From Tea Fermentation to New Technologies: Multisectoral Applications of Kombucha SCOBY through the Lens of *Methodi Ordinatio*

Nicole de M. Vianna[1], Gabriel Albagli[1], Adejanildo da S. Pereira[1], and **Priscilla F. F. Amaral [1,*]**

[1]By&Bio – Byproducts to Bioproducts Lab., Biochemical Engineering Department, School of Chemistry, Federal University of Rio de Janeiro, Av. Athos da Silveira Ramos, 149–CT, Bl. E, Ilha do Fundão, Rio de Janeiro 21941-909, Brazil.

*Correspondence: pamaral@eq.ufrj.br; Tel.: +55-21-3938-7623

SUPPLEMENTARY MATERIAL

This supplementary material contains:

- The total description of the *Methodi Ordinatio* phases applied to the use of SCOBY derived from kombucha fermentation;
- PRISMA 2020 Checklist with flow diagram;
- Table with the full classification of the 117 articles, with the *Methodi Ordinatio*.

S1. The total description of the *Methodi Ordinatio* phases applied to the use of SCOBY derived from kombucha fermentation

S1.1. Systematic Mapping of Literature on Kombucha-Derived SCOBY

The systematic search for articles related to the use of SCOBY derived from kombucha fermentation was conducted using the *Ordinatio* method for the selection of scientific articles ([39] of main text). The SCOPUS and Web of Science databases were chosen to search for articles on this theme. *Methodi Ordinatio* phases can be seen in Figure 1. This review was conducted following the PRISMA 2020 guidelines for systematic reviews. A completed PRISMA checklist and a PRISMA flow diagram (Figure S1) are provided in the Supplementary Material.

S1.1.1. Establishment of research intent – phase 1

This study seeks to identify, systematize, and evaluate current scientific advances and innovative applications involving kombucha-derived SCOBY, highlighting its potential as a multifunctional biomaterial.

S1.1.2. Preliminary exploratory search – phase 2

Exploratory research was preliminarily conducted using the SCOPUS database with the keywords "kombucha", "scoby", and "biofilm" in the title, keywords, and abstract of articles. In this search, other important terminologies were found and then included as keywords.

S1.1.3. Definition of keyword combinations and databases – phase 3

After the preliminary keyword search, a combination of the most relevant terms was established in two keyword blocks (using the Boolean operators “OR” and “AND”, as well as quotation marks and the asterisk wildcard character): Block 1 (kombucha OR "fermented tea") AND Block 2 (scoby OR biofilm OR *cellulose OR "acetobacter xylinum"). The keywords were added to two databases, SCOPUS and Web of Science, which were chosen for their relevance in the scientific community.

S1.1.4. Final search in databases – phase 4

After defining the keywords and databases, the final searches were conducted. Articles were limited to those published in English, Spanish, or Portuguese. In addition to these language restrictions, studies that did not align with the focus of the research, such as those that addressed different types of bacterial cellulose or focused on kombucha fermentation as a beverage, were excluded, selecting those that specifically address SCOBY and its current or potential applications in various sectors. Only original research articles were considered; review articles and book chapters were excluded. The search conducted in the fields of title, abstract, and keywords in the SCOPUS database returned 420 articles, while the search in the Web of Science database, carried out in the Topic field (which includes title, abstract, author keywords, and Keywords Plus*), retrieved 374 articles.

S1.1.5. Filtering procedures – phase 5

Out of the 794 selected papers, 318 duplicates were excluded, resulting in 476 articles. These were then further screened by reviewing their titles and, sometimes, their abstracts, to exclude those that did not meet the research intent. In the end, 297 papers were excluded, leaving a final selection of 179 papers, as shown in Figure 2.

S1.1.6. Identification of the journal impact factor, publication year, and number of citations – phase 6

Paper citations were retrieved from the Web of Science database, and journal impact factors were obtained from the 2024 edition of the Journal Citation Reports (JCR). For journals not indexed in JCR, an impact factor of zero was assigned. The JCR is a tool designed to evaluate the quality of scientific journals. It is updated annually and calculates impact factors based on the number of citations received each year relative to the number of articles published in the preceding two years.

S1.1.7. Ranking the papers using the InOrdinatio equation – phase 7 [SUGESTÃO: Manter explicação da equação, mas cortar repetições e valores descritivos. Colocar apenas a lógica principal.]

The InOrdinatio is an index that ranks each article based on the number of citations, year of publication, and the journal's impact factor, in order to classify them according to research

relevance. The Ordinatio Index (InOrdinatio) is calculated according to Equation (1) ([39] of main text).

In which Citations counts is the total number of citations the article has received according to the Scopus and Web Of Science databases, Impact factor is the JCR impact factor of the journal in which the article was published, α (alpha) is the weighting factor assigned by the researcher, ranging from 1 to 10, where a higher value (α = 10) prioritizes more recent articles, and a lower value (α = 1) prioritizes older articles, and Publication Age is calculated as the difference between the current year and the year of publication.

Equation 1 was applied to calculate the InOrdinatio for each of the 179 selected articles, ranking them from highest to lowest based on their scores. An alpha value of 4 was adopted to strike a balance between citation count and publication recency. To ensure the inclusion of the most relevant studies, we selected the top 70% of articles based on their InOrdinatio ranking. As a result, the portfolio of this review consists of 117 selected papers.

S1.1.8. Finding the full papers – phase 8

This step was conducted at the same time as Step 6, and the full articles were downloaded.

S1.1.9. Final reading and systematic analysis of the papers – phase 9

The 117 selected papers were analyzed, and their most relevant points are presented and discussed in this review.

S2. PRISMA 2020 Checklist

This checklist has been completed for the manuscript entitled "From Tea Fermentation to New Technologies: Multisectoral Applications of Kombucha SCOBY through the Lens of Methodi Ordinatio". The checklist follows the PRISMA 2020 guidelines (http://www.prisma-statement.org).

Section/Topic	Checklist Item	Location/Comment
Title	Identify the report as a systematic review.	Title clearly identifies the study as a systematic review.
Abstract	Provide a structured summary including background, objectives, data sources, etc.	Abstract summarizes objectives, data sources (SCOPUS and WoS), and scope.
Rationale	Describe the rationale for the review.	Provided in the Introduction, highlighting SCOBY's potential.
Objectives	Provide an explicit statement of the objective(s).	Clearly stated in Methodology - phase 1.

Eligibility criteria	Specify inclusion and exclusion criteria.	Defined in phase 4 of Methodi Ordinatio.
Information sources	Specify all sources (e.g., databases) searched.	SCOPUS and Web of Science used.
Search strategy	Present full search strategy for all databases.	Described in phases 2 and 3.
Selection process	State how studies were selected.	Filtering described in phase 5 and illustrated in Fig. 2.
Data collection process	Describe method of data extraction.	Manual extraction and analysis using Excel and VOSviewer.
Data items	List and define all outcomes for which data were sought.	InOrdinatio score, country, journal IF, keywords, etc.
Study risk of bias assessment	Describe methods to assess risk of bias.	not applicable.
Effect measures	State the effect measures used.	Not applicable – bibliometric approach.
Synthesis methods	Describe how results were synthesized.	Categorical and bibliometric analyses are described in the Methods.
Reporting bias assessment	Assess risk of bias due to missing results.	Not assessed; not applicable.
Certainty assessment	Describe methods to assess certainty/confidence in the body of evidence.	Not applicable.
Results	Present results of each study and synthesis.	Described across the Results sections, with tables and figures.
Discussion	Provide a general interpretation of the results.	Discussion embedded throughout the results by application area.
Limitations	Discuss limitations of the	Limitations of the study are discussed in the conclusion

	evidence included.	section.
Registration and protocol	Provide registration information.	Review not registered; noted in methods.
Support	Describe sources of support.	Listed in Funding section.
Competing interests	Declare any competing interests.	None to declare.
Availability of data	Report where data can be accessed.	All data provided in the manuscript.

