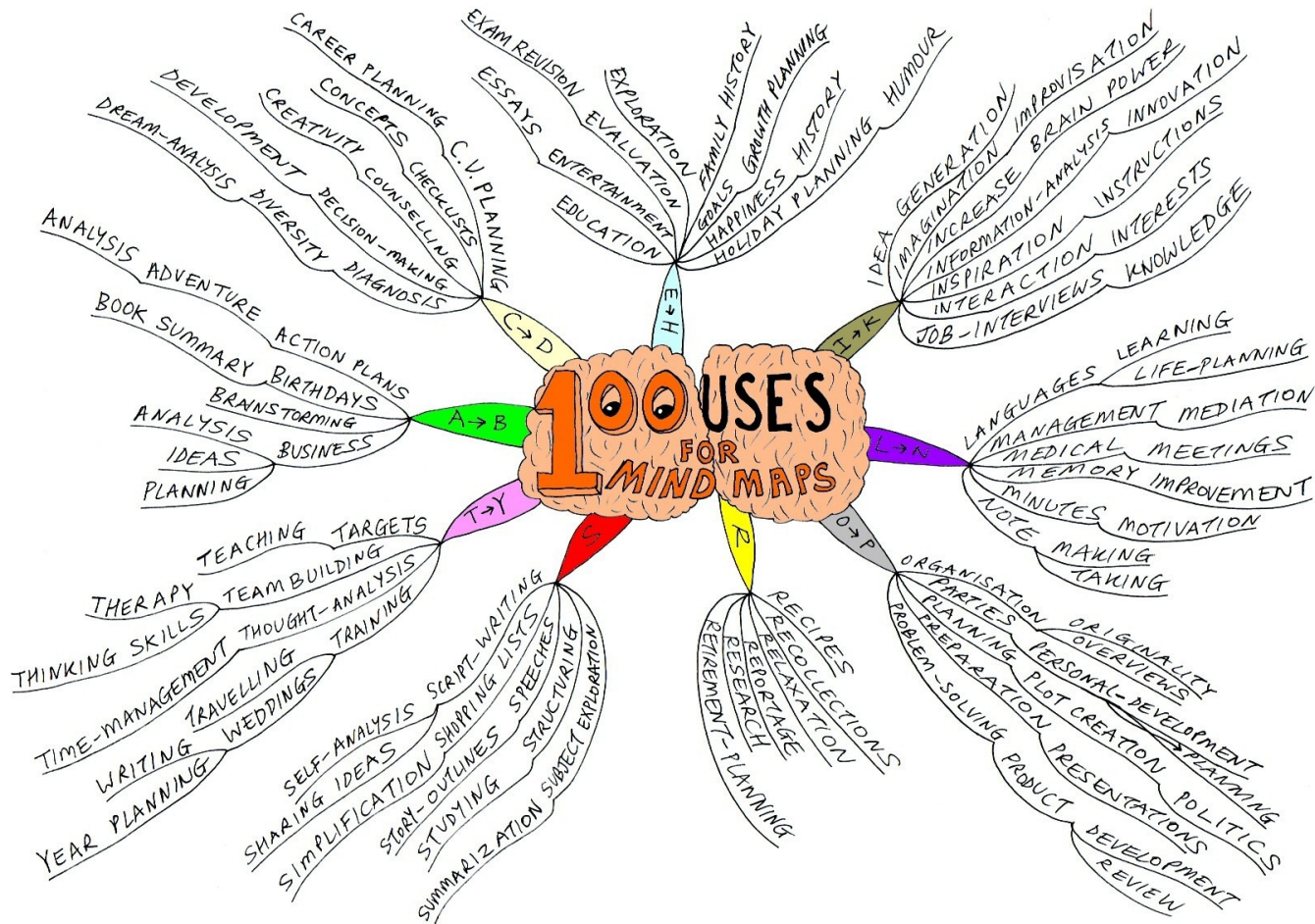


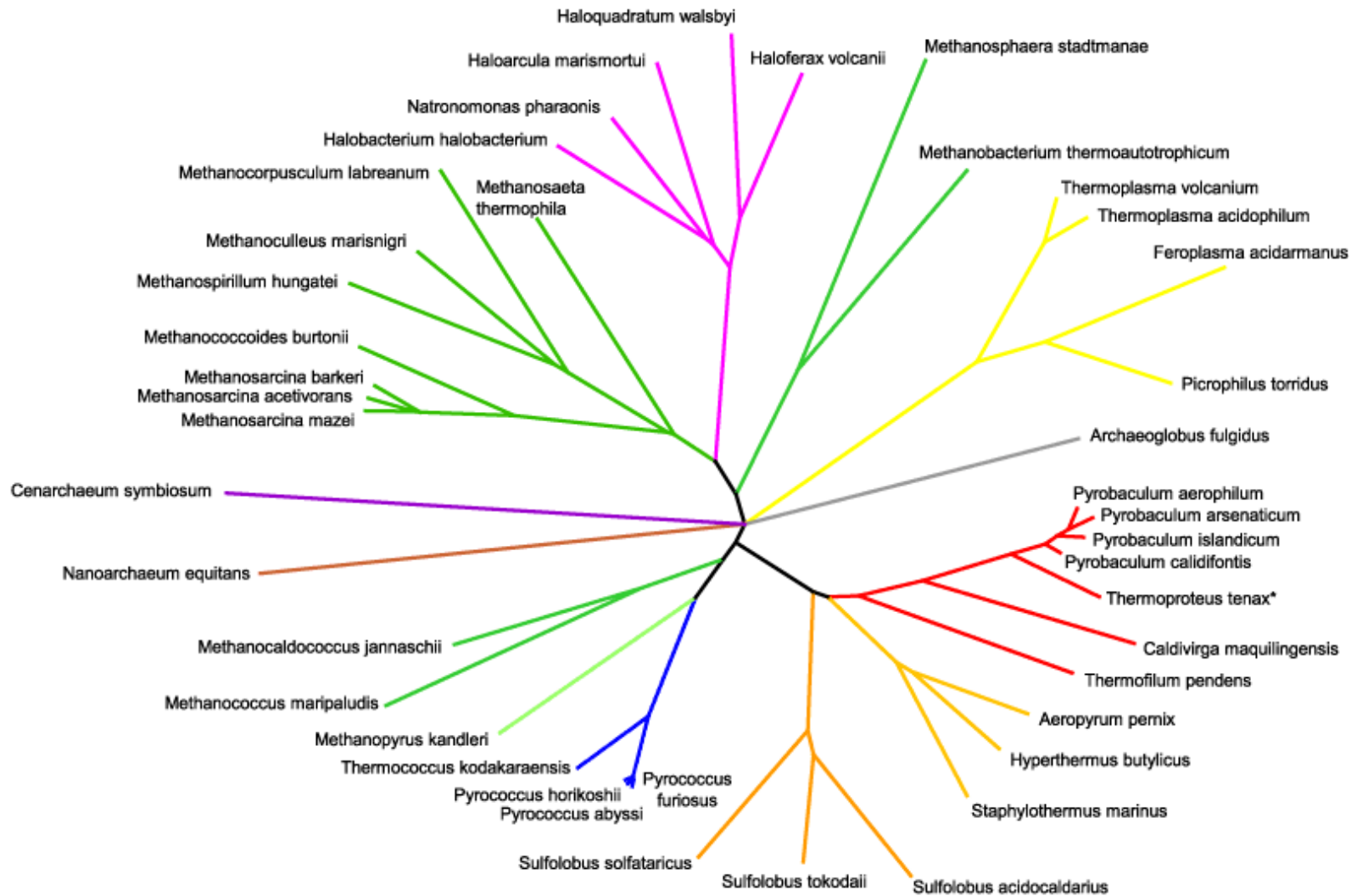
Chapter 1

Tools and Techniques
Mind-Mapping & Outlining

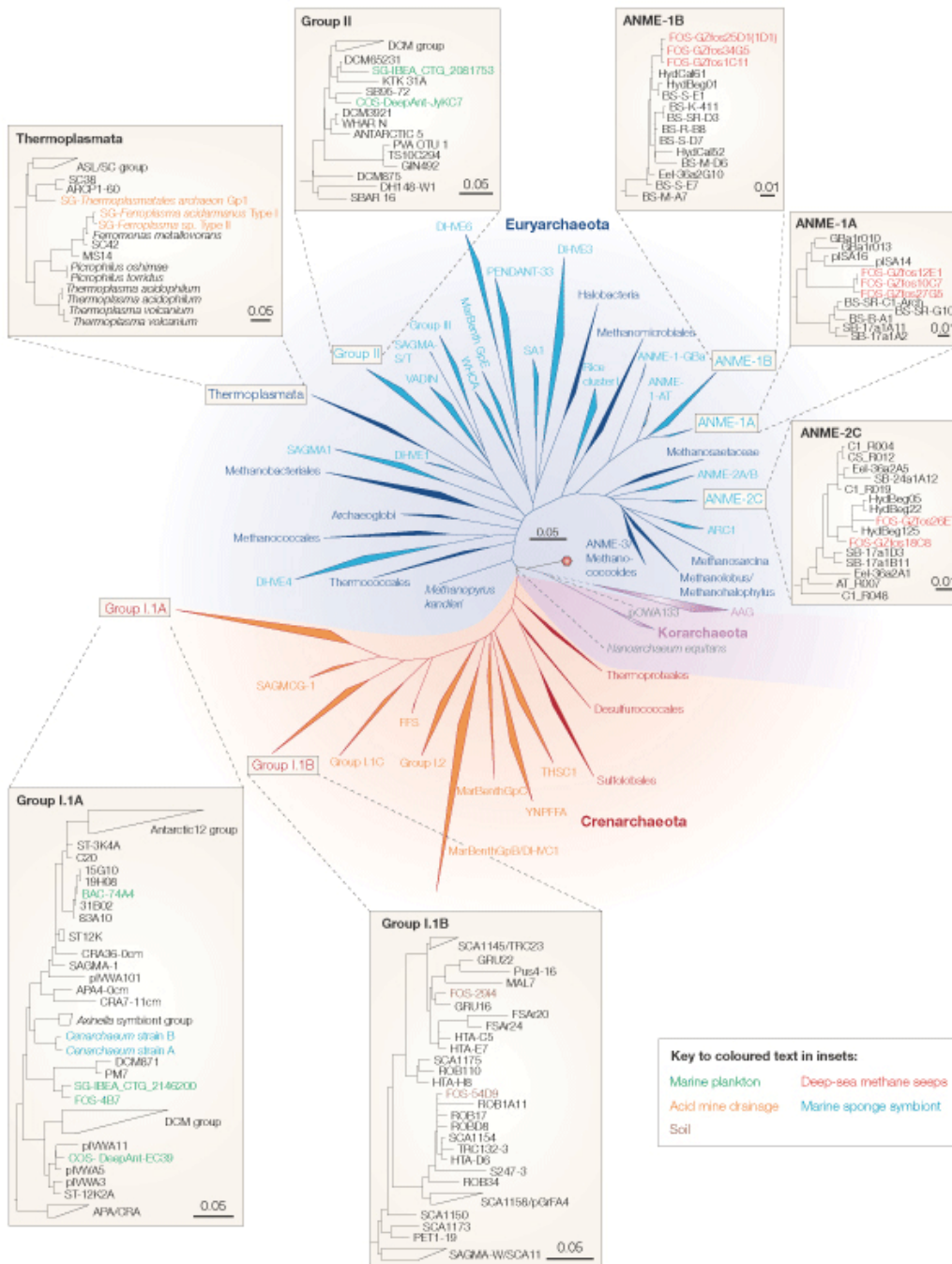
Outlining: Mind Mapping I



Outlining: Mind Mapping II



