Recrystallization essay

Rationalizations is the primary method for purifying solid organic compounds. Compounds obtained from natural sources or from reaction mixtures almost always contain impurities. The impurities may include some combination of insoluble, soluble, and colored impurities.

To obtain a pure compound, these impurities must be removed.

Each is removed in a separate step in the rationalizations procedure. Catenation of aniline by acetic anhydride was performed to synthesize the crude actinide. The obtained crude actinide contained acetic acid as well as unrelated acetic anhydride. The said impurities of the crude actinide were removed using activated charcoal, filtration and rationalizations.

EXPERIMENTAL A. Compounds tested Aniline Aniline Is a clear to slightly yellow liquid with a characteristic odor. It does not readily evaporate at room temperature.

The solution was then heated on a hot plate until the entire solid dissolved completely. When the solution became colored, it was removed from the heat and enough amount of activated charcoal was added.

The heating process continued until the solution became colorless. While the solution was still hot, it was quickly filtered using a fluted filter paper. Its filtrate was then cooled by placing the receiver in a beaker with cold water. The crystals that formed were collected and were washed.

When the crystals completely dried up, it was then weighed. Figure 7.

Filtration of the crude actinide crystals Figure 8. Crude actinide residue mixed with the rationalizing solvent Figure 9. Heating process of the solution Figure 10.

Addition of the activated charcoal to the solution Figure 1 1 . Continued heating process of the solution until colorless Figure 12. Filtration and rationalizations of the actinide Figure 13. Weighing of the dried actinide crystals Among the three rationalizing solvents – methanol, hexane, and water, water was chosen to be used in the rationalizations of the actinide.