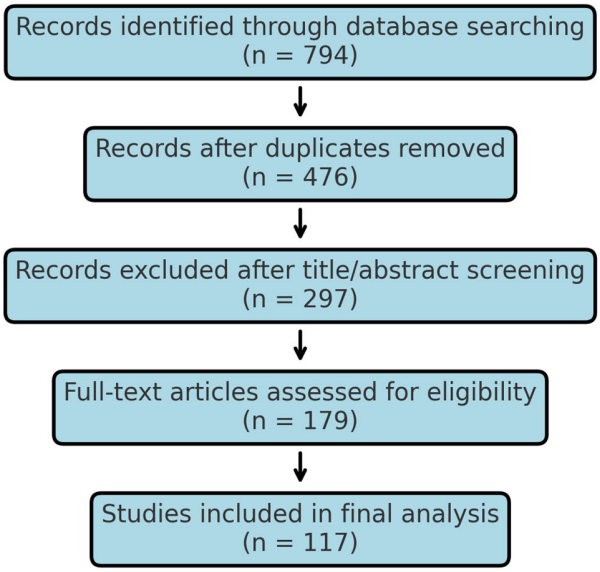


Figure S1. PRISMA 2020 flow diagram summarizing the article identification, screening, and selection process for studies on multisectoral applications of kombucha-derived SCOBY. A total of 794 records were initially retrieved from SCOPUS and Web of Science databases. After removing duplicates and applying eligibility criteria, 117 articles were selected for final analysis using the Methodi Ordinatio approach.

S3. Table with the full classification of the 117 articles, with the Methodi Ordinatio.

Table S1. List of articles selected to compose the portfolio of this review.

Rank	Title	IF	Citations	PA	InOrdinatio	REF.
11	Malachite green removal using algal biochar and its composites with kombucha SCOBY: An integrated biosorption and phycoremediation approach	5.7	41	2	78.7	[1]
12	Optimization and physicochemical characterization of enhanced microbial cellulose production with a new Kombucha consortium	3.7	47	3	78.7	[2]
13	Optimization and characterization of bacterial nanocellulose produced by Komagataeibacter rhaeticus K3	6.2	41	3	75.2	[3]
14	Bacterial Cellulose Production from agricultural Residues by two Komagataeibacter sp. Strains	4.2	38	2	74.2	[4]
15	Isolation and identification of a bacterial cellulose synthesizing strain from kombucha in different conditions: Gluconacetobacter xylinus ZHCJ618	2.4	47	6	65.4	[5]
16	Techno-economic feasibility assessment of bacterial cellulose biofilm production during the Kombucha fermentation process	9.7	23	2	64.7	[6]
17	Kombucha tea as a reservoir of cellulose producing bacteria: Assessing diversity among komagataeibacter isolates	2.5	34	3	64.5	[7]
18	Characterization of nanocellulose production by strains of Komagataeibacter sp. isolated from organic waste and	10.7	25	3	63.7	[8]

	Kombucha					
19	Kombucha-derived bacterial cellulose from diverse wastes: a prudent leather alternative	4.9	29	3	61.9	[9]
20	Bacterial cellulose biomass aerogels for oil-water separation and thermal insulation	7.4	18	1	61.4	[10]
21	The use of bacterial cellulose from kombucha to produce curcumin loaded Pickering emulsion with improved stability and antioxidant properties	5.6	19	1	60.6	[11]
22	In Situ Sprayed Biotherapeutic Gel Containing Stable Microbial Communities for Efficient Anti-Infection Treatment	14.3	9	1	59.3	[12]
23	Symbiotic culture of nanocellulose pellicle: A potential matrix for 3D bioprinting	1.8	29	3	58.8	[13]
24	Multifunction smart nanocomposite film for food packaging based on carboxymethyl cellulose/Kombucha SCOBY/pomegranate anthocyanin pigment	7.7	15	1	58.7	[14]
25	A green versatile packaging based on alginate and anthocyanin via incorporating bacterial cellulose nanocrystal-stabilized camellia oil Pickering emulsions	7.7	15	1	58.7	[15]
26	Bio-conversion of kitchen waste into bacterial cellulose using a new multiple carbon utilizing Komagataeibacter rhaeticus: Fermentation profiles and genome-wide analysis	7.7	23	3	58.7	[16]
27	Effect of pretreatment procedure on properties of Kombucha fermented	5	33	5	58	[17]

	bacterial cellulose membrane					
28	Antibacterial activity of biosynthesized zinc oxide nanoparticles using Kombucha extract	2.8	19	1	57.8	[18]
29	Application of the “scoby” and kombucha tea for the production of fermented milk drinks	4.1	25	3	57.1	[19]
30	Use of bacterial cellulose obtained from kombucha fermentation in spent coffee grounds for active composites based on PLA and maleinized linseed oil	5.6	15	1	56.6	[20]
31	Sustainable living filtration membranes	8.9	23	4	55.9	[21]
32	Microbiological and sensory characterization of kombucha SCOBY for culinary applications	3.2	24	3	55.2	[22]
33	Robust biocompatible bacterial cellulose/silk nonwoven fabric/silk sericin sandwich membrane with strong UV-blocking and antioxidant properties	4.9	13	1	55.2	[23]
34	Sustainable bacterial cellulose production by low cost feedstock: evaluation of apple and tea by-products as alternative sources of nutrients	4.9	13	1	53.9	[24]
35	Plasticized Mechanical Recycled PLA Films Reinforced with Microbial Cellulose Particles Obtained from Kombucha Fermented in Yerba Mate Waste	4.7	13	1	53.7	[25]
36	Preliminary study on biosynthesis of bacterial nanocellulose tubes in a novel double-silicone-tube bioreactor for potential vascular prosthesis	2.6	46	9	52.6	[26]

37	Biosynthesis of bacterial cellulose nanofibrils in black tea media by a symbiotic culture of bacteria and yeast isolated from commercial kombucha beverage	4	12	1	52	[27]
38	Investigating the effects of drying on the physical properties of Kombucha Bacterial Cellulose: Kinetic study and modeling approach	9.7	2	0	51.7	[28]
39	Bacterial cellulose network from kombucha fermentation impregnated with emulsion-polymerized poly(Methyl methacrylate) to form nanocomposite	4.7	19	3	51.7	[29]
40	Production of microbial cellulose films from green tea (Camellia sinensis) kombucha with various carbon sources	2.9	24	4	50.9	[30]
41	Cellulosic biofilm formation of Komagataeibacter in kombucha at oil-water interfaces	5.9	13	2	50.9	[31]
42	Nanobacterial Cellulose from Kombucha Fermentation as a Potential Protective Carrier of Lactobacillus plantarum under Simulated Gastrointestinal Tract Conditions	4.7	10	1	50.7	[32]
43	Silane-modified kombucha-derived cellulose/polyurethane/polylactic acid biocomposites for prospective application as leather alternative	8.6	6	1	50.6	[33]
44	Robust, Flexible, and High-Barrier Films from Bacterial Cellulose Modified by Long-Chain Alkenyl Succinic Anhydrides	7.1	7	1	50.1	[34]
45	Bacterial nanocellulose by static, static intermittent fed-batch and rotary disc	7.7	2	0	49.7	[35]

