

## Comparing Antioxidant Power of Super-Fruit Supplements

By: Kristin Demosthenes  
Department of Chemistry

## What are Superfruits?

Fruits with extremely high concentrations of antioxidants



Noni



Acai



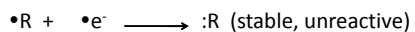
Pomegranate



Cranberry

## Why Do You Care?

- Antioxidants fight off cancer
- How?
  - Free radicals ( $\bullet R$ ) in the body cause cancer
  - Antioxidants (A) eliminate radicals by donating electrons



## Research Questions

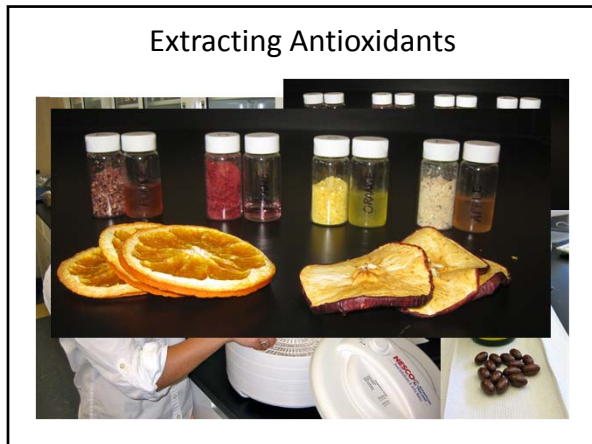
1. How do we extract antioxidants from superfruit supplements?
1. How do we test the antioxidant power?
1. Which superfruit is best?
1. Are superfruit supplements more or less effective than common fruits (apples and oranges)?

## Selected Superfruit Supplements



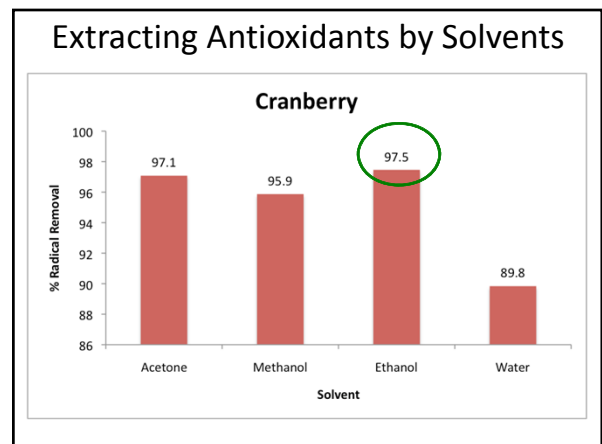
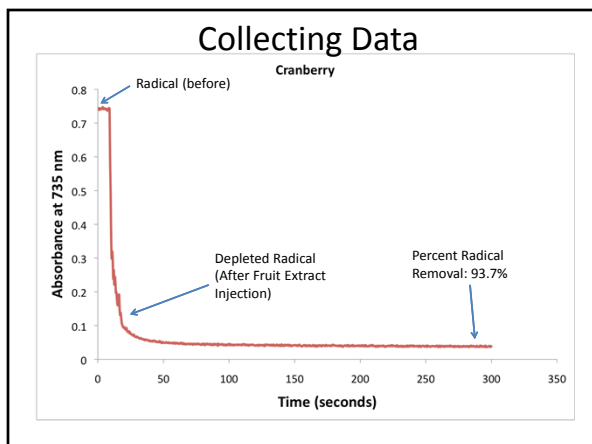
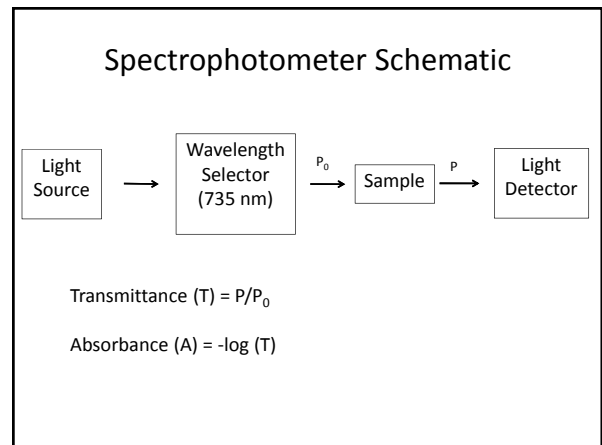
## Extracting Antioxidants

