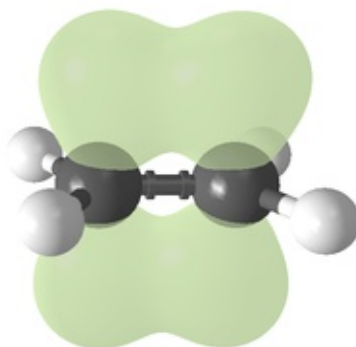


The Pi Bond and ABOs



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I am going to hit this again, because a reader pointed out that it is in the news again. I already destroyed the pi-bond in many previous papers, [including ones on Graphene](#) and [Acetylene](#), as well as my seminal paper [disproving covalent bonds](#), but I can never kill it enough times, it seems. The zombie keeps reforming. This time in the form of an alleged ABO breakthrough on November 11, 2024, [announced at science.org](#). ABO stands for anti-Bredt olefin, a substance Julius Bredt said was impossible to create back in 1924, due to the fact that C-C double bonds could not arise in bridge positions. Since these involve pi-bonds, my readers know this problem goes much deeper than is being admitted. In fact, I have shown *none* of these bonds is what they think they are, since covalent and ionic and [Hydrogen bonds don't exist](#), much less pi-bonds. The whole field of electron bonding is a fantasy. Nuclei don't form molecular bonds via electrons, they create them by charge [channeling through the nucleus](#), so it is nuclear and charge field structures determining everything, not orbital structures.

To prove this again, we will start again by carpet bombing electron bonding theory, as pushed by the mainstream at the [Wikipedia page for "pi-bond"](#). First, note that this bond has nothing to do with pi. It has to do with p-orbitals, allegedly, so it is a big misnomer, done I suppose to sell pi one more time. But that takes us into a whole other [can of worms](#).

At Wiki, we are given the illustration above and this first paragraph:

In **chemistry**, pi bonds (π bonds) are **covalent chemical bonds**, in each of which two lobes of an **orbital** on one **atom** overlap with two lobes of an orbital on another atom, and in which this overlap occurs laterally. Each of these atomic orbitals has an **electron density** of zero at a shared **nodal plane** that passes through the two bonded **nuclei**. This plane also is a nodal plane for the **molecular orbital** of the pi bond. Pi bonds can form in **double** and **triple bonds** but do not form

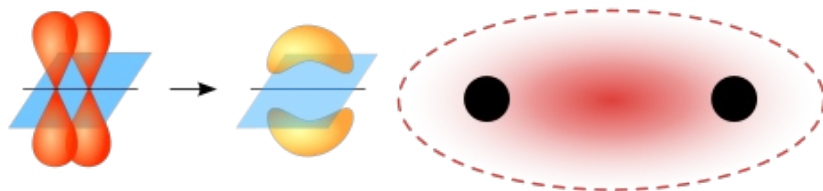
in single bonds in most cases.

An overlap of orbitals causes a strong molecular bond? How? On the nodal plane of the bond the electron density is zero, so it would seem difficult to create a strong bond with a field density of zero, wouldn't it? You have to laugh. As I have said many times, mainstream chemistry is like a comedy of errors. Only a civilization with zero intellectual honesty would publish stuff like this for over a century.

The C-C double bond we are looking at in regard to olefin is even worse, since it is a hybridized sigma/pi bond, which is even stupider. We are told:

From the perspective of quantum mechanics, this bond's weakness is explained by significantly less overlap between the component p-orbitals due to their parallel orientation. This is contrasted by sigma bonds which form bonding orbitals directly between the nuclei of the bonding atoms, resulting in greater overlap and a strong sigma bond.

The first is a pi bond, the second a sigma bond.



So why exactly are the bonding orbitals in the sigma bond between the nuclei? That would contradict the definition of the word "orbital", would it not? To create the bond, the orbitals are no longer orbitals. Why have the two electron probabilities decided to camp out in the inner red region, and what exactly is drawing the dotted line, other than the hand of some nutty artist? Electrons repel one another, right, so why would they be attracting one another to this inner area? And even if they did, how would that create any bond? Electrons being in the same area doesn't create a bond. If anything, it would logically create a repulsion, since electron repels electron, not only due to the Pauli Exclusion Principle, but due to the definition of like charge. Plus, what happened to the charge balance between the electrons and the nuclei after the bond? They just threw that overboard and you aren't supposed to notice. This explanation is worse than threadbare, it is upside-down to its own field definitions.

