# Article information:

Aromatic Gain in a Supramolecular Polymer - Saez Talens - 2015 - Angewandte Chemie International Edition - Wiley Online Library
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# Article summary:

1. Aromatic gain is a thermodynamic driving force in several organic reactions, but its role in supramolecular polymers is unexplored.

2. Squaramides, which are composed of two NH hydrogen-bond donors opposite two carbonyl hydrogen-bond acceptors on a conformationally rigid cyclobutene ring, were used to form a bolaamphiphilic construct that self-assembles into stiff fibers in water.

3. UV and IR spectroscopy show electron delocalization and geometric changes within the squaramide ring indicative of strong hydrogen bonding and aromatic gain of the monomer units, while computational methods such as nucleus-independent chemical shift (NICS) and harmonic oscillator model of aromaticity (HOMA) indices demonstrate greater aromatic character upon polymerization.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

This article provides an interesting exploration into the synergy between aromatic gain and hydrogen bonding in a supramolecular polymer. The authors provide evidence from both experimental and computational methods to support their claims, which adds to the trustworthiness of the article. However, there are some potential biases that should be noted. For example, the authors focus solely on the positive effects of this synergy without exploring any potential risks or drawbacks associated with it. Additionally, they do not present any counterarguments or alternative perspectives on their findings, which could have added further depth to their analysis. Furthermore, some of the claims made by the authors are not supported by sufficient evidence or data; for instance, they state that “the combination of hydrophobic and π-interactions between squaramide moieties facilitate the assembly of several bolaamphiphiles in the lateral direction” without providing any data or evidence to back up this claim. Finally, there is some promotional content throughout the article that could be seen as biased; for example, when discussing NICS calculations they state that “excellent correlation has been reported with experimental nuclear magnetic resonance data as well as other descriptors of aromaticity” without providing any specific examples or data to support this statement. In conclusion, while this article provides an interesting exploration into aromatic gain and hydrogen bonding in supramolecular polymers, it should be read with caution due to potential biases and unsupported claims throughout its text.

# Topics for further research:

* Potential risks of aromatic gain and hydrogen bonding
* Alternative perspectives on aromatic gain and hydrogen bonding
* Experimental evidence for aromatic gain and hydrogen bonding
* Computational evidence for aromatic gain and hydrogen bonding
* Correlation between NICS calculations and experimental data
* Descriptors of aromaticity in supramolecular polymers

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