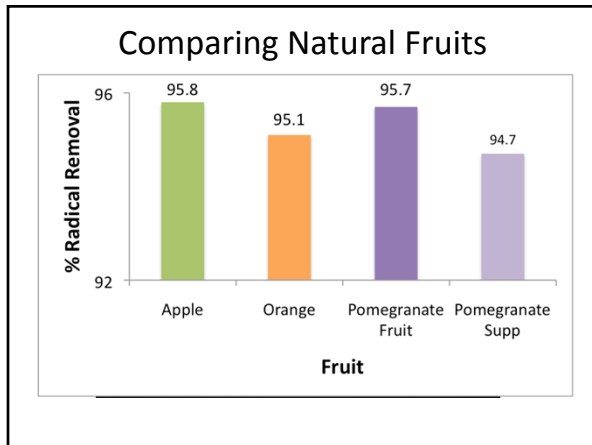
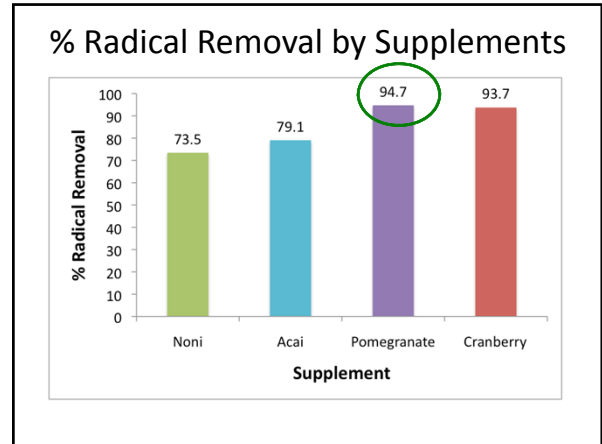
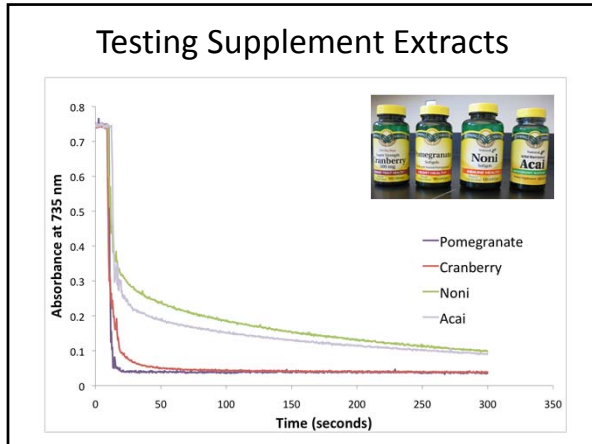
- Cut open pill
- Squeeze out pill contents into a vial
- Add solvent (water, methanol, ethanol, acetone)
- Shake vial for 30 seconds
- Top liquid layer was centrifuged, filtered, and tested with radical solution.



### Testing Antioxidant Power

- UV-Vis Spectrophotometer
- Monitored %T or A of blue radical solution after adding fruit extract
- Calculated % radical removal =  $(Abs_{control} - Abs_{sample}) / Abs_{control} \times 100$





- ### Conclusions
- Ethanol
  - Pomegranate is the best
  - Pomegranate supplement and natural fruit have near equivalent percent radical removal, 94.7% and 95.7% respectively.
  - DON'T BELIEVE THE HYPE!

- ### Acknowledgements
- Dr. Arrington
  - Dr. Radfar
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