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Synthesis and Redox Properties of Triarylmethane Dye Cation

Salts of Anions $[\text{M}_6\text{O}_{19}]^{2-}$ ($\text{M} = \text{Mo}, \text{W}$)

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Supplementary Information

Figures S1-S7

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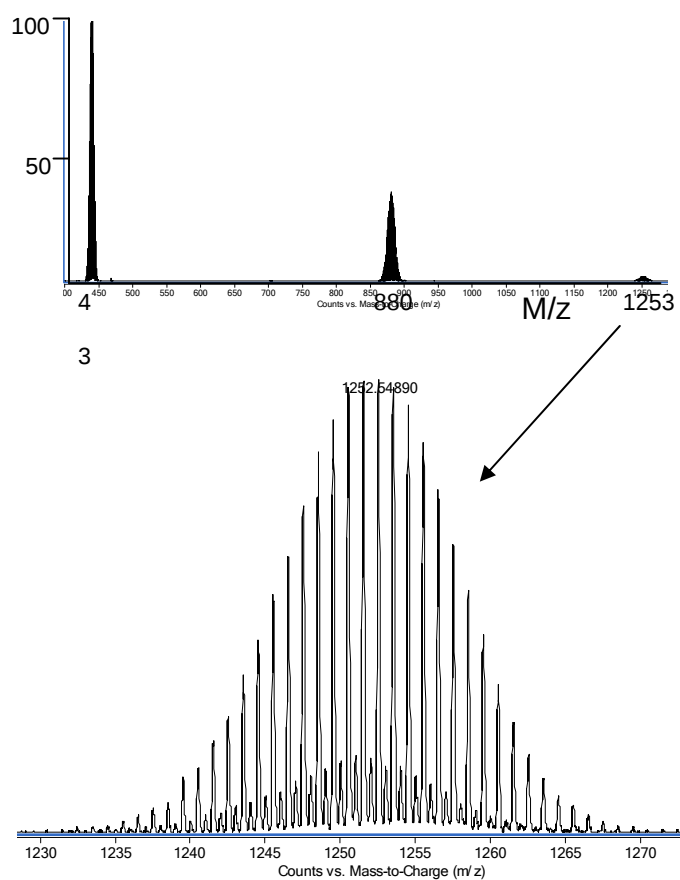


Figure S1. ESI mass spectrum of $\text{CV}_2[\text{Mo}_6\text{O}_{19}]$ (negative ion mode).

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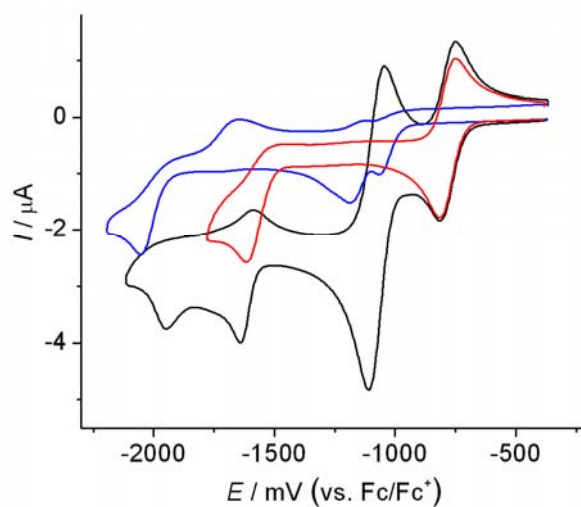


Figure S2. Comparison of the cyclic voltammograms of [PR]Cl, [Bu₄N]₂[Mo₆O₁₉] and PR₂[Mo₆O₁₉] in MeCN (0.1 M Bu₄NPF₆). ν , 100 mV s⁻¹. Blue: [PR]Cl; red: [Bu₄N]₂[Mo₆O₁₉]; black: PR₂[Mo₆O₁₉].

