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| M.L. Goosey M.L.King High school, Detroit Michigan |
| Biological Polymers and Crosslinkage Laboratory |
| C5.8C |
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| **Goosey, Marco** |
| **7/31/2008** |

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| These materials were contributed under a grant awarded to Wayne RESA by the Michigan Department of Education. |

Teacher Companion Notes for Biological Polymers and Crosslinkage Laboratory

**Safety Notice:**

It is assumed that the instructors presenting this material are trained in appropriate safety procedures in the chemistry laboratory, and that the students under their tutelage have been completely informed of the specific precautions to be undertaken for this laboratory and the general behaviors appropriate to the chemistry laboratory. It is further assumed that instructors have familiarized themselves with the Material Safety Data Sheets (MSDS) for all the chemicals present in this laboratory, observe all the precautions that the MSDS indicates and have a copy of the MSDS on hand during the investigation. Additionally, it is assumed that all appropriate safety gear necessary to an adequately equipped chemistry laboratory is present in the room in which the laboratory is taking place, the instructor and students are familiar with its proper use, and that this equipment is in excellent functioning order.

It is the instructor’s sole responsibility to insure the safety of the students and staff in the chemistry laboratory, and the individuals in the surrounding areas. It further is the instructor’s sole responsibility to be fully informed of the regulations pertinent to their locale and to follow those regulations completely. This applies to the proper use and disposal of chemicals in the laboratory, equipment in the laboratory, and training of the instructor and students as to procedures in the laboratory.

An excellent resource for MSDSs is Flinn Scientific: <http://www.flinnsci.com/search_MSDS.asp> .

The class room teacher takes sole responsibility for the safe conduction of this laboratory.

Go to [www.rsc.org/education/teachers/learnnet/inspirational/resources/3.1.9.pdf](http://www.rsc.org/education/teachers/learnnet/inspirational/resources/3.1.9.pdf) download and print out the lab, and have the students complete it.

**High School Content Expectation:**

**C5.8C:** Recognize that proteins, starches and other large biological molecules are polymers. Note this is an MME content expectation.

Sodium alginate is an extract of the cell walls of algae, and is readily available as a food additive or in antacid solutions. Be sure to explain how crosslinkage increases the rigidity of polymers.

**Contact Information:**

Please contact the author if it is found that the safety precautions are incomplete or inaccurate, factual information is inaccurate, or there are any modifications/augmentations that could improve this laboratory. [KingChemistry@comcast.net](mailto:KingChemistry@comcast.net) .

**Please Provide Feedback:**

If this material was useful in improving student understanding of the content, please let me know. If this material could use revision to improve student learning, again, please let me know. [KingChemistry@comcast.net](mailto:KingChemistry@comcast.net) .