Uyi Sulaeman <sulaeman@unsoed.ac.id>

Invitation to review for Journal of Physics and Chemistry of Solids

1 message

Journal of Physics and Chemistry of Solids <em@editorialmanager.com> Wed, Sep 15, 2021 at 3:50 AM
Reply-To: Journal of Physics and Chemistry of Solids <support@elsevier.com>
To: U Sulaeman <sulaeman@unsoed.ac.id>

Manuscript Number: PCS-D-21-01726

A microbial induced synthesis of hydroxyapatite with high UV light photocatalytic activity for tetracycline degradation

Ting Zeng; Yujie Yan; Juan Shen; Ke Chen; Mi Tang; Rigui Chen; Zhicheng Guo; Bisheng Tan; Bo Jin

Dear Dr. Sulaeman,

I would like to invite you to review the above-referenced manuscript. To maintain our journal's high standards we need the best reviewers, and given your expertise in this area I would greatly appreciate your contribution.

You should treat this invitation, the manuscript and your review as confidential. You must not share your review or information about the review process with anyone without the agreement of the editors and authors involved, even after publication. This also applies to other reviewers' "comments to author" which are shared with you on decision (and vice versa).

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Since timely reviews are of utmost importance to authors, I would appreciate receiving your review within 14 days of accepting this invitation.

I hope you will be able to review this manuscript.
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Kind regards,

A. Bansil

Editor

Journal of Physics and Chemistry of Solids

Abstract:

More and more new materials have been developed, but the research on the development and utilization of the single-phase materials has been neglected. Assembled from nano-particles, a high specific surface area and porous hydroxyapatite (BI-HA) has been synthesized by feasible bacterial induction. The surface structure and morphology of the nanocomposites were characterized by Brunauer–Emmett–Teller (BET) apparatus, X-ray diffraction (XRD), transmission electron microscopy (TEM). The results suggest the obtained BI-HA powder with porous morphology, which were composed of nanoparticles with (100) crystal plane. The photoactivity of different HA samples was evaluated by the photocatalytic degradation of tetracycline hydrochloride (TC). The HA with (100) crystal plane displayed an obviously enhanced photocatalytic activity (75.33–86.43% for 60 min). Combined with experiments and DFT calculations, for the BI-HA with (100) crystal plane, it displayed better photocatalytic
performance for photodegradation of TC. This study provides a viewpoint to fabricate high-performance nonmetal photocatalyst for wastewater treatment.

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Please also note that authors have been invited to convert their supplementary material into a Data in Brief article (a data description article). You may notice this change alongside the revised manuscript. You do not need to review this but may need to look at the files in order to confirm that any supporting information you requested is present there.

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SURAT TUGAS

Nomor : 4204/UN23.15/DL/2021

Dasar : Surat dari Editor Journal of Physics and Chemistry of Salids

Dekan Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Jenderal Soedirman memberikan tugas kepada :

Nama	:	Uyi Sulaeman, Ph.D
NIP	:	197307052000031001
Pangkat dan Golongan	:	Pembina / IVa
Jabatan	:	Lektor Kepala
Untuk	:	Menjadi Reviewer/Mitrabestari pada Journal of Physics and Chemistry of Salids dengan Judul Artikel "A microbial induced synthesis of hydroxyapatite with high UV light photocatalytic activity for tetracycline degradation"
Waktu	:	15 – 29 September 2021
Tempat	:	FMIPA UNSOED

Surat Tugas ini dibuat untuk dilaksanakan dengan penuh tanggungjawab.

Purwokerto, 28 September 2021
Dekan,

Drs. Sunardi, M.Si.
NIP 195907151990021001

Tembusan Yth.
1. Ketua Jurusan Kimia Fakultas MIPA UNSOED

Reviewer Recommendation and Comments for Manuscript Number PCS-D-21-01726

A microbial induced synthesis of hydroxyapatite with high UV light photocatalytic activity for tetracycline degradation

Original Submission
U Sulaeman, Ph.d.

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Recommendation: Major Revisions **Overall Manuscript Rating (1 - 100):** 68

Transfer Authorization	Response
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If this submission is transferred to another journal, do we have your consent to share your full review with the receiving journal Editor(s)?	Yes

Reviewer Comments to Author

The manuscript entitled "A microbial induced synthesis of hydroxyapatite with high UV light photocatalytic activity for tetracycline degradation" reported a new approach of hydroxyapatite synthesis using the substrate of sodium phenyl phosphate and Ca2+ under Bacillus subtilis. The authors should experiment more carefully, before concluding. Here are my comments:

1. This manuscript has reported the synthesis of hydroxyapatite induced by Bacillus subtilis. However, there is no control to evaluate the effect of Bacillus subtilis. The authors should synthesize HA without the Bacillus subtilis, sodium phenyl phosphate with Ca2+, how is the result?

