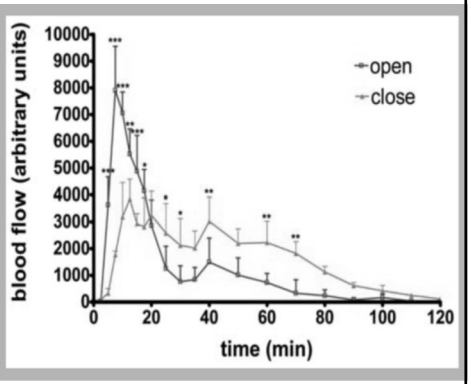
Preparing scientific articles in the field of Pharmacy

The understanding of transdermal substance penetration pathways remains an important field for the development of future topical drugs and cosmetics. Laser Doppler flowmetry is a well-established method for evaluating cutaneous perfusion. In a study on 6 healthy male volunteers, we topically applied the vasoactive substance benzyl nicotinate on two test areas with open and obturated hair follicles and measured changes in the blood flow by Doppler flowmetry. Contrary to occluded follicles, the application onto the test area with open follicles led to a statistically significant perfusion increase within the first 5 minutes, emphasizing the importance of the follicular pathway for epidermal penetration.



Abstracts

- Although this item is presented in the beginning of the manuscript, it has to be written the last
  - It is impossible to abstract something that has not been written! (Peter A. Thrower, Editor-in-Chief, Carbon)
- Many people pay to download an article → Abstract gives an honest indication of what the paper contains

- Abstract is the most important part of a publication because it gives a fuller explanation than the title
- It should be concise and precise, indicating the potential reader two things
  - What was done
  - Important results obtained

Abstract *Summarizes your work*
- Concise (100–300 words)

- Abstract is a concise summary of the text, and should not contain any information that is not in the text
  - An effective *Abstract* focuses on motivation and outcome that will parallel the paper's *Introduction* and *Conclusion*
- Abstracts must be able to stand alone → reader must be able to understand it without reference to whole article
- It should not include details of the methods employed, unless the study is methodological

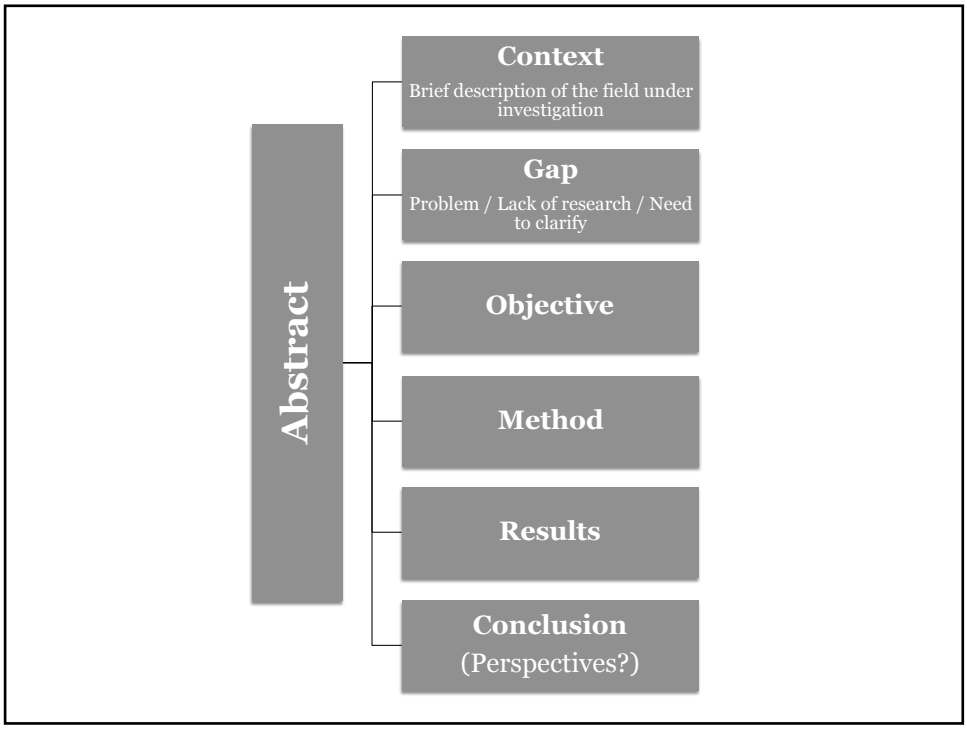
- Abstract will be read by many different readers, from the most to the least specialized
- Any scientist reading it should be able to understand
  - why the work was carried out and why it is important
  - what the authors did and what the paper reports about this work
  - what the authors found
  - what these findings mean, and
  - what the next steps are (perspectives)