	bioreactor-based fermentation routes using economical black tea broth medium: A comparative account					
46	Wound healing and anti-inflammatory effects of bacterial cellulose coated with Pistacia atlantica fruit oil	2.5	15	2	49.5	[36]
47	Kombucha fermentation in yerba mate: Cellulose production, films formulation and its characterisation	6.2	7	1	49.2	[37]
48	Production of high crystallinity type-I cellulose from Komagataeibacter hansenii JR-02 isolated from Kombucha tea	3.2	26	5	49.2	[38]
49	Bacterial nanocellulose derived from banana leaf extract: Yield and variation factors	3.6	17	3	48.6	[39]
50	Cytocompatibility, Antimicrobial and Antioxidant Activity of a Mucoadhesive Biopolymeric Hydrogel Embedding Selenium Nanoparticles Phytosynthesized by Sea Buckthorn Leaf Extract	4.3	4	0	48.3	[40]
51	Production and characterization of bacterial cellulose from kombucha-fermented soy whey	4	4	0	48	[41]
52	Bacterial cellulose production from acerola industrial waste using isolated kombucha strain	4.9	11	2	47.9	[42]
53	KOH direct treatment of kombucha and in situ activation to prepare hierarchical porous carbon for high-performance supercapacitor electrodes	2.6	33	7	47.6	[43]
54	Incorporations of gold, silver and carbon nanomaterials to kombucha-derived	3.2	12	2	47.2	[44]

	bacterial cellulose: Development of antibacterial leather-like materials					
55	Composite of polylactic acid and microcellulose from kombucha membranes	3.2	16	3	47.2	[45]
56	Microbiological characterization of kombucha and biocellulose film produced with black tea and cocoa bean shell infusion	7	0	0	47	[46]
57	Comparison of Anti-Inflammatory and Antibacterial Properties of Raphanus sativus L. Leaf and Root Kombucha-Fermented Extracts	4.9	2	0	46.9	[47]
58	Biosynthesis of Bacterial Nanocellulose from Low-Cost Cellulosic Feedstocks: Effect of Microbial Producer	4.9	6	1	46.9	[48]
59	Effects of Synthesis Parameters on Structure and Antimicrobial Properties of Bacterial Cellulose/Hydroxyapatite/TiO2 Polymer–Ceramic Composite Material	4.7	2	0	46.7	[49]
60	Biobased Composites of Poly(Lactic Acid) Melt Compounded with Bacterial and Vegetal Nanocelluloses Incorporated through Different Strategies	4.7	2	0	46.7	[50]
61	Electrical Potential Spiking of Kombucha Zoogleal Mats: A Symbiotic Community of Bacteria and Yeasts	1.6	9	1	46.6	[51]
62	A green method for fabrication of a biocompatible gold-decorated-bacterial cellulose nanocomposite in spent coffee grounds kombucha: A sustainable approach for augmented wound healing	4.5	2	0	46.5	[52]

63	Functionalization of Bacterial Cellulose and Related Surfaces Using a Facile Coupling Reaction by Thermoresponsive Catalyst	5.4	5	1	46.4	[53]
64	3D printed kombucha biomaterial as a tissue scaffold and L929 cell cytotoxicity assay	4.3	2	0	46.3	[54]
65	Biodegradability of bacterial cellulose polymer below the soil and its effects on soil bacteria diversity	6.3	4	1	46.3	[55]
66	Comparison and Optimization of Operational Parameters in Removal of Heavy Metal Ions from Aqueous Solutions by Low-Cost Adsorbents	2.3	12	2	46.3	[56]
67	Isolation and Optimization of Culture Conditions of a Bioflocculant-Producing Fungi from Kombucha Tea SCOBY	2.1	16	3	46.1	[57]
68	Isolation and characterization of bacterial cellulose produced from soybean whey and soybean hydrolyzate	3.8	6	1	45.8	[58]
69	Evaluation of the properties of dry bacterial cellulose synthesized from coffee kombucha fermentation dried with different drying methods	2.7	3	0	45.7	[59]
70	Eco-benign synthesis of nano-gold chitosan-bacterial cellulose in spent ground coffee kombucha consortium: Characterization, microbiome community, and biological performance	7.7	2	1	45.7	[60]
71	Biosynthesis of antibacterial bacterial cellulose in-situ using yellow wine wastewater through co-fermentation	5.6	0	0	45.6	[61]

72	Preparation and evaluation of novel biodegradable Kombucha cellulose-based multi-layered composite tableware	5.6	0	0	45.6	[62]
73	Valorisation of bread wastes via the bacterial cellulose production	3.5	2	0	45.5	[63]
74	Production of bacterial cellulose from enzymatic hydrolysate of kitchen waste by fermentation with kombucha	3.5	6	1	45.5	[64]
75	Microbial Synthesis of Hydroxyapatite-Nanocellulose Nanocomposites from Symbiotic Culture of Bacteria and Yeast Pellicle of Fermented Kombucha Tea	3.3	10	2	45.3	[65]
76	Bacterial Cellulose Nanocomposites: Morphology and Mechanical Properties	3.1	18	4	45.1	[66]
77	Bioactive Hydrogel Formulation Based on Ferulic Acid-Grafted Nano-Chitosan and Bacterial Nanocellulose Enriched with Selenium Nanoparticles from Kombucha Fermentation	5	0	0	45	[67]
78	Plasma surface treatment of bacterial cellulose to increase hydrophobicity	4.9	0	0	44.9	[68]
79	A prime synergistic BC@PPy flexible conductive matrix proposed candidate for boosting the breakthrough in smart e-textiles power supplies	3.7	1	0	44.7	[69]
80	Kombucha and Water Kefir Grains Microbiomes' Symbiotic Contribution to Postbiotics Enhancement	4.7	4	1	44.7	[70]
81	Enhanced mechanical strength of vortex fluidic mediated biomass-based biodegradable films composed from agar, alginate and kombucha cellulose	7.7	1	1	44.7	[71]

	hydrolysates					
82	Development of novel biocomposites based on the clean production of microbial cellulose from dairy waste (sour whey)	2.7	10	2	44.7	[72]
83	Native bacterial cellulose films based on kombucha pellicle as a potential active food packaging	2.6	6	1	44.6	[73]
84	Characterization of bacterial cellulose produced by the KomEt strain isolated from a kombucha SCOBY	3.4	1	0	44.4	[74]
85	Effort to Mitigate Volatile Fatty Acid Inhibition by Using Mixed Inoculum and Compost for the Degradation of Food Waste and the Production of Biogas	3.3	5	1	44.3	[75]
86	Kombucha SCOBY-based carbon and graphene oxide wrapped sulfur/polyacrylonitrile as a high-capacity cathode in lithium-sulfur batteries	4.3	16	4	44.3	[76]
87	Kombucha as alternative microbial consortium for sourdough fermentation: Bread characterization and investigation of shelf life	3.2	1	0	44.2	[77]
88	Synergistic Effect of UiO-66 Directly Grown on Kombucha-Derived Bacterial Cellulose for Dye Removal	4.2	0	0	44.2	[78]
89	Physical Modifications of Kombucha-Derived Bacterial Nanocellulose: Toward a Functional Bionanocomposite Platform	4.2	0	0	44.2	[79]
90	Preparation and properties of bacterial cellulose/graphene oxide composite films using dyeing method	3.2	13	3	44.2	[80]

