American Chemical Society – Kalamazoo Local Section Newsletter

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ACS Chemistry for Life™ Kalamazoo Local Section

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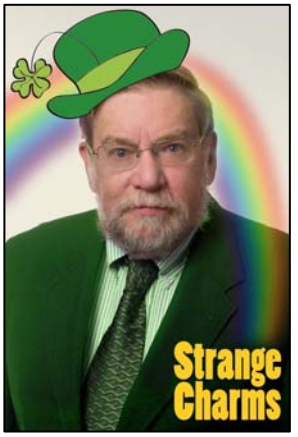
Comments from the Chair

John H. Engelmann



John H. Engelmann, Ph.D. (KACS Chair)

Spring is almost here. Plants will soon turn green due to chlorophyll. Chlorophyll has a highly conjugated cyclic structure with heterocyclic nitrogen- containing rings. Two of the nitrogen atoms are negative, and magnesium is the counterion. Chlorophyll absorbs red and blue light, and reflects green light and accordingly makes plants appear green.

St. Patrick's Day has just passed and of course the Chicago river was once again dyed green to mark the day. Since green is such a common color, artists have looked for green pigments suitable for painting. One of the earliest green pigments is malachite, which was used by the Egyptians in their artwork. Malachite is a copper carbonate hydroxide mineral, having the formula $Cu_2CO_3(OH)_2$. In the first century the Romans used malachite as a green pigment. Another copper-containing pigment is verdigris. Verdigris is the green patina which forms on copper as it weathers. It may be formed by exposing copper to acetic acid and scraping the powder off the copper. This would form copper(II) acetate.

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KACS website: http://kalamazooacs.org/

Do you have questions, comments, or would like to contribute to this newsletter?
Send an email to: **ACSkzoo@gmail.com**

Miscellaneous

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Alternatively, copper may simply be allowed to weather in which case the verdigris formed is copper carbonate. Verdigris is lightfast and stable in oil paint although it is not stable in other media. It was widely used because of its desirable blue-green color. Another green pigment used since Roman times is Verona green. It is a clay colored by a mixture of iron oxide and silicates of magnesium, aluminum and potassium such as potassium aluminum silicate. Cobalt green is another green pigment which does not contain copper. It is made by heating a mixture of cobalt(II) oxide and zinc oxide. Sven Rinman, a Swedish chemist, discovered this compound in 1780. Chrome green was patented in 1859. The pigment contains chromium oxide dihydrate. It is stable and not toxic. Copper phthalocyanine is a more modern green pigment. By adding substituents the color may be varied from green to blue.

2015 Joint Great Lakes Central Regional Meeting – Call for Sessions

By James Kiddle

The co-program chairs are soliciting suggestions for technical session topics for the 2015 Joint Great Lakes Central Regional Meeting of the American Chemical Society to be held May 27 - May 30, 2015 in Grand Rapids. The overall theme of the meeting is "**Chemistry - A Grand Enterprise**" and will focus on three main areas: Food, Health, and the Environment.

Please follow the link to submit your suggestions.
https://docs.google.com/forms/d/1eyX-D50xt_0z9OwnIx0a587L4x9vq3p4tSqWuFcJvu0/viewform

Councilor Report – 2014 Spring National Meeting

Lydia Hines

The KACS Councilor Report from the 2014 Spring ACS Meeting in Dallas, TX, March 16-20, 2014, may be accessed at our KACS website.

Special Presentation

Frontiers in Chemistry Lectureship

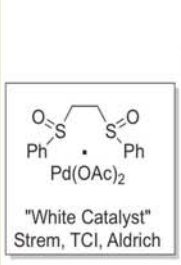
Dr. M. Christina White

Department of Chemistry
University of Illinois at Urbana-Champaign

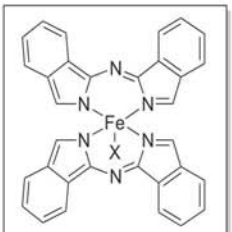
"Site-Selective C-H Oxidations"

5:00 PM, April 15, 2014,
1720 Chemistry Bldg., Reception at 4:30 PM

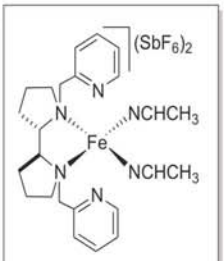
The White Group uses the C-H Bond as a New Functional Group for Streamlining Organic Synthesis.



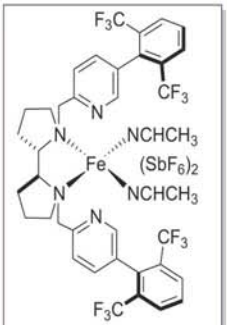
"White Catalyst"
Strem, TCI, Aldrich



Amination Catalyst
Strem, TCI, Aldrich



"White-Chen Catalyst"
Strem, Aldrich



"White-Gormisky Catalyst"

Sponsored by: zoetis Kalexsyn College of Arts and Sciences Department of Chemistry Western Michigan University

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