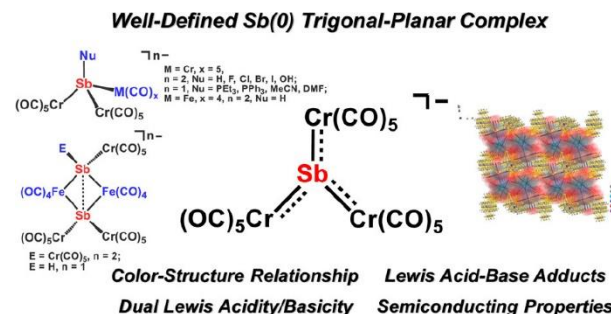


My research covers syntheses, characterization, and reactivities of main-group element-containing transition metal carbonyl clusters or polymers and studies of their electrochemical and magnetic as well as photophysical properties with the aid of DFT calculations.

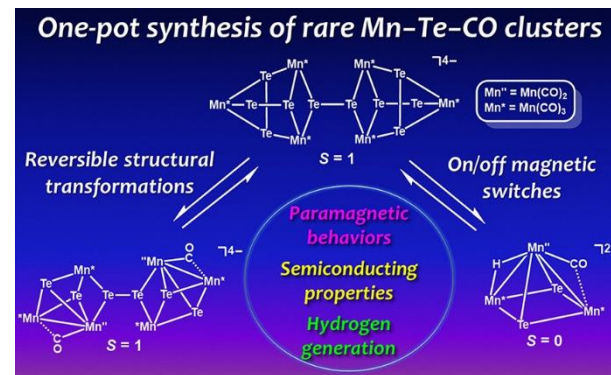
Techniques used in study

Single crystal X-ray analysis; NMR spectroscopy; Powder X-ray Diffraction; HR-MS; UV-vis spectroscopy; Electrochemistry; EPR spectroscopy; SQUID; X-ray photoelectron spectroscopy; X-ray absorption spectroscopy; DFT calculations.

Low-Valent, Multiply Bonded, Trigonal-Planar Sb Complex



Manganese Telluride Carbonyl Complexes



Publications

- M. Shieh,* Y.-H. Li, C.-H. Lin and T.-Y. Sun, "Low-Valent, Multiply Bonded, Trigonal-Planar Sb Complex: Rational Syntheses, Dual Acidic/Basic Properties, and Unexpected Semiconducting Characteristics," *Inorg. Chem.* **2020**, *59*, 16073.
- M. Shieh,* Y.-H. Liu, T.-S. Lin, Y.-C. Lin, W.-K. Cheng and R. Y. Lin, "Manganese Telluride Carbonyl Complexes: Facile Syntheses and Exotic Properties—Reversible Transformations, Hydrogen Generation, Paramagnetic, and Semiconducting Properties," *Inorg. Chem.* **2020**, *59*, 6923.



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