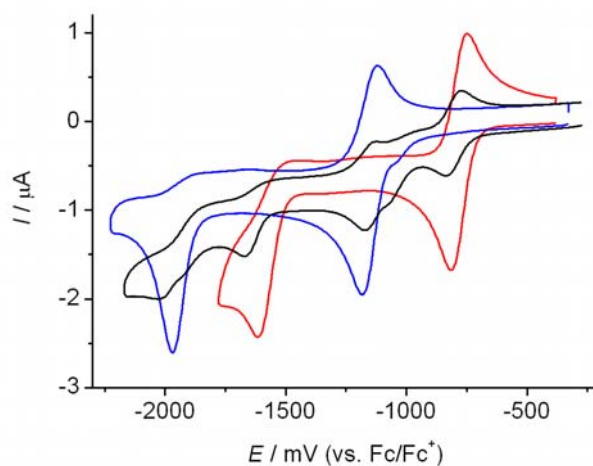


Figure S3. Comparison of [CV]Cl, [Bu₄N]₂[Mo₆O₁₉] and CV₂[Mo₆O₁₉] in MeCN (0.1 M Bu₄NPF₆). ν , 100 mV s⁻¹. Blue: [CV]Cl; red: [Bu₄N]₂[Mo₆O₁₉]; black: CV₂[Mo₆O₁₉].

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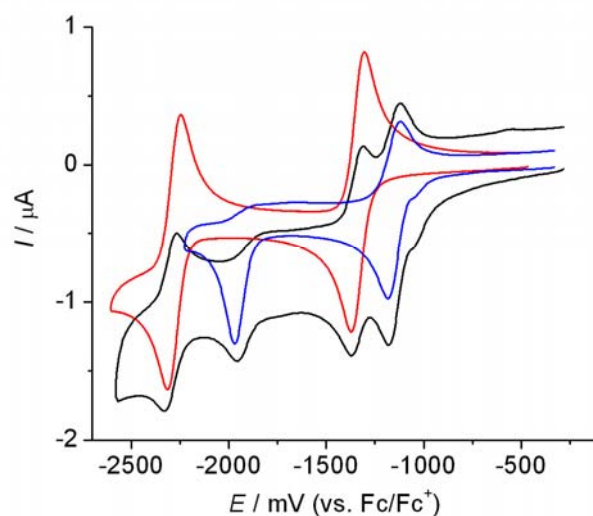


Figure S4. Comparison of $[\text{CV}]\text{Cl}$, $[\text{Bu}_4\text{N}]_2[\text{W}_6\text{O}_{19}]$ and $\text{CV}_2[\text{W}_6\text{O}_{19}]$ in MeCN (0.1 M Bu_4NPF_6). v , 100 mV s^{-1} . Blue: $[\text{CV}]\text{Cl}$; red: $[\text{Bu}_4\text{N}]_2[\text{W}_6\text{O}_{19}]$; black: $\text{CV}_2[\text{W}_6\text{O}_{19}]$.