91	Electroactive composite biofilms integrating Kombucha, Chlorella and synthetic proteinoid Proto-Brains	2.9	1	0	43.9	[81]
92	Sustained antibacterial activity of orthodontic elastomeric ligature ties coated with a novel kombucha-derived bacterial nanocellulose: An in-vitro study	2.9	1	0	43.9	[82]
93	Exploring the evolution of bacterial cellulose precursors and their potential use as cellulose-based building blocks	3.8	0	0	43.8	[83]
94	Kombucha-Proteinoid Crystal Bioelectric Circuits	3.7	0	0	43.7	[84]
95	Kombucha fungus bio-coating for improving mechanical and antibacterial properties of cellulose composites	3.7	0	0	43.7	[85]
96	Functionalizing the Electrical Properties of Kombucha Zoogleal Mats for Biosensing Applications	3.7	0	0	43.7	[86]
97	Bacterial cellulose aerogel enriched in nanofibers obtained from Kombucha SCOBY byproduct	3.7	4	1	43.7	[87]
98	Effects of kombucha bacterial cellulose on wheat dough properties	2.6	1	0	43.6	[88]
99	Optimizing Bacterial Cellulose Production From Kombucha Tea Utilizing Molasses and Tea Dust in Growth Medium	3.4	0	0	43.4	[89]
100	Bacterial cellulose biosynthesis: Optimization strategy using iranian nabat industry waste	3.4	0	0	43.4	[90]
101	Application of scoby bacterial cellulose as hydrocolloids on physicochemical, textural and sensory characteristics of	3.3	0	0	43.3	[91]

	mango jam					
102	Characteristics of bacterial nanocellulose composite and its application as self-cooling material	6.2	1	1	43.2	[92]
103	Assessment of Culture Systems to Produce Bacterial Cellulose with a Kombucha Consortium	3.1	0	0	43.1	[93]
104	Sustainable food packaging using modified kombucha-derived bacterial cellulose nanofillers in biodegradable polymers	0	3	0	43	[94]
105	Typical kombucha fermentation: Kinetic evaluation of beverage and morphological characterization of bacterial cellulose	2	13	3	43	[95]
106	Application of Iron Nanoparticles Synthesized from a Bioflocculant Produced by Yeast Strain Pichia kudriavzevii Obtained from Kombucha Tea SCOBY in the Treatment of Wastewater	4.9	2	1	42.9	[96]
107	Kombucha electronics: electronic circuits on kombucha mats	3.8	3	1	42.8	[97]
108	Recovery and valorization of food industry by-products through the application of Olea europaea L. leaves in kombucha tea manufacturing	4.8	2	1	42.8	[98]
109	Living Filtration Membranes Demonstrate Antibiofouling Properties	4.8	6	2	42.8	[99]
110	Aerogel-like biodegradable acoustic foams of bacterial cellulose	2.7	0	0	42.7	[100]
111	Kombucha fermentation as a modern way of processing vineyard by-products into	2.7	4	1	42.7	[101]

	cosmetic raw materials					
112	Chitosan-Coated Bacterial Cellulose (BC)/Hydrolyzed Collagen Films and Their Ascorbic Acid Loading/Releasing Performance: A Utilization of BC Waste from Kombucha Tea Fermentation	4.7	6	2	42.7	[102]
113	Pickering Emulsions Stabilized Using Bacterial Cellulose From Kombucha	2.6	0	0	42.6	[103]
114	Effects of repeated tasting sessions on acceptability, emotional responses, and purchasing behaviors of waste-to-value-added SCOBY (symbiotic culture of bacteria and yeast) ice cream	1.6	1	0	42.6	[104]
115	Milk Whey Fermented by Kombucha SCOBY: Effect of Sugar on the Physicochemical and Microbiological Properties of the New Beverage	2.6	0	0	42.6	[105]
116	Upcycling of tea processing waste into kombucha-derived bioactive cellulosic composite for prospective wound dressing action	2.6	0	0	42.6	[106]
117	Bacterial cellulose grown from kombucha: Assessment of textile performance properties using fashion apparel tests	1.6	5	1	42.6	[107]

IF: Impact Factor in 2022, based on the Journal of Citations Report (JCR) of 2022; **PA**: Publication age (in years).

References

1. Pathy, A.; Krishnamoorthy, N.; Chang, S. X.; Paramasivan, B. Malachite Green Removal Using Algal Biochar and Its Composites with Kombucha SCOBY: An Integrated Biosorption and Phycoremediation Approach. *Surfaces and Interfaces*, **2022**, *30*.
2. Avcioglu, N. H.; Birben, M.; Seyis Bilkay, I. Optimization and Physicochemical Characterization of Enhanced Microbial Cellulose Production with a New Kombucha Consortium. *Process Biochemistry*, **2021**, *108*, 60–68.
3. Jacek, P.; Silva, F. A. G. S. da; Dourado, F.; Bielecki, S.; Gama, M. Optimization and Characterization of Bacterial Nanocellulose Produced by Komagataeibacter Rhaeticus K3. *Carbohydrate Polymer Technologies and Applications*, **2021**, *2*.
4. Akintunde, M. O.; Adebayo-Tayo, B. C.; Ishola, M. M.; Zamani, A.; Horváth, I. S. Bacterial Cellulose Production from Agricultural Residues by Two Komagataeibacter Sp. Strains. *Bioengineered*, **2022**, *13* (4), 10010–10025.
5. Zhang, W.; Wang, X.; Qi, X.; Ren, L.; Qiang, T. Isolation and Identification of a Bacterial Cellulose Synthesizing Strain from Kombucha in Different Conditions: Gluconacetobacter Xylinus ZHCJ618. *Food Sci Biotechnol*, **2018**, *27* (3), 705–713.
6. Behera, B.; Laavanya, D.; Balasubramanian, P. Techno-Economic Feasibility Assessment of Bacterial Cellulose Biofilm Production during the Kombucha Fermentation Process. *Bioresour Technol*, **2022**, *346*.
7. China, S. La; De Vero, L.; Anguluri, K.; Brugnoli, M.; Mamlouk, D.; Gullo, M. Kombucha Tea as a Reservoir of Cellulose Producing Bacteria: Assessing Diversity among Komagataeibacter Isolates. *Applied Sciences (Switzerland)*, **2021**, *11* (4), 1–18.
8. Gupte, Y.; Kulkarni, A.; Raut, B.; Sarkar, P.; Choudhury, R.; Chawande, A.; Kumar, G. R. K.; Bhadra, B.; Satapathy, A.; Das, G.; et al. Characterization of Nanocellulose Production by Strains of Komagataeibacter Sp. Isolated from Organic Waste and Kombucha. *Carbohydr Polym*, **2021**, *266*.
9. Nguyen, H. T.; Saha, N.; Ngwabebhoh, F. A.; Zandraa, O.; Saha, T.; Saha, P. Kombucha-Derived Bacterial Cellulose from Diverse Wastes: A Prudent Leather Alternative. *Cellulose*, **2021**, *28* (14), 9335–9353.
10. Huang, Y.; Yang, H.; Yu, Y.; Li, H.; Li, H.; Bai, J.; Shi, F.; Liu, J. Bacterial Cellulose Biomass Aerogels for Oil-Water Separation and Thermal Insulation. *J Environ Chem Eng*, **2023**, *11* (5).
11. Li, Z.; Hu, W.; Dong, J.; Azi, F.; Xu, X.; Tu, C.; Tang, S.; Dong, M. The Use of Bacterial Cellulose from Kombucha to Produce Curcumin Loaded Pickering Emulsion with Improved Stability and Antioxidant Properties. *Food Science and Human Wellness*, **2023**, *12* (2), 669–679.

