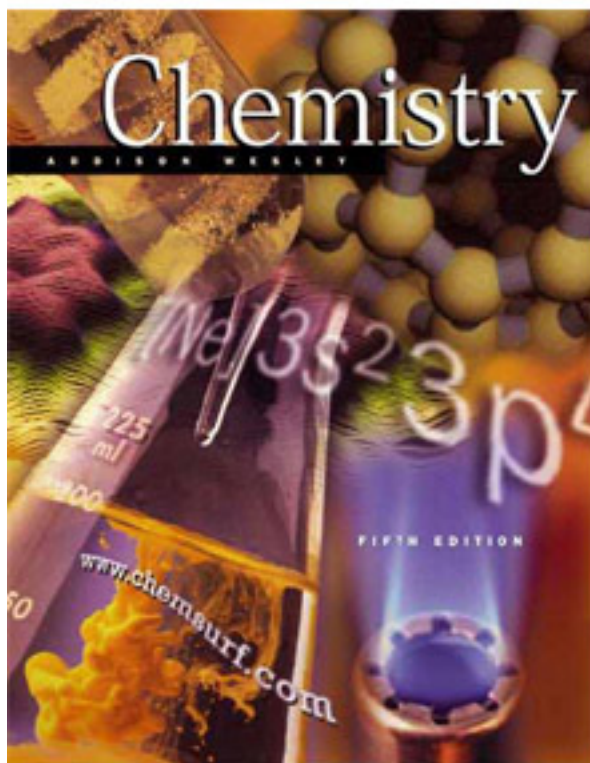


# Part I, Chapter 4

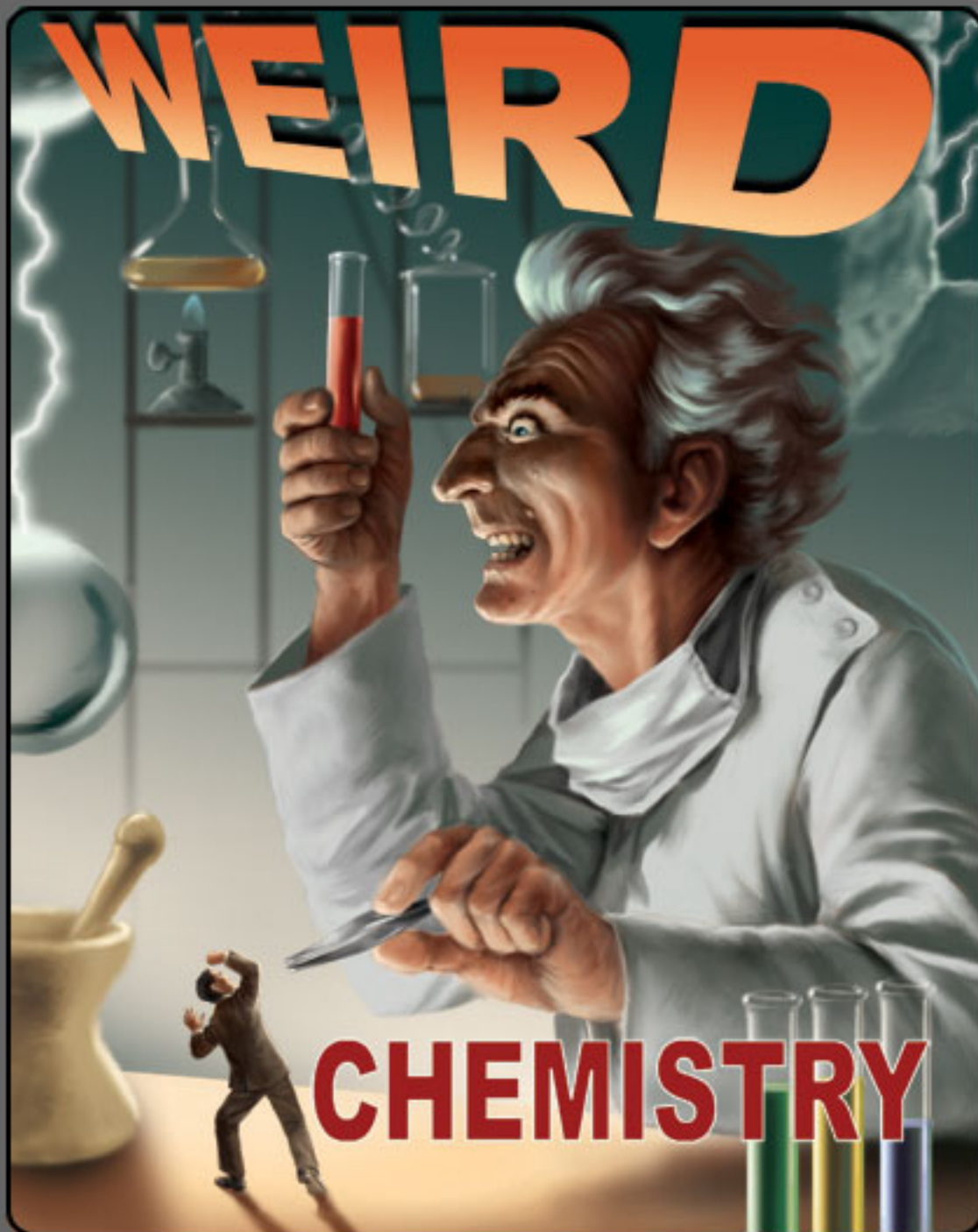
## Data Tables and Drawing Schemes



Art

General Remarks

Schemes



# General Guidelines on Art

Art items have a “Caption” (a.k.a. “Legend” or “Title”) that starts with “Figure X:”, for example, and is completed by a sentence in text format.

- There are differences from journal to journal.
- ALWAYS adhere to the format of the journal you which you submit!
- Art Categories: **Figures**, **Schemes** and **Charts**

Art items must be referred to in the main text. Usually a brief summary of the Figure is provided when the table is referred to in the text.

Art items must be self-contained and should be understood without reference to the text.

- provide “units” of variables and of data

# Organizing Principle of Art

## Select Aspect Ratio

- Portrait or Landscape?
- Use a non-standard aspect ratio? A square? An oval?

## Size of Art

- Must fit the journal “layout”.
- Single column width? Double-column width? Full page?

