Creating a Plain Language Summary

Scientific manuscripts allow you to tell other scientists about your research. A Plain Language Summary allows you to explain your science to broader audiences. A Summary contains essentially the same information as an abstract; however, the language and tone are different. You'll want to contextualize information, explain scientific terms, use straight-forward descriptions, and avoid jargon and acronyms. Use the following tips and tools to develop a Summary of your research.

Think about your audience

Who are you trying to reach: Journalists, the science-interested public, fellow scientists? How much science do they know and what will interest them?

Avoid jargon

This includes undefined/excessive acronyms, terms specific to your scientific field, obscure and unnecessarily long works, and words that have different meaning to non-scientists (e.g. modeling, positive feedback, mean, etc.).

Develop your take-home message

Explain what the research is about, what you found, and why it matters/what the impact is. Remember, those outside of your specific area of science will need more context about what you studied and why it matters or is relevant to them.

Test the summary

Ask someone who is not a scientist (or at least not in your field) to read your Summary and then explain your study back to you. If they can't do it, the Summary should be revised.

Take time to do it right

Your Summary may generate wider notice for your paper than your abstract – it might be read by journalists, shared on social media, or quoted in a blog post – so make sure to highlight the novelty and value of your research so that everyone can appreciate and understand it.

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Craft your Plain Language Summary

Keep these questions in mind

Who is your intended audience?
What scientific terms or jargon relating to your study might need to be explained?
What was the research question (in the larger context of your field)?
What did your study find?
Why does it matter (e.g., what's the impact on society)?
What's the take-home message (e.g., what do you want people to most remember)?

Example Abstract

A series of amphiphilic ionic peptoid block copolymers where the total number (1 or 3) and position of ionic monomers along the polymer chain are precisely controlled have been synthesized by the submonomer method. Upon dissolution in water at pH = 9, the amphiphilic peptoids self-assemble into small spherical micelles having hydrodynamic radius in ~5–10 nm range and critical micellar concentration (CMC) in the 0.034–0.094 mg/mL range. Small-angle neutron scattering (SANS) analysis of the micellar solutions revealed unprecedented dependence of the micellar structure on the number and position of ionic monomers along the chain. It was found that the micellar aggregation number (N agg) and the micellar radius (R m) both increase as the ionic monomer is positioned progressively away from the junction of the hydrophilic and hydrophobic segments along the polymer chain. By defining an ionic monomer position number (n) as the number of monomers between the junction and the ionic monomer, N agg exhibited a power law dependence on n with an exponent of ~1/3 and ~3/10 for the respective singly and triply charged series. On the other hand, R m exhibited a weaker dependence on the ionic monomer position by a power law relationship with an exponent of ~1/10 and ~1/20 for the respective singly and triply charged series. Moreover, R m was found to scale with N agg in a power-law relationship with an exponent of 0.32 for the singly charged series, consistent with a weakly charged ionic star-like polymer model in the unscreened regime. This study demonstrated a unique method to precisely tailor the structure of small spherical micelles based on ionic block copolymers through controlling the sequence and position of the ionic monomer.

https://www.osti.gov/pages/biblio/1510666

Example Summary

New, complex materials could lead to better tech to purify water or recover oil. Creating the right materials (often polymers) is difficult. For years, scientists have formed polymers using the interaction of charges on molecular chains to determine the shape, geometry, and other properties. Now, a team achieved precise and predictable control of molecular chains by positioning charges. Their method leads to particles with reproducible sizes.
This study helps scientists design polymers. Specifically, it helps them predict how to create certain materials by knowing where to place charged groups in molecular assemblies. Tuning the final structure and properties through precise charge placement could lead to smart polymers. Potential uses for such materials include water purification, oil recovery, and drug delivery.

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