

Copper Acetate Small Molecule Crystallography Undergraduate Experiments

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We developed a suite of undergraduate Copper Acetate Small Molecule Crystallography Experiments. Each of the four exercises is completed in less than one four-hour lab period. The four experiments are:

1. The synthesis of copper acetate
2. The single crystal X-ray crystallography of copper acetate
3. Challenging point groups
4. Two-dimensional unit cells

None of the upper-level undergraduate laboratory students had ever seen a diffractometer before. Thus, they did not know a thing about crystallography. By the end of the fourth experiment, all students were well-versed in all subjects above. Furthermore, all students reported enjoying the learning process in the four exercises. Many expressed interests in doing chemistry research (in any field) involving a diffractometer. Therefore, this suite of experiments became an excellent recruiting tool for chemistry majors to become involved in undergraduate chemistry research.