## Information Flow

- Top-left to bottom-right; (non)-alternating directions per row?
- Center-heavy and radial flow.

# Art: How Much & What Kind?

*What is this  
all about?*

## INTRODUCTION

- One SCHEME for CONTEXT, almost always
- One SCHEME for SCOPE (here or in R&D)

## METHODS

- Fancy experimental setup?
- Schemes with FLOW DIAGRAMS.

## RESULTS & DISCUSSION

- Charts of REACTION COMBINATIONS.
- Figures of DATA.
- Schemes of MECHANISMS & INTERPRETATIONS.

*Table or Figure.  
Not Both!*

## CONCLUSION

- One SCHEME that EXPANDS on a PRINCIPLE, sometimes

*A new paradigm?*

# Aesthetics

*It's all  
About  
Data*

## **DATA make the Art!**

- Most of the content should be data
- Everything else is there as support

## **Color**

- To enhance data
- Do not distract

*Clean*

## **Add-on Features**

- Arrows & explanatory devices only if needed

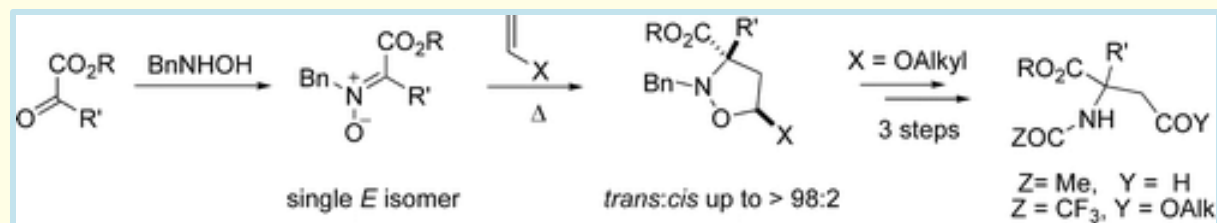
## **Format**

- Clean and junk-free

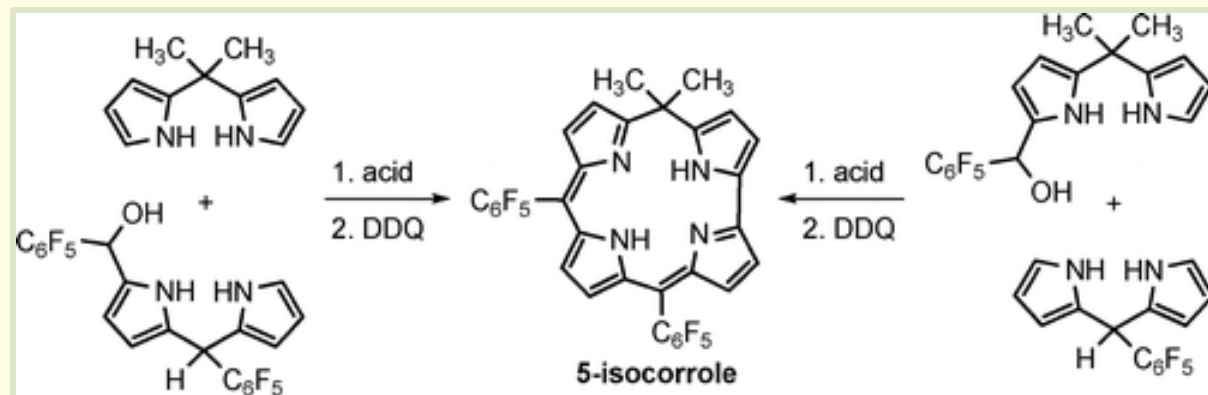
*What I like in a good author is not what he says, but what he whispers.  
Logan Pearsall Smith, "All Trivia," Afterthoughts, 1931*

