Crafting a Data Policy to Uphold Scientific Excellence at ACS

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Who is ACS?

• World’s largest scientific society
• Chartered by Congress in 1876
• Provides educational, science policy, and career programs in chemistry
• Publish 56 journals as well as symposia-based books
• Editors are active research scientists
Upholding excellence at ACS Publications

Goals for ACS Data Guidelines:

- Promote transparency and clarity in data collection and analysis
- Ensure reproducibility of published results
- Provide guidance to authors for reporting methods, data, and statistics
- Align journals with funder requirements for data

Issues of reproducibility in chemistry and biology

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• 1500 scientists polled
• >80% of chemists could not reproduce reported results
• >60% of chemists could not reproduce their own results


What can publishers do?

• Journals can set requirements for reproducibility that must be met for publication
• Provide clear guidelines for data analysis and representation as well as methodology reporting
• Provide resources to authors for properly performing statistical tests, validating reagents, and visualizing data

ACS Biological Data Guidelines Policy

• Enforce proper use of statistical tests and require explanation of methods

• Require database identifiers for reagents and materials, and deposit new materials in repositories

• Require reporting of sources for reagents (cell lines, antibodies) and validation where possible

• Promote transparency and accuracy in data representation and visualization
Next steps and challenges

• Expand policy to all 56 titles currently published at ACS
• Develop data guidelines for other core areas of chemistry, beyond biological data
• Strike a balance: be informative and clear about new standards, without being too prescriptive
• Effectively communicate standards to the chemical research community

Questions?