2. Why do the authors make the experiment with a different Ca2+ concentration? The results showed there is no consistent relation of activity with the Ca2+ concentration. It is also very difficult to find the optimum concentration of activity. I have found the order of photocatalytic activity: BI-HA4>BI-HA2>BI-HA1>BI-HA3.

3. Authors wrote that "As the concentration of Ca2+ changed from 0.01 mol L-1 to 0.1 mol L-1, the specific surface area of the product changed from 133.8 m2 g-1, 173.8 m2 g-1, 196.7 m2 g-1, to 73.61 m2 g-1". The information of data is not clear?

4. Authors wrote that: "Meanwhile, the pore structure of the product mainly
composed of mesopores according to the analysis of the total pore and mesoporous volumes". What does it mean? The sentence is not completed.

5. Authors explained that: "Under the action of HA, UV light excites the H2O or O2 molecules in the surrounding air to produce *OH− and *O2−. After UV excitation, the electrons are transferred to O2 to form *O2−, while *OH− may be due to the reaction of *O2 − and H2O. These free radicals can effectively decompose Tetracycline, etc., to generate CO2, H2O, and other hydrocarbon compounds".
Are any references to this mechanism explanation?
I saw the reaction (1) HA + hv → HA*. It indicates that the UV light initiates the radical formation of HA, not excitation, please describe more carefully.

6. Author should evaluate the reusability of the product.

Reviewer Confidential Comments to Editor:

The manuscript could be published in the journal after the Authors revise the manuscripts and show the proof of the Bacillus subtilis effect. Authors should synthesize the product without microbial.

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Uyi Sulaeman <sulaeman@unsoed.ac.id>

Thank you for reviewing for Journal of Physics and Chemistry of Solids

1 message

Journal of Physics and Chemistry of Solids <em@editorialmanager.com> Sun, Sep 26, 2021 at 10:28 AM
Reply-To: Journal of Physics and Chemistry of Solids <support@elsevier.com>
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Manuscript Number: PCS-D-21-01726

A microbial induced synthesis of hydroxyapatite with high UV light photocatalytic activity for tetracycline degradation

Ting Zeng; Yujie Yan; Juan Shen; Ke Chen; Mi Tang; Rigui Chen; Zhicheng Guo; Bisheng Tan; Bo Jin

Dear Dr. Sulaeman,

Thank you for reviewing the above referenced manuscript. I greatly appreciate your contribution and time, which not only assisted me in reaching my decision, but also enables the author(s) to disseminate their work at the highest possible quality. Without the dedication of reviewers like you, it would be impossible to manage an efficient peer review process and maintain the high standards necessary for a successful journal.

I hope that you will consider Journal of Physics and Chemistry of Solids as a potential journal for your own submissions in the future.

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Kind regards,

A. Bansil

Editor

Journal of Physics and Chemistry of Solids

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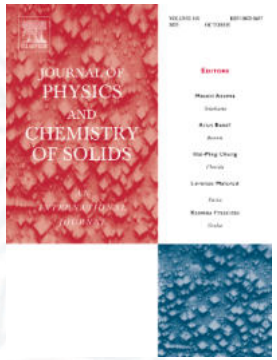

Journal of Physics and Chemistry of Solids

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Journal of Physics and Chemistry of Solids

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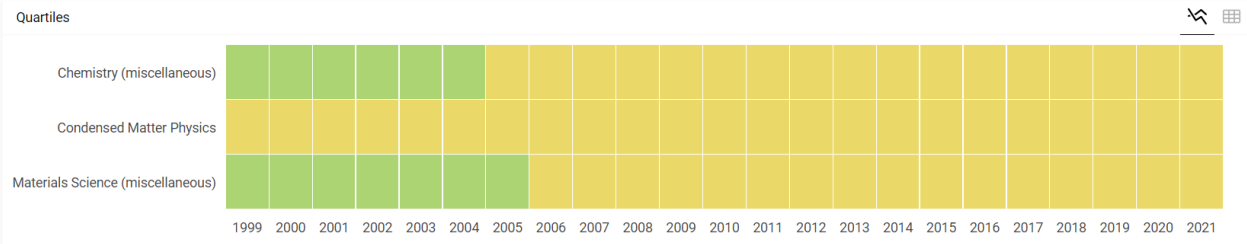
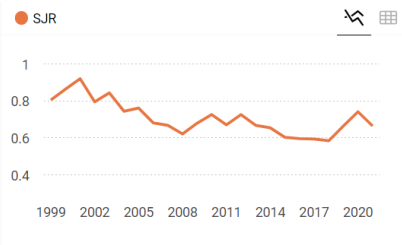
United Kingdom Universities and research institutions in United Kingdom	Chemistry Chemistry (miscellaneous) Materials Science Materials Science (miscellaneous) Physics and Astronomy Condensed Matter Physics	Elsevier Ltd.	112

