Gmail Uyi Sulaeman <uyisulaeman@gmail.com>

Chemosphere: CHEM85244: Invitation to review

1 message

Chemosphere <em@editorialmanager.com> Sun, Apr 25, 2021 at 8:50 PM
Reply-To: Chemosphere <chem-eo@elsevier.com>
To: Uyi Sulaeman <uyisulaeman@gmail.com>

Ref: CHEM85244
Title: The enhancement mechanism of ultra-active Ag3PO4 modified by tungsten and the effective degradation towards phenolic pollutants
Type: Research paper

Dear Dr. Sulaeman,

We are mindful of the demands on your time, and in light of your considerable expertise in this field we would be pleased if you would consider reviewing for the journal, Chemosphere, the manuscript titled The enhancement mechanism of ultra-active Ag3PO4 modified by tungsten and the effective degradation towards phenolic pollutants.

The manuscript has already been subject to editorial screening and considered to be of sufficient quality to be sent out for review. If you are unfamiliar with our journal, please visit our website (http://www.journals.elsevier.com/chemosphere) and review our Aims and Scope. The Abstract provided by the author is at the end of the email. If you wish to review this manuscript but have any conflicts of interest can you please let me know. Additionally, please remember that peer review is a confidential process, and any information associated with this manuscript should not be discussed or shared with anyone. If you are too busy to review this paper I would appreciate it if you could recommend an alternate reviewer with appropriate expertise.

We would like the review to be completed in no more than 21 days from the date you receive it.

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Regards,
Professor Junfeng Niu
Chemosphere

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Your username is: uyi_sulaeman@yahoo.com
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Abstract:
A novel strategy of W modification was applied to overcome the disadvantages of Ag3PO4 and ultra-active Ag3PO4 with different W doping ratios were successfully synthesized by facile chemical precipitation method, among which 0.5%W-AP showed the best. Meanwhile, the stability and yield enhanced obviously. XRD, Raman and ESR etc. were employed to investigate the morphology, structure and optical properties of samples. It was proved W6+ entered into the Ag3PO4 lattice, occupied the position of P5+ and doped in the form of WO42-. The significant improvement of photocatalytic performance of W doped Ag3PO4 was attributed to the change of morphology, the decrease of particle size, the increase of crystallinity, the shrink of band gap energy and reduction of photo-induced carriers recombination rate with W doping. The photocatalytic mechanism analysis showed h+ was the main oxidative species in the photocatalytic process, •O2- and •OH played minor roles. Under visible light
irradiation, the impacts of the important operating parameters on the typical phenolic pollutants: phenol and bisphenol A were evaluated with 0.5%W-AP. It was confirmed that 68% and 82% of phenol and bisphenol A respectively were degraded within 15 min and 40 min under optimized photocatalytic parameters: 0.4 g/L catalyst dosage, 20 mg/L pollutant concentration, pH 5.7 and 125 mW/cm2 irradiation intensity, and the corresponding K′ were 2.14 and 5.50 times that of undoped samples. This work provides a new approach for the effective degradation towards phenolic pollutants by Ag3PO4 with super high photocatalytic activity, high applicability and enhanced stability and yield.

For revised manuscripts:
If applicable, your earlier blind comments to the author of this manuscript:

If applicable, your earlier comments to the editor (review form):

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SURAT TUGAS

Nomor : 1848/UN23.15/DL/2021

Dasar : Surat dari Editor Jurnal Chemosphere

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 Jurnal Chemosphere dengan Judul Artikel "The Enhancement mechanism of Ultra-active Ag_3PO_4 modified by tungsten and the effective degradation towards phenolic pollutans"
Waktu	:	8 – 16 Mei 2021
Tempat	:	FMIPA UNSOED

Surat Tugas ini dibuat untuk dilaksanakan dengan penuh tanggungjawab.

Purwokerto, 7 Mei 2021
Dekan,

Drs. Sunardi, M.Si.
NIP 195907151990021001

Tembusan Yth.
1. Ketua Jurusan Kimia Fakultas MIPA UNSOED

Reviewer Recommendation and Comments for Manuscript Number CHEM85244

The enhancement mechanism of ultra-active Ag3PO4 modified by tungsten and the effective degradation towards phenolic pollutants

Original Submission
Uyi Sulaeman Reviewer 3

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Recommendation: Major Revision **Overall Manuscript Rating (1 - 100):** 70

Transfer Authorization	Response
If this submission is transferred to another journal, do we have consent to share your identity with the receiving journal Editor(s)?	Yes
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
If this submission is transferred to another publication with "Open Peer Review", do we have your consent to publish your review in a pre-publication history?	No

