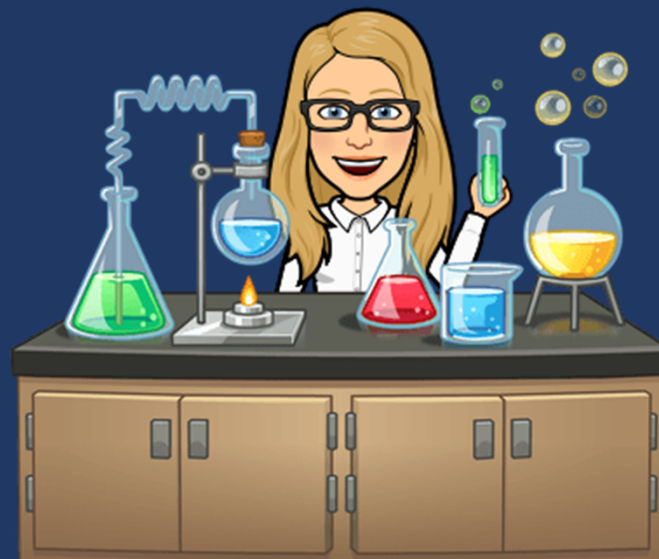


For clicker question voting, go to:
<https://pollev.com/lauriestarke263>



Dr. Laurie S. Starkey
Cal Poly Pomona

CHM 3150 Organic Chemistry II

Announcements 11/20/25

Today's Topic: Chapter 16

Conjugated Dienes

Ch. 16 (Step 1)

- ✓ Watch
- ✓ Read
- ✓ Practice

Step 1

- Read Klein **16.1, 16.2, 16.3** for an overview of conjugated dienes (*Molecular Orbital Theory will NOT be emphasized*)
- Read Klein **16.4, 16.5** **Electrophilic Additions** and **Thermodynamic/Kinetic Control**
- Watch flipped lecture
- Work through **SkillBuilders 16.1, 16.2** and **Conceptual Checkpoints** (problems 16.1 - 16.4 and 16.6 - 16.11)

Conjugated Dienes - Part 1

26 minutes

skeleton notes pages 16-1 to 16-3

Flipped Lecture: Conjugated Dienes

Section 10: Dienes & Amines	
▶ Conjugated Dienes ▼	1:09:11
Intro	0:00
Conjugated Dienes	0:08
Conjugated π Bonds	0:09
Diene Stability	2:00
Diene Stability: Cumulated	2:01
Diene Stability: Isolated	2:37
Diene Stability: Conjugated	2:51
Heat of Hydrogenation	3:00
Allylic Carbocations and Radicals	5:15
Allylic Carbocations and Radicals	5:16
Electrophilic Additions to Dienes	7:00
Alkenes	7:01
Unsaturated Ketone	7:47
Electrophilic Additions to Dienes	8:28
Conjugated Dienes	8:29
Electrophilic Additions to Dienes	9:46
Mechanism (2-Steps): Alkene	9:47
Electrophilic Additions to Dienes	11:40
Mechanism (2-Steps): Diene	11:41
1,2 'Kinetic' Product	13:08
1,4 'Thermodynamic' Product	14:47
E vs. POR Diagram	15:50
E vs. POR Diagram	15:51
Kinetic vs. Thermodynamic Control	21:56