Mapping III



Outlining: Mind Mapping IVa

A Methylaspartate Cycle in Haloarchaea

Maria Khomyakova,* Özlem Bükmez, Lorenz K. Thomas, Tobias J. Erb,† Ivan A. Berg‡

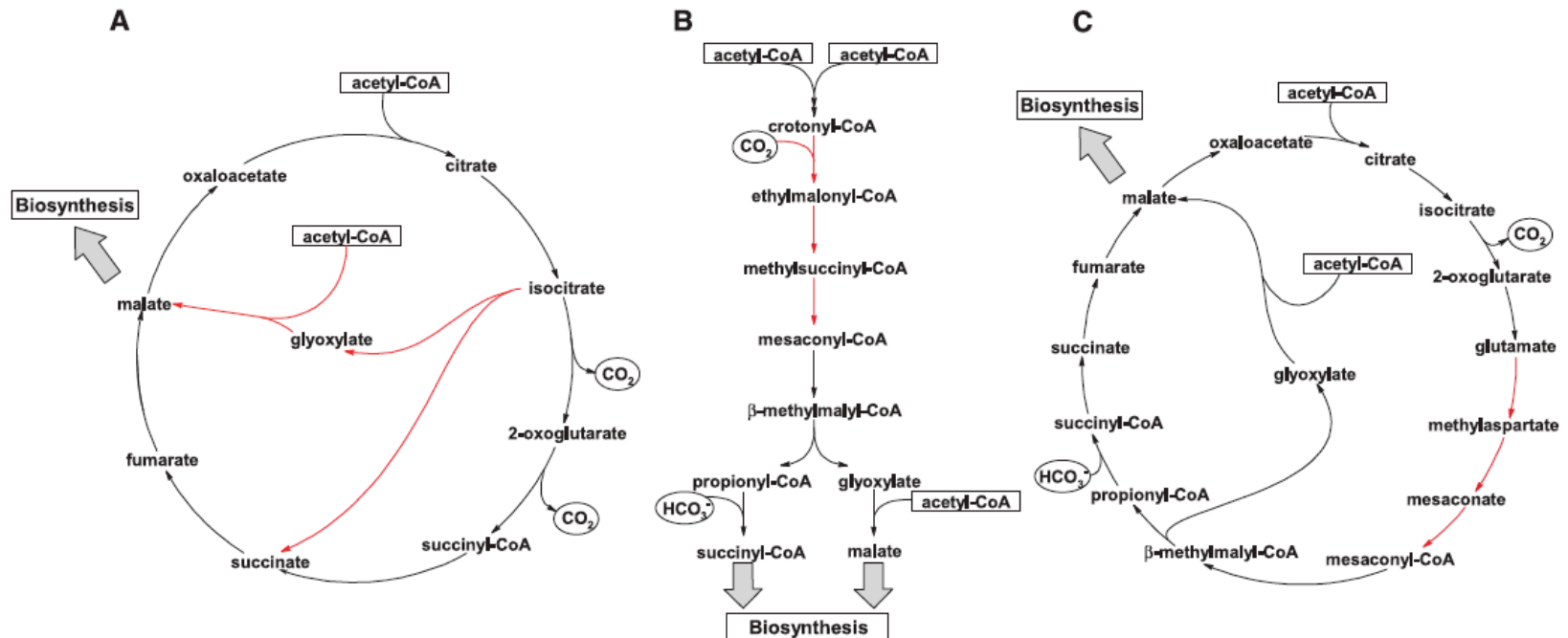
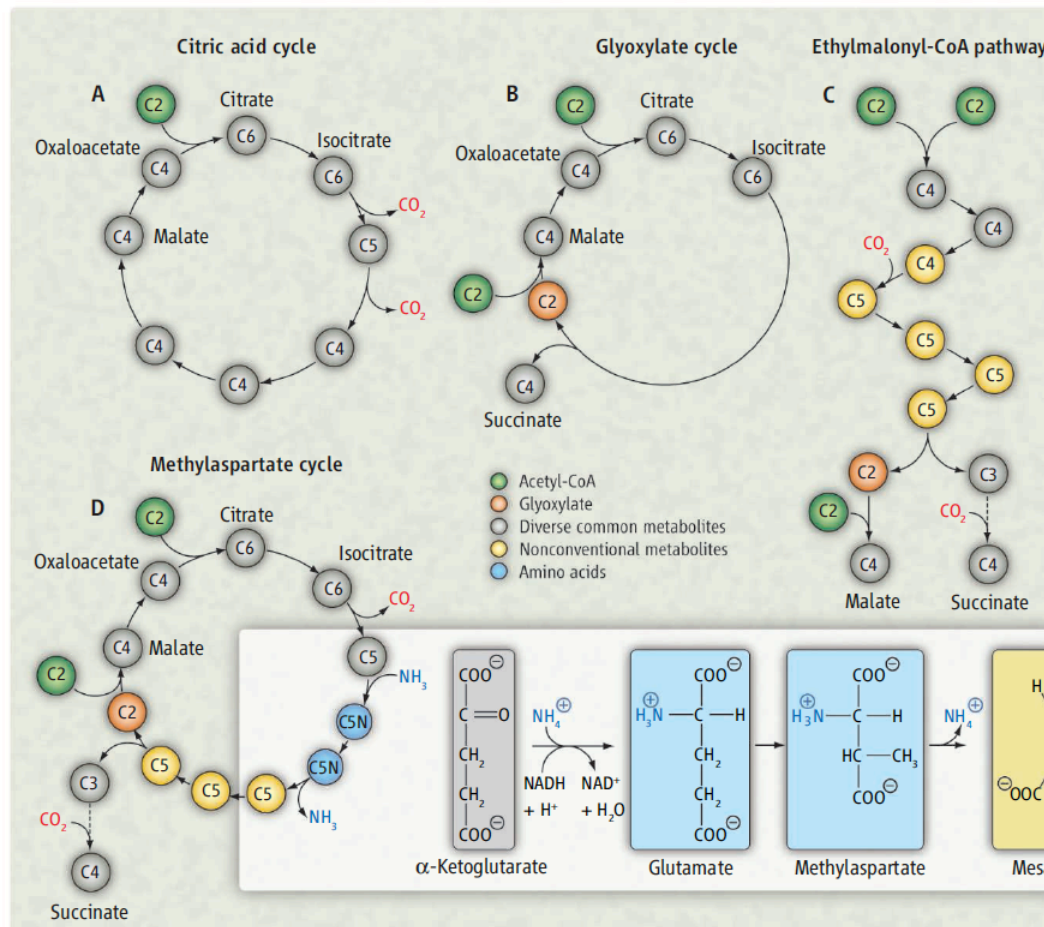