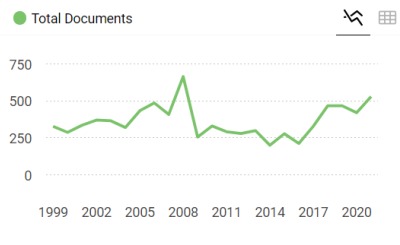
PUBLICATION TYPE	ISSN	COVERAGE	INFORMATION
Journals	00223697	1956-2022	Homepage How to publish in this journal

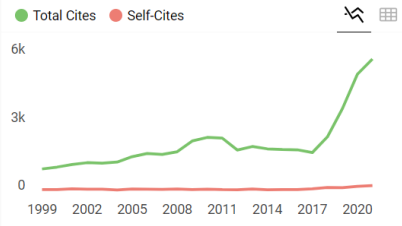
SCOPE

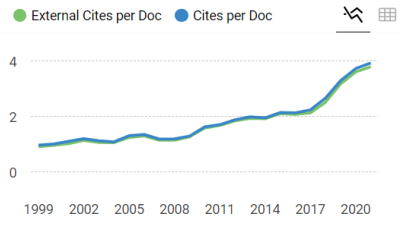
The Journal of Physics and Chemistry of Solids is a well-established international medium for publication of archival research in condensed matter and materials sciences. Areas of interest broadly include experimental and theoretical research on electronic, magnetic, spectroscopic and structural properties as well as the statistical mechanics and thermodynamics of materials. The focus is on gaining physical and chemical insight into the properties and potential applications of condensed matter systems. Within the broad scope of the journal, beyond regular contributions, the editors have identified submissions in the following areas of physics and chemistry of solids to be of special current interest to the journal: Low-dimensional systems Exotic states of quantum electron matter including topological phases Energy conversion and storage Interfaces, nanoparticles and catalysts.

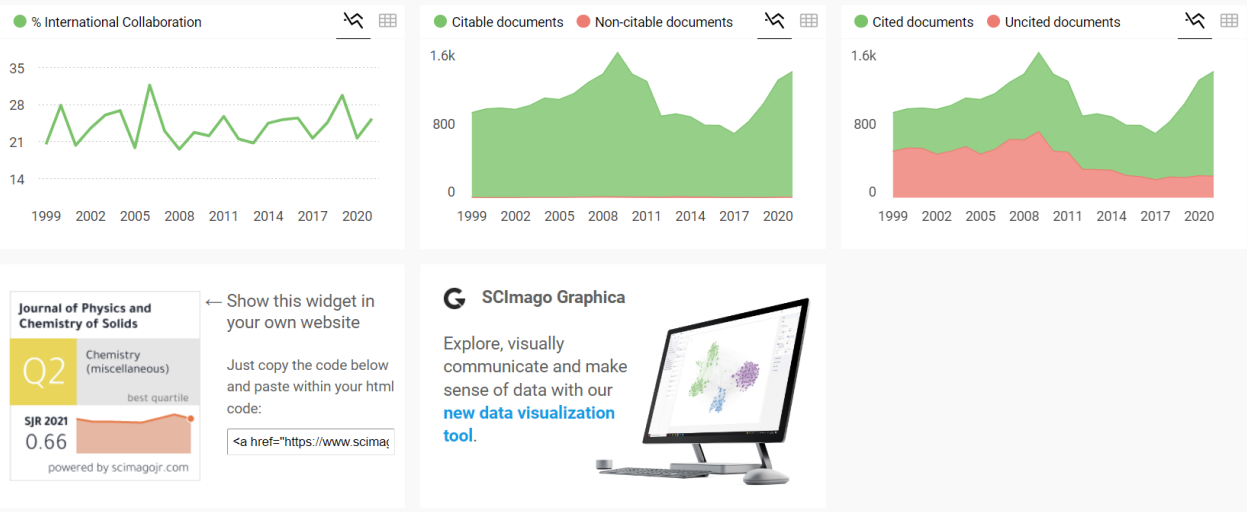












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