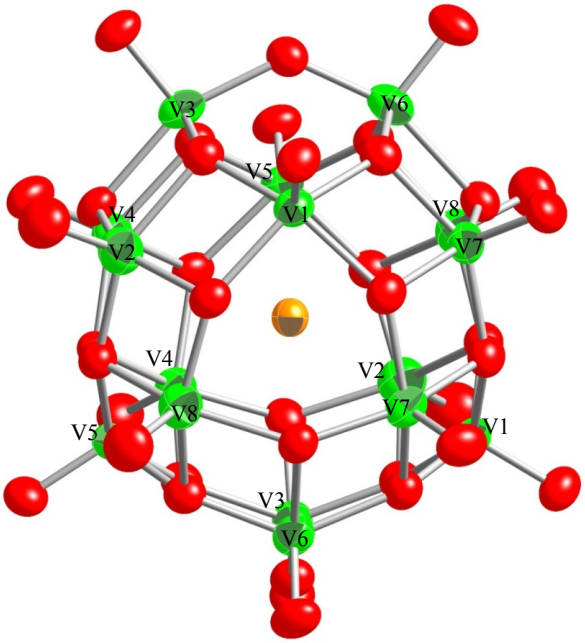


**Figure S3.** ORTEP drawing of cluster **2** with thermal ellipsoids drawn at the 50% probability level. Brown, green and red ellipsoids represent Bromine, vanadium and oxygen atoms, respectively.

**Table S1.** The distance between vanadium and halogen atoms. Numberings are based on the ORTEP views in Figure S2 and S3.

| | V···Cl (Å) | V···Br (Å) |
|---|---|---|
| **V1** | **3.385** | **3.425** |
| **V2** | **3.429** | **3.459** |
| **V3** | **3.433** | **3.700** |
| **V4** | **3.683** | **3.451** |
| **V5** | | **3.433** |
| **V6** | | **3.706** |
| **V7** | | **3.464** |
| **V8** | | **3.482** |
| **Average** | **3.483** | **3.515** |


**Figure S4.** FT-IR spectra of cluster **2** (red line) and recovered **2** after oxidation reaction of *p*-cresol (green line).