# Schemes: Flow Direction

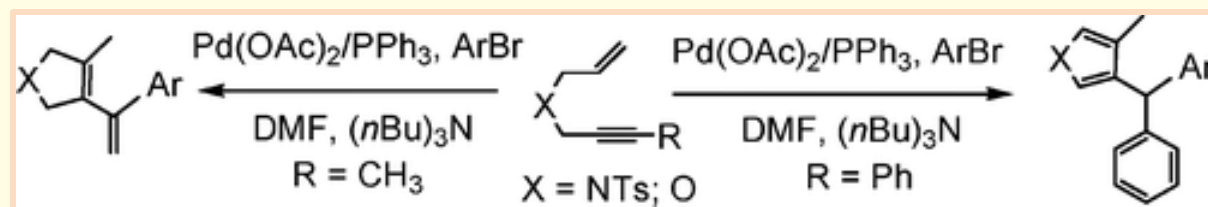
*Linear,  
left-to-right:*



*Flow to  
center:*



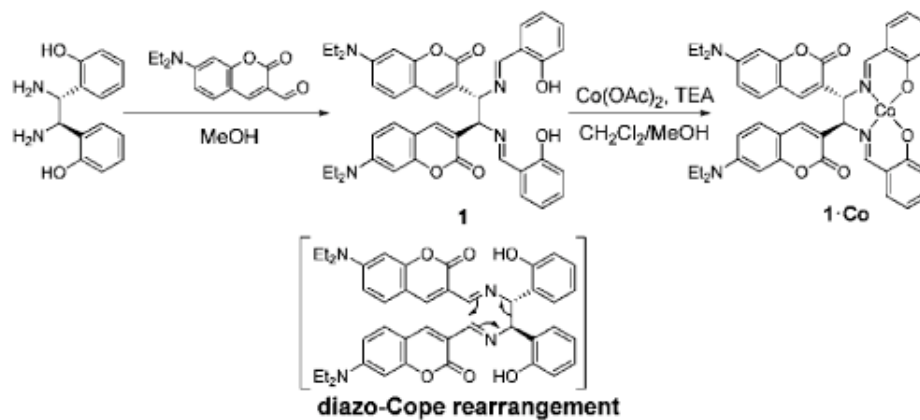
*Flow from  
center:*



# In-Text Reference to Scheme

Compound **1** was prepared by the treatment of 2,2'-dihydroxyphenylene ethylenediamine with 2 equiv of 7-diethylaminocoumarin-3-carboxaldehyde through a diaza-Cope rearrangement reaction.<sup>9</sup> The metal complex, **1**•Co, was obtained by mixing **1** with cobalt(II) acetate in the presence of triethylamine (TEA), followed by recrystallization of the complex in methanol and dichloromethane (Scheme 1).<sup>10</sup>

Scheme 1. Synthetic Strategy of **1**•Co



## Fluorescence Turn-On Sensor for Cyanide Based on a Cobalt(II)—Coumarinylsalen Complex

Jae Han Lee,<sup>†</sup> A Reum Jeong,<sup>†</sup> Ik-Soo Shin,<sup>†</sup> Hae-Jo Kim,<sup>\*,‡</sup> and Jong-In Hong<sup>\*,†</sup>

