

Organic chemists can now tune properties without changing the molecular structure??

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Abstract

Paul Bracher and Joshua Finkelstein pointed my attention to a nice discussion in Nature on the future of chemistry, in What Chemists Want to Know, by Philip Ball. Paul and Joshua already reviewed it thoroughly, but I could not resist commenting in it too. Having chosen chemistry as specialization when I went to university, and with a minor in supramolecular chemistry, this is a something I do relate to.

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[Paul Bracher](#) and [Joshua Finkelstein](#) pointed my attention to a nice discussion in [Nature](#) on the future of chemistry, in [What Chemists Want to Know](#), by Philip Ball. Paul and Joshua already reviewed it thoroughly, but I could not resist commenting in it too. Having chosen chemistry as specialization when I went to [university](#), and with a minor in supramolecular chemistry, this is a something I do relate to.

A main theme is whether chemistry is unexplored enough to justify further academic research and education. Ball's answer is yes, and came up with a six questions, of which I found this one most intriguing: *what is the chemical basis of thought and memory*. But the article interestingly also discusses if chemistry has not become a tool for more interesting fields of research. The Nobel prize winners Ball interviewed do not think so.

One quote took my surprise: *Where is synthetic astronomy - changing the gravitational constant to see what effect that has on the properties of the Universe, and thus perhaps improving it?* Well, I might be out of the synthetic organic chemistry for too long now, but this is not a quote I would like to be in Nature with; is synthetic chemistry now able, then, to modify the nature, strengths of bonds now?? can they actually change molecular properties without changing the connectivity?? Moreover, astronomers have changed the properties of objects in our universe: since years they have been reducing the mass of the earth by sending of probes to other objects (satellites etc). Likewise, chemistry is **not** changing nature, it is just exploring all compounds we never had purified in our glassware yet. Synthesis is nowhere like changing nature.

There is one other comment I would like to post here. I strongly agree that chemistry in itself is important to have as separate educational and research topic at universities. Simply because too databases are, from a chemical point of view, messed up. For example, [KEGG](#) and the [PDB](#) are know to have many chemical errors, though these databases are rather important indeed. We need people around to educate people and point out those errors, if life sciences itself is to have a future.