

3rd International Conference and Exhibition on Metabolomics & Systems Biology

March 24-26, 2014 Hilton San Antonio Airport, San Antonio, USA

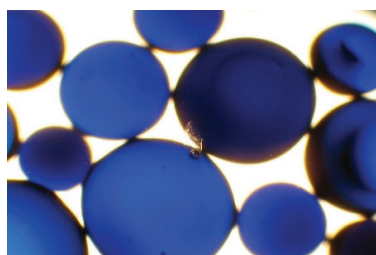
Remote sensing of reducing saccharides: New materials and novel approach

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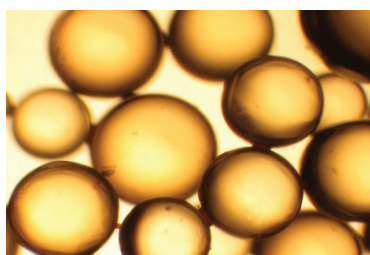
The process of reducing saccharides in blood serum involves the application of some chemical reagents such as Fehling reagent test. The result of such test sometimes gave confusing results due to the formation of red color on the wall surface of the reaction vessel. In our method, we have developed a new technique via modified polymeric material with a new organic material sensitive for oxidation-reduction reaction. The color of the modified materials will changed from blue to colorless material (Figure 1), which can be used as a visible sign for the presence of reducing saccharide. Furthermore, a quantitative determination for reducing saccharides can also be obtained with a precise accuracy. The developed material has the following advantages

1. Colorimetric method for detection of reducing saccharide
2. Coast less materials
3. High accuracy in detection of reducing saccharides even with trace amounts
4. Durable and resistant to friction
5. Can be regenerated and reused for unlimited times with the same accuracy

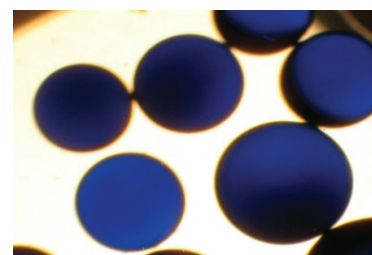
The new materials can replace Fehling test in our university students and research labs.



Parent Developed



Developed Materials after reaction
with reducing saccharides and
disappearance of blue color



Regenerated Materials &
appearance of blue color

Figure 1: Microscopic photo for the developed materials before and after reaction

Biography

Medhat Mohamed El-Moselhy is the group leader of the Science Center for detection and Remediation of Environmental Hazards and an associate Professor of Physical Chemistry, at Al-Azhar University, Cairo, Egypt and Jazan University, Saudi Arabia. He earned his Ph.D. at Al-Azhar University in year 2004.

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