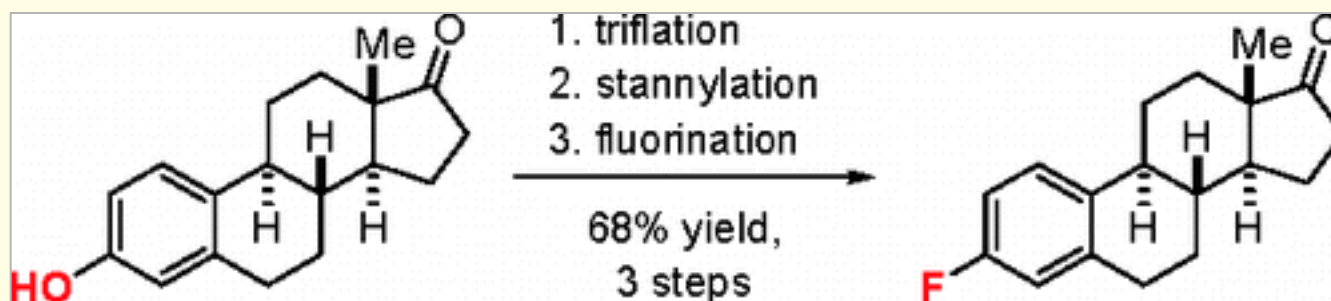
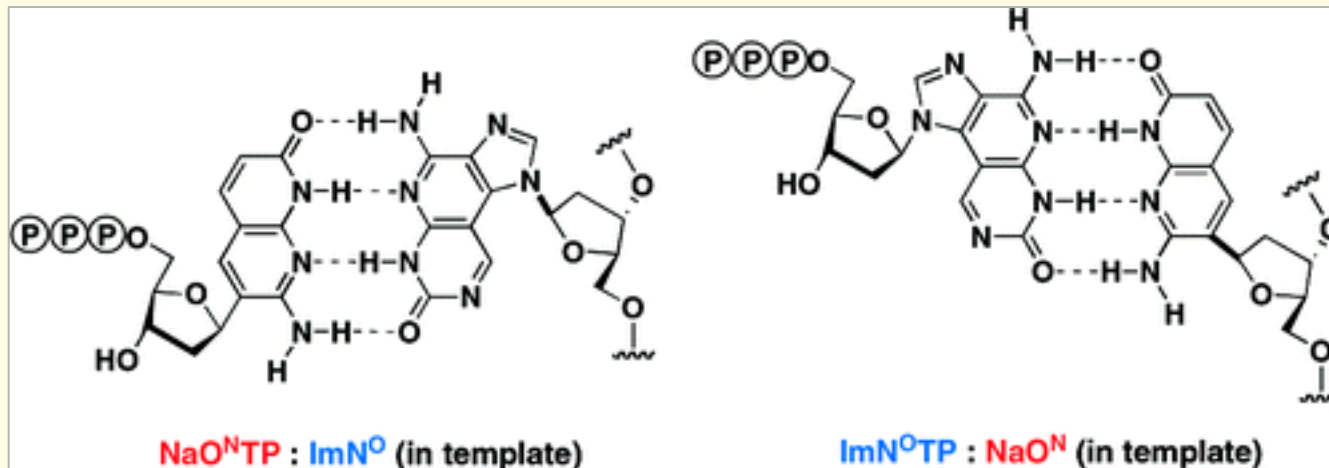
Department of Chemistry, College of Natural Sciences, Seoul National University, Seoul 151-747, Korea, and Department of Chemistry, Kyonggi University, Suwon 443-760, Korea