12. Yan, J. H.; Zheng, D. W.; Gu, H. Y.; Yu, Y. J.; Zeng, J. Y.; Chen, Q. W.; Yu, A. X.; Zhang, X. Z. In Situ Sprayed Biotherapeutic Gel Containing Stable Microbial Communities for Efficient Anti-Infection Treatment. *Advanced Science*, **2023**, *10* (4).
13. Pillai, M. M.; Tran, H. N.; Sathishkumar, G.; Manimekalai, K.; Yoon, J. H.; Lim, D. Y.; Noh, I.; Bhattacharyya, A. Symbiotic Culture of Nanocellulose Pellicle: A Potential Matrix for 3D Bioprinting. *Materials Science and Engineering C*, **2021**, *119*.
14. El-Shall, F. N.; Al-Shemy, M. T.; Dawwam, G. E. Multifunction Smart Nanocomposite Film for Food Packaging Based on Carboxymethyl Cellulose/Kombucha SCOBY/Pomegranate Anthocyanin Pigment. *Int J Biol Macromol*, **2023**, *242*.
15. Li, S.; Wang, X.; Luo, Y.; Chen, Z.; Yue, T.; Cai, R.; Muratkhan, M.; Zhao, Z.; Wang, Z. A Green Versatile Packaging Based on Alginate and Anthocyanin via Incorporating Bacterial Cellulose Nanocrystal-Stabilized Camellia Oil Pickering Emulsions. *Int J Biol Macromol*, **2023**, *249*.
16. Li, Z. Y.; Azi, F.; Ge, Z. W.; Liu, Y. F.; Yin, X. T.; Dong, M. S. Bio-Conversion of Kitchen Waste into Bacterial Cellulose Using a New Multiple Carbon Utilizing Komagataeibacter Rhaeticus: Fermentation Profiles and Genome-Wide Analysis. *Int J Biol Macromol*, **2021**, *191*, 211–221.
17. Sederavičiūtė, F.; Bekampienė, P.; Domskienė, J. Effect of Pretreatment Procedure on Properties of Kombucha Fermented Bacterial Cellulose Membrane. *Polym Test*, **2019**, *78*.
18. El-Fallal, A. A.; Elfayoumy, R. A.; El-Zahed, M. M. Antibacterial Activity of Biosynthesized Zinc Oxide Nanoparticles Using Kombucha Extract. *SN Appl Sci*, **2023**, *5* (12).
19. Kruk, M.; Trząskowska, M.; Ścibisz, I.; Pokorski, P. Application of the "Scoby" and Kombucha Tea for the Production of Fermented Milk Drinks. *Microorganisms*, **2021**, *9* (1), 1–17.
20. Agüero, A.; Lascano, D.; Ivorra-Martinez, J.; Gómez-Caturla, J.; Arrieta, M. P.; Balart, R. Use of Bacterial Cellulose Obtained from Kombucha Fermentation in Spent Coffee Grounds for Active Composites Based on PLA and Maleinized Linseed Oil. *Ind Crops Prod*, **2023**, *202*.
21. Eggensperger, C. G.; Giagnorio, M.; Holland, M. C.; Dobosz, K. M.; Schiffman, J. D.; Tiraferri, A.; Zodrow, K. R. Sustainable Living Filtration Membranes. *Environ Sci Technol Lett*, **2020**, *7* (3), 213–218.
22. Torán-Pereg, P.; del Noval, B.; Valenzuela, S.; Martinez, J.; Prado, D.; Perisé, R.; Arboleya, J. C. Microbiological and Sensory Characterization of Kombucha SCOBY for Culinary Applications. *Int J Gastron Food Sci*, **2021**, *23*.
23. Wang, K.; Hazra, R. S.; Ma, Q.; Khan, M. R. H.; Al Hoque, A.; Jiang, L.; Quadir, M.; Zhang, Y.; Wang, S.; Han, G. Robust Biocompatible Bacterial Cellulose/Silk Nonwoven

Fabric/Silk Sericin Sandwich Membrane with Strong UV-Blocking and Antioxidant Properties. *Cellulose*, **2023**, *30* (6), 3973–3993.

24. Amorim, L. F. A.; Li, L.; Gomes, A. P.; Fangueiro, R.; Gouveia, I. C. Sustainable Bacterial Cellulose Production by Low Cost Feedstock: Evaluation of Apple and Tea by-Products as Alternative Sources of Nutrients. *Cellulose*, **2023**, *30* (9), 5589–5606.
25. Agüero, Á.; Corral Perianes, E.; Abarca de las Muelas, S. S.; Lascano, D.; de la Fuente García-Soto, M. del M.; Peltzer, M. A.; Balart, R.; Arrieta, M. P. Plasticized Mechanical Recycled PLA Films Reinforced with Microbial Cellulose Particles Obtained from Kombucha Fermented in Yerba Mate Waste. *Polymers (Basel)*, **2023**, *15* (2).
26. Hong, F.; Wei, B.; Chen, L. Preliminary Study on Biosynthesis of Bacterial Nanocellulose Tubes in a Novel Double-Silicone-Tube Bioreactor for Potential Vascular Prosthesis. *Biomed Res Int*, **2015**, *2015*.
27. Hamed, D. A.; Maghrawy, H. H.; Abdel Kareem, H. Biosynthesis of Bacterial Cellulose Nanofibrils in Black Tea Media by a Symbiotic Culture of Bacteria and Yeast Isolated from Commercial Kombucha Beverage. *World J Microbiol Biotechnol*, **2023**, *39* (2).
28. Dey, B.; Jayaraman, S.; Balasubramanian, P. Investigating the Effects of Drying on the Physical Properties of Kombucha Bacterial Cellulose: Kinetic Study and Modeling Approach. *J Clean Prod*, **2024**, *452*.
29. Oliver-Ortega, H.; Geng, S.; Espinach, F. X.; Oksman, K.; Vilaseca, F. Bacterial Cellulose Network from Kombucha Fermentation Impregnated with Emulsion-Polymerized Poly(Methyl Methacrylate) to Form Nanocomposite. *Polymers (Basel)*, **2021**, *13* (4), 1–17.
30. Treviño-Garza, M. Z.; Guerrero-Medina, A. S.; González-Sánchez, R. A.; García-Gómez, C.; Guzmán-Velasco, A.; Báez-González, J. G.; Márquez-Reyes, J. M. Production of Microbial Cellulose Films from Green Tea (Camellia Sinensis) Kombucha with Various Carbon Sources. *Coatings*, **2020**, *10* (11), 1–14.
31. Subbiahdoss, G.; Osmen, S.; Reimhult, E. Cellulosic Biofilm Formation of Komagataeibacter in Kombucha at Oil-Water Interfaces. *Biofilm*, **2022**, *4*.
32. Charoenrak, S.; Charumanee, S.; Sirisa-ard, P.; Bovonsombut, S.; Kumdhitiahutsawakul, L.; Kiatkarun, S.; Pathom-Aree, W.; Chitov, T.; Bovonsombut, S. Nanobacterial Cellulose from Kombucha Fermentation as a Potential Protective Carrier of Lactobacillus Plantarum under Simulated Gastrointestinal Tract Conditions. *Polymers (Basel)*, **2023**, *15* (6).
33. Nguyen, H. T.; Saha, N.; Ngwabebhoh, F. A.; Zandraa, O.; Saha, T.; Saha, P. Silane-Modified Kombucha-Derived Cellulose/Polyurethane/Polylactic Acid Biocomposites for Prospective Application as Leather Alternative. *Sustainable Materials and Technologies*, **2023**, *36*.

