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# Commentary: Evolution and hotspots in breast cancer organoid research: insights from a bibliometric and visual knowledge mapping study (2005–2024)

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## KEYWORDS

3Dbioprinting, bibliometrics, breast cancer, drug discovery, organoids, research hotspots, tumor microenvironment

## 1 Introduction

In recent years, the exponential growth of biomedical literature has led to increasing recognition of bibliometrics as a robust method for quantitatively and qualitatively assessing research trends and emerging hotspots within specific scientific domains. We read with great interest the article by Tao Wu et al. (1), titled “Evolution and hotspots in breast cancer organoid research: insights from a bibliometric and visual knowledge mapping study (2005–2024),” published in *Frontiers in Oncology*. We commend the authors for their rigorous work and acknowledge their valuable contributions to advancing scholarship in this field.

## 2 Commentary and discussion

By using three bibliometric tools (VOSviewer, R-bibliometrix, and CiteSpace), this study conducted an in-depth analysis of the dynamic evolution of breast cancer organoid research over the past two decades. The finding provided a thorough summary of the major achievements, persistent challenges, and future frontiers within this rapidly advancing field. Key achievements encompass the successful implementation of patient-derived organoids (PDOs) for personalized drug testing and disease modeling, significant progress in recapitulating the tumor microenvironment and immune interactions, and the integration



TABLE 4 Top 10 producing countries related to breast cancer organoids.

Rank	Journal	Publications	IF	JCR	TLS	Co-cited-journal	Citations	IF	JCR	TLS	Centrality
1	Cancers	46	6.58	Q1	157	Cancer Res	3671	12.5	Q1	282567	0.08
2	Cancer Research	43	12.5	Q1	97	P Natl Acad Sci Usa	2622	9.4	Q1	209305	0.06
3	Plos One	42	2.9	Q1	79	Cell	2563	45.5	Q1	219457	0.09
4	International Journal Of Molecular Sciences	37	4.9	Q1	99	Nature	2464	40.137	Q1	215160	0.05
5	Oncogene	35	9.88	Q1	55	Plos One	1976	2.9	Q1	170201	0.04
6	Scientific Reports	35	3.8	Q1	50	Biomaterials	1638	12.8	Q1	167319	0.27
7	Reast Cancer Research	31	6.1	Q1	64	Nat Rev Cancer	1598	72.5	Q1	139766	0.06
8	Oncotarget	24	1.72	Q2	54	Oncogene	1521	9.876	Q1	102664	0.05
9	Bmc Cancer	22	3.34	Q2	48	J Biol Chem	1469	4	Q2	87864	0.02
10	Nature Communications	22	13.8	Q1	42	Sci Rep-Uk	1427	3.8	Q2	143761	0.04

greater than 3. The stated sentence requires correction to accurately reflect the data in the corresponding table. Authors can choose between two statements: “8 journals have an impact factor exceeding 3” or “all 10 listed journals have an impact factor exceeding 1.5.”

Third, regarding the Keyword analysis section: The text describes Figure 8B as a keyword cluster map generated by CiteSpace: “we use

CiteSpace to group keywords into different clusters... (Figure 8B).” However, Figure 82B appears to be identical to Figure 6B (“Cluster view of breast cancer organoids co-cited literature”). As this figure does not represent a keyword cluster analysis, it is unsuitable for this section. Figure 8B should be replaced with the correct keyword clustering network map to substantiate the analysis of thematic evolution and research directions.

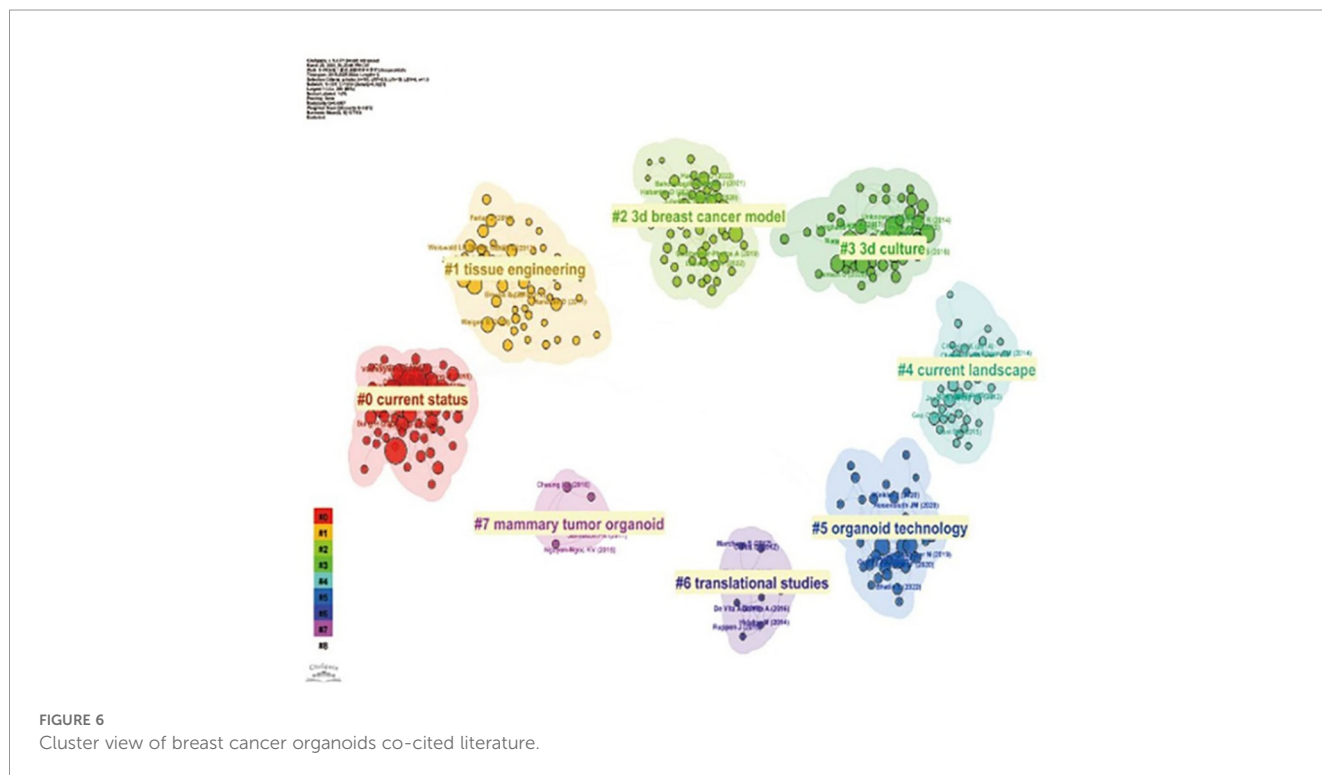


FIGURE 6 Cluster view of breast cancer organoids co-cited literature.

## Author contributions

XL: Conceptualization, Supervision, Writing – original draft, Writing – review & editing. ZZ: Conceptualization, Methodology, Supervision, Writing – original draft, Writing – review & editing. HZ: Conceptualization, Supervision, Writing – original draft, Writing – review & editing.

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## Conflict of interest

The author(s) declared that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

## Reference

1. Wu T, Li BX, Lei H, Zhao FX, Liu Z. Evolution and hotspots in breast cancer organoid research: insights from a bibliometric and visual knowledge mapping study (2005-2024). *Front Oncol.* (2025) 15:1604362. doi: 10.3389/fonc.2025.1604362

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