jihong@snu.ac.kr; haejkim@kgu.ac.kr

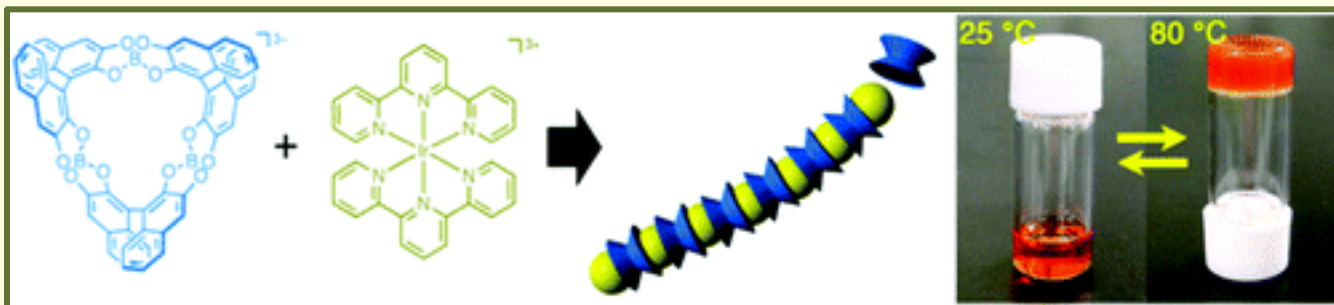
Received December 10, 2009



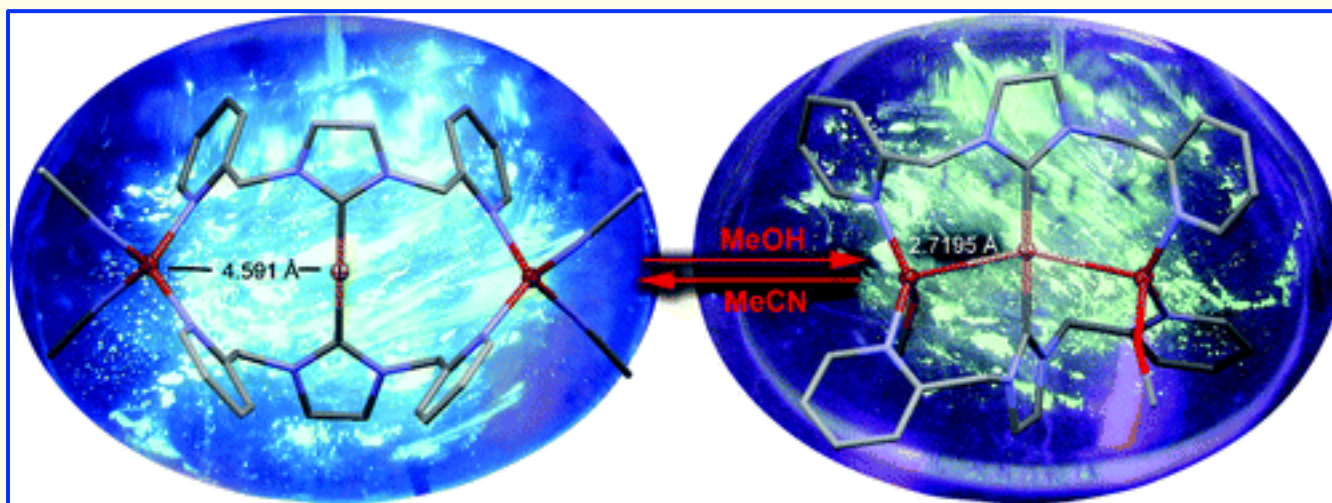
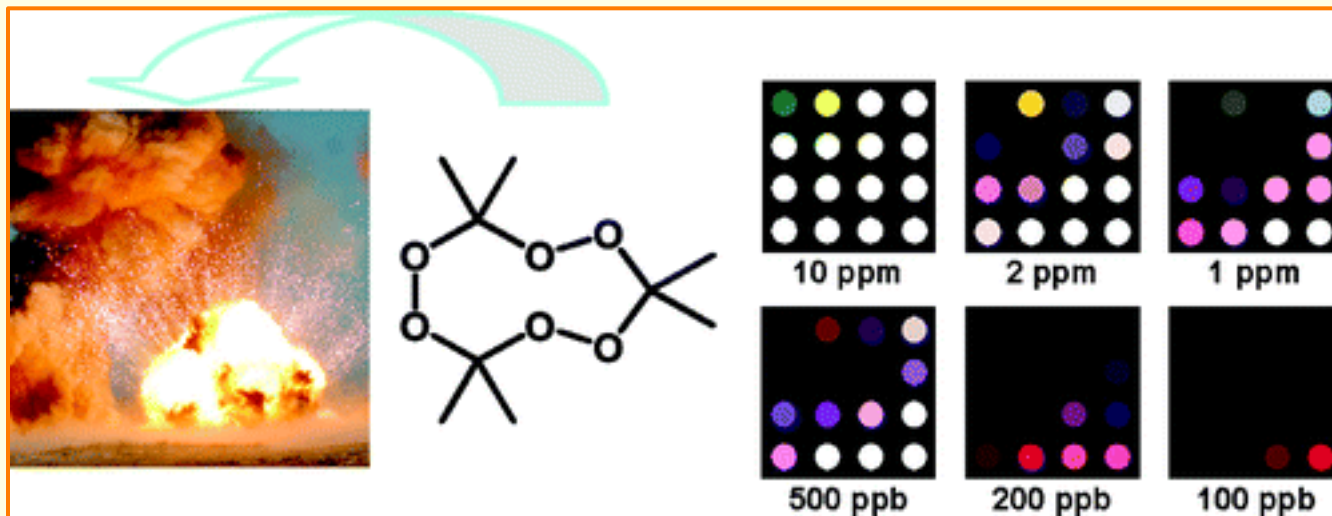
# Graphical Abstract Fights #1