Fig. 1. Anaplerotic pathways of acetyl-CoA assimilation. **(A)** The glyoxylate cycle and the citric acid cycle, **(B)** the ethylmalonyl-CoA pathway, and **(C)** the proposed methylaspartate cycle. The key reactions of the anaplerotic pathways are shown in red. A pathway similar to the methylaspartate cycle has already

been suggested for *Protaminobacter rubrum* (now *Methylobacterium extorquens*) (28). However, *Methylobacterium* does not have glutamate mutase and methylaspartate ammonia-lyase genes (29) and uses the ethylmalonyl-CoA pathway for acetyl-CoA assimilation (10, 11, 30).

Outlining: Mind Mapping IVb

PERSPECTIVES



Acetate assimilation pathways. (A to D) Steps likely to involve more than one enzyme and intermediate are shown with dashed arrows. The expanded region of (D) shows the reactions involving nitrogenous compounds. Common metabolites formed in the cyclic pathways are at the same absolute positions for comparative purposes.

as a carbon and energy storage compound (8). Thus, high intracellular levels of glutamate could be used as a signal to activate the methylaspartate pathway when growing on acetate or other compounds whose metabolism forms acetate as an intermediate.

Another noteworthy feature of this pathway is the versatility of the enzymes it uses: Each of the enzymes is found in other characterized metabolic pathways (6). The authors note that the methylaspartate cycle can be thought of as a “metabolic patchwork” of existing enzymes, which have been assembled to accomplish a new and necessary sequence of

metabolic transformations for acetate assimilation in an environment rich in salt and nitrogen.

The origin of the enzymes recruited for this pathway is also of interest. Analysis of gene sequences reveals that the key enzymes are genetically related to enzymes from the

bacterial domain of life rather than the archaeal domain to which *H. marismortui* belongs. This suggests that the enzymes were

