

## Assignment #2: Creating and Integrating Schemes

It is the goal of this assignment to provide an authentic exercise in the use of chemical structure drawing software. You will learn about the design of schemes, about best practices in scheme creation, and about the integration of schemes and text. A02 builds on A01, and you are asked to provide the three schemes “fully embedded” with your revision of Part II of A01. Each scheme requires a scheme legend and must be cited in the text.

(a) Create **Scheme 1** to illustrate the concept of a “colorimetric chemical indicator” or, more general, of a “colorimetric chemical sensor” with a cartoon type graphic. Be creative. This scheme should be appropriate to support the introductory paragraph you wrote in A01.

(b) Create **Scheme 2** to illustrate the concept of a “colorimetric pH indicator” with a specific example. Show the structures of this indicator in both pH-regions, organize the compounds in a sequence that is logical and accessible to the reader, and add appropriate reaction arrows (eq. rxn). Use color, use the correct colors of the indicator! This scheme should be appropriate to support the second paragraph of the introduction you wrote in A01.

(c) Create **Scheme 3** to illustrate the concept of “a second type of colorimetric chemical indicator” (i.e., complexometric indicator, redox indicator) with a specific example. Show the structures of the indicator, organize the compounds logically, and add appropriate reaction arrows. Use color, use the correct colors of the indicator! This scheme should be appropriate to support the second paragraph of the introduction you wrote in A01.

The assignment must be completed with MS WORD (Times New Roman, 12 pt, 1-inch margins, page numbers centered in footer, your name(s) in the header, 18 pt line spacing) and using ChemOffice’s ChemDraw (ACS 1996 settings, insert as figure, reduce to 64% in Word file). Submit one Word file “A02\_’your name’.docx”.

Deadline for electronic submission: Tuesday, 02/09/11, by midnight. Bring one hardcopy to class on Wednesday, 02/10/11.