Puzzle: Identify the Crystal Structure

You are given the following clues about a crystal:

- 1. **Clue 1:** The crystal has a unit cell where all sides (edges) are equal in length, but the angles between the edges are not 90 degrees.
- 2. Clue 2: The structure is highly symmetric, but it is not cubic or tetragonal.
- 3. **Clue 3:** The crystal has four 3-fold rotational axes, which means that if you rotate the crystal 120 degrees around one of these axes, the structure looks the same.
- 4. **Clue 4:** The structure contains an atom at the corners of the unit cell and one atom fully enclosed within the center of the unit cell.
- 5. Clue 5: The crystal is often used in jewelry and electronics due to its hardness and optical properties.

Questions:

- 1. Based on these clues, what is the name of the crystal system this structure belongs to?
- 2. What common **material** could this describe, given its use in both jewelry and electronics?

Hints:

- Think about symmetry, rotational axes, and the types of unit cells that match the description.
- This material is well-known for its strong bonding and optical properties.