Outlining: Mind Mapping V

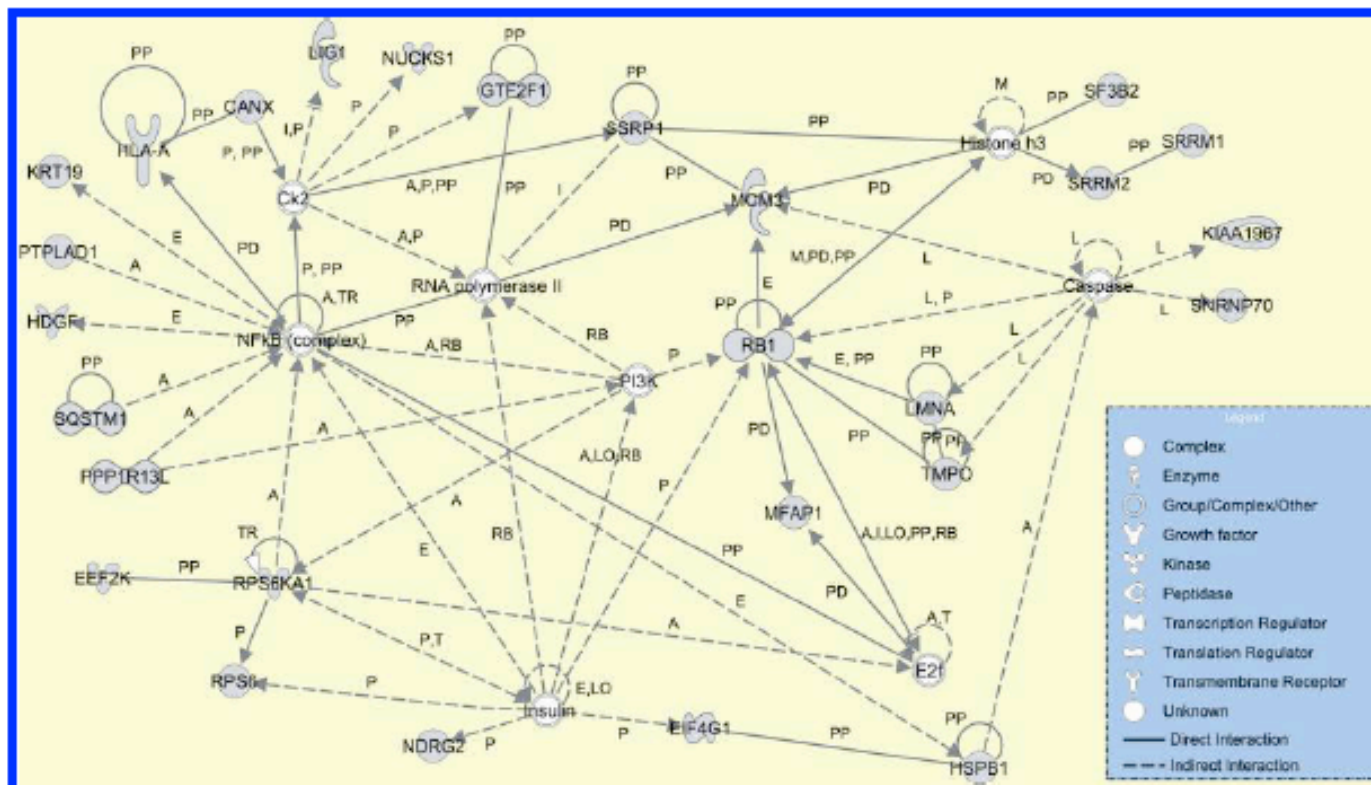
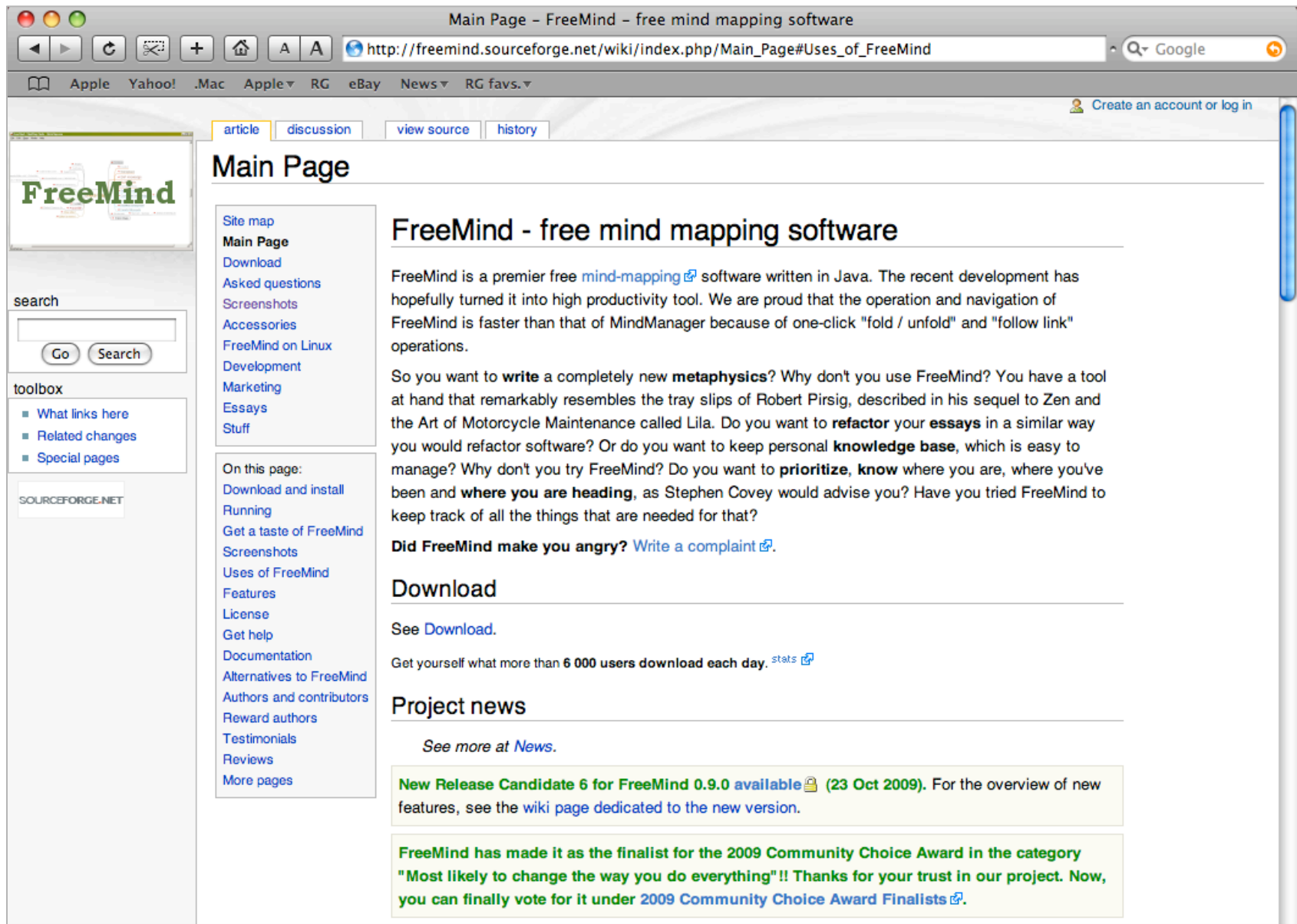


Figure 3. De novo interaction network analysis of proteins exhibiting altered phosphorylation levels in response to SM. Phosphoproteins from Table 4 of the Supporting Information were analyzed using IPA software to construct de novo interaction pathways as determined from published literature. Phosphoproteins colored gray were altered by at least 2-fold in response to SM, whereas proteins colored white were not detected in our study as exhibiting any quantitative phosphorylation change. A high confidence score of 62 was determined for this interaction map by IPA. See Table 4 of the Supporting Information for IPI numbers corresponding to each protein. Interactions shown: acts on (closed arrowhead), translocates to (open arrowhead), inhibits (T-junction), inhibits and acts on (closed arrowhead and T-junction), and binding only (simple line). "Acts on" and "inhibits" edges may also include a binding event. Abbreviations used for interactions as determined by IPA: A, activation; E, expression; I, inhibition; LO, localization; M, modification; P, phosphorylation; PD, protein–DNA interaction; PP, protein–protein interaction; L, proteolysis; RB, regulation of binding; T, transcription; and TR, translocation.

Outlining: Mind Mapping VI



The screenshot shows a web browser window with the title "Main Page - FreeMind - free mind mapping software". The address bar shows the URL "http://freemind.sourceforge.net/wiki/index.php/Main_Page#Uses_of_FreeMind". The browser's search bar contains the text "Google". The page has a navigation bar with links to "article", "discussion", "view source", and "history". The main content area is titled "Main Page" and features a large heading "FreeMind - free mind mapping software". Below this heading, there is a paragraph of text about FreeMind, followed by a section titled "Download" and another titled "Project news". The left sidebar contains a "search" box, a "toolbox" with links like "What links here", "Related changes", and "Special pages", and a "Site map" with various links. The bottom of the page features a "New Release Candidate 6 for FreeMind 0.9.0 available" announcement and a "FreeMind has made it as the finalist for the 2009 Community Choice Award" announcement.

Main Page - FreeMind - free mind mapping software

http://freemind.sourceforge.net/wiki/index.php/Main_Page#Uses_of_FreeMind

Google

Apple Yahoo! .Mac Apple RG eBay News RG favs.

Create an account or log in

article discussion view source history

Main Page

FreeMind - free mind mapping software

FreeMind is a premier free [mind-mapping](#) software written in Java. The recent development has hopefully turned it into high productivity tool. We are proud that the operation and navigation of FreeMind is faster than that of MindManager because of one-click "fold / unfold" and "follow link" operations.

So you want to **write** a completely new **metaphysics**? Why don't you use FreeMind? You have a tool at hand that remarkably resembles the tray slips of Robert Pirsig, described in his sequel to Zen and the Art of Motorcycle Maintenance called Lila. Do you want to **refactor** your **essays** in a similar way you would refactor software? Or do you want to keep personal **knowledge base**, which is easy to manage? Why don't you try FreeMind? Do you want to **prioritize**, **know** where you are, where you've been and **where you are heading**, as Stephen Covey would advise you? Have you tried FreeMind to keep track of all the things that are needed for that?

Did FreeMind make you angry? [Write a complaint](#).

Download

See [Download](#).

Get yourself what more than **6 000 users download each day**. [stats](#)

Project news

See more at [News](#).

New Release Candidate 6 for FreeMind 0.9.0 available (23 Oct 2009). For the overview of new features, see the [wiki page](#) dedicated to the new version.

FreeMind has made it as the finalist for the 2009 Community Choice Award in the category "Most likely to change the way you do everything"!! Thanks for your trust in our project. Now, you can finally vote for it under [2009 Community Choice Award Finalists](#).

