



Bis(dithiomethyl-tetrathiafulvalene) with two phenyl-phosphino bridges

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Titre Bis(dithiomethyl-tetrathiafulvalene) with two phenyl-phosphino bridges

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Résumé en anglais The single crystal X-ray structure of the precursor dithiomethyl-tetrathiafulvalene (MeS)₂TTF is reported, together with theoretical calculations at DFT level, which afforded two energy minima corresponding to cis and trans orientations of the thiomethyl substituents. The bis(tetrathiafulvalene) reaction of this TTF derivative followed by the reaction with phenyldichlorophosphine provides a new rigid bis(tetrathiafulvalene [TTF]) containing a 1,4-dihydro-1,4-diphosphinine ring between the two redox active units. Its solid-state structure, determined by single crystal X-ray diffraction analysis, shows the coexistence of both cis and trans isomers. Cyclic voltammetry measurements are in accordance with the existence of a communication between the two TTFs, as illustrated by the splitting of the oxidation waves.

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