Part 1

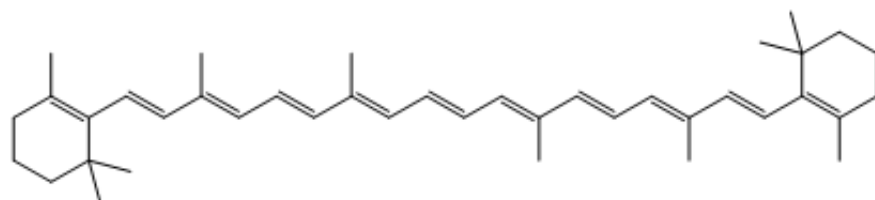
1,2- and 1,4-Addition

Diels-Alder Reaction

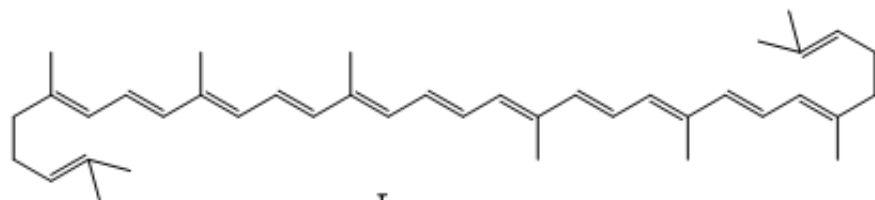
Part 2

**Reminder:
Chapter 16
will not be
on Exam III**

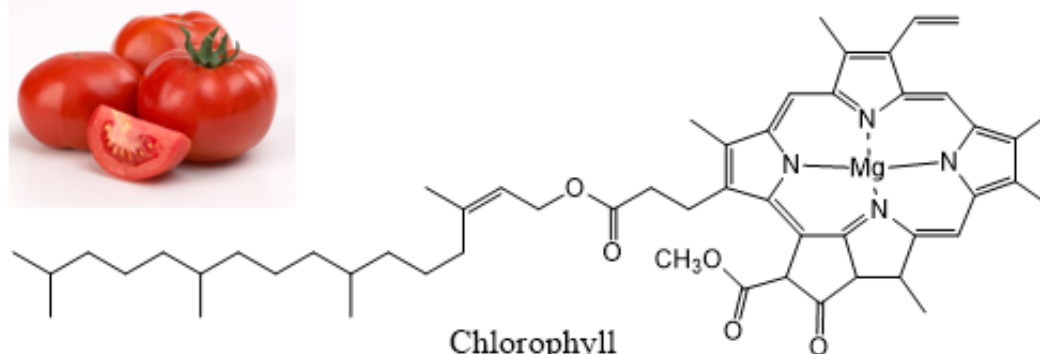
Color Chemistry: Electronic Transitions



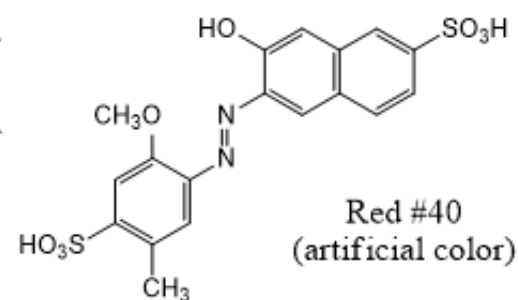
β -Carotene (orange plants - carrots)
 $\pi \rightarrow \pi^*$ 454 nm (blue light absorbed)



Lycopene
 (red plants - tomatoes)



Chlorophyll
 (green plants)



Red #40
 (artificial color)

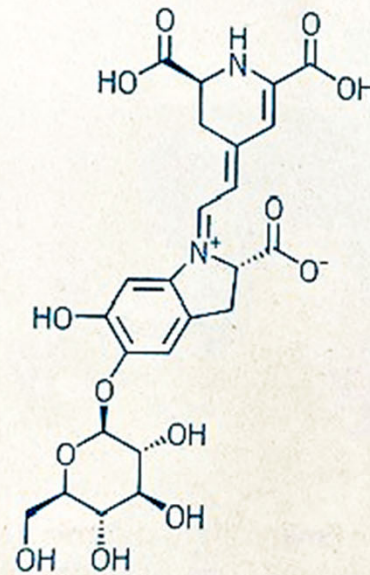


Israeli Start-Up Phytolon has Produced a Biochemical Color Factory!

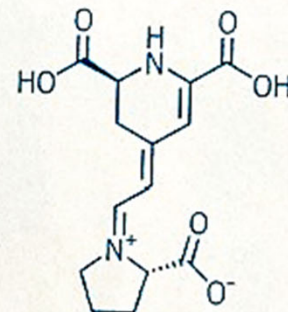
The genes that express these naturally occurring colored compounds were identified and then introduced to the DNA of baker's yeast. The modified yeast produces pigments that might be used someday as alternatives to synthetic dyes.

Cool Research Alert!

on or fading, off-
texture changes.
chieve the
desire, food
rers often must
vo or three plant
-say, paprika,
and beetroot
at don't easily
These pigments,
cally don't really
n says. "You
ce them to mix."
soluble betalains
nt such prob-
ys.



Betanin



Indicaxanthin

confectionary,
plant-based me
and hopes to w
European regul
ances in 2023.

Jubran know
ral colors still c
offer the vibrar
thetics, and the
expensive. "We
there," he says.
closed some ga
current natural
cannot close."
that the M&M t
Mars should be
hear.—MICHAEL