Site map

Main Page

Download

Asked questions

Screenshots

Accessories

FreeMind on Linux

Development

Marketing

Essays

Stuff

On this page:

Download and install

Running

Get a taste of FreeMind

Screenshots

Uses of FreeMind

Features

License

Get help

Documentation

Alternatives to FreeMind

Authors and contributors

Reward authors

Testimonials

Reviews

More pages

search

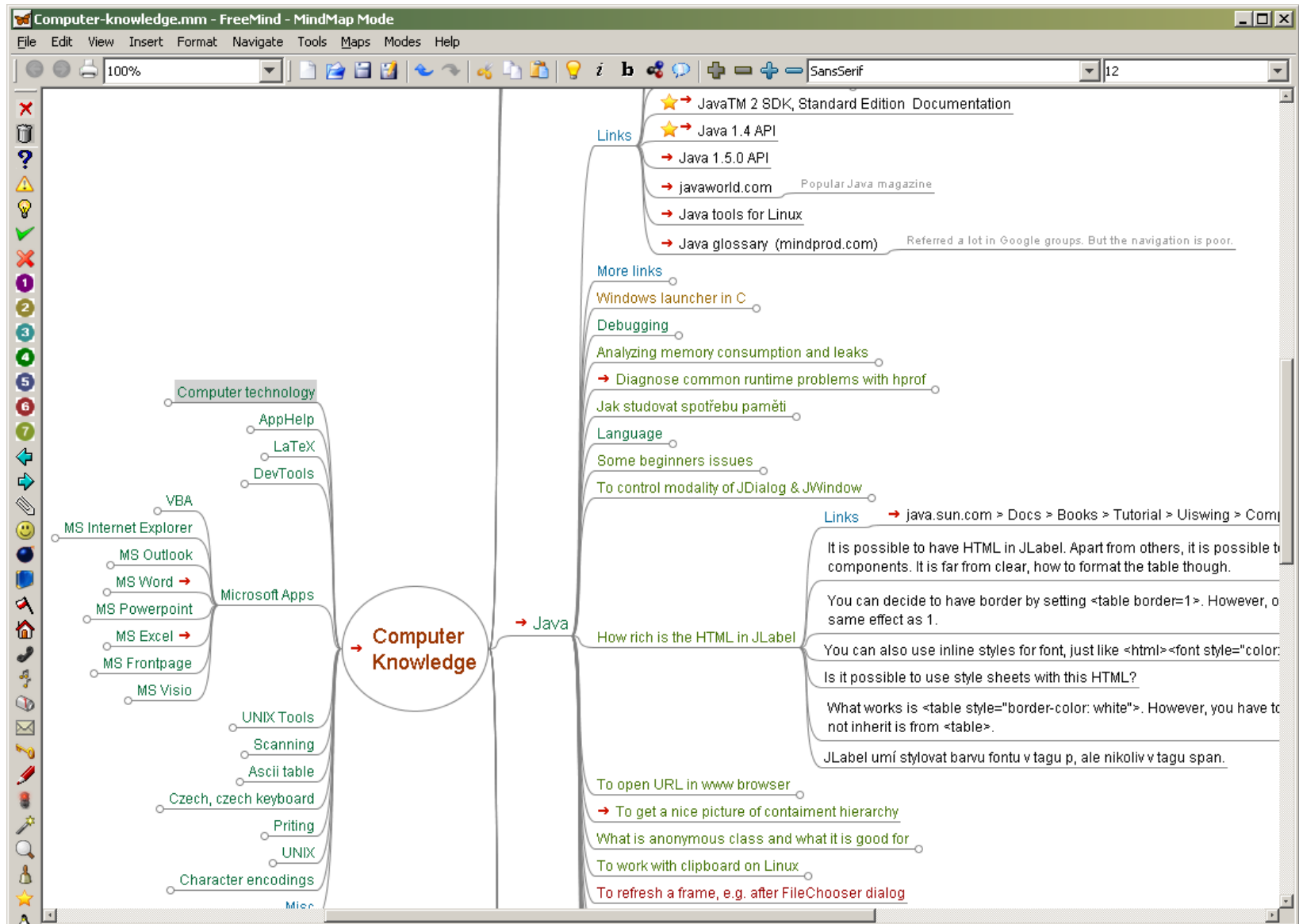
Go Search

toolbox

- What links here
- Related changes
- Special pages

SOURCEFORGE.NET

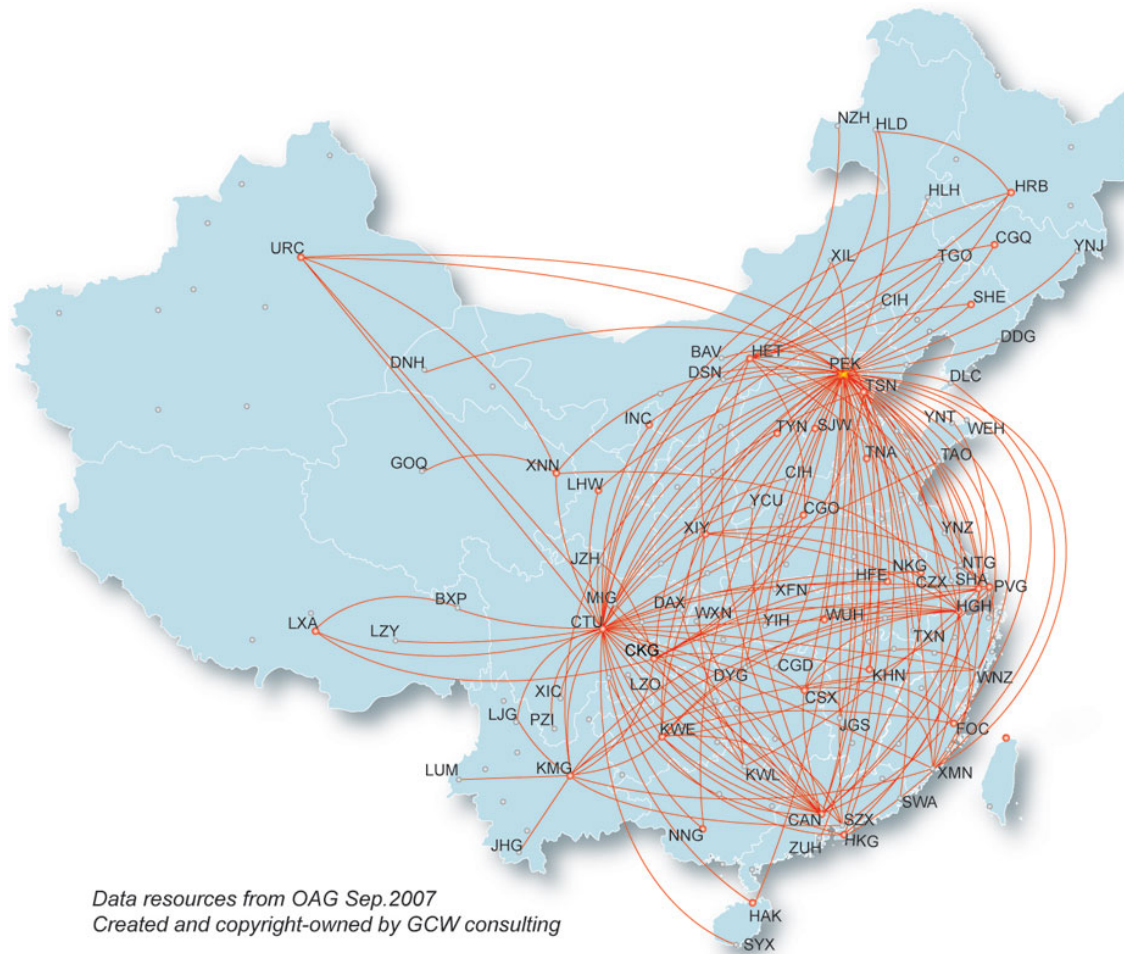
Outlining: Mind Mapping VII



From Mind-Maps to Lists

Describe the Network Attractors (Hubs)