34. Jiang, Z.; Shi, Z.; Cheung, K. M.; Ngai, T. Robust, Flexible, and High-Barrier Films from Bacterial Cellulose Modified by Long-Chain Alkenyl Succinic Anhydrides. *ACS Sustain Chem Eng*, **2023**, *11* (6), 2486–2498.
35. Sharma, C.; Bhardwaj, N. K.; Pathak, P.; Dey, P.; Gautam, S.; Kumar, S.; Dutt Purohit, S. Bacterial Nanocellulose by Static, Static Intermittent Fed-Batch and Rotary Disc Bioreactor-Based Fermentation Routes Using Economical Black Tea Broth Medium: A Comparative Account. *Int J Biol Macromol*, **2024**, *277*.
36. Mirmohammadsadegh, N.; Shakoori, M.; Moghaddam, H. N.; Farhadi, R.; Shahverdi, A. R.; Amin, M. Wound Healing and Anti-Inflammatory Effects of Bacterial Cellulose Coated with Pistacia Atlantica Fruit Oil. *DARU, Journal of Pharmaceutical Sciences*, **2022**, *30* (1), 1–10.
37. Tapias, Y. A. R.; Monte, M. V. Di; Peltzer, M. A.; Salvay, A. G. Kombucha Fermentation in Yerba Mate: Cellulose Production, Films Formulation and Its Characterisation. *Carbohydrate Polymer Technologies and Applications*, **2023**, *5*.
38. Li, J.; Chen, G.; Zhang, R.; Wu, H.; Zeng, W.; Liang, Z. Production of High Crystallinity Type-I Cellulose from Komagataeibacter Hansenii JR-02 Isolated from Kombucha Tea. *Biotechnol Appl Biochem*, **2019**, *66* (1), 108–118.
39. Fiallos-Cárdenas, M.; Ramirez, A. D.; Pérez-Martínez, S.; Bonilla, H. R.; Ordoñez-Viñan, M.; Ruiz-Barzola, O.; Reinoso, M. A. Bacterial Nanocellulose Derived from Banana Leaf Extract: Yield and Variation Factors. *Resources*, **2021**, *10* (12).
40. Tritean, N.; Dimitriu, L.; Dima, Ștefan O.; Stoica, R.; Trică, B.; Ghiurea, M.; Moraru, I.; Cimpean, A.; Oancea, F.; Constantinescu-Aruxandei, D. Cytocompatibility, Antimicrobial and Antioxidant Activity of a Mucoadhesive Biopolymeric Hydrogel Embedding Selenium Nanoparticles Phytosynthesized by Sea Buckthorn Leaf Extract. *Pharmaceuticals*, **2024**, *17* (1).
41. Feng, X.; Ge, Z.; Wang, Y.; Xia, X.; Zhao, B.; Dong, M. Production and Characterization of Bacterial Cellulose from Kombucha-Fermented Soy Whey. *Food Production, Processing and Nutrition*, **2024**, *6* (1).
42. Leonarski, E.; Cesca, K.; González, S. Y. G.; de Oliveira, D.; Poletto, P. Bacterial Cellulose Production from Acerola Industrial Waste Using Isolated Kombucha Strain. November 30, 2021.
43. Dai, C.; Wan, J.; Geng, W.; Song, S.; Ma, F.; Shao, J. KOH Direct Treatment of Kombucha and in Situ Activation to Prepare Hierarchical Porous Carbon for High-Performance Supercapacitor Electrodes. *Journal of Solid State Electrochemistry*, **2017**, *21* (10), 2929–2938.
44. Ayyappan, V. G.; Vhatkar, S. S.; Bose, S.; Sampath, S.; Das, S. K.; Samanta, D.; Mandal, A. B. Incorporations of Gold, Silver and Carbon Nanomaterials to Kombucha-Derived Bacterial Cellulose: Development of Antibacterial Leather-like Materials. *Journal of the Indian Chemical Society*, **2022**, *99* (1).

45. Arteaga-Ballesteros, B. E.; Guevara-Morales, A.; Martín-Martínez, E. S.; Figueroa-López, U.; Vieyra, H. Composite of Polylactic Acid and Microcellulose from Kombucha Membranes. *E-Polymers*, **2021**, *20* (1), 015–026.
46. de Oliveira Duarte, F. A.; Ramos, K. K.; Gini, C.; Morasi, R. M.; Silva, N. C. C.; Efraim, P. Microbiological Characterization of Kombucha and Biocellulose Film Produced with Black Tea and Cocoa Bean Shell Infusion. *Food Research International*, **2024**, *190*.
47. Ziemlewska, A.; Zagórska-Dziok, M.; Mokrzyńska, A.; Nizioł-Łukaszewska, Z.; Szczepanek, D.; Sowa, I.; Wójciak, M. Comparison of Anti-Inflammatory and Antibacterial Properties of Raphanus Sativus L. Leaf and Root Kombucha-Fermented Extracts. *Int J Mol Sci*, **2024**, *25* (11).
48. Skiba, E. A.; Shavyrkina, N. A.; Skiba, M. A.; Mironova, G. F.; Budaeva, V. V. Biosynthesis of Bacterial Nanocellulose from Low-Cost Cellulosic Feedstocks: Effect of Microbial Producer. *Int J Mol Sci*, **2023**, *24* (18).
49. Sknepnek, A.; Filipović, S.; Pavlović, V. B.; Mirković, N.; Miletić, D.; Gržetić, J.; Mirković, M. Effects of Synthesis Parameters on Structure and Antimicrobial Properties of Bacterial Cellulose/Hydroxyapatite/TiO2 Polymer–Ceramic Composite Material. *Polymers (Basel)*, **2024**, *16* (4).
50. Bovi, J.; Delgado, J. F.; de la Osa, O.; Peltzer, M. A.; Bernal, C. R.; Foresti, M. L. Biobased Composites of Poly(Lactic Acid) Melt Compounded with Bacterial and Vegetal Nanocelluloses Incorporated through Different Strategies. *Polymers (Basel)*, **2024**, *16* (7).
51. Adamatzky, A. Electrical Potential Spiking of Kombucha Zoogleal Mats: A Symbiotic Community of Bacteria and Yeasts. *Bioelectricity*, **2023**, *5* (2), 99–108.
52. Candra, A.; Ahmed, Y. W.; Kitaw, S. L.; Anley, B. E.; Chen, K. J.; Tsai, H. C. A Green Method for Fabrication of a Biocompatible Gold-Decorated-Bacterial Cellulose Nanocomposite in Spent Coffee Grounds Kombucha: A Sustainable Approach for Augmented Wound Healing. *J Drug Deliv Sci Technol*, **2024**, *94*.
53. Gayathri, V.; Lobo, N. P.; Vikash, V. L.; Kamini, N. R.; Samanta, D. Functionalization of Bacterial Cellulose and Related Surfaces Using a Facile Coupling Reaction by Thermoresponsive Catalyst. *ACS Biomater Sci Eng*, **2023**, *9* (2), 625–641.
54. Bağlan, İ.; Yanbakan, E.; Tuncel, T.; Koçak Sezgin, A.; Bozoğlan, E.; Berikten, D.; Kar, F. 3D Printed Kombucha Biomaterial as a Tissue Scaffold and L929 Cell Cytotoxicity Assay. *J Cell Mol Med*, **2024**, *28* (9).
55. Bueno, F.; Fultz, L.; Husseneder, C.; Keenan, M.; Sathivel, S. Biodegradability of Bacterial Cellulose Polymer below the Soil and Its Effects on Soil Bacteria Diversity. *Polym Degrad Stab*, **2023**, *217*.
56. Babapoor, A.; Rafiei, O.; Mousavi, Y.; Azizi, M. M.; Paar, M.; Nuri, A. Comparison and Optimization of Operational Parameters in Removal of Heavy Metal Ions from

Aqueous Solutions by Low-Cost Adsorbents. *International Journal of Chemical Engineering*, **2022**, *2022*.