PRACTICAL ADVICES

- **Do not speculate!**
- **Read carefully another abstracts of the selected journal!**
- **Our mind memorizes better the titles and first / last sentences. Write them wisely!**

REALITY

- **Abstract is the only part of your publication that will ever be read!**



Journal of Hydrology 522 (2015) 467–474

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Continuous cultivation of *Arthrospira platensis* using exhausted medium treated with granular activated carbon

Ana Lucía Morocho-Jácome, Guilherme Favaro Mascioli, Sunao Sato, João Carlos Monteiro de Carvalho *

A.L. Morocho-Jácome, G.F. Mascioli, S. Sato, J.C.M. De Carvalho, **Continuous cultivation of *Arthrospira platensis* using exhausted medium treated with granular activated carbon,** J. Hydrol. 522 (2015) 467–474. doi:10.1016/j.jhydrol.2015.01.001

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production because its inappropriate disposal could exacerbate problems of environmental pollution. This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation. A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process. This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.

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CONTEXT

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production because its inappropriate disposal could exacerbate problems of environmental pollution. This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation. A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process. This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.

A.L. Morocho-Jácome, G.F. Mascioli, S. Sato, J.C.M. De Carvalho, **Continuous cultivation of *Arthrospira platensis* using exhausted medium treated with granular activated carbon,** J. Hydrol. 522 (2015) 467–474. doi:10.1016/j.jhydrol.2015.01.001

GAP

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production **because its inappropriate disposal could exacerbate problems of environmental pollution.** This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation. A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process. This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.

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OBJECTIVES

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production because its inappropriate disposal could exacerbate problems of environmental pollution. **This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation.** A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process. This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.

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METHODS

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production because its inappropriate disposal could exacerbate problems of environmental pollution. This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation. **A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process.** This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.

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RESULTS/ CONCLUSIONS

Reusing culture medium of *Arthrospira platensis* is quite important in large scale production because its inappropriate disposal could exacerbate problems of environmental pollution. This study evaluates the suitability of using different quantities of exhausted Schlösser medium after continuous treatment using granular activated carbon (GAC) with a residence time (T) of 2h for *A. platensis* growth in continuous cultivation. A tubular photobioreactor (PBR) and urea as cheap nitrogen source were used, taking as response variables kinetic parameters and biomass composition. The removal of both organic matter and pigment (OMR and PgR, respectively) was measured to evaluate the efficiency of the treatment process. **This treatment process yielded high values of OMR (73.7 ± 0.1%) and PgR (52.4 ± 0.4%) using 75% treated medium, thereby *A. platensis* biomass with high protein content (42.0 ± 0.6%), 1568 ± 15 mg/L cell concentration under steady-state conditions and 941 mg/L d cell productivity. This alternative to simultaneous treatment with GAC for reuse of Schlösser medium in continuous cultivation could ensure no diminution in either cell productivity or protein content in *A. platensis* cultivation using tubular PBR with 65% reduction in medium culture costs.**

Phytochemistry, Vol. 22, No. 7, pp. 1603–1604, 1983.
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0031–9422/83 $3.00 + 0.00

CELL WALL COMPOSITION OF CHLOROCOCCAL ALGAE

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Institut für Botanik, Universität Regensburg, Universitätsstraße 31, D-8400 Regensburg, West Germany

(*Revised received* 30 *November* 1982)

Key Word Index—Chlorococcal algae; cell wall composition.

Abstract—The cell walls of representatives of the genera *Chlorella, Monoraphidium, Ankistrodesmus* and *Scenedesmus* contained 24–74% neutral sugars, 1–24% uronic acids, 2–36% protein and 3–33% glucosamine. Two types of cell walls could be discerned containing as main sugars either rhamnose and galactose or mannose and glucose with a lack of galactose.