Initially Focus on Main Connecting Paths (Major Routes)



PEK = Beijing

CTU = Chengdu

CAN = Guangzhou

SHA = Shanghai

*Data resources from OAG Sep.2007
Created and copyright-owned by GCW consulting*

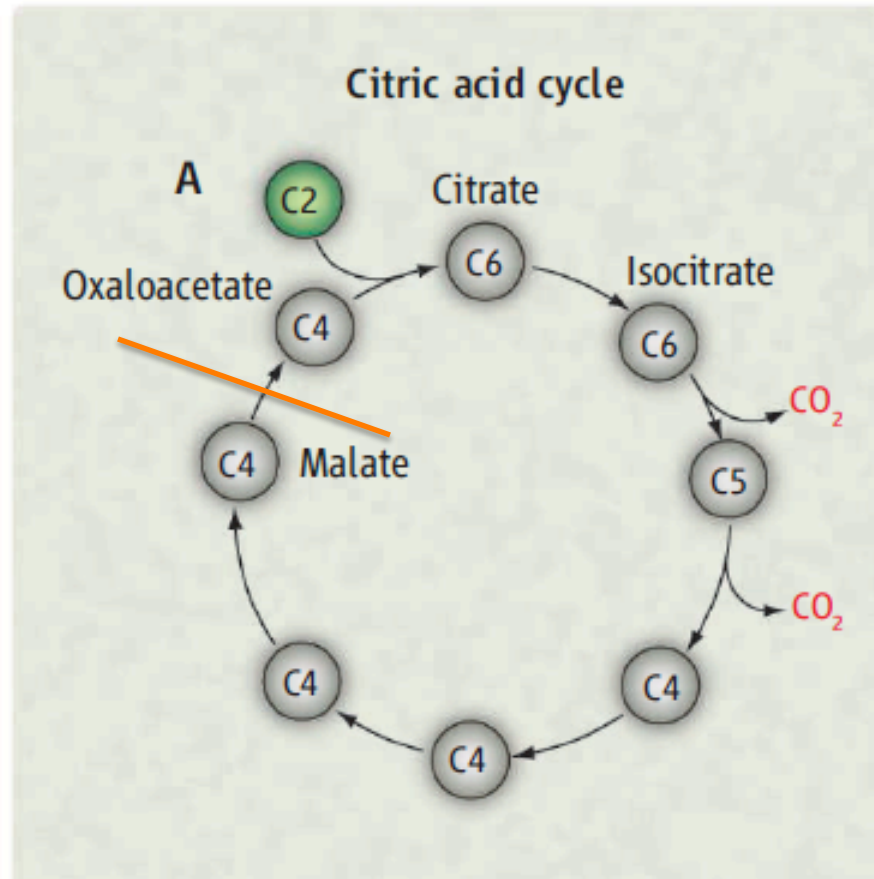
From Mind-Maps to Lists

Disconnect Cycles to Linear Sequences

Open a cycle at a “natural breaking point”.

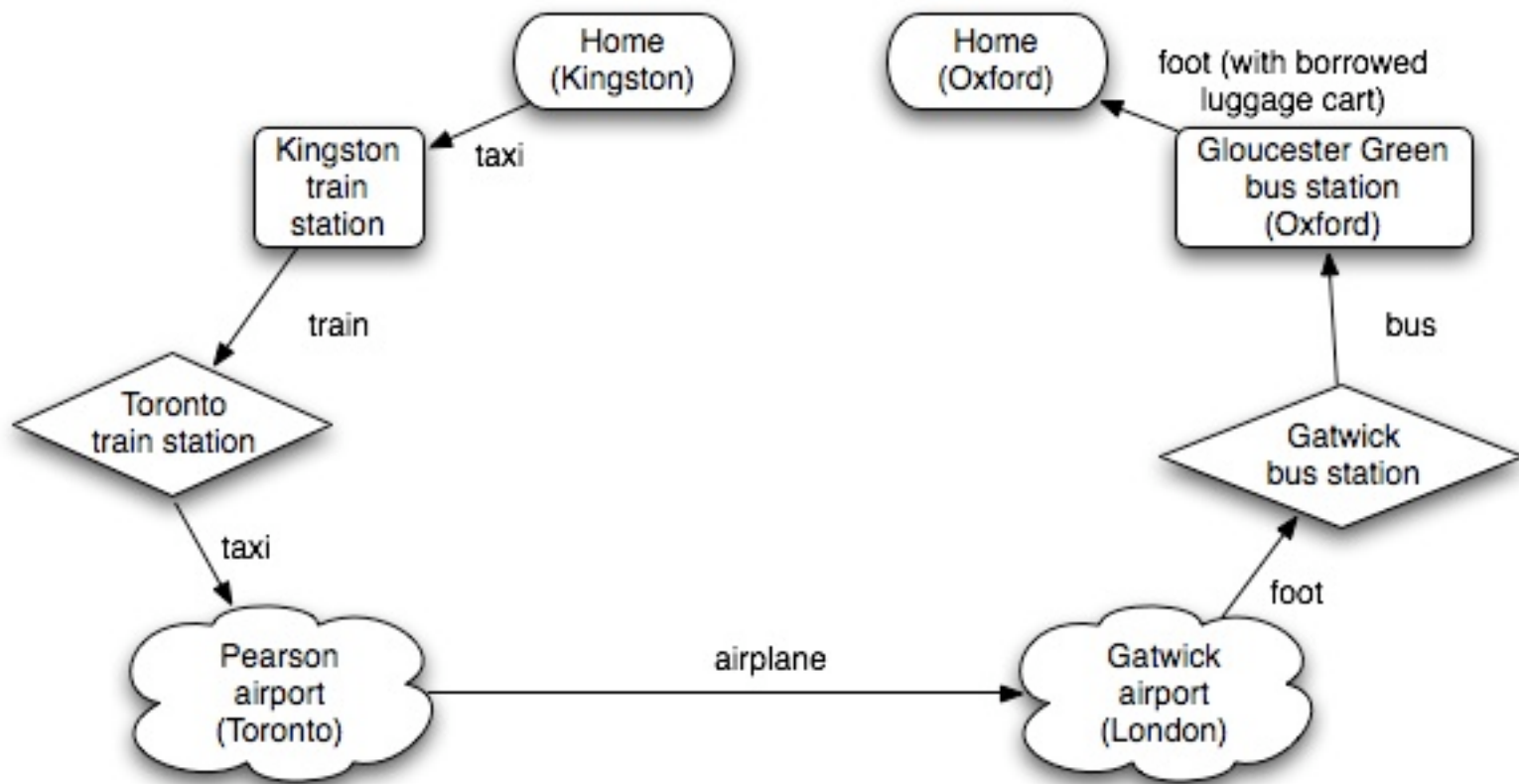
If there are several possible options, select the one that best serves your needs.

If you select a non-obvious breaking point, then say so and justify your choice.



From Mind-Maps to Lists

Sequence and Connection



Outlining: Lists I

[Forums](#) [D-Zine Articles](#) [Tutorials](#) [Online Tools](#) [Free Resources](#) [Refer](#)

HTML Lists :

NUMBERED LISTS

This page shows how to make different kinds of numbered lists.

