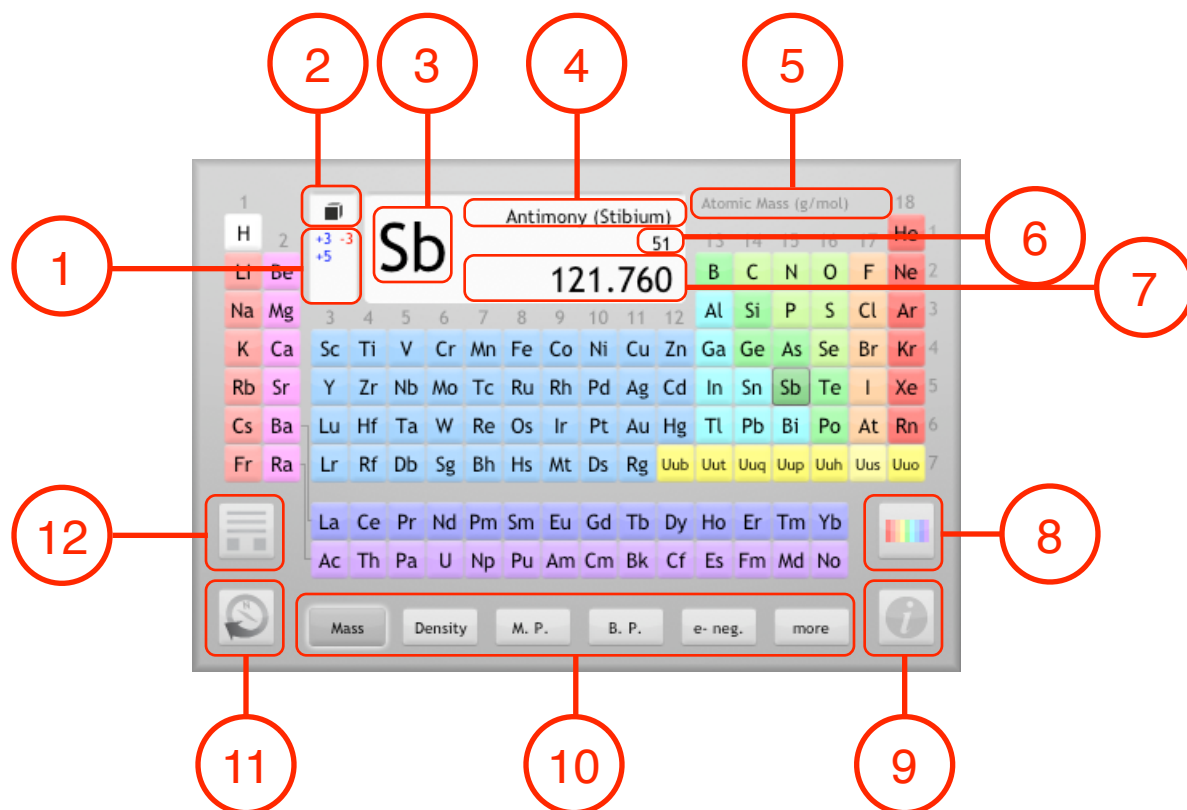





The Chemical Touch: A Quick Guide

The Chemical Touch is an easy to use iPhone or iPod Touch application that should be familiar to anyone who's used my "The Periodic Table" dashboard widget for Mac OS X, or to anyone who's taken a chemistry class for that matter. The main panel of the application is the periodic table. All of the elements are buttons which can be selected to show information about that particular element on the central display. The figure below identifies the displayed information and button functions:



1. The common oxidation states.
2. The phase of the element at 298.15 K and 1 atm (solid:  , liquid:  , gas: ).
3. The element symbol.
4. The element name - an * follows elements that are radioactive.
5. The selected property with the units in parentheses.
6. The atomic number.
7. Property value for the selected element (with units as displayed in item 5). Masses in brackets are for the isotope with the longest known half-life.
8. Color key button that displays what the colors mean overtop the property buttons.
9. Flip button that switches the display the reverse side option panel.
10. Property buttons that change the property display and recolor the table.
11. Internet button that links to the selected element's Wikipedia web page.
12. The element detail view button for displaying additional info.

