

Evaluating medications from China and other countries



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DECLARATIONS

- No conflicts of interest
- Our talk describes purity testing of sodium PB, which may have to be obtained extra-legally
- Content is somewhat technical, and at risk of being boring

Motivation

- Individuals may have personal preference of chemical over gas method
- Have reason to expect that supplier is reliable, want to make sure received chemical will be effective for self-delivery
- Successful purchase, product is in hand

Source of Protocol

- Peaceful Pill handbook web store: “Bromson Triple Test Kit” \$245 AU
- Procedure described and video available in PPeH
- Modifications suggested from PPeH Forum (bulletin board, available with PPeH membership)

Caveat: we are not chemists

Kit Materials

- Scale with ± 2 mg accuracy
- Thermometer
- Qualitative “bar” test strips
- Syringes, needles, pipettes

Items can be separately purchased from various online vendors

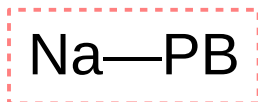
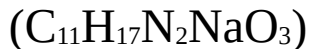
Additional materials needed

- funnel, small mixing containers
- distilled water
- vinegar
- stove

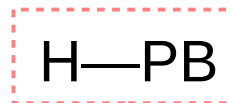
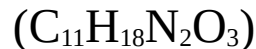
Testing experiences: multiple experiments

- Chemical received from recommended Chinese supplier
- Experimented with specific apparatus and procedures
- Satisfactory purity determination; protocols are usable and informative
- Four tests were explored

Acid Conversion Reaction



dissolved



Insoluble



Starting
powder mass:
248.25 g/mole
dissolved in
distilled water

Final
precipitated
powder mass:
226.27 g/mole

Acid conversion test (Tom)

- 100 attempts, results ranging from 0% to 100% purity (many samples)
- Practice working with small quantities helped
- Test analysis provides a *minimum* purity estimate

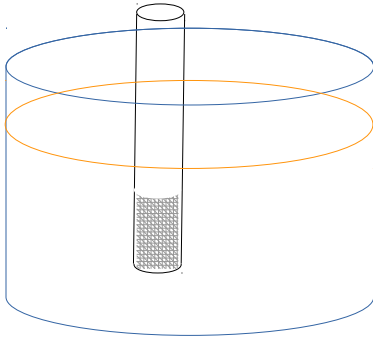
Acid conversion test (Ted)

- Four attempts, results ranging from 32% to 78% purity (one sample)
- Practice working with small quantities helped; most reliable (78%) was last
- Test analysis provides a *minimum* purity estimate

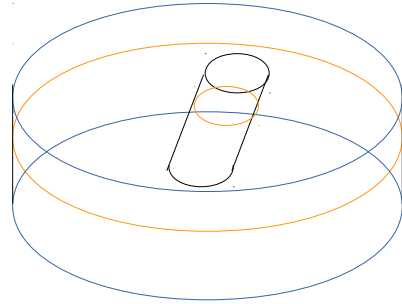
Melting point test

- Purity affects temperature at which powder melts
- MP = 131° C. indicates 100% pure
- Requires dried precipitate from acid conversion

Viewing angle to see powder under oil: transparent container required

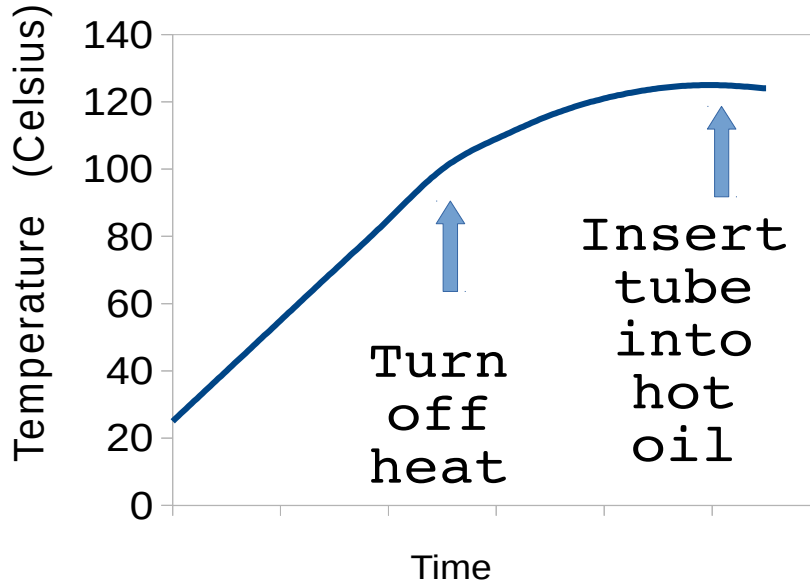


Visible through wall
of beaker



Not visible through
upper surface of oil

Melting point test: gradual approach to target temperature ensures uniformity



White powder visible



Melted, clear

Melting point test results

- Viewing angle is critical to observe transition: must view horizontally through glass
- Practice required to achieve gradual approach to melting point
- Four attempts (Ted), with results ranging from 121° to 131°; pure chemical would be 131°; most trusted: 125°

Dilution test with qualitative test strips

- Simplest test: moisten test strip for 5 seconds, observe presence or absence of a “T” line
- Requires:
 - Accurate measure of fraction of a gram of sample
 - Small measured volume/mass of distilled water
 - Careful dilution sequence: 1:1000 repeated twice
- Result: Semi-quantitative knowledge of generic “bar” presence

Dilution instrument: spot test cards (“cassettes”)

Top of strip holds *generic* antibody anchored to the strip



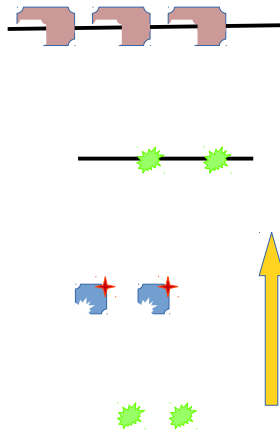
Middle of strip holds *PB* anchored to the strip