You have the following number options:

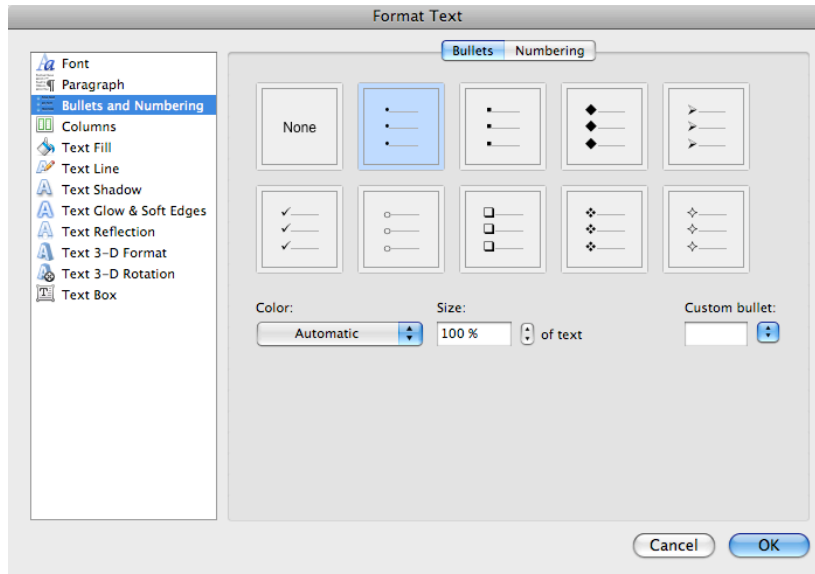
- **Plain numbers**
- **Capital Letters**
- **Small Letters**
- **Capital Roman Numbers**
- **Small Roman Numbers**


In addition to these options you can specify at which number the list should start. The default start value for numbered lists is at number one (or the letter

HTML-CODE	EXPLANATION / EXAMPLE
<pre> text text text </pre>	Makes a numbered list using the default number type: 1. text 2. text 3. text
<pre><ol start="5"></pre>	Starts a numbered list, first # being 5. 5. This is one line 6. This is another line 7. And this is the final line
<pre><ol type="A"></pre>	Starts a numbered list, using capital letters. A. This is one line B. This is another line C. And this is the final line
<pre><ol type="a"></pre>	Starts a numbered list, using small letters. a. This is one line b. This is another line c. And this is the final line
<pre><ol type="I"></pre>	Starts a numbered list, using capital roman numbers. I. This is one line II. This is another line III. And this is the final line
<pre><ol type="i"></pre>	Starts a numbered list, using small roman numbers. i. This is one line ii. This is another line iii. And this is the final line
<pre><ol type="1"></pre>	Starts a numbered list, using normal numbers. 1. This is one line 2. This is another line 3. And this is the final line
<pre><ol type="I" start="7"></pre>	An example of how type and start can be combined. VII. This is one line VIII. This is another line IX. And this is the final line

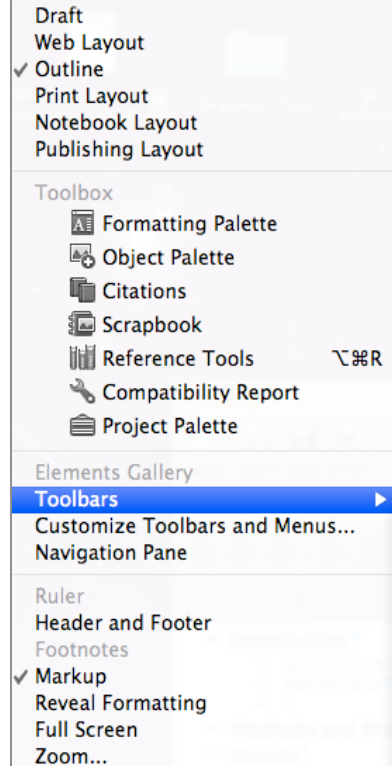
Outlining: Lists II

- ♥ Numbered Lists
- ♥ Bulleted Lists
- ♥ Alphabetic Lists



CHERRY COBBLER	
Filling Ingredients	Cooking Instructions
<ul style="list-style-type: none">• 4 cups pitted red cherries• 2/3 cup sugar• 2 tablespoons corn starch• 2 tablespoons orange juice	<ol style="list-style-type: none">1. Mix the cherries, sugar, corn starch and orange in a large saucepan.2. Cook on medium heat until the mixture comes to a full boil, then let it stand for about 10 minutes to thicken, stirring a couple of times during the cooling.3. Transfer to a shallow baking dish.
	

http://livedocs.adobe.com/en_US/InDesign/5.0/images/op_42.png



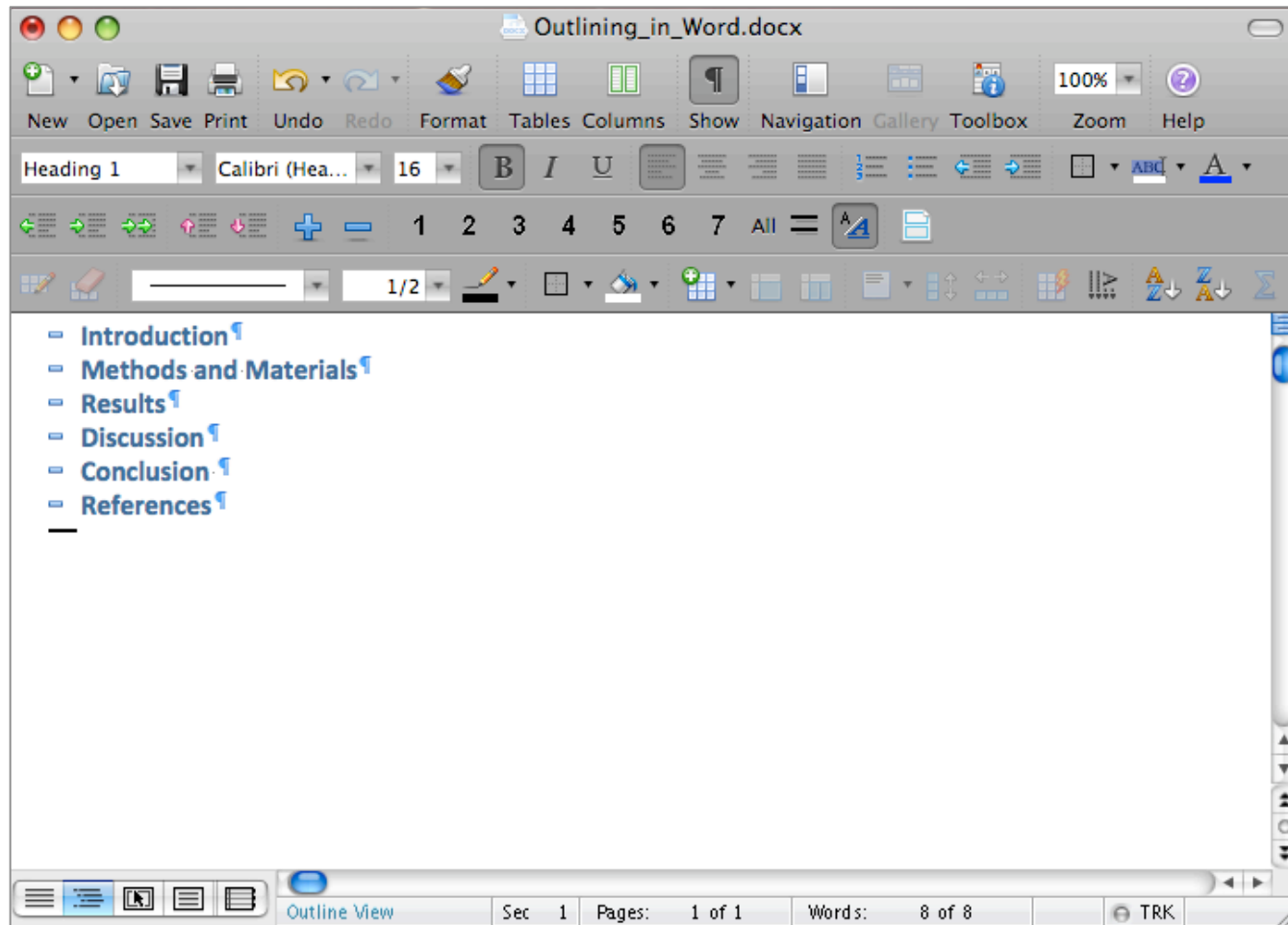
Outlining: Lists III

In Word

1. Create a [new document](#).
2. Make sure Outline view has been selected. The Outline toolbar should appear on your screen (pre-Word 2007) or the Outlining tab of the ribbon should be selected (Word 2007).
3. Start typing your document. The paragraphs you enter will be a first-level head (formatted with the Heading 1 style).
4. Adjust the heading levels of your paragraphs by clicking the left and right arrow keys on the Outline toolbar or on the Outlining tab of the ribbon.