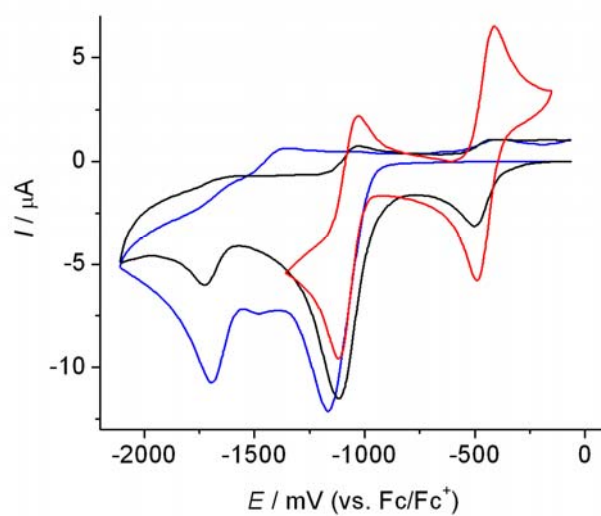


Figure S5. Comparison of cyclic voltammograms of solid $[\text{PR}]\text{Cl}$, $[\text{Bu}_4\text{N}]_2[\text{Mo}_6\text{O}_{19}]$ and $\text{PR}_2[\text{Mo}_6\text{O}_{19}]$ in contact with $[\text{Emim}][\text{tfsa}]$. Black trace - $\text{PR}_2[\text{Mo}_6\text{O}_{19}]$, red trace - $[\text{Bu}_4\text{N}]_2[\text{Mo}_6\text{O}_{19}]$, and blue trace - $[\text{PR}]\text{Cl}$.

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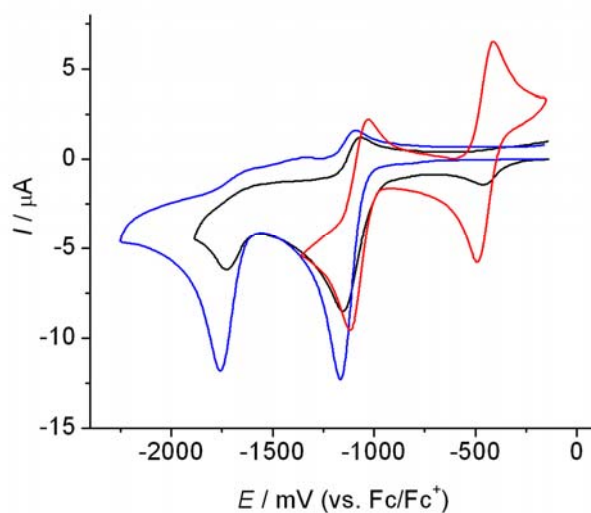


Figure S6. Comparison $[\text{CV}]\text{Cl}$, $[\text{Bu}_4\text{N}]_2[\text{Mo}_6\text{O}_{19}]$ and $\text{CV}_2[\text{Mo}_6\text{O}_{19}]$. Black trace - $\text{CV}_2[\text{Mo}_6\text{O}_{19}]$, red trace - $[\text{Bu}_4\text{N}]_2[\text{Mo}_6\text{O}_{19}]$, and blue trace - $[\text{CV}]\text{Cl}$.

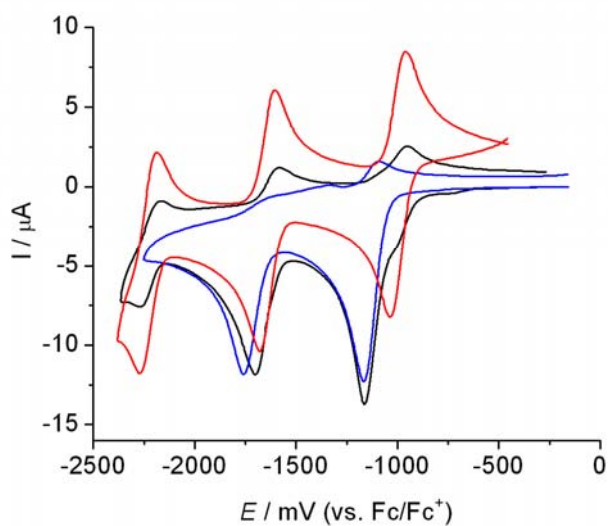


Figure S7. Comparison of cyclic voltammograms of solid $[\text{CV}]\text{Cl}$, $[\text{Bu}_4\text{N}]_2[\text{W}_6\text{O}_{19}]$ and $\text{CV}_2[\text{W}_6\text{O}_{19}]$ in contact with $[\text{Emim}][\text{tfsa}]$. Black trace - $\text{CV}_2[\text{W}_6\text{O}_{19}]$, red trace - $[\text{Bu}_4\text{N}]_2[\text{W}_6\text{O}_{19}]$, and blue trace - $[\text{CV}]\text{Cl}$.