To expand on the displayed information, a detailed element info panel is included. This panel is designed to maintain the same look and feel of the rest of the application and is composed of four primary panels. The first is the General Properties panel:

The screenshot shows the 'General Properties' panel for Antimony (Sb). At the top, the element symbol 'Sb' and name 'Antimony (Stibium)' are displayed. To the right, navigation buttons for 'Sn' (50) and 'Te' (52) are shown, with a red circle '1' around them. Below the name is a table of properties:

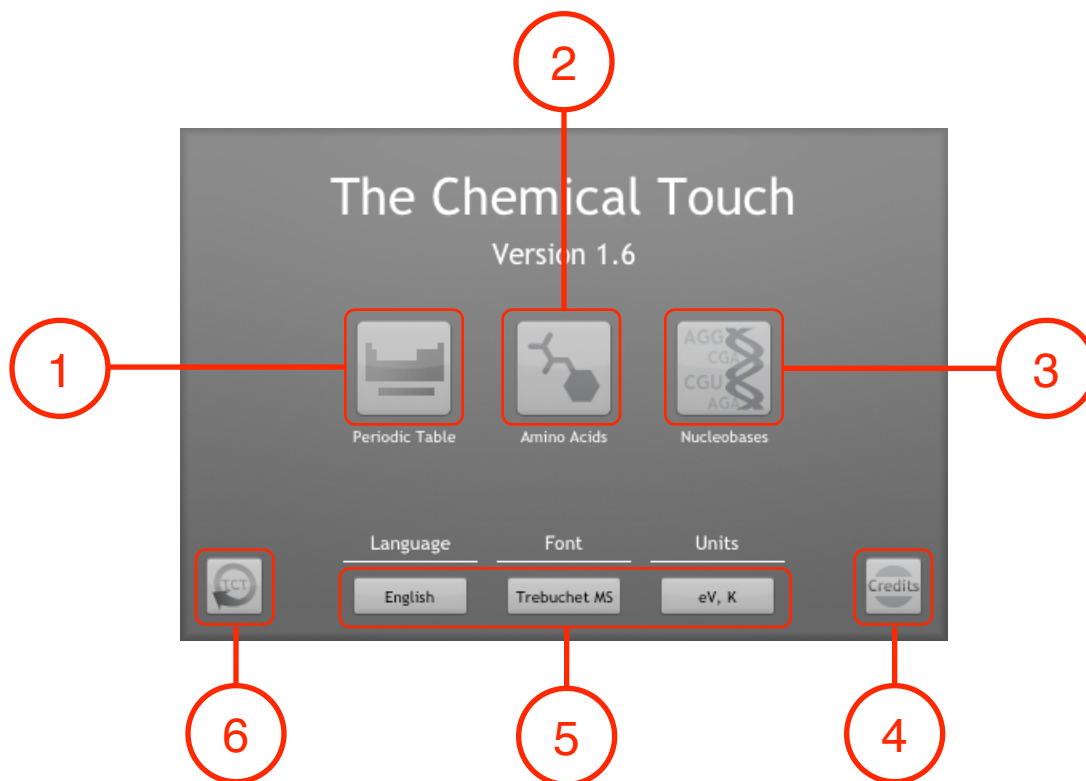
Property	Value	Property	Value
Protons/Electrons	51	Melting Point	903.78 K
e- Config.	[Kr] 5s2 4d10 5p3	Boiling Point	1860 K
Electronegativity	2.05	Specific Heat	0.207 J/g-K
Empirical Atomic Radius	145 pm	ΔH (fus)	19.79 kJ/mol
Atomic Mass	121.760 g/mol	ΔH (vap)	193.43 kJ/mol
Density	6.697 g/cc	Crystal	rhombohedral

At the bottom, there are four tabs: 'General', 'Ionization', 'Isotope', and 'X-Ray', with a red circle '3' around them. To the left of the tabs is a circular button with a globe icon, with a red circle '4' around it. To the right is a button with a printer icon, with a red circle '2' around it. A red circle '5' is around the 'e- Config.' row in the table.

