



*Special Issue Reprint*

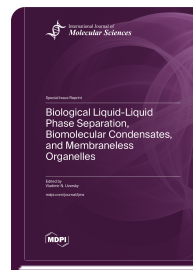
## **Biological Liquid-Liquid Phase Separation, Biomolecular Condensates, and Membraneless Organelles**

[www.mdpi.com/books/reprint/8231](http://www.mdpi.com/books/reprint/8231)

Edited by  
Vladimir N. Uversky

ISBN 978-3-0365-8931-2 (Hardback)

ISBN 978-3-0365-8930-5 (PDF)



This reprint presents recent developments in the field of biological liquid–liquid phase separation (LLPS, also known as biomolecular condensation). LLPS and related biogenesis of various membraneless organelles (MLOs) and biomolecular condensates (BMCs) represent fundamental molecular mechanisms governing the spatio-temporal organization of the intracellular space. In fact, MLOs and BMCs, being liquid droplets, represent specific compartments within a cell that are not enclosed by a lipid membrane. Most biological LLPS processes are reversible, and many MLOs/BMCs exist transiently; they rapidly emerge when conditions are changed and rapidly disintegrate as soon as the original conditions are restored, thereby showing a characteristic “now you see me, now you don’t” behavior. Numerous MLOs/BMCs are found inside eukaryotic cells, where they exist as liquid droplets (or cellular bodies, puncta, etc.) in the cytoplasm, nucleoplasm, mitochondrial matrix, and stroma of chloroplasts. Furthermore, MLOs/BMCs are commonly observed in Archaea, bacteria, and, likely, viruses. MLOs/BMCs have numerous crucial functions, and their biogenesis is known to be controlled by various external factors and environmental cues, such as changes in temperature, pH, and ionic strength of the solution. All of these have garnered the close attention of many researchers to biological LLPS, MLOs, and BMCs.



Order Your Print Copy  
You can order print copies at  
[www.mdpi.com/books/reprint/8231](http://www.mdpi.com/books/reprint/8231)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.