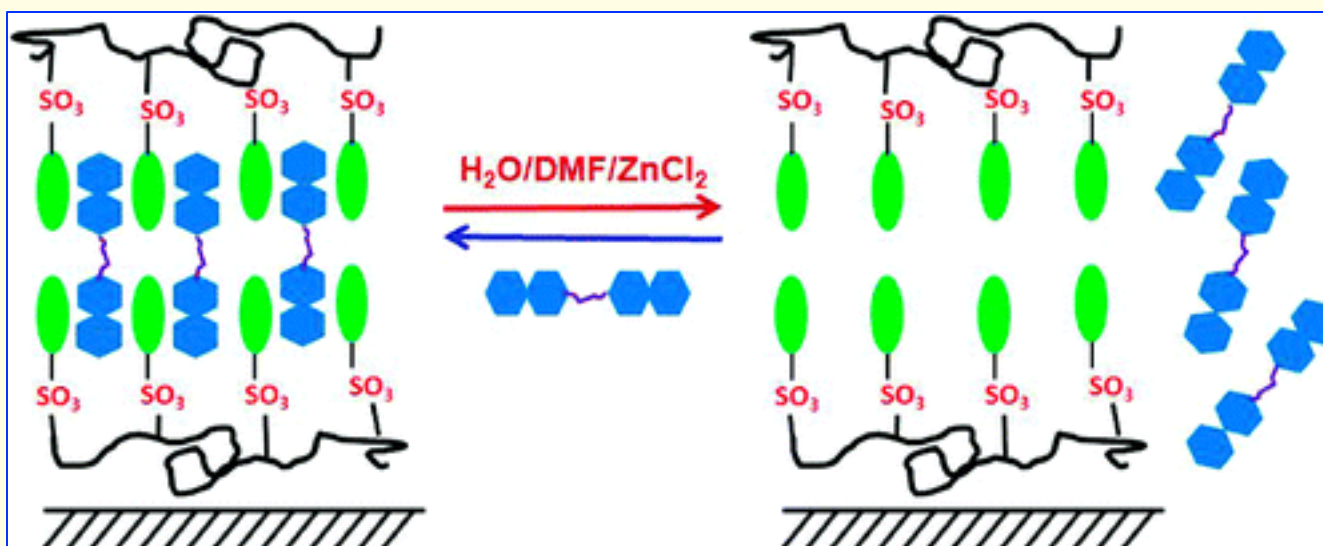
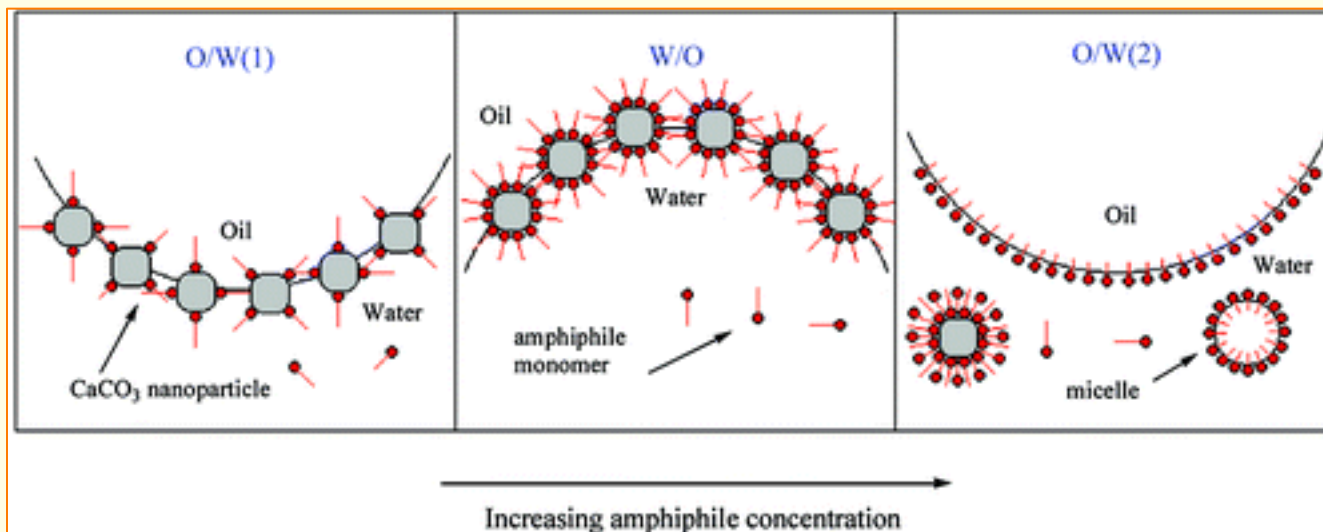
# Graphical Abstract Fights #2



# Graphical Abstract Fights #3



# Graphical Abstract Fights #4



Top: Langmuir **2012**, 28, 314–320. Bottom: Langmuir **2011**, 27, 10370–10375.

# How to Create Schemes Examples and Assignment

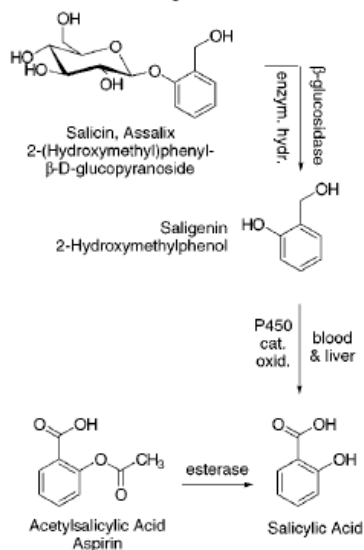


Lecture Example: **Aspirin**

Assign. #2 in SP10: Handout & online on **Aspirin**

Assign. #2 in SP11: Handout & online on **Indicators**

Scheme 1. Salicin, Saligenin, Salicylic Acid, and Aspirin





# About.com Graphic Design

## Graphic Design Basics

[Email](#)[Print](#)

Learn the basics of graphic design, from typography to color to layout, tools and more.

