

Document details

< Back to results | 1 of 2 | Next >

Export Download Print E-mail Save to PDF Add to List More...

Full Text View at Publisher

IUM Engineering Journal
Volume 19, Issue 2, 2018, Pages 1-9

Chlorella vulgaris logistic growth kinetics model in high concentrations of aqueous ammonia (Article)

Azmi, A.S.^a, Aziz, N.A.C.^a, Puad, N.I.M.^a, Halim, A.A.^a, Yusof, F.^a, Yusup, S.^b

^aDepartment of Biotechnology Engineering, Kulliyah of Engineering, International Islamic University Malaysia, PO Box 10, Kuala Lumpur, 50728, Malaysia

^bDepartment of Chemical Engineering, Universiti Teknologi PETRONAS, Seri Iskandar, Tronoh, Perak, 31750, Malaysia

Abstract

View references (28)

The ability of microalgae to utilize CO₂ during photosynthesis and grow rapidly shows their potential in CO₂ bio-fixation to capture and store the gas. However, CO₂ capture by this biological approach is very slow compared to chemical reaction-based processes such as absorption using amine or aqueous ammonia. Integration between chemical (aqueous ammonia) and biological (microalgae) aspects might enhance the capturing process and at the same time the microalgae can assimilate CO₂ for beneficial bioproduct formation. Thus, it is important to assess the growth of the microalgae in various concentrations of ammonia with CO₂ supply. Hence, the main objective of this study is to investigate Chlorella vulgaris growth and its kinetics in aqueous ammonia. To achieve that, C. vulgaris was cultivated in various concentrations of aqueous ammonia between 0 to 1920 mg/L at room temperature (i.e. 27 °C) and supplied with 15% (v/v) of CO₂ under

Metrics View all metrics >

1 Citation in Scopus

0 Field-Weighted Citation Impact

PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 1 document

Interactive effect of temperature, pH and light intensity on biodesalination of seawater by synechococcus sp. PCC 7002 and on the cyanobacteria growth

Azmi, A.S., Sani, F.S., Ali, F.

Show all

67432_An analytic...pdf

Author keywords

Aqueous ammonia | Chlorella vulgaris | Growth kinetics | Logistic growth model

ISSN: 1511788X
Source Type: Journal
Original language: English

DOI: 10.31436/iiumej.v19.i2.893
Document Type: Article
Publisher: International Islamic University Malaysia-IUM

References (28)

View in search results format >

All | Export | Print | E-mail | Save to PDF | Create bibliography

1 Begum, R.A.
(2017) *Tackling Climate Change and Malaysia's Emission Reduction Target*
In Scientific Malaysian
<http://magazine.scientificmalaysian.com/issue-13-2017/tackling-climate-change-malaysias-emission-reduction-target/>

2 Lokman, T.
(2017) *PM: Malaysia on course to reduce carbon emissions by 40 pct by 2020*
In New Straits Times
<https://www.nst.com.my/news/nation/2017/12/310231/pm-malaysia-course-reduce-carbon-emissions-40-pct-2020>

Biofixation of carbon dioxide using mixed culture of microalgae
Singh, D. , Yadav, K. , Deepshikha
(2015) *Indian Journal of Biotechnology*

Digestion of settleable solids from recirculating fish tank as nutrients source for the microalga *scenedesmus* sp. Cultivation
Rotthong, M. , Chiemchaisri, W. , Tapaneeyaworawong, P.
(2015) *Environmental Engineering Research*

View all related documents based on references

Find more related documents in Scopus based on:
Authors > Keywords >

Show all x

