

Supporting Information
(Figures S1 and S2)

**A New Class of Sulfido/oxo–(dithiolene)molybdenum(IV) Complexes
Derived from Sulfido/oxo–bis(tetrasulfido)molybdenum(IV) Anions**

Hideki Sugimoto,^{*†} Koichiro Suyama,[†] Kunihisa Sugimoto,[‡] Hiroyuki Miyake,[†] Isao Takahashi,[¶] Shun Hirota,[¶] and Shinobu Itoh,[†]

[†] Department of Chemistry, Graduate School of Science, Osaka City University, Sumiyoshi-ku, Osaka 558-8585, Japan. Fax: 81 6 6605 2522; Tel: 81 6 6605 2548

[‡] Rigaku Corporation, Akishima, Tokyo 196-8666, Japan

[¶] Graduate School of Materials Science, Nara Institute of Science and Technology, Ikoma 630–0192, Japan

* To whom correspondence should be addressed. E-mail: sugimoto@sci.osaka-cu.ac.jp

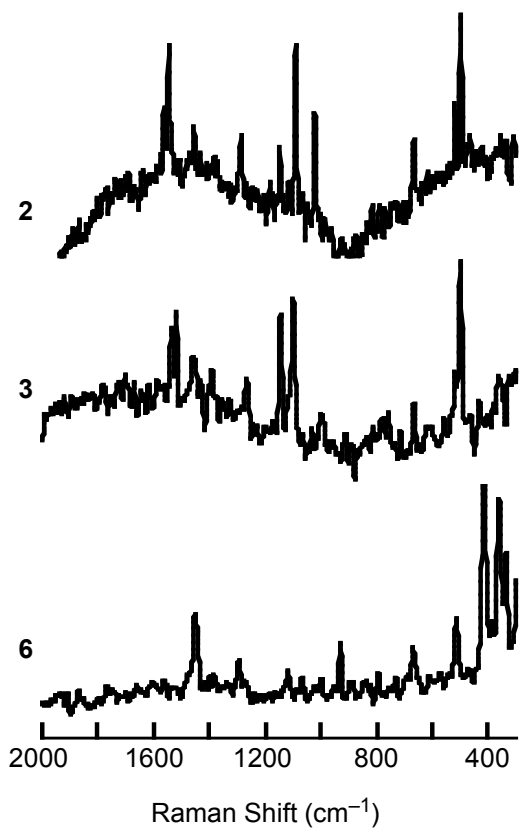


Figure S1. FT Raman spectra of $(\text{Et}_4\text{N})_2[\text{MoS}(\text{S}_4)(\text{bdt})]$ (**2**), $(\text{Et}_4\text{N})_2[\text{MoS}(\text{S}_4)(\text{bdtCl}_2)]$ (**3**), and $(\text{Et}_4\text{N})_2[\text{MoO}(\text{S}_4)_2]$ (**6**).

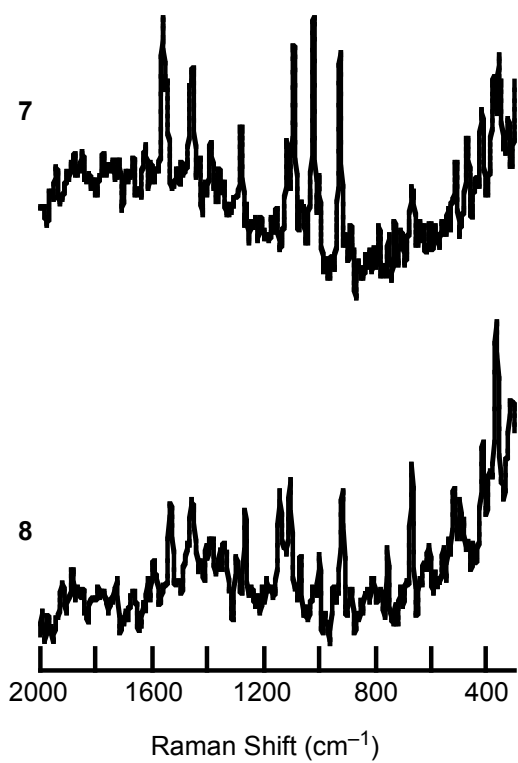


Figure S2. FT Raman spectra of $(\text{Et}_4\text{N})_2[\text{MoO}(\text{S}_4)(\text{bdt})]$ (**7**) and $(\text{Et}_4\text{N})_2[\text{MoO}(\text{S}_4)(\text{bdtCl}_2)]$ (**8**).