57. Tsilo, P. H.; Basson, A. K.; Ntombela, Z. G.; Maliehe, T. S.; Pullabhotla, R. V. S. R. Isolation and Optimization of Culture Conditions of a Bioflocculant-Producing Fungi from Kombucha Tea SCOBY. *Microbiol Res (Pavia)*, **2021**, *12* (4), 950–966.
58. Liu, X.; Cao, L.; Wang, S.; Huang, L.; Zhang, Y.; Tian, M.; Li, X.; Zhang, J. Isolation and Characterization of Bacterial Cellulose Produced from Soybean Whey and Soybean Hydrolyzate. *Sci Rep*, **2023**, *13* (1).
59. Bueno, F.; Spivak, D. A.; Sathivel, S. Evaluation of the Properties of Dry Bacterial Cellulose Synthesized from Coffee Kombucha Fermentation Dried with Different Drying Methods. *Drying Technology*, **2024**, *42* (1), 142–154.
60. Candra, A.; Darge, H. F.; Ahmed, Y. W.; Saragi, I. R.; Kitaw, S. L.; Tsai, H. C. Eco-Benign Synthesis of Nano-gold Chitosan-Bacterial Cellulose in Spent Ground Coffee Kombucha Consortium: Characterization, Microbiome Community, and Biological Performance. *Int J Biol Macromol*, **2023**, *253*.
61. Zhang, J.; Chen, H.; Jin, M.; Zheng, F. Biosynthesis of Antibacterial Bacterial Cellulose In-Situ Using Yellow Wine Wastewater through Co-Fermentation. *Ind Crops Prod*, **2024**, *222*.
62. Muralidharan, V.; Jebathomas, C. R. T.; Sundaramoorthy, S.; Madhan, B.; Palanivel, S. Preparation and Evaluation of Novel Biodegradable Kombucha Cellulose-Based Multi-Layered Composite Tableware. *Ind Crops Prod*, **2024**, *215*.
63. Güzel, M. Valorisation of Bread Wastes via the Bacterial Cellulose Production. *Biomass Convers Biorefin*, **2024**.
64. Weihua, Q.; Hong, R.; Qianhui, W. Production of Bacterial Cellulose from Enzymatic Hydrolysate of Kitchen Waste by Fermentation with Kombucha. *Biomass Convers Biorefin*, **2023**, *13* (16), 14485–14496.
65. Paramasivan, M.; Kumar, T. S. S.; Chandra, T. S. Microbial Synthesis of Hydroxyapatite-Nanocellulose Nanocomposites from Symbiotic Culture of Bacteria and Yeast Pellicle of Fermented Kombucha Tea. *Sustainability (Switzerland)*, **2022**, *14* (13).
66. Pogorelova, N.; Rogachev, E.; Digel, I.; Chernigova, S.; Nardin, D. Bacterial Cellulose Nanocomposites: Morphology and Mechanical Properties. *Materials*, **2020**, *13* (12), 1–16.
67. Tritean, N.; Dimitriu, L.; Dima, Ștefan O.; Ghiurea, M.; Trică, B.; Nicolae, C. A.; Moraru, I.; Nicolescu, A.; Cimpean, A.; Oancea, F.; et al. Bioactive Hydrogel Formulation Based on Ferulic Acid-Grafted Nano-Chitosan and Bacterial Nanocellulose Enriched with Selenium Nanoparticles from Kombucha Fermentation. *J Funct Biomater*, **2024**, *15* (7).

68. Rolim, A. A. I.; Steffen, T. T.; Becker, D.; Leite, L. R.; Sagás, J. C.; Fontana, L. C.; Bond, D. Plasma Surface Treatment of Bacterial Cellulose to Increase Hydrophobicity. *Cellulose*, **2024**, *31* (8), 4817–4831.
69. Mukhtar, T.; Manj, R. Z. A.; Khan, I. A.; Raza, Z. A.; Aslam, M. A Prime Synergistic BC@PPy Flexible Conductive Matrix Proposed Candidate for Boosting the Breakthrough in Smart E-Textiles Power Supplies. *Mater Today Commun*, **2024**, *38*.
70. Pihurov, M.; Păcularu-Burada, B.; Cotârleț, M.; Grigore-Gurgu, L.; Borda, D.; Stănciuc, N.; Kluz, M.; Bahrim, G. E. Kombucha and Water Kefir Grains Microbiomes' Symbiotic Contribution to Postbiotics Enhancement. *Foods*, **2023**, *12* (13).
71. He, S.; Wu, Y.; Zhang, Y.; Luo, X.; Gibson, C. T.; Gao, J.; Jellicoe, M.; Wang, H.; Young, D. J.; Raston, C. L. Enhanced Mechanical Strength of Vortex Fluidic Mediated Biomass-Based Biodegradable Films Composed from Agar, Alginate and Kombucha Cellulose Hydrolysates. *Int J Biol Macromol*, **2023**, *253*.
72. Nguyen, H. T.; Ngwabebhoh, F. A.; Saha, N.; Zandraa, O.; Saha, T.; Saha, P. Development of Novel Biocomposites Based on the Clean Production of Microbial Cellulose from Dairy Waste (Sour Whey). *J Appl Polym Sci*, **2022**, *139* (1).
73. Doğan, N. Native Bacterial Cellulose Films Based on Kombucha Pellicle as a Potential Active Food Packaging. *J Food Sci Technol*, **2023**, *60* (11), 2893–2904.
74. Chaussé, J.; Girard, V. D.; Perron, T.; Challut, T.; Vermette, P. Characterization of Bacterial Cellulose Produced by the KomEt Strain Isolated from a Kombucha SCOBY. *Biocatal Agric Biotechnol*, **2024**, *58*.
75. Shyan, L. L.; Mat Nanyan, N. S.; Ismail, N.; Al-Gheethi, A.; T. Nguyen, H. H.; Vo, D. V. N.; El Enshasy, H. A. Effort to Mitigate Volatile Fatty Acid Inhibition by Using Mixed Inoculum and Compost for the Degradation of Food Waste and the Production of Biogas. *Sustainability (Switzerland)* , **2023**, *15* (2).
76. Kalaiappan, K.; Rengapillai, S.; Marimuthu, S.; Murugan, R.; Thiru, P. Kombucha SCOBY-Based Carbon and Graphene Oxide Wrapped Sulfur/Polyacrylonitrile as a High-Capacity Cathode in Lithium-Sulfur Batteries. *Front Chem Sci Eng*, **2020**, *14* (6), 976–987.
77. Kilmanoglu, H.; Akbas, M.; Yigit Cinar, A.; Durak, M. Z. Kombucha as Alternative Microbial Consortium for Sourdough Fermentation: Bread Characterization and Investigation of Shelf Life. *Int J Gastron Food Sci*, **2024**, *35*.
78. Plaza-Joly, P.; Gallois, A.; Bosc-Rouessac, F.; Drobek, M.; Julbe, A. Synergistic Effect of UiO-66 Directly Grown on Kombucha-Derived Bacterial Cellulose for Dye Removal. *Molecules*, **2024**, *29* (13).
79. Imanbekova, M.; Abbasi, R.; Hu, X.; Sharma, M.; Vandewynckele-Bossut, M.; Haldavnekar, R.; Wachsmann-Hogiu, S. Physical Modifications of Kombucha-Derived

Bacterial Nanocellulose: Toward a Functional Bionanocomposite Platform. *Macromol Mater Eng*, **2024**.

