ORGANIC CHEMISTRY 1 LECTURE GUIDE 2019

BY RHETT C. SMITH

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Organic Chemistry 1
Lecture Guide 2019

By Rhett C. Smith, Ph.D.

Companion Books from the Proton Guru:

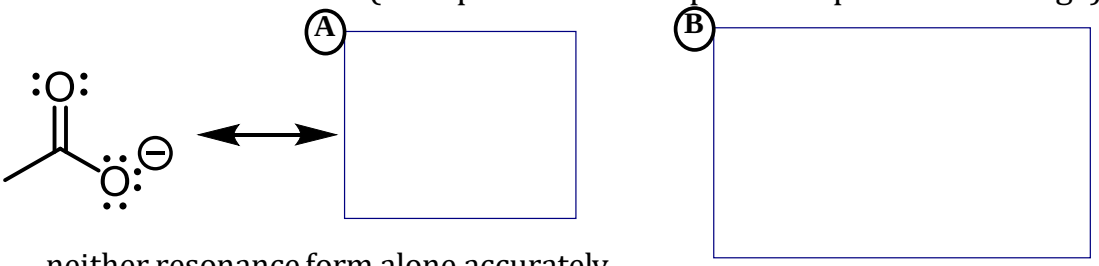
Organic Chemistry 1 Reactions and Practice Problems 2019

by Rhett C. Smith

Organic Chemistry 1 Primer 2019,

by Rhett C. Smith, Andrew G. Tennyson, and Tania Houjeiry

In a resonance structure the atomic positions remain the same, but electrons move around (lone pairs and multiple bond positions change).



neither resonance form alone accurately describes the anion; the "real" structure is a combination of the two, as shown at right

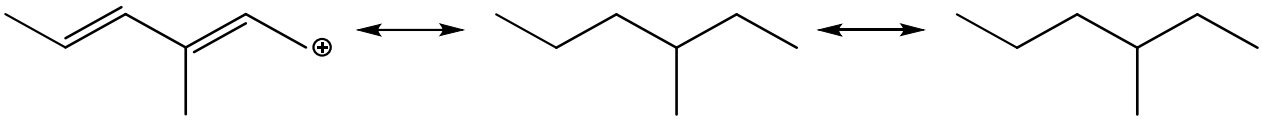
Resonance Hybrid
(dashed line = partial bond)

<u>Why do we care?</u> Resonance structures can help us understand reactivity. If a molecule can be drawn in numerous resonance forms, it has some added stability known as:

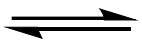
This extra stability is due to:

Notes

Electrons move FROM a good electron source (a lone pair or an anion, or the negative end of a polar bond …) TO a good electron acceptor or "sink" (the positive end of a polar bond, an empty orbital, a cation …).



Note the special resonance arrow



Not to be confused with the equilibrium arrow!
RESONANCE IN NOT AN EQUILIBRIUM!

Notes