1. Navigation buttons: allows you to rapidly step through the elements in this display.
2. Periodic table button: returns the display to the periodic table panel for selecting new elements.
3. Detailed information buttons which include:
 - General Properties: A condensed list of a variety of commonly used properties. Select this button to return to this screen from one of the other panels.
 - Ionization Energies: Switch to the ionization energy panel for the selected element.
 - Isotope Table: Switch to the isotope table panel for the selected element.
 - X-Ray Information: Switch to the x-ray information panel.
4. Internet button that links to the selected element's Wikipedia web page: for when the listed information is not quite enough.
5. Specific information buttons: Select to view a panel with more detailed information about these specific properties.

The remaining three panels follow the same layout with a couple of small adjustments, among which include scroll buttons and property sorting buttons.

The reverse side option panel (feature #9 on the periodic table panel) is the place where the options and main features are collected together. This reverse side option panel has the following look and features:

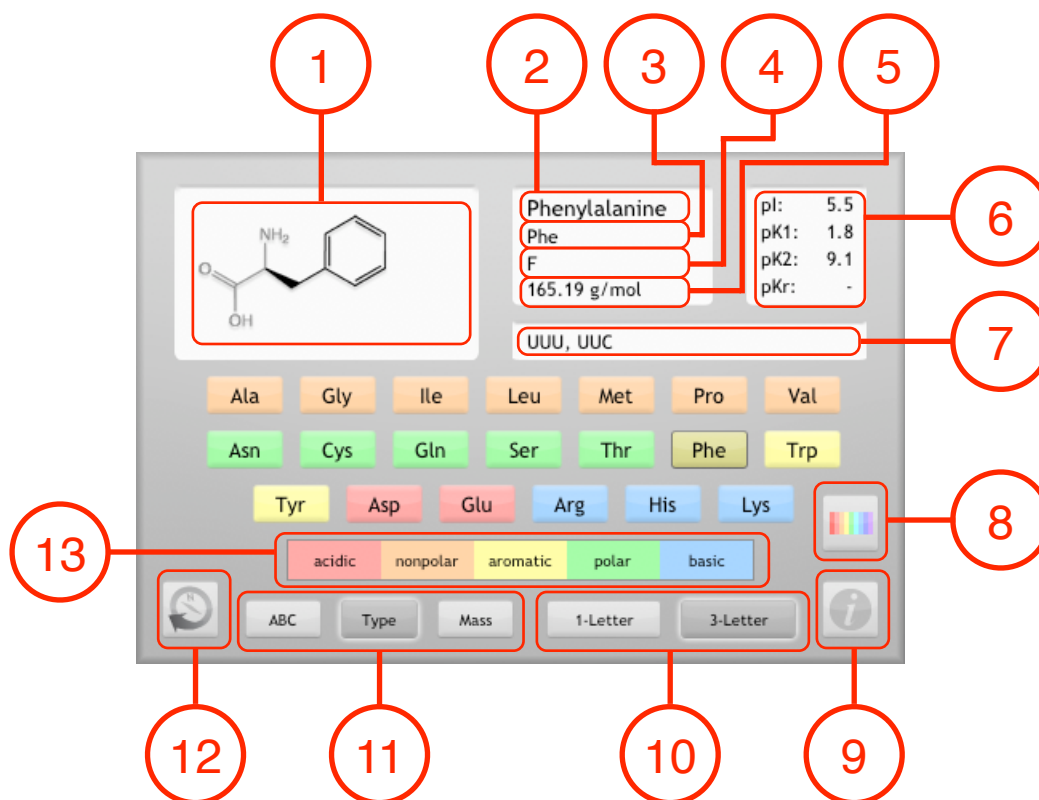


1. Periodic Table button: flips The Chemical Touch into the periodic table display mode detailed above.
2. Amino Acid Companion button: flips The Chemical Touch into the amino acid display mode detailed below.
3. Nucleobase button: flips The Chemical Touch into the nucleobase display mode detailed below.
4. Credits button: displays a credits panel for the application.
5. Preference buttons: change the application preferences. These include temperature and energy units, the application font, and the language.
6. Internet button: view the application website in Safari. Information about future development of the app gets posted here.

New display mode features and other options will find their way back here in future releases.

