# Article information:

Mineralogy of microbially induced calcium carbonate precipitates formed using single cell drop-based microfluidics | Scientific Reports
<https://www.nature.com/articles/s41598-020-73870-y>

# Article summary:

1. Microbe-mineral interactions (MMI) play a fundamental role in rock formation and weathering, acid mine drainage, and hydrothermal vent formations.

2. Microbially induced calcium carbonate precipitation (MICP) is a biomineralization process that occurs both in nature and in engineered systems as a result of bacterial activity.

3. Non-invasive visualization of MMIs during biological calcium precipitation at the single-cell level can be achieved by drop-based microfluidics.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article provides an overview of the importance of microbe-mineral interactions (MMI) and how they are involved in various geological processes such as rock formation and weathering, acid mine drainage, and hydrothermal vent formations. It then goes on to discuss microbially induced calcium carbonate precipitation (MICP), which is a biomineralization process that occurs both in nature and in engineered systems as a result of bacterial activity. The article also discusses how non-invasive visualization of MMIs during biological calcium precipitation at the single-cell level can be achieved by drop-based microfluidics.

The article is generally reliable and trustworthy, providing evidence for its claims with equations to support its assertions about MICP. The article does not appear to have any biases or one-sided reporting, as it presents both sides equally without promoting any particular point of view or agenda. Furthermore, there are no unsupported claims or missing points of consideration; all claims made are supported by evidence from relevant sources. Additionally, there are no unexplored counterarguments or partiality present in the article; it presents all relevant information objectively without taking sides or omitting important details. Finally, possible risks associated with MICP are noted throughout the article, making it clear that further research is needed to fully understand the implications of this process on microbial processes and mineral formation/dissolution.

# Topics for further research:

* Microbial mineralization processes
* Microbial-mineral interactions in geomicrobiology
* Microbially induced calcium carbonate precipitation mechanisms
* Non-invasive visualization of microbial-mineral interactions
* Environmental impacts of microbial-mineral interactions
* Microbial-mineral interactions in acid mine drainage

# Report location:

<https://www.fullpicture.app/item/6d0f2ccac6a0003ac498a968def5f047>