Reviewer Comments to Author

The manuscript reported a series of W doped Ag3PO4 using the facile chemical precipitation method. The results showed that the 0.5%W-AP was the best. W6+ entered into the Ag3PO4 lattice, occupied the position of P5+ and doped in the form of WO42-. W doping on Ag3PO4 changes the morphology decreases particle size, increases crystallinity, lowers bandgap energy, and reduces the photo-induced carriers recombination rates that improve the photocatalytic and stability. The results were quite impressive however some investigation should be done by authors before publication. Here are my comments to improve the manuscript.
1. The content of W between 0 and 0.5% should be made to find the optimum of photocatalytic activity because decreasing W dopant increases the activity.
2. The photocatalytic activity of 0.5%-AP increased 3.30 times higher compared to AP, however, the recycling test for photocatalytic degradation was not satisfactory. The XRD profile also showed that metallic Ag was higher in 0.5%-AP (Fig.5d) indicating that the photocatalytic reaction in the sample of 0.5%-AP produced much more Ag0. I see that the rate of photocatalytic activity in recycles of AP-0.5% decrease significantly. It looks that the W dopant does not increase the stability. The authors should check again this result carefully.
3. Why do authors conclude that W doping influences both the valence band and conduction band of Ag3PO4 as shown in the illustrated mechanism (Fig.6e)?
4. The authors mentioned the reasons for improved photocatalytic ability in W doped samples: (1) the crystallinity improvement and the bulk defects decrease caused by W doping were beneficial to the photocatalytic reactions. Can authors prove that the bulk defect decrease caused by W dopant?
5. The authors also mentioned the reasons for improved photocatalytic ability: (5) the lower carrier (h+, e-) recombination rates in W doped samples were possibly on account of the formation of surface defects. What kind of this surface defect?

Reviewer Confidential Comments to Editor:

The manuscript has been discussed comprehensively, however, the stability of this photocatalyst is still questionable, and the reason for photocatalytic activity must be supported with proof. By the way, I recommend the manuscript could be accepted after the revision

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CHEM85244R1: Thank you for your review

1 message

Chemosphere <em@editorialmanager.com> Wed, Jun 30, 2021 at 9:13 AM
Reply-To: Chemosphere <support@elsevier.com>
To: Uyi Sulaeman <uyisulaeman@gmail.com>

Re.: "The enhancement mechanism of ultra-active Ag3PO4 modified by tungsten and the effective degradation towards phenolic pollutants" (Mr. Jun Li)

Dear Dr. Sulaeman,

Many thanks for your time and expertise in reviewing this submission for us. Thank you very much for your efforts, and we hope we can enjoy your reviewing services in the close future.

You can access your review comments and the decision letter (when available) by logging on to:

https://www.editorialmanager.com/chemosphere/
Your username is: sulaeman@unsoed.ac.id
If you need to retrieve password details, please go to: https://www.editorialmanager.com/chemosphere/l.asp?i=2201893&l=TY574FBB

Kind regards,

Pallavi(On behalf of the handling Editor, Dr. Yeomin Yoon)
Chemosphere

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SCOPE

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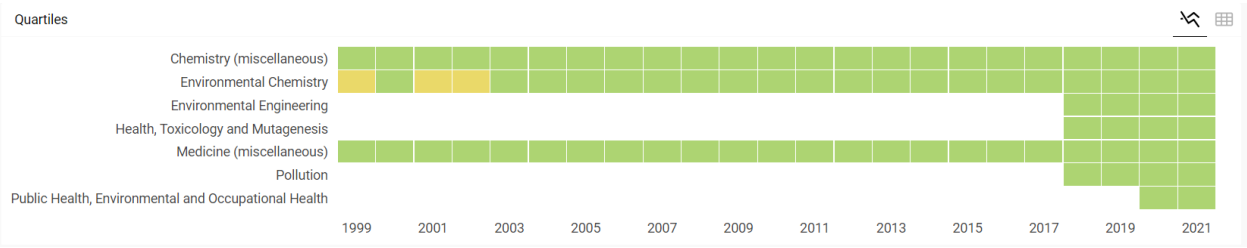