And the pi-bond is even worse, if possible. We are told they are weaker than a sigma-bond due to their parallel orientation. Parallel to what? They apparently mean due to their probability clouds being north and south of the bond line, but that—by itself—doesn't explain a weaker bond. If the bonds are between electrons and not between nuclei, it doesn't matter how they orientate to the nuclei, does it? So this is just handwaving. It isn't physics, much less mechanics. Nothing was ever being explained here, it was always just the creation of some very lame diagrams and then force-fitting them after the fact to data.

The final diagram, where the pi-bond separates into north and south blobs, is especially non-physical, since how does the electron cross that gap to continue to create the orbital? We now have one particle creating two probability fields that don't connect, even at a point. That by itself should disqualify this explanation and this diagram, but you aren't supposed to notice that, I guess.

I know, I will be told about probabilities and quantum leaps and discontinuities, blahblahblah, but that just means these people will sell you orbitals as continuous one moment and discontinuous the next, depending on their theoretical needs. When they need to squirm out of answering your physical questions, everything is discontinuous and probabilistic, but when they need to create bonds, suddenly everything becomes hyper-continuous, since electrons can create bonds just by being in the same general area, as if they are dragging nets of continuity. And not only bonds between themselves. They can create bonds between much larger nuclei again by some magic of contiguity and hyper-continuity.

All this with no real field. What is mediating these attractions and repulsions across empty space, in a theory that allegedly doesn't allow force at a distance? We will be told charge, but what is charge? Is it a real field? Not in current physics. It is just a propensity or something. An affinity. The math of quantum mechanics and QED can't contain a real field of particles, since it would explode all their matrices. So they ignore the question and browbeat you if you ask it.

Now, here is where the ABO problem enters the picture:

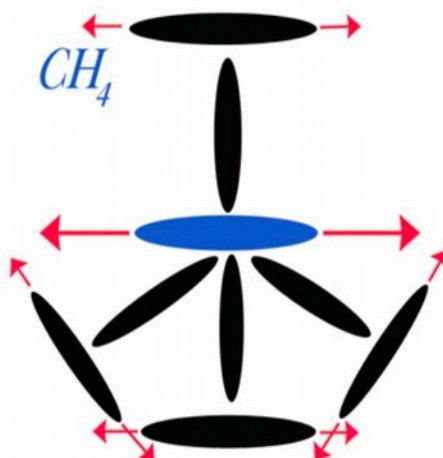
Molecular fragments joined by a pi-bond cannot rotate about that bond without breaking the pi-bond, because rotation involves destroying the parallel orientation of the constituent p-orbitals.

But in the current announcement, we find this:

One of the most notorious classes of p-bond-containing compounds that feature twisting and pyramidalization are anti-Bredt olefins (ABOs), which conventional wisdom maintains are difficult or impossible to access. We sought to realize a solution to the long-standing problem of synthesizing and manipulating ABOs.

Note the twisting, which is the same as rotating the “molecular fragments”. Although you can snip p-orbitals into unconnected blobs, you aren't allowed to twist the blobs for some reason. Why? They don't know, that is just what they found.

But I showed you why in my papers on Acetylene and Graphene: when Carbon is bonding like this, it is no longer linear. The Carbon nucleus has reformed into a tetrahedron, like Methane without the cap protons.



It has one alpha in the core, one proton plugged in north and three in the south; instead of two alphas in the core, one proton north and one south. Both Carbons have six protons, but they don't act the same, because if there are any bonds through those south protons, those bonds will have a fixed direction, like a tree that has put down three roots.

You can only twist charge structures that are linear, but not tetrahedral charge structures, and the reason is clear if you study the diagrams. If the poles line up, with the south pole right below the north, the structure can spin about the pole like a carousel. I have shown that nuclei actually do that, with important carousel positions on the nuclear equator. And that remains true after you have created molecules, since the bonds are made along the pole. In the right circumstances, you can then twist the molecule, since no bonds are being broken. But if you have three bond angles to the pole, as in Methane or pi-bonded Carbon, you can't spin those bonds, since you would then have to spin everything they are bonded to. Not just rotate the bonded nuclei about their own poles, but spin the three bonded nuclei relative to one another, in a big circle. Most structures aren't going to allow that.

That already solves the ABO problem, so I am done.