Poorly Abstract:

This excerpt is from the abstract of an article titled "Smart thrombosis inhibitors without bleeding side effects via charge-tunable ligand design" in Nature. This case study presents three abstracts that are poorly revised and explains how they violate standard abstract writing guidelines. Furthermore, it includes a better revised abstract with annotations that highlight areas of improvement. It's important to note that the revised abstract may not be flawless, but it effectively demonstrates the principles that should be followed when writing abstracts.

Abstract:

Current treatments to prevent thrombosis, namely anticoagulants and platelets antagonists, remain complicated by the persistent risk of bleeding. Improved therapeutic strategies that diminish this risk would have a huge clinical impact. Antithrombotic agents that neutralize and inhibit polyphosphate (polyP) can be a powerful approach towards such a goal. Here, we report a design concept towards polyP inhibition, termed macromolecular polyanion inhibitors (MPI), with high binding affinity and specificity. Lead antithrombotic candidates are identified through a library screening of molecules which possess low charge density at physiological pH but which increase their charge upon binding to polyP, providing a smart way to enhance their activity and selectivity. The lead MPI candidates demonstrates antithrombotic activity in mouse models of thrombosis, does not give rise to bleeding, and is well tolerated in mice even at very high doses. The developed inhibitor is anticipated to open avenues in thrombosis prevention without bleeding risk, a challenge not addressed by current therapies.

(which authored by Chanel C. La, available on nature. https://www.nature.com/articles/s41467-023-37709-0)

1. Poorly Revised Abstract1:

"Thrombosis treatments, like anticoagulants and platelets antagonists, have issues. We tried something new with polyphosphate (polyP) and came up with macromolecular polyanion inhibitors (MPI). We found some molecules that change their charge when they bind to polyP. This is smart. We tested it on mice, and it worked. No bleeding in mice. This is a big deal because current treatments don't address this. We think this is a breakthrough."

Violated Guidelines:

A. Summarize the main objectives and scope. - The abstract does not clearly summarize the primary objectives and scope but uses vague descriptions like "We tried something new" and "This is smart."
B. Highlight key findings. - Key findings are not distinctly highlighted but are oversimplified.
C. Mention the methodology briefly. - The description of the methodology is overly simplified, as seen in "We found some molecules."
D. Keep it concise, typically under 250 words. - While the abstract is brief, its conciseness sacrifices the quality of content.
E. Use plain language. - Informal language is used, such as "This is smart" and "This is a big deal."

F. Ensure it stands alone and provides a clear snapshot. - The abstract does not provide a clear overview of the research but uses ambiguous and informal descriptions.

This "poorly revised abstract" serves as an example of common mistakes to avoid when crafting an academic abstract.

2. Poorly Revised Abstract2:

"There's this ongoing problem with thrombosis treatments, specifically those anticoagulants and platelets antagonists, because they can cause bleeding, which is not cool. We really need better strategies to reduce this bleeding risk. We're thinking that using agents to deal with polyphosphate (or polyP for short) might be a neat idea. In this paper, we're chatting about a design concept for polyP inhibition, which we've named macromolecular polyanion inhibitors (MPI, to keep it short). We've got some top candidates for antithrombotic treatment, found by looking through a library of molecules. These molecules are kinda special because they change their charge when they bind to polyP, which is a clever trick to boost their effectiveness. We gave the best MPI candidates to some mice and checked if they got thrombosis. Good news: it worked, and the mice didn't bleed, even when we gave them a lot. We're hoping this new inhibitor might be the next big thing for preventing thrombosis without causing bleeding, something current treatments haven't really nailed yet."

Violated Guidelines:

A. Summarize the main objectives and scope. - The abstract uses informal and verbose language, detracting from a clear presentation of objectives and scope.
B. Highlight key findings. - Key findings are buried within casual language, making them less prominent.
C. Mention the methodology briefly. - The methodology is described in an overly casual manner, such as "we're chatting about" and "looking through a library."
D. Use plain language. - The abstract employs colloquial phrases like "not cool," "neat idea," and "kinda special."
E. Ensure it stands alone and provides a clear snapshot. - The casual tone and verbosity make it harder for the abstract to stand alone as a clear, concise snapshot of the research.
F. Avoid unnecessary details. - The abstract includes superfluous details and explanations, such as "or polyP for short" and "MPI, to keep it short."

This "poorly revised abstract" serves as an example of how an informal tone and unnecessary verbosity can detract from the clarity and professionalism of an academic abstract.