Received: 30 March 2020 | Revised: 2 July 2020 | Accepted: 4 July 2020

DOI: 10.1111/jocd.13609

REVIEW ARTICLE

JCD Journal of Cosmetic Dermatology WILEY

In vivo SPF from multifunctional sunscreen systems developed with natural compounds—A review

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Funding information
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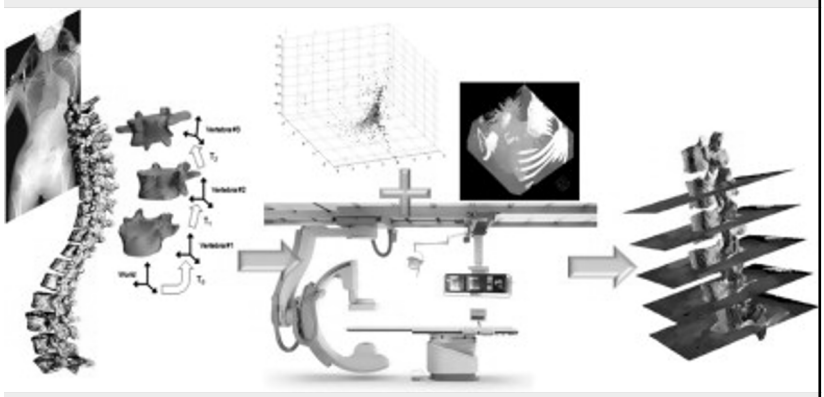
Abstract

Background: The use of sunscreens is mandatory, especially in countries with high ultraviolet (UV) incidence. In consequence, there has been a growing interest in using compounds from natural sources to develop new multifunctional products that protect human skin from the consequences of UV exposition. Even though there are in vitro methods to determine anti-UV efficacy, it is still required to test photoprotection activity on human skin to validate product performance.

Aim and Methods: In this review, we summarized all reported clinical studies about sun protection factor (SPF) measurements of sunscreens with natural compounds. We also discussed the probable action mechanism of those actives.

Results: Herein, we provided an overview on recent studies concerning photoprotection activity of compounds from natural sources, for example, rutin, ferulic acid, caffeine, shea butter, and plant extracts, mainly presented in sunscreen systems with efficacy clinically established by SPF.

Conclusion: Our review suggested that even when the in vivo SPF evaluation has inherent difficulties, it is essential to assure the real efficacy of sunscreens. Furthermore, the incorporation of natural compounds could enhance the in vivo SPF values of such sunscreens by different mechanisms. Finally, some compounds derived from natural resources with skin benefits could be used as "green"/natural UV filters that provide broad-spectrum sunscreens with further upgrading of the multifunctional dermocosmetic formulation to enhance aesthetics and even skin health.



Graphical Abstract

- Single, concise and visual summary of your main findings
- Concluding figure or one that captures the article content at a single glance (not always is in the main text)
- Quick understanding of the main take-home message of the paper and is intended
- To encourage browsing and help readers to identify the most relevant results of the research

Highlights/Key Points

- Short collection of “bullet points” that convey the core findings and provide readers with a quick textual overview of the article
- These “bullet” points (three to five) describe the essence of the research (e.g. results or conclusions) and highlight what is distinctive about it
- Active voice or passive voice?
- Verb in the present or past tense?

Journal of Health Economics 29 (2010) 524–535

Contents lists available at ScienceDirect

Journal of Health Economics

journal homepage: www.elsevier.com/locate/econbase

Imperfect information in a quality-competitive hospital market

Hugh Gravelle[a,*], Peter Sivey[b]

- We model two hospitals which have regulated prices and compete on quality.
- We examine changes in the level of information about hospital quality.
- Increasing information will increase quality if hospital costs are similar.
- Increasing information will decrease quality if hospital costs are very different.
- Welfare effects depend on ex-ante or ex-post assumptions about quality information.

Biochimica et Biophysica Acta 1807 (2011) 1364–1369

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journal homepage: www.elsevier.com/locate/bbabio

A two-state stabilization-change mechanism for proton-pumping complex I☆

Ulrich Brandt*

- A conformational two-state mechanism for proton pumping complex I is proposed.
- The mechanism relies on stabilization changes of anionic ubiquinone intermediates.
- Electron-transfer and protonation should be strictly controlled during turnover.

Algal Research 13 (2016) 159–166

Contents lists available at ScienceDirect

Algal Research

journal homepage: www.elsevier.com/locate/algal

Evaluation of physicochemical treatment conditions for the reuse of a spent growth medium in *Arthrospira platensis* cultivation

Ana Lucía Morocho-Jácome, Guilherme Favaro Mascioli, Sunao Sato, João Carlos Monteiro de Carvalho *

- *A. platensis* spent medium was treated with flocculation and adsorption.
- Ferric chloride was used as chemical flocculation agent.
- The adsorbent agent was powdered activated carbon.
- Optimal treatment removed 92.3±0.6% organic matter and 95.3±0.6% pigments.
- The spent medium treated with flocculation and adsorption can enhance *A. platensis* growth.