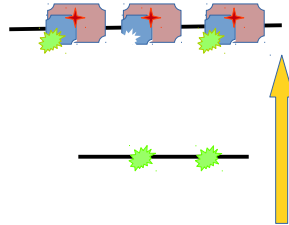
Bottom of strip holds stained free *PB antibody* that will flow with fluid to the upper part of strip, when it is dipped in solution



Positive test result

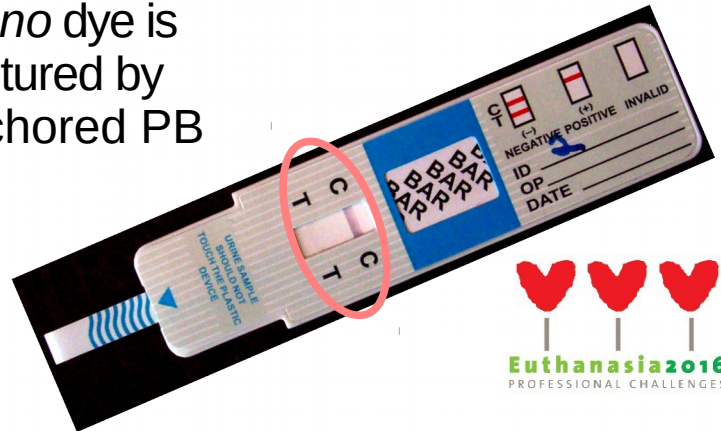


PB in sample binds to *all* the stained free antibody

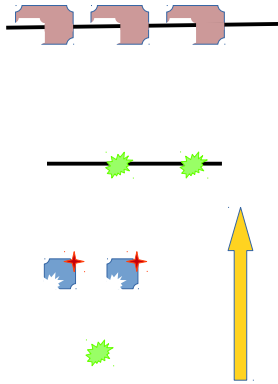


So *no* dye is captured by anchored PB

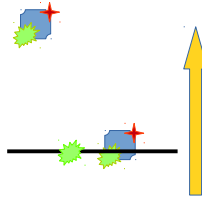
Positive result:
no dye at anchored PB
("T" line)



Negative test result

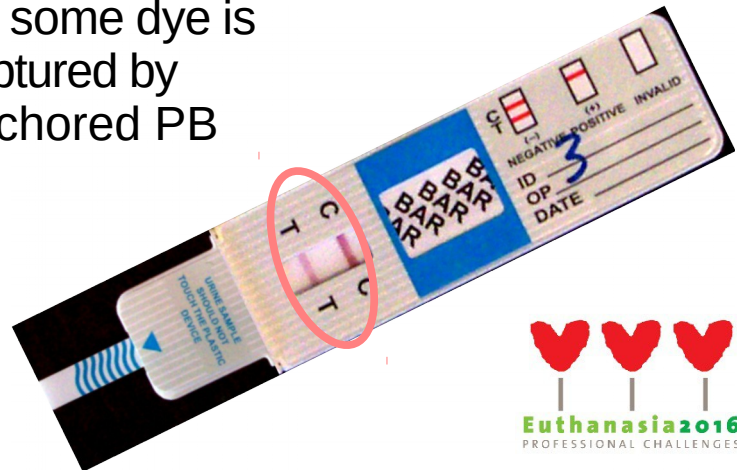


Stained antibody is *not* fully bound to sample PB, at concentration below threshold (300 ng/mL)



So some dye is captured by anchored PB

Negative result: dye **visible** at anchored PB ("T" line)

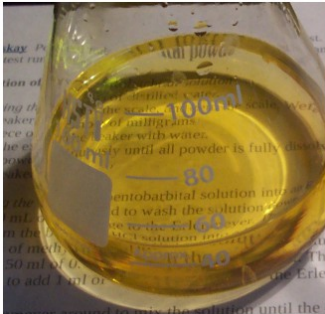


Acid titration test

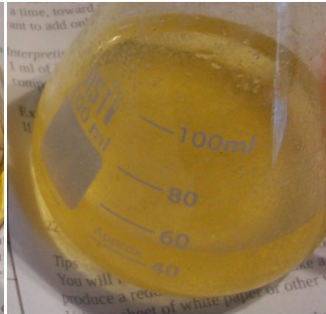
- Employs a pH indicator with abrupt color transition
- Gradually add HCl with stirring
- Acidity remains constant until Na-PB fully converted: then see color change
- Supports purity assessment

Acid titration test results

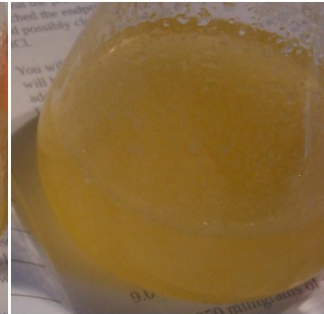
11 mL



12 mL



13 mL



13.5 mL



Bottom Line on Usability

- Assembly of kit from several sources
- Support and networking with others is helpful
- Moderate cooking skills can determine medication efficacy for self-delivery
- Combine melting point and dilution tests

Two tests recommended

- Dilution test ensures presence of target drug family
 - Requires precision scale, inexpensive test strips
 - Dissolve 350 mg in 35 mL water; reserve 10 mL
 - Dilute 1:1000, check with strip. Repeat.
- Melting point ensures specificity
 - Use extra material from dilution test: precipitate with vinegar, separate with filter paper, dry in oven
 - Requires transparent pyrex vessel, cooking oil, candy thermometer, capillary tubes
- Practice temperature control

Thanks for your interest
Questions?