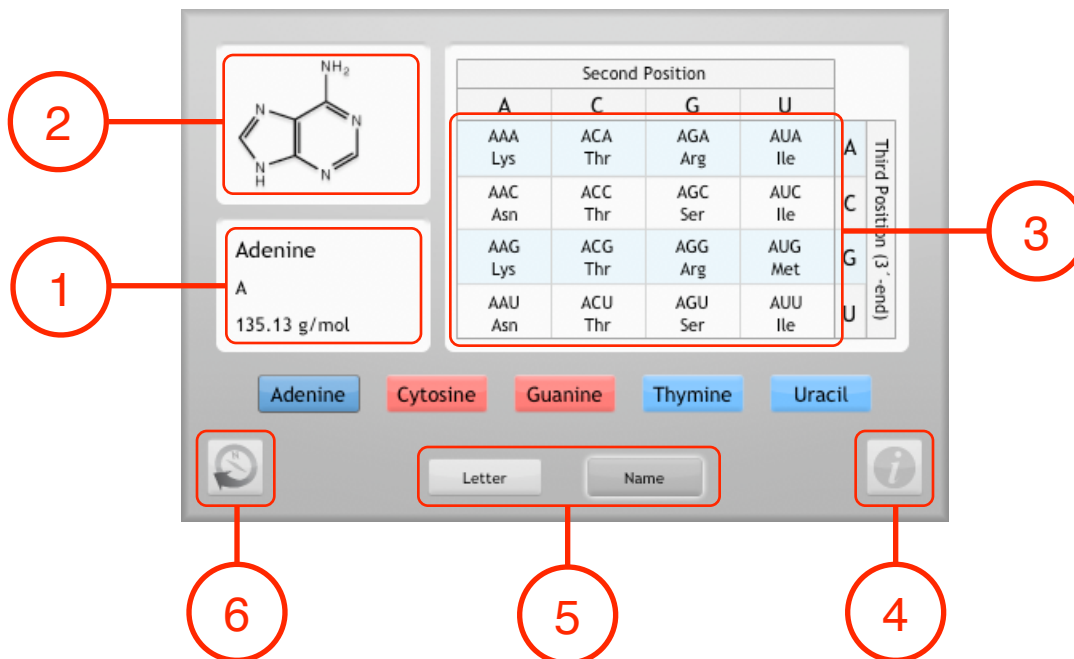
On Amino Acid Companion side of The Chemical Touch, I've included information about the standard amino acids. This works just like the Periodic Table side, where the amino acid abbreviations are buttons that can be selected to display information

about that particular amino acid, and features are highlighted in the following list and diagram:



1. Molecular structure of the selected amino acid.
2. Name of the amino acid.
3. The 3 letter abbreviation.
4. The 1 letter symbol.
5. The molecular weight at the isoelectric point.
6. The isoelectric point (pI), pK's of the carboxyl and amino groups (pK1 & pK2), and the pK of the side chain if available (pKr).
7. RNA codons for the selected amino acid.
8. The color label button for the recoloring and resorting the amino acids by Kyte & Doolittle hydropathy value or by whether they are essential, non-essential, or conditionally essential.
9. Flip button that switches the display the reverse side option panel.
10. Abbreviation display buttons: select to change between the default 3 letter abbreviations on the buttons to 1 letter abbreviations.
11. Sorting buttons: select to resort the amino acid buttons alphabetically (ABC), by type listed in the color key (Type), and by mass (Mass).
12. Internet button that links to the selected amino acid's Wikipedia web page.
13. The color key for the grouping of the amino acids.

The final panel (new to v1.6) is the Nucleobase display. Layout is similar to the amino acid display; however, one of the information panels (the codon usage table) is interactive. The nucleobase buttons are colored based on pairing: like colors pair (with the exception of T to U). The display has the following parts:



1. Specific nucleobase information: name, 1 letter abbreviation, and mass.
2. Molecular structure of the selected nucleobase.
3. RNA Codon Usage Table: touch any cell of this grid to display information about that codon's usage frequency in the human genome
4. Flip button that switches the display the reverse side option panel.
5. Abbreviation buttons: select to change between the full name (default) or 1 letter abbreviations for the nucleobase buttons.
6. Internet button that links to the selected nucleobase's Wikipedia web page.

That's the run down of version 1.6. I hope you enjoy the new additions to the application!

-Chris Fennell