### The Basics

Starting from scratch? Find out what graphic design is, what you need to do it, uses of graphic design, and more info for beginners.

- [What is Graphic Design?](#)
- [Essential Graphic Design Tools](#)
- [The Design Process](#)
- [Designing For Print vs. The Web](#)
- [The Elements of Design](#)

### Typography



Typography is crucial to almost all design projects. Learn the basic terms, how to use type, and where to get fonts.

- [Basic Typography Terminology](#)
- [Letter Anatomy](#)
- [Type Families](#)
- [Top Font Picks](#)

### Introduction to Color



To effectively use color, it is important to understand the basics. In this introduction to color, learn about the different color spaces and models.

- [Color Models: CMYK](#)
- [Color Models: RGB](#)
- [Color Properties and the HSV Color Space](#)
- [Using Color Swatches](#)

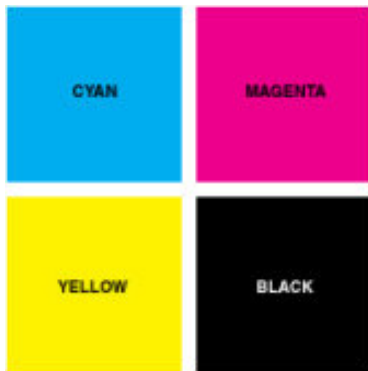
### Layout

Once you have content for a project, creating a proper, balanced layout can determine the effectiveness of a design.

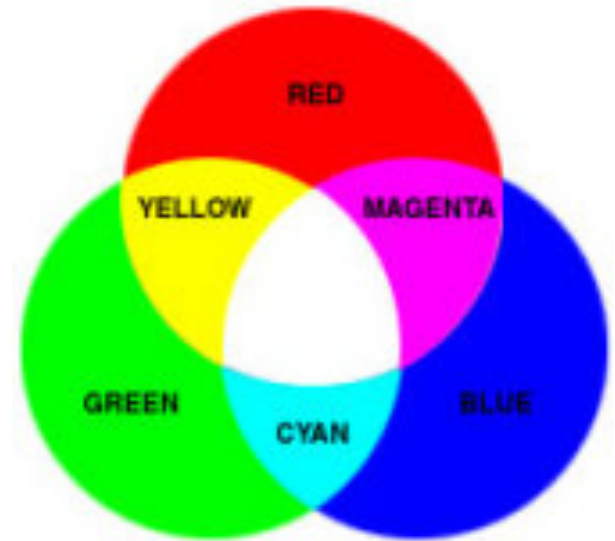
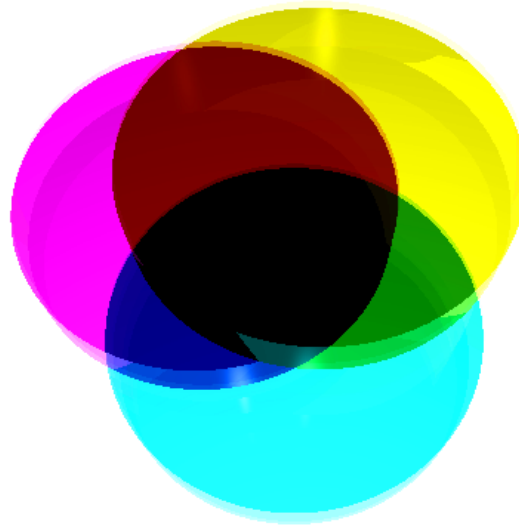
# Use Available Resources!

# COLOR: Important, Needed?

Decide on a COLOR SCHEME.



Subtractive Color Scheme  
CMYK  
K for “key” = black



Additive Color Scheme  
RGB (and Black also)

# COLOR: Codes

Range of R, G, and B Intensities:  $256 = 16^2$  values

Decimal Numbers (0, 1,... 9): 0 (none) – 255 (full)  $2 \times 10^2 + 5 \times 10^1 + 5 \times 10^0$

Hexadecimal Numbers (0, 1,... 9, A,... F): 0 (none) – FF (full) =  $F \times 16^1 + F \times 16^0$

The screenshot displays the ColorSchemer website interface within a web browser window. The browser's address bar shows the URL <http://www.colorschemer.com/online.html>. The page title is "ColorSchemer - Online Color Scheme Generator".

