

Supplementary Information

Preparation of $(\mu\text{-Te}_2)\text{Fe}_2(\text{CO})_6$ by Rauchfuss method with some modifications.

$(\mu_3\text{-Te}_2)\text{Fe}_3(\text{CO})_9$ (10.0 g, 14.8 mmol) was added to a 2-L, round-bottomed flask containing a MeONa solution prepared from reagent grade methanol (600 mL) and sodium chips (1.36 g, 59.2 mmol), and then the mixture was stirred at room temperature for 2 h. After water (200 mL) and petroleum ether (200 mL) were added, the new mixture was acidified with 6 M HCl (ca. 20 mL) until its pH value reached to 1–2. The aqueous layer was separated and extracted with petroleum ether (3×100 mL) and the combined organic extracts were washed with H_2O (3×100 mL) and dried over anhydrous MgSO_4 . The petroleum ether solution was concentrated to a small volume (ca. 20 mL) (note that evaporation to dryness resulted in considerable polymerization), which was subjected to column chromatography packed with silica gel. Elution with petroleum ether developed a major red band, from which a petroleum ether solution (ca. 500 mL) containing $(\mu\text{-Te}_2)\text{Fe}_2(\text{CO})_6$ (2.53 g, 32% yield) was obtained. The yield of $(\mu\text{-Te}_2)\text{Fe}_2(\text{CO})_6$ was determined by using UV-vis spectroscopy based on $\epsilon_{348} = 1.07 \times 10^4 \text{ cm}^2 \text{mol}^{-1}$.