

# **STAIRWAY TO WELDING SCHOOL**

**There's a premed who's sure  
That counterclockwise is "R"  
And his grades will make him perfect  
For welding school**

**When he gets there he'll say  
What was that rule of the day  
Maybe I should have made a better  
Road map**

**Ooooooooo He never wanted to study  
Ooooooooo He thinks chemistry is cruddy**

**And his grades will make him perfect  
For welding school**

**And as we waste our time away  
In organic lab all day  
How come my products look like clay  
We should have been nicer to the T.A.**

**And our grades will make us perfect  
For welding school**

## Organic Paranoia

In a dark, dingy dorm room,  
Chemistry notes everywhere,  
Warm smell of a red bull,  
Rising up through the air,  
Been studying for three days now,  
Beneath a shimmering light,  
My head grows heavy and my sight grows dim,  
I want to stop for the night.  
Could it be 4 AM now?  
I hear the tower bells,  
And I was thinking to myself  
That carbonyl chemistry's hell.  
I worked on aromatics,  
Then the "rules of the day,"  
I heard voices down the corridor,  
Thought I heard them say:

*Welcome to organic paranoia,  
Such a scary place,  
You see it on my face,  
Plenty of room for more organic paranoia,  
This time of year,  
You can find it here!*

Roadmaps in my memory  
Hey this final isn't so bad  
No reason to panic  
Or even be sad.  
Relax says the proctor,  
You finished this with ease,  
You can turn it in any time you like,  
Then you are free to leave,  
Last thing I remember,  
I was running for the door,  
I was glad it is over  
Won't need to study any more.  
And then new voices came calling from far away,  
A lot better than the middle of the night,  
I heard them say:

*Welcome to organic chem. euphoria  
It has all become clear,  
I am outta here!  
I'm living it up because of organic chem. euphoria  
What a nice surprise  
I won't need alibis.*

# Vladimir Markovnikov

Alkenes are the very best, their reactions are insane  
Alcohols are no match, and neither are alkanes  
Electrophiles hit alkenes, without a lot of pain  
Use HBr and HCl to make haloalkanes

But then I get confused as to what we're going to see  
Which carbon gets which atom? Call it regiochemistry  
I hear there's a brilliant man who gave us clarity  
What's his name? What's his name? I have to find the key

Well the word got around, they said "this guys insane, man!"  
From the 1800's, a Russian dude they say, man.  
Got his education and didn't forget from whence he came, man  
The world's got to know his name. What's his name, man?

Vladimir Markovnikov  
My name is Vladimir Markovnikov  
And there's just one thing I did explain  
Which carbon gets, the halogen?

The key to understanding products of hydrohalogenation  
Is that a carbocation is formed by the HX protonation  
Stabilize the plus charge with overlapping orbitalization  
The official term of course, is hyperconjugation

The more stable cation forms of lower energy  
The halide ion comes in and reacts there naturally  
It's the one with more carbons, that's maybe two or three  
So X is on more substituted carbons don't you see

Vladimir Markovnikov  
My name is Vladimir Markovnikov  
And there's just one thing that I did explain  
Which carbon gets, the halogen?

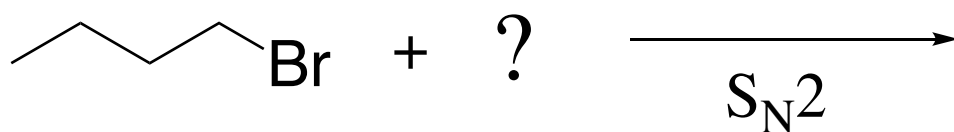
So don't be throwing away my rule  
Don't be throwing away my rule  
Hey yo, its not that convoluted  
Halogen on the carbon that's more substituted  
So don't be throwing away my rule

Vladimir Markovnikov  
My name is Vladimir Markovnikov  
And there's just one thing I did explain  
Which carbon gets, the halogen.