On the left side, there is a "Current Color" section with a large blue square. Below it, the RGB values are set to R: 51, G: 102, B: 255, resulting in the hex code #3366FF. There are buttons for "Set RGB", "Set HEX", "Lighten Scheme", and "Darken Scheme".

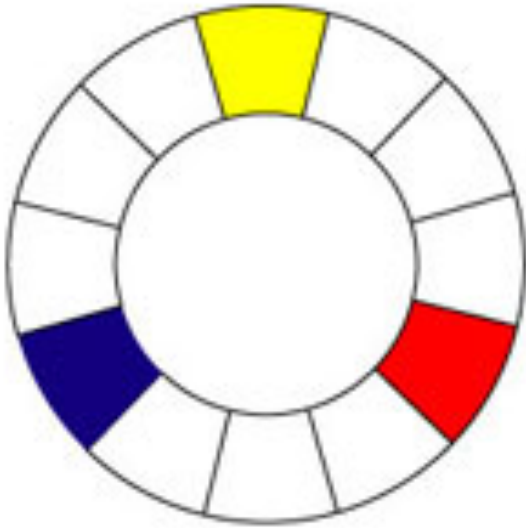
The main area of the page features a 4x4 grid of 16 color swatches, each with its corresponding RGB and hex values:

| Swatch | RGB        | Hex     |
|--------|------------|---------|
| 1      | 51.102.255 | #3366FF |
| 2      | 102.51.255 | #6633FF |
| 3      | 204.51.255 | #CC33FF |
| 4      | 255.51.204 | #FF33CC |
| 5      | 51.204.255 | #33CCFF |
| 6      | 0.61.245   | #003DF5 |
| 7      | 0.46.184   | #002EB8 |
| 8      | 255.51.102 | #FF3366 |
| 9      | 51.255.204 | #33FFCC |
| 10     | 184.138.0  | #B88A00 |
| 11     | 245.184.0  | #F5B800 |
| 12     | 255.102.51 | #FF6633 |
| 13     | 51.255.102 | #33FF66 |
| 14     | 102.255.51 | #66FF33 |
| 15     | 204.255.51 | #CCFF33 |
| 16     | 255.204.51 | #FFCC33 |

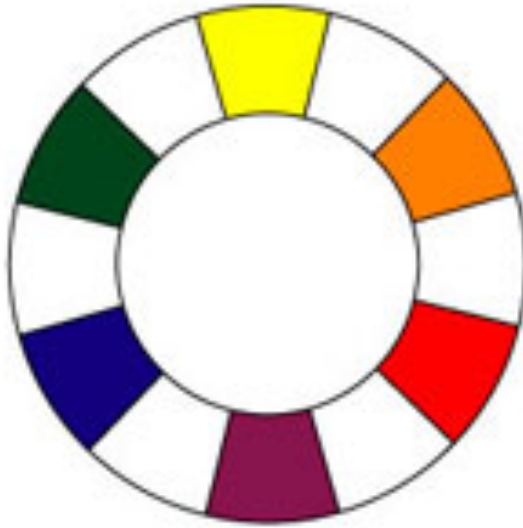
At the bottom of the page, there is a large grid of 256 color swatches, arranged in 16 rows and 16 columns, representing the full range of colors generated by the tool.

On the right side, there is a section for downloading the software for PC and Mac, and a link to the ColorSchemer Blog. There is also a form to enter an email address for updates, with a "Join!" button.

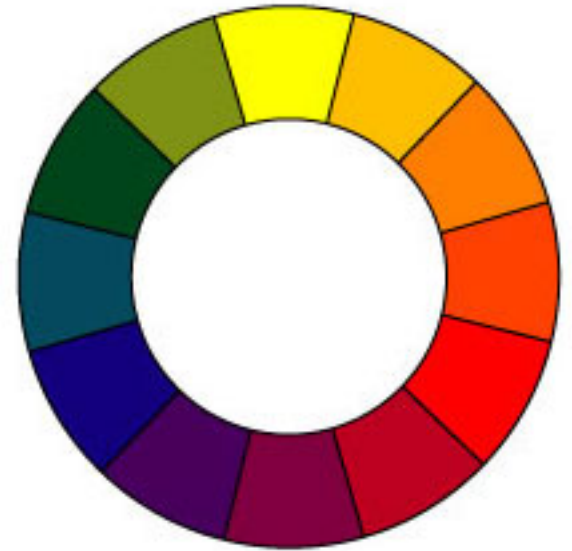
# COLOR WHEEL



PRIMARY



SECONDARY



TERTIARY



SHADES  
Add black

TONES  
Add gray

TINTS  
Add white