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Brand Name v. Generic: A Chemical Analysis of Analgesics by TLC

The purpose of this experiment was to analyze brand name and generic analgesics to determine their purity. In order to do this, a process called Thin Layer Chromatography (TLC) was used. The hypothesis was to prove that brand name analgesic drugs are not better than generic analgesics. The materials used included three brand name and three generic analgesics containing the same active ingredients (Tylenol, Advil and Bayer Aspirin) and one sample each of a pure acetaminophen, pure ibuprofen, and pure acetylsalicylic acid; test tubes (one for each sample plus one for each of the pure substances); TLC plates to spot my samples on; nine spot applicators; beaker; pipette; mortar and pestle to grind the tablets; and a 99/1 solution of acetic acid and ethyl acetate. The procedure consisted of dissolving a small sample of each analgesic and spotting it onto the TLC plates. (Each plate consisted of a sample each of the brand name, the generic and the pure substance as a standard). It was then placed into a beaker with the 99/1 solution. Once the solution eluted up the paper, it was taken out and placed under a UV light to mark the spots of each sample and calculate the Rf (retention factor). In conclusion, after completing the experiment, it was found that the hypothesis was correct. It was evident that only there was little to no difference in the brand name and generic analgesics tested. It was determined that the generic is a better savings.