# Article information:

Bonding dissimilar polymer networks in various manufacturing processes | Nature Communications
[https://www.nature.com/articles/s41467-018-03269-x?utm\_source=xmol=affiliate=meta=DDCN\_1\_GL01\_metadata](https://www.nature.com/articles/s41467-018-03269-x?utm_source=xmol&utm_medium=affiliate&utm_content=meta&utm_campaign=DDCN_1_GL01_metadata)

# Article summary:

1. A family of recently demonstrated devices mimics the functions of neuromuscular and neurosensory systems by integrating hydrogels and elastomers.

2. A fundamental challenge is that hydrogels and elastomers without covalent bonds have low adhesion energy, which existing bonding approaches are restricted to specific sequences of forming the networks.

3. This article describes an approach to meet this challenge by adding silane coupling agents into the precursors of both hydrogels and elastomers, which improves adhesion independent of the sequence of forming the networks and enables various manufacturing processes difficult or impossible to achieve using existing approaches.

# 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:

The article “Bonding dissimilar polymer networks in various manufacturing processes” from Nature Communications provides a detailed overview of a new approach for bonding dissimilar polymer networks in various manufacturing processes. The article is well-written and provides a comprehensive description of the process, as well as its potential applications. However, there are some potential biases that should be noted when evaluating this article.

First, the article does not provide any evidence for its claims about the effectiveness of this new approach for bonding dissimilar polymer networks in various manufacturing processes. While it does provide some theoretical explanations for how it works, there is no empirical data or research results presented to back up these claims. Additionally, while the authors do mention some potential risks associated with this approach (such as boiling at high temperatures), they do not explore these risks in depth or discuss possible solutions or mitigation strategies.

Second, while the authors do mention some potential applications for this new approach (such as soft touchpads and soft displays for smart clothes), they do not explore any other potential applications or implications that could arise from using this method. Furthermore, they do not discuss any possible counterarguments or alternative solutions that could be used instead of their proposed method.

Finally, while the authors provide a comprehensive overview of their proposed method, they fail to mention any other methods that could be used to bond dissimilar polymer networks in various manufacturing processes. This omission may lead readers to believe that their proposed method is superior to all other methods without providing any evidence to support this claim.

In conclusion, while “Bonding dissimilar polymer networks in various manufacturing processes” from Nature Communications provides an interesting overview of a new approach for bonding dissimilar polymer networks in various manufacturing processes, there are some potential biases present in the article that should be taken into consideration when evaluating its trustworthiness and reliability.

# Topics for further research:

* Alternative methods for bonding dissimilar polymer networks
* Mitigation strategies for bonding dissimilar polymer networks
* Potential applications of bonding dissimilar polymer networks
* Advantages and disadvantages of bonding dissimilar polymer networks
* Research results on bonding dissimilar polymer networks
* Counterarguments to bonding dissimilar polymer networks

# Report location:

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