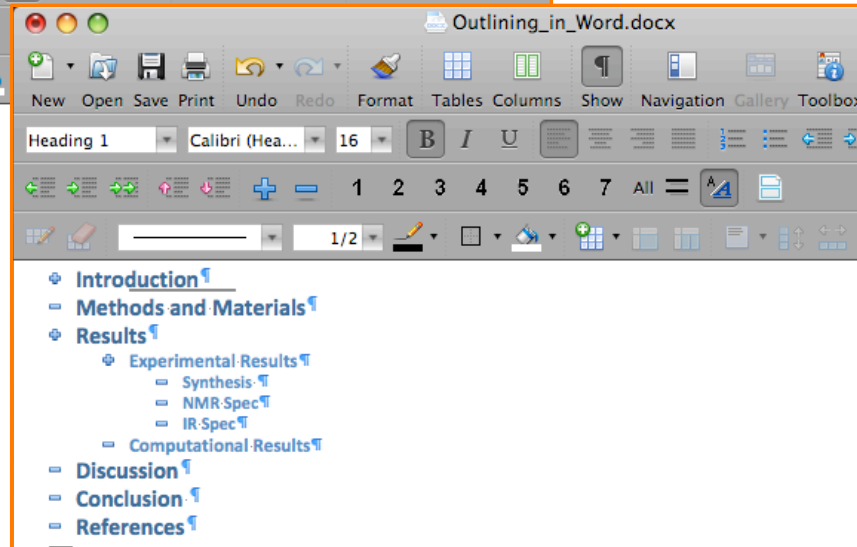
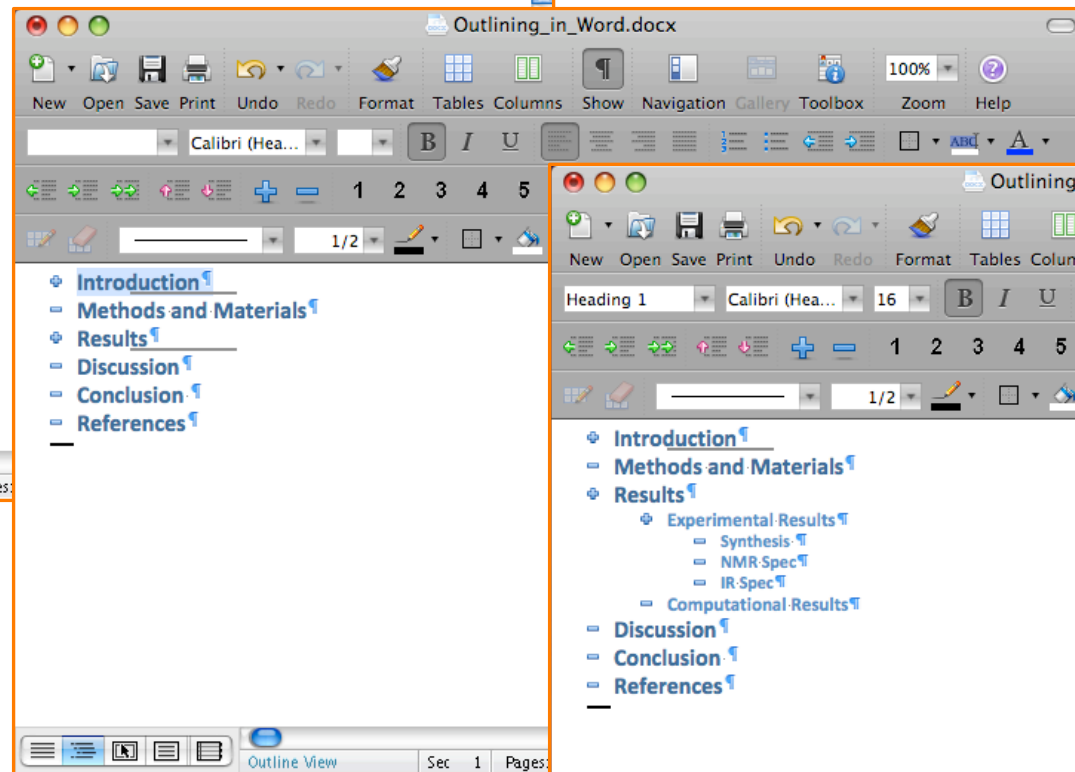
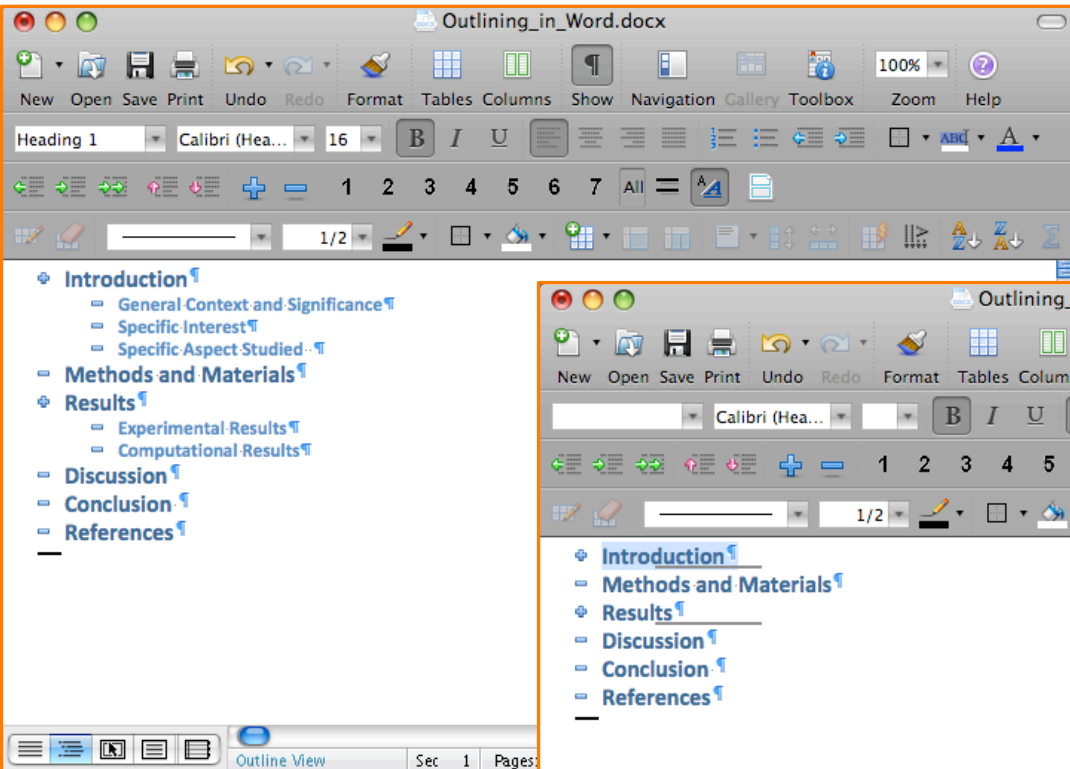
Outlining: Lists IV

In Word



Outlining: Lists V

In Word



Stereotyped Format

*Here, that's
a good thing!*

- Title
- Abstract
- Introduction
- Materials & Methods
- Results
- Discussion
- Conclusion
- References

5. Be thoughtful.

6. Last item.

-- As you progress.

1. Start here!

2. What done? How?

3. Explain, examine.

4. Think hard!

-- As you progress.