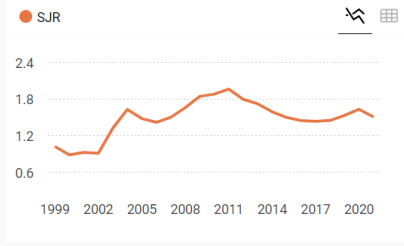

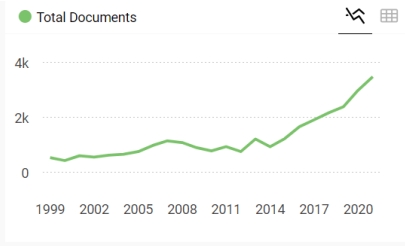

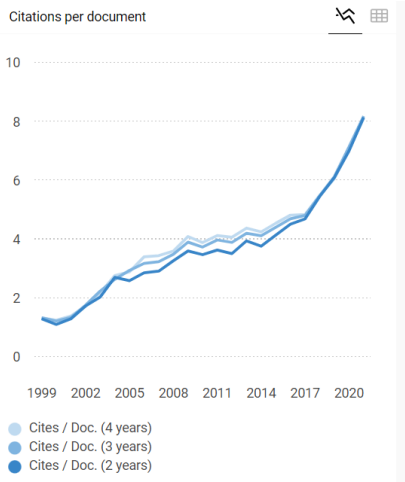

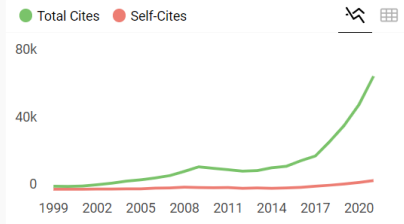

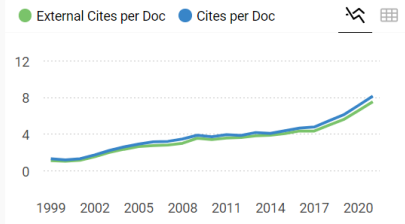

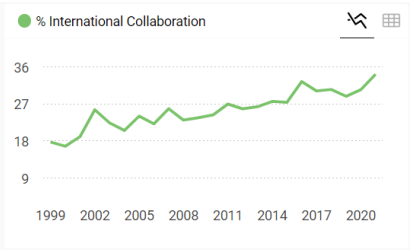

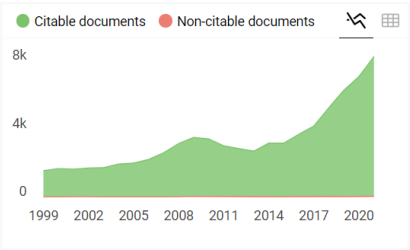

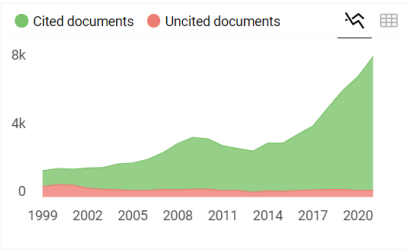

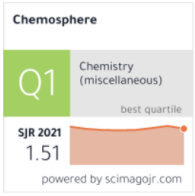

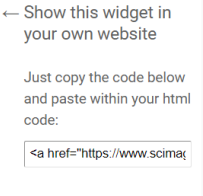

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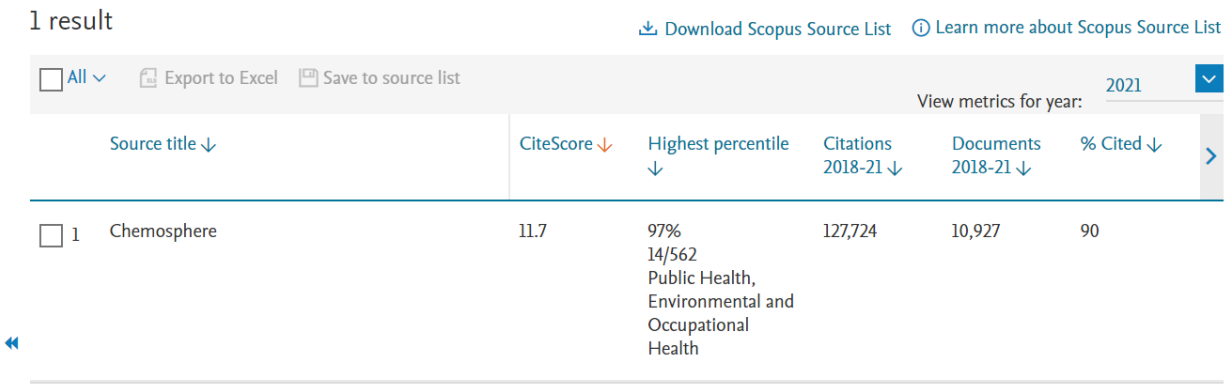

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