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*"The Wonder Drug" (A Chemical Analysis Of Analgesics To Detect Aspirin)*

The purpose of this experiment was to analyze ten different analgesics to determine if they all contain a form of aspirin. In order to do this, a process called Thin Layer Chromatography (TLC) was used. The hypothesis was to prove that not all analgesic drugs contain a form of aspirin. The materials used in the procedure included ten analgesic drugs (Excedrin, Ibuprofen, Bayer Aspirin, Equate Aspirin, Anacin, Tylenol, Aleve, Motrin, Aspercreme, and Thera-gesic Cream) and one sample of a pure aspirin substance; eleven test tubes (one for each sample); four TLC plates to spot my samples on; eleven spot applicators; a beaker; a pipette; a mortar and pestle to grind the tablets; and a 99/1 solution of Acetic Acid and Ethyl acetate glacial. The procedure consisted of dissolving a small sample of each analgesic and spotting in onto the TLC plates. (Each plate consisted of three different samples and a sample of the pure aspirin 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 to calculate the R<sub>f</sub> (retention factor). In conclusion, after completing the experiment, it was found that the hypothesis was correct. There were ten different analgesics that were tested for aspirin content. Even though all of the analgesics tested are used for fever and pain relief, not all of them contained aspirin.