So don't be throwing away my rule  
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Hey yo, its not that convoluted  
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## **Vladimir Vasilyevich Markovnikov**



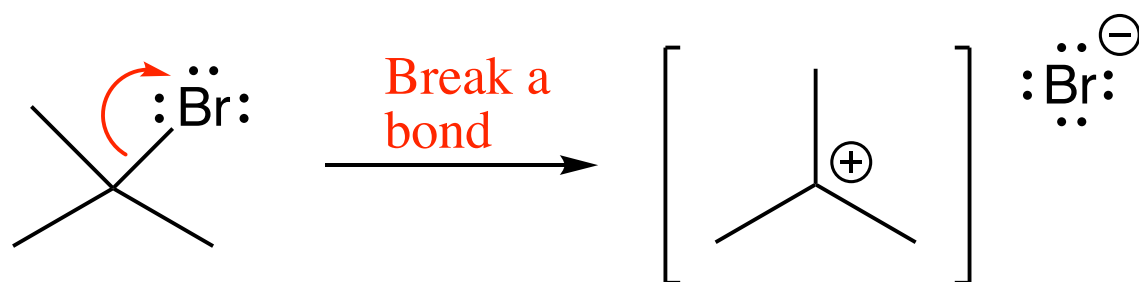


## Shape of S<sub>N</sub>2

The club ain't the best place to find nucleophiles  
 So the lab is where I go  
 Me and my friends in solvent  
 Moving fast but reacting slow  
 Come over and start up a reaction with just me  
 And trust me I'll give it a chance now  
 Let's react, stop, put your charge over here  
 And then we start to react, and now I'm singing like  
 You know I want to make a bond  
 Your charge was handmade for a reagent like me  
 Come on now, follow my lead  
 I'm an electrophile, don't mind me  
 Say now let's not talk too much  
 Get through solvent and put your electrons on me  
 Come on now, follow my lead,  
 Come, come on now, follow my lead

I'm attracted to the charge of you  
 We push and pull like charges do  
 Although my orbitals are falling too  
 Come on let's get bonding  
 Transition state is coming true  
 Time to finish the S<sub>N</sub>2  
 Creating a bond brand new  
 Come on let's get bonding  
 Oh-I-oh-I-oh-I-oh-I  
 Come on let's get bonding  
 Oh-I-oh-I-oh-I-oh-I  
 Come on let's get bonding  
 Oh-I-oh-I-oh-I-oh-I  
 Come on let's get bonding  
 We need to make a bond brand new  
 Come on now let's S<sub>N</sub>2.

# Free as Br



If I broke my bond to you carbon  
Would you still remember me  
For I'm a good leaving group now  
And there's too many atoms other than "C"  
If I stayed bonded to you carbon  
We just wouldn't be livin' large,  
'cause I'm as free as Br now  
And Br must have a charge, oh, oh, oh, oh  
And Br must have a charge  
And Br must have a charge  
Lord knows I need a charge  
Bye, bye carbon its been a sweet bond  
Though my valence is about to change  
So please don't try to rearrange now  
'Cause lord knows I'm to blame  
If I stayed bonded to you carbon  
We just wouldn't be livin' large,  
'cause I'm as free as Br now  
And Br must have a charge, oh, oh, oh, oh  
And Br must have a charge  
And Br must have a charge  
Lord knows I need a charge  
Lord help me get a charge  
Lord, I need a charge  
Won't you fly high Br yeah.

## We All Love Organic Chemistry

In the town where I was born,  
Lived a man of chemistry.  
And he told us of his life  
In the organic laboratory.

Making molecules to fight disease  
Coming up with their syntheses.  
So we sit in 320N  
Learning organic chemistry.

*Refrain:*

*We all love organic chemistry  
Synthetic chemistry  
Molecules with "C"  
We all love organic chemistry  
Synthetic chemistry  
Molecules with "C"*

All our friends think we're a bore  
Our grade point averages begin with 4.  
But we await graduation day  
To work in lab for meager pay.

But its OK, who else can say  
They're curing cancer or fighting AIDS.  
We hope that you in 320N  
Respect organic chemistry

*Refrain:*

*We all love organic chemistry  
Synthetic chemistry  
Molecules with "C"  
We all love organic chemistry  
Synthetic chemistry  
Molecules with "C"*