80. Kiangkitiwan, N.; Srikulkit, K. Preparation and Properties of Bacterial Cellulose/Graphene Oxide Composite Films Using Dyeing Method. *Polym Eng Sci*, **2021**, *61* (6), 1854–1863.
81. Nikolaidou, A.; Mougkogiannis, P.; Adamatzky, A. Electroactive Composite Biofilms Integrating Kombucha, Chlorella and Synthetic Proteinoid Proto-Brains. *R Soc Open Sci*, **2024**, *11* (5).
82. Eskandari, F.; Borzou, S.; Razavian, A.; Babanouri, N.; Yousefi, K. Sustained Antibacterial Activity of Orthodontic Elastomeric Ligature Ties Coated with a Novel Kombucha-Derived Bacterial Nanocellulose: An in-Vitro Study. *PLoS One*, **2024**, *19* (2 February).
83. Mauro, F.; Corrado, B.; De Gregorio, V.; Lagreca, E.; Di Natale, C.; Vecchione, R.; Netti, P. A. Exploring the Evolution of Bacterial Cellulose Precursors and Their Potential Use as Cellulose-Based Building Blocks. *Sci Rep*, **2024**, *14* (1). https://doi.org/10.1038/s41598-024-62462-9.
84. Mougkogiannis, P.; Nikolaidou, A.; Adamatzky, A. Kombucha-Proteinoid Crystal Bioelectric Circuits. *ACS Omega*, **2024**.
85. Mortazavi Moghadam, F. sadat; Mortazavi Moghadam, F. A. Kombucha Fungus Bio-Coating for Improving Mechanical and Antibacterial Properties of Cellulose Composites. *Mater Today Commun*, **2024**, *40*.
86. Nikolaidou, A.; Chiolerio, A.; Dehshibi, M. M.; Adamatzky, A. Functionalizing the Electrical Properties of Kombucha Zoogleal Mats for Biosensing Applications. *ACS Omega*, **2024**, *9* (28), 30308–30320.
87. Bergottini, V. M.; Bernhardt, D. Bacterial Cellulose Aerogel Enriched in Nanofibers Obtained from Kombucha SCOBY Byproduct. *Mater Today Commun*, **2023**, *35*.
88. Wu, J.; Li, L.; Ma, S. Effects of Kombucha Bacterial Cellulose on Wheat Dough Properties. *Int J Food Sci Technol*, **2024**, *59* (3), 1876–1884.
89. Selvaraj, S.; Gurumurthy, K. Optimizing Bacterial Cellulose Production From Kombucha Tea Utilizing Molasses and Tea Dust in Growth Medium. *Int J Polym Sci*, **2024**, *2024*.
90. Khiabani, A.; Sarabi-Jamab, M.; Shakeri, M. sadat; Pahlevanlo, A.; Emadzadeh, B. Bacterial Cellulose Biosynthesis: Optimization Strategy Using Iranian Nabat Industry Waste. *Heliyon*, **2024**, *10* (16).
91. Chong, A. Q.; Chin, N. L.; Talib, R. A.; Basha, R. K. Application of Scoby Bacterial Cellulose as Hydrocolloids on Physicochemical, Textural and Sensory Characteristics of Mango Jam. *J Sci Food Agric*, **2024**.

92. Machfidho, A.; Ismayati, M.; Sholikhah, K. W.; Kusumawati, A. N.; Salsabila, D. I.; Fatriasari, W.; Thangunpai, K.; Enomae, T.; Ihsanpuro, S. I.; Gabriel, A. A.; et al. Characteristics of Bacterial Nanocellulose Composite and Its Application as Self-Cooling Material. *Carbohydrate Polymer Technologies and Applications*, **2023**, *6*.
93. Hernández-Guerrero, M.; Gomez-Maldonado, D.; Gutiérrez-Castañeda, J.; Revah, S.; Campos-Terán, J.; Vigueras-Ramírez, G. Assessment of Culture Systems to Produce Bacterial Cellulose with a Kombucha Consortium. *Appl Biochem Biotechnol*, **2024**.
94. Koreshkov, M.; Takatsuna, Y.; Bismarck, A.; Fritz, I.; Reimhult, E.; Zirbs, R. Sustainable Food Packaging Using Modified Kombucha-Derived Bacterial Cellulose Nanofillers in Biodegradable Polymers. *RSC Sustainability*, **2024**, *2* (8), 2367–2376.
95. Leonarski, E.; Cesca, K.; Borges, O. M. A.; de Oliveira, D.; Poletto, P. Typical Kombucha Fermentation: Kinetic Evaluation of Beverage and Morphological Characterization of Bacterial Cellulose. *J Food Process Preserv*, **2021**, *45* (12).
96. Tsilo, P. H.; Basson, A. K.; Ntombela, Z. G.; Dlamini, N. G.; Pullabhotla, R. V. S. R. Application of Iron Nanoparticles Synthesized from a Bioflocculant Produced by Yeast Strain Pichia Kudriavzevii Obtained from Kombucha Tea SCOBY in the Treatment of Wastewater. *Int J Mol Sci*, **2023**, *24* (19).
97. Adamatzky, A.; Tarabella, G.; Phillips, N.; Chiolerio, A.; D'Angelo, P.; Nikolaidou, A.; Sirakoulis, G. C. Kombucha Electronics: Electronic Circuits on Kombucha Mats. *Sci Rep*, **2023**, *13* (1).
98. Lazzaroli, C.; Sordini, B.; Daidone, L.; Veneziani, G.; Esposto, S.; Urbani, S.; Selvaggini, R.; Servili, M.; Taticchi, A. Recovery and Valorization of Food Industry By-Products through the Application of Olea Europaea L. Leaves in Kombucha Tea Manufacturing. *Food Biosci*, **2023**, *53*.
99. Bechtel, C. W.; Park, J.; Jiang, D.; Bashammakh, M. A.; Pereault, F.; Zodrow, K. R. Living Filtration Membranes Demonstrate Antibiofouling Properties. *ACS Environmental Science and Technology Water*, **2022**, *2* (1), 1–9.
100. Mehrotra, N.; Bhuvana, T.; Tiwari, A.; Chandraprakash, C. Aerogel-like Biodegradable Acoustic Foams of Bacterial Cellulose. *J Appl Polym Sci*, **2024**, *141* (35).
101. Stanek-Wandzel, N.; Zarębska, M.; Wasilewski, T.; Hordyjewicz-Baran, Z.; Zajszły-Turko, E.; Tomaka, M.; Bujak, T.; Ziemlewska, A.; Nizioł-Łukaszewska, Z. Kombucha Fermentation as a Modern Way of Processing Vineyard By-Products into Cosmetic Raw Materials. *Int J Cosmet Sci*, **2023**, *45* (6), 834–850.
102. Yakaew, P.; Phetchara, T.; Kampeerapappun, P.; Srikulkit, K. Chitosan-Coated Bacterial Cellulose (BC)/Hydrolyzed Collagen Films and Their Ascorbic Acid Loading/Releasing Performance: A Utilization of BC Waste from Kombucha Tea Fermentation. *Polymers (Basel)*, **2022**, *14* (21).

103. Nascimento, A. de F.; Ramos, S. M. T.; Bergamo, V. N.; Araujo, E. dos S.; Ayala Valencia, G. Pickering Emulsions Stabilized Using Bacterial Cellulose From Kombucha. *Starch/Staerke*, **2024**.
104. Mehta, A.; Serventi, L.; Kumar, L.; Torrico, D. D. Effects of Repeated Tasting Sessions on Acceptability, Emotional Responses, and Purchasing Behaviors of Waste-to-Value-AddedSCOBY (Symbiotic Culture of Bacteria and Yeast) Ice Cream. *J Sens Stud*, **2024**, *39* (2).
105. Sfoglia, N. M.; Misturini, D. R.; Sant'Anna, V.; Fabricio, M. F.; Ayub, M. A. Z.; Hickert, L. R. Milk Whey Fermented by Kombucha SCOBY: Effect of Sugar on the Physicochemical and Microbiological Properties of the New Beverage. *Waste Biomass Valorization*, **2024**.
106. Dey, B.; Jayaraman, S.; Balasubramanian, P. Upcycling of Tea Processing Waste into Kombucha-Derived Bioactive Cellulosic Composite for Prospective Wound Dressing Action. *3 Biotech*, **2024**, *14* (10).
107. Wood, J.; Verran, J.; Redfern, J. Bacterial Cellulose Grown from Kombucha: Assessment of Textile Performance Properties Using Fashion Apparel Tests. *Textile Research Journal*, **2023**, *93* (13–14), 3094–3108.