As we have learned in class, the substitution of one atom for another in solids can have a significant effect on the properties of that material.  For class discussion next week, we will discuss the following paper which demonstrates how the properties of Cu2ZnSnS4 nanoparticles change as Se is substituted for S.  Please read the paper (don’t forget the supporting information!) and then complete the assignment below before class.

S.C. Riha, B.A. Parkinson, A.L. Prieto, “Compositionally Tunable Cu2ZnSn(S1-xSex)4 Nanocrystals: Probing the Effect of Se-Inclusion in Mixed Chalcogenide Thin Films,” *J. Am. Chem. Soc*., **2011**, *133*, 15272-15275.

Instead of discussing our typical reading questions, we will be working together as a class to develop a concept map for the article.  Concept maps are diagrams used to help organize information and visualize connections between key ideas.  An example of a concept map is shown at right.

The first step in creating a concept map is to generate a list of key terms.  To help us get started, as you read the paper write down any terms or ideas that you think might be related to the three main components of the paper.  You should come up with *at least* 5 terms for each list before class.

The second step in creating a concept map is to organize the key terms into groups.  We will work on this as a class, but if you see connections between some of the terms you list, make a note of them!

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| Synthesis | Analysis | Properties |
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