Literature discussion of “Photophysical Studies of a Zr(IV) Complex with Two Pyrrolidine-Based Tetradentate Schiff Base Ligands”

C. Milsmann and co-workers, *Inorg. Chem.* **2024**, *63*, 9002-9013.

**Please refer to Scheme 1 and Fig. 2 to help answer the following questions:**

1. What VSEPR geometry would you assign to the compound?
2. Are the tetradentate ligands bound in a *mer*- or *fac*- manner? What aspects of the ligand likely contribute to it binding in this manner?
3. Give the point group of the molecule and identify where the primary axis of rotation (if any) lies on the molecule.
4. Determine the location, if any, of the mirror planes in the molecule. Based on the atom assignments in the crystal structure, which nitrogen atoms change places with each reflection?
5. Unlike most Zr compounds, Zr(bppda)2 does not react appreciably with water. Based on the structure, what is the likely reason for this unusual stability?