3. Poorly Revised Abstract3:

"Thrombosis treatments, like those anticoagulants and platelets antagonists, seem to have a bleeding problem. Better strategies? Definitely needed. Using agents against polyphosphate (shortly known as polyP) might be the way to go. This paper spills the beans on a design concept for polyP inhibition, fancily named as macromolecular polyanion inhibitors (or MPI for those in a hurry). Some top-notch antithrombotic candidates got spotted by sifting through a molecule library. These molecules? Well, they have this quirky trait where their charge flips when binding to polyP, kind of a sneaky move to up their game. Testing the crème de la crème of MPI candidates on mice showed some promising stuff. No bleeding drama, even with a generous dose. This new inhibitor might just be the ticket for dodging thrombosis without the bleeding side show, a hiccup that current treatments can't seem to shake off."

Violated Guidelines:

A. Summarize the main objectives and scope. - The abstract's tone and choice of phrasing obscure the clear presentation of objectives and scope.
B. Highlight key findings. - Key findings are masked by informal language and are not distinctly highlighted.
C. Mention the methodology briefly. - The methodology is described using casual and indirect phrases like "spills the beans" and "sifting through."
D. Use plain language. - The abstract is riddled with colloquialisms such as "way to go," "spills the beans," and "drama."
E. Ensure it stands alone and provides a clear snapshot. - The casual tone and choice of phrasing make the abstract less clear as a standalone snapshot of the research.
F. Avoid unnecessary details. - The abstract includes extraneous explanations and descriptors, such as "for those in a hurry" and "dodging thrombosis."

This "poorly revised abstract" illustrates how an overly casual tone and the inclusion of unnecessary details can detract from the clarity and professionalism of an academic abstract.

Here are some suggestions for improving the abstract based on the basic writing guidelines and the original abstract, as seen by a Nature editor:

A. Clarity and Precision:The term "namely anticoagulants and platelets antagonists" could be rephrased for clarity. Instead, consider: "specifically, anticoagulants and antagonists of platelets."
B. Methodology Description:The phrase "Lead antithrombotic candidates are identified through a library screening of molecules" could be more specific. What kind of library? A chemical library? A genomic library? Specifying the type can provide more clarity.
C. Highlight Key Findings:The results from the mouse models could be presented more prominently. Instead of burying it in the middle, consider starting a sentence with it: "In mouse models of thrombosis, the lead MPI candidates demonstrated significant antithrombotic activity without causing bleeding."
D. Conciseness:The phrase "providing a smart way to enhance their activity and selectivity" could be seen as redundant. The fact that they change their charge upon binding already implies enhanced activity and selectivity. Consider removing or rephrasing for brevity.
E. Implications and Conclusions:The concluding sentence could be strengthened to emphasize the potential impact of the research. Instead of "The developed inhibitor is anticipated to open avenues in thrombosis prevention without bleeding risk," consider: "This novel inhibitor presents a transformative approach to thrombosis prevention, addressing the unmet need of minimizing bleeding risk."
F. Avoid Repetition:The risks associated with current treatments are mentioned at both the beginning and end of the abstract. Consider consolidating these mentions to avoid redundancy.
G. Technical Details:The term "macromolecular polyanion inhibitors (MPI)" is introduced, but there's no further elaboration on what makes them "macromolecular" or why this is significant. A brief descriptor might help readers understand its importance.By addressing these points, the abstract could offer a clearer, more concise, and impactful overview of the research, aligning with the high standards of a journal like Nature.

A revised abstract:

Abstract:

Current treatments for thrombosis, specifically anticoagulants and antagonists of platelets, are accompanied by the persistent risk of bleeding. There's a pressing need for therapeutic strategies that mitigate this risk. Antithrombotic agents targeting polyphosphate (polyP) offer a promising solution. This research introduces a design concept for polyP inhibition using macromolecular polyanion inhibitors (MPI). These inhibitors are identified from a chemical library of molecules that uniquely alter their charge upon binding to polyP, signifying enhanced activity and selectivity. In mouse models of thrombosis, the lead MPI candidates demonstrated significant antithrombotic activity without inducing bleeding. Furthermore, these candidates were well-tolerated in mice, even at high doses. This novel inhibitor presents a transformative approach to thrombosis prevention, addressing the unmet need of minimizing bleeding risk, a challenge not sufficiently tackled by current therapies.

This revised abstract aims to provide a clearer and more concise overview of the research while emphasizing its significance and potential impact.